NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE , NEW MEXICO

Hearing Date

Time: 8:15 A.M. JULY 9, 1986

REPRESENTING LOCATION NAME Bob Hulen Byan San Baul M. Burchell El Paro Matural San C. El Enerst Seption State Land Office Sant Santa Fz Praille + Sayar BCO Anc. Santa Fe Smith Le 1. McCan

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STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT 1 OIL CONSERVATION DIVISION STATE LAND OFFICE BUILDING 2 SANTA FE, NEW MEXICO 3 9 July 1986 4 5 EXAMINER HEARING 6 7 8 IN THE MATTER OF: 9 Application of Amstar Energy Corpor-CASE ation for salt water disposal, Lea 8934 10 County, New Mexico. 11 12 13 14 BEFORE: David R. Catanach, Examiner 15 16 17 TRANSCRIPT OF HEARING 18 19 APPEARANCES 20 For the Oil Conservation Jeff Taylor 21 Division: Attorney at Law Legal Counsel to the Division 22 State Land Office Bldg. Santa Fe, New Mexico 87501 23 For the Applicant: Ernest L. Padilla 24 Attorney at Law PADILLA & SNYDER 25 P. O. Box 2523 Santa Fe, New Mexico 87501

INDEX GILBERT P. QUINTANA Direct Examination by Mr. Padilla Cross Examination by Mr. Catanach Cross Examination by Mr. Taylor Recross Examination by Mr. Catanach EXHIBITS Amstar Exhibit One, C-108 Amstar Exhibit Two, Schematic Amstar Exhibit Three, Schematic Amstar Exhibit Four, Map Amstar Exhibit Five, Plat Amstar Exhibit Six, Contour Map Amstar Exhibit Seven, Plat Amstar Exhibit Eight, Return Receipts

3 1 2 MR. CATANACH: We'll call next 3 Case 8934. 4 MR. TAYLOR: Application of Am-5 star Energy Corporation for salt water disposal, Lea County, 6 New Mexico. 7 MR. CATANACH: Are there ap-8 pearances in this case? 9 MR. PADILLA: Mr. Examiner, Er-10 nest L. Padilla, Santa Fe, New Mexico, appearing for the ap-11 plicant in this case. 12 I have one witness to be sworn. 13 MR. CATANACE: Are there other 14 appearances in this case? 15 Will the witness please stand 16 and be sworn in? 17 18 (Witness sworn.) 19 20 GILBERT P. QUINTANA, 21 being called as a witness and being duly sworn upon his 22 oath, testified as follows, to-wit: 23 24 25

4 1 2 DIRECT EXAMINATION 3 BY MR. PADILLA: 4 Mr. Quintana, would you please state your Ö 5 name and what your connection to the applicant is? 6 My name is Gilbert P. Quintana and I've Ά 7 been hired by the applicant to do work, consulting work in 8 regulatory affairs. 9 Quintana, have you previously testi-Mr. C 10 fied before the Oil Conservation Division? 11 А Yes, I have. 12 Q Can you briefly tell us what your work 13 experience is? Tell us first of all in what connection you 14 testified before the Oil Conservation Division before. 15 I've testified before the Oil Conserva-A 16 tion Division in matters dealing with allowables mainly. 17 What's your educational background? O18 А I have a BS degree in chemical engineer-19 ing from New Mexico State University and I graduated from 20 New Mexico State University in the fall of 1979. 21 0 What's your work experience in the oil 22 and gas industry? 23 A After graduating from New Mexico State in 24 1979 I went to work for Amoco Production. I worked for Amo-25 co Production approximately a year and a half in West Texas

5 1 a production engineer over two large waterflood fields 2.5 2 that were in the process of secondary recovery operations, 3 which includes injection of water into the reservoir. 4 After a year and a half working there in 5 Houston -- West Texas, I was transferred to Houston and 6 worked as a reservoir engineer dealing with matters with in-7 fill studies, things of that matter. 8 What -- what other work experience do you 0 9 have? 10 I worked for the Oil Conservation Divi-Ά 11 sion for a little under three years as an engineer and also 12 as a hearing examiner. 13 In that capacity did you have occasion to 0 14 work with and regulate salt water disposal applications? 15 Yes, many times, both administrative and А 16 at hearings. 17 Are you familiar with the applicant of 0 18 Amstar Energy Corporation? 19 Yes, I am. λ 20 Are you familiar with the proposed injec-0 21 tion program and the proposed injection zones? 22 Α Yes, sir, I am. 23 MR. PADILLA: Mr. Examiner, we 24 tender Mr. Quintana as an expert in connection with testi-25 mony here today.

