

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
Santa Fe, New Mexico

18 June 1987

COMMISSION HEARING

IN THE MATTER OF:

Application of Texaco Producing Inc. CASE
for a Drilling permit in the potash/ 9148 &
oil area, Eddy County, New Mexico. 9158

BEFORE: William J. Lemay, Chairman
Erling A. Brostuen, Commissioner
William R. Humphries, Commissioner

TRANSCRIPT OF HEARING

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MR. LEMAY: We shall now call Cases 9148 and 9158.

MR. ROYBAL: Application of Texaco Producing, Incorporated, for a drilling permit in the potash/oil area, Eddy County, New Mexico.

Application in the above sought cause seeks authority to drill its proposed Forty-Niner Ridge Unit Well No. 3 to test the Delaware formation at a location 2310 -- a location 2,310 feet from north and east lines of Section 16, Township 23 South, Range 30 East, said location being within the boundaries of the potash/oil area as defined by a Division Order No. R-11-A, as amended, and having been objected to ^{BY} the owners of potash leases in the area. sub

MR. LEMAY: Appearances in Case 9148?

MR. HALL: Mr. Chairman, my name is Scott Hall from the Campbell & Black law firm, Santa Fe, on behalf of Texaco Producing.

MR. LEMAY: Additional appearances?

MR. HIGH: Charles C. High, Junior, and Joe McClaugherty, of Kemp, Smith, Duncan, and Hammond, for International Minerals and Chemical Corporation

1 and Western Ag-Minerals Company.

2 MR. LEMAY: Thank you. The
3 other counsel is Duncan what, sir?

4 MR. HIGH: Mr. Joe McClaugher-
5 ty.

6 MR. LEMAY: Jim McClagherty?

7 MR. HIGH: Joe.

8 MR. LEMAY: Joe McClagherty,
9 thank you.

10 Without objection, counsel, can
11 we consolidate Cases 9148 and 9158? Is that acceptable?

12 MR. HALL: We requested the --

13 MR. LEMAY: At your request I
14 think that was. Is that acceptable?

15 MR. HIGH: Yes, we agree.

16 MR. LEMAY: Okay, I call now
17 Case 9158.

18 MR. ROYBAL: Mr. Chairman, Case
19 9158. Application of Texaco Producing, Inc. for a drilling
20 permit in the potash/oil area, Eddy County, New Mexico. Ap-
21 plicant in the above styled cause seeks authority to drill
22 its proposed Forty-Niner Ridge Unit Well No. 3 to test the
23 Delaware formation at a location 2,310 feet from the north
24 line and 18 -- 1,980 feet from the west line of Section 16,
25 Township 23 South, Range 30 East, said location being within

1 the boundaries of the potash/oil area as defined by Division
2 Order No. R-111-A, as amended, and having been objected to
3 by owners of the potash leases in the area.

4 MR. LEMAY: Okay, in the matter
5 of 9148 and 9158, these cases at the request of counsel will
6 be consolidated and we will begin with Mr. Hall.

7 Would you like to make an open-
8 ing statement?

9 MR. HALL: Yes, Mr. Chairman,
10 we have a preliminary matter I would like to clean up.

11 There were subpoenas issued to
12 both sides, the Texaco and -- Texaco Producing, Inc., and
13 the potash leaseholder opponents.

14 Pursuant to those subpoenas we
15 have drafted confidentiality agreements, which will protect
16 the dissemination of information or documents that both
17 sides have identified and marked as confidential.

18 I believe both agreements have
19 now been signed by both parties, protecting both sets of
20 documents and we would request that those signed agreements
21 be filed with the Commission and the documents protected ac-
22 cording to the terms.

23 I've just given Mr. High the
24 agreement that covers the documents produced by Texaco. Did
25 you sign that, Charlie?

1 MR. HIGH: No, I haven't yet,
2 but I will.

3 I would join in the request
4 concerning confidentiality.

5 MR. ROYBAL: Mr. Chairman, we
6 just received this stipulation and agreement about two min-
7 utes ago. If we could go off the record for another two or
8 three minutes I think to review this I'd be able to --

9 MR. LEMAY: Let's go off the
10 record just a couple minutes here concerning the confiden-
11 tiality agreement.

12
13 (Thereupon a discssion was had off the record.)

14
15 MR. LEMAY: We'll go back on
16 the record now.

17 Do you have, Mr. Roybal, some
18 corrections you'd like to make to the documents as we see
19 here on the stipulation of confidentiality?

20 MR. ROYBAL: Yes, Mr. Chairman.
21 On page 2 of the stipulation
22 agreement governing protection of confidential information,
23 paragraph 5 E and F refer to parties to this lawsuit, and
24 after discussion with counsel, we're sure that what that
25 language is meant to cover is this hearing and I think the

1 intent of counsel is that if there is further proceedings
2 which do occur, that -- that they intend for it cover those
3 also, but that this document itself is prepared for and con-
4 trols this hearing before the Commission.

5 MR. LEMAY: Without objection
6 that will be so noted.

7 The format for the hearing will
8 be in such a way that the confidential matters on both
9 sides, the Texaco and the potash, et al -- or the IMC, et
10 al, will be handled upstairs in the OCD conference room but
11 it will be a segment of the testimony and it will be
12 restricted to only the witnesses and the Commission and the
13 staff, of course, that are involved in the hearing, but all
14 others will be barred from that portion of the testimony, at
15 least for the IMC portion.

16 It can be that with the Texaco
17 portion that's confidential, if it's only a few minutes of
18 testimony and we're here and we're involved in it, we will
19 ask you all to leave the room and for you to take a short
20 break while we hear the confidential portions of the testi-
21 mony, and those portions, as so stipulated in the letters
22 signed by both, both counsels, or counsel for Texaco and the
23 one for IMC, will be placed in sealed envelope and will not
24 be available as part of the public record, and such testi-
25 mony as will be given that is so noted to be confidential,

1 it will be stricken from the -- or not stricken but it will
2 be placed in a sealed envelope separate from the testimony
3 that will be public record.

4 With that as a format, we'll
5 begin with Mr. Hall.

6 MR. HALL: Just one more ques-
7 tion I missed a minute ago.

8 Is Mr. High entering an appear-
9 ance for both IMC and Western Ag?

10 MR. HIGH: That's correct.

11 MR. HALL: And I wonder if I
12 might beg one more stipulation from Mr. High, that notice of
13 these combined proceedings have been given in accordance
14 with the rules and regs of the Commission, if that's agree-
15 able; otherwise I'm prepared to enter into the record the
16 certified mail notices. I just did not make enough copies
17 for everyone.

18 MR. HIGH: I don't know that to
19 be a fact or not. We are not disputing notice; in fact we
20 agreed on being here at the OCD, that these two cases be
21 consolidated and heard today. We had notice, we're here,
22 we're ready to go.

23 MR. LEMAY: Fine.

24 MR. HIGH: We raise no techni-
25 cal dissent with respect to notice.

1 MR. LEMAY: Fine, so noted.

2 Mr. McClaugherty is part of
3 your -- co-counsel, Mr. High? He's not representing
4 separate interest?

5 MR. HIGH: No, he is -- he is
6 our local counsel. We're with the same firm.

7 MR. LEMAY: Okay.

8 MR. HIGH: His office is here
9 in Santa Fe.

10 MR. LEMAY: Fine. Are we ready
11 to begin, gentlemen?

12 MR. HIGH: Yes, sir.

13 MR. LEMAY: Mr. Hall.

14 MR. HALL: Mr. Chairman, I just
15 have a few brief opening comments that frame the parameters
16 in this hearing today.

17 Texaco Producing, Inc., is
18 bringing to you two separate applications combined for two
19 oil prospects in Eddy County, New Mexico. The locations are
20 in the potash/oil area of Eddy County, both located in
21 Section 16, Township 23 South, Range 30 East.

22 The first location is 2310 from
23 the north line, 1980 from the west line.

24 The second is 2310 from the
25 north and east lines.

1 It's interesting that both of
2 these proposed locations are very near to a producing well,
3 the Forty-Niner Unit Ridge No. 1 Well, which is now produc-
4 ing.

5 Texaco has the right to drill
6 on Section 16. Section 16 is a State of New Mexico school
7 land section, and the section comprises a part of the Forty-
8 Niner Ridge Unit, which has been approved by fee owners, the
9 Bureau of Land Management, and the State Land Office.

10 The unit agreement itself has a
11 participating area provision which calls for the approval of
12 periodic plans of development by the BLM and the Land Com-
13 missioner.

14 Here in this particular in-
15 stance the State Land Office has made as a condition of
16 their approval of the participating area for the Delaware
17 formation that Texaco Producing, Inc., drill two wells be-
18 fore year's end. If those wells are not drilled, the parti-
19 cipating area formula is jeopardized.

20 Also if they're not drilled,
21 there is simply an absolute waste of the hydrocarbon resour-
22 ces underlying that section.

23 Both applications are brought
24 under the (not understood) of Order R-111-A. Now it's in-
25 teresting, we are not here to address the merits of the or-

1 der itself; simply applications for two locations within the
2 boundaries defined by the subsequent amendments to the or-
3 der.

4 We're not here to bring a col-
5 lateral attack on any portion of the merits of that order
6 itself. Instead, we think that the order itself simply --
7 the order itself does not delineate areas of commercially
8 productive potash. The purpose of the order is simply trip
9 wire. It delineates areas of concern if applications are
10 brought to the Commission for permits to drill and the Com-
11 mission and the applicant must take special precautions.
12 The applicant must follow the drilling, cementing, and cas-
13 ing program set out in the order and then the OCC must make
14 findings that the well does not result in undue waste or in-
15 terference with potash resources in the area.

16 These findings must be within
17 the overall mandate of the Oil Commission and staff, that
18 the wells be allowed to drill in a manner so as to prevent
19 waste, protect correlative rights, and otherwise protect the
20 interest of conservation.

21 With that, we have five witnes-
22 ses and we call first to the stand Mr. Tom Bryla.

23 Shall we have all five witnes-
24 ses sworn at once?

25 MR. LEMAY: I think it might be

1 easier to do that. If you'll all stand, please.

2
3 (Witnesses sworn.)

4
5 THOMAS P. BRYLA,
6 being called as a witness and being duly sworn upon his
7 oath, testified as follows, to-wit:

8
9 DIRECT EXAMINATION

10 BY MR. HALL:

11 Q Will you state your name, please?

12 A My name is Thomas Bryla.

13 MR. HIGH: Mr. Chairman, I'm
14 going to ask that the other witnesses be sequestered from
15 the room.

16 MR. HALL: I'm going to object
17 to that request. That is a condition under the Rules of
18 Civil Procedure governing the District Courts. We know of
19 no application of that rule to administrative proceedings in
20 New Mexico.

21 We think it's inappropriate.

22 MR. LEMAY: Off the record for
23 a minute, Sally.

24
25 (Thereupon a discussion was had off the record.)

1 MR. LEMAY: I'm going to over-
2 rule that objection on the basis that it has not been the
3 policy for this Commission to handle affairs that way.

4 If there's confidential testi-
5 mony, that's one matter, but where there's not confidential
6 testimony, we will not honor that request.

7 MR. HALL: May I proceed?

8 MR. LEMAY: Please proceed.

9 Q Mr. Bryla, where do you live and by whom
10 are you employed?

11 A I live in Midland, Texas. I'm employed
12 by Texaco Producing, Inc.

13 Q And have you previously testified before
14 the Commission and had your qualifications made a matter of
15 record?

16 A Yes, sir, I have.

17 Q Are you familiar with the application in
18 this case, the lands involved, and two well locations?

19 A Yes, I am.

20 MR. HALL: Mr. Commissioner,
21 Mr. Chairman, are the witness's qualifications acceptable?

22 MR. LEMAY: His qualifications
23 are acceptable.

24 Q Mr. Bryla, what is it that Texaco Produc-
25 ing, Inc. seeks by this application?

1 Texaco Producing, Inc. would like to have
2 approval for two well locations to be located in Section 16,
3 23 South, Range 30 East, Eddy County, New Mexico.

4 Q All right.

5 MR. HALL: Can all the Commis-
6 sioners hear the witness?

7 A I'm sorry, am I speaking --

8 MR. LEMAY: A little louder,
9 please.

10 A Yes, sir.

11 Q What are the footage locations of those
12 locations?

13 A May I refer to the Exhibit One map?
14 Would you like to have me identify all
15 this?

16 Q Yeah, why don't you refer to Exhibit One,
17 identify that, and explain what that shows to the Commis-
18 sion?

19 A Exhibit One on your desk is a enlarged --
20 well, an enlarged map of the location of both the Forty-
21 Niner Ridge Unit, as well as two locations indicated in
22 orange on Section 16, 23 South, 30 East.

23 The locations, as I mentioned previously,
24 are 2310 from the north and east line of Section 16; 2310
25 from the north and 1980 from the west line of Section 16.

1 was made from that map, as I mentioned. It shows in un-
2 colored portions, just the grays -- and I'm going to leave
3 the box just to point it out on here, if it's all right --
4 located as the arrow, this shaded area corresponds with this
5 auburn-colored, blue corresponds with the lighter gray,
6 which means in this case, taken directly from the legend,
7 the area that the two wells are located are what's called
8 the barren and/or minor potash mineralization areas. It's
9 composed of sub-economic resources that would require a sub-
10 stantially higher market value or a major cost reducing
11 technology for economical production.

12 Sub-economic resources also include other
13 minerals not presently being recovered.

14 Q All right. And who prepared the map from
15 which your exhibits were taken?

16 A It's, as far as preparation, it's pro-
17 vided by the BLM. The credits as to the actual information,
18 well, it gives various references. It is prepared by the
19 BLM.

20 Q All right. Is it -- is it a map that's a
21 matter of public record and made available --

22 A Yes, it is. It is public record.

23 Q Is Exhibit Two an accurate depiction of
24 the BLM map?

25 A Yes, sir, it is.

1 Q Mr. Bryla, are you familiar with the For-
2 ty-Niner Ridge unit agreement?

3 A Yes, sir, I am.

4 Q All right. I'd like you to refer to
5 what's been marked Exhibit Three and identify that, please.

6 A Exhibit Three is the unit agreement for
7 the Forty-Niner Ridge Unit. It delineates the original
8 working interest area, which is twelve sections, which has
9 since been restricted down to six. It's an agreement for
10 the spreading of risk and the for the exploration and devel-
11 opment of that area at that time for the Morrow. As cur-
12 rently provided, we are now trying to develop the Delaware.

13 Q All right, what type of lands are commit-
14 ted to the unit?

15 A In this case it's State, Federal, and
16 some fee lands.

17 Q Does the unit have a participating area
18 provision?

19 A Yes, it does. What it provides for is
20 that there is an equitable distribution of the royalties and
21 overriding royalties production, based on the -- an educated
22 analysis of what the oil participation, or the reasonable
23 participating, for the development of that acreage.

24 So, for instance, if it's the -- if it's
25 considered to be all prospective for a particular formation,

1 then everybody's -- every royalty owner who has acreage
2 within that area would be allowed to participate in the roy-
3 alties that are produced.

4 The working interest remains the same as
5 per the unit operating agreement but the participation in
6 the royalties easily can be varied.

7 Q All right. Well, the participating area
8 provision, along with the other terms of the unit agreement,
9 does that provide a means by which the interest owners can
10 spread the risks, costs, and --

11 A Yes.

12 Q -- charges?

13 A Yes, it does. The entire intent of the
14 agreement is, to go into it once again, is to -- for several
15 owners, in this case the original ones being Bass Enter-
16 prises and Meridian -- I'm sorry, it was El Paso back then,
17 and Skelly, who is now Texaco, Inc., to drill an area and
18 share the risk and the cost of exploration and development
19 for various formations and oil and gas.

20 Q All right. Well, now under the partici-
21 pating area provision, what happens if an operator is for
22 some reason unable to meet the requirements of the plan of
23 development for, say, non-diligence, or something like that?

24 A That -- there is a plan of development
25 submitted to the State of New Mexico, which has to be ap-

1 proved by both the State and Federal government, that in es-
2 sence is a requirement for reasonable development of the ac-
3 reage and, of course, like anything, failure to reasonably
4 develop can result in the termination of a lease that are
5 contributed to the unit.

6 Q All right. Let me refer you to Exhibit
7 Four. Would you identify that, please?

8 A Exhibit Four is a letter from the Commis-
9 sioner of Public Lands, dated March 5th, 1987. It was writ-
10 ten to Texaco USA, addressed to the Land Department of Texa-
11 co.

12 Q All right. Do you understand that this
13 letter -- this letter to come from the public records of New
14 Mexico State Land Office?

15 A As I understand, yes, it is.

16 Q All right, and although the letter speaks
17 for itself, what is the thrust of the letter?

18 A The thrust of the letter is the State of
19 New Mexico is dissatisfied with the current condition of
20 development on the Forty-Niner Ridge Unit.

21 From the bottom of the second page it
22 says, "In view of the above ..." can I quote this directly
23 or --

24 Q Please do.

25 A Okay. "In view of the above, your re-

1 quest for approval of the initial Delaware Canyon Partici-
2 pating Area cannot be approved unless Texaco resubmits an
3 acceptable plan of developed providing for the drilling and
4 completion of two wells within the proposed participating
5 area by December 31st, 1987. All other subsequent plans
6 should also provide for the drilling of additional wells un-
7 til this unit is fully developed."

8 So what this is addressing is we -- can I
9 --

10 Q Please go ahead.

11 A The -- Texaco Inc. has submitted per the
12 unit agreement for approval a new participating area once
13 again for the royalty owners to share in the royalties pro-
14 duced under the Delaware formation.

15 They have asked for six sections. The
16 State of New Mexico has very clearly said throughout the
17 letter that it is dissatisfied with the way things have been
18 done in the past, citing lack of due diligence, for in-
19 stance, in following up on a proposed location, and that
20 they don't believe that in this case, that they can grant us
21 six sections participating area on a one-section Delaware
22 Canyon producing well.

23 Q Let me refer you to what's been marked as
24 Exhibit Five and have you identify that and explain that.

25 A All right. Exhibit Five is the response

1 by the State of New Mexico to Texaco, Inc., a letter from
2 Mr. Joe King, who is a Texaco employee.

3 Q And is that letter a part of Exhibit
4 Five, also?

5 A Yes, it is. The letter is dated from
6 Texaco March 24th, 1987. It's the plan of development for
7 the Forty-Niner Ridge Unit for 1987.

8 It lists two -- well, I'll just read the
9 last paragraph.

10 "Texaco's plans for 1987 will be the
11 drilling of two additional wells to the Delaware. These new
12 wells will be drilled at the locations that are yet to be
13 determined. Also, Texaco plans to recomplete Well No. 2 to
14 the Delaware." Which, the No. 2 has already been recom-
15 pleted, I believe, in the Delaware.

16 What that --that's the Texaco letter, and
17 then the State of New Mexico letter reads, let's see, "The
18 Commissioner of Public Lands has this date approved your
19 1987 Plan of Development for the Forty Niner Ridge Unit
20 Area, Eddy County, New Mexico. Such plan provides..." or
21 excuse me, "... proposes to recomplete the Unit Well No. 2
22 in the Delaware and you will also drill two additional wells
23 to the Delaware.

24 Our approval is subject to like approval
25 by the New Mexico Oil Conservation Division and the Bureau

1 of Land Management."

2 And then courtesies are given.

3 Q All right, is the plan of development
4 that the -- Texaco has resubmitted to the State Land Commis-
5 sioner the reason that Texaco is here today?

6 A Yes, it is.

7 Q Mr. Bryla, in your opinion will the gran-
8 ting of Texaco's applications be in the best interest of
9 conservation, the protection of correlative rights, and pre-
10 vention of waste?

11 A Yes, it would.

12 Q All right, let me ask you, were Exhibits
13 One and Two prepared by you or at your direction?

14 A Yes, they were.

15 Q And Exhibits Three, Four, and Five, are
16 they matters of public record on file with the State Land
17 Office?

18 A Yes, they are.

19 MR. HALL: At this point we'd
20 move the admission of Exhibits One through Five.

21 MR. LEMAY: Without objection
22 those exhibits will be entered into the record.

23 MR. HALL: Pass the witness.

24 MR. LEMAY: Mr. High?

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CROSS EXAMINATION

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BY MR. HIGH:

Q Mr. Bryla, is that how you pronounce it?

A Yes, sir.

Q How long have you been a landman for
Texaco?

A Six and a half years.

Q So you're familiar -- you're familiar, I
take it, with the thing that we call R-111-A?

A R -- pardon me?

Q R-111-A? Do you know what that means?

A No, I don't know what that means.

Q Do you know what R-111 means?

A No, sir, I don't.

Q Your office is in Midland?

A Yes, sir, it is.

Q And what do you do as a landman?

A Well, I prepare contracts. I advise other
departments as to our rights on acreages that we have leases
and various operating agreements or any kind of other
correlative agreements.

Q Is it part of your responsibility to be
familiar with the unit agreements or --

A Yes, it is.

Q -- operating or participating agreements

1 to which Texaco Producing, I-N-C is a party?

2 A Yes, sir.

3 Q And one of the agreements that you're
4 familiar with, I guess, is the Forty-Niner Ridge Unit in Ed-
5 dy County, New Mexico?

6 A As detailed as it is, the best I can,
7 yes, sir.

8 Q I'm sorry, I can't hear you.

9 A As detailed as it is and as best as I can
10 be, yes, sir, I am familiar with it.

11 Q Well, is it part of your responsibility
12 to --

13 A Yes, it is.

14 Q -- keep up with it and track of it --

15 A Yes, sir, it is. It's my responsibility.

16 Q -- and report to superiors at Texaco with
17 respect to what happens?

18 A That is correct. Anybody asks a question
19 about the contract and what it means, that's my responsibil-
20 ity to try to give them an answer.

21 Q Okay, so you've had occasion to look at
22 it, read it, study it, and you have a general understanding
23 of what it --

24 A That is correct.

25 Q -- implies.

1 Now, the Forty-Niner Ridge Unit itself is
2 now down to six sections, is that correct?

3 A That is correct. It's down to six.

4 Q The other sections have been eliminated,
5 is that it?

6 A Yes.

7 Q And why were they eliminated, do you
8 know?

9 A They were eliminated because they were
10 not included within the original Morrow participating area
11 within the five years after the establishment of the first
12 participating area.

13 Q Okay, and the Morrow was abandoned, was
14 it not?

15 A It was abandoned, yes, sir, I believe in
16 1984. I could be wrong on that. I can give you that, if
17 you'd like.

18 Q Okay.

19 A Okay.

20 Q In fact it was abandoned, right?

21 A Yes, sir.

22 Q It was abandoned because there was
23 nothing there, at least no commercial quantities of --

24 A That would be something engineering could
25 provide you with the answer, but I believe that the logic of

1 that department was that it had been depleted.

2 Q Well, isn't it your understanding, Mr.
3 Bryla, it was abandoned because it was not economical?

4 A Yes, sir.

5 Q They don't abandon economical reserves.

6 A That's correct, yes, sir.

7 Q So it was abandoned by Texaco.

8 A Yes, sir.

9 Q And upon that abandonment, then the ori-
10 ginal participating unit dissolved, did it not?

11 A The participating area, not the unit.

12 Q All right, I'm sorry, the participating
13 area part of the Morrow dissolved.

14 A That's correct.

15 Q So now we have a Forty-Niner Ridge Unit
16 that includes six sections and did I understand you correct
17 to say that there is no participating area now under the
18 Forty-Niner Ridge Unit?

19 A There is what you could call a temporary
20 one which provided under the unit agreement means that the
21 existing prior one will be maintained until such time as the
22 new one is established.

23 Q Now would that include or exclude the
24 areas that were previously eliminated from the Forty-Niner
25 Ridge Unit?

1 A It would -- the ones that were previously
2 eliminated are eliminated, period. Just the original, I
3 mean, excuse me, just the currently existing six sections
4 as shown in my exhibits.

5 Q So you're operating under a participating
6 area that includes the six sections that make up Forty-Niner
7 Ridge Unit.

8 A That's -- may I explain what I mean in my
9 answer on this one, is that at this time that's what it is
10 with the State and we are -- we have applied for the parti-
11 cipating area to include six sections.

12 The State at this time has not approved
13 the participating area, nor has the federal government.

14 We have merely applied for it.

15 Q You have applied for a participating area
16 for the Delaware --

17 A Yes, sir.

18 Q -- that includes all six sections within
19 the Forty-Niner Ridge Unit.

20 A That is correct.

21 Q And the State has not yet approved that.

22 A Right. They're waiting to see, as per
23 these letters, how our plan of development proceeds.

24 Q All right. Why have they told you they
25 won't approve it now?

1 A They're saying we haven't diligently
2 developed the area.

3 Q Have they said anything about drainage?

4 A That was also mentioned in the letter,
5 that at this time without further drilling of wells, that
6 one well could not justify a six-section participating area;
7 however, they said if we submitted suitable plans of
8 development they might approve it.

9 May I quote my exhibit, their letter, in
10 other words?

11 Q No, I (not understood).

12 A Okay.

13 Q I'm just -- just asking what you recall.

14 A Yes, sir. All right.

15 Q That's what the State said to you about
16 the six-section participating area.

17 A The State has said that unless they see a
18 suitable plan of development and further development, they
19 won't approve the six-section participating area.

20 Q I believe that's why you said Texaco
21 filed the APD's that are in this case?

22 A Well, we wanted to drill them, anyway,
23 but that's certainly one of the reasons we're fighting this.

24 Q So is it -- if I understand you correct-
25 ly, it is Texaco's intention if these APD's are granted,

1 that they will drill both the well locations, both wells at
2 the locations we're talking about here today.

3 A APD being?

4 Q Application for permit to drill.

5 A All right, yes, that's what we would like
6 to do. As I understand, that would be something engineering
7 would have to testify to, I believe we're ready to drill
8 those.

9 Q I'm sorry, my question, Mr. Bryla, was to
10 you.

11 A All right, sir.

12 Q If the OCC approves the two APD's, these
13 Applications for Permit to Drill we're here today on, --

14 A We will drill, yes.

15 Q -- the surface locations you've identi-
16 fied --

17 A Yes, we will drill. That is the plan at
18 this time, to drill those.

19 Q -- it is your understanding Texaco will
20 drill those wells.

21 A That is correct.

22 Q Now you said if you don't meet the devel-
23 opment plan that the State is urging on you, which I believe
24 is the drilling of two wells?

