

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

1 August 1984

COMMISSION HEARING

IN THE MATTER OF:

Application of Bass Enterprises Pro-  
duction Co. for the amendment of  
Division Order No. R-111-A, Eddy  
and Lea Counties, New Mexico.

CASE  
8287

BEFORE: Commissioner Joe Ramey, Chairman  
Commissioner Ed Kelley

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation  
Division:

W. Perry Pearce  
Attorney at Law  
Oil Conservation Commission  
State Land Office Bldg.  
Santa Fe, New Mexico 87501

For the Applicant:

1  
2  
3 MR. RAMEY: We'll call first  
4 Case 8287.

5 MR. PEARCE: That case is on  
6 the application of Bass Enterprises Production Company for  
7 the amendment of Division Order Number R-111-A, Eddy and Lea  
8 Counties, New Mexico.

9 Mr. Examiner, applicant --  
10 excuse me. That case is to be continued until August the  
11 23rd, 1984.

12 MR. RAMEY: Case 8287 will be  
13 continued to August 23rd, 1984.

14 (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  
that the foregoing Transcript of Hearing before the Oil Con-  
servation Division was reported by me; that the said tran-  
script is a full, true, and correct record of the hearing,  
prepared by me to the best of my ability.

Sally W. Boyd CSR

## NEW MEXICO OIL CONSERVATION COMMISSION

## EXAMINER HEARING

SANTA FE, NEW MEXICOHearing Date AUGUST 23, 1984 Time: 9:00 A.M.

| NAME                 | REPRESENTING                   | LOCATION                    |
|----------------------|--------------------------------|-----------------------------|
| JAE J. WALKER        | LOCAL 181 USWA                 | CARLSBAD                    |
| KENNETH W. VESSELS   | USWA - Council of Local Unions | Eddy County                 |
| Wallace (Akie) Bowen | Local 181 U.S. W A             | Carlsbad N. Mex             |
| Coloff N. Fingert    | Local 181 USWA.                | Carlsbad N. Mex             |
| James E. Greve       | BASS                           | Ft Worth TX                 |
| C. Ronald Platt      | BASS                           | Austin, TX                  |
| DAN NUTTER           | BASS                           | SANTA FE                    |
| JENS HANSEN          | BASS                           | Ft Worth TX                 |
| John MAGRAW          | Consultant                     | Carlsbad, NM                |
| Stephen H Rowland    | Bass Enterprises               | Midland, Texas              |
| T. B. O'BRIEN        | O'BRIEN GORNS - Simpson Inc    | Midland, TX                 |
| LOUIS WILPITZ        | BASS                           | Fort Worth, Texas           |
| PATRICK APDACA       | Bass                           | Albuquerque, N. M.          |
| HUGH INGRAM          | CONOCO                         | HOBBS, N. M.                |
| W.T. KELLAHIN        | KELLAHIN + KELLAHIN            | SANTA FE                    |
| Charles L Lewis      | Local 183 USWA                 | 5610 Jones<br>Carlsbad N.M. |
| Jim Wilcox           | IMCC                           | Carlsbad                    |
| Ray Parrish          | Local 188-A USWA               | Carlsbad                    |
| Bob Hahn             | Byrum                          | Santa Fe                    |
| ROBERT H LANE        | KERR MCGEE                     | HOBBS.                      |



## NEW MEXICO OIL CONSERVATION COMMISSION

## EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date AUGUST 23, 1984 Time: 9:00 A.M.

| NAME                     | REPRESENTING                      | LOCATION                     |
|--------------------------|-----------------------------------|------------------------------|
| Pete Aguilar             | BLM NMSO                          | Santa Fe                     |
| William Templeman        | STEPHENSON LAW FIRM (NOBAND)      | SANTA FE                     |
| Mickey Dobson            | O'Brien-Coins-Simpson             | Midland, TX                  |
| Harry Austin             | Local 177                         | Carlsbad, N.M.               |
| Frank Molguin            | USWA Local 177 Potash Co. America | Carlsbad, NM                 |
| RAY GRAHAM               | STATE LAND DEPT                   | SANTA FE                     |
| Ed Moreno                | Associated Press                  | Santa Fe                     |
| <del>James A. Zuer</del> | Local 177 USWA                    | Carlsbad                     |
| ARMANDO LOPEZ            | BLM - Roswell                     | Roswell, N.M.                |
| Bill Dalness             | BLM New Mexico State Office       | SF.                          |
| J. D. MURDOCK            | BLM CARLSBAD RA                   | NM                           |
| Donald Galbraith         | Dural Corp.                       | P.O. Box 511<br>Carlsbad, NM |
| Donald R. Roberts        | Potash Company of America         | P.O. Box 31, Carlsbad        |
| Doug McClellan           | El Paso Times                     | Santa Fe                     |
| Dave Stenberg            | Albq Journal                      | Santa Fe                     |
| Robert Nicholson         | WPT, INC. (Consultant)            | Carlsbad, CA                 |
| JAMES B. LYONS           | QED Inc FMC (Petr. Engr)          | NEW ORLEANS, LA.             |
| James Olsen              | BLM NM ST OFF<br>"Over"           | Santa Fe                     |

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

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23 August 1984

COMMISSION HEARING

VOLUME I OF VOLUMES

IN THE MATTER OF:

Application of Bass Enterprises Pro-  
duction Company for the amendment of  
Division Order No. R-111-A, Eddy and  
Lea Counties, New Mexico.

CASE  
8287

BEFORE: Commissioner Joe Ramey, Chairman  
Commissioner Ed Kelley

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation  
Division:

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Attorney at Law  
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For the Applicant:

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and Duval:

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For Kerr-McGee:

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Attorney at Law  
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For Noranda Exploration:

William P. Templeman  
Attorney at Law  
STEPHENSON, CARPENTER, CROUT &  
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Santa Fe, New Mexico 87501

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I N D E X

|                                      |     |
|--------------------------------------|-----|
| STATEMENT BY MR. ROBB                | 7   |
| ARGUMENT BY MR. KELLAHIN             | 8   |
| ARGUMENT BY MR. ROBB                 | 10  |
| MOTION BY MR. HIGH                   | 11  |
| ARGUMENT BY MR. KELLAHIN             | 12  |
| ARGUMENT BY MR. ROBB                 | 13  |
| RULING BY MR. RAMEY                  | 15  |
| STATEMENT BY MR. KELLAHIN            | 15  |
|                                      |     |
| DANIEL S. NUTTER                     |     |
| Direct Examination by Mr. Kellahin   | 19  |
| Cross Examination by Mr. High        | 74  |
| Cross Examination by Mr. Robb        | 126 |
| Cross Examination by Mr. Templeman   | 151 |
| Questions by Mr. Stamets             | 165 |
| Redirect Examination by Mr. Kellahin | 168 |
| Recross Examination by Mr. High      | 173 |
|                                      |     |
| T. B. O'BRIEN                        |     |
| Direct Examination by Mr. Kellahin   | 175 |
| Cross Examination by Mr. High        | 191 |
| Cross Examination by Mr. Robb        | 215 |

1  
2  
3  
4  
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A P P E A R A N C E S

RONALD PLATT

|                                    |     |
|------------------------------------|-----|
| Direct Examination by Mr. Kellahin | 237 |
| Cross Examination by Mr. High      | 259 |
| Cross Examination by Mr. Robb      | 289 |
| Cross Examination by Mr. Templeman | 322 |
| Cross Examination by Mr. Ramey     | 329 |
| Recross Examination by Mr. High    | 333 |

|                       |     |
|-----------------------|-----|
| STATEMENT BY MR. HIGH | 336 |
|-----------------------|-----|

|                           |     |
|---------------------------|-----|
| STATEMENT BY MR. KELLAHIN | 338 |
|---------------------------|-----|

E X H I B I T S

|                                      |     |
|--------------------------------------|-----|
| Bass Exhibit One, Base Map           | 23  |
| Bass Exhibit Two, Proposed Procedure | 33  |
| Bass Exhibit Two-A, Log              | 47  |
| Bass Exhibit Two-B, Order            | 168 |
| Bass Exhibit Three, Schematic        | 242 |
| Bass Exhibit Four, Document          | 247 |
| Bass Exhibit Five, Analysis          | 256 |

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3 MR. RAMEY: The hearing will  
4 please come to order, and we'll call first Case 8287.

5 MR. PEARCE: That case is on  
6 the application of Bass Enterprises Production Company for  
7 the amendment of Division Order No. R-111-A, Eddy and Lea  
8 Counties, New Mexico.

9 I would ask for appearances at  
10 this time for the record, please.

11 MR. KELLAHIN: If the Commis-  
12 sion please, I'm Tom Kellahin from Kellahin and Kellahin,  
13 Santa Fe, New Mexico.

14 Appearing with me in associa-  
15 tion is Mr. Patrick Apodaca, an attorney and a member of the  
16 Washington, D. C. Bar.

17 We represent the Applicant in  
18 this case.

19 MR. RAMEY: How many witnesses  
20 do you have, Mr. Kellahin?

21 MR. KELLAHIN: Mr. Chairman, we  
22 anticipate that we will call four witnesses.

23 MR. RAMEY: Thank you. Any  
24 other appearances?

25 MR. HIGH: Yes, Your Honor.  
Charles C. High, Junior, from  
the law firm of Kemp, Smith, Duncan, Hammond, and also Reese  
Fullerton appearing also for Duval Corporation, Potash Com-

1  
2 pany of America, International Minerals and Chemical Corpor-  
3 ation, and Duval -- I'm sorry -- Amax Corporation.

4 MR. ROBB: Mr. Chairman, I'm  
5 John Robb, of Rodey, Dickason, Sloan, Akin, and Robb.

6 We're here representing Kerr-  
7 McGee Chemical.

8 MR. TEMPLEMAN: William B. Tem-  
9 pleman on behalf of Noranda Exploration.

10 MR. RAMEY: Any other appear-  
11 ances?

12 I'd have the witnesses stand at  
13 this time and be sworn.

14 MR. PEARCE: Mr. High, Mr. Ful-  
15 lerton, and Mr. Robb, would you get all of your witnesses up  
16 if they're here?

17 MR. HIGH: All of them are not  
18 here this morning.

19 We anticipate calling probably  
20 eleven, at least eleven witnesses. Some of -- all of them  
21 are not here this morning.

22 Probably just swear the ones  
23 that are here and then I'll advise you of more.

24 MR. KELLAHIN: We will appre-  
25 ciate that.

MR. PEARCE: Thank you, sir.  
Will all the prospective witnesses who are in the room at  
this time rise, please?

(Witnesses sworn at this time.)

MR. PEARCE: Thank you, gentlemen.

MR. RAMEY: I think we're ready to proceed, Mr. Kellahin.

MR. ROBB: If it may please the Chairman, I think there's a preliminary matter that I would like to raise; a question I have as to whether or not the application in this proceeding and the Notice of Hearing have been properly initiated under the rules of the Commission.

The applicable rule is Rule 1203. It provides among other things that the Division on its own motion, the Attorney General on behalf of the State, any operator or producer, or any other person having property interest may institute proceedings for a hearing.

Then it goes on to provide that the application shall be in triplicate and shall state, (1) the name of the applicant; (2) the name or general description of the common source or sources of supply or the area affected by the order sought; (3) briefly the general nature of the order, rule, or regulation sought; and (4) any other matter required by a particular rule or rules, or order of the Division.

Then it says, the application shall be signed by the person seeking the hearing or by his



1 attorney.

2  
3 The person seeking the hearing  
4 in this case is Bass. Bass did not sign an application and  
5 Bass did not initiate a hearing. It was done by Mr. Nutter,  
6 who is an independent engineer. There is no showing on the  
7 record that Mr. Nutter is the person of interest. Obviously,  
8 he's not. Bass is the one of interest.

9 Bass has signed nothing; has  
10 initiated nothing. No attorney for Bass has signed the ap-  
11 plication or the request for hearing. And we would like to  
12 suggest that we think under the Commission's own rules that  
13 there's no jurisdiction; that the application was improperly  
14 initiated and therefore that the Commission at this time  
15 should not be proceeding with the hearing.

16 MR. RAMEY: Mr. Kellahin, would  
17 you like to respond, please?

18 MR. KELLAHIN: Mr. Chairman, I  
19 think Mr. Robb's concern about the application is certainly  
20 interesting but without merit.

21 We look at the Rule 1203, I be-  
22 lieve it is without dispute that Bass Enterprises Production  
23 Company in fact does have a substantial property interest  
24 involved in the subject matter of this application. I'm  
25 willing to submit a witness to prove that issue if that is  
necessary.

I think Mr. Robb's question  
goes to the specific point of whether or not Mr. Nutter has

1 the requisite authority to file an application on behalf of  
2 Bass.

3  
4 Mr. Robb reads Rule 1203 to  
5 mean the applicant must sign the application, or his attor-  
6 ney. Mr. Robb implies that it must be an attorney at law.  
7 The rule does not say that.

8 We believe that the rule allows  
9 for an attorney, an attorney as defined in hornbook law and  
10 Black's Law Dictionary and anywhere else you want to look  
11 for a definition of an attorney to include an agent or a  
12 substitute or anyone who's appointed or authorized to act in  
the place or in the stead of another.

13 I will represent to you that  
14 Mr. Nutter is the agent of Bass and that is the necessary  
15 authority as an attorney to sign the application. I will  
16 submit to you, if you desire to take Mr. Nutter's testimony  
17 on that issue. I submit, however, that proof will demon-  
18 strate that Mr. Nutter has the requisite authority for Bass  
19 Enterprises in the State of New Mexico to file for an appli-  
cation.

20 If there is any dispute about  
21 that tender of proof, I will call Mr. Nutter and we will go  
22 through that testimony.

23 I believe the point, the speci-  
24 fic point Mr. Robb is addressing himself to is the fact that  
25 Mr. Nutter is not an attorney at law or a counselor at law,  
and that is not the point of the ruling.

1  
2 We would request that a motion  
3 to dismiss for that reason be denied.

4 MR. ROBB: Mr. Chairman, may I  
5 say that I think what Counsel is saying is essentially cor-  
6 rect.

7 Our position is that Mr. Nutter  
8 is not an attorney at law. Can we stipulate to that, Coun-  
9 sel?

10 MR. KELLAHIN: Yes, sir.

11 MR. ROBB: All right, and our  
12 point is that the Commission rule contemplates that the ap-  
13 plication shall be signed either by the applicant or by his  
14 attorney, and I think the idea that "attorney" means some-  
15 thing other than attorney at law is a very strange construc-  
16 tion of that -- of that regulation, that rule, and I think  
17 it's clear that the concept is that the -- and I don't chal-  
18 lenge that Mr. Nutter was acting on behalf of Bass, I'm con-  
19 fident that he was. I don't think he would have sent the  
20 letter and Bass is here so I don't think there's much ques-  
21 tion of that.

22 My point is that I think it  
23 means attorney at law or the applicant. The applicant  
24 clearly didn't sign it. An independent consulting engineer  
25 signed it and no attorney has signed it and Bass -- nobody,  
no official of the company of Bass signed it, and I think  
that means the rule hasn't been complied with, and so I  
think we have a jurisdictional problem, and I hate to go

1  
2 through a hearing and then find out later, perhaps, that the  
3 Commission had no jurisdiction.

4 MR. HIGH: Mr. Chairman, if I  
5 may, on behalf of Duval Corporation, IMC, PCA, and AMAX, we  
6 would certainly join in the motion to dismiss made by Kerr-  
7 McGee.

8 We think the rule is quite  
9 clear and the application certainly is not proper under the  
10 Commission's rules and the question of jurisdiction is pro-  
11 perly before you.

12 In addition, we'd also point  
13 out that the issues involved in this hearing are not simply  
14 minor issues in a routine fashion. We are dealing here with  
15 significant issues that will affect the long range future of  
16 both the oil and gas industry and the potash industry in  
17 southeast New Mexico.

18 We submit that any decision on  
19 the issues before this Commission this morning will require  
20 deliberate thoughts and we further submit that these -- and  
21 we move that these hearings be postponed because the issues  
22 we're talking about in this particular Case 8287 involve the  
23 Potash Enclave in and around Carlsbad, New Mexico.

24 That area is currently being  
25 redefined and at the present time it is not even known to  
the potash industry or the oil and gas industry, and I don't  
believe that, even if the Commission had jurisdiction, we  
can proceed this morning when we don't know the confines of

1 the area that we'll be talking about this morning.

2 In addition, the application  
3 covers a number of issues that we submit we have not yet had  
4 enough time to prepare for and therefore we'd move that the  
5 hearing be postponed.