б MR. CATANACH: Mr. Quintana is 1 so qualified. 2 Mr. Quintana, let's go on now to -- let's 0 3 go on now to what we have marked as -- well, we haven't 4 marked them yet. 5 Examiner, may we mark these at Mr. a 6 later time for --7 MR. CATANACH: Yes. 8 Let's go on now to what you have Q Okay. 9 -- what we will be marking as Exhibit Number One and have 10 you describe and identify that for the examiner. 11 Exhibit One is the standard Oil Conserva-Α 12 tion Division C-108 form, along with attached, four pages 13 attached to it, which identify each of the questions in the 14 C-108 form in detail. 15 What is the second part to that exhibit? 0 16 Α The second part to Exhibit -- Amstar Ex-17 hibit One is my detailed review and answers to the questions 18 and to the C-108 form. 19 And that coincides with the exhibits that Q 20 you have prepared for introduction here today? 21 they coincide with the additional А Yes, 22 exhibits that have been attached to the C-108 form. 23 Okay, let's go on now and have you de-0 24 scribe that second part of Exhibit Number One and start out 25

1 with part number one and tell us what that is or what it
2 says.

3 Okay. Part one asks what's the reason Α 4 for -- for the application. The reason for it is to apply 5 for a salt water disposal well. The reason we're here at 6 hearing today instead of having it approved administratively 7 is because there's an OCD rule that states that the applica-8 tion has to go to hearing if there's production within a 9 half mile radius of the proposed injection well, and which 10 there is.

II Q Okay, let's go on now to what you have marked Exhibit Number Two and Number Three, or what we will be marking as Exhibit Number Two and Number Three, and tell us what they are.

15 A Okay, Exhibit Number Two is Amstar's
16 wellbore schematic of the current status of the -- of the
17 proposed injection well.

18 Exhibit Number Three is the proposed in-19 jection as we plan to inject in.

20 Let me start with Amstar Exhibit Number
21 Two, the wellbore schematic under its current status.
22 You'll notice the well was initially cased with 13-3/8ths
23 inch surface casing set at 500 feet with 530 sacks of cement
24 and was circulated to surface.

25

The intermediate casing of 8-5/8ths inch

8 1 was set at 4400 feet with 470 sacks of cement with a top of 2 the cement at 2580 feet. This is an estimate based on a 3 volumetric calculation. 4 The long string 5-1/2 inch casing was set 5 feet with 1100 sacks cement and the top of at 13,618 the 6 is 9,500 feet and this is also a volumetric casing 7 estimation. 8 You'll notice from this currently the 9 well has a 2-7/8 ths inch coated tubing set at a depth of 10 10,797 feet. It has perforations open in two formations, 11 one in the Airstrip Wolfcamp Pool, 10,860 feet to 10,872 12 feet; from 10,875 feet to 10,882 feet; from 10,888 feet to 13 10,893 feet; and from 10,896 feet to 10,904 feet. 14 The well also has a cement bridge plug at 15 11,460 feet -- no, excuse me, 11,500 feet, with -- with 400 16 -- with 20 feet of cement on top of that as a cap. 17 Right below that bridge plug we have some 18 additional Airstrip Wolfcamp perfs open from 11,771 Feet to 19 11,780 feet; from 11,632 feet to 11,649 feet; and from 20 11,661 feet to 11,669 feet. 21 As you go further down the wellbore you 22 have an additional cement bridge plug at 12,350 feet with a 23 20-foot cement cap on top of that. 24 Further down the wellbore we have Morrow 25 perfs open from 13,238 feet to 13,250 feet.

9 1 And toward the bottom of the well you 2 have a plug set at 13,400 feet. 3 You also have some -- some Morrow perfs 4 open on the very bottom but they seem to have been cemented 5 in when that plug was placed there, so those perfs were at 6 13,496 feet to 13,508, and from 13,520 feet to 13,534 feet. 7 0 Go on now to Exhibit Number Three, Mr. 8 Ouintana, and does that show your proposed injection 9 intervals? 10 Yes, it doess. А 11 What are those intervals? Q 12 А I would like to point out, this well --13 at this time, Mr. Examiner, I would like to make a change 14 from our original application and ask that a change be 15 included into this application. I'd like to include the 16 Devonian formation as part of the injection interval and let 17 me get to that portion in just a second here. 18 What we plan to do is we plan to drill 19 through all the cement bridge plugs, clean out to bottom of 20 the well, and drill additional number of footage to a total 21 depth of 14,500 feet, no, excuse me, 14,800, opening up the 22 Devonian formation. 23 We plan to keep the perforations that I 24 mentioned previously open and to open hole complete the 25 Devonian formation for 13,618 feet to 14,800 feet.

