STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT 1 OIL CONSERVATION DIVISION STATE LAND OFFICE BUILDING 2 SANTA FE, NEW MEXICO 3 20 September 1989 4 5 EXAMINER HEARING 6 7 IN THE MATTER OF: 8 Application of Santa Fe Energy Operating CASE Partners, L. P. for compulsory pooling, 9760 9 Eddy County, New Mexico. 10 11 BEFORE: David R. Catanach, Examiner 12 13 TRANSCRIPT OF HEARING 14 15 APPEARANCES 16 For the Division: Robert G. Stovall 17 Attorney at Law Legal Counsel to the Division 18 State Land Office Building Santa Fe, New Mexico 19 For Santa Fe Energy Operting Partners, L. P.: Ernest L. Padilla 20 Attorney at Law PADILLA & SNYDER 21 P. O. Box 2523 Santa Fe, New Mexico 87504 22 For Exxon: W. Thomas Kellahin 23 Attorney at Law KELLAHIN, KELLAHIN & AUBREY 24 P. O. Box 2265 Santa Fe, New Mexico 87504 25

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3 1 MR. CATANACH: Okay, at this 2 time we'll call Case 9760, the application of Santa Fe 3 Energy Operating Partners, L. P., for compulsory pooling, 4 Eddy County, New Mexico. 5 Appearances in this case. 6 MR. PADILLA: Mr. Examiner, 7 Ernest L. Padilla, Santa Fe, New Mexico, for Santa Fe 8 Energy Operating Partners. 9 MR. CATANACH: Any other ap-10 pearances? 11 MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin, 12 13 Kellahin & Aubrey, appearing on behalf of Exxon Corpora-14 tion. 15 MR. CATANACH: Any other ap-16 pearances? 17 Do you have any witnesses, Mr. 18 Kellahin? 19 MR. KELLAHIN: No, sir. 20 MR. PADILLA: Mr. Examiner, I 21 have two witnesses. 22 MR. CATANACH: Swear in the 23 witnesses. 24 25 (Witnesses sworn.)

4 1 2 GARY GREEN, 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. PADILLA: 8 Green, please state your full name 0 Mr. 9 and where you reside. 10 А My name is Gary Green. I live in Mid-11 land, Texas. 12 Q Mr. Green, have you previously testi-13 fied before the Oil Conservation Division and had your 14 credentials accepted as a landman as a matter of record? 15 Yes, I have. А 16 Mr. Green, can you tell us what the pur-Q 17 pose of the hearing is today? 18 A Santa Fe seeks an order pooling all the 19 mineral interest in the south half of Section 1, Township 20 24 South, Range 28 East, Eddy County, New Mexico, for the 21 drilling a 12,250 foot Atoka test with the spacing unit 22 being the south half of Section 1. 23 Mr. Green, are you personally familiar Q 24 with the efforts you have made to voluntarily pool the 25 south half of the Section 1 as it relates to the applica-

5 1 tion? 2 А Yes. 3 MR. PADILLA; Mr. Examiner, we 4 tender Mr. Green as a petroleum landman. 5 MR. CATANACH: He is so gual-6 ified. 7 Mr. Green, let's turn now to Exhibit Q 8 Number One and have you tell the examiner what that is. 9 Exhibit Number One is a land plat А 10 showing the area that we propose to pool in the hachured 11 line and also the spacing unit. 12 The acreage colored in yellow is Santa 13 Fe's leasehold acreage. The red dot is Santa Fe's pro-14 posed location for the well. 15 How -- to what depth are you going to Q 16 drill the well? 17 А We're proposing to drill the well to 18 12,250 feet. 19 Q And you propose to force pool from the 20 surface to the total depth of the well? 21 Yes, we do. А 22 Can you tell us -- well, let's go to Q 23 Exhibit Number Two and have you tell us what that is. 24 А Exhibit Number Two is a letter dated 25 July 12th addressed to Exxon Corporation, Phillips Petro-

6 1 leum, UTI Energy Corporation, Richard K. Barr and Scott 2 Wilson, proposing the drilling of a well, requesting that 3 they either join us in the drilling of this well or farm 4 out to us. 5 Can you identify for us the exact owner-Q 6 ship that each one of these companies has with regard to 7 the proposed proration unit? 8 Yes. Exxon owns 200 acres А in the 9 spacing unit, being the southeast guarter and the northeast 10 quarter of the southwest quarter. 11 Phillips Petroleum owns 40 acres, being 12 the northwest quarter of the southwest quarter. 13 UTI Energy Corp., Richard K. Barr, Scott 14 Wilson, own 40 acres, being the southwest of the southwest 15 quarter. 16 Santa Fe owns 40 acres, being the south-17 east of the southwest quarter. 18 Now, what is the footage location of Q 19 your proposed well? 20 А The proposed well is to be located 2310 21 feet from the west line -- excuse me, 990 feet from the 22 south line of Section 1. 23 Green, I notice that on your July 0 Mr. 24 12th, 1989 letter you had a 660 from the south line loca-25 tion on that proposed well.