6 MR. KELLAHIN: Mr. Chairman, I  
7 realize that I've had an opportunity to respond to Mr. Robb  
8 and I would seek your indulgence to respond to Mr. High.

9 Mr. High raises another issue I  
10 would like to respond to separately with regards to a con-  
11 tinuance, but if you'll allow me, I would like to make a  
12 further response about the application filed by Mr. Nutter.

13 The rules of procedure before  
14 the Commission or any administrative agency are not rules in  
15 a vacuum. They are rules that are administered and used  
16 historically by an agency. I think the Commission can take  
17 administrative notice of the fact that they've allowed this  
18 rule to be interpreted, and in fact have interpreted it, to  
19 mean people in Mr. Nutter's position.

20 In addition, I think you can  
21 rely with some comfort on the State Administrative Procedure  
22 Act when it talks about establishing a hearing or filing for  
23 a hearing under the Administrative Procedures Act it talks  
24 about a counselor and it defines an attorney at law, or it  
25 goes on to say "any person, other person authorized by law."

You'll find that in Section 12-  
8-11.

1  
2 The third response I'd like to  
3 make, though, is that if this is an issue that is so funda-  
4 mentally important to the Protestants, I'm very concerned as  
5 to the timeliness of that issue.

6 The application has been on  
7 file since July 10th. This matter has been set for a hear-  
8 ing on August 1st and at the request of Mr. Fullerton, an  
9 attorney for a great many of the Protestants, has been con-  
10 tinued to today's date and it's this morning that I first  
11 hear that there's some question about the authority in which  
12 the application was filed. That disturbs me greatly.

13 If this is an important issue,  
14 then it should have been briefed and discussed, and in all  
15 fairness to the Commission, argued thoroughly. I think this  
16 is a red herring, that it has no merit. We're entirely  
17 within the rules of procedure and the method of operation  
18 before the Commission to deny the motion to dismiss the ap-  
19 plication.

20 MR. ROBB: Mr. Chairman, Coun-  
21 sel has brought up a new point, the Administrative Procedure  
22 Act, that I'd like to respond to.

23 I think that the hearing has  
24 not been called under any specific ruling of the Administra-  
25 tive Procedure Act. It's been called under the rules of the  
Commission, and in terms of the fact that the Administrative  
Procedure Act, that we're not here concerned with, may have  
a different definition of attorney does not indicate what

the definition of attorney means according to the rules.

The Supreme Court of New Mexico has stated that it's a well know rule of instruction in New Mexico that words in a statute and likewise in a regulation are to be given their ordinary and usual meaning. That's State ex rel Bird versus Apodaca, 91 NM 279, 573 Pacific 2d, 213, and Bettina versus City of Las Cruces, 82 NM 663, 485 Pacific 2d, 967.

Clearly the word "attorney" in its normal and accepted meaning means attorney at law. It does not mean attorney in fact or agent or any of those things that opposing counsel has been contending for, and so that that kind of construction is normally required to be given to words, given a normal construction. To say that for some reason we're going to get a strange construction for the word "attorney" and say it means everybody who might just happen to be an agent rather than attorney at law, I think is really out in left field.

I apologize for the fact that this matter was not raised earlier. I was not brought into this thing until very recently. I didn't discover it until yesterday but when I did, I immediately tried to call you, Mr. Chairman; you were not in; I called Mr. Pearce to try to let you know my concern and misgivings about the form of the application, and I am sorry that it came at this late stage, but I feel obligated to raise the question because it may go to the power of the Commission to proceed.

1  
2 MR. RAMEY: The Commission is  
3 going to overrule both motions. I think the Commission over  
4 the years has been very liberal in its interpretation of  
5 this rule and we have applications that are filed by attor-  
6 neys at law, by employees of companies, and representatives  
7 of companies.

8 We feel that Mr. Nutter had the  
9 right to make this application and I think also that these  
10 cases have been continued for in excess of three weeks at  
11 one time and that should be enough continuance.

12 I think everybody should be  
13 prepared to go ahead here.

14 You may proceed, Mr. Kellahin.

15 MR. KELLAHIN: Mr. Chairman,  
16 the application of Bass Enterprises in Case 8287 seeks the  
17 amendment of the R-111 orders to establish a procedure that  
18 would allow for the extension of certain of the protection  
19 features of the R-111-A orders to areas outside the R-111-A  
20 boundary.

21 I will characterize that as a  
22 buffer zone, so to speak, but the application seeks to af-  
23 ford to the potash industry and the potash operators an ex-  
24 tension of the casing and cementing programs that are ap-  
25 plied to the area within the oil/potash area, used by the  
Oil Conservation Commission.

We propose to provide further  
protection to the potash industry for those wells the sur-



1  
2 face location of which is outside the potash area and for  
3 which those wells are directionally drilled, the bottom hole  
4 location of which would be underneath the R-111-A area.

5 That, in a nutshell, is the  
6 context or the point of the application.

7 We will seek to prove the  
8 reasonableness of that procedure by using four witnesses.

9 The first witness we will call  
10 is Mr. Dan Nutter, a petroleum engineer well known to the  
11 Commission; an employee of that Commission as a petroleum  
12 engineer for in excess of 25-30 years, and one of the au-  
thors of the R-111-A boundary.

13 Mr. Nutter will testify, and  
14 the evidence will show you, a procedure that can be deve-  
15 loped and implemented into the R-111 series of orders; that  
16 will afford protection to the potash industry and we think  
17 can be reasonably established as a fair amendment to that  
series of orders.

18 The second witness will be Mr.  
19 John Magraw. Mr. Magraw is a potash mining expert. He's  
20 spent a substantial part of his professional life as a miner  
21 for Duval. He comes with considerable experience.

22 Mr. Magraw's evidence and the  
23 proof will show you that pursuant to your statutory require-  
24 ments and obligations Mr. Magraw will conclude that there  
25 will be no undue waste of potash that can be reasonably re-  
covered by the implementation of the procedure we're recom-

1 mending.

2  
3 In addition, the evidence will  
4 show you that Mr. Magraw will reach the expert opinion that  
5 there will be no undue interference with potash operations  
6 and development.

7 In addition, Mr. Magraw will  
8 tell you that the implementation of this procedure will not  
9 result in an adverse economic consequence to the potash in-  
10 dustry. He will conclude that there is no unreasonable risk  
11 involved in the procedure that's included in the proposed  
12 rule.

13 The third witness will be Mr.  
14 Ronnie Platt. Mr. Platt has testified before the Commission  
15 on numerous occasions and you know him to be a petroleum en-  
16 gineer of eminent qualifications and background.

17 Mr. Platt's testimony will in-  
18 volve studies he's made of this general area in terms of the  
19 potential and the reasonable probability to recover gas in  
20 the area at a particular value that Mr. Platt will go into  
21 detail about with you.

22 Mr. Platt will conclude for you  
23 that there is a reasonable probability of the recovery of  
24 oil and gas, particularly deep gas in the Morrow sands that  
25 make this procedure eminently beneficial to the oil and gas  
industry.

The evidence will further show  
you that Bass Enterprises is the largest single oil and gas

1 operator or owner of oil and gas rights to drill in this  
2 area.  
3

4 The fourth witness will be Mr.  
5 T. B. O'Brien. Mr. O'Brien is also an expert in his own  
6 field, eminently qualified over a great many years to talk  
7 in specific detail about three points.

8 Mr. O'Brien's expert testimony  
9 will be directed to the adequacy and the reasonableness of  
10 the current cementing and casing program in the R-111-A  
11 area. He can and will talk at great length about the ade-  
12 quacy and reasonableness of that current requirement and how  
13 this can be extended and applied to the wells that I sug-  
14 gested to you and that it will not pose an undue or an un-  
15 reasonable risk to the potash industry.

16 In addition, Mr. O'Brien will  
17 talk to you in detail about the casing and cementing proce-  
18 dures used in salt intervals like this all across the world.

19 Mr. O'Brien finally will tell  
20 you that the implementation of directional drilling is an  
21 accepted standard technique in the oil and gas industry to  
22 recover reserves at a location other than reasonably over  
23 the surface location.

24 He will finally conclude for  
25 you that the deviation, or the directional drilling, as pro-  
posed by Bass, also does not pose an unreasonable or undue  
risk or hazard to either the oil and gas operations or to  
the potash industry.

At the conclusion of our proof, we believe that we will have sufficiently supported with substantial evidence the reasonableness of the procedure we propose to submit to you and have that procedure incorporated into the R-111-A rules. That is our proof.

We call as our first witness Mr. Dan Nutter.

DANIEL S. NUTTER,  
being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Nutter, would you please state your name and occupation?

A I'm Dan Nutter, Consulting Petroleum Engineer.

Q Mr. Nutter, as a consulting engineer have you previously testified before the New Mexico Oil Conservation Commission and its Division?

A Yes, I have.

Q Would you describe to the Commission when and where you obtained your degree in engineering?

A I hold a Bachelor of Science in petroleum engineering from, it was at that time, New Mexico School of Mines, now New Mexico Institute of Mining and Technology in

1 Socorro, New Mexico, in 1952.

2  
3 MR. HIGH: Mr. Chairman, we  
4 will certainly stipulate to Mr. Nutter's qualifications as  
5 an expert witness.

6 MR. KELLAHIN: Mr. Chairman, I  
7 appreciate Mr. High's request. I would, however, like to  
8 place in the record Mr. Nutter's qualifications.

9 Q Mr. Nutter, subsequent to graduation,  
10 when and where were you employed as an engineer?

11 A I was employed by Phillips Petroleum Com-  
12 pany after graduation; worked in Odessa, Texas, Eureka, Kan-  
13 sas, and Hobbs, New Mexico.

14 Q What were your general duties with regard  
15 to that employment, Mr. Nutter?

16 A For a portion of the time I was on an en-  
17 gineering training program. After that I was a staff petro-  
18 leum engineer.

19 Q And when did you leave Phillips Petroleum  
20 Company?

21 A I left Phillips Petroleum Company in Au-  
22 gust of 1954 and came to the New Mexico Oil Conservation  
23 Commission as a petroleum engineer.

24 Q And how long were you with the New Mexico  
25 Oil Conservation Commission as a petroleum engineer?

A From September 1, 1954, until December  
31st, 1982.

Q During that period of time in employment

1  
2 as the Commission's petroleum engineer, Mr. Nutter, would  
3 you describe for us generally what duties you performed?

4 A General petroleum engineering duties. I  
5 believe it was in 1956 or '57 that I was appointed Chief  
6 Petroleum Engineer for the Conservation Commission, at which  
7 time I was in charge of petroleum and geological functions  
8 of the Commission.

9 Q Were you also a hearing examiner for the  
10 Division?

11 A Yes, sir, I heard over 3000 cases as an  
12 examiner.

13 Q Are you familiar with the potash/oil area  
14 designated by the Commission R-111 orders?

15 A I am.

16 Q How are you familiar with those rules?

17 A When R-111-A was promulgated in 1955, I  
18 was at the hearings that the order issued from and at that  
19 hearing there was a contour map showing where it was be-  
20 lieved potash to lie in Carlsbad and Eddy County, New Mexi-  
21 co.

22 Subsequent to that contour map of the  
23 potash being introduced, I used an overlay and drew the R-  
24 111-A area to depict where the potash resources were pre-  
25 sent.

Q What was the standard or the criteria  
that you used, Mr. Nutter, in determining the R-111-A bound-  
ary?

1  
2 A The contour map which was adopted by a  
3 committee of potash people and oil and gas people, and it  
4 was based on commercial deposits of potash as determined by  
5 core holes, as known at that time.

6 Q Subsequent to initially drawing the early  
7 boundary of the R-111-A area, Mr. Nutter, did you have occa-  
8 sions subsequently to redraw that boundary line?

9 A Yes, sir, there have been numerous exten-  
10 sions to it as additional core holes were drilled and com-  
11 mercial potash was discovered on the outside of the R-111-A  
12 area, and Division orders -- Commission orders and Division  
13 orders R-111-B through R-111-O have been issued extending  
14 the area from time to time.

15 Q During the period of time you were an  
16 examiner for the Division, Mr. Nutter, did you have occasion  
17 hear or participate in potash/oil cases?

18 A Yes, sir, I certainly did.

19 I believe I was involved in all of the  
20 extensions to the R-111-A area, either as a hearing examiner  
21 or as a participant in the establishment of the extension to  
22 the R-111-A area.

23 Q Are you familiar with the casing and  
24 cementing program that is outlined in that order?

25 A Yes, I am.

MR. KELLAHIN: We tender Mr.  
Nutter as an expert petroleum engineer.

MR. RAMEY: He is so qualified,

1  
2 Mr. Kellahin.

3 Q Mr. Nutter, I have placed before opposing  
4 counsel, the Commission, and also on the wall of the hearing  
5 room what is identified as Bass Exhibit Number one for this  
6 case, showing a legend Potash Base Map, Gas Well Status Map.

7 Are you familiar with that exhibit?

8 A Yes, I am.

9 Q All right, sir, I'd like you, before we  
10 discuss the exhibit itself, to discuss with me, first of  
11 all, what the exhibit is.

12 A The exhibit is a base map of the potash  
13 area from the -- it derived from the United States Geologi-  
14 cal survey map. It shows the active potash mines as well as  
15 the mines that have been depleted and plugged.

16 Q Does that exhibit also show the current  
17 boundary of the R-111-A?

18 A And in yellow on that map the R-111-A  
19 area as extended through R-111-O is depicted by the orange  
20 line, yellow line.

21 Q Have you looked at this exhibit or helped  
22 in its preparation to determine whether it's true and accu-  
23 rate?

24 A As far as we can tell it is a correct de-  
25 picture of the R-111-A area, yes.

Q There are some other things that are  
identified on the exhibit, Mr. Nutter. There are some well  
symbols outlined in red. What are those?



1  
2 A Those are gas wells that have been drill-  
3 led on the outer boundary of the R-111-A area, close to it,  
4 in near proximity to the boundary of the R-111-A area as ex-  
5 tended.

6 Q To the best of your knowledge, informa-  
7 tion and belief, are those locations of those wells true and  
8 accurate?

9 A Yes, sir, they are.

10 Q There is an additional area defined with-  
11 in the boundary identifying wells with a green symbol?

12 A There are a number of red wells on the  
13 outside of the perimeter of the R-111-A area. There are al-  
14 so some green dots. These are representative of gas wells  
15 that have been drilled inside R-111-A with the approval of  
16 the Commission or Division.

17 Q Do you have an opinion, Mr. Nutter, as to  
18 whether the location of those wells as represented on this  
19 exhibit are true and accurate to the best of your knowledge,  
20 information and belief?

21 A Yes, sir, they are correct as far as I  
22 know.

23 Q With regards to all the items depicted on  
24 this exhibit, to the best of your knowledge are the matters  
25 depicted on this exhibit true and accurate?

A Yes, sir, they are.

MR. KELLAHIN: Mr. Chairman,  
we'd move the introduction of Bass Exhibit Number One.

1  
2 MR. RAMEY: Bass Exhibit One  
3 will be admitted.

4 MR. HIGH: We have no objection  
5 to the offering of the exhibit but we would certainly ques-  
6 tion its accuracy.

7 Q Mr. Nutter, can you tell me, looking at  
8 Exhibit Number One, approximately how many wells are identi-  
9 fied by the red dots which you have represented to us are  
10 wells drilled immediately outside the R-111 area?

11 A Yes. There are 32 red dots on there,  
12 being gas wells drilled on the -- just outside the boundary  
13 of R-111-A as extended.

14 Q And can you tell us, Mr. Nutter, how many  
15 wells are indicated within the R-111 area identified with  
16 the green dots?

17 A Yes, sir, there are 32 green wells, also.

18 Q And what kind of wells are those?

19 A Those are gas wells.

20 Q Mr. Nutter, do you know approximately how  
21 many oil wells have been drilled within the Commission's  
22 oil/potash area?

23 A Yes. Approximately 80 oil wells have al-  
24 so been drilled in there which are not color coded on the  
25 map.

Q For purposes of clarification, Mr. Nut-  
ter, I will interchangeably use the phrase "the Commission's  
oil/potash area" or the "Commission's R-111 area" and I use

1  
2 those synonymously.

3 A Yes. And I'd like to be able to use R-111  
4 without saying "A, as extended", meaning R-111-A as extended  
5 by R-111-B through O, if I might.

6 Q All right, sir, let's do that so every-  
7 body's clear.

8 When we talk about R-111 we are talking  
9 about the R-111-A area through all the amendments as that  
10 area defined by the Commission as the oil/potash area.

11 A Yes, sir.

12 Q When we talk about the Secretary of In-  
13 terior's oil/potash enclave, we're talking about a slightly  
14 different area, are we not?