25 A Yes, sir.

1 Q You identified some bad things that would
2 happen. Do you recall that?

3 A It's possible, yes, sir.

4 Q Now, is there any way you can avoid that,
5 Mr. Bryla?

6 A On a State lease? I don't believe so.
7 Other, in other words, what we have here, the problem is
8 failure to develop. The State has indicated they're unhappy
9 with our current situation out there. I believe on Federal
10 lands you can apply for a suspension but on the State lands
11 I don't believe you can get away with that.

12 Q So is it your testimony here today that
13 it's your understanding that these APD's are disallowed;
14 that the Forty-Niner Ridge Unit or participating area will
15 dissolve?

16 A No. What I'm saying is that the State of
17 New Mexico has indicated they are unhappy with the situa-
18 tion. What the options are, what they decide to do, I'm
19 not sure of, but I'm certain one of the problems may be
20 trying to get some of the leases returned to the State of
21 New Mexico; releases for failure to develop.

22 Q But they -- do you know what Texaco's
23 right would be under the unit operating agreement if some-
24 thing like that happened?

25 A I'm sorry.

1 Q Do you know what Texaco's rights would be
2 if the OCC disallowed the ADP's?

3 A I'm sure I'm not, let's put it this way.
4 I'm not sure what your question is. The results, in other
5 words, in this case, since the State has put us on notice
6 they're unhappy, what would happen if the locations were not
7 approved? The possibility --

8 Q I believe, well, let me --

9 A Go ahead, I'm sorry.

10 Q I don't want to make you guess, Mr. Bry-
11 la. Let me refer to Texaco's Exhibit Number Three and refer
12 you, if I may, to page 22.

13 A All right, sir. All right.

14 Q Paragraph 26 is entitled Unavoidable De-
15 lay.

16 That paragraph says, and let me just
17 quote a portion of it to you, "All obligations under this
18 agreement requiring the unit operator to commence or con-
19 tinue drilling, or to operate on or produce unitized sub-
20 stances from any of the lands covered by this agreement
21 shall be suspended while the unit operator, despite the
22 exercise of due care and diligence, is prevented from com-
23 plying with such obligations in whole or in part, by
24 strikes, acts of God, Federal, State, or municipal law or
25 agencies, unavoidable accidents, uncontrollable delays in

1 transportation, inability to obtain necessary materials in
2 open market, or other materials beyond the reasonable con-
3 trol of the unit operator, whether similar to matters herein
4 enumerated, or not."

5 Now, if the State, the State being the
6 Oil Conservation Commission, disapproves your applications
7 for permit to drill at the two locations that you're here
8 trying to get, do you know, Mr. Bryla, whether or not Texaco
9 would have any rights under paragraph 26?

10 A The key word you read on there is "beyond
11 the reasonable control of the unit operator". It's within
12 our control to try to get these locations approved, and
13 that's why --

14 Q It's not within your control if the OCC
15 disallows these things, there is nothing else Texaco can do,
16 is there, with respect to drilling these two locations?

17 A As far as I know. I would suppose we'd
18 be allowed to appeal it.

19 Q Have you discussed paragraph 26 and
20 whether or not that would be of a benefit to Texaco with
21 anyone else within Texaco's organization?

22 A Yes, I have.

23 Q And did you discuss whether or not that
24 would provide Texaco with a defense in the event these two
25 APD's were disallowed?

1 A We have decided it's an arguable defense
2 but it's not --

3 Q So you have considered this --

4 A Yes, sir, we have --

5 Q -- this question.

6 A -- considered it.

7 Q So if these two APD's are denied by the
8 OCC, it's conceivable, at least, that the Forty-Niner Ridge
9 Unit participating area could continue unaffected.

10 A It's conceivable, but as I said, it's a
11 risk and that's what this whole -- this whole hearing is
12 about.

13 Q Well, you're -- you're -- I assume that
14 you're also aware, Mr. Bryla, that paragraph 30, and I refer
15 you to page 24 --

16 A All right, sir.

17 Q -- of the unit operating agreement. You
18 are aware, are you not, that paragraph 30 prohibits the
19 drilling of oil or gas wells at locations on, quote, either
20 Federal or State lands, and I quote, "...which in the opin-
21 ion of the Commissioner would result in undue waste of pot-
22 ash deposits or constitute a hazard to or unduly interfere
23 with mining operations being conducted for the extraction
24 of potash deposits."

25 A I'm familiar with that --

1 MR. HALL: At this point I'm
2 going to state an objection to the form of the question. I
3 believe the language in section 30 speaks for itself and
4 it's not what Mr. High --

5 MR. LEMAY: Perhaps you could
6 rephrase the question.

7 MR. HIGH: I'm sorry and will
8 be happy to.

9 Q Are you familiar, Mr. Bryla, with the re-
10 quirements of paragraph 30 of the unit operating agreement?

11 A Yes, sir, I am.

12 Q So the fact that you're the unit opera-
13 tor, you being Texaco --

14 A Yes.

15 Q -- you don't have the rights under this
16 unit operating agreement to waste potash.

17 A No, we don't have a right to waste pot-
18 ash.

19 Q Now, you -- you mentioned something about
20 lease suspension. Are you involved as a landman in whether
21 or not a lease should or should not be suspended by Texaco?

22 A Well, this is a State lease so it's not a
23 question.

24 Q Well, my question, Mr. Bryla, is as a
25 landman are you involved in getting or not getting suspen-

1 sion of leases on behalf of Texaco?

2 A At this point I've never been involved in
3 applying or getting one.

4 Q Okay, so it's not part of your duties as
5 a landman to be involved in --

6 A No, that's not what I said. What I said,
7 I'd never been involved in one at this time. In my six and
8 a half years at Texaco, we've never had to apply for suspen-
9 sion when I was working in that area. I'm not sure if we
10 ever have at all, but in my six and a half years that duty
11 has never arisen; the need has never arisen.

12 Q Okay. Well, I don't want to misunder-
13 stand your answer and I don't want you to misunderstand my
14 question, so let's start all over. Is it part of your re-
15 sponsibility on behalf of Texaco to be responsible for the
16 suspension of leases?

17 A I would be involved in that, yes, sir. I
18 would be involved in other -- the best answer I can give you
19 is it is not a decision on my part.

20 I certainly would be involved from the
21 Land Department, as to advising the land situation, the --
22 any existing letters, for instance, the Oil and Gas Commis-
23 sion or the BLM, talking about development, and telling man-
24 agement what it is and if it came down to actually wanting
25 to get a suspension, I would notify, I believe, the

1 engineers, who would write the letters requesting a suspen-
2 sion, explaining the reason, and we, of course, the Land De-
3 partment, would either mail the letter at the direction of
4 the Land Department, prepared by the Engineering Department.

5 I'm not really sure.

6 Q In the event a lease needed to be suspen-
7 ded or an application for suspension needed to be pursued by
8 Texaco, --

9 A Yes, sir.

10 Q -- would you be aware of it as a landman?

11 A Probably. In all likelihood it's my
12 area, so I probably would.

13 Q And what is your area, Mr. Bryla?

14 A I work Eddy County as well as parts of
15 West Texas.

16 Q Okay, so if Texaco needed to suspend a
17 lease in Eddy County, you should have some knowledge of it.

18 A In all likelihood they would let me know
19 that it was being done.

20 Q Okay, would it be your responsibility as
21 a landman to originate the possibility that a lease should
22 be considered for suspension?

23 A I would be aware of the situation that,
24 for instance, a lease was going to be in jeopardy due to
25 existing circumstances. As to actually wrote up the re-

1 quest, I'm not sure. As I've said, I've never had to do one
2 so I'm not sure what the delegation of authority is on that.

3 Q Okay, but you are generally familiar with
4 -- with when a lease can be suspended and when it cannot be.

5 A No, I'm not.

6 Q You're involved and you have some respon-
7 sibility but you're not aware of the --

8 A In other words, like I said, I've never
9 had to prepare one yet. It's never come up. I don't know
10 all the ins and outs of when you, for instance, can request
11 a suspension.

12 I can tell you what I assume would be the
13 case.

14 Q No, I'm -- I really don't want to know
15 what you assume.

16 A I didn't think so.

17 Q Okay. But if something came up, then it
18 would be your responsibility.

19 A It would be my responsibility to --

20 MR. HALL: Mr. Chairman, I'm
21 going to object. This question has been asked and answered
22 in ten different forms and I think we need to get on with
23 it.

24 MR. HIGH: I'm not sure it's
25 ever been answered, but I will move on.

1 Q Are you familiar at all, Mr. Bryla, with
2 the rules and regulations of the New Mexico State Land Of-
3 fice?

4 A Some of them.

5 Q Did I understand you correct earlier to
6 say that there is no provision for suspension of lease under
7 the laws of the State of New Mexico?

8 A As far as I know, in a State lease, no,
9 even for lack of development, as far as I know, no.

10 Q Is it your understanding that Texaco is
11 here today on these APD's because of an understanding that
12 the State lease cannot be suspended?

13 A That's part of it.

14 MR. HIGH: I would like, if I
15 may, Mr. Chairman, to ask the Oil Conservation Commission to
16 take judicial notice of Section 1.061 of the Rules and Regu-
17 lations of the New Mexico State Land Office, and I would
18 like to show that rule to the witness and ask him if he has
19 ever seen that before.

20 Q Mr. Bryla, let me show you, please, what
21 I will refer to as Section 1.061 of a document entitled New
22 Mexico State Land Office.

23 A All right, sir.

24 Q All right, and that this is -- my copy is
25 dated January, 1984.

1 A Yes, sir.

2 Q Without regard to whether or not this is
3 or is not the actual rule, just tell me, if you would, take
4 a look at -- at the language in that rule and tell me if you
5 have ever heard of that before.

6 A I've never encountered it at this time --
7 until this morning, I'll put it that way.

8 Q Does that section, as you are looking at
9 it now, provide the suspension of State leases in the potash
10 area?

11 A I'll have to read all the way through it.
12 If you'll give me a moment I'll do that.

13 Q Okay, if you would, please.

14 A This addresses the problem of whether --
15 this does seem to address the problem of waste and once
16 again, this is one of those that it's arguable whether it
17 applies.

18 Q It also seems to address the question of
19 suspending a State lease, does it not?

20 A Yes, sir. That's why I use the attorneys
21 when I want to know the answers to these questions.

22 Q So your understanding that a State lease
23 could not be suspended, that's just your understanding.

24 A May I state the circumstances of my un-
25 derstanding to answer your question?

1 Q Feel free to answer the question anyway
2 you want.

3 A Please, my understanding once again is
4 that we're in an area where there -- the waste of the pot-
5 ash is questionable and that being the case, which that par-
6 ticular section you addressed me to talks about waste, well,
7 we're saying there isn't waste, or at least not undue waste,
8 and as a result, that section may or may not apply, and
9 that is our problem. We're not sure of what the State of
10 New Mexico would say under the circumstances, and if we'd
11 win in the appeals, so we're doing our best to protect our-
12 selves, keep the risk from being against us by applying for
13 and trying to get these wells drilled, because we think it's
14 not going to result in undue waste.

15 Q I'm sorry, maybe I misunderstood your an-
16 swer --

17 A Well, as far as the answer --

18 Q -- to a question from Mr. Hall earlier --
19 excuse me, let me finish --

20 A Go ahead.

21 Q -- my question.

22 A I'm sorry.

23 Q I understood you to answer Mr. Hall's
24 question earlier that it's your understanding there was no
25 provision for the suspension --

1 A I did say that. I sure did. I was not
2 aware of that particular section until just --

3 Q And that wasn't highly accurate, I guess.

4 A Well, it was accurate at the time; I'd
5 never seen that particular rule. I have now.

6 Once -- may I add something to that for
7 clarification, is that I'm not in the Legal Department. I
8 am an attorney.

9 Q No, I understand that.

10 A Okay, but like I said, for the purpose
11 of the Commission --

12 Q You answered my question, thank you.

13 A Well -- all right.

14 Q Go ahead.

15 A Like I said, I am a landman. I am an at-
16 torney at Texaco, but I'm not in the Legal Department. When
17 it comes to these kind of questions, if I recognize there's
18 a question I need to know the answer to, I go to Legal and I
19 ask them, is there a particular section, in this case, for
20 instance, that would apply. We have discussed this in the
21 Land Department. I don't know if Legal is aware of this
22 section or not. Prior to this meeting I did ask our counsel
23 here today if he was aware of that section and he indicated
24 he was not, so apparently, it's just a matter of expertise
25 of the attorney in some cases, and once again, after reading

1 that, I'm not sure it applies, which is the crux of our ar-
2 gument. We need to --

3 MR. LEMAY: Well, it's perfect-
4 ly acceptable to say that's beyond my realm of understanding
5 and supervision. That's --

6 A Well, I wasn't sure if I was making that
7 clear and I apologize if I went around on that. I wasn't
8 trying to .

9 Q I understand, Mr. Bryla, you are not an
10 attorney, you're a landman.

11 A No, I am an attorney but I'm not in the
12 Legal Department at Texaco.

13 Q Okay. You don't practice law.

14 A Not in that sense. I'm not a legal rep-
15 resentative of Texaco. I'm a landman.

16 Q You are not involved, I suppose, in
17 determining the economics of wells and that sort of thing.

18 A No, that's an engineering/geological
19 question.

20 Q You have identified a document, several
21 documents this morning, Mr. Bryla. Let me refer you to
22 them, if I may.

23 Let's look at Texaco's Exhibit Number
24 Two.

25 A All right, sir.

1 Q I understood your testimony to be that
2 the two red dots shown on Texaco's Exhibit Number Two, do
3 you see that in front of you?

4 A Yes, sir, I sure do.

5 Q I understood you to say that those two
6 dots were in a barren area.

7 A According to this map that's what it is,
8 yes, sir.

9 Q All right, and when you -- when you use
10 the word "barren", are you using the definition as it ap-
11 pears on the map that we have on the wall?

12 A Yes, sir, that's all I'm going by.

13 Q Of which Texaco Exhibit Two is a partial
14 enlargement, is it not?

15 A Yes, sir. I'm using --

16 Q So you're using -- I'm sorry, do you have
17 anything further?

18 A Yes, sir, that is the answer to the ques-
19 tion, I'm using the map and its legend to identify the loca-
20 tions.

21 Q Okay, so your reference to the word "bar-
22 ren", you were simply repeating what the Bureau of Land Man-
23 agement has defined.

24 A That is correct.

25 Q And I believe you said that the two dots

1 shown on Texaco Exhibit Number Two were in the barren inter-
2 val.

3 A As near as we can tell, yes, sir. In
4 other words, owing to the accuracy of the way they drafted
5 the maps and owing to the accuracy of the way we mapped
6 these things using our little scales, that should be within
7 the barren area.

8 Q Well, whether or not these two dots are
9 in the barren area would depend on the size of the red dot,
10 wouldn't it?

11 A Well, certainly. If you assume the very
12 center of those dots is the center of the location, that's
13 where we are.

14 Q Were you -- were you involved in putting
15 the mark on the ground where these wells would be drilled?

16 A The actual ground itself?

17 Q Yes.

18 A No, sir, I was not.

19 Q Were you involved in the determination of
20 the exact surface location involved in these two wells?

21 A If you mean actually getting out to the
22 surveyor, or title examination? I'm not sure if I under-
23 stand your question.

24 In other words, Texaco --

25 Q I'm sorry, I may not be asking it cor-

1 rectly.

2 A Well, you're probably asking but I'm not
3 sure of what you want. In other words --

4 Q All right, well, just answer the --

5 A All right, I'll try to answer.

6 Q Let me rephrase it because obviously, --

7 A Yes, sir, please.

8 Q -- it was misleading.

9 The APD's involved in this case, one of
10 them seeks a surface location, I believe it's 2310 and 2310.

11 A Yes, sir.

12 Q Were you involved in deciding that the
13 well that should be drilled by Texaco should be 2310 and
14 2310?

15 A No, sir, I was not.

16 Q Were you -- well, that puzzles me now,
17 Mr. Bryla, how do you know -- how do you know, then, that
18 this is the location?

19 A Because I got out the Allen scales and I
20 put the dots on the one you're holding in your hand. Like I
21 said, once again, that's a reproduction of this map and if
22 you assume its scale is accurate, and you take an Allen
23 scale and plot out those locations and they appear in that
24 colored area, which is labeled as the barren area, that --
25 my assumption is that that is in the barren area.

1 Q So you assume -- okay, you assume that
2 the line shown on the BLM map is what might be called site
3 specific, down to a fine --

4 A Well, no, I said that's the best
5 information we have. Obviously that's something that can be
6 argued, but that's the best information we had, at least
7 that I had, and that's an engineering question as far as
8 whether it is or isn't. I'm not an engineer.

9 Q You are aware that the potash companies
10 say that these locations are in an area where there's miner-
11 alization, are you not?

12 A Yes, sir, I understand that's your con-
13 tention.

14 Q Now you also said, Mr. Bryla, that you
15 thought the allowing of these two wells would be in the best
16 interest of conservation?

17 A As far as -- yes, sir. In other words, I
18 consider this to be, if everything that our engineers and
19 geologists told me, this would be the best locations based
20 on development for these wells.

21 Once again I'm relying on their expertise
22 as to what geologically and engineering is sound. That's
23 not my department but with what they have told me, based on
24 my understanding of the commitment Texaco has, the unit
25 agreement, this would be the best way for future development

1 of that acreage; the best means, best method.

2 Q Do you know whether or not these wells
3 can be developed in other surface locations?

4 MR. HALL: Let me object. This
5 is way beyond the scope of the witness' testimony. He's
6 testified as a landman. Mr. High wants to ask engineering
7 and geologic questions, we have plenty of witnesses coming
8 up.

9 MR. HIGH: Counsel covered them
10 on direct. This person testified that these wells would be
11 in the best interest of conversation (sic), and I simply
12 wanted to show that he had no basis of knowledge and I'm
13 through with that issue, if that's you're getting at.

14 MR. LEMAY: Conservation, is
15 that correct?

16 MR. HALL: Pardon me?

17 MR. LEMAY: I'm trying to
18 understand Mr. High's last comment. The interest of conser-
19 vation was his testimony.

20 MR. LEMAY: Are you through
21 with that particular line?

22 MR. HIGH: I'm through with
23 that. I certainly am.

24 MR. LEMAY: Fine, we'll con-
25 tinue, then.

1 MR. HIGH: As a matter of
2 fact, I have nothing else for Mr. Bryla. Thank you.

3 A All right, sir, thank you.

4 MR. LEMAY: Is there any addi
5 tional -- yes, sir. Any follow-up questions on redirect?

6 MR. HALL: Yes, sir.

7
8 REDIRECT EXAMINATION

9 BY MR. HALL:

10 Q Mr. Bryla, listen, in spite of the ques-
11 tionable expertise of your counsel, let me ask a question.

12 A I'm sorry it came out that way.

13 Q That's all right. Despite the suspension
14 of the State lease under Rule 1061, isn't there a 5-
15 year limitation on that provision? In other words, you
16 can't suspend it beyond five years.

17 MR. HIGH: I'm going to object.
18 The witness has already said he doesn't know anything about
19 it and hadn't even seen it until this morning. How can he
20 know whether or not there's a 5-year provision?

21 MR. HALL: All right, we'll ask
22 the Commission to take notice of the rule, then, and let it
23 speak for itself.

24 MR. HIGH: That's fine. The
25 rule speaks for itself.

1 MR. HALL: Thank you, counsel.

2 Q That notwithstanding, isn't it Texaco's
3 primary concern that if you don't meet the plan of
4 development, as you testified, then your participating area
5 concept is jeopardized?

6 A Both participating area and the possible
7 loss of leasehold.

8 Q All right.

9 MR. HALL: No further ques-
10 tions.

11 MR. LEMAY: Any additional
12 questions of Mr. Bryla?

13 MR. BRYLA: I apologize to the
14 court for my questions but I really am trying to give the
15 best answer I can.

16 MR. LEMAY: We appreciate your
17 answers.

18 MR. BRYLA: All right, sir,
19 thank you.

20 MR. LEMAY: If there are no
21 additional questions the witness may be excused.

22 Call your next witness, Mr.
23 Hall.

24 MR. BRYLA: Thank you, sir.

25 MR. HALL: Mr. Chairman, we

1 call Terry McCance.

2

3

PRESSLY H. (Terry) McCANCE, III,

4

being called as a witness and being duly sworn upon his

5

oath, testified as follows, to-wit:

6

7

DIRECT EXAMINATION

8

BY MR. HALL:

9

Q For the record please state your name.

10

A My name is Pressly H. McCance, III.

11

Q And you go by Terry?

12

A I go by Terry.

13

Q Mr. McCance, where do you live and by

14

whom are you employed?

15

A I live in Midland, Texas, and I'm em-

16

ployed by Texaco Producing, Incorporated.

17

Q All right. Now have you previously tes-

18

tified before the Commission and had your credentials made

19

a matter of record?

20

A Yes, I have.

21

Q And are you familiar with the applica-

22

tions here today and the subject plans and the two well lo-

23

cations?

24

A Yes, I am.

25

MR. HALL: Mr. Chairman, are

1 the witness' qualifications acceptable?

2 MR. LEMAY: His qualifications
3 are acceptable.

4 Q Mr. McCance, how are you employed by Tex-
5 aco?

6 A I'm a geologist in the Development Group
7 with Texaco.

8 Q And what is your area of responsibility?

9 A My area of responsibility is primarily
10 for recommendation of primary drilling locations in south-
11 east New Mexico, which includes Roosevelt, Chavez, Eddy
12 County, and Lea County, as well as the Texas Panhandle.

13 Q All right. Have you constructed a --
14 conducted a geologic study of the area in connection with
15 this application?

16 A Yes, I have.

17 Q And have you prepared exhibits in connec-
18 tion with that study?

19 A Yes, I have.

20 Q All right, would you refer to Exhibit
21 Six, identify that, and explain to the Commission what that
22 shows?

23 A Okay. Exhibit Six is my geological in-
24 terpretation of the reservoir that's producing out of Cherry
25 Canyon in the Forty-Niner Ridge Unit No. 1.

1 Texaco has designated that as an F-3
2 sandstone, which comes from a regional study that Explora-
3 tion has done some years ago and it represents various
4 sands that produce throughout the Delaware Basin.

5 The map shows -- it shows structural con-
6 tours and Isopach contours. The structure contours are
7 shown in the heavier, dark, black lines that run basically
8 northeast/southwest or north/south. It shows regional dip
9 to be to the east and the Isopach contours are highlighted
10 in green and they represent a contour interval of 10 feet,
11 and backing up a little bit, the scale is a scale of one
12 inch to 2000 feet.

13 The Isopach contours show an F-3 sand,
14 channel sand system, that runs in a basic north/south or
15 northeast/southwest direction.

16 Q For the record, what is an F-3 sand?

17 A It's a pay sand that Texaco in their ex-
18 ploration studies of the Delaware Mountain Group has desig-
19 nated as a productive sand in various parts of the basin.

20 Q All right.

21 A And it correlates with the sand on a type
22 log that they have put together.

23 In addition to the Isopach and structure
24 contours, the various well locations with color coded pro-
25 duction are represented.

1 The only F-3 production that we have out
2 here is in the Forty-Niner Ridge Unit No. 1, which is shown
3 in spot J of Section 16.

4 And there's a type log with the F-3 sand
5 highlighted in green on the righthand margin of the struc-
6 ture Isopach map.

7 Q All right, let's look -- oh, excuse me.
8 go ahead.

9 A In addition to the well locations that
10 Texaco has proposed to drill, or would like to drill if a
11 permit is -- is allowed.

12 Q Let's look at Exhibit Seven now. Why
13 don't you identify that and explain that to the Commission-
14 ers?

15 A Exhibit Seven represents a stratigraphic
16 cross section of a portion of the Cherry Canyon section in
17 the Delaware Mountain Group. The F-3 sand is -- is notated
18 on the righthand side of the log. The trace of the cross
19 section is represented on the previous exhibit. In addition
20 to the well logs there is some drill stem test information
21 and what little perforation information is available on the
22 respective logs, as well as completion dates and zones of
23 completion at the bottom of each log, and they also show my
24 -- my interpretation of the correlations in this part of the
25 field area.

1 Q All right. Now referring back to Exhibit
2 Six, it shows the two locations by red dots, does it not?

3 A Yes, sir, it does.

4 Q Did you have any sort of input into pick-
5 ing those locations?

6 A Yes, I did.

7 Q All right. Was geology a fairly impor-
8 tant consideration in picking these locations?

9 A Yes, it was. It was a primary considera-
10 tion with spotting of -- of our No. 3 Well, which is located
11 2310 from the north and 2310 from the east line. The geolo-
12 gical considerations were such that the mechanism by which
13 these sands are deposited, they actually represent numerous
14 individual sand bodies and not -- not one thick deposit, so
15 there is potential for having isolated reservoirs within
16 this whole interval in addition to having -- having some
17 tight sands juxtaposed to some porous sands, and in order
18 to to hedge our bet or lessen our risk, we thought that a
19 strike location to the north, which is the direction that
20 these sands were transported from north to south, we thought
21 that our best chances of intersecting those porous sands
22 producing in the Forty-Niner Ridge No. 1, we felt that our
23 best chance of intersecting those would be at a location
24 north at that location.

25 Q All right. Are you aware that the potash

1 leaseholders who are opposing Texaco's applications are pro-
2 moting alternate well locations further to the north and
3 west?

4 A Yes, I am.

5 Q And what's your opinion of those?

6 A It's my understanding that they would --
7 they would approve or allow us to drill a location in spot
8 D, which would be roughly 330 from the north and 330 from
9 the west line of Section 16.

10 It's my opinion that that greatly in-
11 creases the risk of not intersecting the porous sands out
12 there, based on -- on my previous explanation of the possi-
13 bility of having impermeable sands juxtaposed with these
14 porous sands.

15 So it's my opinion that that is a much,
16 much riskier location that Texaco would not be willing to
17 take the risk and have to abandon the project.

18 Q It's an unacceptable --

19 A It's an unacceptable risk.

20 Q Mr. McCance, is there a greater likeli-
21 hood that more oil reserves will be recovered from Texaco's
22 proposed locations than the locations promoted by the potash
23 --

24 A I believe so.

25 Q Do you know if any other oil operators

1 share your geologic assessment --

2 A I certainly --

3 Q -- of the area surrounding your two loca-
4 tions?

5 A I certainly do. 1985, the end of 1985,
6 when we initiated this project, two oil companies, Santa Fe
7 and Flag Redfern, requested a farmout or I don't recall what
8 Santa Fe was interested in, or they were after a purchase of
9 the acreage and the acreage that they wanted happened to
10 coincide with our most prospective acreage, and we happen to
11 have documentation of the Flag Redfern farmout request, if
12 -- if anybody would be interested in pursuing that.