7 ۱ Since we --А 2 Would you explain that? Q 3 А Yes. Since we proposed the well we've 4 had to move the location because of a road. Our location 5 was located in the middle of a county road so we had a 6 topographical --7 Is this still a standard location? Q 8 А Yes, it is. 9 I also notice that Mr. Patrick Tower has 0 10 signed this letter which we have marked as Exhibit Number 11 Two. What relationship do you have to Mr. Tower? 12 А Mr. Tower is the other landman in the 13 Permian Basin District Office. He and I both work south-14 east New Mexico and Texas. We have a very small office. 15 We -- we work these prospects jointly and I am familiar 16 with the matters in this case and the negotiations have 17 been involving negotiations with the other parties. 18 Q Have you attended the meetings or been a 19 party to telephone conversations regarding seeking joinder 20 of this -- for drilling of this well? 21 А Yes, I have. 22 Let's go on now to Exhibit Number Three. Q 23 Now, attached to Exhibit Number Two are some mailing re-24 ceipts. What are those? 25 А This letter was sent out certified mail

8 1 and we have receipts on the back showing acknowledgment of 2 our well proposal from all the parties that the letter was 3 addressed to. 4 Now, let me back a minute before we move Q 5 You actually started seeking joinder on July 12th, on. 6 1989? 7 Yes. А 8 Q Okay. Can you briefly tell us what type 9 of efforts you have made since that time to seek voluntary 10 joinder? 11 А We have made a number of telephone 12 calls, contacts with their land personnel. We have had 13 joint meetings with Exxon and their land people proposing 14 the well, seeking to negotiate some sort of deal to get the 15 well drilled. 16 What is the status with each of these Q 17 individual companies and owners with regard to joinder? 18 As of yesterday afternoon we have verbal А 19 agreement with the landman that they -- that Exxon would 20 like to farmout. We have nothing in writing; we have no 21 management approval. It's we'll continue to negotiate with 22 Exxon in this matter. 23 How about with Phillips? Q 24 А Phillips, we're at the same -- same po-25 sition with Phillips as we are with Exxon. We'll continue

9 1 to negotiate. We can't a decision out of -- firm decision 2 with management approval out of either Exxon or Phillips. 3 Q Do you expect that you should be able to 4 reach some agreement within thirty days following this 5 hearing or the issuance of an order by the Division? 6 We certainly hope so. Α We intend to 7 continue that effort to negotiate with Exxon and with 8 Phillips. 9 Let's go on to Exhibit Number Three, Mr. Q 10 Green. Tell us what that is. 11 Exhibit Number Three is a letter dated А 12 July 19th, 1989, addressed to Mr. Patrick Tower. It basic-13 ally acknowledges receipt of our letter on our well 14 proposal and says that they will seek management approval 15 and ad-dressed us to contact, Mr. Doug Thomas with Exxon. 16 Q Is this -- is this the only correspon-17 dence you've received from Exxon? 18 This is the only correspondence we have А 19 received from Exxon, yes. 20 Q Now, are you aware that there has been 21 new correspondence that may have been transmitted through 22 Mr. Kellahin this morning? Are you aware of that? 23 No, I am not. А 24 MR. PADILLA: Let me hand you 25 what we have marked as Exhibit Three-A, Mr. Examiner.