15 A Yes, sir, we are.

16 Q All right, when we talk, if we do talk  
17 about the Secretary area, we will be talking about a differ-  
18 ent configuration.

19 A That's correct. That is also depicted on  
20 the exhibit.

21 Q All right, let's go to that. How is that  
22 depicted on the exhibit?

23 A That's depicted by a blue line which is a  
24 kind of a little hachured line and runs around the perimeter  
25 here, as you can see, and I'm indicating that to the Commis-  
sion. It comes most of the time on the outside of R-111-A.

They were a little more lenient in estab-  
lishing that area than the Commission was in delineating its

1  
2 R-111-A area.

3 Q Let me ask you some questions about your  
4 recollections and understanding of the reason behind the  
5 difference between the Secretary boundary for the potash en-  
6clave and the Oil Conservation Division's R-111 area.

6 Do you recall the reasons that those  
7 areas are different?

8 A Yes. The Commission's area was based on  
9 active, actual cores that were taken and an interpretation  
10 of where commercial potash deposits were in existence.

11 The Secretary's area was a broad inter-  
12 pretation based on very widely spaced cores and presumption  
13 of potash beyond which cores were available.

14 And, of course, since that time there  
15 have been a lot of barren areas depicted in the Secretary's  
16 area.

16 Q Based upon your knowledge and experience  
17 of the Commission's potash area, are you aware of any in-  
18 stances in which there has been any difficulties with re-  
19 gards to the casing and cementing programs that are required  
20 for the wells within the R-111-A area?

21 A No, I know of no instances where problems  
22 have resulted as a result of casing and cementing programs.

23 Q Mr. Nutter, at this time I would like to  
24 go to Exhibit Number Two, which is the proposed procedure.  
25 If you'll give me just a moment I will pass out copies of  
that exhibit.

1  
2 Mr. Nutter, I will ask you to -- let me  
3 digress one minute.

4 Exhibit Number Two represents what, Mr.  
5 Nutter?

6 A It's depicted as a proposed amendment,  
7 Division Order R-111-A, Potash-Oil Area Rules.

8 Q If you could describe for us, Mr. Nutter,  
9 what is your relationship with the applicant, Bass Enterprises?

10 A Yes, sir, I'm Consultant Petroleum Engineer under contract to Bass.

11 Q And how long have you been under contract  
12 to the applicant?

13 A Since January 1, 1983.

14 Q Have you been employed by the applicant  
15 with regards to preparation of testimony and proposed procedures for this case?

16 A Yes, sir, I have.

17 Q What was the arrangement between you, if  
18 any, and the applicant with regards to the filing of this  
19 application?

20 A I was requested in writing to file an application.

21 Q And who made that request to you, Mr.  
22 Nutter?

23 A Mr. Fullig (sic), who is the Division  
24 Manager for Bass Enterprises in Midland, Texas.  
25

1  
2 Q Other than filing this application on be-  
3 half of Bass in this case, what other duties or items do you  
4 perform for Bass Enterprises?

5 A I file numerous documents with the Com-  
6 mission as agent for Bass, frequently.

7 Q Have you testified before the Oil Conser-  
8 vation Division on behalf of Bass Enterprises on other occa-  
9 sions?

10 A Yes, I have.

11 Q Do you review the Commission dockets for  
12 hearings on behalf of Bass Enterprises

13 A Yes, sir.

14 Q With regards to your employment with  
15 Bass, then, you have prepared Exhibit Number Two?

16 A Yes, sir, I have.

17 Q And what is, without going into detail at  
18 this point, what is the general purpose of that exhibit?

19 A The exhibit is the proposed Rule 3-A for  
20 R-111-A.

21 Q Will you describe for us in a general way  
22 what is your basis for the preparation of the proposed pro-  
23 cedure?

24 A The applicant in this case is seeking a  
25 rule which would provide for the drilling of wells located  
outside of R-111-A, drilling them vertically and then after  
they've passed the Salado formation directionally drilling  
them so that they would bottom beneath the -- beneath the

1  
2 horizontal limits and beneath the vertical limits of R-111-  
3 A.

4 Q Why is that important to your client,  
5 Bass?

6 A Because Bass owns numerous gas and oil  
7 leases in the R-111-A area, which they've been unable to de-  
8 velop because of the restrictions on drilling in the R-111-A  
9 area, so it would be an attempt to complete wells around the  
10 perimeter that are -- that would penetrate reserves within  
directional drilling distance from outside the R-111-A area.

11 Q Is that a practice?

12 A Yes, sir, it is a practice.

13 Q Is it a practice that has been used for  
14 other wells?

15 A Yes, sir.

16 Q Adjacent to the R-111-A area?

17 A Yes, sir, there have been -- there's one  
18 well that I know of that is completed that's located outside  
19 of R-111-A and has been completed underneath R-111-A area,  
20 and there's another one that's drilling at the present time,  
both under orders from the Division.

21 Q Let's go to Exhibit Number One and have  
22 you specifically locate each of those wells for us.

23 A In Section 6 -- pardon me -- yes, in Sec-  
24 tion 6 of Township 22 South, Range 31 East, the James Ranch  
25 No. 14 Well is located at a point -- I've got that written  
down, excuse me --

MR. KELLAHIN: All right, Mr. Nutter, just a minute. Let's see if we can't get everybody looking at the same place.

If we go down to the southwest corner of the plat we find Township 23 South.

A That's correct.

Q And if we go across to the righthand, we find Range 30, and in that township --

A Right, it's Range 31.

Q All right, I'm not that far over. In Range 30 you see the words up in Sections 11 and 12 that say Duval Corporation?

A Yes, sir.

Q All right, as we press to the east of those letters, we then get into 31 East.

A That's correct.

Q All right, where in that township then is the well?

A Okay. The well is located, and I'm going to draw, it's located close to the boundary of the -- southern boundary of Section 6, and I'm going to draw a half a red circle around that well on this exhibit.

It is then directionally drilled in a southerly manner so that it bottoms in the north half of the north half of Section 7, immediately south.

I'm going to draw a half a green circle to depict the location of that well, the bottom hole loca-



tion, I should say.

So we have a red and a green well both there.

Q This is the James Ranch 14?

A That's James Ranch 14.

Q You said that there is a second well. Where is that well?

A The second well is currently drilling and it's located, the surface location is in Section 8 of Township 23 South, Range 31 East. The surface location is 600 feet from the south line and 100 feet from the west line of Section 8, right at that point where I made a dot on Exhibit Number One.

That well is being drilled at the present time in a westerly manner and will be bottomed 660 feet from the south line and 1980 feet from the east line of Section 7. It will be bottomed in the same section that the James Ranch No. 14 well is and this is known as the James Ranch No. 15 Well.

Q All right, sir. Thank you.

Mr. Nutter, you gave us a phrase awhile ago when you said "underneath the R-111 area."

A Yes, sir.

Q What do you mean when you use that phrase?

A The Division Order R-111 establishes the horizontal boundaries of the R-111-A area. It does not contain vertical boundaries and I am assuming that the R-111-A

1  
2 area does have vertical boundaries and that those vertical  
3 boundaries cease at the base of the Salado formation.

4 Q Upon what do you make that assumption or  
5 opinion, Mr. Nutter?

6 A That it's relating to the protection of  
7 salt and potassium minerals and that those minerals do not  
8 occur beneath the Salado formation.

9 Q Do you have an opinion as to whether it  
10 would be fair and reasonable to interpret the R-111-A proce-  
11 dure as having vertical limits?

12 A I believe it's reasonable because if  
13 there's no salt there, no mineralization, the rules are use-  
14 less below that point.

15 Q Is there any other reasoning or basis in  
16 the development of the proposed procedure as depicted on Ex-  
17 hibit Number 2, other than the one you've given us of the  
18 map?

19 A Beg pardon?

20 Q Yes, sir. Are there other reasons, to  
21 your knowledge, for the proposing the administrative proce-  
22 dure?

23 A Oh, yes. If we didn't have an adminis-  
24 trative procedure, every time that it was sought to drill a  
25 well similar to the James Ranch No. 14 and the James Ranch  
No. 15, it would be necessary to come in and have a hearing  
and we believe that many of these wells can be drilled with-  
out the necessity of a hearing, and these proposed rules, as

1  
2 you'll see when I get into them, provide extra protection  
3 for the wells beyond that which is required.

4 In other words, a well can be drilled  
5 straight on the immediate outside of the R-111-A area with-  
6 out the benefit of the casing and cementing rules prescribed  
7 by R-111.

8 We are recommending that the R-111-A area  
9 rules for casing and cementing would be applicable to these  
10 wells that would be drilled outside R-111 and then deviated  
11 underneath R-111, and we'd propose this procedure to elimin-

12 Q Is that a procedure that currently exists  
13 under the R-111 order?

14 A Which? For directional drilling?

15 Q For the casing and cementing of wells  
16 outside the R-111-A area?

17 A No, those rules are not applicable out-  
18 side that orange line.

19 Q In your opinion is that an advantage or a  
20 disadvantage to the potash industry?

21 A I believe it provides additional protec-  
22 tion to the potash.

23 MR. HIGH: I'm going to object  
24 and move that be stricken.

25 This witness certainly can't  
testify to what the potash industry wants or needs or any  
other thing in connection with this hearing.

1  
2 MR. RAMEY: I'll sustain the  
3 objection.

4 Q Apart from applying the casing and ce-  
5 menting benefits of R-111-A to the areas outside that area,  
6 what are the other proposed extensions -- excuse me, what  
7 are the other proposed procedures that you are suggesting?

8 A A procedure for the approval of unortho-  
9 dox gas well locations that would not be in conformance to  
10 regular gas well location rules.

11 Q All right, sir, have you made any recom-  
12 mendations with regards to the surface location --

13 A Yes, I have.

14 Q -- of the well in relation to the R-111  
15 boundary?

16 A Yes, sir, I have.

17 Q And what is that recommendation?

18 A That these rules would be applicable only  
19 to wells that are located at least 250 feet outside the R-  
20 111-A area.

21 The original application, I might state,  
22 requested a distance of 200 feet. We have amended that to  
23 250 feet for reasons that another witness will go into.

24 Q Under the current R-111 order how close  
25 can a surface location be for a well immediately outside the  
R-111 area?

A If you get a non-standard location, it  
could be located one foot.

1  
2 Q All right, Mr. Nutter, let's go through,  
3 then, and have you -- well, let me ask you this now.

4 Did you -- is this your work, Exhibit  
5 Number Two?

6 A Yes, it is.

7 Q You prepared this?

8 A Yes, I did.

9 MR. KELLAHIN: At this point,  
10 Mr. Chairman, we'd move the introduction of Bass Exhibit  
11 Number Two.

12 MR. HIGH: We object, Your  
13 Honor. It differs in at least two respects from the appli-  
14 cation. We'd object on that basis.

15 MR. RAMEY: What -- the footage  
16 was one. What's the second one?

17 MR. HIGH: Well, Item Number  
18 (c) is different. I assume Item Number (c) is a take-off on  
19 what is paragraph number three in the application, and I  
20 think it contains an additional restriction, in fact, in the  
21 definition of the Salado interval that was not in the origi-  
22 nal application.

23 MR. KELLAHIN: Mr. Chairman, we  
24 would move the introduction of the exhibit. I believe it is  
25 properly authenticated. The questions and concerns that Mr.  
High addresses do not go to the question of whether the ex-  
hibit ought to be admitted. He can develop his questions on  
cross examination.

I believe that this exhibit is now appropriate for admission.

MR. HIGH: We don't need the exhibit. We have the application as part of the record already. I don't know what purpose the exhibit would add to the file other than to change the application.

The application, I assume the application is part of the record already, so what do we need the exhibit for.

MR. RAMEY: The Exhibit Two will be admitted.

Q Mr. Nutter, let's go to Exhibit Two now, sir, and if you'll go through each of the paragraphs with us and explain to us what you're proposing to accomplish with the procedure and the reasons behind each of the proposals.

A Yes. R-111-A at the present time has ten articles, Roman numeral I through Roman numeral X.

Roman numeral I is the objective.

Roman numeral II states what the potash/oil area is.

And Roman numeral III is titled Drilling In the Potash Area.

I have proposed Roman numeral -- Article Roman Numeral III-A, which would be Directional Drilling from Outside of the Potash Area.

Paragraph (1) states that the Director of the Oil Conservation would have the authority to grant

1  
2 approval, without notice and hearing, for the directional  
3 drilling of wells from orthodox and unorthodox locations  
4 outside the potash/oil area to orthodox and unorthodox loca-  
5 tions beneath the potash/oil area when certain facts exist  
6 and the following provisions are complied with:

7 (a) first of all, --

8 Q Excuse me, before you go into the sub-  
9 paragraphs under (1), would you explain your reasoning be-  
10 hind paragraph (1), that the procedure ought to be without  
11 notice and hearing? What is your reasoning for that?

12 A We believe that the directional drilling  
13 of the wells from outside the potash area is the subject of  
14 the hearing here today and that in granting an administra-  
15 tive procedure for orthodox and unorthodox locations and for  
16 the directional drilling is in accordance with existing Com-  
17 mission rules for directional drilling as well as orthodox  
18 and unorthodox locations.

19 But the basic premise, should directional  
20 drilling be permitted from outside the area to beneath the  
21 potash/oil area is the subject of the hearing today, so it's  
22 not a matter of issue after today.

23 Q Would you describe for us the subpara-  
24 graphs (a), (b), and (c) now?

25 A Subparagraph (a) requires that the pro-  
posed surface location is at least 250 feet outside the  
boundary of the potash/oil area.

Q And what is the basis for that restric-

1  
2 tion?

3 A To get a distance from the potash/oil  
4 area. As I mentioned, another witness will testify to that  
5 later, the reason for the particular footage, 250 feet.

6 MR. KELLAHIN: Mr. Chairman, at  
7 this time we would seek to amend Bass' application to modify  
8 the surface location to increase that distance, 200 feet, to  
9 250 feet.

10 MR. HIGH: It's our position,  
11 Your Honor, that this Commission has no jurisdiction over  
12 the original application so we would directly oppose the  
13 amendment, also.

14 MR. ROBB: The additional ob-  
15 jection we would like to make, of course, is that no notice  
16 has been given of this particular provision, of a change in  
17 addition to the argument.

18 MR. KELLAHIN: May I respond to  
19 both counsel?

20 MR. RAMEY: Yes.

21 MR. KELLAHIN: Mr. Chairman,  
22 custom and practice of the Division with regards to actual  
23 constructive notice has been and ought to be applied in this  
24 case.

25 The practice has been that when  
an applicant advertises for an unorthodox well location at a  
certain point and then at hearing comes forward with a pro-  
posal that is less unorthodox, the practice has been to al-



1  
2 low that to take place, and it's been allowed to take place  
3 for a very good reason. It's the fact that it's less unor-  
4 thodox means that there ought to be less objection, less  
5 onerous, and therefore the people that receive the first no-  
6 tice are certainly the people that got the second notice.

7 That practice is applicable  
8 here. We are going from a buffer, as I suggested it to be  
9 called, of a surface well location 200 feet from the bound-  
10 ary and increasing that distance in which we will remove  
11 ourselves another 50 feet from the potash area used by the  
12 Commission.

13 We believe that that is an ad-  
14 ditional protection to the potash industry; that there is no  
15 need to readvertise the case; there is no need to provide  
16 additional notice.

17 We believe that the application  
18 ought to be amended.

19 MR. ROBB: Mr. Chairman, may I  
20 respond briefly?

21 I think there's a difference  
22 here between the notice of intention to drill where you have  
23 a proposed location and a change to the rules and regula-  
24 tions of this Commission.

25 The one is a temporary loca-  
tion. People come knowing that in many of these hearings  
one of the purposes is to try to adjust that to a better  
location.

1  
2 But they are proposing to put in concrete  
3 here rules and regulations that will apply from now on. It  
4 seems to me that that is a very different animal.

5 This is something that industry will have  
6 to live with for along time in the future, and therefore the  
7 requirements for notice and advertising should be observed  
8 strictly.

9 MR. RAMEY: I will, or the Com-  
mission will allow for the amendment to the application.

10 I would suggest I'll leave the  
11 record open after the hearing and I would suggest that you  
12 furnish me something subsequent to the hearing of your ob-  
13 jections.

14 MR. ROBB: All right, sir.

15 Q Mr. Nutter, would you continue now with  
16 the subparagraph (b) of proposed procedure?

17 A Yes. (b) states that the well will be  
18 drilled in such a manner as to not penetrate the vertical  
19 projection of the potash/oil area boundary until it has com-  
pletely passed through the Salado interval.