10 ١ I would like to also point out the injec-2 tion zone incorporates the Wolfcamp formation, the Penn for-3 mation, Strawn formation, Atoka formation, Morrow formation, 4 and, of course the Devonian. 5 At this time we anticipate only injecting 6 to Wolfcamp, the Morrow, and the Devonian formations. 7 That's because we think those are the formations that will take the most water. 8 9 0 Mr. Quintana, in view of your amendment with respect to the Devonian, would you be opposed to a re-10 11 advertisement of this case to include the Devonian? 12 Α I wouldn't be opposed to readvertisement light of the fact that after a study of the 13 but in area 14 there is no producing Devonian wells within two miles of the 15 -- of our proposed well. 16 I would hope that the Examiner may con-17 sider accepting the Devonian formation and including it in 18 this current application as of today. 19 And at a later date I'll show you that 20 there are no Devonian completions within two miles. 21 Quintana, do you have any further Q Mr. 22 testimony with respect to Exhibits Number Two or Three? 23 Α Yes, I do on Number Three. I'd like to 24 out that we plan to inject with 2-7/8ths inch tubing point 25 with a 5-1/2 inch nickel plated Loc Set packer set at 10,747

11 1 This is approximately 100-foot above the Wolfcamp, feet. 2 the top of the Wolfcamp formation, with the tubing, the bot-3 tom of the tubing set at the Wolfcamp formation, at the top, 4 right at the top of the Wolfcamp formation. 5 that's all I have on these two exhi-And 6 bits. 7 Q Okay, let's go on to Exhibit Number Four 8 and tell us what that will be. 9 Ά Exhibit Number Four is an area review map 10 of the location. In this area review map we have a two-mile 11 radius circle around the well; a one-mile radius circle, and 12 a half-mile radius circle. 13 In this map we have we show has producing 14 wells within the miles that -- the wells that are producing 15 within two miles and their Wolfcamp and Morrow formations. 16 We also show the proposed well and some fresh water wells. 17 I would like to point out here that we 18 have no wells within the area of review in which to provide 19 detailed information on specific wells. This is a good 20 in the favor of Amstar in the sense that no wells paint 21 within the half mile radius is a good indicator as to 22 it will affect other wells or would pollute fresh whether 23 water sources, because there are no means within a half mile 24 to get a fresh water source through an ill-plugged well or 25 things of that sort, and the chances of polluting fresh

water sources are pretty insignificant. 1 Also it should be noted that production 2 within this area is limited to areas far away from the pro-3 4 posed injection well. Now at this time I would like 5 to just 6 confine my statements to that until I get to the rest of my testimony. 7 Okay, let's go on to Exhibit Number Five Q 8 and have you identify that and tell us what it is. 9 Exhibit Number Five is an area producing 10 Α pool -- is a, excuse me, Exhibit -- Amstar Exhibit Number 11 Five is entitled Area Producing Pool Boundaries and it shows 12 three producing pool boundaries within the area that the 13 14 well has to be utilized. The three pools are the Airstrip Wolfcamp 15 16 Pool, the Larika (sic) Morrow Gas Pool, and the East Larika (sic) Morrow Gas Pool. 17 should be noted that the East Larika 18 It 19 (sic) Morrow Gas Pool in Sections 4 and Section 33 of Town-20 ship 18 South, 34 East, and 18 South 35 East, barely incor-21 porate within the half mile radius of the well so we are 22 principally talking about the Larika Morrow Gas Pool and the 23 Wolfcamp Airstrip Wolfcamp Pool. 24 Quintana, what are the proposed in-Mr. Q 25 jection rates that are anticipated for the injection well?

13 1 The proposed injection rate for this well А 2 is kind of an average of one barrel per minute and a maximum 3 4.5 barrels per minute. 4 What kind of volumes do you intend to in-Q 5 ject? 6 А We're hoping for an average of 1450 bar-7 rels per day with a maximum of 2000 barrels per day. When I 8 is we anticipate these averages to be as of an say hoping, 9 economic cutoff point for -- for receiving a fair rate of 10 return on investment into the well. 11 0 Is this well going to be used for commer-12 cial purposes? 13 Α it is. We plan to open it for com-Yes, 14 mercial means to people that we enter into contracts with to 15 dispose of their produced water. 16 By this I mean it will be an open system, 17 and it's open to anybody that contracts with us. There'll 18 be a meter at the wellsite and an injection valve in which 19 the people will be able to go over there and connect up 20 their -- their tanker truck with a key that has access to 21 -- to the system and the volumes will be measured the as 22 they dispose of the water down in the system. 23 Mr. Quintana, does Amstar intend to use 0 24 this well for its own injection, as well? 25 Α No. Amstar at this time is not involved