10 1 Are you aware of that? Q 2 What is that? А 3 А I believe this is a letter, this is our 4 letter of July 12th. 5 Q Okay. 6 MR. PADILLA: Evidently, Mr. 7 Examiner, there has been some apparent agreement regarding 8 this, according to Mr. Kellahin this morning, but we're not 9 aware of whether any actual documents have been signed or 10 not, but they're close to signing, or at least agreeing on 11 principle on what (unclear). Mr. Kellahin may be able to 12 help us out on that further. But for purposes of this 13 hearing I'd still like to -- well, it's the same letter, 14 it's the July 12th letter, I think I'll just stick with our 15 Exhibit Number Three. 16 А Okay. 17 Q Let's move on to Exhibit Number Four, 18 Mr. Green, and tell us what that is. 19 Α Exhibit Number Four is a letter dated 20 August 24th sent out certified mail to all the leasehold 21 owners in the section notifying them of Santa Fe's applica-22 tion for the compulsory pooling hearing on September 20th. 23 Q Did that comply with the 20-day notice 24 rule of the Division? 25 Yes, it did. Attached to Exhibit Four А

11 1 are copies of our certified receipt mail acknowledging the 2 COD coverage. 3 Let's go on now to Exhibit Number Five Q 4 and please identify that, please. 5 Exhibit Number Five is a generalized А 6 well cost estimate for the drilling of the Malaga Fed Com 7 No. 1. It indicates a dry hole cost of \$892,899 with a 8 completed well cost of \$1,144,063. 9 Have any of the parties you seek to 0 10 force pool signed this AFE? 11 Yes, they have. UTI Energy Company, А 12 Richard K. Barr, and Scott Wilson have signed the AFE. 13 Mr. Green, has there been any problem Q 14 with regard to the well cost insofar as the AFE being at 15 issue with any of the parties? 16 No, there has not. А 17 What has been at issue with the parties Q 18 in your efforts to force pool the --19 The thing at issue is that we have not А 20 been able to get the parties, other than UTI, to make a 21 decision, election, one way or the other, to either join 22 us, to farmout, to --23 Mr. Green, is this AFE in your opinion a Q 24 reasonable estimate of the well costs? 25 А Yes, it is.

12 1 Have you used this type of AFE in the Q 2 immediate area of the -- of the well? 3 А Yes, we have. 4 Q Do you have anything further to add to 5 your testimony, Mr. Green? 6 No, I do not. А 7 MR. PADILLA: Mr. Examiner, we 8 tender the witness for cross examination and we offer 9 Exhibits One through Five. 10 MR. CATANACH: Exhibits One 11 through Five will be admitted as evidence. 12 Mr. Kellahin? 13 MR. KELLAHIN: Thank you, Mr. 14 Catanach. 15 16 CROSS EXAMINATION 17 BY MR. KELLAHIN: 18 Mr. Green, on your July 12th letter it Q 19 indicates that you've enclosed two AFE's to the various 20 working interest owners. Is that two copies of the same 21 AFE or is that two different AFE's? 22 А That's two copies of the same AFE. 23 And is that the same AFE that you've Q 24 shown as Exhibit Number Five for today's hearing? 25 Yes, sir, it is. А

13 1 Have you received any objection from any Q 2 party as to your AFE? 3 No, I have not. А 4 Within this immediate area, I think in Q 5 response to Mr. Padilla's question, you have indicated that 6 this was comparable to other well costs of wells to similar 7 depth either drilled by or participated in by your company? 8 А Yes, it is. 9 Can you identify those wells? Q 10 А The latest well we've drilled is called 11 the Salt Draw Federal 28 No. 1. It's located, I believe, 12 in 23, 27, drilled to a similar depth and similar cost. 13 That well is currently completing. 14 We have a well proposed which will be 15 spud in the next two weeks in Section 30, which is appro-16 ximately two miles to the north to a similar depth and 17 similar cost. 18 What is your anticipated spud date for Q 19 the Malaga Federal Com No. 1 Well? 20 Santa Fe would like to spud this well А 21 within 30 to 60 days. 22 Are you up against any lease expiration Q 23 deadlines or farmout commitments that require you to spud 24 the well within a certain period of time? 25 А Not at this time. We anticipate that we

14 1 will have some farmouts and we will have some spud date 2 obligations. 3 Currently what is the soonest expiring Q 4 spud date or lease termination date? 5 I believe 1991, Mr. Kellahin. Α I'm not 6 real sure of that but I think it's 1991. 7 The change in location necessitated be-Q 8 cause of the topography --9 А Topography. 10 Q -- and the relationship of this road, 11 the location from 660 to the south line to 990 from moves 12 the south line. 13 А Uh-huh. 14 Have you communicated that change in Q 15 location to the working interest owners? 16 А No, we have not. 17 Q When we look at the list of working in-18 terest owners to participate in the well, UTI, Mr. Barr and 19 Mr. Wilson have executed the AFE? 20 А Yes, they have. 21 Q Have they signed a joint operating 22 agreement yet? 23 А No, they have not. 24 Your understanding with those parties is Q 25 that they will participate in the well?