20 I would like to propose an amendment to  
21 that paragraph, also, for clarification and to assure any-  
22 body that might have doubts about what the procedure would  
23 be here, by, after the word "boundary" inserting the words  
24 "and shall not be intentionally deviated", so that the  
25 paragraph would read "The well will be drilled in such a  
manner as not to penetrate the vertical projection of the

1  
2 potash/oil area boundary and shall not be intentionally de-  
3 viated until it has completely passed through the Salado in-  
4 terval."

5 Q Mr. Nutter, would you explain the reasons  
6 behind your proposed addition to that paragraph?

7 A Yes. Some people thought that we might  
8 deviate the well immediately and pass the potash/oil area  
9 vertical projection at less than 250 feet, but we would, in  
10 fact, drill vertically until we passed the base of the salt  
and then deviate.

11 Q Let me make sure that reasoning is clear,  
12 Mr. Nutter.

13 Without the additional language you  
14 placed in that paragraph would there be enough flexibility  
15 in that rule to allow an oil and gas operator to do what,  
sir?

16 A To deviate the well immediately from the  
17 point of spudding, and we're removing that flexibility from  
18 the oil and gas operator. He must maintain a vertical hole  
19 until he's past the base of the salt.

20 This, again, is a more restrictive pro-  
21 posed amendment to the rules as proposed and advertised.

22 Q All right, sir, and would you then com-  
23 mence with the word "boundary" and read for us again the ad-  
24 ditional five words that you've placed in the --

25 A Inserted after the word "boundary" would  
be the words "and shall not be intentionally deviated".

1  
2 Q I miscounted, that's six words, isn't it?

3 A Right.

4 Q Close enough.

5 MR. KELLAHIN: Mr. Chairman, at  
6 this time we would seek to amend the application to include  
7 the phrase Mr. Nutter has just related to the record with  
8 regards to this subparagraph.

9 MR. HIGH: Mr. Chairman, we  
10 would state the same objection we state to all of these, and  
11 I think this points up exactly what -- what I've stated out-  
side this hearing.

12 We, and I'm speaking on behalf  
13 of the potash industry, we have not had sufficient time to  
14 fully and properly prepare to respond to the comprehensive  
15 changes to the rules and regulations being proposed by the  
16 applicant.

17 It's apparent that they, too,  
18 didn't have sufficient time when they prepared their appli-  
19 cation because they're now seeking to amend it in any number  
20 of respects, and I submit that we certainly are not prepared  
21 to respond to any amendments, even those that you've already  
22 allowed, and I would point out that one factor I think has  
23 become very clear, that by seeking to add the word "inten-  
24 tionally deviate" is one reason we are here and that is --  
involves the issue of safety.

25 I assume that it implies that  
unintentional deviation would be okay.

1  
2 So we would certainly oppose  
3 and add to our objections as we stated before the addition  
4 of any word like "intentional".

5 Talk about deviation, we'll  
6 just talk about deviation whether it's intentional or unin-  
7 tentional, and we would oppose the amendment for all the  
8 reasons I've stated.

9 MR. ROBB: And we do enter that  
10 objection.

11 MR. RAMEY: Anything further,  
12 Mr. Kellahin?

13 MR. KELLAHIN: Mr. Chairman,  
14 the proposed changes, this included, are refinements to pro-  
15 posed procedure in every instance. We intend that they im-  
16 prove the order to the advantage of the potash operators.

17 In plain language, it's very  
18 clear exactly what's being attempted.

19 I would be delighted to go back  
20 and put this well location at 200 feet, closer to the R-111.  
21 I would be happy with the broad language in the rule and  
22 some of these other changes.

23 The Commission knows that all  
24 of these rules before the Commission are retained by the  
25 Commission under its continuing jurisdiction and they are  
not cast in concrete.

After this hearing and subse-  
quently, if the Commission should adopt this at all, the po-

1  
2 tash operators and anyone else can come in and fine tune or  
3 change the procedure if it doesn't work. We found that the  
4 R-111-A boundary has been changed some fifteen times. It's  
5 not cast in concrete.

6 We believe it's a reasonable  
7 suggestion to amend the application to add these six words  
8 and we so move.

9 MR. HIGH: Mr. Chairman,  
10 whether or not these rules or these amendments improve the  
11 protection of the potash industry is a judgement that we  
12 prefer to make for ourselves and not have the applicant make  
13 it for us.

14 We have not had time to suffi-  
15 ciently evaluate to what extent even the application, much  
16 less the amendments proposed to be reached, prevents hazards  
17 to us, and we -- that's a judgment we want to reserve.

18 We're not prepared to make that  
19 judgment today, so I repeat, we continue to oppose the  
20 amendment.

21 MR. RAMEY: I think what the  
22 Commission has decided to do is to even go back and not al-  
23 low the change from 200 to 250 feet and we will not allow  
24 the change of this; however, we will certainly listen to any  
25 suggested amendment and use our judgment in writing an or-  
der.

MR. HIGH: Thank you, Your  
Honor -- Mr. Chairman.

1  
2 MR. ROBB: In view of that  
3 statement, I'd like to say, to be sure there's no misunder-  
4 standing about what our position is, our position of objec-  
5 tion is on procedural grounds, not substantive grounds.

6 If the Commission decides it's  
7 going to have a regulation of this kind and if the potash  
8 industry decides that a change to a greater distance away  
9 from the line would be beneficial to the potash industry,  
10 and I think my personal view is it clearly is, that we're  
11 certainly going to argue for all the things that we think  
are necessary for the benefit of the potash industry.

12 We're not going to take the po-  
13 sition that we're going to oppose changes that are benefi-  
14 cial to the potash industry just for the purpose of making  
15 opposition. Obviously, we want to look after our best in-  
16 terests. We want the best kind of result coming from what-  
17 ever is determined at this hearing, assuming that the Com-  
18 mission has jurisdiction, but our objections are on pro-  
cedural grounds only.

19 MR. RAMEY: We appreciate that,  
20 Counselor, and I would expect you to represent your inter-  
21 ests, and hopefully the Commission will also represent both  
22 interests.

23 MR. HIGH: We certainly join  
24 those comments, Mr. Chairman, that we will be questioning  
25 not only 200 feet but 250, so again, to echo what Mr. Robb  
has said, our objection is on procedure and the jurisdiction

1  
2 of the Commission and not on what is of value or not of  
3 value to the potash industry.

4 Q Mr. Nutter, would you refer to paragraph  
5 (1) (c) now and discuss with us your proposed procedure con-  
6 tained in that paragraph?

7 A Yes. Paragraph (c) is also going to have  
8 an amendment, which I don't know if you're going to amend  
9 out or not, but it states, as written on Exhibit Number Two,  
10 which is different than the advertised paragraph, that a  
11 sufficient number of deviation surveys shall be conducted to  
12 ensure that the well has not entered the potash/oil area  
13 prior to completely passing through the Salado ("salt") in-  
14 terval.

15 Then this is added: For the purpose of  
16 these rules the base of the Salado (salt) interval shall be  
17 that point as found at a depth of 2460 feet on the log of  
18 the Perry R. Bass Big Eddy Unit Well No. 101, located in  
19 Unit 27 -- Section 27, Township 20 South, Range 31 East,  
20 NMPM, Eddy County, New Mexico.

21 I might make the parenthetical note here  
22 that that well is located 2280 feet from the north line and  
23 1980 feet from the west line of Section 27. The reason this  
24 is put in is because there was no definite reference as to  
25 what the base of the salt is, and we do have Exhibit Number  
Two-A, which is the compensated litho-density log of the Big  
Eddy Well No. 101, and the top of the -- the base of the  
Salado formation, or the "salt" formation, if you want to



1  
2 call it that, is highlighted in yellow at a depth of 2460  
3 feet in that well.

4 Q All right, Mr. Nutter, the applicant  
5 filed an application that said what with regard to this is-  
6 sue?

7 A It didn't say anything. It just said the  
8 base of the Salado formation --

9 Q All right.

10 A -- without specifying where it was.

11 Q Would you describe for us your opinion why  
12 it's an advantage to have a type log such as this?

13 A Yes. This is a well recognized base of  
14 the salt, and just so there wouldn't be any confusion on  
15 anyone's part as to what point the order would be referring  
16 to, we are specifying it and it would become part of the  
17 permanent record for the Commission, so that anyone that had  
18 any doubt as to where the base of the Salado was and whether  
19 a well had violated the base of the Salado, or violated the  
20 provisions of the order or the rule, prior to passing  
21 through that base of the Salado, they would know exactly  
22 what point we were talking about.

23 Q Mr. Nutter, is this a practice or a  
24 technique that's been used by the Commission before?

25 A Oh, yes. As a matter of fact, Order No.  
R-111-A for defining the Delaware makes reference to another  
well which is located right there in the same section, being  
the Bass Radke No. 1, which is located 1980 from the north

1  
2 and 1980 from the east line of Section 27, and Article --  
3 Article (4), Section (3), Subsection (1) -- Subsection (2)  
4 defines for the purpose of identification, the base of the  
5 Delaware Mountain Group is hereby identified as the equiva-  
6 lent of the base as such formation as found at a depth of  
7 7485 feet in the Richardson and Bass No. 1 Radke Well in  
8 Section 27, Township 20 South, Range 31 East.

9 I wanted to use that well as the key --  
10 key well here, too, or the type well, however, that --

11 Q And why did you not use it?

12 A -- well was not logged in the base of the  
13 salt, so I used the nearest by well that was, which is the  
14 Big Eddy No. 101.

15 Q Let me direct your attention to what has  
16 been marked as Bass Exhibit Two-A. Do you have it?

17 A Yes, I have the type log. That's the  
18 101.

19 Q Would you identify for us what Exhibit  
20 Two-A is?

21 A Yes, Exhibit Two-A is the compensated  
22 neutron litho-density log and the Commission will note at a  
23 depth of 2460 the base of the salt is depicted in yellow  
24 highlighting, and I believe that any engineer or geologist  
25 would agree that this is the base of the salt.

Q In your opinion is that an adequate type  
log to use from which to locate the base of the salt in this  
area?

1  
2 A It's very clear on this log. It's an  
3 ideal log for that purpose.

4 Q Do you have a recommendation to the Com-  
5 mission with regards to modification of the procedure  
6 with regards to the type log?

7 A I believe it's in the interest of the  
8 Commission in the future in any possible controversies that  
9 could arise to adopt a type log in making a reference to a  
10 formation base when it's important like this.

11 MR. KELLAHIN: We move the in-  
12 troduction of Bass Exhibit Number Two-A.

13 MR. RAMEY: Bas, Exhibit Two-A  
14 will be admitted.

15 Q All right, sir, let's continue, then,  
16 with paragraph (1) (d) of the proposed procedure, Mr. Nut-  
17 ter, and have you describe the next procedure.

18 A Paragraph (1) (d) is a parrot of the R-  
19 111-A rules and says that a salt protection string shall be  
20 run and cemented in accordance with the provisions of these  
21 rules, meaning the R-111-A rules.

22 So this is making the rules from R-111-A  
23 applicable to certain wells that would be drilled outside of  
24 R-111-A.

25 Q All right, sir, and what about subpara-  
graph (e)?

A (e) states only after sufficient time has  
elapsed, in accordance with these rules, for cement to set

on the salt protection string shall drilling continue.

Again, the provisions of R-111-A are made applicable to wells drilled outside R-111-A.

Q All right, sir, and subparagraph (f).

A Subparagraph (f) is locked in with the previous rules where it's not going to penetrate the boundary until it's passed through the salt, and states that prior to the above described directional drilling the operator shall establish the location of the kickoff point by conducting a continuous multi-shot directional survey of the wellbore.

Q All right, sir, and subparagraph (g).

A Subparagraph (g) states that subsequent to the above described directional drilling, should the well be a producer, in order to ensure that the well is bottomed within 100 feet of the bottom hole target, a continuous multi-shot directional survey shall be made of the wellbore from the bottom of the pay zone to the kickoff point with shot points not more than 100 feet apart.

By taking it from the bottom of the hole to the kickoff point, and the previous rules required a survey from the kickoff point to the surface, you have picture of the well from the surface of the ground to its bottom hole location. You know where the well is at all times.

Q And why in your opinion is this procedure reasonable and necessary?

A Well, I believe it's for two purposes, to

1  
2 assure the well has not entered into -- into the potash  
3 area, the oil/potash area, prior to when it's supposed to,  
4 and also to ensure where the bottom hole location is with  
5 respect to the pay zone.

6 It goes on to say that the operator shall  
7 notify the appropriate District Office of the Oil Conserva-  
8 tion Division of the date and time that the survey is to be  
9 commenced, and shall cause the survey company to forward a  
10 copy of the survey report directly to the Santa Fe Office of  
11 the Oil Conservation Division, P. O. Box 2088, Santa Fe, New  
Mexico 87501.

12 This is standard procedure that the Com-  
13 mission has used in its directional drilling orders for many  
14 years.

15 Q All right, sir, paragraph (2).

16 A Paragraph (2) provides the procedure to  
17 obtain approval for the directional drilling of a well pur-  
18 suant to this Article. The operator of the proposed well  
19 shall file an application in triplicate with the Division  
20 Director, agreeing to comply with each of the above require-  
21 ments. Each copy of the application shall be accompanied by  
22 two plats: One plat shall show the ownership of the potash  
23 lease (s) within the R-111-A area underlying the spacing and  
24 proration unit to be dedicated to the proposed well; the  
25 other plat shall show the ownership of all oil and gas  
leases within two miles of the proposed surface and bottom  
hole locations. Both plats shall indicate the footage de-

1  
2 description of said locations and shall have outlined thereon  
3 the boundary of the potash/oil area and the boundary of the  
4 proposed spacing and proration unit to be dedicated to the  
5 well. The oil and gas lease plat shall also show the loca-  
6 tion of all oil and gas wells within two miles of the pro-  
7 posed bottom hole location and shall indicate the forma-  
8 tion(s) in which they are completed.

9 A schematic diagram of the proposed well,  
10 showing all casing and tubing strings and their setting  
11 depths, as well as the complete proposed casing-cementing  
12 program for the well, shall also accompany each application.

13 All owners of oil and gas spacing and  
14 proration units offsetting the unit to be dedicated to the  
15 well shall be mailed a copy of the application by registered  
16 or certified mail, and the application shall contain proof  
17 of such mailing.

18 The Division Director may approve the ap-  
19 plication upon receipt of waivers from all the parties who  
20 are subject to notification, or if no such party has en-  
21 tered an objection within 20 days after the Director has re-  
22 ceived the application.

23 Q Mr. Nutter, what is your reasoning behind  
24 paragraph (2)?

25 A Paragraph (2) is the standard procedure  
for unorthodox locations and it also incorporates the direc-  
tional drilling into that procedure and provides that the  
Secretary-Director of the Commission, the Division Director

1 of the OCD would be the final authority in the approving of  
2 these wells that are directionally drilled to orthodox or  
3 unorthodox locations.  
4

5 It would not be done at the District  
6 level. It would only be done at the Division Office, Home  
7 Office level.

8 Q Paragraph (3).

9 A Paragraph (3) is a saver for anyone who  
10 would doubt the adequacy of the rule. It provides that the  
11 Division Director may, at his discretion, set any applica-  
12 tion for directional drilling for public hearing.

13 If he thinks there's something wrong  
14 with it, he'll set it for hearing.

15 Q Is that a paragraph that's included in a  
16 great many rules and procedures?

17 A Yes, it is.

18 MR. RAMEY: Let's take a ten  
19 minute recess, Mr. Kellahin.

20 (Thereupon a recess was taken.)

21 MR. RAMEY: The hearing will  
22 come to order.

23 MR. KELLAHIN: Mr. Chairman,  
24 that concludes our direct examination of Mr. Nutter.

25 MR. RAMEY: All right. Are  
there any questions of Mr. Nutter?

1  
2 MR. HIGH: Yes, Mr. Chairman.

3 We would at this time ask for a  
4 postponement of the hearing, renew our original motion for  
5 postponement or if that continues to be denied by this Com-  
6 mission, then alternatively we'd ask for a postponement of  
7 at least one hour so we can review the map and the other  
8 exhibits provided by counsel at this hearing and not in ad-  
9 vance, so our people can determine the accuracy of those do-  
cuments.

10 We will have a large number of  
11 questions of Mr. Nutter.

12 MR. KELLAHIN: Mr. Chairman,  
13 I'm not sure I'm clear on the reasons behind the request for  
14 continuance. I think there was also a request for a one-  
15 hour postponement and I'm not certain of the reasons behind  
either one of those requests.

16 MR. HIGH: I'll be glad to  
17 state that, Your Honor.

18 Mr. Chairman, I stated at the  
19 outset of this hearing that the changes being asked for in  
20 this application are so comprehensive that the potash indus-  
21 try has not had sufficient time to analyze, develop, and  
22 prepare a reasonable response to the -- to the changes  
23 sought by the application. That's the reason for our re-  
24 quest for a postponement, which has been denied.