13 So there are other operators that share a
14 similar opinion to me, as far as the feasibility of this re-
15 servoir.

16 Q All right, do you have anything further
17 you wish to add on the geology of the region?

18 MR. LEMAY: I have just one
19 quick interruption for a matter of clarity for the record.

20 Will you explain what A, B, C,
21 D, what that refers to in terms of locations?

22 A A, B, C, oh, I'm sorry.

23 MR. LEMAY: You refer to a let-
24 ter D location there.

25 A Okay, I thought that was -- there -- each

1 section in New Mexico is set up into 40-acre proration
2 units, where there are sixteen 40-acre proration units in a
3 section, and spot A through P represent the quarter quarter
4 sections running from the northeast corner to the northwest
5 corner, it goes A, B, C, D, and then drops down, E, F, G, H,
6 and then so forth and so on, and it just goes back and
7 forth.

8 Q Are they also known as unit letters?

9 A They're known as unit letters.

10 MR. LEMAY: Thank you.

11 Q Do you have anything further?

12 A That's all I have.

13 Q All right. In your opinion will the
14 granting of Texaco's two applications be in the best inter-
15 est of conservation, the protection of correlative rights,
16 and the prevention of waste?

17 A Yes, sir.

18 Q And did you prepare Exhibits Six and
19 Seven or were they --

20 A They were --

21 Q -- prepared under your direction?

22 A They were both prepared by -- by me.

23 Q All right.

24 MR. HALL: We move the admis-
25 sion of Six and Seven.

1 MR. LEMAY: Without objections
2 Exhibits Six and Seven will be admitted into the record.

3 MR. HALL: Pass the witness.

4 MR. LEMAY: Mr. High?

5

6

CROSS EXAMINATION

7

BY MR. HIGH:

8

Q Mr. McCance, how long have you been a
9 geologist with Texaco?

10

A I've been a geologist with Getty and
11 Texaco for nearly four years.

12

Q Nearly four years?

13

A Nearly four years.

14

Q And had you worked for anyone else prior
15 to the time that --

16

A I was a student.

17

Q Pardon?

18

A I was a student.

19

Q Okay, so you have about four years
20 experience in geology?

21

A With a major oil company and a year's
22 worth of field experience with a mudlogging company, so I've
23 been involved in the oil business for five years.

24

Q How long have you been working as a
25 geologist?

1 A As a -- as a geologist for --

2 Q Yes.

3 A -- for nearly four years.

4 Q And where is your office located now?

5 A It's in Midland, Texas.

6 Q And has it been there the entire four

7 year period?

8 A Yes, it has.

9 Q And do you have geographical

10 responsibilities or are you just a geologist for anything?

11 A We have -- I am a member of the Hobbs

12 District Group, which encompasses those areas that I've pre-

13 viously mentioned, and the areas that I've been personally

14 interested in happen to be the Eddy County and Lea County,

15 New Mexico, but I am free to work on whatever projects I can

16 generate.

17 Q But would you say you have more expertise

18 in Eddy and Lea County, New Mexico, than you do other areas?

19 A The most experience I have happens to be

20 in the Delaware Mountain Group in -- in Eddy County.

21 Q Okay. So you are very familiar with the

22 areas we're talking about here where Texaco wants to drill

23 these.

24 A As -- as far as the Cherry Canyon is con-

25 cerned, yes.

1 Q Okay. Now I believe you said you were
2 involved in the decision as to where on the surface these
3 wells would be located.

4 A I was -- I was one of several that con-
5 tributed to that discussion.

6 Q And let's refer, if you will, to Texaco
7 Exhibit Six, I believe it is.

8 A Yeah, it's a structure map, yes.

9 Q Yes. Has two dots?

10 A Yes.

11 Q Do you see that?

12 A Yes. I sure do.

13 MR. HIGH: If I may approach
14 the witness, Mr. Chairman.

15 MR. LEMAY; Fine.

16 Q Look, if you will, Mr. McCance, at where
17 you've put these -- where the two dots are on Texaco Exhibit
18 Number Six.

19 A Okay, they're right here on the map that
20 I have.

21 Q Is that the best location geologically
22 speaking?

23 A Geologically speaking, I believe the best
24 location is represented by the location that's -- that's
25 spotted at 23 South -- 2310 from the north line and 2310

1 from the east line.

2 Q That would be the red dot on the right-
3 hand side facing Exhibit Number -- Texaco Exhibit Number
4 Six, would it not?

5 A On the righthand side of the two dots,
6 that's correct.

7 Q Okay. Why is the -- why geologically is
8 that the best location?

9 A Well, I mentioned previously there are a
10 number of trapping mechanisms in the Delaware Mountain
11 Group, one of which, as I mentioned before, the sands, the
12 mechanism by which these sands were deposited represent pul-
13 ses of sand and the thickness is not represented by this 65
14 feet that's colored in green. They actually represent smal-
15 ler sand separated by impermeable sands or -- or shales that
16 are so thin that they're beyond the resolution of the log-
17 ging equipment that run at this point.

18 Core information would support that
19 interpretation. Because these sands came from a northern
20 direction, we feel as though our best chances of intersec-
21 ting a porous sand and the porous sand that produces in the
22 Forty-Niner Ridge No. 1 would be much greater than if we
23 were to go to the west, which may be off depositional strike
24 of that particular producing sand.

25 Q Isn't it a fact, Mr. McCance that the

1 geological data that you used to put the dot at 2310/2310
2 that you just described to us, that the geological data used
3 to put that dot in there is derived from Forty-Niner Ridge
4 Unit No. 1?

5 A That's incorrect.

6 Q What -- what Texaco has learned with res-
7 pect to Forty-Niner Ridge Unit No. 1 played no part?

8 A Oh, it had -- it had a significant deci-
9 sion. We wouldn't want to offset Forty-Niner Ridge No. 2,
10 which hasn't been perforated in that zone yet. And that
11 zone, from what I can tell, does not look prospective.

12 Q I'm sorry, I said Forty-Niner Ridge Unit
13 No. 1.

14 A I know, but you asked me if that was the
15 only well that went into my decision and it was not the only
16 well that prompted me to put that location there.

17 That's what you asked me, if I understood
18 your question correctly.

19 Q Well, let me do it again, to make sure
20 we don't misunderstand one another.

21 A Okay.

22 Q Did you or did you not consider the geo-
23 logical data that's been developed with respect to Forty-
24 Niner Ridge Unit No. 1?

25 A I sure did consider that data.

1 Q That's very important stuff, isn't it?

2 A It's the only production that we have in
3 that whole area, you bet.

4 Q It's good -- would you call that good
5 production out of the Delaware?

6 A I'd say that that is --

7 Q It's okay, if you don't want to say --

8 MR. HALL: Well, I object to
9 his putting words in --

10 MR. HIGH: Oh, I'm sorry.

11 MR. HALL: -- into the witness'
12 mouth.

13 MR. HIGH: I'm sorry, go ahead.
14 Go ahead, how would you characterize it?

15 A I would drill a well for that production,
16 yes.

17 Q For the production that's now coming out
18 of Forty-Niner Ridge Unit No. 1, you'd drill a well for
19 that.

20 A I sure would. I wouldn't be sitting here
21 today if I wasn't.

22 Q Okay. Doesn't the knowledge that you
23 have from Forty-Niner Ridge -- Forty-Niner Ridge Unit No. 1
24 make the location at 2310 and 2310 a fairly good bet?

25 A As far as a successful completion?

1 Q Geological risk.

2 A Geological risk, yes, I'd say that that
3 was our best bet at this point with the information that we
4 have.

5 Q Wouldn't you in fact call the geological
6 risk low?

7 A I'd say it was low based on -- on my
8 knowledge of the size of some of these Cherry Canyon reser-
9 voirs.

10 Q Would you as a geologist anticipate pro-
11 duction to be something similar to Forty-Niner Ridge Unit
12 No. 1?

13 A As a geologist by training I'm an opti-
14 mist, so I would expect it to be better than Forty-Niner
15 Ridge --

16 Q Okay.

17 A -- No. 1.

18 Q Okay. All right, at least as good as.

19 A At least as good as.

20 Q Look again, if you will, (not understood)
21 at Texaco Exhibit Number Six. If you'll notice coming and
22 going from -- see the well, Forty-Niner Ridge No. 2?

23 A Yes, I sure do.

24 Q There's a -- you see that dashed dotted
25 line going to Forty-Niner Ridge No. 1?

1 A Yes, I do.

2 Q And over to the left to --

3 A Yes.

4 Q What's that line?

5 A That's, as I mentioned before, that's the
6 trace of my cross section that represents Exhibit Seven.

7 Q What is that? I don't understand.

8 A That just shows the points that are rep-
9 resented by this cross section. In other words if you were
10 to follow that line --

11 Q I'm sorry, when you say "that line", show
12 me if you will --

13 A The line --

14 Q -- what you mean.

15 A -- that you were making reference to. If
16 you were to follow this line in this direction, that's the
17 line --

18 Q Excuse me, if I followed the dashed dot-
19 ted line that appears on Texaco Exhibit Number Six --

20 A Right.

21 Q -- from Forty-Niner Ridge Well No. 2 up
22 to Well No. 1 and over in there --

23 A To the (not clearly understood).

24 THE REPORTER: I'm sorry, what
25 did you say, Mr. McCance?

1 MR. HIGH: To the Nash Draw
2 wells.

3 A Oh, to the Nash Draw Unit wells, the
4 wells to the west.

5 If you look at the heading of these logs,
6 if you sit down and read these, you'll see that this --

7 Q Excuse me, you're now referring to Texaco
8 Exhibit Number Seven, is that --

9 A Could you -- could you ask your question
10 all over again so we can get back on line with what's perti-
11 nent?

12 Q Well, my question is, I'm interested in
13 knowing what the dashed dotted line is between Well No. 2
14 and Well No. 1 going over to Nash Draw.

15 A It represents the trace of the cross sec-
16 tion shown on Exhibit Seven.

17 Q Okay. Refer, if you will, to Exhibit
18 Number Seven.

19 A All right.

20 Q And tell me what is shown in the right-
21 hand column, the far righthand column on that exhibit.

22 A That well is Forty-Niner Ridge No. 2.

23 Q And -- and what -- what is shown with re-
24 spect to Well No. 2.?

25 A It shows it has the -- the completion in-

1 formation and the various perforated intervals in that par-
2 ticular wellbore in addition to the correlations that I've
3 made across the area.

4 Q Did you do that log?

5 A I didn't. I didn't do that log, no, sir.

6 Q That's information Texaco already had.

7 A That's information that was run back in
8 1974. I have access to that log. That's how -- but I had
9 no part in its actual acquisition.

10 Q Okay, and you looked at -- at that Well
11 No. 2 information.

12 A I sure did.

13 Q And did you identify the -- what you call
14 the F-3 pay sand?

15 A I sure did. It's shown right in that in-
16 terval right there.

17 Q And --

18 A I've got an expanded version of this. I
19 blew this down. I should mention that the scale is actually
20 1.2 inches to 100 feet. I shot this down in half just -- I
21 didn't realize we would be in a big conference room like
22 this and for the sake of space I had this larger cross sec-
23 tion reduced in half.

24 So if you would prefer to look at that,
25 I've got an easier copy to look at.

1 Q Well, this is the one that Mr. Hall has
2 chosen to introduce so we're kind of stuck with it.

3 A It's the same cross section. It's just
4 been reduced in half.

5 Q I understand that, but this is the one
6 marked for his --

7 A All right.

8 Q -- Exhibit Number Seven.

9 A That's fine.

10 Q All right, now if we look at the next to
11 the next of the righthand column on Texaco Exhibit Number
12 Seven, that is the -- is log information from what well?

13 A The Forty-Niner Ridge No. 1.

14 Q Okay, that is the well that's currently
15 producing out of the Delaware.

16 A That's correct.

17 Q And you've also identified on here the F-
18 3 pay sand?

19 A That's correct. That's shown right here
20 with the perforations indicated as well.

21 Q And you are satisfied, Mr. McCance, that
22 the area that you've identified as being the F-3 pay sand on
23 Forty-Niner Ridge No. 1 is the same area that you have mar-
24 ked as being the F-3 pay sand on Well No. 2?

25 A Yes, I am.

1 Q And the third column from the righthand
2 side on Texaco Exhibit Number Seven is with respect to which
3 well?

4 A That represents Nash Draw Unit No. 7,
5 which is shown approximately 2-1/2 miles to the -- to the
6 east or west of Forty-Niner Ridge Unit No. 1.

7 Q Is that in Section 18?

8 A That's in Section 18, and --

9 Q 23 South?

10 A -- Range 23 South.

11 Q And that is one of the points intersected
12 by the line that I asked you to -- to describe for me on
13 Texaco Exhibit Number Six, isn't it?

14 A Yes, it is.

15 Q What kind of a well is that?

16 A That's an Atoka producing gas well.

17 Q Is it producing out of the Delaware?

18 A It's not, to -- to my knowledge it's
19 not. The only Delaware, other Delaware production in the
20 Nash Draw Unit is -- is this particular well, which is Nash
21 Draw Unit No. 4, which produces out of a stratigraphically
22 higher sand, and that's shown on this particular cross sec-
23 tion.

24 Q Okay. And the other column shown on
25 Texaco Exhibit Number Seven, I take it for similar informa-

1 tion that you've just -- just described to me but for other
2 wells. Is that correct?

3 A That's correct.

4 Q Okay. Now, would the area within the two
5 lines where you have written F-3 pay sand, if I followed
6 that across the document, across Texaco Exhibit Number
7 Seven, would that tell me where you think, as a geologist,
8 the F-3 pay sand is on all of the wells that's listed on
9 Texaco Exhibit Number Seven?

10 A I'm not sure -- would you repeat your
11 question, please, I'm not sure that I understand that.

12 Q Okay. You have indicated an area, and I
13 assume that is a range, is it not, of where you believe the
14 depth of the F-3 pay sand is?

15 A Yes, sir.

16 Q The top and the bottom of that?

17 A Yes, sir.

18 Q So if I look on the -- let's say, if I
19 look on the far righthand column, which I believe you said
20 was Unit Forty-Nine Ridge No. 2 --

21 A Yes, sir.

22 Q If I look in the space below and above
23 the line where you've written F-3 pay sand, you are saying
24 that's the Delaware area from which you think there's oil.

25 A I -- I believe that that is the F-3 pay

1 sand and that I'm not saying that everything in this inter-
2 val is productive.

3 Q Well --

4 A I'm not saying that --

5 Q -- I understand.

6 A -- it is all one homogeneous sand.

7 Q Okay, but my question related only to
8 where --

9 A That represents the F-3 sand as corre-
10 lated from the Forty-Niner Ridge Unit No. 1.

11 Q All right, and if I follow that same area
12 across as you have have drawn it on Texaco Exhibit Number
13 Seven, is that the F-3 pay sand --

14 A That represents the F-3 pay sand but I
15 guess my -- my notation is misleading, and I'm not trying to
16 infer that all this is -- is productive pay sand. It is the
17 F-3 sandstone. I would call it the F-3 pay sand in the For-
18 ty-Niner Ridge Unit No. 1, because it is producing from that
19 interval, and these are stratigraphically equivalent sand-
20 stones. They don't represent the continuous sand that is
21 producing in the Forty-Niner Ridge Unit No. 1.

22 Q All right, so if I looked on the lefthand
23 side of the document, between these lines that you have F-3
24 pay sand, and I believe this one is for -- help me out here.

25 A Nash Draw No. 3.

1 Q Okay.

2 A If I can have my map back I'll show you
3 where it is.

4 Q Well, let me just make this very simple,
5 sir, if I may.

6 If I looked at the area between the lines
7 that you have indicated being R-3 pay sand in the column
8 that you call Nash Draw No. 3, you're not saying that at
9 that depth there's F-3 pay sand.

10 A There's F-3 sandstone at that strati-
11 graphic interval.

12 Q Okay, but you're not saying here as a
13 geologist that it would be a producing area.

14 A Looking at that log, there's not enough
15 porosity there to be a productive well.

16 Q So from a geological standpoint you have
17 a better risk of hitting producing areas if you stay closer
18 to what you have identified here as Forty-Niner Ridge Unit
19 No. 1.

20 A That's correct.

21 Q Now, if you will look at Texaco Exhibit
22 Number Six, Mr. McCance, Mr. Hall anticipated some questions
23 that I would have about why you couldn't drill to the north
24 and the west, and I believe you -- you said that wasn't
25 good, but I'm not really sure if I recall why you said that.

1 A Well, it was -- I did mention the reason
2 twice and I'll -- I'll go through it again, if you'd like.
3 I've got a schematic that I can show you.

4 Q Well, --

5 MR. HALL: Just let him ask the
6 questions.

7 Q Yeah, just let me do it my way just to
8 make sure I understand.

9 A All right.

10 Q I am not a geologist so you'll have to
11 bear with me here.

12 Look at Texaco Exhibit Number Six. Close
13 to the area where you have the two red dots, do you see
14 those --

15 A Yes.

16 Q -- there is a circle that is colored
17 green.

18 A Yes.

19 Q (Not clearly understood), right?

20 A Yes.

21 Q What does that suggest to you as a geolo-
22 gist?

23 A That suggests, it's my interpretation
24 that a thicker sand body representing 85 percent clean sand-
25 stone and greater than or equal to 18 percent porosity will

1 be present at that location.

2 Q Within that circle.

3 A I'd like to think that it would be exac-
4 tly 50 feet. That would greatly increase our -- our reser-
5 ves.

6 Q Well, I guess my question is, and maybe
7 it's because of my lack of understanding about geology, but
8 is the Isopach line that is a complete circle on Texaco
9 Exhibit Number Six, is that suggestive of a good place to
10 drill?

11 A Yes, it is.

12 Q Anywhere in that circle.

13 A At this point the geological information
14 isn't such that I could say that anywhere in that circle
15 would be -- I mean this is -- everywhere in that circle
16 might be.

17 Q Pretty good stuff, right?

18 A Might be, but the farther that you get
19 away from our location represented at 2310 from the north
20 and from the east, the risk increases tremendously, based on
21 my knowledge of the Delaware Mountain Group and the Cherry
22 Canyon.

23 Q Why, then, well, I'm sorry, I don't know
24 what you mean by my knowledge. Anywhere within the Isopach
25 circle should be good, but you apparently have some

1 additional data, right?

2 A I think you need to rephrase that ques-
3 tion. I --

4 Q I'm sorry. I understood you to say any-
5 where within that Isopach line should be good stuff.

6 A It could be good stuff.

7 Q Should be good stuff.

8 A Sure, I'll --

9 MR. HALL: I'll object. He's
10 trying to put words in the witness' mouth. I think his
11 answer speaks for itself.

12 MR. HIGH: My question is --

13 MR. LEMAY: The question would
14 put words in the witness' mouth.

15 A Based on what I've mapped there it should
16 be prospective acreage.

17 Q Anywhere within the Isopach line, circle,
18 the complete circle.

19 A Sure, but you also introduce more risk
20 the farther away that you get from known production. That's
21 why people drill dry holes. If I knew how -- exactly what
22 it was like I wouldn't have to work for Texaco.

23 Q Right. Right. And I'd be with you. I'd
24 want to be your partner.

25 So the reason that you want to stay or

1 get wherever you put these dots at, is because you want to
2 stay close to the enclosed Isopach circle and get as close
3 to the known production in Unit Number 1 as you can.

4 MR. HALL: I'll object to the
5 question. Are you asking him if that was his testimony?

6 MR. HIGH: No, I'm not. I'm
7 asking him as a geologist.

8 MR. HALL: You want to restate
9 your question?

10 MR. HIGH: If you -

11 A I'll -- I'll answer and if it is not suf-
12 ficient --

13 MR. HIGH: No, I'm sorry, your
14 counsel objects. Let me rephrase it. I don't want to -- to
15 -- you to answer a question you may not understand.

16 Q As a geologist, would you want to put
17 these dots within or as close as you could to the area with-
18 in the enclosed Isopach line and as close to the known pro-
19 duction in Unit 1 as you possibly could to reduce the geolo-
20 gical risk of a dry hole?

21 A I'm going to ask you to repeat that one
22 more time to make sure. I'm sorry, I --

23 MR. HALL: I was just objecting
24 to the form.

25 MR. LEMAY: That's fine.

1 MR. HIGH: Don't ever answer a
2 question, Mr. McCance, you don't understand, and I don't
3 mind at all rephrasing it.

4 Q But from a geological standpoint wouldn't
5 you want to locate an oil well at a location within this en-
6 closed Isopach, or as close as you could get to the enclosed
7 area, and as close as you could get to a well where you have
8 known production to reduce the geological risk of drilling
9 it?

10 A If you were to add other geological para-
11 meters that -- that aren't necessarily depicted by these
12 lines, and that's geological experience.

13 Q Do you have it in this case, in the case
14 of these two wells?

15 A The geological experience?

16 Q Yes.

17 A I am familiar with the different trapping
18 mechanisms in the Cherry Canyon and applying those concepts,
19 I would assume that it happens to be one of those, and to
20 hedge our bet, a location along depositional strike, which
21 would be to the north, would be most advantageous to us as
22 far as a second well in a field.

23 Q Would -- would you want to go north be-
24 cause of the drive mechanism?

25 A No, because of the direction from which

1 the reservoir sands were transported.

2 In other words, the general depositional
3 trend of the channel system that deposited those sands is in
4 roughly a north/south direction. or in a north/northeast
5 south/southwest direction.

6 And I believe that's -- that's accurately
7 depicted on this Isopach map.

8 Q Is that an extension of this dashed dot-
9 ted line that you have between Well No. 2 and No. 1?

10 MR. HALL: I'll object. Is what
11 an extension?

12 Q If I projected beyond Well No. 1 in a
13 northern direction, would that be the trend that you just
14 referred to?

15 MR. HALL: Let me object. I
16 still don't understand the question. Are you asking him if
17 the Isopach --

18 MR. HIGH: I'll -- I'll with-
19 draw the question.

20 Q Mr. McCance, look at Texaco Exhibit Num-
21 ber Six. You have this dashed dotted line going from Forty-
22 Niner Ridge Unit Well No. 2 up to Unit No. 1, don't you?

23 A As I've shown on this Isopach map, that
24 is -- is roughly oblique to depositional --

25 Q You drew that line. You're responsible

1 for that line being on this exhibit, aren't you?

2 A Oh, certainly.

3 Q Okay, and you said that shows the Dela-
4 ware F-3 pay sand as you interpret it as a geologist, is
5 that correct?

6 A That's correct.

7 Q Now, is this northerly trend that you
8 just referred, would that be an extension of that line north
9 over Forty-Niner Ridge Unit No. 1?

10 A Well, as I see this -- this location,
11 it's in a north direction.

12 Q My question, Mr. Cance (sic), is this
13 trend that you just mentioned. Is that an extension of that
14 dashed dotted line?

15 A No, my trend was not derived from that
16 particular line. It was defined by the particular data
17 points that I have along that line.

18 That line just shows you the position of
19 the wells on the cross section --

20 Q It shows you the Delaware sand, doesn't
21 it?

22 A It shows me a cross section. That line
23 has nothing to do with that sand being there.

24 Q Well, is it your testimony, I want to
25 make sure I understand you, is the information shown on Tex-

1 aco Exhibit Number Seven, is that all relevant, was it even
2 considered --

3 A That -- that information is relevant.

4 Q Let me finish my question.

5 A I'm sorry.

6 Q Was this information on Texaco Exhibit
7 Number Seven considered in putting those red dots on Texaco
8 Exhibit Number Six?

9 A Yes, it was.

10 MR. HIGH: Mr. Chairman, may I
11 have a few minutes to (not clearly understood)?

12 MR. LEMAY: Fine. How much ad-
13 ditional time do you think it will take for you to be
14 through with --

15 MR. HIGH: I'm essentially
16 through.

17 MR. LEMAY: We'll just wait
18 here, then.

19 Q Are you familiar with the reservoir data
20 concerning the proposed well?

21 A Just in passing. I'm -- I cannot testify
22 to that particular data.

23 Q You don't know what the reserves are?

24 A I've got -- I know what the estimated re-
25 serves for the Forty-Niner Ridge Unit No. 1 happen to be but

1 we have testimony that will tell you exactly the information
2 that you need to know.

3 Q And you don't know that.

4 A No. I've made my own projections but
5 they're -- I'm not an engineer and I have access to their
6 information and can make my own general conclusions to see
7 if a project is worth pursuing.

8 Q I guess that's what puzzles me a little
9 bit. You have to know something about --

10 A I have to -- I have to have a general
11 ballpark idea.

12 Q Let me finish my question. You have to
13 know something about the reserves data, the reservoir data,
14 before you put the -- perform the (unclear) to drill the
15 well, don't you?

16 A Sure.

17 MR. HALL: I'll object to the
18 form. We don't know what he means by reservoir data. If
19 you want to explain that, I'll --

20 MR. HIGH: If you don't under-
21 stand that, I'll withdraw the question.

22 Q Mr. McCance, do you -- you understand
23 what a reservoir is, don't you?

24 A Yes.

25 Q Do -- don't you have to know something

1 about the reservoir before you decide where you're going to
2 drill the well?

3 A Yes, you do.

4 Q Who in Texaco can testify about that?
5 You said you can't?

6 A I cannot testify to all the engineering
7 parameters that go into our economic program. I know that
8 I've got a well that has 35,000 barrels producing 25 barrels
9 a day, roughly, and a production curve would suggest that
10 you've got 60-to-80,000 barrels of reserves.

11 Q You're talking now about the Forty-Niner
12 Ridge Unit No. 1.

13 A Ridge No. 1, right. And that's all I can
14 testify to, is -- is that production, and as I've shown,
15 we've got geologically a more optimum location and I would
16 venture to guess that if that is the case, then we would
17 have as good reserves.