15 1 Yes, that's correct. А 2 Q The Phillips Petroleum Company interest, 3 have you offered them the same either farmout or partici-4 pation as you've shown in the July 12th letter? 5 Yes, sir, we have. А 6 And at this point they have not yet Q 7 committed to you on what they propose? 8 No, they have not. They have given us А 9 something, we will either join or farm out. That's as far 10 as they go. 11 The terms that you have proposed for a Q 12 farm out to Exxon are they the same terms that you have 13 proposed to Phillips as of this point? 14 Yes, sir. А 15 After the entry of a forced pooling Q 16 order, Mr. Green, is it your company's position that you 17 will continue to attempt to negotiate on a farmout basis 18 with Exxon or Phillips? 19 Yes, sir, that's always Santa Fe's А 20 policy, that we will continue to negotiate as long as we 21 can. 22 All right. That -- that is not neces-Q 23 sarily the position you could take in light of the order. 24 А No. 25 A forced pooling order would not have Q

16 1 that option in it, would it? 2 А No. It would not. 3 But you will commit on behalf of your Q 4 company to continue discussing the farmout with Exxon and 5 Phillips. 6 А True. 7 Q You're not simply withdrawing that as a 8 choice. 9 А No, certainly not. 10 MR. KELLAHIN: Thank you, Mr. 11 Examiner. 12 MR. PADILLA: Mr. Examiner, I 13 have a couple of other questions that I would like to ask. 14 15 REDIRECT EXAMINATION 16 BY MR. PADILLA: 17 Q Mr. Green, does Santa Fe desire to be 18 named the operator in the Division order? 19 А Yes, they do. 20 0 And do you have a recommendation as 21 to the overhead well cost for producing and drilling the 22 well? 23 Yes, we do. \$5000 for a drilling well Α 24 rate and \$500, producing well rate. 25 Are those -- how did you arrive at those Q

17 1 figures? 2 Those figures are derived from refer-А 3 ence to Ernst and Whinney based on the median for this 4 depth well in this area. 5 Q In your opinion are those charges 6 reasonable? 7 Yes, they are. А 8 MR. PADILLA: I have nothing 9 further, Mr. Examiner. 10 11 CROSS EXAMINATION 12 BY MR. CATANACH: 13 Mr. Green, I just want to go over the Q 14 ownership one more time. I missed some of those. 15 UTI, Richard Barr and Scott Wilson own 16 - -17 Jointly own 40 acres, being the south-А 18 west quarter of the southwest quarter of the section. 19 Q Southwest/southwest, and Phillips? 20 Phillips owns the northwest quarter of А 21 the southwest, 40 acres. 22 Exxon, 200 acres, being the southeast 23 quarter of Section 1 and the northeast of the southwest of 24 Section 1. 25 Santa Fe, 40 acres, being the southeast

18 1 and southwest quarters of Section 1. 2 Are the proposed overhead rates ones Q 3 that are being used by Santa Fe at this time in this area? 4 А Yes, they are. 5 Without any opposition from anybody, or Q 6 7 Yes, no problem. А 8 And I understand that you expect UTI, 0 9 Richard Barr and Scott Wilson to sign the joint operating 10 agreement --11 А Yes. 12 -- but they have not as of yet. Q 13 А They have not. It's a negotiated item 14 after the fact that the election is made and I believe last 15 Friday is when they made their election to participate. I 16 have not (not clearly understood.) 17 Q Mr. Green, did the notice that you sent 18 to the company of the compulsory pooling case, did that 19 still have the 660 from the south location? 20 А Yes, it did. 21 As far as you know there's no -- that's Q 22 not a point of contention or point of dispute with any of 23 these companies? 24 А No. I don't believe so. Ι don't 25 believe it affects the --

19 1 MR. CATANACH: That's all the 2 questions I have at this time. 3 The witness may be excused. 4 MR. PADILLA: Mr. Examiner, 5 we'll call Bob Seiler at this time. 6 7 BOB C. SEILER, 8 being called as a witness and being duly sworn upon his 9 oath, testified as follows, to-wit: 10 11 DIRECT EXAMINATION 12 BY MR. PADILLA: 13 Q Mr. Seiler, please state your full 14 name. 15 Robert Charles Seiler. А 16 Q Where do you live? 17 А Currently residing in Midland, Texas. 18 And do you work for Santa Fe Energy? Q 19 Yes, sir, I do. А 20 What do you do for Santa Fe Energy? Q 21 I'm a geologist. Title is Senior Staff А 22 Geologist. 23 Q Mr. Seiler, have you previously testi-24 fied before the Oil Conservation Division? 25 No, sir, not in New Mexico. А