25 In the alternative, if the Com-  
mission will not allow us sufficient time to analyze the ap-



1  
2 plication and what's being sought, at the very least we  
3 would ask for a one-hour postponement so we could review the  
4 map that has any number of entries on it that the witness  
5 has testified about.

6 There's no way in the world we  
7 can sit here and ask this witness questions about a document  
8 that they've obviously had prepared for a long time, but on-  
9 ly been presented to us this morning.

10 We have to review the well lo-  
11 cations, the R-111-A lease lines, a whole host of things  
12 that this witness has testified, with the people in the po-  
13 tash basin who are familiar with the entries that may or  
14 may not be on this particular map.

15 We can't do that unless we can  
16 have some time to get those experts to take a look and dis-  
17 cuss it with us, and that's the reason for the one hour.

18 Preferably, I'd like to post-  
19 pone it. I'm not saying that one hour is sufficient for us  
20 to prepare a response. I'm just simply saying that at the  
21 very minimum we should be allowed one hour to review this  
22 map since counsel did not present it to us or attach it to  
23 the application a month ago.

24 MR. KELLAHIN: Mr. Chairman,  
25 I'm surprised by counsel's comments. These exhibits have  
26 been available had they requested it.

27 I did not know this gentleman  
28 until this morning. I spoke about a number of things with

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Mr. Fullerton. No one has requested the exhibits or documents or we'd have been happy to furnish those to them.

I don't believe a continuance based upon Mr. High's comments is warranted, and we are prepared to proceed at this time.

It's certainly at the discretion of the Commission as to how you want to conduct the hearing. I don't think a continuance is warranted. They've certainly had at least since Mr. Fullerton requested his first continuance on July 27th and having had that granted. No contact of me was made requesting exhibits, documents, or anything else.

We suggest that we proceed accordingly, Mr. Chairman.

MR. ROBB: I think, Mr. Chairman, it's a little -- perhaps a little deeper than that.

The application is supposed to contain all material information and this application did not. The map that, obviously from the testimony, is an integral part of the whole process, wasn't even attached to the application. So I think that there may be some problems with respect to the sufficiency of the application, in addition to the fact that we never saw these things until this morning, till they were offered here in evidence.

MR. RAMEY: Mr. High, I'm wondering if -- if we put on all witnesses for the applicant in this case and then give you a reasonable time to review all

1 the testimony, if that would be satisfactory?

2 To have an hour delay after  
3 everyone of these witnesses is going to be a waste of a lot  
4 of time. We do want to give the potash people every oppor-  
5 tunity in this case, which is why I continued the hearing  
6 for three weeks, and --

7 MR. HIGH: Mr. Chairman, if you  
8 -- just so you'll know, IMC did request a postponement.  
9 There was absolutely no notice or any at least from the ap-  
10 plicant in this case that these applications had been filed.

11 They filed them back in July.  
12 IMC found out about these hearings today by accident.

13 Bass Enterprises certainly did  
14 not leak one word of these two applications that we're going  
15 to be talking about today to the potash industry. We found  
16 out about it. IMC happened to be the lucky one and found  
17 out first and the minute we found out we asked you on behalf  
18 of IMC for a postponement.

19 Since that time the other pot-  
20 ash industry -- the other potash companies have had a chance  
21 to take a look at the applications. They, too, have become  
22 very concerned over the potash waste and the safety hazards  
23 that we believe will be created by what Bass is trying to  
24 do. They have not had a sufficient time, and now I'm speak-  
25 ing specifically about PCA, Duval, and AMAX, they have not  
had even the amount of notice that IMC had.

Again, Bass Enterprises has

1  
2 certainly made no effort or attempt to notify the potash in-  
3 dustry. So, fine, these may have been here for a long time;  
4 there may have been sufficient time to prepared. We didn't  
5 know about these proceedings.

6 Now, perhaps that's not the  
7 Commission's fault but I -- I would not say that one hour  
8 after all witnesses have testified would be sufficient for  
9 us to respond. Again, we would -- we would prefer a post-  
10 ponement so we can have an adequate amount of time to pre-  
11 pare a response. If we can't get that, I have no objection  
12 to your suggestion of letting him put on all the witnesses.  
13 I don't like it and I wouldn't prefer it that way, but at  
14 this point, Mr. Chairman, we'll take what we can get.

15 We have some very serious safe-  
16 ty concerns about this and if that's all this Commission is  
17 willing to grant, why, we'll take it, but we do need addi-  
18 tional time. Whatever the Commission will allow us, we'll  
19 -- we'll certainly take it.

20 MR. ROBB: Mr. Chairman, would  
21 the suggestion be that the -- all those -- the testimony  
22 would be put on today and then there would be a continuance  
23 or postponement for a sufficient period of time to enable us  
24 to have an adequate response? I'm thinking of a minimum of  
25 ten days or two weeks, something like that.

MR. RAMEY: I was thinking of  
an hour or two.

MR. ROBB: Well, I can see that

1 there is a difference.

2  
3 MR. HIGH: That's what I under-  
4 stood, Mr. Chairman, I'll vouch for that. I understood your  
5 one or two hours.

6 MR. RAMEY: Mr. High, let me  
7 ask you a question.

8 MR. HIGH: Yes, sir.

9 MR. RAMEY: Were not these  
10 cases advertised in the paper in Eddy and Lea Counties at  
11 least ten days prior to August the 1st?

12 MR. HIGH: They may have, Mr.  
13 Chairman. I don't know. We did not find out about these  
14 cases through the newspaper if they in fact were published.

15 We found out about -- I say  
16 "we", IMC found out about these cases through another  
17 journal to which it subscribes in which they were published.  
18 We did not see the publication in the local newspapers and I  
19 do not know if they were in fact published.

20 MR. RAMEY: I'm sure we would  
21 not be having the hearing if we did not have affidavits that  
22 they were published in --

23 MR. HIGH: I see, but I will  
24 say that --

25 MR. RAMEY: == and it had gone  
through its normal advertising, normal notification.

MR. HIGH: I would only say  
that to my knowledge neither IMC, PCA, AMAX, or Duval Cor-

1  
2 poration saw the notice from the Commission if in fact it  
3 was published.

4 That I can state for the re-  
5 cord, and again I will state that to my knowledge none of  
6 those companies received any notice whatsoever from Bass En-  
7 terprises, despite the fact that in a subsequent case some  
8 of the proposed sites are within approximately 300 feet,  
9 clearly within a mile of the lease lines of those companies.

10 MR. KELLAHIN: Mr. Chairman, I  
11 want the record to clearly reflect that we have fully com-  
12 plied with the notice procedures of the Commission. We have  
13 filed our application and the Commission docketed this case  
14 in the way it docketed hundreds of cases. Millions.

15 I'm very disturbed by the in-  
16 ference or the statement in the record that somehow the po-  
17 tash operators do not have a fair opportunity to respond.  
18 That's a very difficult question. It's -- it's a problem  
19 and we think this case has been docketed with adequate no-  
20 tice and all we ask is that we spend the next two, three,  
21 four days going through this process.

22 I'm uncomfortable with their  
23 assertions that they somehow can't get prepared. I think we  
24 need further inquiry into that on the record in determining  
25 what it is that they need to do. I don't propose to put all  
four of my witnesses on here, give them the direct testimony  
and go away for ten days or two weeks while they dream up  
questions.

1  
2 If that's what we're going to  
3 do, then I guess we'll turn this into District Court pro-  
4 ceeding and we'll take everybody's deposition, including all  
5 the potash witnesses. It may take us a year to get through  
6 this case and if that's the way you want us to run the case,  
7 that's the way we'll do it.

8 The Commission has to make some  
9 judgment, I guess based upon that allegation that there's  
10 not enough time, decide whether there's been allowed due  
11 process, and if there isn't, why, I'm sensitive about that  
12 issue. We continued the case for three weeks under the re-  
13 presentation from Mr. Fullerton that that was the time in  
14 which he'd be ready for a hearing.

15 This case is not done in a  
16 vacuum. The potash industry has got as good a grapevine  
17 down there in Carlsbad as anybody, I'd venture to say. They  
18 know these things are going on. This boundary is nothing  
19 new to them. This boundary has been in place and modified  
20 for more than thirty years. These aren't surprises.

21 What I'm saying is if they  
22 wanted the information and thought it was important, they  
23 could at least given me a phone call and asked for it. We'd  
24 have given it to them.

25 MR. HIGH: Well, I might state  
for the record, Mr. Chairman, we did in fact call counsel  
for the applicant and ask for a postponement. He denied it.  
So, I think we did that prior to the time that we -- we

1 asked the Commission to postpone on behalf of IMC.

2  
3 Now I'll be more than glad to  
4 state for the record why I submit to this Commission that  
5 the potash industry has not had sufficient time to respond,  
6 and it's, like I say, moreso with the second application,  
7 which I believe is 8288, than it is with this one, but  
8 they're both interrelated somewhat.

9 The entire issue that we're  
10 talking about in all of this case and the next involves the  
11 rights of the oil and gas industry to drill oil and gas  
12 wells within the Federal Potash Enclave or the R-111-A Area.  
13 That issue is under consideration also by the BLM, Bureau of  
14 Land Management, Department of the Interior, as well as the  
15 OCC.

16 There have been some meetings  
17 in which representatives from the various industries at-  
18 tended. Out of those meetings came an understanding, not  
19 only on the part of the potash industry, but I might also  
20 add on behalf of the BLM, which apparently Bass does not  
21 share, that nothing further would be done in connection with  
22 drilling oil and gas wells within the Potash Enclave until  
23 after the Potash Enclave map was updated.

24 We have been in constant con-  
25 tact with BLM on when that map may be issued. We knew that  
once that map was issued we would be addressing the issues  
we're here today to address.

The problem, however, is that



1 someone jumped the gun. We weren't looking for those appli-  
2 cations and notices by this Commission because it was our  
3 understanding that nothing was going to be done, at least by  
4 BLM, till after that map was issued.

5 Our last word from BLM, and I  
6 say again that we have been in -- in contact with them on  
7 numerous occasions, is that the map that will redefine the  
8 Federal Potash Enclave in Carlsbad is in Colorado at the  
9 printers. It may -- it may very well be published any time  
10 in the near future, and it was our understanding that we  
11 would not have to address these issues until we saw that  
12 map, and once we see that map our position may very well  
13 change, because we -- we are well aware of the fact that the  
14 BLM, as well as this Commission, wants the multiple use of  
15 land.

16 We're not opposed to multiple  
17 use of lands, whether it's within the Federal Potash Enclave  
18 or R-111-A. We are concerned with the uncontrolled and un-  
19 regulated drilling of gas wells within the area where we may  
20 -- or it may constitute a hazard to our miners, or will re-  
21 sult in the waste of potash. If those wells are drilled in  
22 locations in which we have some input in determining and un-  
23 der conditions in which we have some input to protect our  
24 people, we may have no objection at all, but we can't make  
25 those determinations until we see the new Federal Potash En-  
clave map so we will know if the well is either in a (not  
understood) area or may possibly be in an area that we will

1  
2 be mining in either three years or ten years down the road,  
3 and until we get that data we cannot formulate a response to  
4 the application that is before this Commission today, and  
5 that's the reason for our postponement. That's the reason  
6 we have urged the Commission all along and until that map is  
7 issued it is still our position that we cannot formulate a  
8 response to the issue we're talking about here today.

9 MR. ROBB: May I supplement  
10 that, too, in response to what Mr. Kellahin said, and I very  
11 much endorse what counsel said.

12 Mr. Kellahin said that this  
13 hearing is not conducted in a vacuum and I think that he's  
14 absolutely right and I think that my co-counsel has indi-  
15 cated what some of that vacuum is. I would like to put on  
16 the rest of the vacuum.

17 That vacuum is that the history  
18 of the area, this oil/potash area, and resolving disputes by  
19 drilling in the area, have been resolved by a procedure that  
20 has been calculated to bring the parties together with a  
21 good deal of advance notice with arbitration hearings be-  
22 fore the formal hearings with an opportunity for everybody  
23 to exchange exhibits, advice, suggestions, a studied attempt  
24 made to locate the oil and gas wells, if they can be done,  
25 in a way with the least minimum damage to potash deposits.

Now those procedures have been  
honored by the -- by the -- both industries and by this  
Commission for as long as I can remember.

1  
2                   What we have here is very in-  
3 teresting. We have a proposal that would abolish that whole  
4 procedure. Admittedly, it's technically outside, the sur-  
5 face location is outside the R-111 area but it's still with-  
6 in the Secretary's Area and -- and quite the contrary to Mr.  
7 Nutter's interpretation, I think it is very clear, Mr.  
8 Chairman, that the R-111 Area does not stop at the potash  
9 boundary which you go underneath. It describes, the R-111  
10 order describes the area by a geographical, by a surface  
11 map, just like that one, which does not indicate that there  
12 are any limitations of depth for the R-111 Area, so we re-  
13 gard by when they start to directionally drill down through  
14 this area, through the R-111 Area, we regard that as a drill-  
15 ing and covered by the R-111-A order, and what we think is  
16 happening here is not that some great concessions are being  
17 made to the potash industry by oil and gas, but that this  
18 hearing is an attempt to circumvent and go around the very  
19 kinds of procedures that have been established for years;  
20 that have permitted us to work these things together.

21                   Instead of giving the specific  
22 notice that operators would have been entitled to of an at-  
23 tempt to make one hole, to drill one hole in this area, and  
24 we think we would have been entitled to that notice if that  
25 hole had been within the distance prescribed by the rules of  
the Commission, we would have had that opportunity, the pos-  
sibility of a hearing, arbitration before we ever get to the  
formal hearing, all the facts would be on the table.

1  
2 Now they come up with a possib-  
3 ility of drilling, tens, twenties, maybe fifty, maybe a hun-  
4 dred holes right on the edge of the potash area, the R-111-A  
5 area, and within the -- the Secretary's Enclave, without any  
6 notice at all. And to me that is incredible that we would  
7 take something that could inflict such enormous damage upon  
8 the potash industry and don't even comply with the simple  
9 notice requirements that we would have had if they'd drilled  
10 a single well. If they filed a single notice of intention  
11 to drill, we would have gone through all these things for  
12 one well.

13 Now we have the spectre of hun-  
14 dreds, perhaps, being -- I don't know, maybe tens, twenties,  
15 how many they have in mind, but that would be the effect of  
16 the adoption of this regulation without notice to us, very  
17 close to the line, and in our testimony, if we get the time  
18 to prepare it and present it, of course it's going to go in-  
19 to this history. It's going to go into the question of the  
20 fact that enormous damage could be done to the potash indus-  
21 try if they're drilling within 200 feet or 250 feet or what-  
22 ever it is, because that doesn't solve the subsidence prob-  
23 lems or any other problems that we've addressed in other  
24 hearings.

25 So I think for counsel to say  
we've followed technically the rules of this Commission is  
an absolute misstatement of what is really happening here.

What is really happening here

1 is not just a routine adoption of some rules. It's a trans-  
2 gression of all of the history of this relationship between  
3 the two industries. In my opinion, this hearing is doing  
4 more damage to the attempt to resolve these problems between  
5 the two industries than anything I can think of. It's an  
6 end run attempt around the proceedings and the negotiations  
7 that have been going on in an orderly fashion as a result of  
8 the BLM hearings and directives, and you know, I am not say-  
9 ing this in any way to challenge the jurisdiction of the --  
10 of the OCC, and your right to proceed in any way you see  
11 fit, but I am challenging the right of counsel to make the  
12 assertion that what is happening here is that we are simply  
13 dragging our feet and delaying proceedings because he's com-  
14 plied with the letter of the law.

15 I say he's not complied with  
16 the spirit of the law at all, whether he's complied with the  
17 -- and I don't think he's complied with the letter, either.

18 MR. KELLAHIN: Counsel, Mr.  
19 High and Mr. Robb, assert that -- or imply at least that the  
20 Secretary of Interior process, procedure, and jurisdiction  
21 is somehow a constraint or guideline that the Commission de-  
22 termines. They say we've got to wait until the Secretary of  
23 Interior redraws its map and we don't have that before us,  
24 it's at a printer, we will have it real soon, and until we  
25 have the map here we can't decide what to do.

Well, it's apples and oranges,  
gentlemen, and we maintain to you from Mr. Nutter's testi-

1  
2 mony that the criteria the Oil Commission has used to estab-  
3 lish the R-111 boundary is a different criteria and we have  
4 a different boundary for different reasons than the Secre-  
5 tary Area.