18 Q The intent of these two wells is to
19 develop the same reservoir as Forty-Niner Ridge Unit No. 1.

20 A That -- that is shown on the log. There
21 may be --

22 Q I'm sorry, that's the intent?

23 A Yes. It is the intent.

24 MR. HIGH: I have no further
25 questions.

1 MR. LEMAY: Any redirect?

2 MR. HALL: No, Mr. Chairman.

3 MR. LEMAY: Any additional
4 questions of the witness?

5 Mr. Brostuen.

6

7

CROSS EXAMINATION

8 BY MR. BROSTUEN:

9 Q Mr. McCance, you've testified in a lim-
10 ited way regarding the transportation of sands and you used
11 the term channel. Could you briefly discuss the -- the type
12 of deposition of this sand in this general area?

13 Are we talking about a continental -- are
14 we talking about continental deposits?

15 A No.

16 Q Are we talking about marine deposits and
17 --

18 A We're talking about submarine channel de-
19 posits and conventional wisdom is such that the sands were
20 deposited by density flow currents as opposed to the initial
21 interpretation of turbidite deposits.

22 They're deposited within the confines of
23 a channel system and within that system you develop various
24 conduits for -- for sand, and shale that settles out in sus-
25 pension.

1 drilling mud and and salt water.

2 Q Then the -- that is not a drill stem test
3 number two down there opposite --

4 A No, that's something that the logging guy
5 put on.

6 Q Okay, in both cases, so there is no
7 direct evidence of separation, I guess you'd say, of these
8 two bodies except by your general knowledge of the area --

9 A That's correct.

10 Q -- being a certain width to these sand
11 trends.

12 A That's correct.

13 MR. LEMAY: I have no addition-
14 al questions. The witness may be excused if there's no ad-
15 ditional questions, and we will take a fifteen minute break.

16

17 (Thereupon a fifteen minute recess was taken.)

18

19

20 REPORTER'S NOTE: Thereafter an announcement was made con-
21 cerning confidential information to be given by the next
22 witness and a closed session was requested for the period
23 of time required for that testimony.

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CONFIDENTIAL TESTIMONY AND REFERENCE TO EXHIBITS
COMMENCING ON PAGE 92 AND CONTINUING THROUGH PAGE
112 INCLUSIVE.

Gregory W. Boyd COTR

1 (Thereafter at the hour of 12:50 p.m. the hearing
2 was again convened at which time the following
3 proceedings were had in open session, to-wit:)

4
5 MR. LEMAY: If you all are
6 ready we will resume testimony. Cross examination is where
7 we were, I think.

8 MR. HALL: Mr. Chairman, I'd
9 like to reiterate that I believe it would be appropriate if
10 we remained in executive session.

11 MR. LEMAY: Yes, we shall re-
12 main in executive session. So noted.

13 MR. HALL: Can we have the out-
14 siders excluded from the --

15 MR. LEMAY: Yes. Gentlemen, we
16 went into executive session because of confidential informa-
17 tion that occurred before lunch and we're still continuing
18 that, so as a stipulation we can only have present the law-
19 yers and staff and experts of the different parties engaged
20 in this suit.

21 So if you're not one of those,
22 we're going to have to ask you to leave.

23 This is only for the cross exa-
24 mination of this witness.

25 What we'll do when that's

1 through, we'll get back to an open hearing. Executive ses-
2 sion is over.

3 A SPECTATOR: What time do you
4 project that to be?

5 MR. LEMAY: Oh, I'll take a
6 stab at thirty minutes, Charlie, or twenty minutes, or what
7 would you anticipate?

8 MR. HIGH: No, I think it will
9 be, probably be forty-five minutes.

10 MR. LEMAY: You think forty-
11 five minutes?

12 MR. HIGH: Thirty, forty-five
13 minutes.

14 MR. LEMAY: We're guessing
15 thirty to forty-five minutes on cross examination.

16 When we have nothing but
17 authorized personnel in the room, we shall continue.

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CONFIDENTIAL TESTIMONY AND REFERENCE TO EXHIBITS
COMMENCING ON PAGE 116 AND CONTINUING THROUGH
PAGE 17e INCLUSIVE.

Sally W. Boyd

1 MR. HALL: We'll call Mr. John
2 Seeman.

3

4

JOHN SEEMAN,

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

7

8

DIRECT EXAMINATION

9

BY MR. HALL:

10

Q For the record please state your name.

11

A John Seeman.

12

Q Mr. Seeman, where do you live and by whom

13

are you employed?

14

A I live in Hobbs, New Mexico, and I'm em-

15

ployed by Texaco.

16

Q And what do you do for Texaco?

17

A I'm District Engineering Manager.

18

Q All right, have you previously testified

19

before the Commission?

20

A No, I haven't.

21

Q Why don't you give the Commission a brief

22

summary of your educational background and work experience?

23

A Okay. I've got a Bachelor of Science de-

24

gree from the University of Oklahoma in 1970.

25

I went to work for Texaco after gradua-

1 tion. I worked in Texaco's exploration, both Geological and
2 Geophysical Departments for approximately six years. I've
3 been practicing petroleum engineering since that time, since
4 about 1976.

5 I've had various duties in petroleum en-
6 gineering ranging from drilling, production, reservoir, man-
7 agement, regulatory, increasing responsibility and I'm a
8 Registered Professional Engineer and currently I'm an
9 Engineering Manager in Hobbs.

10 Q All right. Have you previously testified
11 before the Texas Railroad Commission and Oklahoma Corpora-
12 tion Commission?

13 A Texas Railroad Commission.

14 Q Okay. Does your area of responsibility
15 for Texaco now include southeast New Mexico?

16 A Yes, sir, it does.

17 Q And are you familiar with the applica-
18 tions Texaco has on the board here today?

19 A Yes, I am.

20 MR. HALL: Mr. Chairman, we of-
21 fer Mr. Seeman as a qualified petroleum engineer.

22 MR. LEMAY: His qualifications
23 are acceptable.

24 Q Mr. Seeman, what's been your involvement
25 with Texaco's efforts to drill this location?

1 permit. Seems like it was the 27th of November we had a
2 drilling permit issued from the OCD. We at that time had in
3 hand a protest or an objection from the Potash Producers.
4 We questioned the OCD as to the validity of the permit.
5 They wrote us back and told us based on the sequence of
6 events that happened that we did have a valid drilling per-
7 mit.

8 At that time we proceeded to build a lo-
9 cation at substantial cost. We contracted a drilling rig to
10 begin drilling operations.

11 Q Let me ask you, you said you built a lo-
12 cation at substantial cost. Do you know how much?

13 A I'd have to look at our records. I've
14 looked at the location. I've looked at the territory. They
15 are not a particularly difficult area to operate in, as far
16 as locations go. I would say that \$8-to-10,000 would be a
17 good number.

18 Q All right. I didn't mean to interrupt
19 you.

20 A No, that's okay. I just -- I haven't
21 looked at those numbers but I could build it for 8-to-
22 10,000.

23 Q All right. Go ahead and continue your
24 explanation.

25 A Okay, let's see, where was I? We had a

1 -- oh, yeah, we invested the money in a drilling location.
2 We contracted for a rig and were preparing to spud. There
3 was evidently some contact between the Potash Producers, I
4 mean I think it was Mr. High and Mr. Stamets, and a meeting
5 was arranged between Mr. Stamets and Mr. High. I don't
6 think Texaco was invited to that meeting. That was December
7 17th and we had a letter that was written December 17th from
8 Mr. Stamets, who was the OCD Director at that time, that our
9 permit had been rescinded, explanation being that the
10 notification wasn't proper or I think that was generally it.

11 In that letter he set an arbitration date
12 in January of '86. I didn't attend that, unfortunately, the
13 Division office was still handling some of those matters.
14 Russell Pool attended that meeting.

15 We got some correspondence back in Hobbs
16 from Mr. High proposing to Texaco that if we would move to
17 the north and the west that the possibility would be that
18 there wouldn't be any problem with a location.

19 That information, of course, was related
20 back to our development drilling group, the geologists and
21 engineers, and my department in Hobbs pretty much went back
22 to our business and don't -- I don't have any knowledge of
23 exactly what transpired until it was determined that -- that
24 we could move to the north or to -- mainly to the west, I
25 guess it is.

1 Q At this point let me ask you to refer to
2 Exhibit Ten, which everyone has --

3 A Okay.

4 Q -- and if you would just point out these
5 locations you're talking about on that.

6 A Okay, the location that's been built,
7 which is our original application, is just to the right
8 above the letter 6 in 16.

9 We built a road. On the topo map you can
10 see the road coming into the lease there and we built a road
11 a short distance right across the top of 1 and 6 into that
12 location, carved out a terrace pad, caliche road, it's a
13 good, solid location, built a cellar.

14 Q All right, now I understand you to say
15 that you understood the potash people to propose an alter-
16 nate location elsewhere. Where abouts, do you understand?

17 A Well, in Mr. High's letter he referred to
18 a location out of the potash -- out of the potash area, the
19 minerals that were attractive to the potash people. His
20 letter suggested to the north and west.

21 At what I understand to be great geologic
22 risk, they -- they were able to move to the west and to the
23 north wasn't favorable.

24 Q Is that on a location shown on Exhibit
25 Ten?

1 A Yes, sir. That was just to the left of
2 the other one. It's a small arrow there. directly parallel.

3 Q Okay. What happens when you proposed
4 this compromise location?

5 A Seems like it was in April, April of '87,
6 we notified the potash producers of Texaco's intention to ap-
7 ply for the drilling permit at this revised location. I
8 guess much to my surprise it was objected to also.

9 An arbitration meeting was then sched-
10 uled, which was, I don't know the date. It's just been a
11 few weeks ago that we had the arbitration meeting on -- on
12 that revised location.

13 Q Was this May 29th?

14 A Yeah, May 29th. Yeah.

15 We were unsuccessful at the arbitration
16 meeting and requested that we go ahead and take these
17 locations to hearing and try to obtain drilling permits for
18 both wells.

19 Q If the applications are granted, is
20 Texaco ready to drill the wells right now?

21 A Yes, sir. We've got a pad built and I
22 don't have the drilling contract currently but I think I
23 could get one shortly.

24 Q Is Texaco requesting an expedited order
25 be entered on these applications?

1 A We'd sure like to have one.

2 Q Why is an expedited order necessary?

3 A Well, like I say, we're ready to get on
4 with developing these minerals and the State letters, that
5 I've looked at, at least, have a threatening quality to
6 them. I'm not an attorney or a landman but to me they sug-
7 gest that they would like us to --

8 Q With regard to geologic aspects, are lo-
9 cations to the north and west of your actual proposed loca-
10 tions less favorable for topographic reasons?

11 A Yes, sir. I went out there to observe
12 the surface conditions and see what we would be faced with.
13 At the arbitration meeting it was suggested that we could
14 continue to move further to the north and west and if you'll
15 look at the -- at the BLM potash map, that is indeed moving
16 further and further into a barren area, as it's described on
17 that map.

18 If you take that second location to the
19 left there, and move, say, at a 45 degree angle into the
20 corner of that section, it gets steep. There's a large
21 earthen dam, stock tank, that's built in there. There's
22 ranching activity. There's trailerhouses. There's quite a
23 bit of ranching activity going that direction and across the
24 big earthen dam and as you arrive in the -- in the corner of
25 that section you're on a very steep incline. It would cause

1 us to have to build a road up the bank and then terrace out
2 a location in there.

3 We could do it but it would be much more
4 expensive than the one we've got built now.

5 Q So surface location is an important con-
6 sideration to Texaco.

7 A Yes, sir.

8 Q Mr. Seeman, are you aware of the conten-
9 tions of the potash leaseowners that develop in the potash
10 area as proposed by these two locations will result in undue
11 waste of potash?

12 A Am I aware of the contention?

13 Q Yes.

14 A Yes, sir.

15 Q How are you aware of that?

16 A Well, I've attended the arbitration
17 meeting. I've, I guess, spent a good deal of my personal
18 time in committee work with the potash producers. I've lis-
19 tened to their concerns. They've been very generous in edu-
20 cating me. I visited all the mines in the area. The one ot
21 the north there is Western Ag. I visited that mine twice.
22 I visited the IMC mine once. I have a feel for their -- for
23 their business; it's very similar to ours in a lot of ways,
24 and looking at this area, being aware of those facets and
25 having some knowledge and education in their business, I

1 have -- I have a feel for the potash waste that may or may
2 not occur, if that's your question.

3 Q All right, what are some of the specifics
4 in their contentions? Do you know how much potash they are
5 contending will be wasted?

6 MR. HIGH: I'm going to object.
7 That's about as clear a hearsay as you can get. We, and I
8 can assure you we will give that information from the
9 horse's mouth. So I don't know --

10 MR. HALL: That's why it's not
11 hearsay, Mr. Chairman. The party's right here.

12 MR. HIGH: I don't want this
13 witness testifying about how much potash is going to be
14 lost.

15 MR. LEMAY: Mr. High, I agree.
16 I think that is a legitimate testimony from the potash com-
17 panies, not Texaco, unless they have some evidence to back
18 up what they believe to be.

19 Q Mr. Seeman, are you aware that the potash
20 leaseholders are contending that drilling of a well in the
21 potash area will require that an approximately 1200-foot
22 pillar will necessarily have to be left surrounding the
23 wellbore?

24 A Yes, sir, that number was discussed at
25 some length at the arbitration hearing, that a very large

1 and substantial pillar, large in diameter, would be required
2 to protect the wellbore against any future subsidence that
3 may occur due to mining operations.

4 I contend that that's not necessary.

5 Q Why not?

6 A Basically because there isn't any subsi-
7 dence during primary mining. It depends on what you're tal-
8 king about.

9 Q What is primary mining? Why don't you
10 explain that?

11 A Primary mining is an orderly way of
12 developing the potash reserves whereby they produce approxi-
13 mately 65, (unclear) I guess it depends on -- on how they're
14 doing it in an orderly way, leaving pillars in the mine to
15 support the mine back and the mine back supports the world
16 above it, and there is --

17 Q Excuse me, how large are those pillars,
18 can you give us an idea?

19 A I've walked around them. I haven't
20 measured them.

21 MR. HIGH: Mr. Chairman, I'm
22 going to object. There's been no foundation laid to show
23 that this witness has any knowledge at all about potash min-
24 ing.

25 MR. HALL: Well, I challenge

1 that. He's testified he's been to the mines and been edu-
2 cated by Mr. High's clients and I'm not asking him to tes-
3 tify as a mining engineer. I'm asking him to testify to
4 what he's seen.

5 MR. HIGH: He's been asked to
6 testify to the size of the pillars.

7 MR. LEMAY: I'll accept the
8 testimony only as it might relate to a wellbore being
9 present in that pillar; therefore the two are interrelated
10 as I see it. A mining engineer might not know the relation-
11 ship of a wellbore, if that's where he's going.

12 MR. HIGH: I don't know.

13 MR. LEMAY: If there's casing
14 in the hole that is part of a pillar I'll accept testimony.
15 If it's -- if that's what you're trying to get at.

16 Q Let me ask you, did you see any pillars
17 that were 1200 feet?

18 A No, sir, they were much smaller than
19 that.

20 Q How small?

21 A I don't know. I've walked around them.
22 I didn't measure them. They might have been, you know, 45
23 foot or 50 foot square. I don't know. They weren't -- they
24 weren't very large.

25 Q Okay, and if I understand you, I believe

1 you stated that those pillars were a result of the process
2 of primary mining.

3 A Yes, sir.

4 MR. HIGH: Same objection.

5 MR. LEMAY: Yes.

6 MR. HIGH: This witness doesn't
7 know primary mining from secondary mining.

8 A Yes, I do.

9 MR. HIGH: And he's laid --
10 there's been no foundation laid to show that the witness,
11 other than the one visit in connection to that committee,
12 had ever set foot in a potash mine before, and I object to
13 him testifying about primary and secondary mining.

14 MR. LEMAY: Well, I agree. If
15 there's any testimony here that is an expert witness type
16 testimony. We granted you your point on reserves, I think
17 his observation of pillars in a mine is pertinent. It's on-
18 ly an observation. It's not a technical question on exper-
19 tise, and I will allow that line of question as long as
20 we're talking about non-expert type testimony.

21 Q You've already explained what you under-
22 stand primary mining to be. What is secondary mining, Mr.
23 Seeman?

24 A Secondary mining is a process after the
25 primary mining has been accomplished. They were able to go

1 back in and extract the pillars, or a portion of the pil-
2 lars. They can get 60 to 65 percent, something on that or-
3 der, with primary mining, and then later on they can go back
4 and extract another 20 percent of the reserves, which is re-
5 moving pillars.

6 The portions that I saw after the pillars
7 are removed is the back of the mine collapses and it's kind
8 of in a plastic way to the floor, and, you know, that's what
9 it looks like. It looks like a slumping. It's not a cave-
10 in process by any means.

11 Q Is that what you call subsidence?

12 A That sloping inside the mine is what
13 causes -- you can see them on the surface, where they've
14 second mined. These depressions in the surface, you can see
15 some slumping.

16 MR. HIGH: I object. I'm sor-
17 ry, Mr. Chairman. I am sorry, this is not observation and I
18 object to this whole line of testimony and I won't keep in-
19 terrupting as long as it's understood I have -- that I can
20 have a continued objection to this witness testifying about
21 potash mining in the potash basin.

22 And if I can have a continued
23 objection then I won't interrupt --

24 MR. LEMAY: We'll accept your
25 continued objection. I would sustain the objection as it

1 ported with pillars, any pillar that would contain the well-
2 bore would -- would be -- would suffice. I guess more di-
3 rectly is that with the primary mining and the pillars that
4 already exist, the back of the mine and, consequently, the
5 wellbore itself is supported. So any -- any size pillar,
6 200, 100 feet to 200 feet, whatever normal size pillar it is
7 in a mine.

8 Q So something certainly less than 1200
9 feet.

10 A Certainly less than 1200 feet.

11 Q So by that can we conclude that you're
12 not going to waste 100 percent of the reserves dedicated to
13 -- potash reserves, dedicated to a pillar surrounding a
14 wellbore.

15 A That's right.

16 MR. HIGH: I have my continuing
17 objection.

18 MR. LEMAY: So noted, Mr. High.

19 Q Mr. Seeman, in your opinion will the
20 drilling of Texaco's two wells result in the undue waste of
21 potash deposits or unduly interfere with potash deposits?

22 A No, sir.

23 Q In your opinion will the granting of Tex-
24 aco's applications be in the interest of conservation, the
25 protection of correlative rights, and the prevention of

1 waste?

2 A Yes, it will.

3 MR. HALL: Pass the witness.

4 Let me also move the admission
5 of Exhibit Ten. Did you prepare that or was it provided --

6 A I didn't prepare it personally but it was
7 prepared by someone on my staff.

8 Q Did you direct that they prepare it?

9 A Yes, I did.

10 Q All right.

11 MR. LEMAY: Without objection
12 Exhibit Ten -- is that the only one you're submitting by this
13 witness?

14 MR. HALL; Yes, sir.

15 MR. LEMAY: Exhibit Ten will be
16 admitted into evidence.

17 Cross examination, Mr. High?

18 MR. HIGH: Yes, Mr. Chairman.

19 Thank you.

20

21 CROSS EXAMINATION

22 BY MR. HIGH:

23 Q Mr. Seeman, just so we can understand
24 each other, you're not purporting to have any expertise in
25 potash mining, are you?

- 1 A Yes, sir.
- 2 Q And you have a BS degree in what?
- 3 A Geological engineering.
- 4 Q And have you ever worked in the potash
5 industry?
- 6 A No, sir.
- 7 Q And your office is now where?
- 8 A Hobbs.
- 9 Q And you've been with Texaco since 1970?
- 10 A Yes, sir.
- 11 Q So all of your professional practice has
12 been with Texaco.
- 13 A Yes.
- 14 Q And you mentioned that you went under-
15 ground in a potash mine?
- 16 A Several mines.
- 17 Q In the potash basin?
- 18 A Yes, sir.
- 19 Q And you went underground as part of the
20 committee that we now have of potash people and oil and gas
21 people?
- 22 A And I went once even before that with a
23 member of the BLM.
- 24 Q And everytime you've gone underground
25 someone has taken you and showed you around?

1 A Yes, sir.

2 Q Is that the basis on which you say you
3 have some expertise?

4 A That, the committee work, some personal
5 studies that I've done, discussions with the potash members
6 of the committee, reading. It's been an education process
7 which was one of the charges the OCD gave the Industrial
8 Committee, was to educate one another and become familiar
9 with each others operations and have some understanding, you
10 know, about it. Yes, that's correct.

11 Q So based upon what has been said in this
12 committee, which you and I are both a member, are we not?

13 A Yes, sir.

14 Q Based on what's said in that, that's a
15 part of this expertise you feel you have in potash?

16 A Yes, sir.

17 Q Now, you, you testified that -- and I as-
18 sume it's accurate -- that Texaco apparently built a pad and
19 then had its approved APD (not understood), so to speak. Is
20 that correct?

21 A Rescinded, yes, sir.

22 Q That's because of an error by Texaco,
23 wasn't it?

24 A That was the OCD's interpretation.

25 Q That Texaco had erred in giving notice,

1 that it failed to attach the APD to the notice, did it not?

2 A Under your threat of litigation, I feel.

3 Q Did Texaco fail to attach an APD to the
4 notice?

5 A The rule states that a notification must
6 be given. It doesn't speak to an APD and it doesn't speak
7 to a C-101. It says notification in the rule, Mr. High.

8 Q The OCD felt as though the APD had to be
9 attached to the notice, did it not?

10 A Their initial interpretation, no.

11 Their secondary -- their second interpre-
12 tation after they'd met with you, that's the way it was in-
13 terpreted, yes.

14 Q Have you read the rule recently.

15 A Yes, sir. I would like to read that part
16 if you want to.

17 Q Texaco didn't challenge the OCD interpre-
18 tation of that, either, did they?

19 A No, sir.

20 Q Now, you said you were surprised that the
21 potash operators objected to your second APD.

22 A Yes, sir.

23 Q After the first APD we had an arbitra-
24 tion, didn't we?

25 A Uh-huh.

1 Q And a letter was sent, I believe, to Mr.
2 Russell Pool, was it not, from -- from me, telling Texaco
3 where we would not -- we being the potash operators would
4 not -- object to a well being drilled, didn't we?

5 A That's the letter I referred to. It's --
6 after the first arbitration meeting a letter was sent to Mr.
7 Pool, of which a copy was supplied to me, and that letter is
8 the letter I spoke to in my testimony.

9 Q And why were you surprised that the
10 second proposed well was protested?

11 A I interpreted your letter as to mean that
12 if we would come to a compromise to move to try to conserve
13 your potash, I looked at it in the form of a compromise on
14 our part, if we could do it.

15 And your letter stated to the north and
16 west and more into the barren area. The well is more to the
17 west; it's more into the barren area.

18 I personally thought that that would suf-
19 fice and it's the only location that at this point in time
20 is viable for Texaco to drill, anyway.

21 Q Well, Mr. Sims, my concern --

22 A Seeman.

23 Q -- about this, are you -- you seem to be
24 saying that -- that in being surprised that potash would --
25 somehow mislead you. Is that what you're trying to say?

1 MR. HALL: Well, I object to
2 the mis-characterization of this testimony.

3 MR. LEMAY: Rephrase the ques-
4 tion, Mr. High.

5 Q Did Texaco come out with the second loca-
6 tion, which is the 21 -- 2310 and 1980 spot, is it not?

7 A Yes, sir.

8 Q Is that consistent with what my letter
9 told Texaco we would not object to?

10 A Yes, sir.

11 Q Okay, then I'm going to have to pull out
12 the letter, Mr. Sims, and read it.

13 A It's Mr. Seeman.

14 Q I'm sorry.

15 A Mr. Seeman.

16 Q I'm sorry. I've been mispronouncing it.

17 A Yeah. I've got one in my briefcase. I
18 think this is it.

19 MR. HIGH: I would like to have
20 this marked as Opponents' Exhibit B, and I will make copies.
21 I will pull one out and make copies and supply them, if I
22 may, so we can make sure this one gets back (inaudible.)

23 Q Let me show you what I'll --

24 MR. HALL: First of all, let me
25 -- I'm not sure how to respond. It's somewhat of an unor-

1 thodox tender of an exhibit by counsel of his own letter. I
2 hate to waive any objection but certainly don't object to
3 any questions right now.

4 MR. HIGH: Well, it's a letter
5 from me to Texaco (not understood.)

6 MR. HALL: That's right, but
7 I'd hate to have to put you on the stand and have you vouch
8 for your own credibility if we have to go into the letter.

9 MR. HIGH: That's -- Counsel,
10 if you feel that's necessary, what can I say?

11 MR. LEMAY: Can we read the
12 letter into the record and --

13 MR. HALL: Sure.

14 MR. LEMAY: -- not have any ob-
15 jection to it?

16 Or any points in the letter
17 that you feel are pertinent.

18 MR. HIGH: Yes, Mr. Chairman,
19 there are.

20 A Is that the one, Mr. High?

21 Q Yes. Let me -- let me, if I may, in this
22 letter, this is -- Exhibit B is a letter from me to Mr. Rus-
23 sell Pool, is it not?

24 A Yes, sir.

25 Q And Mr. Russell Pool is a witness who

1 testified earlier, and it's your testimony that the well lo-
2 cation proposed at 2310 and 1980 is consistent with what I
3 said the potash people would not object to?

4 A Yes, sir.

5 Q Okay. Now in this letter I tell you
6 where, if Texaco will move, the potash people will not op-
7 pose, right?

8 A Not exactly but in general northwest
9 terms, yes.

10 Q Okay, but I get more specific than that,
11 don't I?

12 A Sure.

13 Q Have you read the letter lately?

14 A Not lately, no.

15 Q Okay, let me tell you, the letter says,
16 that this is -- this is (not understood) but let me just
17 read the first paragraph.

18 Dear Russ, and that's Mr. Pool.

19 A Uh-huh.

20 Q This will confirm our telephone conserva-
21 tion today during which I informed you that the potash in-
22 dustry would not oppose your company's drilling of the above
23 referenced well, and that's Well No. 3, provided it is relo-
24 cated to the barren area north and west of the currently
25 proposed site, right, and drilled from a surface location

1 which is a distance away from commercial grade ore equal to
2 the depth of the ore plus 10 percent, plus whatever addi-
3 tional distance your company believes is necessary to pre-
4 vent any migration of methane gas into our mine in the event
5 of a leak.

6 That's the first paragraph. Is it your
7 testimony that either of the well locations today is the
8 depth of the ore plus 10 percent away from commercial min-
9 eral?

10 A No, my testimony was that as a compromise
11 to that first paragraph, we moved our location over into the
12 barren area as far as we could with all the geologic circum-
13 stances involved and --

14 Q Oh, I understand but --

15 A Well, that's my testimony. Now my testi-
16 mony isn't the 10 percent and 1200 feet or -- no, that's not
17 my testimony.