20 1 Have you testified before other regula-Q 2 tory -- oil and gas regulatory agencies? 3 Yes, I have, in Oklahoma and also in А 4 Texas. 5 As a geologist? Q 6 А As a geologist. 7 Can you tell the Examiner what your edu-Q 8 cational background in geology is? 9 I have both a Bachelor's and a Master's А 10 degree in geology from the State University of New York, 11 1969 and 1970, respectively. 12 What is your experience in the oil and Q 13 gas industry as a geologist? 14 А I have about approximately 19-1/2 years 15 in the oil industry as an exploration geologist; 11 years 16 with Atlantic Richfield Company; 1-1/2 years with OMNI 17 Exploration; and then the last 7 years with Santa Fe 18 Energy. 19 Q Mr. Seiler, have you made a study of the 20 south half of Section 1 which is under consideration today 21 and as to the geology? 22 Α Yes, I have. 23 MR. PADILLA: Mr. Examiner, we 24 tender Mr. Seiler as an expert petroleum geologist. 25 MR. CATANACH: He is so qual-

21 1 fied. 2 Q Mr. Seiler, let's go on to what we have 3 marked as Exhibit Number Six and have you identify that and 4 tell the Examiner what it contains. 5 Okay. Exhibit Six is a -- labeled a А 6 Production and Depth of Penetration Map. This map, by vir-7 tue of symbols and colors, demonstrates for the wells 8 drilled in the area of this plat, their depth at the forma-9 tion, their total depth, and also the producing horizon for 10 those wells that are producing. 11 Also on it is indicated a red square, 12 which is highlighting our proposed location as Mr. Green 13 identified as being 2310 from the west line, 990 from the 14 south line of Section 1 of 24 South, 28 East. 15 There is also a dashed line on there 16 labeled A-A', which is the line of section for a cross 17 section which will be the next exhibit that we'd like to 18 look at. 19 Q Are you ready to go on to Exhibit Num-20 ber Seven? 21 А One other thing I perhaps might point 22 out on this one is also indicated for the gas wells on Ex-23 hibit Six is the -- some -- some information. Basically 24 the first is a date, being the date of first production for 25 these wells, each well. Cum production through March of

22 1 '89 and then the last entry for March of '89 is the last 2 month -- or daily, excuse me, daily average production for 3 that well in the month of March. 4 0 Okay. Let's go on to your Number Seven 5 now. 6 А Okay. Number Seven is the stratigraphic 7 section A-A' that I made reference, line of section cross 8 being shown on Number Six. 9 is a cross section that is high-It 10 lighting the objective horizons, being primarily the Atoka. 11 It's labeled Atoka Clastics. These zones are labeled Atoka 12 AC sand and AD sand, these two being our primary objectives 13 and then, additionally, there is a dark blue zone called 14 the Atoka limestone bank, which is considered a secondary 15 objective for this -- for the drilling of this well, and 16 then there is a deeper zone down in -- below a purple line 17 that's identified as the top of the Lower Atoka. This sand 18 is labeled the AE sand, which is also a secondary objective 19 for this well, for our proposed well. 20 The three wells that are highlighted 21 on here, being the Coquina Vasquez in Section 11, the 22 Fortson, Eastland Fortson Well in Section 12, and the Getty 23 Harroun Well in Section 6, have shown the DST'd intervals 24 and the perforations where these wells are currently pro-25 ducing.