6 But if somehow this new Secre-  
7 tary map is important, let me tell you that that map has  
8 been printed, has been publicly available in Roswell and  
9 Carlsbad since the middle of June. You can look at it just  
like we looked at it.

10 Mr. Robb makes a point that we  
11 are not following the R-111-A procedures and we ought to  
12 have some kind of notice for this case and sit down and ar-  
13 bitrate all these locations. The point is we are outside  
14 the R-111-A area.

15 Under the R-111-A order if we  
16 want a drilling location in the R-111-A area we give notice  
17 to those operators that have leases within a mile of the  
18 operation. Under the Secretary 19 -- Department -- Secre-  
19 tary of Interior Order in its directive of May of '83 there's  
20 a different procedure for establishing drilling islands. It  
21 takes about a 3-year mining plan being within one mile of  
22 those plans, different procedures, different rules for both  
23 agencies, and to stand here and maintain that this Commis-  
24 sion can't go forward because the Secretary of Interior  
25 hasn't published a map that they should have had months ago,  
it was publicly available months ago, doesn't seem to me to  
be sufficient reason to continue.

1  
2 We're not attempting to circum-  
3 vent the R-111-A boundary. What we are suggesting is a  
4 method that allows us to continue to drill and produce valu-  
5 able gas reserves outside that area.

6 It's not the first time it's  
7 been done. Mr. Nutter's shown us some 30 wells right up  
8 along the boundary where this is going on. We're proposing  
9 a method that gives them additional protection, casing and  
10 cementing as if we were in that area. We maintain that it  
11 is in our best interest and ours.

12 If there's something wrong with  
13 that boundary line, let's file an application to change the  
14 boundary, if that's their concern.

15 We're just talking about a dif-  
16 ferent kind of case. We're talking about a procedure to  
17 handle those wells outside the R-111-A area, and we think we  
18 have in good faith complied with the rules for hearing. We  
19 ask that that hearing go forward.

20 MR. HIGH: Mr. Chairman, if I  
21 may, in connection with the map that counsel said had been  
22 available since June, I heard a statement to that effect  
23 yesterday, I think it was. Today is Thursday, I heard -- I  
24 heard a statement to that effect on Tuesday. The map was  
25 available, at least a galley proof was available in the Ros-  
well office.

Wednesday morning at 8:00  
o'clock I had a representative in Roswell at the BLM to get

1  
2 me a copy of this map that's been available, as counsel has  
3 said. They told me yesterday that map is not available.  
4 There is nothing we can give you a copy of. The BLM told us  
5 this yesterday, Mr. Chairman, and I told that representative  
6 that if he in fact was told that, do not leave the Roswell  
7 office, call, because I have been told it's available. We  
8 got that telephone call. We told the individual to go back  
9 and again tell the BLM people we have been told it's  
10 available, what do you have.

11 The only thing that we were  
12 given from the BLM yesterday is a hand-scratched copy of a  
13 map of the engineering section in Roswell.

14 If that's what counsel is talk-  
15 ing about, then -- then we have some real serious problems,  
16 because that map, I can assure you, we have -- we have a lot  
17 of problems. That -- it's not even complete and it is cer-  
18 tainly not the galley proof.

19 So if counsel has access to  
20 this map, we certainly, the potash industry have been denied  
21 access to it, because we couldn't get it as late as yester-  
22 day, and counsel is exactly right, there is a different pro-  
23 cedure under the 1975 Secretary's order. If you're goin to  
24 drill the well, then you're talking about barriers; you're  
25 talking about directional drilling. You're not talking  
about wasting potash like we contend it will do here if  
they're -- if they're successful and do not even have to  
give the potash industry any notice at all, and we think



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2 that that is a significant enough difference, and not only  
3 through the waste of potash, but we have almost 3000 em-  
4 ployees that we are concerned about their safety, because  
5 any time you start drilling underneath the Federal Potash  
6 Enclave where you have miners working underground, and you  
7 have even a remote possibility of gas migration into those  
wells, we are concerned.

8  
9 Now our concerns may be re-  
10 lieved through certain precautions, I don't know, but we are  
11 here because we are concerned over not only waste of potash  
12 but the safety features involved with our mines and we do  
13 not think that someone should be hard charging, whether it's  
14 with -- to the letter of the law and ignoring the spirit, or  
15 whatever, we don't care. All we're saying is we're going to  
16 do what we can to address the safety issues of our mines,  
17 and if that takes, as counsel said, a hundred witnesses,  
18 we're prepared to do that, because we have to address the  
19 safety issue, and it's our position we have not had time to  
20 analyze a position on whether or not what counsel has -- or  
what Bass has requested in their application would consti-  
tute a safety hazard or not. We don't know.

21 If we are forced to progress  
22 today, our position is, yes, indeed, we believe it will not  
23 only waste potash but will constitute a safety hazard to our  
24 people, and we would oppose it.

25 But we have not had sufficient  
time to -- to make a reason judgment on what they're asking

1  
2 for and again it's not a routine case. Ten days notice in  
3 some case may be sufficient, or three weeks may be suffi-  
4 cient. In this case it is not.

5 So we, again, we renew our mo-  
6 tion for postponement.

7 MR. RAMEY: I'll again deny the  
8 application -- the motion for continuance.

9 We will recess till 1:00  
10 o'clock and expect you to -- to cross examine Mr. Nutter at  
11 that time.

12 (Thereupon at 11:00 o'clock a. m. the hearing  
13 was in recess until 1:00 o'clock p. m.)

14 MR. RAMEY: The hearing will  
15 come to order.

16 Are there any questions of Mr.  
17 Nutter?

18 MR. HIGH: Yes, sir, we have  
19 some questions.

20

21

22

23

24

25

DANIEL S. NUTTER,

resuming the witness stand and being still under oath,  
testified as follows, to-wit:

CROSS EXAMINATION

BY MR. HIGH:

Q Mr. Nutter, how long have you been employed by Bass?

A Since January 1, 1983.

Q And before that I believe you said you were with the OCC?

A Until December 31st, 1982.

Q And that was about what, 20 some odd years?

A Yes, sir.

Q So your practical experience is somewhat limited.

A Yes, it's limited to 28 years.

Q Your private industry experience is somewhat limited.

A Yeah, I would -- I would say as a consultant, I've been employed as a consultant for one year and eight months.

Q Were you doing the same thing with the OCC as you're doing with Bass?

A I worked on the potash/oil area quite frequently, yes.

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Q Well, were you doing the same things?

A No, not consulting.

Q Okay, so then --

A I was doing petroleum engineering work and I'm doing petroleum engineering work now.

Q But from a production standpoint you've only had, what, a year and a half or so?

A What do you mean production?

Q Well, wouldn't you say that the OCC is somewhat regulatory?

A Yes, sir, and I deal mostly --

Q And that history --

A -- mostly with regulatory matters for Bass.

Q And you've handled some 3000 cases, I believe you said.

A Yes, sir.

Q So you're probably very familiar with -- with most of the issues that have come up under the OCC during your tenure here.

A Oh, yes.

Q Are you aware of any mishaps in drilling gas wells?

A Oh, sure, ' sure, of course, yeah. There have been mishaps in drilling gas wells.

Q Been mishaps in the State of New Mexico?

A Yeah.

1  
2 Q Have there been mishaps in southeastern  
3 New Mexico?

4 A Yeah.

5 Q Have there been any mishaps in the Potash  
6 Enclave?

7 A Not that I know of right offhand, no.

8 Q Have there been any mishaps in the R-111-  
9 A Area?

10 A Not that I know of.

11 Q What would you call a mishap?

12 A Well, you used the word. I don't know  
13 what you --

14 Q But you answered the questions.

15 A Yeah. Well, mishap to me would be some  
16 unexpected event in a well, such as a blowout and I'm not  
17 aware of any blowouts.

18 Q Are you aware of any incidents where a  
19 flammable gas, and let's say (not understood), has migrated  
20 laterally from any particular source in New Mexico?

21 A Migrated laterally?

22 Q Yes, sir.

23 MR. KELLAHIN: Mr. Chairman,  
24 I'm going to object to the question. It's broad and it's  
25 irrelevant to the subject matter.

MR. HIGH: Okay, I'll rephrase  
the question.

Q Are you aware of a Washington Ranch inci-

1  
2 dent?

3 A I remember a blowout in Washington Ranch.

4 Q Did the gas -- was gas involved in that  
5 incident?

6 A I presume there was.

7 Q Was it flammable gas?

8 A I presume it was.

9 Q Well, were you involved in the investiga-  
10 tion of that incident?

11 A No, I didn't investigate that particular  
12 well.

13 Q But you are aware of what happened?

14 A I remotely remember a blowout in the  
15 Washington Ranch area, as I recall.

16 Q Do you recall whether or not that gas mi-  
17 grated laterally in the geological structure?

18 A I couldn't tell you.

19 Q All right, where was that incident?

20 A In Washington Ranch.

21 Q Okay, where is the Washington Ranch?

22 A The Washington Ranch is, I believe Wash-  
23 ington Ranch is southwest of Carlsbad, if I'm not wrong.

24 Q When you say a blowout, what do you re-  
25 call happening in that particular instance?

A I don't recall exactly. I -- I didn't  
have the Washington Ranch in mind when I came here today.  
You brought it to my mind and I just vaguely remember an in-

1  
2 cident in Washington Ranch.

3 Q But that did occur while you were with  
4 the OCC.

5 A I don't remember when it occurred.

6 Q Are you aware of the specifics of any  
7 other mishaps or problems with wells in southeastern New  
8 Mexico?

9 A I'm acquainted with --

10 MR. KELLAHIN: Objection --

11 A -- all kinds of problems.

12 MR. KELLAHIN: I object to the  
13 question. It's too broad and beyond the scope of the appli-  
14 cation.

15 MR. HIGH: Mr. Chairman, we are  
16 here talking about an application to eliminate notice and  
17 any hearing requirement with respect to drilling gas wells  
18 around our potash reerves.

19 I think we're entitled to pur-  
20 sue the extent to which there may be safety considerations  
21 involved in drilling gas wells, and we submit that there  
22 have been a number of mishaps. These mishaps suggest to us  
23 that what the applicant in this case wants to do has a safe-  
24 ty issue that we have to address, and I believe we are en-  
25 titled to establish that yes, indeed, there can be a mishap.  
There can be lateral migration of gas, and yes, indeed, we  
do have a concern of that, and I submit the question is di-  
rectly related to this application, whether it should or

1  
2 should not be granted. The statute speaks in terms of ha-  
3 zards. That's what we're talking about here, hazards.

4 MR. KELLAHIN: Mr. Chairman,  
5 reviewing the hazards in the oil/potash area and not to ha-  
6 zards that occur in the San Juan Basin or some other place  
7 in southeastern New Mexico.

8 The testimony has been that the  
9 casing and cementing program in the potash area is different  
10 and special from those used in other areas.

11 Until a proper foundation has  
12 been shown that the blowout occurring somewhere else in  
13 southeastern New Mexico has any relevancy or materiality to  
14 this case, the question is much too broad, is why we object.

15 MR. HIGH: Well, with all due  
16 respect, Mr. Chairman, what happened in other gas wells, we  
17 don't particularly care where they're located. They could  
18 be located in Siberia but if that well, if something occurs  
19 with respect to that well, and it is a mishap, the gas  
20 leaks, we say that is some evidence, is predictive of what  
21 might happen with Bass drilling these wells in southeastern  
22 New Mexico, unless they can prove to the contrary, because  
23 if the drilling technology is the same, and they -- they  
24 certainly have not indicated they have any intention of  
25 doing anything other than drilling into (not understood),  
then the mishaps elsewhere are some indication of what might  
happen in southeastern New Mexico, and I think what Bass has  
done in other areas where they drilled other wells, what ex-



1  
2     pertise does Bass have?     What assurance does the potash in-  
3     dustry have that Bass knows anything at all about direc-  
4     tional drilling, that they will have proper supervision on  
5     directional drilling?     Those are areas we also want to pur-  
6     sue with this witness, and we submit they're entirely --  
7     they're directly relevant to the application.

8                     MR. KELLAHIN:     Mr. Chairman, I  
9     think this probably points out exactly what I think is wrong  
10    with this fundamental question.     A blowout in Siberia is  
11    geologically impossible to affect the potash in southeastern  
12    New Mexico.     If that is as broad as his questions are going  
13    to be, they're irrelevant.     We object.

14                    MR.     RAMEY:     Overrule the  
15    objection.     You may answer the questions if you can, Mr.  
16    Nutter.

17             A             What was the question?

18             Q             Do you recall the question, Mr. Nutter?

19             A             What was the question?

20             Q             I believe the question was are you aware  
21    of any mishaps of gas wells in southeastern New Mexico?

22             A             Yes, sir, I'm aware of mishaps in gas  
23    wells in New Mexico, like even to the point of a man falling  
24    off the rig and hitting his head on the ground below.

25             Q             Okay, let's -- let's talk about gas  
26    leakage.     Are you aware of any incidents involving gas  
27    leakage?

28             A             Not under the R-111-A casing rules.

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Q No, no, I said southeastern New Mexico.

A Yes. Yes, I am.

Q Okay, how many instances are you aware of?

A I'm not sure. I don't know --

Q More than one? More --

A -- how many instances?

Q -- than five?

A I would say several.

Q Okay, it is not a rare occurrence, is it, to have a mishap or gas leaks when you're drilling a gas well?

A I would say it's relatively rare, yes, Mr. High, because most wells are drilled without your so-called mishaps.

Q Okay. There's no way, though, that the technology is at the stage where you can say unquestionably that there will not be a mishap.

A Nobody can guarantee anything, Mr. High.

Q Okay, so any time you're drilling a gas well, there's always that risk factor there that there may be a mishap.

A There may be, but we believe that it's minimized to the lowest possible degree by the casing and cementing rules of R-111, which were adopted in 1955 and have not been changed to this date, and I'm not aware of any of those 64 gas wells that were drilled on the perimeter of

1  
2 R-111-A or that were drilled within R-111-A that had a so-  
3 called mishap.

4 Q Well, that wasn't my question, but I  
5 guess that was your answer.

6 Do you know if any of these mishaps that  
7 you are aware of, whether or not gas leaked to the surface?

8 A Yes, I've known of wells blowing out to  
9 the surface, but not in R-111-A.

10 Q Are you aware of any instance where the  
11 gas did not leak to the surface?

12 A I'm aware of lots of wells where there  
13 was no gas leak to the surface.

14 Q Are you aware of any wells where the gas  
15 did not leak to the surface but instead migrated laterally?

16 A You're talking about an underground blow-  
17 out.

18 Q Okay.

19 A No, I'm not aware of underground blow-  
20 outs.

21 Q Is that something that you would have  
22 known about if you were with the OCC?

23 A Yes, sir.

24 Q Are there rules for reporting those kinds  
25 of incidents?

A Yes.

Q Are there ways of detecting it?

A Yes, there are. Yes, there are.

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Q All of them?

A I would say for the most part you'd be able to detect an underground blowout, yes.

Q Is there any difference in the risk of an underground blowout between a deep well and a shallow well?

A There's more pressure on a deep well, normally, than there is on a shallow well; however, most deep wells have intermediate casing set on them, which would not be the case in a shallow well, so you have an extra string of pipe to protect the zones that would lie above the casing show on an intermediate pipe.

Q Which one would you say is most hazardous in terms of the possibility of an underground blowout, a deep well or a shallow well? If you know.

A I don't know if anyone could define which would propose the most hazard.

Q But you don't know. You're not willing to say which is or is not the most hazardous.

A No, because you have the one case where you have less pressure. You have the other case where you have the more casing.

Q Okay, --

A So --

Q You've -- you've answered the question for me.

Q Would the degree of hazard depend upon the presence or existence of let's say some corrosive fluids

1  
2 or liquids?

3 Would that be a factor?

4 A Not necessarily, no, because wells are  
5 drilled in a relatively short time and that corrosion  
6 wouldn't occur in that short period of time.

7 Q What -- what if the well was a low produ-  
8 cer and was plugged, would that -- would the presence of  
9 corrosive fluids constitute a hazard?

10 A It would depend on the plugging program  
11 and of course R-111-A prescribes a special plugging program  
12 for wells in the area.

13 Q Are you aware of any incidents in -- in  
14 New Mexico where casing has corroded to the point where  
15 there was leakage of gas?

16 A You mean after a well was completed?

17 Q At any time.

18 A Yes, I'm aware of some casing failures.

19 Q And that was because of corrosion?

20 A Probably so.

21 Q Do you know what caused that corrosion?

22 A Well, I guess certain corrosive mater-  
23 ials.

24 Q And gas leaked out of the casing into the  
25 horizon?

A Oil or gas or water.