in the production of oil and gas. They're mainly 1 in the business of salt water disposal wells. 2 3 Tell us about how the application would 0 4 conform to the OCD policy of .2 psi per foot of depth as far 5 as pressure is concerned. 6 А Currently we anticipate the well to take 7 under a vacuum and we're hoping that that's going to water 8 be the case because it will definitely cut down on expenses 9 in having to pump it in. 10 Assuming you had to pump it in, 0 what 11 would be the maximum pressure under that policy guideline? 12 A Well, we would ask for 2172 psi and this is based on the OCD's standard of .2 psi per foot of depth 13 14 to the uppermost injectin perforation. In this case the up-15 permost injection perforation is 10,860 feet. You multiply 16 that times .2 psi per foot you get 2,172 psi. That would be 17 acceptable to us. 18 I'd like to point out that we don't anti-19 cipate having to inject under pressure. This is something 20 that I would like to point out to the Examiner is important 21 in the sense, since we're not injecting under pressure, and 22 since it would be taken under a vacuum, that's another indi-23 cation that injection into this well would not adversely af-24 fect fresh water sources or any producing wells within a 25 two-mile area, since taken under a vacuum there's a large

15 1 void space there. It's evident that there'd be a large void 2 space there in order for it to -- the formations to accept 3 the water. No pressure would be applied so there would be 4 no frac pressure, no fracing the formation out toward other 5 wells, watering out gas wells or oil wells. 6 Ouintana, tell us about the water Q Mr. 7 quality in the Morrow or the injectin intervals. 8 Do you mean -- are you asking about А com-9 patibility of the formations? 10 Yes. 0 11 Well, we don't anticipate any problems Α 12 with compatibility since we plan to dispose of waters from 13 the area -- within the area of this well, and primarily that 14 would be Wolfcamp, Morrow, and Bone Springs producers. 15 Chlorides for the Wolfcamp and Morrow 16 formations are -- range from for the Wolfcamp between 58,000 17 to 120,000 parts per million and for the Morrow approximate-18 ly 33,000 parts per million. This is based on USGS Basin 19 Report 75-579, entitled Water Quality of Oil and gas Wells 20 in the Permian Basin. 21 Since the produced waters, and the injec-22 ted waters are going to be of the same type, they we don't 23 anticipate any compatible problems. 24 0 Mr. Quintana, is that report that you 25 cite in the Part Seven of Reliable Reporter? (sic)

16 1 Yes, it's generally used by many people А 2 in the oil and gas industry in order to determine what the 3 chloride content or the salinity or the potability of waters 4 in the area. 5 Can you tell us a little bit now about 0 6 the geologic formations for the producing or the injection 7 intervals? 8 We'll start with the Wolfcamp formation. Α 9 The Wolfcamp formation in the subject 10 well is encountered at 10,847 feet. This is based on the 11 log for that well and it has been previously submitted to 12 the OCD. 13 That's a -6859 foot subsea depth. The 14 approximate thickness of the formation is 728 feet. 15 The Wolfcamp formation in this area con-16 sists of a thin-bedded dolomite shale and sandstone under-17 lain by a carbonate bank of low porosity, approximately 2 18 to 3 percent, gradient to an argillite and dolomite shales. 19 Going on to the Penn formation, the Penn 20 formation in this well is -- occurs at 11,862 feet, which is 21 -7874 subsea depth, and the approximate thickness of the 22 Penn formation is 318 feet. 23 The Penn formation consists of shales and 24 thin, inter-bedded dolomite and clay grading to thin argil 25 laceous limestone.

17 1 Going on to the Strawn formation, the 2 Strawn formation occurs at 12,180 feet in this well, which 3 is a -8192 foot subsea depth. The Strawn formation is ap-4 proximately 302 feet thick in this area. 5 It consists of argillaceous limestone and 6 shale at the top and grading down to a massive limestone at 7 the base with a porosity of 2-3 percent. 8 Going on to the Atoka formation, the Ato-9 ka formation occurs at approximately 12,482 feet, which is a 10 subsea depth of -8494 feet and the Atoka formation is appro-11 ximately 538 feet thick. It consists of thin-bedded shales 12 and limestone with some dolomitic shale stone (sic) at the 13 The mid-Atoka is characterized by massive shale gradtop. 14 ing into a massive carbonate. Its porosity is approximately 15 2-3 percent. 16 Going on to the Morrow formation, the 17 Morrow formation top occurs at 12,844 feet, which is -8856 18 foot subsea, and the Morrow formation is approximately 504 19 feet thick. 20 It consists of limestone and thin shales 21 -- and thin inter-bedded shales and sands. 22 And the Devonian formation top occurs ap-23 proximately at 15,500 foot, which is -10,512 feet subsea 24 depth. 25 This is an anticipated depth in which we