23 ۱ The Coquina Vasquez is producing from 2 the both the AC and the AD. 3 Eastland Fortson Well is producing The 4 from the AC, and the Getty Well is producing from that 5 deeper AE sand that I made reference to. 6 Mr. Seiler, I notice that it appears 0 7 that the AC and the AD sands are not continuous through 8 that cross section, is that --9 That's particularly true for the AD Α 10 sand. It's very erratic and is highlighted on a sand iso-11 pach that we'll see in a minute. 12 The AC sand does make it across this 13 particular line of Section but does thicken and thin quite 14 dramatically, where it's extremely thin, for instance, in 15 Section 6, it is nonproductive, non-reservoir quality. 16 Q Will your isopachs show in greater de-17 tail how the sands are laid out? 18 Yes, they will, show the areal distri-А 19 bution. 20 Okay, let's go on to your Exhibit Number 0 21 Eight and have you identify that. 22 А Okay. Number Eight is a structure map 23 that is constructed on the top of the Lower Atoka, as 24 identified on the cross section, Exhibit Seven. The map 25 indicates a general easterly dip, east/southeast dip, per-

1 haps, at the rate of about 100 to 200 feet per mile, being 2 1 to 2 degrees dip, with minor nosing involved. Also 3 shown on here, highlighted in -- on this map in purple, are 4 the wells that produced somewhere in the Atoka section. 5 Additionally shown, of course, are the proposed location, 6 line of cross section and the proration unit that we the 7 recommend in the south half of Section 1. 8 Anything on this exhibit? Q 9 А let's go on to Number Nine, Okay, 10 please. 11 Q Number Nine is an isopach map of the 12 Atoka AC sand as identified on the cross section, Exhibit 13 Seven. 14 We see this sand developed in several 15 area with varying thicknesses. We envision wells in the 16 this sand as being a bar oriented sand trending from the 17 northeast to the southwest. The sand does produce, as I 18 indicated, in the two wells on our cross section, being the 19 well in the east half of Section 11 and the well to the 20 south of us in Section 12, but this particular sand does 21 not produce in Section immediately to the east as shown on 22 the cross section for reasons of thinning and the non-23 reservoir quality. 24 We project this sand to be in the range 25 of 14 feet thick at our proposed location.

25 1 0 Are you ready for Number Ten? 2 Yes, sir. А 3 Okay, let's identify that and tell us 0 4 what it contains. 5 А Ten is also an isopach map, a sand iso-6 pach map, this one being of the Atoka AD sand. This sand 7 is quite different in alignment, if you will. We envision 8 this one as, rather than a bar sand, a fluvial sand that is 9 oriented more north/south, very erratic in its areal dis-10 tribution, as indicated also on the cross section. 11 The sand is very thin to the south of 12 us, two feet; however, it is -- excuse me, it is not pro-13 ducing to the south, that's AC. It should not be colored 14 purple; just picked up on that, and --15 Q Which? Which should not be colored 16 purple? 17 А I'm sorry, the well in the north half of 18 Section 12 on Exhibit Ten is -- pardon me, a mistake, I'm 19 sorry. The mistake is not on the isopach map but rather I 20 failed to get the perforations on the isopach on the cross 21 section. 22 Back on Exhibit Seven there should be 23 shown a set of perforations in the AD sand and indeed it 24 does produce out of that 2 feet. It produces both from the 25 AD and the AC. I'm sorry for the confusion. Anyway, we

1 have a north/south distribution pattern. We believe this 2 should be present in our proposed -- at our proposed sand 3 location in approximately 15 feet of thickness. 4 Q Is that all we have on Exhibit Number 5 Ten? 6 Yes, sir. А 7 0 Let's go on to Exhibit Number Eleven and 8 tell the Examiner what that is and what it contains. 9 Δ Eleven is a third isopach map, this one 10 being of the Atoka limestone bank, that horizon being iden-11 tified on the cross section, Exhibit Seven. The bank there 12 being colored in dark blue on the cross section exists in 13 all the wells on this mapped -- in this mapped area; how-14 ever it is not productive in any of these wells with the 15 exception of the well in the south half of Section 7, 24 16 North, 29 East -- excuse me, 24 South -- that's Oklahoma --17 24 South, 29 East. The one well down there has 16 feet of 18 bank and does produce from the bank. We project this 19 thicker interval to extend to the northwest in the general 20 vicinity of our proposed location and therefor view this a 21 secondary objective. It's certainly not one we would drill 22 for on its own. 23 Q Mr. Seiler, in terms of your proposed 24 location, can you sum up what your geological testimony has 25 been today in terms of risk?