18 Q Well, earlier you said you were sur-
19 prised.

20 A Yes, I was.

21 Q And my question was whether or not --

22 A As a business man I was surprised, yes.

23 Q Well, is -- is either of the two APD's
24 we're talking about here today, either of these two proposed
25 surface locations, located the depth of the ore plus 10 per-

1 cent away from commercial grade ore?

2 A I don't believe so, but that isn't --

3 Q But that -- isn't that what I said we
4 wouldn't object to?

5 MR. HALL: Well, let the wit-
6 ness --

7 A Well, no, no, it's not. There's several
8 items in there. there's "ands", there's commas, there's
9 lots of things in there, and I said, as a business man, as
10 someone that's compromised our business at great substantial
11 risk, I was surprised that we couldn't come to an agreement.
12 That's what I'm saying.

13 MR. HIGH: I would offer Exhibit
14 B.

15 MR. LEMAY: Without objection
16 the letter of Mr. High to Mr. Pool will be admitted.

17 Do you have an objection to
18 this?

19 MR. HALL: No objections but
20 I'd certainly like for my previous comments to be taken into
21 consideration. I just don't want to waive any rights. It's
22 an unusual situation where counsel's offering his own testi-
23 mony as part of the record.

24 MR. HIGH: Well, I submit
25 that's -- I won't argue. I won't argue but I'll offer --

1 MR. HALL: It's in .

2 MR. LEMAY: We accepted it.

3 Q Mr. Seeman, did you play any part in
4 deciding whether or not this well should or should not be
5 drilled vertically or directionally?

6 A Did I play any part in what part of it,
7 Mr. High?

8 Q I'll withdraw the question. Do you know
9 anything about directional drilling?

10 A I've never drilled a directional well in
11 southeast New Mexico, no, sir. We investigated -- I had
12 someone on our -- on my staff investigate the cost to see if
13 it was viable. We did this after the arbitration meeting,
14 actually, just -- I wanted to see what the additional cost
15 would be and the economics associated with it exactly.

16 MR. HIGH: I have no further
17 questions.

18 MR. LEMAY: Any questions of
19 the witness?

20

21 CROSS EXAMINATION

22 BY MR. LEMAY:

23 Q I might have just a question or two, Mr.
24 Seeman. When you mentioned an increased location cost by
25 going northwest, you get in that steep country, it looks

1 like you get into some ridges there.

2 A Yes, sir.

3 Q Going from \$8-to-10,000, what would you
4 estimate just offhand a location would cost up there in that
5 -- on top, is there any idea?

6 A Oh, if it was -- well, it would kind of
7 depend. If it's all the way up into the corner, say, the
8 first regular location out of that corner, it would have to
9 be terraced. I would say that it would take at least three
10 more days, it, say \$20,000.

11 It would at least double it, at least.
12 To give you a picture, that's not -- it's not terribly dif-
13 ficult country. It's the -- it's not rock, it's loose sand
14 but -- and yet there is some very consolidated ridges in
15 there and with bulldozers we go in and we could tear it out
16 of there pretty easy, but it still takes several days of
17 dirt work and caliche, et cetera. That's the kind of coun-
18 try it is.

19 Q Was it also your testimony, then, that a
20 location in the, I guess, 2310 to the north and west, or
21 that one with the arrow --

22 A Uh-huh.

23 Q -- where a pad has not been built, did
24 you say a pad was built there or not?

25 A A pad has been built for the one to the

1 right of the 6. That's our first --

2 Q Right.

3 A That's our original location.

4 Q I understood that. How about the one on
5 the left of the 6?

6 A No, sir, a pad has not been built there.

7 Q That's only been staked?

8 A That's been -- that's been staked and
9 that was one of my purposes, to see where that location was,
10 you know, we applied for the permit and we hadn't -- we
11 don't -- we didn't have a drilling permit yet, so we're not
12 going to sink any funds into that one.

13 But we have had a surveyor go out there
14 and put a stake in the ground so we know where it's at, and
15 that's in a -- that's in an open field -- open sandy field.
16 That one would -- you can almost drive to it with a car
17 right now.

18 MR. LEMAY; I have no further
19 questions.

20 If there are no further ques-
21 tions the witness may be excused, and we'll take a fifteen
22 minute recess.

23

24 (Thereupon a recess was taken.)

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MR. LEMAY: Are we ready to continue?

MR. HALL: Yes, sir. Call W. A. Baker, if you please.

W. A. BAKER,
being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. HALL:

Q For the record state your name.

A W. A. Baker.

Q Mr. Baker, where do you live and for whom do you work?

A I live in Hobbs, New Mexico, and Texaco.

Q What do you do for Texaco?

A I'm an Area Manager in Andrews, Texas.

Q Have you previously testified before this Commission?

A No, sir, I have not.

Q Why don't you give the Commission a brief summary of your educational background and work experience?

A I graduated from the University of Mis-

1 souri at Rolla with a Bachelor's degree in petroleum engine-
2 ering and have worked for Texaco for approximately seventeen
3 years, seven years on the Gulf Coast and remaining years in
4 West Texas and southeast New Mexico.

5 All of that seventeen years has been in
6 drilling and production operations.

7 Q All right. What are your job responsi-
8 bilities right now for Texaco?

9 A I'm an Area Manager in Andrews, Texas,
10 and my primary responsibilities are supervising production
11 operations for those properties in that area.

12 Q All right, does your area of responsibil-
13 ity now, or has it ever included southeast New Mexico?

14 A It does not now. Up until six months
15 ago, the two years prior to six months ago, I was a Drilling
16 Operations Manager in Hobbs. The area covered southeast New
17 Mexico and from basically Midland, Texaco, north through the
18 panhandle of Texas.

19 Q Are you familiar with the applications
20 here today and the lands involved and the two wells?

21 A Yes, sir, I am.

22 MR. HALL: At this point we of-
23 fer Mr. Baker as a qualified engineer.

24 MR. LEMAY: His qualifications
25 are acceptable.

1 Q Mr. Baker, how did you become familiar
2 with this project?

3 A At the time the well was first proposed
4 in August/September of 1985 I was the Drilling Operations
5 Manager for Texaco in Hobbs and part of our responsibility
6 was the preparation of the estimate, cost estimates, and
7 drilling program for the well.

8 Q All right, are you also familiar with
9 Order R-111-A?

10 A Yes, sir, I am.

11 Q Are you familiar with the casing and
12 cementing requirements under R-111-A?

13 A Yes, sir, I am.

14 Q And would you be able to tell how they
15 would be applied to these wells?

16 A The wells as we propose them will be
17 drilled in accordance with that rule or even applying
18 additional engineering to it to make them more safe.

19 Q All right. Let's look at Exhibit Eleven
20 and Exhibit Twelve. Why don't you identify those and
21 explain those to the Commission?

22 A Exhibit Number Eleven, page one, is a
23 wellbore diagram and it sets out on, starting on the
24 lefthand side of the page, the mud program for each hole
25 section from top to bottom.

1 Then it has the formations to be drilled
2 and the approximate depths and where they are anticipated,
3 and the casing sizes, or the casing program shown, and on
4 the righthand side of the casings there it shows the hole
5 size, the casing programs, for each different hole size.

6 Page two is the same wellbore diagram on-
7 ly on the lefthand side it shows the -- each casing specifi-
8 cation and right below that the cementing program for that
9 whole section.

10 Q All right, do you have more?

11 A Page three is Texaco's Form M-112, which
12 is a cost estimate to drill the well as sketched on pages
13 one and two.

14 Q All right, now with respect to Exhibit
15 Eleven, what is Texaco's casing and cementing program to be
16 applied to this well?

17 A Okay, we will drill a 17-1/2 inch surface
18 hole and set 13-3/8ths inch casing at approximately 400 feet
19 and will be cemented with 600 sacks of cement, which is 155
20 percent excess cement.

21 The intermediate hole will be 12-1/4 inch
22 size. We'll run 8-5/8ths inch 24 and 28 pound casing and
23 set it at approximately 3500 feet, and will be cemented back
24 to surface.

25 Q Let me ask you, will that second string

1 take you through the salt zones?

2 A Yes, sir. The first string is set just
3 above the salt and the 8-5/8ths set at 3500 feet will be
4 just below the base of the salt.

5 Q All right.

6 A Then the production hole will be 7-7/8ths
7 inch and we will run 5-1/2 inch 15 50 pound casing and we'll
8 cement back to surface in two stages.

9 Q Now is this casing and cementing program
10 in compliance with the specifications of Order R-111-A?

11 A Yes, sir, it meets or exceeds all
12 requirements in R-111-A.

13 Q In your opinion will Texaco's proposed
14 compliance with the casing and cementing specifications of
15 Order R-111-A prevent the escape of gas?

16 A Yes, sir.

17 Q What's the basis of your opinion?

18 A Well, R-111-A was proposed as a safe way
19 to drill these wells. All of the engineering that has gone
20 into the preparation of this exhibit is designed to preclude
21 any gas escaping and also the Forty-Niner Ridge No. 1 and
22 No. 2 Wells have produced for approximately fourteen years
23 without any history of gas escaping.

24 Q Let me ask you, is Texaco likely to en-
25 counter H2S in drilling these two wells?

1 A No, sir, we are not.

2 Q Let's look at Exhibit Twelve now. Would
3 you explain that to the Commission, please?

4 A Exhibit Twelve is a wellbore diagram of a
5 deviated well. The mud program would be identical to the
6 mud program on Exhibit Eleven.

7 The formation depths would be approxi-
8 mately the same. They'd be identical down to the point of
9 deviation is why they're not included on there.

10 Hole sizes and casing sizes are identical
11 to Exhibit Number Eleven.

12 Page two of Exhibit Twelve is Texaco's
13 Form M-112 cost estimate showing the estimated cost to drill
14 such a deviated hole.

15 Q All right, why don't we compare the cost
16 estimate on Exhibit Twelve with that of Exhibit Eleven.

17 A The cost to drill a straight hole, such
18 as proposed or shown on Exhibit Eleven is \$301,000.

19 The cost to drill a deviated hole, as
20 shown on Exhibit Twelve, is \$361,000.

21 Q Does a deviated hole involve greater
22 mechanical risks than those involved with straight hole com-
23 pletions?

24 A Yes, sir, it does.

25 Q What are they?

1 A In addition to the additional cost, the
2 tools required to drill such a hole are more sophisticated
3 and thus subject to failures.

4 Fishing in a directional hole is much
5 more difficult than fishing in a straight hole.

6 Drilling a directional hole will require
7 more time, which will cause extended or extra rotating
8 hours inside the intermediate casing, which will cause some
9 additional wear, although we anticipate it to be minimal,
10 some additional wear to the intermediate casing.

11 That's the most important reasons.

12 Q Now, in a deviated hole, will your casing
13 lay against the borehole in a different manner in the de-
14 viated portion than it would in a straight hole?

15 A In the deviated portion of it, it will,
16 but in the straight hole part of it, it will -- should hang
17 vertical.

18 Q Do you have anything further to add with
19 respect to these two exhibits?

20 A From a production operations standpoint
21 it will require, as has been testified earlier, that in a
22 deviated hole we would elect to run an electrical, submer-
23 sible pump to produce the well rather than rod pump, which
24 is another reason for why deviated holes are -- are more ex-
25 pensive than -- than vertical holes. The operating expenses

1 are much higher generally an ESP, a submersible pump, than a
2 rod pump will.

3 Q All right, and I believe the previous
4 testimony has been that it would cost about \$28,000 to run
5 electric power to the location.

6 A Yes, sir, that is right.

7 Q Do you concur with that?

8 A Yes, sir, I do.

9 Q Do you know how much line that's going to
10 involve?

11 A It would be approximately two miles.

12 Q Do you have anything further to add?

13 A No, sir.

14 Q Mr. Baker, in your opinion will straight
15 holes unduly interfere with the potash deposits?

16 A No, sir.

17 Q In your opinion will the granting of Tex-
18 aco's applications be in the best interests of conservation,
19 the prevention of waste, and the protection of correlative
20 rights?

21 A Yes, sir, it will.

22 MR. HALL: We move the admis-
23 sion of the Exhibits One and Two. Let me ask you, did you
24 prepare Exhibits Eleven and Twelve?

25 A They were prepared under my supervision.

1 MR. HALL: We move the admis-
2 sion of Exhibits Eleven and Twelve.

3 MR. LEMAY: Without objection
4 Exhibits Eleven and Twelve will be admitted into evidence.

5 Mr. High.

6

7

CROSS EXAMINATION

8 BY MR. HIGH:

9 Q Mr. Baker, well, you have some experience
10 with directional drilling, I take it.

11 A Yes, sir, I do.

12 Q Did you get that, I take it, on the Gulf
13 Coast?

14 A One well was on the Gulf Coast. The rest
15 of the experience was drilling sidetrack wells in West
16 Texas.

17 Q Okay, how many directional wells have you
18 drilled?

19 A One directional well.

20 Q You've had experience with one direc-
21 tional well?

22 A Yes sir, and four or five sidetrack
23 wells.

24 Q What do you mean when you say sidetrack
25 well?

1 A It's a hole that requires sidetracking,
2 generally around junk left in the hole, unable to fish out
3 for one reason or another.

4 A The technology to drill a sidetrack hole
5 is very similar to drilling a directional hole.

6 Q And the one well, the one deviated well
7 that you were involved with, what was the degree of devia-
8 tion in that well?

9 A Well, that was ten years ago; to the best
10 of my recollection, 15 to 20 degrees.

11 Q And you prepared the cost estimates, as I
12 understand it, in Texaco Exhibits Eleven and Twelve?

13 A They were prepared under my supervision,
14 yes, sir.

15 Q And these show, do they not, it would be,
16 what, \$60,000 more for a directional well --

17 A Yes, sir.

18 Q -- than the conventional well?

19 A Yes, sir.

20 Q And now looking at Texaco Exhibit Number
21 Twelve, the \$361,000 estimate for the deviated well, I take
22 it is for a deviation of 24 degrees, is that correct?

23 A Yes, sir, that is right.

24 Q Is that what -- is that what it would
25 take, Mr. Baker, to drill one of these wells from around the

1 Forty-Niner Ridge No. 1?

2 A Yes, sir, that's an approximation of it.

3 Q What would be the total bottom hole dis-
4 tance on a 24 degree deviation?

5 A To drill such a deviated hole from
6 approximately where Forty-Niner Ridge No. 1 is located to a
7 bottom hole location under our 2310 from the north and west
8 line -- I'm sorry, what was the question?

9 Q Okay, let me ask you this, if I may use
10 the board to do this. Let's suppose that's the surface and
11 this is where you're drilling.

12 Texaco Exhibit Number Twelve shows a dev-
13 iation of 24 degrees, does it not?

14 A Yes, sir.

15 Q And that's the -- that ties in with the
16 estimated cost of \$361,000?

17 A Yes, sir.

18 Q Okay, if that is a 14-degree deviation,
19 do you know how much in feet that would offset?

20 A 903 feet.

21 Q Is this 24 degrees, is that what you're
22 saying, Mr. Baker, would be required if these wells were
23 drilled by the Skelly No. 1 -- by the Skelly No. 1 and de-
24 viated to hit the bottom hole location that Texaco wants to
25 hit? Is it 24 degrees what you calculated it to be?

1 A Well, the actual degree would depend upon
2 the depth where the deviation was actually started.

3 Q Kickoff point.

4 A Right.

5 Q What did you assume in preparing Texaco
6 Exhibit Number Twelve?

7 A At the kickoff point?

8 Q Yes, sir.

9 A I'm not exactly sure. Don't remember.
10 But it can be kicked off anywhere below that intermediate
11 pipe, just at different angles and whether you kickoff at
12 3500 feet and drill a 5 degree or go to 5000 feet and drill
13 a 24 degree hole, the costs are going to be the same, both
14 points.

15 Q The kickoff point doesn't have anything
16 to do with cost?

17 A In this instance, very little.

18 Q Let me ask you this. If -- if you came
19 down let's suppose to what I'm going to call point A on the
20 bulletin board here and deviated to hit what I'm going to
21 call or label point B, that would be a pretty sharp angle,
22 wouldn't it?

23 A As you have it drawn there, yes, sir.

24 Q Whereas if you drill down, let's say, on-
25 ly to point -- what I'll call point C and then start devi-

1 ating to arrive at point B, the angle would be much smaller,
2 wouldn't it, sir?

3 A Yes.

4 Q Is it your testimony that the cost of
5 both of those would be the same?

6 A Probably not identical but very close to
7 the same.

8 Q The cost for the conventional well, is
9 \$301,000 what you came up with?

10 A Yes, sir.

11 Q If both of these wells, if both of the
12 wells we're talking about here today were drilled from
13 around Forty-Niner Ridge No. 1, directionally to hit the
14 bottom hole location you guys want, are there any costs that
15 are reflected in Texaco Exhibit Number Twelve that could be
16 reduced.

17 A No, sir, and as a matter of fact, if
18 you're going to drill the second location, of which Texaco
19 has applied for, that's going to require a much longer de-
20 viated interval and probably cause the cost to go up.

21 Q Well, if they were all close together
22 wouldn't you save some pipe hooking up to a pipeline?

23 MR. HALL: I'm going to object.
24 That calls for speculation, I believe. It's not within the
25 scope of direct.

1 His testimony's been limited to
2 drilling costs. We're not concerned about whatever El Paso
3 or whomever is going to charge for a pipeline.

4 MR. HIGH: Well, I'll -- let me
5 rephrase the question.

6 Q If you -- if these two wells were drilled
7 at the location Texaco wants, you would have to lay a pipe-
8 line, wouldn't you?

9 MR. HALL: I'll object again.
10 That calls for speculation. He doesn't know if El Paso --
11 or the purchaser is going the pipeline or producer.

12 Q Is there a pipeline in the area of the
13 surface location that Texaco -- that's involved in these
14 APD's?

15 A Not that I'm aware of.

16 Q Is there a pipeline in the --in the vici-
17 nity of Forty-Niner Ridge No. 1?

18 A I would assume so. I have not seen it
19 myself, no.

20 Q If they were drilled in the vicinity of
21 Forty-Niner Ridge No. 1 and deviated to the bottom hole lo-
22 cations, would there be a savings in the surface cost, for
23 example, building pads?

24 A Well, there's already a surface location
25 built at 2310 from the north and west line. Texaco has al-

1 ready spent that money.

2 To build a location close to Forty-Niner
3 Ridge No. 1 we would estimate would cost approximately
4 \$10,000, which is what Exhibit Eleven and Twelve both re-
5 flect to be location work. It would cost about the same
6 amount of money whether it's built close to Forty-Niner
7 Ridge or where we want to drill our proposed locations.

8 Q So you're saying the surface location
9 work would be -- you'd have to spend that money whether or
10 not it's over where you're seeking in this hearing or if it
11 was around the Forty-Niner No. 1?

12 A Cost of the surface location would be ap-
13 proximately the same, except for the fact we've already
14 built and paid for one surface location.

15 Q What is transportation and (not under-
16 stood)?

17 A It's the cost to truck the casing, haul
18 water, all kinds of drayage.

19 Q And that would be more for a directional
20 well?

21 A Yes, sir.

22 Q Are these numbers, Mr. Baker, in-house
23 numbers, so to speak? I mean you came up with these num-
24 bers, right?

25 A An engineer on my staff came up with

1 them, yes, sir.

2 Q Okay. And I take it Texaco does it's own
3 drilling?

4 A We hire drilling contractors and we
5 supervise their work.

6 Q Well, did you -- did you consult with any
7 drilling contractors on these numbers?

8 A No, sir, these -- these numbers are based
9 on experience in southeast New Mexico on similar type wells.

10 Q Okay, but is that the one well you refer-
11 red to, that you said you'd been involved in?

12 A You're talking about the directional --

13 Q Yes, sir.

14 A -- hole? The -- the difference in cost,
15 if you'll look at -- down there under intangible develop-
16 ment cost, where it says contract drilling, 20 days, that's
17 5 more days to drill a directional hole than the 15 days to
18 drill a straight hole, which represents 20,000 of the
19 \$60,000 difference.

20 Q But that's assuming a 24 degree angle, is
21 it not?

22 A Yes, sir.

23 Q But you do know whether or not it will
24 take more or less time to drill either a smaller or a larger
25 angle? Or do you know?

1 A The time would be approximately the same,
2 in my opinion.

3 Q So the big cost is the time it would take
4 to drill, is that correct?

5 A Well, that's \$20,000 of it. The majority
6 of the rest of it would be extra tool rental.

7 Q And is -- I take it then, Mr. Baker,
8 since you deal with these numbers you are comfortable that
9 these numbers are fairly accurate and are reasonable with
10 respect to the cost it would take to drill a 24 -- a de-
11 viated 24 degree well?

12 A Yes, sir, at this time.

13 Q And you mentioned production problems
14 that you would have with a deviated well.

15 A Yes, sir.

16 Q And you said that was because of a sub-
17 mersible pump?

18 A Typically a submersible -- downhole sub-
19 mersible pump installation is more expensive to operate.

20 Q Don't you have some of those right now?

21 A Yes, sir.

22 Q Are they -- they -- they're not unique
23 to a deviated well.

24 A No, sir.

25 Q Do you know at what point in a deviated

1 well you reach before you go to submersible versus conven-
2 tional pumping?

3 A No, sir, I don't.

4 Q Do you know whether or not you could pump
5 by conventional methods a 24-degree deviated well?

6 A I have never done it. In my opinion we
7 could not do it economically.

8 Q Do you know whether or not it could be
9 done?

10 A No, sir, I don't.

11 Q Now you mentioned two miles of line. Is
12 that with respect to electricity?

13 A Yes, sir, two mile of power line.

14 Q All right, so I take it, then, there's a
15 source of electricity within two miles?

16 A Yes, sir.

17 Q And if you ran that to -- to the area
18 around Forty-Niner Ridge Unit No. 1, that would be a one-
19 time cost, wouldn't it?

20 A Yes, sir.

21 Q So if then you drilled a second well from
22 that area you wouldn't have that cost, right?

23 A Not \$28,000, it would be some number less
24 than that, depending on how far away.

25 Q So you could -- you could have some sav-

1 ings that would reduce this \$361,000 for a second deviated
2 well, couldn't you?

3 A The cost of the electricity installation
4 is not in the \$361,000.

5 Q That's just drilling costs.

6 A Yes, sir.

7 Q Well, were you involved in the
8 preparation of Texaco's Exhibit Number Eight that Mr. Pool
9 was talking about?

10 A No, sir, I was not.

11 Q Did you see it before today?

12 A Yes, sir, I saw it yesterday.

13 Q You played no part in the preparation of
14 that?

15 A No, sir.

16 Q Did Mr. Pool talk to you and get these
17 numbers?

18 A I believe he got them from the same en-
19 gineer that prepared these drilling estimates.

20 Q Okay, is that engineer here today?

21 A No, sir, he's not.

22 Q He's not sitting in the audience here?

23 A No, sir, he is not.

24 Q And you got your data from that same per-
25 son, I guess.

1 A Yes, sir.

2 Q Mr. Baker, do you know how many -- well,
3 I'm sorry. What's this engineer's name you're talking
4 about?

5 A Doug Quiett.

6 Q Do you know how many directional wells he
7 has prepared a cost estimate for before?

8 A No, sir, I don't. I might add that he
9 prepared these numbers after a consultation with a direc-
10 tional drilling company contractor.

11 Q Were you present when that happened?

12 A No, sir, I wasn't.

13 Q Or he just told you that.

14 A Yes, sir, he told me he did and I be-
15 lieved him.

16 Q Okay. Do you know what -- what drilling
17 company he talked to?

18 A Christianson out of Midland, Texas, I be-
19 lieve.

20 Q But you haven't seen any paperwork or
21 anything come from that drilling company on what it would
22 cost to drill this --

23 A Not a written proposal, no, sir.

24 Q Well, do you know whether or not any oral
25 proposal or oral bids were gotten from Christianson?

1 A Doug said he talked to Christianson and
2 got an oral estimate proposal of what it would cost to drill
3 a 24-degree hole.

4 Q Well, let me ask a question. On Texaco
5 Exhibit Twelve, is this, this \$361,000 (sic) is that an
6 estimate that it would cost Texaco to drill it or is this an
7 estimate, are you saying, that Christianson would drill it?

8 A This is what it would cost Texaco and its
9 other working interest owners to drill such a well.

10 Q Who would be doing the drilling?

11 A Texaco would be doing the drilling.
12 Christianson would be providing the directional services
13 under Texaco's supervision.

14 MR. HIGH: I have no further
15 questions.

16 MR. LEMAY: Yes, sir, Mr. Hall.

17 MR. HALL: Short redirect.

18 MR. LEMAY: Redirect.

19

20 REDIRECT EXAMINATION

21 BY MR. HALL:

22 Q Mr. Baker, do you ever consult with the
23 accounting people at Texaco's Houston office in preparation
24 of your paycheck?

25 A No, sir.

1 Q Do you believe the numbers on your
2 paycheck to be accurate and reliable?

3 A I sure hope so.

4 Q How about the numbers on Exhibits Eleven
5 and Twelve, are they reliable?

6 A Yes, sir, I believe they are.

7 Q All right, thank you. Nothing further.

8 MR. LEMAY: Any additional
9 questions?

10 MR. HIGH: We have none, Mr.
11 Chairman.

12 MR. LEMAY: I have one.

13
14 CROSS EXAMINATION

15 BY MR. LEMAY:

16 Q Mr. Baker, I notice you -- Texaco's AFE
17 form does not have a contingency factor. Is that typical or
18 do you work with contingency factors?

19 A Texaco does not include contingencies in
20 drilling cost estimates. That Texaco policy.

21 Q I see.

22 MR. HIGH: Mr. Chairman, I do
23 have one question, if I may.

24 MR. LEMAY: Yes.
25

1 RE CROSS EXAMINATION

2 BY MR. HIGH:

3 Q Mr. Baker, perhaps you're the person I
4 should do this with.5 Let me show you what we've marked as
6 Opponents' Exhibit A, which is -- it's another Texaco Form
7 M-112, is it not?