18 1 would expect to encounter the Devonian formation and this 2 was derived from an offset well, approximately two miles 3 away, a little over two miles away. 4 We expect it to -- we expect to encounter 5 the Devonian formation at approximately 14,500 feet, and the 6 thickness of the Devonian formation we expect to be about 2-7 300 feet thick. 8 Where are the fresh water sources encoun-0 9 tered in the wellbore? 10 The fresh water sources for this Α area 11 consist of only one fresh water source, which is the Ogalla-12 The base of this formation can be found at la formation. 13 approximately 180 foot and which was confirmed by Jim 14 Wright, the District Engineer for the New Mexico State En-15 gineer's office in Roswell. 16 Also encountered in this area is the San-17 ta Rosa formation, which sometimes bears fresh water, but 18 according to Jim Wright the Santa Rosa formation in this 19 area is not potable; it is salt-bearing. 20 Where are the fresh water wells located? Q 21 I believe you've already testified about that. 22 if you take a look at the area re-А Yes, 23 view map, which is Amstar Exhibit Number Four, there are ac-24 tually four wells within two miles but since the rules only 25 require to list two, well number one and well number two,

which are located, okay, the first well, fresh water well 1 number one is a domestic well and it's located in the north-2 east quarter of Section 35, Township 18 South, Range 34 3 It is completed in the Ogallala and the State 4 East. Engineer's office doesn't have any information on this well, 5 except for the fact that they tested it at 21 parts per mil-6 lion chloride in July of 1984. 7 The second fresh water well was drilled

The second fresh water well was drilled by Mesa Petroleum as a drilling fluid water supply well. It is located in the northwest quarter of Section 35, Township 18 South, Range 34 East. It is completed in the Ogallala to a TD of 180 foot; perforated at 119 to 180 foot with the top of the water occurring at 130 foot. It is cased with 6-5/8ths inch casing to TD.

There are two other fresh water wells in the area but not within a mile of the proposed well and they're denoted as fresh water well number three and well number four and the information on these is available if you'd like to have it.

20 Q Okay, let's go on now to what you have
21 marked or what we will be marking as Exhibit Number Six and
22 tell us what that is.

A Exhibit Number Six is a geological contour map of the top of the Strawn and the purpose of my presenting this exhibit is to exemplify the fact that there are

no open faults or geologic connections between the disposal 1 zone and underground source of drinking water, since, if 2 there was some type of fault it would show up in the Strawn 3 formation on its way up to the surface and as you can see 4 from this contour map, that there is no such open fault. 5 Quintana, let's go on now to Okay, Mr. 0 6 Exhibits Seven and Eight and tell us what they are. 7 Okay, Exhibits Seven and Eight are used А 8 in conjunction with one another. 9 Exhibit Seven is an area of review of all 10 offset operators within a half mile of the proposed well, 11 which consist of MidAmerican Petroleum Corporation, Amoco 12 Production, TXO, Union Texas Petroleum, Sun, and Knox. 13 Incorporated. 14 I'd like to point out that Knox, 15 Incorporated was picked up by MidAmerican Petroleum awhile 16 back, so essentially they're one and the same company. 17 Exhibit Number Eight is a xeroxed copy of 18 the claim checks in which we provided proof of notice 19 20 through registered mail to all of the applicants, including NMOCD and the State Land Office, who is the the surface 21 22 landowner, or at least they represent the surface people. Q Mr. Quintana, do you have anything 23 further to add to your testimony? 24 At this time, Mr. Padilla, I don't. 25 А

21 Would the approval of this application Q 1 be in the best interest of conservation of oil and gas? 2 Yes, it would, in the sense that it would Α 3 cheaper means for the producers in that area 4 provide a to their water so that their operating costs dispose of 5 or their break even point would be lowered and they would 6 be able to produce additional hydrocarbons in the area before 7 having to shut the well in due to high operating costs. 8 Also I'd like to point out that 9 the reason Amstar Energy Corporation has proceeded to involve 10 themselves in this area is because many of their clients 11 from Texas, which they operate out of Texas, that operate in 12 this same area, have asked them to start doing business in 13 that area since they like their services and the costs that 14 they have charged them for previous disposals. 15 So that would essentially lower the costs 16 17 of these operators, producing costs. 18 MR. PADILLA: Mr. Examiner, we 19 tender Exhibits One Through Eight and pass the witness. 20 MR. CATANACH: Exhibits One through Eight will be admitted into evidence. 21 22 CROSS EXAMINATION 23 BY MR. CATANACH: 24 25 Mr. Quintana, did you -- referring to the 0