1 А Okay. Relative to the risk we basically 2 are drilling a well that does have production in the vicin-3 ity; however, the production is, from stratigraphic reser-4 voirs, stratigraphically trapped reservoirs, and these are 5 very erratic in nature and somewhat difficult to predict. 6 The maps show, of course, that it appears to be prospective 7 or otherwise we wouldn't be drilling it, but indeed a de-8 gree of optimism was used in the generation of these maps, 9 as one has to, to develop these locations many times, so we 10 feel as though there is geologic risk, although it is a 11 viable prospect and one that Santa Fe wishes to drill. 12 Do you have a recommendation as to the 0 13 risk factor to be imposed against any nonconsenting inter-14 est owner? 15 A Are you referring to penalty to be --16 Q Yes. 17 А Yes, I do. I strongly believe that with 18 Fe carrying the risk of stratigraphically encounter-Santa 19 ing these objectives number one and number two, the drill-20 ing risks involved with drilling into the Atoka with the 21 higher pressures, and all, I believe that a 200 percent 22 penalty above costs is certainly warranted in this case. 23 Q I take that to mean 200 percent plus --24 the maximum penalty, in other words. 25 А Maximum, yes, as I understand, maximum.

28 1 Mr. Seiler, would approval of this ap-0 2 plication be in the best interest of conservation of oil 3 and gas and the protection of correlative rights? 4 Yes, sir. Α 5 MR. PADILLA: Mr. Examiner, we 6 offer Exhibits Six through Eleven and we pass the witness. 7 MR. CATANACH: Exhibits Six 8 through Eleven will be admitted as evidence. 9 Mr. Kellahin? 10 MR. KELLAHIN: Thank you, Mr. 11 Examiner. 12 13 CROSS EXAMINATION 14 BY MR. KELLAHIN: 15 Mr. Seiler, if this is a stratigraphi-Q 16 cally controlled play in the Atoka, then am I correct in 17 concluding that there is no structural significance to the 18 location of your well in the south half of Section Number 19 1? 20 A That's correct. For these as projected, 21 that's correct. 22 The stratigraphic -- the structure as Q 23 shown on Exhibit Number Eight, if you were looking at a 24 structural advantage, then, you would want to be over in 25 that southeast of the southeast or at least at a higher

29 1 structural position in the reservoir if it was structur-2 ally controlled. 3 А Well, if you wanted to be higher, I 4 think you'd be in the north of --5 Q I'm sorry, I just got it backwards. 6 А Okay. 7 Q Then the northwest of the northwest --8 А Northwest. 9 -- would be the highest point in the Q 10 structure. 11 On our unit north -- the northwest of А 12 southeast, excuse me, northwest of the southwest would the 13 be the higher on our 40 acres, yes, sir. 14 When we look at the stratigraphic cross Q 15 section --16 Yes, sir. А 17 -- and at your proposed location --Q 18 Yes, sir. А 19 А -- would you rate your potential forma-20 tions for me, starting with that formation that you in your 21 geologic opinion believe is the most likely to be produc-22 tive? 23 А Really it's guite close as to which 24 would be the most favorable here, the AC or the AD. I'd 25 probably want to rate those pretty evenly in this case.

30 1 And then the Atoka limestone bank would 2 be a weak secondary objective, as would the AE sand which 3 is not present in any of the other wells in this area, so 4 I'd have to say that's extremely risky for the last one 5 down, AE. 6 Q So we see any opportunity for a Lower 7 Atoka other than the AE sand that's shown on the Getty 8 Well? 9 А If it's there, it would sure be a sur-10 prise. 11 And how about the Strawn formation? Q 12 А The Strawn, there's one well on the --13 on Exhibit Six that produces way up there in Section 26 of 14 23, 28, that's been a good Strawn well but it's virtually 15 surrounded by penetrations that have gone through the 16 Strawn and none of those have proved to be productive, so I 17 would say that it also would be an extremely weak second-18 ary potential and high risk, if you will. 19 Q How about the opportunity for any hydro-20 carbon production above the top of the Wolfcamp? 21 А Yes, there is -- there is some possibi-22 lities there. We do have some shallow, shallow production 23 but very risky and not given a lot of consideration in this 24 proposal. 25 Q On your Exhibit Number Six I see the

31 1 Delaware production off into the southeast in Section 2 Number 7. Is that oil production in the Delaware? 3 А Yes, it is, old production and some of 4 it already plugged out. 5 Q All right, that's oil production, 6 though. 7 Yes, sir, it is oil. А 8 In the Bone Spring in Section 12, there Q 9 is an old well in there that has cumed 38-million MCF and 10 that has been plugged in the Bone Spring? 11 А I'm sorry, that note, that 38-million 12 applies to the red in the well to the south of it; that's 13 from the Morrow in that well in the southwest of Section 14 12, and then the note below that, the 687 applies to the 15 purple, being the Atoka. I do not have oil production 16 posted on this map. This is just gas. 17 All right. In evaluating the south half Q 18 of Section 1 you were trying to find a location that gave 19 you the greatest thickness in each of these three major 20 zones, is it not, Mr. Seiler? 21 А Yes. Well, the two major, the AC and 22 the AD, primarily, and then the others are secondary, of 23 course. 24 All right, so -- so when I look at your Q 25 interpretation, you're attempting to intersect the greatest

1 thickness of sand in the AD as well as the AC?