8 A Yes, it is.

9 Q And that's dated what, 1-1-85?

10 A August the 2nd, '85.

11 Q I'm sorry, okay. And Texaco Exhibit
12 Eleven is also a Form M-112 dated June 9th, 1987.

13 A Yes, sir.

14 Q Now the proposed cost to drill shown on
15 Opponents' Exhibit A is for a straight hole, is it not?

16 A Yes, sir, it is.

17 Q At 2310 and 2310.

18 A Yes, sir.

19 Q Is that the same location as referred to
20 in Texaco Exhibit Eleven?

21 A Yes, sir, it is.

22

23

24

25

1 Q And the estimated cost on August 2, 1985,
2 was \$340,000, was it not?

3 A Yes, sir.

4 Q And the estimated cost on June 7th, '87,
5 was \$301,000.

6 A Yes, sir.

7 Q Is that because some things have gone
8 down?

9 A Yes, sir.

10 MR. HIGH: I would offer Oppo-
11 nents' Exhibit A.

12 MR. HALL: Isn't it already en-
13 tered?

14 MR. LEMAY: I think it's been
15 accepted in evidence already, yes, sir.

16 MR. HIGH: All right.

17 MR. LEMAY: Are there addi-
18 tional questions of the witness?

19 If not, he may be excused.

20 Do you have anything more, Mr.
21 Hall.

22 MR. HALL: No, Mr. Chairman, I
23 think that's our case on direct.

24 MR. LEMAY: Thank you.

25

END OF TESTIMONY IN THE DIRECT CASE OF TEXACO.

1 MR. LEMAY: Thank you. I think
2 at this point we will start the opposition's case.

3 Mr. High, are you ready to
4 proceed?

5 MR. HIGH: Yes, but may I have
6 a few minutes to get our exhibits together?

7

8 (Thereupon a discussion was had off the record.)

9

10 MR. LEMAY: We will continue
11 with the opposition, the potash case. Mr. High?

12 MR. HIGH: Mr. Chairman, thank
13 you.

14 We would call Mr. Walt Thayer
15 and we will be offering testimony and evidence with respect
16 to confidential information at the very outset.

17 MR. LEMAY: So we shall go into
18 executive session with Mr. Thayer on confidential
19 information?

20 Okay. Those of you not
21 directly related will leave the room again because we're
22 going into executive session for -- staff can stay.

23

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CONFIDENTIAL TESTIMONY AND REFERENCE TO EXHIBITS
COMMENCING ON Page 226 CONTINUING THROUGH PAGE
279 INCLUSIVE.

Sally W. Boyd CS12

1

2

ROBERT W. NICHOLSON,

3

being called as a witness and being duly sworn upon his

4

oath, testified as follows, to-wit:

5

6

DIRECT EXAMINATION

7

BY MR. HIGH:

8

Q

Will you state your full name, please,

9

sir?

10

A

My name is Robert W. Nicholson.

11

Q

And where do you reside, Mr. Nicholson?

12

A

I live presently in Boulder City, Nevada.

13

Q

And with whom are you employed?

14

A

I'm self-employed. I'm a consulting en-

15

gineer.

16

Q

Have you ever testified before the Oil

17

Conservation Division before, Mr. Nicholson?

18

A

No, I haven't.

19

Q

What is your educational background?

20

A

I have a BS and MS in petroleum engineer-
ing from Louisiana State University and I have a PhD in pet-
roleum engineering from the University of Tulsa.

23

Q

Okay, when did you get your PhD?

24

A

1972.

25

Q

I'm sorry, that was in petroleum engin-
eering?

1 A In petroleum engineering.

2 Q I assume as part of that PhD program you
3 wrote a dissertation, did you not?

4 A That's correct.

5 Q What was the title of your dissertation?

6 A Constraint Nonlinear Analysis of Direction-
7 al Drilling Assemblies.

8 Q For us lay people that has some thing to
9 do with directional drilling, doesn't it?

10 A That has something to do with directional
11 drilling, yes, sir.

12 Q After you got your BS and MS degrees, Mr.
13 Nicholson, I take it you went to work somewhere?

14 A I went to work for Sinclair Research
15 while I was also going to school at the University of Tulsa.

16 Q Would you relate for us, if you will,
17 your employment history as a petroleum engineer?

18 A Well, I've -- seems like I've always been
19 employed in the petroleum industry, but my first -- I worked
20 for Halliburton Company while I was going to get my MS and
21 BS degrees at Louisiana State University, and I worked for
22 Sinclair Research, as I said, while I was getting my doc-
23 torate.

24 I went to work after that for Chevron, or
25 Calco at that time in south Louisiana as a supervising

1 drilling engineer and drilling specialist and I worked for
2 Chevron for approximately seven years.

3 I was -- left them in 1979. I was a --
4 excuse me, 1978, I guess it was. I was a drilling manager
5 for operations in the North Sea at the time, temporary as-
6 signment, and engaged in drilling operations, supervised
7 drilling in South Texas, West Texas, Louisiana, Mississippi,
8 Alabama, all over the south, southeast and southwest United
9 States.

10 And I also worked for them in Columbia,
11 drilling manager there, and drilled wells all over Europe.

12 And since then, after I left them I went
13 to work for a short period of time for a small geothermal
14 company in California and after that I went into business
15 for myself.

16 Q In the course of your work have you had
17 occasion to do well design, casing design?

18 A Constantly; all the time.

19 Q And have you had occasion to -- any ex-
20 perience with directionally drilling wells?

21 A Many. I've probably designed and costed
22 in excess of 1000.

23 Q Okay, and where would those wells be, Mr.
24 Nicholson, that you have been involved in directioally
25 drilling?

1 A They've been just about everywhere. Most
2 of the drilling problems in the United States; North Sea, I
3 did all those; I did a whole project in Beverly Hills, Cali-
4 fornia; and I also handle the engineering services contract
5 for the hot thermal rock on Bitten (sic) Hill up in New Mex-
6 ico and last year we directionally drilled one of those
7 wells, as a matter of fact.

8 Q Is that a contract with the Department of
9 Energy at Los Alamos National Laboratory?

10 A It's a contract with Los Alamos National
11 Lab.

12 Q And did that involve directional drill-
13 ing?

14 A Yes, it did.

15 Q How deep are those wells?

16 A Oh, that -- we kicked that well off at
17 about 9200 feet and drilled to 13,000.

18 Q Of the directionally drilled wells that
19 you've been involved in, what would be the angle of
20 deviation, the range of deviation that you've had some
21 experience with?

22 A Well, I've deviated them from what I
23 consider low angle holes, I'll say 10 to 15 degrees, all the
24 way up to 60 degrees.

25

1 Q 60 degrees?

2 A Yes.

3 MR. LEMAY: Mr. High, before
4 you get on this, are you going to qualify him as an expert,
5 before you get into --

6 MR. HIGH: We -- we would, yes.
7 We would offer Mr. Nicholson as a qualified expert.

8 MR. LEMAY: His qualifications
9 are accepted.

10 MR. HIGH: Thank you.

11 Q Mr. Nicholson, you are aware, are you
12 not, of the surface locations being sought by Texaco in this
13 case?

14 A Yes, I am.

15 Q And you were retained by me, were you
16 not, to assist me because I know nothing about oil and gas?
17 Isn't that what I told you?

18 A I was retained to assist you, yes.

19 Q Okay, and I have provided you with infor-
20 mation concerning the applications for permit to drill filed
21 by Texaco.

22 A That's correct.

23 Q And you've had a chance to look at those,
24 have you not?

25 A Yes, I've received them.

1 Q All right, let me show you what's been
2 received into evidence as Texaco's Exhibit Number Six, which
3 shows a well, Forty-Niner Ridge No. 1.

4 A Right.

5 Q And you're familiar now with that well,
6 are you not?

7 A I'm familiar with that well, that's
8 correct.

9 Q And you're familiar also with the two
10 dots shown here as the -- the two well locations that --

11 A Yes, I am.

12 Q -- Texaco is seeking? Correct?

13 A That is correct. I'm familiar with those
14 two wells.

15 Q Did I ask you to -- to look at those well
16 locations and determine whether or not there were any
17 technological reasons why the two wells being sought by
18 Texaco could not be directionally drilled from the Skelly
19 No. 1?

20 A That is correct. I saw -

21 Q Have you done that?

22 A I did. I looked at the technical
23 feasibility of drilling either or both of those wells from
24 that Skelly location.

25 Q Okay, is there any technological reason

1 why the two wells being sought be Texaco in this case cannot
2 be drilled from around the Forty-Niner Ridge No. 1?

3 A No, there's no technological reason.

4 Q Would it be -- how would you characterize
5 it in terms of difficulty?

6 A Very easy. Very good. It looks like a
7 fairly easy directional drilling situation; reasonable an-
8 gle; reasonable build rates, which are just classified as
9 doglegs in the hole, which would minimize production prob-
10 lems or problems with tubing/casing during production opera-
11 tions because of their reasonable low angle. That angle of
12 around 22 to 24 degrees, which I estimate these wells would
13 have to be drilled at, is probably an optimum angle to drill
14 directional wells at. It's very easy to maintain your
15 direction and you can drill them relatively rapidly with al-
16 most -- you can drill them as rapidly as a straight hole.

17 Q And did you make any determination of
18 what degree of deviation would be required for Texaco to hit
19 the bottom hole location they want in these cases?

20 A Yes, I -- well, I don't know where --
21 where Texaco's primary target is relative to the depth of
22 the well.

23 I estimated 22 degrees to be out 1000
24 feet at 6400 feet total vertical depth and looking at some
25 of the information and listening to some of the other

1 people, apparently they want to be 1000 feet, approximately,
2 from that surface location at a slightly shallower depth
3 than 6400 feet. So the pay zone is probably intended to be
4 penetrated, maybe at 5400 feet or 5200 feet instead of the
5 6400 feet that I had data on originally.

6 So it would require that -- one of two
7 things: The hole angle come up a little bit so it would go
8 up from 22 to maybe 26, as previously said, or you could
9 kick it off at slightly different depth and maintain --
10 still maintain the 22 or 21 degrees, and --

11 Q Is the point that you kick off on devia-
12 tion, does that enter into what angle of deviation you use?

13 A Yes, it does. It enters into the angle
14 of deviation and also enters into the difficulty of the
15 well. Normally people like to drill directional wells that
16 kick off at as shallow a depth as reasonably possible. In
17 this case from the information I had, 3340 feet was the bot-
18 tom of the -- the bottom of the salt zones, and so the dev-
19 iation would then be primarily directed at the bottom of
20 that casing at 3340 feet.

21 Q Okay, so -- so if you drilled through the
22 bottom of the salt and then kicked off --

23 A Uh-huh.

24 Q -- the angle of deviation would be -- is
25 that 22 or 23 degrees?

1 A Yes, I estimated 22 degrees for 6400 feet
2 at 1000 foot departure from the surface, that's correct.

3 Q And that's not difficult to drill?

4 A That's not difficult to drill, no.

5 Q Okay. Is there a way that there could
6 even be a -- well, let me withdraw that.

7 You've been in the room, in the hearing
8 room all day today, have you not?

9 A That's correct.

10 Q And I believe you heard, I believe it was
11 the testimony of Mr. Baker that the cost of directional
12 drilling is essentially the same regardless of the angle of
13 deviation?

14 A That's --

15 Q Do you agree with that?

16 A No, I don't, I don't agree with that.
17 The higher the angle, the higher the cost and the higher the
18 risk.

19 Q Okay, the higher the risk of what, some-
20 thing bad happening?

21 A Something bad happening, such as fishing
22 operations, fatigue of your drill pipe, casing problems
23 later in production operations, so the higher the angle and
24 the higher the dogleg, or the amount -- the rate at which
25 you bend the well, the more costly and the more risky the

1 well is.

2 Q Okay, so the smaller the angle of devia-
3 tion, the less expensive it is to drill it.

4 A That's generally correct until you get
5 below about 15 degrees. Then it's very difficult to main-
6 tain your desired azimuth in the well.

7 Q Okay. Is there a way that these two
8 wells can be drilled by the Forty-Niner Ridge No. 1 and dev-
9 iated at an angle less than 22?

10 A Yes. If they kick off slightly shallower
11 than the 3340 feet that I estimated, then they could drill
12 them at whatever, you know, as low as 10 degrees, as a mat-
13 ter of fact, or 13 degrees.

14 Q That would require --

15 A But that would require kicking off, doing
16 some modest directional work in the salt section.

17 Q Okay, and if they kicked off at a dis-
18 tance less than the bottom of the salt, the angle of devia-
19 tion could be as low as what, 15 or 16 degrees?

20 A 15 to 16 degrees would be a desired low
21 angle, desired angle on the low side of the wellbore, be-
22 cause at 15 to 16 degrees that angle and a -- and a build
23 rate of 1.5 degrees per 100 foot would allow conventional
24 pumping, rod beam pumping type operations, with no -- no
25 significant increase in tubing wear, rod wear, or cost for

1 production of the well.

2 So the low angle, the 15 to 16 degrees at
3 1-1/2 degrees per 100 would allow conventional production
4 operations to be maintained.

5 I would imagine that they are probably
6 pumping some of those wells in this area that have a natural
7 deviation in that range, anyhow.

8 Q Unintentional deviation?

9 A Yes. Wells generally -- wells do not go
10 straight. They always bend.

11 Q Okay. So if these wells were deviated --
12 well, let me withdraw that.

13 If you kick off a deviation on these two
14 wells before the bottom of the salt, you therefore had an
15 angle of deviation around 15 to 16 degrees, those wells, did
16 you say, could be pumped by the conventional method?

17 A Yes, that's correct. They wouldn't have
18 to go to the submersible pumps, electrical pumps.

19 Q Now, even at a higher angle of 22 or 23
20 degrees, could those be conventionally pumped?

21 A They could be but you would -- you would
22 have significantly increased cost for operating the wells
23 due to failures of rods and wear in the tubing strings, so
24 when you get up to those high angles, you also increase your
25 cost for power to -- to pump them because of the friction

1 and drag in the hole on the rods, so it's generally --
2 people do pump wells up to as high as 30 degrees with rod
3 pumps, but it is generally not a good practice for a long
4 term well such as these appear to be, that will pump for 10
5 or 12 years or whatever the production life of these wells
6 are.

7 Q So if you got -- if you got to that
8 degree of deviation you would use a submersible pump?

9 A You would -- you would primarily go to an
10 alternate pumping method, either a submersible pump or a hy-
11 draulic pump.

12 Q How would those be powered?

13 A Those are primarily powered by -- by
14 electricity.

15 Q Could that be done with a generator?

16 A That could be done with a generator.

17 Q Is that an accepted practice in the in-
18 dustry?

19 A People do that, yes.

20 Q And what powers that generator?

21 A You can use your production, just as you
22 use production gas to drive your pumping jack, and that's --
23 that is done in some shallow offshore wells where -- gener-
24 ally pumping is not done on offshore wells. This is primar-
25 ily gas lift, but since high pressure gas does not appear to

1 be available or desirable in the area, then a pumping method
2 instead of gas lift would be the preferable production
3 method, and --

4 Q So you could actually run the submersible
5 pumps without having to run an electrical connection, elec-
6 trical line from the outside?

7 A You could, yes.

8 Q Now, Mr. Nicolson, did I also ask you to
9 determine the cost that should be involved if these wells
10 were drilled from around the Skelly No. 1 Well?

11 A That's correct, I did.

12 Q Did you do that?

13 A I estimated the cost for drilling those
14 wells and I estimated approximately \$51,000 additional cost
15 for drilling and completing the well over and above the
16 straight hole and it takes approximately four days more to
17 directionally drill the well than -- than a straight hole.

18 Q If you drilled the wells from around the
19 Skelly No. 1 on a deviated basis it would cost roughly
20 \$1,000 more, in your opinion?

21 A Yes, I estimated four days of rig time at
22 an average daily cost of the rig of around \$10,000 a day;
23 that I'm not positive about but I'd imagine it varies in the
24 area from \$8750 to \$10,000 a day total operating cost, and
25 the directional tools and directional person to -- services

1 required to directionally drill a well would cost approxi-
2 mately \$12-to-\$13,000. And you have a slightly increased
3 cost for casing and tubing, et cetera.

4 Q Would there be a saving by drilling both
5 of these that would affect the costs or a decision to either
6 directionally drill or drill conventionally?

7 A Yes, there are savings in costs and of-
8 tentimes wells are directionally drilled from one area to
9 save those costs, such as pipeline cost and pad construction
10 cost, for example, and if you're, you know, if you're going
11 to electrically -- pump the wells electrically with submer-
12 sible pumps, you can have combined facilities at the surface
13 so the cost would be significantly reduced versus drilling
14 them from various areas.

15 So you would save the cost of the roads
16 and the cost of the pipelines and it depends on how the pro-
17 duction is handled whether it's separated at the well or
18 not. If it's separated at the well, obviously, you can use
19 one tank battery for a series of wells instead of individual
20 tank batteries.

21 So there are -- there are -- there is an
22 economy of cost of drilling wells, a number of wells from a
23 single area if the directional drilling is -- is not too
24 costly and risky.

25 Q You are familiar with the current produc-

1 tion of the Forty-Niner Ridge No. 1?

2 A Yes, I am.

3 Q And I showed you some data, did I not,
4 that we received from Texaco concerning the production of
5 that well?

6 A That's correct.

7 Q Is there any reason in your opinion, Mr.
8 Nicholson, why the two wells involved in this case could not
9 economically be drilled directionally from around the Skel-
10 ly?

11 A There is an increase in cost, increase in
12 the initial cost of approximately, approximately \$50,000.
13 The power situation, that's something that you'd have to
14 work out in the most economical fashion, whether you bring a
15 line in or whether you put your own generator station in.

16 But overall I think the total cost of
17 drilling the directional well over the -- over the straight
18 hole, if you're going to drill two wells there, would prob-
19 ably not be more than about 10 to 15 percent increase.

20 Q And the difference in the cost between
21 the two wells -- I'm sorry, the difference in the cost be-
22 tween drilling --

23 A Two separate wells versus -- two -- wells
24 from two separate pads versus the drilling of the well from
25 the single pad, both wells from the single pad.

1 Q The drilling of them from the single pad
2 directionally should only cost about 10 to 15 percent more
3 --

4 A That's correct.

5 Q -- than drilling vertically at the two
6 separate loations.

7 A That's correct. And that's, as a matter
8 of fact, that number is a pretty standard type number that
9 I've used in a lot of cost estimates.

10 Q Would there be any geological risk in
11 directionally drilling from around the Skelly that you
12 wouldn't have if you drilled vertically?

13 A No, not that I can see. As a matter of
14 fact, directional drilling is also an exploration tool, so
15 if they did not hit the area that they wanted, they could
16 easily kick the well off and have another bottom hole loca-
17 tion even a little further out so that they would -- they
18 could actually explore an area with a single wellbore in-
19 stead of multiple wellbores and multiple surface locations.

20 Q Mr. Nicholson, let me show you Texaco's
21 Exhibit Number Nine and you've seen those before, I take it?

22 A Right. I looked at those awhile ago.

23 Q And that is, I believe, an economic ana-
24 lysis?

25 A Uh-huh.

1 Q Are the numbers on there reasonable. I'm
2 searching for a different word, is there anything on there
3 that variable or --

4 A This is a pretty standard economic analy-
5 sis done for an individual well by major oil companies.
6 I've seen many of these and it's -- I don't know and we
7 would not know, and maybe even the person who did the input
8 on this would know how these -- how some of these particular
9 economic criteria are developed, but that's usually internal
10 to do this, most of the time.

11 Q Page two of that, according to Texaco,
12 shows that a deviated well would be uneconomical.

13 A That's Correct.

14 Q That is dependent upon what?

15 A That's primarily dependent upon the ini-
16 tial investment cost and their initial investment cost in-
17 creased approximately \$60,000 from the \$282,000 where they
18 had a 27 percent --

19 MR. ROYBAL: Mr. Chairman, I'm
20 afraid we are getting into some of the data on Exhibit Nine.

21 MR. LEMAY: Which is classified
22 as confidential by Texaco.

23 A Oh, I'm sorry.

24 Q Without referring to the Exhibit Number
25 Nine, without referring to Exhibit Number Nine, what would

1 determine the economic -- what would make a well uneconomi-
2 cal? You said --

3 A Primarily the initial investment costs
4 because when you discount that -- that cost, especially at
5 these low rate wells, it's extremely significant because you
6 don't get your money back for a long time period in the
7 future.

8 If there were high production, higher
9 production rate wells it wouldn't be so significant. Or at
10 least higher production rate initially and more rapid de-
11 cline.

12 Q Let me show you Texaco Exhibit Number
13 Eight, which is not marked confidential, which deals with
14 cost of drilling a conventional hole and a directionally
15 drilled hole according to Texaco.

16 A Uh-huh.

17 Q Are there -- is there any place in there
18 where the drilling cost of a traditional hole might be re-
19 duced to where it might be economical?

20 A You mean the directional hole?

21 Q Yes, I'm sorry, the directional hole.

22 A Well, these costs, these costs for wells
23 vary a good bit and they estimated slightly higher direc-
24 tional drilling costs than I did of \$10,000, but that's cer-
25 tainly within the realm of cost estimating, drilling cost

1 estimating accuracy, so I don't necessarily see that these
2 are -- are -- they're a little more pessimistic than I would
3 probably use in this general area, but they're not, certain-
4 ly, out of line.

5 It surprises me the economics change so
6 drastically.

7 Q What surprises you?

8 A That the economics change so drastically
9 between the straight hole and the directional hole in this
10 particular case.

11 Q That seems unusual to you?

12 A That seems -- it seemed a little change
13 to me but you have -- I would have to sit down and actually
14 do the same numbers and I may come up with the same answers.

15 The -- however, the geologist said ear-
16 lier that he anticipated a better well and it may not have
17 to be very much better, maybe one or two barrels of oil a
18 day average, and you would have the same economics as a
19 straight hole.

20 So doing the economics and doing the well
21 costing estimate, there are some variations and that won't
22 be known until after the well's done, obviously.

23 Q Well, based on what you have learned
24 about the Forty-Niner Ridge No. 1 and the two proposed in
25 this case --

1 A Uh-huh.

2 Q -- and given the production history of
3 the Forty-Niner Ridge No. 1, is it your opinion that the two
4 wells we're talking about here should be economic if direc-
5 tionally drilled from around this pad?

6 A I believe, if it were my project and I
7 was the manager, I would probably drill those two wells
8 directionally from the pad.

9 Q It's both technologically feasible and
10 should be economically feasible.

11 A That's correct.

12 Q Fine.

13 MR. HIGH: Pass the witness.

14 MR. LEMAY: Mr. Hall?

15

16 CROSS EXAMINATION

17 BY MR. HALL:

18 Q Mr. Nicholson, I may have missed it, do
19 you have any experience in southeast New Mexico?

20 A I have not drilled a well in southeast
21 New Mexico.

22 Q And when were you retained by Mr. High?

23 A In 1984.

24 Q For this particular case.

25 A No, for another case but still in regards

1 to the potash enclave drilling situation.

2 Q All right, when did you first consult
3 with him in regards to this case on assessing the direc-
4 tional drilling of these two wells?

5 A I can't remember the exact date right
6 now, but approximately three weeks ago, I guess.

7 Q Was last night the first time you looked
8 at any information on these wells?

9 A No, I've looked at the information two
10 weeks ago in a meeting at -- at -- in Carlsbad.

11 Q I gather that most of your expertise lay
12 in drilling area, is that correct?

13 A Drilling -- yeah, right, primarily in
14 drilling and production operations.

15 Q But mostly in drilling as opposed to
16 production, of the two?

17 A Primarily in drilling but I would say,
18 you know, I know what I'm about in production, too.

19 As a drilling engineer for Chevron you
20 also do all the workover operations, and a lot of production
21 operations, too, so in the realm of drilling it depends on
22 what company you work with as to how regimented these
23 specialities are.

24 Q Well, in view of all that experience
25 you'll agree with me that straight holes are preferable,

1 won't you?

2 A Sure.

3 Q Did you have any time -- let me ask, are
4 you familiar with the Delaware production at all?

5 A Just what I've studied here in this --
6 from what I've seen in the reports and everything.

7 Q Okay, are you aware that these wells are
8 planned on producing approximately 300 barrels of fluid per
9 day?

10 A That's correct, yes.

11 Q Took that into consideration?

12 A Actually I thought they'd probably get a
13 little bit more than that, probably up to about 800 barrels
14 a day and more later on in life, because they're fairly high
15 water saturation wells and these type of lens, river sands,
16 typically are fairly high water production wells, especially
17 as the oil saturation drops.

18 Q What are some of the troubles you have
19 when you directionally drill that you don't experience in
20 straight hole drilling?

21 A At these particularly low angles I would
22 not anticipate any additional problems in drilling versus --
23 versus straight hole drilling.

24 Q Well, generally don't you have increased
25 interior casing wear?

1 A The casing, the directional drilling that
2 will be done in these wells will be through straight set --
3 the casing will be straight, so there won't be any addition-
4 al casing wear.

5 The casing in these wells will not be run
6 until after the wells are completed, or after the well has
7 reached TD, total depth, so there's no additional casing
8 wear.

9 Q All right, but you testified you did not
10 know the exact angle of incidence planned by Texaco.

11 A That has nothing to do with casing wear.

12 Q The answer to my question is no, isn't
13 that correct?

14 A There -- there will be no additional cas-
15 ing wear in these wells.

16 Q You did not know the angle of incidence
17 that Texaco planned on --

18 A No, but I knew the order of magnitude.
19 It's in the -- there's not -- there's not a significant dif-
20 ference between 22 and 26 degrees angle.

21 Q Don't generally directional holes have an
22 increased tendency to miss their objectives?

23 A I would not anticipate that problem here.
24 Only --

25 Q Well, I'm asking you generally if your --

1 A Generally, I would say no. As a matter
2 of fact, oftentimes directional wells are much better in
3 hitting their targets than straight holes.

4 Q Isn't the incidence of stuck pipe more
5 frequent in directional holes?

6 A Only when you get above about 30 degrees
7 of angle.

8 Q Okay, so the answer is yes.

9 In a directional hole isn't it more dif-
10 ficult to fish for tools?

11 A Not unless the directional angle is
12 greater than 30 degrees.

13 Q So again the answer to my question is
14 yes.

15 A Yes.

16 Q Are there increased logging difficulties?

17 A Only when you get up to a higher angle.
18 At these angles there is no difference. There is really a
19 minimal difference between a straight hole and a direction-
20 al.

21 As I said earlier, many straight holes
22 naturally deviate up to this 18, 20, 25 degrees, so I don't
23 see any real significant problem.