22 schematic diagram of the proposed well --1 Α Yes. 2 Did you do the cement calculations your-3 Q self on this, or was that done --4 No, I did not do the cement calculations Α 5 on this. 6 Where were those obtained from? 7 0 Α I took those off the well records out of 8 the Hobbs District. 9 Those were generally accepted by the 10 Hobbs District Office at the time of the completion of 11 the well so I would assume that they're correct. 12 So you just don't know what those were 13 0 based on, what -- what those calculations were based on. 14 Ά No, except for the fact that they were 15 within the well records of the Oil Conservation Division on 16 17 Oil Conservation Division report forms consigned by the District Supervisor in Hobbs, Jerry Sexton. 18 If you'd like, I can calculate those at a 19 20 later date and submit them to you. 21 No, that won't be necessary. Your top-Q 22 most perforation is at 10,862 feet. 23 А Yes. 24 That's where you plan to -- that's the --Q 25 that's the start of the injection zone.

Exactly. We don't plan to perforate any A 1 in the Wolfcamp formation except from 10,860 other zones 2 foot down. We hope to minimize costs in completing this 3 as an injector. As a matter of fact, we expect the well 4 Devonian formation to take most of the water; that's why 5 we've -- after some research we did, we, in talking with 6 some service companies in the area, we expect the Devonian 7 formation to take most of the water and -- and that's why we 8 want to open it up and that's why we amended the applica-9 tion. 10 You haven't submitted any analysis of --Q 11 of native water in any of these formations. Do you -- how 12 do you know what the quality is in them? 13 What do you mean native, native water in Α 14 the producing formation? 15 For the injection formations? 0 16 I took that out of the -- where I stated 17 Ά here, out of the USGS book and in the C-108 form it states 18 that these analyses may be measured or inferred from exis-19 ting literature, studies, other wells, et cetera, and since 20 we are trying to minimize costs we chose to use literature 21 studies of the area. 22 it pleases the examiner I could If have 23 samples taken and analysis done but I, in my opinion, 24 this be an expense that would be unduly justified since, 25 would

you know, the chlorides and the -- the water quality of pro-1 duction in that area is fairly well established through lit-2 erature and from many studies in the area; and also because 3 we'll be injecting water from the similar formations. We 4 won't expect to have any problems. It would be to our det-5 riment to inject waters that would not be compatible because 6 it would just increase our operating costs or screw up our 7 well totally. 8 What I was getting to, you didn't submit 9 Q anything to us regarding the chloride content of any of the 10 waters. 11 yes, well, I stated what they were. Α Oh, 12 58,220 parts per million for the Wolfcamp and 33,000 parts 13 per million for the Morrow formation. That's in part seven, 14 sub-part five, Roman Numeral VII, Sub-part 5. 15 Like I say, if you'd like, I could have 16 an additional -- some tests done. 17 Or if you'd like, I could also take some 18 samples from some nearby wells and include that also. 19 No, that won't be necessary. 20 Q You stated that there was no Devonian 21 production in the area? 22 Α There's no Devonian production 23 that I could find. 24 25 Q And there are no wells that penetrate the

25 Wolfcamp within a half mile, is that correct? ۱ To my knowledge, no. There is one that's Α 2 fairly close. It's right on the edge of it but not quite, 3 and it's a temporarily abandoned well. It's -- if you'll 4 bear with me I could tell you what the well name is. 5 It's located in the northeast quarter of 6 Section 2 right below the injection well. I think you can 7 maybe -- have you found it, Mr. Examiner? 8 In the northeast quarter of Section 2? 0 9 Α Yes, right below Section 35 where the 10 proposed well is at. 11 0 And that's right on the half mile circle? 12 Α Yeah, well, it's just outside of it. 13 It's called the -- it's owned by MidAmerican Petroleum; ori-14 ginally it was Knox but let me -- let me find it here. 15 Bear with me, Mr. Examiner. I thought I 16 had that -- I thought I had a copy of that well documenta-17 tion but I don't seem to have it with me here. 18 Do you have some reservations about that well or is there a specific 19 question you're -- or point you're trying to get to? 20 0 No, I was just wondering if -- do you 21 know the TD of that well? 22 No, I don't. Α 23 But you know that it does not penetrate 0 24 the Wolfcamp formation. 25