Yes, sir. 2 А And we, as you can tell, we had to compromise a little bit. If you wanted to be 3 4 thicker in the AC you would move back to the west. If you wanted to be thicker in the AD you'd move more to the east. 5 And when the road came into this as a 6 7 consideration, we had to compromise and go with our chosen proposed location. 8

9 Q Would it diminish your risk in the
10 spacing unit if you moved your well location north so that
11 you were 660 from the north boundary of your spacing unit?

12 A Well, I tell you, the -- yes, I think it 13 would in that we've got the Atoka production to the south 14 of us in the north half of 12 and the further away we move 15 in a northerly direction, I think you'd have to increase 16 your risk in the AC and in the AD sand.

17 Q If we look at your map, your geologic
18 interpretation and your mapping of the Atoka AD and the
19 Atoka AC --

A Yes, sir.

А

21 Q Without placing -- playing closeology on
22 the well in the north half of 12, then, you would move to a
23 greater thickness in both of those isopachs if you moved to
24 the north.

25

20

I agree with that, yes, sir.

1 Q Okay. But -- but you were influenced by 2 the existence of the Atoka production in the well in the 3 north half of 12 and therefor decided not to move to the 4 north? 5 Correct. А 6 When we look at the Atoka limestone bank Ο 7 isopach, the greatest thickness on that isopach would be in 8 the southeast guarter of that display, would it not? 9 А In Section 1, yes, sir. 10 All right. Why have you chosen not to 0 11 move over into the southeast quarter to take advantage of 12 the greater thickness in the Atoka limestone? 13 А Well, pretty much as I've indicated, the 14 development of porosity within the Atoka Bank, development 15 of reservoir quality in the Atoka Bank is highly unpre-16 dictable and we consider that a very secondary objective 17 and we did not lean on that one. We leaned on the AC and 18 the AD in choosing our location. 19 Thank you, Mr. Seiler. Q 20 MR. KELLAHIN: No further 21 questions. 22 23 CROSS EXAMINATION 24 BY MR. CATANACH: 25 Q Mr. Seiler, besides the Atoka, which is

۱ the primary objective, are there other secondary objec-2 tives in this well? 3 In our evaluation, in our economics, we Δ 4 gave no value or no weight to any others. There's, of 5 course, always the serendipity factor, if you will, when 6 there are, as you can tell from Exhibit Six, there are 7 numerous other producing horizons above this that one could 8 encounter, so I'd have to answer, yes, there could be some 9 additional objectives, but we, as I say, have not put great 10 emphasis on those in making this recommendation. 11 MR. CATANACH: The advertise-12 ment of the case, and I'm not sure how this came about, 13 only lists "seeks an order pooling all mineral interests in 14 the Malaga Atoka Gas Pool" and it doesn't have any other 15 formations listed as being -- seeking to pool. This may be 16 a problem if you do in fact complete in another zone. One 17 of the options may be to readvertise the case in standard 18 language or proceed the way it stands. 19 MR. PADILLA: I'll have to 20 defer to my expert witness, Mr. Examiner. 21 А I'm not sure how this would work out. 22 Certainly -- I think our advertisement or notification 23 there covered what we felt to be the primary objectives but 24 I can't deny that there is a possibility of both poten-25 tials.

MR. PADILLA: Mr. Examiner, I think in the interest of time we would just simply prefer to leave it the way it's been advertised and we could always come back and amend the application should that be necessary if something else is encountered. MR. CATANACH: Okay, we'll do it that way. And I have no further ques-tions of the witness. Is there anything further in this case? If not, Case 9760 will be taken under advisement. (Hearing concluded.)

CERTIFICATE I, SALLY W. BOYD, C. S. R. DO HEREBY CERTIFY that 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 COR I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9740 heard by me on Sector to 20 19 Fr. ita. _, Examiner **Oil Conservation Division**