Q Okay, and that happened in southeastern  
New Mexico?

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A Yeah.

Q Do you recall how many incidents where that happened?

A No, I don't know how many incidents that happened.

Q Do you know whether or not that gas migrated laterally?

A No, I don't know of any lateral migrations of gas.

Q Does the Oil -- does the OCC have any procedures to determine that?

A It would be detected, I believe, by one way or another. It might appear in the production from another well. It could appear in an abnormal pressure on the casing in another well, possibly.

Q Well, while you were with the OCC, were you ever assigned to a case where you were instructed or directed to determine the extent to which gas is migrating laterally?

A I'm not acquainted with any gas migration and I told you.

Q Fine. I understand. Are you acquainted with any safety considerations involved in drilling oil and gas wells?

A Yes, sir.

Q Do you think that is a legitimate concern?

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A Safety?

Q Yes, sir.

A Absolutely. Absolutely.

Q Do you think R-111-A takes into consideration the safety of individuals in --

A Of course it does, because that was the reason these special casing and cementing rules were prescribed in 1955 and they've been successful, and that's the reason they haven't been amended to date.

Q That's your opinion.

A Yes, sir, it's been the -- apparently the opinion of the oil and gas industry, apparently it's been the opinion of the potash industry, and apparently it's been the opinion of the Commission, because of those three parties could have asked for a hearing to modify those casing rules if they felt that they were inadequate, but there's been no evidence that anyone has felt these casing and cementing rules were inadequate.

Q And you're assuming from that silence that the understanding was that they were all A-OK.

A Because any one would have been free to ask for an amendment to the rules, so I assume by their silence that they're satisfied.

Q You don't think that the -- that the additional approval required by BLM had anything to do with it.

A I believe that normally the BLM's re-

1  
2 requirements are very similar to the ones that are prescribed  
3 in --

4 Q But you don't --

5 A -- R-111-A.

6 Q --know in particular cases whether or not  
7 that was the case.

8 A I've talked with representatives of the  
9 BLM or the USGS and find that they do recognize the casing  
10 and cementing rules in here as adequate and use them for  
11 their guidelines.

12 Q Mr. Nutter, with respect to the appli-  
13 cant's Exhibit Number One, that's been identified as the map  
14 that's on the wall, is that correct?

15 A Yes, sir.

16 Q Did you prepare that yourself?

17 A No, no, that was prepared under my direc-  
18 tion by a Bass draftsman.

19 Q Do those people work for you?

20 A No, they don't work for me but I had them  
21 prepare the exhibit.

22 Q Where's your office?

23 A My office is here in Santa Fe.

24 Q And where are the offices of the people  
25 that made that map?

26 A At Ft. Worth, and I went to Ft. Worth and  
27 discussed this with them.

28 Q Okay. So they in effect supplied you



1  
2 with the map --

3 A Yes, sir.

4 Q -- is what you're saying? Okay. Did you  
5 see the bald data used to put the lines on it?

6 A Which lines?

7 Q Any of them.

8 A Well, now, base maps showing the town-  
9 ships and sections are -- I'd go to the base map.

10 Q Okay, but this is -- this is -- you're  
11 not saying that this is an official map for either the State  
12 of New Mexico or the Bureau of Land Management, are you?

13 A No, it's a copy. It's a copy of the base  
14 map made by the government.

15 Q But as altered it's not either a State or  
16 Federal map.

17 A It's not a State or Federal -- it's not a  
18 government publication, no.

19 Q Okay. The base map, of course, we're  
20 well familiar with but the markings you or people that also  
21 work for Bass put on it.

22 A That's correct.

23 Q Okay. Where did you get the data, Mr.  
24 Nutter, for the Secretary's Potash Area?

25 A That comes from the BLM's Potash Enclave  
map.

Q Do you know whether or not that area is  
the same as shown on the current BLM map?

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A Which is the current BLM map?

Q Well, at least one we have a copy of, not the mysterious map that we were talking about this morning; the one that's supposed to be issued soon, not that one.

A That is --

Q The one before that.

A -- the Secretary's area, as far as I know.

Q As of when?

A Well, I believe the date is on there, as of '75, I believe.

Q As of the date on the map?

A I believe it's '75. Secretary's Area as of 11-5-75.

Q Now the -- has that changed that you know of over the years?

A I understand the new map has some small changes in the Secretary's Area, but other than that, it's not changed.

Q Do you -- as I understand your testimony on direct you were somewhat critical of the data used in defining the Secretary's Area.

A No, I wasn't critical. I just said they used a different criteria.

Q Okay, do you dispute the criteria they used?

A I think that it was extra generous and

1  
2 what they did, they said if there's any possibility of any  
3 potash here we'll include it in the Secretary's Area, and  
4 then subsequent cores have revealed these barren areas. His  
5 -- his original area didn't have any barren areas outlined  
6 on it. It was just a map that was -- it was a line that was  
7 drawn on a base map.

8 Q How do you know all this?

9 A Well, I've worked with the Secretary's  
10 Map and the Secretary's Area since they were first promul-  
11 gated.

12 Q But you are aware of how that line was  
13 drawn?

14 A Well, I'm not sure just how the Secretary  
15 of Interior drew his map but I know that he took in areas  
16 that hadn't been proven, because there's areas there that  
17 had not had any core holes.

18 Q In your opinion.

19 A Right. Because there's areas that  
20 haven't had any core holes in them, so they took the broad-  
21 est interpretation of where potash may be and drew the line  
22 and subsequent cores have resulted in barren areas being de-  
23 picted on the newer maps --

24 Q Isn't --

25 A -- on the Enclave map.

Q Aren't there all sorts of instances where  
subsequent cores or mining has indicated that there is ac-  
tually potash reserves outside of that area?

1  
2 A Well, I believe that he has expanded. I  
3 believe it's been expanded a little bit on the new map that  
4 will be out pretty soon.

5 Q So you can't tell exactly where the ore  
6 is going to start and stop.

7 A No one knows where the ore is going to  
8 stop and start, no.

9 Q Now, which of these lines, if any, did  
10 you actually put on there yourself?

11 A I didn't put any of the lines on it.

12 Q Okay. Now the area that is marked as  
13 being R-111-A, I believe that's in yellow. Is it yellow?  
14 No, orange --

15 A Orange or yellow.

16 Q Okay. Did you put that line on this map?

17 A No, I didn't. The draftsman put that on  
18 there at my direction.

19 Q Okay, and that is the R-111-A area that's  
20 in effect today.

21 A That's correct. As it depicts down there  
22 in the legend, that's R-111-A as amended through R-111-O.

23 Q And that has changed over the years, has  
24 it not?

25 A There have been fourteen amendments.

Q And those amendments are not shown on  
this map.

A Those amendments are in that; that's

1  
2 through O, and if you go B through O, that's fourteen  
3 changes.

4 Q But this map does not show the more re-  
5 strictive R-111 before it expanded by the amendments.

6 A No, it doesn't.

7 Q Okay.

8 A That's the R-111-A that's in effect to-  
9 day, right.

10 Q Now, I believe you said that there were  
11 32 wells in the R-111-A area, do you recall that?

12 A 32 green wells in there, yes.

13 Q Now the green wells would be what?

14 A Those are gas wells completed in R-111-A  
15 area.

16 Q All right, now those gas wells are in R-  
17 111-A as it exists today.

18 A That's correct.

19 Q Now some of these wells have dates on  
20 them. Did you put the dates on these?

21 A A draftsman put -- everything was done by  
22 the draftsman.

23 Q Do you know what these dates mean?

24 A Those are the completion of those wells.  
25 Those are completion dates of the wells.

Q You don't have them on the green ones.  
Why not?

A I don't know. I don't know why.

1  
2 Q Is it possible that the green gas wells  
3 shown inside the R-111-A on your Exhibit One were in fact  
4 drilled prior to the expansion of R-111-A, or in fact even  
5 drilled before R-111-A even came around?

6 A Some of them may be that old. Some of  
7 them are new. Some of those permits have been issued by the  
8 Commission in the last few years, and approved by the BLM.

9 Q Okay.

10 A If they're on Federal land.

11 Q But your map doesn't show the dates of  
12 these -- these wells.

13 A The completion date is not given for the  
14 green wells, that's true.

15 Q Any particular reason for that?

16 A I can't tell you why I didn't ask him to  
17 put those on.

18 Q Are you trying to suggest to this Commis-  
19 sion that there's already some gas wells in here so let's go  
20 ahead and have some more?

21 A That's not the intent at all.

22 Q So that is not what you're trying to show  
23 the Commission by not having those dates on there.

24 A And this case doesn't involve drilling  
25 inside of R-111-A. This case involves drilling from outside  
of R-111-A.

Q Well, that's -- that's a matter of --  
that's why we're here, really, whether or not that's in fact

1 true, and that's -- we're going to talk about that.

2 But you're not trying to suggest to this  
3 Commission that -- that one argument in support of your pos-  
4 ition is, "Hey, guys, there's already some in here, let's  
5 put some more."

6 A I didn't --

7 Q You're not saying that.

8 A -- intend that, no.

9 Q Okay.

10 A Not in this case.

11 Q The next one perhaps, not in this one.

12 A Possibly, but not -- possibly the next  
13 one.

14 Q All right. Now this map also shows, I  
15 believe you said the mining areas you call "mined" M-I-N-E-D  
16 areas. That's the checkerboard-looking areas.

17 A That's correct.

18 Q Now who put that on the map?

19 A Those are taken -- the draftsman put  
20 those on the map. He went to the Roswell Office of the BLM  
21 and he copied the map, the mines that were on file in the  
22 BLM Offices as of the date that's given there. I believe  
23 it's the first of '83, which is the latest maps that they  
24 have in those offices down there.

25 Q Okay.

26 A But he copied the maps that the BLM has  
27 in its file.

1  
2 Q So here again you're not suggesting by  
3 this exhibit that at the time these wells were drilled in R-  
4 111-A, that the mining pattern as shown on this exhibit was  
5 at that -- was the same at the time the well was drilled.

6 A No, not at all.

7 Q In fact, isn't it entirely possible that  
8 one of these wells inside R-111-A was drilled at a time when  
9 it was thought, perhaps, that it was in a barren area and  
10 subsequent core holes or mining showed that to be incorrect?

11 A I couldn't tell you that at all.

12 Q Is that possible?

13 A I couldn't tell you whether it's even  
14 possible or not.

15 Q Well, do you know whether or not these  
16 mined out areas then are even accurate?

17 A I know that some of those mined areas are  
18 accurate. They're accurate to the degree that the potash  
19 company filed them with the BLM.

20 Q As of the date you're talking about.

21 A Yes, and some of those haven't changed  
22 because some of those mines have been abandoned.

23 Some of them, they're mining in there to-  
24 day in some of them, so that map is never going to be cur-  
25 rent unless they stop mining, and then you bring your map up  
to date.

Q How often are those maps updated?

A I don't know. I don't know how often the



1  
2 potash companies have to file their open mine reports with  
3 the BLM.

4 Q Well, it's --

5 A I know with the Commission here, they on-  
6 ly file them once a year.

7 Q Well, while you were with the OCC didn't  
8 you ever look at the maps?

9 A I looked at the maps they filed with us.

10 Q Well --

11 A And they were updated once a year.

12 Q Okay. So over the years, and let's just  
13 take one of these wells --

14 A You'll see a mine grow over the years.

15 Q Yeah. Okay. Well, some of these wells,  
16 for example, you have a date on here that -- on some of  
17 these that date back to the seventies. I think that's as  
18 far as you go. Here's a 1964. There'd be a lot of differ-  
19 ence, would there not be, in the mined out areas in 1964  
20 when that well was drilled than what it is now?

21 A Oh, I'm sure there's been a lot of change  
22 in some of those mines since 1964.

23 Q And that well would probably -- could be  
24 a lot further away from the mined out areas then than it is  
25 now, because the mining is --

A Well, it possibly could, if they mined in  
that direction with the mine that's in the nearest proximity  
to that well.

1  
2 I don't know if they mined in that direc-  
3 tion or not in that National Mine.

4 Q All right, now when did you say R-111-A  
5 came around?

6 A R-111 came out in 1951. That was the  
7 first protective order --

8 Q And you were --

9 A -- for the potash area.

10 Q -- involved in it, were you not?

11 A Not in that one; not in '51.

12 Q Okay.

13 A But R-111-A, when they decided that the  
14 R-111 didn't define the areas properly, and --

15 Q What was -- well, let's just pause for a  
16 minute.

17 What was the purpose of R-111?

18 A R-111 was to provide multiple use of  
19 lands and provide for the drilling of oil wells without un-  
20 due interference with potash operations, and to provide for  
21 potash operations without interference with the oil and gas  
22 operations.

23 And then the way the areas were defined  
24 in that order was not precise. It --

25 Q Now what wasn't precise?

A Okay. It prescribed a great big area and  
it said this is R-111 Area.

Q Are you talking about an order of this

Commission --

A Yes, sir, I'm talking --

Q -- rather than the R-111 --

A -- about -- yes, sir, I'm talking about  
an old --

Q -- area.

A Yes, sir, it was entered in 1951 and it  
prescribed a great big area and said this is --

Q Not the area that --

A No, no, not --

THE REPORTER: Gentlemen, I  
cannot take you both at the same time for the record.

MR. HIGH: I'm sorry. I'm sorry.  
Go ahead.

A Okay. Now the R-111, I'm talking about  
R-111, not R-111-A.

Q All right.

A In 1951 they came out with R-111 and it  
prescribed a great big area. Then it said inside of this  
area there is Area A and Area B.

Area A was where the mines were.

Area B was, if I can recall their words,  
said this is where there's potential potash, and so it pro-  
hibited the drilling in Area A where the mines were, and  
then prescribed some regulations for drilling in Area B.

Well, this didn't work out too satis-  
factorily, so in 195 -- let's see, the hearing was in July

1 and August of 1955.

2 They reviewed R-111 and came out with R-  
3 111=A in October of 1955.

4 Q Now you were -- you say you were involved  
5 in that?

6 A I drew -- I drew the original boundaries  
7 of R-111=A, yes, sir.

8 Q Okay. Now, what data did you use to es-  
9 tablish those boundaries?

10 A The committee that worked on that, and  
11 unfortunately, someone has pilfered the map out of the files  
12 here. It was in 1955 that this map was submitted by a com-  
13 mittee of oil and gas and potash people, and it showed the  
14 boundaries of where they believed the commercial ore was.

15 Q Okay, did the State, in establishing that  
16 area, have any organized program to drill test holes to see  
17 if in fact there was commercial potash ore out there?

18 A I don't believe the State did, no.

19 Q Okay.

20 A They used --

21 Q Do you know --

22 A They used core holes that had been ob-  
23 tained by the potash people and tests that had been obtained  
24 from drilling oil and gas wells.

25 This potash was, incidentally, discovered  
by an oil and gas well, and they used the available data  
from logs on -- on the oil and gas wells and the core holes

1  
2 that the potash companies had drilled, and they drew a con-  
3 tour map that they gave to me. This contour map just rough-  
4 ly curves around like so, and they said draw an area that  
5 corresponds to that contour map.

6 The contour map was the limits as known  
7 then of commercial deposits of potash and they had an island  
8 down here. There's no indication of potash in there. They  
9 had an island. They said draw a -- draw us a line around  
10 there that we can describe by metes and bounds or by quarter  
11 quarter sections.

12 So I drew these lines and that was the  
13 beginning of the R-111-A Area, and that area is the same  
14 area with the exception that there have been fourteen revi-  
15 sions to it from 1955 to date. And that's the yellow line  
16 that's on there now, the revised R-111-A Area.

17 Q To your knowledge during all the time you  
18 were with the OCC, was there ever any State program designed  
19 to drill bore holes, or test holes, to confirm or deny the  
20 presence of commercial potash deposits around the R-111-A  
21 Area?

22 A I don't recall the Commission doing that.

23 Q Okay.

24 A Or the State doing it.

25 Q Do you know whether or not the oil and  
gas industry ever had such a program?

A I don't believe so, not that I'm aware of  
right now.

1  
2 Q Okay. So to your knowledge all of the --  
3 the test holes or the presence or non-presence of potash de-  
4 posits came from the potash industry.

5 A As far as I know, yes.

6 Q Now I believe you mentioned in your di-  
7 rect testimony, Mr. Nutter, that R-111-A, and again when I  
8 say R-111-A, we're saying up through O.