26 Well, it does penetrate the Wolfcamp, it Α 1 It should be marked in your map that it does penedoes. 2 trate the Wolfcamp, but since it's outside the -- it's a 3 temporarily abandoned well. 4 can get that information and provide Ι 5 that to you at additional time. 6 Q Would you please provide me with a sche-7 matic of that well? I just want to make sure that that ce-8 ment --9 А Fine. 10 Q -- behind the production casing would be 11 adequate enough to confine the injection water? 12 Great, I will do that for you. Α 13 14 CROSS EXAMINATION 15 BY MR. TAYLOR: 16 Quintana, if you could look at your 0 Mr. 17 offset operator map, I'm a little confused about who some of 18 the operators are. 19 Α Yes. 20 0 To the north of the well is the Coquina 21 22 Mesa. А They own the leases just to the north 23 half of the Section 35. 24 25 Q So those are the leases, it says Mesa and

27 Amoco, north half --1 Yes, Mesa owns the west half of the north Α 2 half of the north half of that section. 3 Coquina owns the east half of the north 4 half of the north half of Section 35. 5 Who operates the south half of the north 0 6 of the north half? 7 Α MidAmerica Petroleum Corporation. 8 Okay, and you notifed them. They're now Q 9 Knox, or somebody? 10 Well, MidAmerica and Know are one and the Α 11 MidAmerica Corporation is in the process of filing same. 12 for bankruptcy, but they have been notified. As a matter of 13 Amstar Energy Corporation received a bid fact, from 14 MidAmerica Petroleum Corporation for the rights to inject 15 into this well. 16 Okay, and down in the northwest quarter 17 0 it says Eastland Union but that's the well in the other 18 ----in Section 34? 19 Yes. 20 Α And then in the northeast or the south-21 Q east quarter it says May Williams. Is that an operator or 22 what is that? 23 May Williams is pointing off to the well Α 24 just in the southwest quarter of Section 36; just like, just 25

1 the opposite of Eastland.

2 Q Okay, and that's outside the half mile 3 area?

4 A Outside the half mile.

Q Okay, I think that covers them all. Did
you notify the surface lessee or is there a surface lessee,
do you know? Did you notify the State Land Office?

8 A I notified the State Land Office and I
9 was not familiar if they'd leased that out to anyone for
10 grazing or things of that sort, but if -- I was under the
11 assumption that if they had leased it out to somebody that
12 they would notify them.

13 Q Does Amstar have an oil and gas lease to 14 that well or how do you have ownership or title to that 15 well?

Amstar, since MidAmerica Petroleum Cor-16 А 17 poration is in the process of filing for bankruptcy, they're 18 in the process of trying to sell off most of their assets to 19 pay off most of their debts and Amstar Energy received the bid for the well, the proposed well, in which to make a spe-20 21 cific bid for it, and I'm not sure of exactly the details of 22 who else made bids, but I know Amstar received the bid for 23 it.

Q So that almost -- they don't have a lease
or title yet but they were the successful bidder for the

29 well? 1 Α They have been the successful bidder. 2 The last I discussed with --3 Is this for the lease or the wellbore? 0 4 Α For the wellbore. For the wellbore; for 5 the well itself, to operate the well. 6 Does that mean they're going to buy 7 Q the That's a State oil and gas lease, right? lease? 8 Yes. Yes. 9 Α They're buying the lease from --0 10 They're going to take over operations Α of 11 the lease. 12 As the mineral lessee. 0 13 I'm not quite sure about that. А My last 14 conversations with Tommy Hensen, which is the owner of 15 the they had made a bid for -- to 16 company, was that acquire operating rights to the well, and they had received -- they 17 18 had obtained, like about 25 signatures of people that had they had to get signatures in order to allow them to accept 19 20 that bid and they -- my last conversation with him was this last Saturday in which he had told me that they had -- he 21 22 had received verbal approval that all the signatures had been acquired and that they had acquired the lease to that. 23 I can specify that a little bit more by 24 25 asking him to submit the specific lease for --

that will have to be clarified be-1 0 Yeah, if they -- if they only buy the rights for the well-2 cause bore and somebody subsequently buys the rights to develop 3 the minerals, the mineral developer or owner would have a 4 prior right to use that wellbore. 5 6 Α I'm pretty sure that they acquired both 7 but I can provide additional information to that at a later date. 8 Okay, do you have permission from the 9 Q land office for commercial use of that wellbore? 10 No. Not at this time. I plan to apply 11 Α for that as soon as I hear word on whether this is approved 12 or not. Talking to the land office they indicated to me 13 14 that -- for me to go through the hearing first before they 15 would consider it. 16 Was it made clear to them that this was a 0 17 commercial facility rather than as a lease operator? 18 I believe you have to have a business 19 lease. I'm not sure. You'll need to confirm that with the 20 land office. 21 I'd have to check on that. Α The -- Tommy 22 Hensen, the owner, discussed that with the land office. 23 Okay and we need to determine whether or Q 24 not because it's an amended application it's going to have 25 to be sent back out to the -- to the people you've sent it