24 Q All right. You're drilling an area where
25 there is some expressed concern about casing/tubing fail-

1 ures, escape of gas from the wellbore, wouldn't you be con-
2 cerned that it's so much more difficult to run an adequate
3 cement job on a directional hole than a straight hole?

4 A If the rate of change of the angle is
5 kept less than 3 degrees and the casing is properly central-
6 ized, no.

7 Q Less than 3 degrees.

8 A The rate of change of angle, 3 degrees per
9 100.

10 Q But generally isn't it easier to tie your
11 cement back up to the surface and get an adequate lining job
12 for straight holes as compared to directional holes?

13 A Well, they've already stated that they're
14 going to use stage cementing, so their casing -- their cem-
15 enting through the salt ought to be just as good in the di-
16 rectional well as it should be in a straight well.

17 Q But generally isn't it true?

18 A Sure.

19 Q Let's see, one of the cost items you men-
20 tioned, you said they could bring in a generator to operate
21 a pumping (unclear) unit.

22 A Did I say that? No, I said a submersible
23 pump, supply electricity for a submersible pump.

24 You could do it for the walking beam,
25 too, if you wanted that expense.

1 Q Do run the power to the submersible pump
2 off the generator, did you account for the cost of acquiring
3 and operating a generator? Wouldn't that simply eat up the
4 difference?

5 A Well, a generator is not, to supply the
6 power you need for these -- for pumping these type of wells,
7 is not a very big generator. You're only talking about ap-
8 proximately 25 horsepower; that's a pretty small unit.

9 Q Wouldn't the cost difference eat up --

10 A Not much more than \$28,000. For \$28,000
11 you can put in a pretty nice generating station.

12 Q Yeah, but you have more operating and
13 maintenance expenses with a generator than you do with elec-
14 trical line, do you not?

15 A Not much. Well, I don't know; not much.

16 I mean that's an option if you're going
17 to spend a lot of money for a transmission line. It's com-
18 monly done.

19 Q You testified you're involved in quite a
20 few directional wells. Have you ever had any miss their
21 targets?

22 A Well, I've drilled a few dry holes. I
23 don't know if they missed their targets.

24 Q Their bottom hole location is what I'm
25 asking.

1 A I can't -- I don't ever remember missing
2 a target directionally drilling that resulted in a nonpro-
3 ductive well.

4 Q Do you have to make correction runs?

5 A I've had to make correction runs, sure.

6 Q They jack up the cost, don't they?

7 A Right, they can. Not if the -- you know,
8 it depends on the drilling environment.

9 I looked at this particular area. This
10 ought to be duck soup directional drilling area.

11 You know, if you're drilling alongside of
12 a mountain where you have steep faults and things, then it
13 becomes difficult.

14 Q Do you design lifting equipment?

15 A I have designed pumping operations, sub-
16 mersible pumps, that's correct.

17 Q How much of that do you do?

18 A I haven't done, let's see, have I done
19 any recently? I don't think I've done any in the last year,
20 but I have done some in the past for specialized -- for
21 specialized operations, right. I've helped people design.

22 Q Did you have access to the dynamometer
23 tests for the --

24 A No, I have not seen it; have not seen a
25 dynamometer. I don't know, do they even run them?

1 MR. HALL: Thank you very much.

2 MR. LEMAY: Are there additional
3 questions of Mr. Nicholson?

4 MR. HIGH: I have a few on re-
5 direct.

6 MR. LEMAY: Mr. High.

7

8 REDIRECT EXAMINATION

9 BY MR. HIGH:

10 Q Dr. Nicholson, did you have occasion to
11 look at the documentation concerning the type of water in
12 the R-111-A area?

13 A Yes, I did. There was a chemical analy-
14 sis in some of that stuff.

15 Q Did you notice anything about that water
16 that was of any significance?

17 A Yes. It was surprising to me, and maybe
18 it shouldn't have been surprising, that the total dissolved
19 solids in the water was extremely high for being signifi-
20 cantly below the salt section, and I -- since I've been
21 doing a lot of work in recent years in geothermal opera-
22 tions. those kind of things usually stick in my mind, and I
23 noticed that the -- that those waters should have a fairly
24 high scaling tendency.

25 Q And did you look through some of the doc-

1 uments and in fact find a number of instances where wells
2 had been acidized?

3 A Yes, I did.

4 Q Is that because of scaling?

5 A Primarily because of scaling, yes. I
6 either would imagine acidization in this area is very com-
7 mon, both on initial production to get wells to produce ini-
8 tially, to clean them up, and also later on both for scaling
9 in the production equipment and within the perforation area
10 itself.

11 Q Did you determine the kind of acid that
12 was used in the acidization process around here?

13 A Well, HCL is one of the primary acids,
14 and I'm not positive what some of the others -- other stuff
15 they used. The names sometimes are generic to the service
16 company who supplies the acid.

17 But HCL, 50 percent HCL appears to be
18 fairly common.

19 Q Have you had experience with acidizing
20 wells?

21 A I sure have.

22 Q Have you had any experience with what
23 acid can do to a well casing?

24 A Yes, I have.

25 Q What can it do?

1

2

RE CROSS EXAMINATION

3

BY MR. HALL:

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7

Q Did you, in your research in this particular case, did you become aware of any sort of casing failures in connection with the Forty-Niner Ridge Unit No. 1 Well, which has been pumping for fifteen years?

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A No, I haven't.

Q Okay. Do you have any problem with the casing program and cementing program under the R-111-A order?

A There are some inadequacies in it that I would feel a little more comfortable if something were done; a little bit there that wouldn't really significantly increase the cost (unclear).

Q But you don't know of any failures where that program's been complied with, do you?

MR. HIGH: I'm going to object, Mr. Chairman. We're getting into something else that I have intentionally tried to avoid.

We will be bringing up the R-111-A casing program probably in another forum but not here.

MR. LEMAY: I hope you realize that we did stipulate, at least the Oil Conservation Commission said we will not entertain a collateral attack on

1 R-111-A rules.

2 If you want to address a parti-
3 cular casing string of this well and the safety of that
4 string, that may be a separate topic but not in relationship
5 to the R-111-A rules.

6 MR. HIGH: Well, I'm not sure
7 what all that means.

8 MR. LEMAY: Well, it can be
9 that -- it can be this witness' opinion that the casing
10 string as designed is adequate or inadequate and he can give
11 a reason for it.

12 MR. HIGH: Fine. If you'll al-
13 low that testimony that's fine with me.

14 MR. LEMAY: I think that's ad-
15 missible.

16 Q If I understand your previous testimony.
17 you said as long as the acid job is done properly there's no
18 problem with casing failure.

19 A That's correct.

20 Q And there wouldn't be any problem with
21 casing failure if casing and cement jobs where you meet R-
22 111-A specs as Texaco proposes on these two wells.

23 A I -- I can't -- I don't understand that
24 question.

25 Q Texaco performs an adequate, correct,

1 acidization job on these two proposed wells that's deemed
2 necessary, there won't be any problem with casing failure in
3 those wells, even when they comply with the R-111-A specs.

4 A There could be.

5 Q That's just conjecture and speculation on
6 your part.

7 A well --

8 MR. HIGH: It's an opinion.
9 It's what he asked for and it's what he got.

10 A My opinion is that -- that any time you
11 pump the acid down the well you lose control of it once it
12 passes the casinghead. You may have holes in the tubing or
13 pipe or something that you're unaware of; whereas if the
14 acid job is done properly and it's done correctly, which it
15 appears that it has been, so far, then I see no problems
16 with it, but to say that there won't be a failure because of
17 it, I cannot say that.

18 Q I don't mean to ask you to testify as to
19 absolutes, but there probably will not be if the -- if the
20 acid job is done correctly. Isn't that what I understand
21 you to say? Isn't that your testimony?

22 A I don't want to --

23 MR. LEMAY: Mr. Hall, we went
24 through this (not understood) where he's given testimony and
25 if he wants to change that if you want to rephrase a ques-

1 tion, but I'd prefer you not to put words in his mouth.

2 MR. HALL: We'll withdraw the
3 question.

4 That concludes my redirect.

5

6

REDIRECT EXAMINATION

7 BY MR. HIGH:

8 Q Dr. Nicholson, I want to show you Texaco
9 Exhibit Number Eleven and ask you would you look at that.

10 You are familiar, are you not, with the
11 R-111-A casing program?

12 A I'm somewhat familiar with it. I don't
13 know all the ins and outs of it, but yes.

14 Q I would ask you to take a look at that
15 and I have discussed this, at least to some extent, with
16 you, have I not?

17 A Right.

18 Q Would you identify for us, if you can,
19 Dr. Nicholson, what could cause gas to get from inside a
20 casing and cementing program done in accordance with Texaco
21 Exhibit Eleven, which is the R-111-A casing program?

22 Well, let me rephrase the question.

23 Looking at Texaco Exhibit Number Eleven,
24 what event could cause methane gas to get from inside that
25 casing outside into the strata surrounding the casing?

1 A Well, holes in the casing, obviously.

2 Q And part of that could come from the aci-
3 dizing job?

4 A It could come from corrosion or acid or a
5 combination of stress corrosion.

6 Q Any other events that you could identify
7 for us that could cause methane to get from the inside of
8 the casing to the outside?

9 A During production operations those would
10 be the primary -- primary failure mechanisms; probably, you
11 know, one of the practices here is to fracture these wells.
12 Maybe fracturing could -- could cause a casing failure.

13 Inadequate cementing job, of course,
14 would enhance that, so there -- there are mechanisms for
15 any well to fail.

16 Q So it is possible for methane gas to get
17 inside the well casing shown in Texaco 11 out into the stra-
18 ta.

19 A It is possible.

20 Q Thank you.

21 MR. LEMAY: Mr. Hall.

22

23 RE CROSS EXAMINATION

24 BY MR. HALL:

25 Q I believe you testified, Mr. Nicholson,

1 you were involved in a lawsuit involving a casing failure
2 due to a poor acid job.

3 A That's correct.

4 Q Can you give me an estimate as to how
5 many successful acid jobs there have been in the world with-
6 out casing failures? Millions?

7 A Well, let's put it this way. There is
8 always a little bit of failure when you do an acid job.

9 Q But there have been millions of success-
10 ful acid jobs, have there not?

11 A There have been millions of successful
12 acid jobs but those that are unsuccessful are dramatically
13 unsuccessful.

14 Q In other words, the odds are against it.
15 Let me ask you, you have testified about
16 some of the causes that you thought could allow the escape
17 of gas from the Texaco completion shown on Exhibit Eleven.
18 One of the things you mentioned was an inadequate cement
19 job.

20 A That is possible.

21 Q Isn't it more likely, isn't there a
22 greater likelihood, a greater possibility for an inadequate
23 cement job on a deviated hole as there is on the straight
24 hole?

25 A In this particular case, I don't believe

1 that that's true, because of the method of completing the
2 well, which I like a whole lot. I think it's a good way of
3 going, is to run a DV tool or stage cementing tool in the --
4 or slightly below the intermediate casing string so that you
5 should be able to, even if the well is deviated, have as
6 good a cement job between the protection -- the salt protec-
7 tion string and the primary production string.

8 So I don't think that that -- I don't
9 think that that well being deviated is going to change that
10 particular aspect of protection.

11 Q The gas pressures associated with Dela-
12 ware production are on (unclear), aren't they?

13 A They are very low.

14 MR. HALL: No further ques-
15 tions.

16 MR. LEMAY: Additional ques-
17 tions?

18 MR. HIGH: We have nothing, Mr.
19 Chairman.

20 MR. LEMAY: I have one.

21

22 CROSS EXAMINATION

23 BY MR. LEMAY:

24 Q Dr. Nicholson, are you familiar with the
25 Oil Conservation Division of New Mexico rules concerning de-

1 viation?

2 A I'm not sure if I know the details right
3 now. I work in a lot of different areas and --

4 Q I know that. That's why -- we have a
5 rule that requires that TATCO been run in every trip and
6 that the deviation cannot exceed 5 percent. If it does we
7 require a bottom hole survey to be done.

8 A That's correct. It's not -- I realize
9 that there are limits that a directional survey, such that
10 you have -- you can locate the bottom of a well, which a
11 TATCO survey cannot do, must be run under certain conditions
12 (unclear.).

13 Q All right.

14 MR. LEMAY: Additional ques-
15 tions of the witness? If there are none, he may be excused.

16 And we're running a little
17 overtime here, as I mentioned. Let's go off the record,
18 Sally, just for a minute.

19

20 (Thereupon a discussion was had off the record.)

21

22 (Thereafter the evening recess was taken.)

23

24

25

1 Thereafter at the hour of 8:30 a.m. on the 19th day of June,
2 1987, the hearing was again called to order, at which time
3 the following proceedings were had:

4

5 MR. LEMAY: The executive ses-
6 sion, of which we will have another one today to finish up
7 Mr. Thayer's testimony, but for the record, I think it's ap-
8 propriate to read in the New Mexico Statutes, 1978, Para-
9 graph 71-2-8, Confidentiality Penalty.

10 The provisions of any confiden-
11 tial contract or any other confidential information required
12 or possessed by the Department shall be held confidential by
13 the Department upon written request of the party supplying
14 it; and, any employee of the Department, whether temporary
15 or permanent, who willfully violates the provisions of this
16 section, shall be guilty of a high misdemeanor.

17 Nothing in this section shall
18 be construed to prevent statistical information from being
19 derived from the information in the hands of the Department
20 or its use in public hearings before the Department or in
21 appeals from decisions of the Department for which informa-
22 tion is essential, notwithstanding the provisions of Section
23 10-15-1 through 10-15-4 NMSA 1978, or any other act requir-
24 ing meetings of public bodies to be open. The Department
25 may close that part of any meeting where confidential infor-

1 mation covered by this section is discussed by the Depart-
2 ment.

3 I think it's appropriate that
4 we read in the record because that is the justification for
5 -- for closing the meeting to those of you that aren't
6 directly involved in the staff or the -- the staff of OCD or
7 the staff of the parties here before us today.

8 And with that as part of the
9 open record, we shall now go into executive session again.
10 So those of you that are not part of the staffs of either
11 Texaco, IMC, or the OCD, I'd like to request that you leave
12 at this time.

13 MR. LEMAY: We shall continue
14 now.

15 MR. HIGH: Mr. Chairman, I
16 would like the record to reflect that I have looked around
17 the hearing room and that there is no representative of
18 Western Ag in the room at this time. Thank you.

19 MR. HALL: Mr. Chairman.

20 MR. LEMAY: Yes, sir, Mr. Hall.

21 MR. HALL: We would like to
22 resume with the cross examination of Walt Thayer.

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CONFIDENTIAL TESTIMONY AND REFERENCE TO EXHIBITS
COMMENCING ON PAGE 321 AND CONTINUING THROUGH
PAGE 384 INCLUSIVE.

Sherry L. Boyd CSR

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MR. LEMAY: Mr. High?

MR. HIGH: Yes, Mr. Chairman,
at this time I would like to offer into evidence what I have
marked and delivered to the Commissioners, as Opponents Ex-
hibit L, which are forms filed by Texaco Producing, Inc., to
the OCC concerning notification of prior breaks, spills,
leaks, and blowouts which were produced to us by Texaco in
response to our subpoena.

I'd like to offer that into ev-
idence as Opponents Exhibit L.

MR. LEMAY: Without objection

--
MR. HALL: Well, there is an
objection.

MR. LEMAY: Yes, sir.

MR. HALL: I have had a chance
to briefly review those when I received them from Texaco and
I'm not sure for what purpose they're being offered.

The majority of them seem to
have to do with flow line leaks and the like. I don't know
that there were any reports of casing failure in there. If
there were, I'm sure Mr. High would like to offer those, but
if he does, I'd like to question their relevance. Some of
those casing failures may be from wells in waterfloods or

1 Again these are unintentional
2 happenings, and we would offer those as Opponents Exhibit M.

3 MR. HALL: Same objection bas-
4 ically. We're not sure where these casing leaks occurred or
5 under what circumstances.

6 They're not relevant.

7 MR. LEMAY: We'll note your ob-
8 jection. Exhibits L and M will be -- of IMC, will be admit-
9 ted with objection.

10 MR. HIGH: And we would offer
11 as Opponents Exhibits N, as in November, and O, N, Exhibit N
12 being a memorandum dated November 14, 1974, entitled Opera-
13 tion Report, Midland E & P District concerning an accident
14 that happend on the Forty-Niner Ridge Unit Well No. 2 during
15 which 27 drill collars and 6/1/2 inch bit were dropped into
16 the hole as a result of running the block into the ground.

17 And Exhibit O being a similar
18 document, entitled Operations Report, Midland E & P Dis-
19 trict, dated December 10, 1974, concerning apparently the
20 same incident, just showing some costs and I assume that's a
21 reference to the same incident.

22 We would offer those as Oppo-
23 nents Exhibits N and O.

24 MR. LEMAY: Same objection?

25 MR. HALL: Yes, we object to

1 the relevance of those.

2 MR. LEMAY: Those will be ad-
3 mitted with objections.

4 MR. HIGH: And we would offer
5 as Opponents Exhibit P a multi-page document entitled Hydro-
6 gen Sulfide Survey as produced by Texaco in response to our
7 subpoena. It's dated October 17, 1986. There's no explana-
8 tion offered as to why only information for one particular
9 day would be recited.

10 This is one of the documents we
11 received from Texaco concerning the encounter with H₂S, and
12 I might add that the OCC modified our subpoena and limited
13 the information that Texaco was required to provide on en-
14 counters with H₂S within R-111-A or within ten miles of R-
15 111-A, if I recall correctly.

16 MR. LEMAY: That's true.

17 MR. HIGH: And we would offer
18 into evidence the information produced by Texaco showing
19 nine instances of encounters with H₂S in R-111-A. and we
20 would offer that as Opponents Exhibit P.

21 MR. HALL: Well, I'll object.
22 I don't think it shows nine instances of H₂S within R-111.

23 In particular, if you'll note
24 page 414, there's a reference to the Forty-Niner Ridge No.
25 1, there was zero H₂S.

1 A preponderance of those are
2 for the Monument Sub Area, Management area for Texaco in the
3 Hobbs area.

4 MR. HIGH: Well, my informa-
5 tion, Mr. Chairman, comes from Texaco. There is a notation
6 on the righthand side of the document that says, highlights
7 indicate wells within 10 miles of R-111-A area, and Texaco
8 highlighted the ones that are on your copies.

9 If you look at the ones that
10 Texaco highlighted, there's nine of those in which there was
11 H2S present. I don't know where it's located. Texaco said
12 it's within R-111-A or within ten miles.

13 If I miscounted, then I mis-
14 counted, but on page 4 -- I'm sorry, page 5, there is one,
15 two, three instances in which H2S was encountered with wells
16 that were highlighted by Texaco, Getty No. 6, Getty 35, and
17 Getty 35 out of the Bone Springs.

18 To continue on, on page 6
19 there's another employee encounter that's indicated by Texa-
20 co as being an encounter with H2S.

21 If you look on page 7, there is
22 another incident that's identified by -- in fact two of
23 them, identified by Texaco as -- it looks like BB Lynch A
24 and B, in which there was a whole lot of H2S.

25 MR. LEMAY: What page are you

1 looking at there?

2 MR. HIGH: Page 7.

3 MR. LEMAY; Page 7. Well, are
4 you looking at the right column? I don't know if we're ex-
5 amining this in terms of testimony, but the H2S concentra-
6 tion on the tank match, which is one, two, three, the fourth
7 column over, has many zeros.

8 MR. HIGH: That's correct.

9 MR. LEMAY: It does have a few
10 higher readings on some of the highlighted wells.

11 MR. HIGH: That's right.

12 MR. LEMAY: And it varies quite
13 a bit.

14 MR. HIGH: That's right. What-
15 ever it shows, they're the one that marked it. We would of-
16 fer it as Opponents Exhibit P.

17 MR. HALL: Same -- we object as
18 to relevance. Mr. High is offering it for purposes of show-
19 ing encounters with H2S, as he stated, within the R-111
20 area. None of them show that. This shows incidents within
21 ten miles of it. That was in response to the subpoena.

22 MR. HIGH: I stated that.

23 MR. HALL: Not a single well
24 shows H2S in the 111 area.

25 MR. HIGH: I stand corrected.

1 Whatever Texaco indicated on the document, we're satisfied
2 with it; within ten miles, fine.

3 MR. LEMAY: We'll accept the
4 exhibits with objection and the relevance, but how are you
5 going to show relevance.

6 MR. HIGH: We would call Mr.
7 Jim Wilcox, and Mr. Wilcox will not be testifying about con-
8 fidential information.

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JAMES R. WILCOX,

3

being called as a witness and being duly sworn upon his

4

oath, testified as follows, to-wit:

5

6

DIRECT EXAMINATION

7

BY MR. HIGH:

8

Q

Mr. Wilcox, would you state your name,

9

please?

10

A

James R. Wilcox.

11

Q

I'm sorry, were you sworn in earlier, Mr.

12

Wilcox?

13

A

Yes, yesterday.

14

Q

And where do you reside, Mr. Wilcox?

15

A

In Carlsbad.

16

Q

And where are you employed?

17

A

International Minerals and Chemical Cor-

18

poration.

19

Q

And what position are you employed in

20

there?

21

A

Safety Manager.

22

Q

Have you previously testified before the

23

CCC?

24

A

I don't believe I have. I've been up

25

here to testify but I don't believe I have.

1 Q Have you testified before other State or
2 governmental bodies?

3 A Yes.

4 Q Has that testimony involved safety regu-
5 lations?

6 A Yes.

7 Q Would you relate to us, if you will, Mr.
8 Wilcox, how long you've been in mine safety and health?

9 A Nine years.

10 Q And you started out in what position?

11 A As Safety Manager at IMC.

12 Q And prior to the time you became Safety
13 Manager did you have mining experience?

14 A Yes, I've worked for IMC a total of 21
15 years.

16 Q Okay, and the last nine of that 21 years
17 being in mine -- as Safety Director?

18 A Yes.

19 Q And as Safety Director what are your
20 duties and responsibilities?

21 A All the safety activities of the Carlsbad
22 operation, safety and security.

23 Q And during the time you've been Safety
24 Director, what type of training have you had concerning mine
25 safety?

1 A Numerous -- I've completed numerous clas-
2 ses, Mine Health and Safety Academy in Bethany, West Vir-
3 ginia, relating to safety issues.

4 I've --

5 Q Is that the same school that the Federal
6 Mine Safety and Health Administration sends their inspectors
7 to?

8 A Yes.

9 Q I'm sorry, go ahead. What other training
10 have you had?

11 A I've attended numerous seminars, you
12 know, dealing with safety. In fact we've got something
13 going on continuously, you know, some sort of training
14 classes.

15 Q Have you served on any committees
16 representing industry position in connection with health and
17 safety issues?

18 A Yes, I've served several years on
19 numerous American Mining Congress rule making committees.

20 Q When you say rule making committees, what
21 type of committees are those?

22 A These are committees comprised of various
23 segments of the mining industry. The American Mining Con-
24 gress gets these groups together and we review proposed
25 rules that are set forth by the government, Mine Safety and

1 Health Administration.

2 Q Now when you say rules, you're talking
3 about rules regarding mine safety and health?

4 A Yes, --

5 Q And I take it --

6 A -- the rules governing our activities,
7 our safety activities.

8 Q Are you familiar then with the Mine Safe-
9 ty and Health laws that apply to underground mines?

10 A Yes.

11 MR. HIGH: Mr. Chairman, we
12 would offer Mr. Wilcox as a qualified witness on mine safety
13 and health.

14 MR. LEMAY: Mr. Wilcos is so
15 qualified.

16 MR. HALL: May I have a chance
17 to voir dire the witness?

18 MR. LEMAY: Pardon?

19 MR. HALL: May I have a chance
20 to voir dire the witness on this, on his competency to tes-
21 tify?

22 MR. LEMAY: We'll have to go
23 off the record until I find out what you mean by that.

24

25 (Thereupon a discussion was had off the record.)

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VOIR DIRE EXAMINATION

BY MR. HALL:

Q Mr. Wilcox, I understand you're the Safety Manager basically for the mine.

A Yes.

Q Is the -- I imagine you're involved quite a bit with Workmen's Compensation issues and Workmen's Compensation claims for injuries on the job.

A Yes, sir.

Q In fact, that probably takes up a great amount of your time, doesn't it?

A It takes up some of my time.

Q The preponderance of your time?

A No. I have a staff of five people.

Q Just to deal with Workmen's Compensation

--

A No.

Q -- issues?

A No, no, not hardly.

Q How much of the time of your whole department is taken up with Workmen's Compensation issues?

A Probably 20 percent.

Q All right. Do you have any background in petroleum engineering?

1 it's going that way, Mr. Hall, and if it is we'll certainly
2 let Mr. High know that it's unacceptable testimony. In fact
3 we expect you to raise an objection if you feel that his
4 testimony is going in that direction.

5 You may proceed, Mr. High.

6 MR. HIGH: Thank you, Mr.
7 Chairman.

8

9

DIRECT EXAMINATION CONTINUED

10 BY MR. HIGH:

11 Q Mr. Wilcox, do you have responsibility
12 for safety throughout the IMC mine?

13 A Yes.

14 Q Do you have responsibility for safety at
15 locations other than the IMC mine?

16 A Yes.

17 Q And what locations are those?

18 A Our Petroleum Co. ship loading facility
19 in Long Beach, California, and Petroleum Co. manufacturing
20 plant in Bakersfield, California.

21 Q How large is the IMC mine?

22 A We have approximately 2200 miles of open
23 tunnel underground.

24 Q And you are familiar, are you not, with
25 the Mine Safety and Health Act they came out with for the

1 work in the underground mine?

2 A Yes, that's when I went into the safety
3 field.

4 Q And when was that?

5 A 1978.

6 Q And that's when the Act was passed?

7 A No, the Act was passed in '77 but they
8 didn't actually begin the compliance proceedings until '78.

9 Q Did that impose upon the IMC underground
10 mine safety requirements that it previously did not have?

11 A Yes.

12 Q And was it your responsibility and duty
13 as Safety Director to come into compliance with those re-
14 quirements?

15 A Yes.

16 Q And you are familiar, I take it then,
17 with those regulations.

18 A Yes.

19 Q Do any of the regulations that -- that
20 apply to the IMC mine regulate the presence of methane gas?

21 A Yes, they do.

22 Q And what are those regulations called?

23 A Cassy mine regulations.

24 Q And have you had any experience involved
25 with those regulations?

1 A Yes, sir, I have.

2 Q Let me show you, Mr. Wilcox, what I've
3 marked as Opponents Exhibit Q and ask if you will take a
4 look at that, please, sir.