1 to, to give proper notice. I suppose the examiner can determine that, but because notice was only received on the lst, 2nd, or 3rd, no decision can be made until after 20 days so that people have the right to object and if there is an objection and they call for hearing, you'll have to reappear in that second hearing, at which time --

A I'd like to point out, Mr. Counselor,
8 that in my past experience as an examiner for the OCD, that
9 anybody that did receive a notice like that had every option
10 to call up and say that they received notice but they don't
11 have time to get to the hearing, to postpone the hearing.

I know many times hearings have been postponed because of situations of this sort, and I feel that if they have of contacted you at this time and they've been notified, that they're not interested or that they don't see no problem.

17 Q Yeah, but they don't know that. The
18 notice says that they get either 15 or 20 days, what does it
19 say? It says here 15, I thought it was 20.

20MR. CATANACH: The new rule21says 20 days.

Q In which to object, so if they object
within the 20 days, they would have a right to call for a
hearing.

25

MR. PADILLA: Mr. Taylor,

32 you're talking about with respect to notice on the Devonian 1 hearing. 2 I'm talking MR. TAYLOR: No, 3 about notice to this, the fact the application, I assume the 4 application was sent to these people that got notice, and it 5 says on the application that they have 15 days in which to 6 object and request a hearing. 7 That is dealing with -- begging your par-Α 8 it says, "Surface owners of offset operators must file don. 9 any objection or request for a hearing of administrative ap-10 plications within 15 days." And since this is not an admin-11 istrative application --12 Are you trying to say they don't have any Q 13 time to object? 14 No, I'm not saying that. А 15 Well, don't say that, then. I'm telling 16 0 you that we're going to give them 20 days --17 18 Okay. Α 19 Q -- from the date they received the application in which to objection. If there is an objection and 20 a request for a hearing by that date, you will reappear and 21 22 do your hearing again so that they will have a chance. You should have mailed this so that people getting notice -- I 23 assume none of them will object, but they have a right to 24 25 notice and a right to come to hearing and hear your testi-

33 1 mony and object to it, and MR. CATANACH: Mr. Quintana, to 2 clarify that a little bit, that's covered under Rule 3 1207 for notice for hearings --4 5 А Uh-huh. MR. CATANACH: 6 -- that the notice shall be given at least 20 days prior to the date of 7 the hearing. 8 9 Α Thank you, Mr. Examiner. 0 And so we will hold this open until any-10 11 body getting notice has had a chance to object to it, and the examiner can determine whether the Devonian makes 12 any change in the application such that it will need to be 13 resent to those people. 14 That's it. 15 16 RECROSS EXAMINATION 17 18 BY MR. CATANACH: Quintana, we've had a previous case 19 0 Mr. similar to this before and in that case we -- one of the re-20 quirements for this type of well set-up is that they run an 21 22 injection profile survey to determine where the water is 23 going. 24 Would your clients be objectionable to 25 doing that?

34 I see no problem with that. Α 1 Mr. Quintana, you don't see any danger in Q 2 the watering out of any potential producing gas or oil zones 3 in this well? 4 5 А In my opinion, no, I don't. MR. CATANACH: I have no fur-6 ther questions of the witness. 7 Are there any other questions 8 of the witness? 9 If not, he may be excused. 10 Thank you, Mr. Examiner. Α 11 MR. CATANACH: Case Number 8934 12 will be taken under advisement. 13 14 (Hearing concluded.) 15 16 17 18 19 20 21 22 23 24 25

35 1 CERTIFICATE 2 3 4 Ι, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before 5 the Oil Conservation Division (Commission) was reported by 6 me; that the said transcript is a full, true, and correct record 7 of the hearing, prepared by me to the best of my ability. 8 9 10 11 Sally W, Boyd CER 12 13 14 15 16 I do hereby certify that the foregoing is 17 a complete lever la labe arcaestings in the Examine maring pillusa or 8935 18 file. 19/9 heard by me on 19 , Examiner **Oil Conservation Division** 20 21 22 23 24 25