5 Can you identify that for me, Mr. Wilcox?

6 A Yes, it is the current Mine Safety and
7 health Administration's Gassy Mine Standards.

8 Q Are all mines subject to this right now?

9 A No, we're not subject to this right now.

10 Q What has to happen before you become sub-
11 ject to this?

12 A There's four, any one of four events that
13 can occur before a mine can be classified gassy.

14 One is the state in which the mine is lo-
15 cated would classify as gassy. Then the Mine Safety and
16 Health Administration follows suit. That's part of the
17 standard.

18 If flammable gas is emitting from the ore
19 body and that gas is ignited, that can get it into a gassy
20 mine classification.

21 Q That means if there's an underground ex-
22 plosion? Is that what that means?

23 A Yes.

24 Q Okay. So if you have --

25 A Well, maybe not even an explosion, just

1 an ignition.

2 Q Okay, so if there's an underground igni-
3 tion, that, the fact that that event occurred would result
4 in a mine being classified gassy.

5 A Yes.

6 Q Okay, I'm sorry, go ahead.

7 A Any time there's a concentration of .25
8 percent of flammable gas found in the mine atmosphere, then
9 the mine will be classified gassy.

10 Q Okay, and how would such a sample like
11 that be discovered?

12 A From an air sample, a methanometer (sic).
13 Of course the sample has to be analyzed before it can be
14 classified gassy.

15 Q How do you take -- physically how do you
16 take an air sample?

17 A We have devices that we call cricket sam-
18 plers.

19 Q Cricket?

20 A Yes.

21 Q Like the insect?

22 A Yes, right. In fact, that is the term;
23 that's what they are, is cricket samplers, but it's a little
24 device that you squeeze all the air out of and then you pop
25 it and it sucks air in, and then you seal it.

1 Q Do you know how much total air that lit-
2 tle device holds?

3 A I'm not sure of the volume, no, not very
4 much.

5 Q How large is the sampling device that you
6 have.

7 A It's approximately 3 inches in diameter
8 and about a quarter inch thick.

9 Q And that's how an air sample is taken?

10 A Yes.

11 Q And if that air sample contains .25 per-
12 cent flammable gas, the mine will be classified gassy?

13 A Yes, that's correct.

14 Q Will .25 percent methane burn, Mr. Wil-
15 cox?

16 A No.

17 Q But that's still enough for a mine to be
18 classified gassy.

19 A Yes.

20 Q And if a mine, if one of those events oc-
21 curs and a mine is classified gassy, what are the consequen-
22 ces? What happens?

23 A If you're classified gassy then all your
24 equipment has to be permissible. There's --

25 Q Excuse me, what -- what does permissible

1 equipment mean, the way you used it?

2 A It means equipment that is explosion
3 proof or will not be the ignition source of a flammable gas.

4 Q Would that be specially designed equip-
5 ment that could be operated in an atmosphere that -- that
6 would not cause an explosion --

7 A Yes.

8 Q Okay. And I'm sorry, go ahead. What --
9 what other consequences would occur?

10 A Well, there's 62 additional standards
11 which we would have to comply with that we don't have to
12 comply with at this time.

13 This is this entire group right here.

14 Q Have you had an occasion and opportunity
15 to review those standards and determine what would -- what
16 it would cost for IMC mine if it had to come into compliance
17 with those standards?

18 MR. HALL: Well, I think this
19 is the point we need to object. There's a question posed to
20 the witness that calls for speculation that they will be re-
21 quired to comply with the standards involved at all.

22 We have no reason to believe
23 that they're going to be a gassy mine. I can see what this
24 is all leading to. They're going to try to link this to
25 well drilling in the area, obviously, and specifically --

1 MR. LEMAY: Wait till they get
2 there. They're not there yet, I don't think. Right now
3 they're just explaining the mine situation.

4 A Can I answer the question?

5 MR. LEMAY: Please do.

6 Q Yes.

7 A We did a study a number of years ago and
8 at that time, and it would depend on whether some of the
9 equipment we have now could be modified and deemed permis-
10 sible.

11 Q Is the equipment that's currently used by
12 the mine in its mining operation maintained in an explosion
13 proof or a permissible condition?

14 A No.

15 Q Okay.

16 A Some of the equipment that we purchased
17 at the time it was purchased it was probably deemed permis-
18 sible but it has not been permissible in years.

19 Q Okay.

20 A If that equipment could be modified to
21 where it would be permissible again, our initial capital
22 outlay would be approximately \$45,000,000. If that equip-
23 ment cannot be brought into compliance, then the capital
24 outlay would be \$80,000,000; somewhere in the approximate
25 location.

1 Q That would be the cost just for IMC to
2 comply with the gassy mine regulations.

3 A Yes, sir.

4 Q And that expenditure would be required,
5 as I understand your testimony, if as little as .25 percent
6 methane was found in the mine?

7 A Yes, that's correct.

8 Q Now what if the Federal government told
9 IMC to comply with those regulations and IMC didn't do it?
10 What would happen to the mine?

11 A They would issue a closure order, with-
12 draw all of our people, and not let anyone go underground
13 until we agreed.

14 Q What does the word withdrawal mean in the
15 mining business?

16 A It means removing everyone from the work-
17 ing areas.

18 Q Does the Federal Mine Safety and Health
19 Inspectors have the authority to order that to happen?

20 A Yes, immediately.

21 Q Do they have the authority to close down
22 the mine?

23 A Yes.

24 Q Under what conditions do they order a
25 mine closed?

1 A Well, if anything they deem an imminent
2 danger situation.

3 Q And how physically would that happen?
4 Would they just write out a piece of paper or do they go to
5 court? How do they do it?

6 A No, they don't have to go to court. They
7 just --

8 Q What's the procedure?

9 A They issue an order. It's just a piece
10 of paper and they present to the mine operator and you have
11 a chance of complying or pay \$10,000 a day and go to jail.

12 Q And if you choose to litigate that, can
13 you keep the mine open or do they close it?

14 A No. No, you have to close it.

15 Q You close the mine, then litigate it?

16 A Right.

17 Q In the course, Mr. Wilcox, of your duties
18 and responsibilities as Safety Director, have you had occa-
19 sion to conduct any studies concerning the migration of
20 gases in the mine?

21 A Yes, about four years ago during a summer
22 shutdown we had a development panel that was four rooms
23 wide. Because of the width and the roof control that we
24 were doing we hadn't drilled any air relief holes in the
25 roof on the back of the mine.

1 MR. LEMAY: Couldn't hear you;
2 speak a little louder.

3 A Okay.

4 Q What is an air relief hole?

5 A There is air trapped in some areas of our
6 mining panels above the roof. That air pressure can force
7 down the mine roof if we don't drill up and relieve that
8 pressure.

9 Q Okay, do you know the chemical composi-
10 tion of that air pressure?

11 A It's nitrogen.

12 Q So when you say air you're talking about
13 a substance -- a mixture that's primarily nitrogen.

14 A Yeah, it's an inert gas.

15 Q Okay, fine, go ahead.

16 A And during this process we went down and
17 started drilling air relief holes and we were getting air
18 blows at every intersection that we drilled.

19 So one day we skipped an intersection and
20 didn't drill it that day; came back the next day and we
21 drilled it and there was no air blow. So that indicated
22 that the gas had migrated one direction or the other.

23 We tried that later on for a distance of
24 six rooms and with the same result.

25 Q How -- what is the footage of six rooms?

1 A From one drill hole to the next drill
2 hole, the area in between that we skipped I believe was 452
3 feet.

4 Q And did gas migrate -- did you -- what
5 happened in this experiment?

6 A We waited 24 hours and went back and
7 drilled in between and we did not get any air blows, so --

8 Q Which indicated to you what?

9 A The gas had migrated and gone out the
10 holes that we had drilled previously.

11 Q Okay, and did --

12 MR. HALL: I'm going to object
13 to the question and move that the answer be stricken. The
14 witness has testified he's not a petroleum engineer. I don't
15 believe he can really render an opinion as to whether gas
16 has migrated and what the source of those (unclear) were.

17 MR. LEMAY: We'll take under
18 consideration his conclusions but he's making observations,
19 I think now. His conclusions can be subject to cross
20 examination certainly.

21 Q This experiment, Mr. Wilcox, indicated
22 that the air would migrate what distance?

23 A Well, at least half that distance.

24 Q Which would be how many feet?

25 A 225 feet, 226.

1 MR. HIGH: Pass the witness.

2 MR. LEMAY: Mr. Hall.

3
4 CROSS EXAMINATION

5 BY MR. HALL:

6 Q Let me ask you when IMC drilled this air
7 holes, isn't it safe to assume that a different drilling
8 technique was used than what is ordinarily employed when
9 drilling oil wells?

10 A Sure. I would hope so. We drill up and
11 you were probably drilling down.

12 Q And we use different equipment.

13 A Oh, yes.

14 Q Do you have a mud program?

15 A A mud program?

16 Q I guess you did not.

17 A No.

18 Q Didn't have a cementing or casing pro-
19 gram?

20 A No.

21 Q Do you know Darcy's law?

22 A No.

23 Q Are there mines in the oil/potash area
24 that are operating under the gassy mine regulations?

25 A No.

1 MR. HALL: Nothing further.

2 MR. LEMAY: Are there addition-
3 al questions of the witness?

4 MR. ROYBAL: I did have a
5 couple.

6 MR. LEMAY: Mr. Roybal.

7

8 CROSS EXAMINATION

9 BY MR. ROYBAL:

10 Q Could you describe the content of the gas
11 or air that you were hitting or not hitting in this experi-
12 ment? Was it methane?

13 A No.

14 Q It's compressed air, mostly nitrogen, is
15 that right?

16 A Yes.

17 Q Okay.

18 MR. ROYBAL: That's the main
19 question I wanted to ask.

20

21 CROSS EXAMINATION

22 BY MR. LEMAY:

23 Q I have a question concerning these, as I
24 understand it, these kind of puffs that you'll hit occasion-
25 ally where there may be nitrogen, have you hit any of those

1 where they are methane gas, where they deplete quite rapid-
2 ly?

3 A We've hit some where there's traces of
4 methane gas in them.

5 Q But generally have you hit any kind of a
6 pocket where there's been any sustained flow for any period
7 of time, or is it usually dissipated quickly within a 30
8 minute --

9 A It's normally dissipated within a matter
10 of minutes. We have had some -- there was a blow detectable
11 for I'll guess 24 hours but it, you know, it was not a hard
12 blow.

13 Q And it was -- that was not methane.

14 A No.

15 Q That would be nitrogen down there.

16 A Yes.

17 MR. BROSTUEN: I have a ques-
18 tion.

19 MR. LEMAY: Mr. Brostuen.
20

21 CROSS EXAMINATION

22 BY MR. BROSTUEN:

23 Q When EMSHA conducts investigation of
24 mining operations, where does it collect samples of gas?
25 Throughout the mine, or just where?

1 A They take a sample in one of the face
2 areas of a working place in the mine.

3 They take a sample at the exhaust of that
4 working place, where the exhaust of all the exhaust of all
5 the working faces is going out in one particular --

6 Q Are you talking about -- excuse me, are
7 you talking about where the ventilation --

8 A Yes, the ventilation, in a working sec-
9 tion. They do that in every working section, two samples.
10 And then they take a sample of the main exhaust air where
11 it's coming out of the shaft on the surface.

12 Q And how frequently is this performed?

13 A At least every quarter, every three
14 months.

15 MR. LEMAY: Additional
16 questions of the witness?

17 MR. HIGH: I just have one.

18

19 REDIRECT EXAMINATION

20 BY MR. HIGH:

21 Q The inspection that's conducted every
22 quarter, Mr. Wilcox, is that number of inspections mandated
23 by Federal law?

24 A Yes, there has to be four a year for an
25 underground operation.

1 Q Thank you.

2 MR. LEMAY: Additional ques-
3 tions of the witness?

4 If not, he may be excused.

5 Do you have any additional wit-
6 nesses, Mr. High?

7 MR. HIGH: No, sir. At this
8 time, Mr. Chairman, I would like to offer two more exhibits
9 into evidence, if I may.

10 I'll mark these as Opponents
11 Exhibits R and S, with Opponents Exhibit R being a letter
12 dated May 5, 1986, addressed to the Bureau of Land Manage-
13 ment and signed by Mr. D. E. Hellman, H-E-L-L-M-A-N, for
14 Texaco Producing, Inc., and Opponents Exhibit S being a -- I
15 guess it's a memorandum dated March 21, 1986, to Mr. Allen
16 R. (not understood) from Mr. Joe E. Keene. That was a sub-
17 ject matter of Government Relations, Department of Interior,
18 Delaware Participating Unit, Forty-Nine Ridge Unit, Eddy
19 County, New Mexico.

20 We would offer those documents
21 into evidence.

22 MR. HALL: Well, we object only
23 to the extent that we don't know for what purposes they're
24 being offered. I would comment that these documents are
25 well over a year old and they look like information on hand

1 at that time. Otherwise they appear to be public documents.

2 Well, the first one does, anyway, Exhibit R.

3 MR. LEMAY: With objection Ex-
4 hibits R and S will be admitted into evidence.

5 MR. ROYBAL: Mr. Chairman, the
6 reporter and I don't have Exhibit Q being offered and admit-
7 ted.

8 MR. LEMAY: Q has not been.

9 MR. HIGH: I'm sorry. I would
10 offer Opponents Exhibit Q and also for purposes of the re-
11 cord I would offer into evidence all other exhibits that
12 I've identified but failed to offer.

13 I would offer those into evi-
14 dence at this time.

15 MR. LEMAY: Are there objec-
16 tions to the --

17 MR. HALL: None that I haven't
18 made before.

19 MR. LEMAY: The exhibits will
20 be admitted into the record.

21 MR. HIGH: We have nothing fur-
22 ther, Mr. Chairman.

23 MR. LEMAY: I think the record
24 is complete.

25 Are there additional statements

1 in these cases?

2 MR. HALL: A brief closing
3 statement, if I may, Mr. Chairman.

4 Mr. Chairman, Members of the
5 Commission.

6 Texaco's application presents
7 an examination of competing interests here today and they're
8 competing interests that must be examined within the con-
9 fines of two regulatory (not understood).

10 This Commission must examine
11 the evidence and determine the following:

12 One, that there will be no un-
13 due waste of potash as opposed to waste of potash. The
14 rule, the statute says "undue" waste of potash.

15 And secondly, the Commission
16 must find that the waste of oil resources will be prevented.

17 Safety is a non-issue here. It
18 hasn't been discussed much. Anything that constitutes a
19 collateral attack on R-111-A should be disregarded. R-111-A
20 has proven safe. You shouldn't even be worried about safe-
21 ty.

22 Let's look at the evidence that
23 we've seen over the past two days.

24 Texaco's consists of the fol-
25 lowing:

1 Texaco has the best geological-
2 engineering evidence. There's a very good likelihood that
3 there's recoverable oil at both its locations, one location
4 being presently near a producing oil well.

5 Texaco is also ready, willing,
6 and able to go. They have drilling funds committed.
7 They're ready to go. They have a location built.

8 Texaco has also shown the best
9 evidence on economics. Our cost figures are reliable. They
10 also include gross end cost figures. We have been willing
11 to share with the Commission and the opponents our operating
12 costs. On the other hand, they have absolutely refused to.

13 They vacillated on their an-
14 swers to every question in that regard.

15 Texaco has also shown that it
16 will comply with the R-111 casing and cementing standards
17 and that ipso facto is a prima facie case of safety.

18 All the talk we've heard about
19 gassy mine standards is irrelevant.

20 Now, let's look at what the
21 potash companies have shown us.

22 There are no plans to mine Sec-
23 tion 16. Western Ag says it won't mine it. IMC says it
24 might but their exhibits show no intention of doing so. IMC
25 doesn't even have the lease rights to mine Section 16. They

1 say they might have an agreement with Western Ag but they
2 haven't produced it to us. There's nothing written down.

3 Technically the potash oppo-
4 nents geology is very suspect. Some of their critical exhi-
5 bits they have failed to honor a critical core log, even
6 though they were aware of it coming into the hearing. That
7 core hole ripped a big hole in their arguments, in their
8 contentions about the reserves and in fact resulted in the
9 expansion of what we know to be the potash barren area, as
10 shown on the BLM map.

11 Let's look at their economics.
12 They're suspect as well. As I've stated, they failed to re-
13 veal to this Commission anything about what their operating,
14 production, and processing costs are. They throw at us
15 huge, inflated numbers for the value of potash to be lost
16 under suspect scenarios involving pillars of varying sizes.

17 They failed to tell you that
18 they won't lose 100 percent of that potash, even if it is
19 mined. They can still recover 75 percent of it. Nonethe-
20 less, they come back and try to make this Commission believe
21 that we're going to losing millions of dollars in potash but
22 they fail to deduct appropriate operating costs and expen-
23 ses. That's a bogus number.

24 Finally the potash operators
25 have come in with their benevolent position that we will al-

1 low drilling as long as you do it at a deviated location.
2 They've tried to put on testimony showing that it is econ-
3 omically and mechanically practicable, but as a matter of
4 fact, their evidence is unconvincing.

5 Their drilling engineer, his
6 figures did not differ that much from Texaco's. Texaco's
7 were based upon actually quotes received from deviated drill-
8 ling contractors in the area. The potash company's were
9 mere speculation.

10 Texaco's applications seek a
11 multiple use of the area. They seek to recover oil while
12 still allowing for safe potash mining. There will be no un-
13 due waste of potash. On the contrary, the potash leasehol-
14 ders would have us leave both resources in the ground. That
15 is waste and that is in direct violation of all of this Com-
16 mission's statutory mandates.

17 Thank you.

18 MR. LEMAY: Mr. High.

19 MR. HIGH: Mr. Chairman, I pray
20 to God that this Commission has not misunderstood our evi-
21 dence as much as Mr. Hall apparently has. He has either
22 misunderstood, doesn't understand, or has deliberately over-
23 stated his position, and let me explain why.

24 We set forth to this Commission
25 what the issues in this case are, and it's very clear under

1 the Oil and Gas Act that this Commission has the statutory
2 duty to prevent the waste of potash due to oil and gas oper-
3 ations. That is a function and one of the primary purposes
4 of the OCC.

5 R-111-A also prohibits the
6 drilling of any oil and gas well that will create a hazard
7 to underground mining. That is clear. So while safety may
8 not be an issue to Mr. Hall, I can understand that. He
9 doesn't have to work underground. It is an issue, it is a
10 paramount issue to the mining industry because we have
11 people underground. If anyone's blown up, it's us. If any-
12 one's killed, it's us. If anyone's put out of business,
13 it's us, because of the operation of oil and gas units. So
14 we submit that safety is not only an issue but it is a very
15 crucial issue to the decision of the OCC in this case.

16 The OCC has to decide under the
17 statute whether or not these APD's, if allowed, would waste
18 potash and/or create a hazard to the mining industry. Now,
19 to reach those, to make those two critical decisions there
20 are sub-issues that the OCC has to consider.

21 First of all it has to deter-
22 mine whether or not in the area that we're talking about
23 here that's being proposed by Texaco, is there mineraliza-
24 tion. Is there potash there to be wasted? That's the first
25 issue. We think that's clear. We have presented to the OCC

1 the evidence in both the files of IMC and the files of Wes-
2 tern Ag that shows core hole data from Drill Hole 16 that
3 shows mineralization in two ore zones. We've presented core
4 data from Drill Hole No. 2 which shows mineralization, I be-
5 lieve it was in either the eighth or the tenth ore zone but
6 nothing in the fourth ore zone, and there's also, and our
7 witnesses candidly admitted that there is a FR-10 core hole
8 which at the time we did our calculations, we did not have
9 the data. IMC did not have the data when they prepared
10 those calculations and Mr. Walt Thayer admitted that. He
11 said if we had the information, we knew nothing about the
12 hole, and he admitted that if that were blank, as he had
13 been told, that it would alter to some extent, but not
14 eliminate, the amount of potash that was lost.

15 So that's information that we
16 didn't have when we prepared for this hearing.

17 So, but the bottom line is that
18 there is mineralization in the areas where these two wells
19 will be. So if there's potash there, which there is, and
20 the evidence in this case irrefutably establishes that
21 point, then the next question is will the OCC violate its
22 statutory duty to prevent that waste if it allows these
23 wells.

24 Well, there are sub-issues to
25 make that decision.

1 us too much to -- to deviate these two wells, and therefore
2 we wouldn't recommend that they be drilled.

3 Well, they have -- they have
4 sat on this lease for eleven years and done nothing and it
5 doesn't really surprise me they want to drill these wells,
6 but if you look at their numbers, Texaco Exhibit Number
7 Nine, which I spent a lot of time with Mr. Pool on, a lot of
8 it unnecessary, as it turned out, because he didn't know
9 that much about it, and I should have realized that early on
10 and I apologize to the OCC for taking up so much time for
11 something he didn't know a lot about, and which I obviously
12 didn't either, but if you look at those numbers, and you
13 say, why is it that these two wells vertically would be eco-
14 nomically feasible in Texaco's opinion, but if you deviate
15 them, they would not be? And there is a wide difference in
16 profitability when they are assuming cost of a straight hole
17 and cost of a directional hole, and whether or not it's eco-
18 nomical or not, depends upon what it costs you to drill the
19 well.

20 Well, if you look at Opponents
21 exhibits that we just gave the Commission, the last two,
22 letters from Texaco, they also discuss the profitability and
23 economics of this well. Those two letters show a rate of
24 return, a projected rate of return in 1986 of over 40 per-
25 cent with a drilling cost of \$350,000.

1 plus -- \$50-to-60,000 to save \$2.2-million? To me that's a
2 pretty good deal.

3 Texaco has said if we're re-
4 quired to deviate them, we won't drill these wells. That to
5 me a challenge to the OCC. If they won't drill these wells,
6 given the economics, you heard Dr. Nicholson testify that
7 this should be economically feasible, if they don't think
8 it's economically feasible, I'll submit to this OCC, let
9 them walk away and I think someone else will. The economics
10 on this look good enough to Dr. Nicholson that they should
11 be able to deviate these wells and economically drill them
12 and produce them.

13 Now, when you're considering
14 waste, you also have to consider safety because if the drill-
15 ling of oil and gas wells in the potash area creates such a
16 safety hazard that you can no longer mine the potash, you've
17 wasted it. So if the OCC allows a condition in the -- in
18 the potash deposits that prevents that mining, that's the
19 same as condemning it forever. That's waste, in our opin-
20 ion, and we think that's an issue that the OCC should de-
21 cide, should consider, whether or not there is a possibility
22 that if these wells are allowed it will create a safety haz-
23 ard. You heard Dr. Nicholson testify that yes, it is pos-
24 sible for methane to get inside from the inside of R-111-A
25 casing to the outside. You have exhibits that show that

1 Texaco, and I'm sure that no more so than any other producer
2 or operator, has had a large number of unplanned events.
3 That happens. Every business has unplanned events, so I
4 don't care how carefully designed the casing and cementing
5 program is, there is a possibility that that well will leak
6 methane sometime. That's a possibility. There's no one
7 that can say, and I submit the evidence we've presented from
8 Texaco establishes that reservation, no one can say that
9 these wells will never leak methane if they're allowed.

10 If they do, if methane is
11 leaked, you heard Mr. Jim Wilcox testify that there is a
12 possibility of some migration in the basement. So the ques-
13 tion is, if these wells are allowed, will it be a safety
14 hazard? Well, you have to decide as a Commission that it
15 will not.

16 So if you allow these wells,
17 you are telling the mining industry and the public that
18 these are not a safety hazard; that methane will not escape,
19 and if it does it will not migrate into the mine; if it does
20 migrate into the mine it's not going to hurt anything. That
21 decision requires very careful analysis and study before
22 it's made.

23 We would ask the OCC to deny
24 both of these APD's. There is another way that both the pot-
25 ash and the oil can be captured and that can be from a de-

1 viated well around the Forty-Niner Ridge No. 1. We submit
2 that's the way that the OCC should develop both this potash
3 lease and the oil and gas lease.

4 So we'd ask that both APD's be
5 denied.

6 Thank you.

7 MR. LEMAY: Thank you, Mr.
8 High. Are there additional statements in these cases?

9 If not, they will be taken
10 under advisement.

11

12 (Hearing concluded.)

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C E R T I F I C A T E

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 prepared by me to the best of my ability.

Sally W. Boyd CSR

1 STATE OF NEW MEXICO
2 ENERGY AND MINERALS DEPARTMENT
3 OIL CONSERVATION DIVISION
4 STATE LAND OFFICE BLDG.
5 Santa Fe, New Mexico

6
7 3 June 1987

8 EXAMINER HEARING

9 IN THE MATTER:

10 In the matter of Case 9074 being reopen- CASE
11 ed upon application of Suntex Energy 9074
12 Corporation to vacate or modify Division
13 Order No. R-8404, Rio Arriba County, New
14 Mexico.

15 and
16 Application of Texaco Producing Inc. for CASE
17 a drilling permit in the Potash-Oil Area, 9148
18 Eddy County, New Mexico.

19 BEFORE: David R. Catanach, Examiner

20 TRANSCRIPT OF HEARING

21 A P P E A R A N C E S

22 For the Division: Jeff Taylor
23 Legal Counsel to the Division
24 Oil Conservation Division
25 State Land Office Bldg.
Santa Fe, New Mexico

For the Applicant:

1
2 MR. CATANACH: Call next Case
3 No. 9074.

4 MR. TAYLOR: The matter of Case
5 9074 being reopened upon application of Suntex Energy
6 Corporation to vacate or modify Division Order No. R-8404,
7 Rio Arriba County, New Mexico.

8 MR. CATANACH: At the request
9 of the applicant Case No. 9074 will be continued
10 indefinitely.

11 (Hearing concluded.)
12

13
14 MR. CATANACH: Call next Case
15 No. 9148.

16 MR. TAYLOR: The application of
17 Texaco Producing Inc. for a drilling permit in the Potash-
18 Oil Area, Eddy County, New Mexico.

19 MR. CATANACH: At the request
20 of the applicant Case No. 9148 will be continued to the
21 Commission Hearing 18 June 1987.

22 (Hearing concluded.)
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C E R T I F I C A T E

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. 9074 9148
heard by me on June 3, 1987.

David R. Catomb, Examiner
Oil Conservation Division

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