9 A Right.

10 Q At the present.

11 A Okay.

12 Q Present R-111-A begins at the Salado for-  
13 mation.

14 A Yes, sir.

15 Q When did you decide that?

16 A I've always felt that way because the  
17 Commission in -- in its promulgation of special rules nor-  
18 mally makes those rules applicable to something that's pre-  
19 scribed. Now if they set up some special rules for an oil  
20 pool in a given formation, those rules are applicable to  
21 that formation. If they set up rules for a Pennsylvanian  
22 gas pool, those rules are applicable to that formation. If  
23 they set up general rules in their general rules and regula-  
24 tions, those are applicable to everything that isn't over-  
25 ridden by some special rules, and these are special rules,  
so I've always felt that they applied to the potash zones,  
to the -- down to the Salado.

Q Okay, is there --

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A Through the Salado.

Q Is there is regulation that says that?

A Huh-uh, just in Commission policy.

Q Is there a Commission order that says that?

A No. No, it -- R-111-A does not prescribe vertical limits, but like those other pool rules, it doesn't necessarily prescribe vertical limits. It will say it's for that formation, and this is rules for drilling in the potash area, which, the potash is in the Salado, so --

Q Has this Commission ever issued any document which establishes the Salado as the end of R-111-A?

A No, but I have to believe it's got an end, because if we went around to the other side of the earth and wanted to drill a well, we'd be in the potash area if those rules went all the way through, so that would be in the Indian Ocean somewhere.

Q But isn't, Mr. Nutter, isn't that a decision for this Commission and not you to make?

A Well, it is my opinion.

Q Yeah, it --

A It's only my opinion.

Q -- all of a sudden became important to you after you left the OCC and went to work for Bass.

A I've always felt this. I've always felt this. It's never been an official Commission policy and has never been published as a Commission policy.

1  
2 Q But in 28 years with the OCC you never  
3 did anything to generate a document to establish this.

4 A No, I didn't.

5 Q You only did that when you worked for  
6 Bass.

7 A No, I never generated a document, no.

8 Q Okay, but now that you're away from the  
9 OCC, with Bass, this is the way you want it stated.

10 A This is my interpretation of it.

11 Q Now, wouldn't that definition amend and  
12 restrict the current size of R-111-A?

13 A What do you mean by size?

14 Q Well, you're in effect saying let's now  
15 chop off of the R-111-A Area below the Salado formation.

16 A Right. Right.

17 Q So you're in effect amending the R-111-A  
18 area, is what you want to do.

19 A Not the horizontal boundaries of it. I'm  
20 saying that it does have vertical limits.

21 I've reviewed a potassium lease and it  
22 says that the potash company has the rights to potassium,  
23 and I don't know of potassium below the Salado, so I presume  
24 even though it may not say it in black and white, but I pre-  
25 sume the potassium lease has a vertical limit to that ex-  
tent, that there is no potassium below the Salado formation.

So I think that the R-111 has a vertical  
limit, too.



1  
2 Q One purpose of your application here is  
3 to chop off everything below the Salado formation and bring  
4 it outside R-111-A.

5 A I'm saying R-111-A has horizontal limits  
6 like this, and has vertical limits like this; that it's in a  
7 box.

8 Q That's the way -- that's what your appli-  
9 cation seeks to establish.

10 A That's correct.

11 Q That's not the way it is today; that's  
12 what you seek to establish.

13 A Right. I'm -- I'm --

14 Q Now, you have also proposed, I believe,  
15 Mr. Nutter, again I'm not sure of the exhibit number. It  
16 may be Two. It's the --

17 A Proposed rules?

18 Q -- document that's entitled Proposed  
19 Amendment, Division Order R-111-A.

20 A Yeah, that's Exhibit Two.

21 Q Yes, sir, your proposed III A. Now in  
22 this document you say that, and I believe this was an amend-  
23 ment that was asked for this morning, that for the purposes  
24 of these rules, and I'm quoting now from your paragraph (1)  
25 (c), for the purpose of these rules the base of the Salado  
(salt) interval shall be that point as found at a depth of  
2460 feet on the log of the Perry R. Bass Big Eddy Unit Well  
No. 101, located in section so forth and so on.

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A Right.

Q And you are proposing a definition, are you not, of the Salado interval?

A That's correct.

Q Do you know whether or not there's an existing definition of the Salado interval?

A There is not. Not in the Commission files. There's not -- it's never been specifically defined by the Commission, and to eliminate any confusion as to what the base of the Salado was, we're offering this a type log, where anyone can go and see what it looks like on the logs of wells. Then they'll know if they penetrated the Salado completely when they logged that point.

Q Do you have any expertise in geology?

A Yes, to a degree that a petroleum engineer would normally have.

Q Are you aware of any geological studies that have identified the Salado formation in the -- in southeast New Mexico?

A Oh, I don't know of any specific studies that have been made to detect -- to determine it.

Q We --

A However, this is a -- on Exhibit Two-A, if you'll look at that log, it's the base of the salt. There's no question that any geologist or engineer that's acquainted with the logs in southeast New Mexico would say this is the base of the salt.

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Q That's your opinion.

A Yes, sir, and I would almost --

Q If --

A -- guarantee any geologist or engineer will see this is the base of the salt. It's very well marked on that particular log.

Q Isn't it your intent by that, Mr. Nutter, let's assume that the top of this light switch is 2700 and --

A 240 -- 2460.

Q 2000, what is it?

A 2460.

Q Okay, that the top of that light switch is 2460 feet.

A Uh-huh.

Q You're saying that you want to define the Salado formation, the Salado interval, at that depth completely across the potash basin of southeastern New Mexico.

A No. No. The marker on any other log that would be equivalent to the marker on this log, it might be some other depth in another well. It would be another depth in another well. I don't want a flat plane. I want the base of the Salado, and you'd go to any log and find the base of the Salado being the same kick as the kick on this log, and it could be less and it could be more.

As a matter of fact and it is going to be more; you go further west and it's going to be less.

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Q The Salado interval is not --

A It's not a flat plane.

Q -- the same depth across the basin, is it?

A That's correct.

Q It starts relatively shallow on one side and goes down.

A It starts more shallow on the west and gets more deep on the east.

Q And you're aware of that.

A Yes, sir, and so this 2460 is not meant to say that 2460 would be the level of the Salado across there.

Q That's not what this says?

A No, it says the kick. It's the point on the log. It's the point on the log.

Q Would that change the existing size of R-111-A?

A What -- what do you mean?

Q Would it change the current limits both horizontal and vertical?

A It would not affect the horizontal limits at all.

Q But it would the vertical limits.

A It would prescribe a vertical limit.

Q Now, I want to go back a minute to the wells that you said earlier this morning were within the R-

1 111-A Area.

2 Do you know how many of those wells have  
3 been drilled in the last five years?  
4

5 A No, I don't. Like I said, I don't have  
6 the dates on those, so I'd have to review the well files and  
7 see just when those wells were completed.

8 I know some of them are fairly recent  
9 wells, though.

10 Q Do you know how many?

11 A No, I don't. I haven't specifically  
12 looked up the dates on the wells.

13 Q And the people in Ft. Worth put those on  
14 there, I take it.

15 A Yes, sir.

16 Q Do you know whether or not the gas wells  
17 in the last few years have been drilled in barren areas?

18 A It depends on what a barren area is. If  
19 you're going by the barren areas as shown on that exhibit,  
20 there are some wells that were not drilled in barren areas,  
21 yes.

22 Q What do you consider a barren area?

23 A Well, I said if you go by what's shown as  
24 a barren area on that map, and those are from the BLM barren  
25 areas on their map.

And I see some wells that are not in barren areas.

Q They're in areas without commercial pay

1  
2 potash ore?

3 A Well, I don't know if they do or not, but  
4 it's not barren.

5 Q Well, if it's not barren and it doesn't  
6 have ore, what is it?

7 A Well, you'd have to go to the enclave  
8 map. We don't have the enclave map here.

9 The enclave doesn't have anything to do  
10 with this case, anyway.

11 Q I believe again that's your opinion,  
12 which we don't share.

13 A Well, this is a case involving R-111, not  
14 the enclave.

15 Q Now, on your Exhibit Two, reads to be  
16 Proposed Amendment III-A, that's designed to benefit Bass,  
17 isn't it?

18 A I believe that it's designed to enure to  
19 the benefit of both industries.

20 Q Are you saying that you're here before  
21 this OCC trying to do something nice for the potash indus-  
22 try?

23 A I'm trying to do something good for the  
24 State of New Mexico so that we can have both these mineral  
25 resources developed with a minimum amount of pain to either  
industry.

Q But if this wasn't going to benefit Bass  
you wouldn't be here, would you?

1  
2 A Well, they wouldn't have filed the appli-  
3 cation if they didn't think they would benefit.

4 Q And you'd rather have what you propose  
5 than what you have now.

6 A Yes, sir. This would provide us with an  
7 opportunity to drill certain wells on the fringe of the R-  
8 111-A and complete those wells underneath R-111-A without  
9 having the hassle of a hearing every time one of those wells  
was proposed.

10 Q And why don't you want a hearing?

11 A Because they're very expensive and labor-  
12 ious, and they're time consuming, just like this one today.

13 Q Do you think they serve a purpose?

14 A And we feel that if we go through this  
15 today and get this procedure established, it will provide  
16 adequate protection for all parties concerned. It will en-  
17 able the State and the Federal government to see their re-  
18 sources developed and that it affords protection to both in-  
dustries.

19 Q And you think you're competent and quali-  
20 fied to make that judgment on behalf of the potash  
21 industry.

22 A We feel that we are making a -- by pro-  
23 viding the same casing and cementing rules to the wells that  
24 are drilled in what Mr. Kellahin referred to as the buffer  
area, outside of the potash area.

25 As I mentioned this morning, those red  
wells are drilled on the outside of the potash area, some of

1  
2 them very close to that yellow line. Those wells did not  
3 have to conform to the potash/oil casing and cementing rules  
4 because those rules don't extend beyond that yellow line.

5 So these wells we're proposing will pro-  
6 vide more protection to that potash than those red wells  
7 that are drilled all the way around the perimeter of it.

8 Q And can you show me any wells on your Ex-  
9 hibit One that is within 250 feet of R-111-A that is not  
10 drilled with some protective consideration?

11 A I don't know what the exact distances of  
12 those are, but those wells were not subject to the rules of  
13 R-111-A.

14 Q That wasn't my question.

15 A I tell you, I don't know what the exact  
16 distance is, so I couldn't say within 250 feet.

17 Q Isn't it a fact that BLM also had to ap-  
18 prove those wells?

19 A If they're on Federal land. Some of  
20 these are State land, however.

21 Q And can't they all -- can't BLM require  
22 certain protective steps?

23 A Sure they can. Sure they can. But not  
24 all of these sections in here are Federal land. There's a  
25 lot of State land and a few fee lands in there, too.

Q Do you know whether or not BLM requires  
wells to be drilled in a certain way at a request from the  
potash industry?



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A Yeah, they do.

Q Now under your proposal, let's assume for a minute your proposal is adopted. You could then at anywhere on the outside of R-111-A, could start drilling wells, could you not?

A You could file an application with the Director of the Division for that.

Q Okay, but the potash industry would no longer be involved.

A That's correct.

Q And you would be making the judgment for the industry, potash industry.

A The Commission would make the judgment on establishing this procedure that we're proposing today.

Q Yes, but the potash industry was not a participant under your proposal, are they?

A You're here.

Q But not if your proposal is adopted. Doesn't that send me home?

A You're here and --

Q What it would really be --

A I don't know how --

Q Is there anything --

A You'd go home but I don't know how long you'd stay there.

Q Is there anything -- is there anything in your Exhibit Two that allows for notice and the participa

1  
2 tion of the potash industry if you start drilling all these  
3 wells around our potash?

4 A No, there is not. To be frank with you,  
5 there is not, because we feel like we're staying outside the  
6 potash area horizontally and vertically.

7 Q Okay, let -- so under your proposal you  
8 could come right outside the R-111-A 200 or 250 feet away  
9 and start drilling a hole.

10 A That's correct, on approval from the Di-  
11 vision Director.

12 Q Okay, and the only criteria is that it be  
13 outside the R-111-A.

14 A That's right.

15 Q Now, looking at your Exhibit Two, I see  
16 some areas where potash mines have mined outside of R-111-A.

17 A And I can't explain that.

18 Q Would you say that means there's some  
19 commercial grade ore out there?

20 A I would say that that probably indicates  
21 the potash company was negligent in not coming in and asking  
22 for R-111-A to be extended.

23 Q Well, would you think they would mine out  
24 beyond R-111-A if the deposits had not been commercially --  
25 commercial grade ore?

A If they were mining commercial ore, the  
R-111-A wasn't extended. It may --

Q I realize that.

1  
2 A It may be they were out of the commercial  
3 ore. They may have been looking for another piece over  
4 there some place, I don't know. That's an awful lot of min-  
5 ing to be exploring, though, in that particular instance  
6 you're pointing to.

7 Q Well, let me point here, if I may, to In-  
8 ternational Minerals and Chemical Corporation, and I believe  
9 you could -- that you could look and justify the notation on  
10 your exhibit of T22S. Does that, or does it not, indicate  
11 that IMC has mined considerably -- a considerable distance  
12 beyond R-111-A?

13 A That -- that is the largest extension be-  
14 yond R-111-A that's on the map. There are some others, al-  
15 so. I can show you some others.

16 PCA stuck a little mine out right here.

17 MR. HIGH: Mr. Chairman, I have  
18 some questions I'd like to ask. May I ask that the witness  
19 be responsive and not -- he had a chance this morning. I'd  
20 like for him to be responsive to my questions now. Counsel  
21 will certainly get another opportunity.

22 A Sure.

23 MR. RAMEY: Mr. Nutter, contain  
24 yourself.

25 A Sure.

Q Do you think, Mr. Nutter, that IMC would  
have mined as far as indicated by your exhibit beyond R-111-  
A if there had not been commercially -- commercial grade ore

1 out there?

2  
3 MR. KELLAHIN: Mr. Chairman,  
4 I'm going to object to that question. It asks this witness  
5 to speculate on an answer. That is a matter between IMC and  
6 whatever they did. This witness has not been able to ident-  
7 ify why IMC mined beyond the area. It's on the exhibit that  
8 they did. It calls for a speculative answer.

9 A I said awhile ago I couldn't understand  
10 why that was that way.

11 Q Okay. Under your proposal -- you don't  
12 know, is what you're saying.

13 A I don't know why they mined beyond R-111-  
14 A.

15 Q But under your proposal, if your Exhibit  
16 Two is adopted, you could -- you could drill a gas well  
17 through the area indicated on your map, Exhibit One, that  
18 are shown as being a mined out area.

19 A Under the existing rules we could drill a  
20 well there. There's no restrictions on drilling wells out-  
21 side of R-111-A, as far as the Commission is concerned, and  
22 that's outside of R-111-A.

23 That's why I say, could be that the  
24 potash company has been negligent in not extending the area  
25 if there is commercial ore there, because they could drill a  
straight well right there right now.

The only difference under our rule is  
that they could drill a straight well until they passed the

1 Salado and then deviate it.

2 Right now you can drill a straight well  
3 through that mined out area.  
4

5 Q How many wells are you aware of that have  
6 been drilled through mined out areas?

7 A I'm not aware of any.

8 Q Again isn't that something BLM has some-  
9 thing to say about?

10 A BLM or the Commission.

11 Q Well, let's -- let's -- let's look at  
12 that. The R-111-A area is within the Secretary's Potash  
Area, is it not?

13 A I presume -- for the most part it is. I  
14 see a little bit of the R-111-A that sticks out beyond the  
Secretary's Area there, also.

15 Q If you intend to drill in an area covered  
16 by Federal lease, do you know whether or not you also have  
17 to have BLM approval, Mr. Nutter?

18 A Yeah, you do have to if it' -- if it's  
19 on an oil and gas lease, a Federal oil and gas lease?

20 Q A Federal potash lease?

21 A If it's -- now, if there's a Federal pot-  
22 ash lease there and there's a State oil and gas lease, I  
don't know if you'd have to have BLM permission or not.

23 Q Do you think, Mr. Nutter, let's look  
24 again at the IMC situation which is within the Secretary's  
25 order, anyway, the Secretary's Area.

1                   A           That's within the Secretary's Area, yes.

2                   Q           Do you think you could drill a gas well  
3 down through that mined out area without BLM approval?  
4

5                   A           I don't know if that's State or Federal  
6 lands right in there.

7                               If it's Federal lands, you'd have to have  
8 a BLM permit.

9                   Q           Now, are you aware of any wells outside  
10 R-111-A that have been drilled through what turned out to be  
11 commercial grade potash ore?

12                   A           That were outside of R-111?

13                   Q           Yes.

14                   A           No, not right offhand. I don't know if  
15 they even cored it or tested it to see if it was commercial  
16 potash there. They rely on the potash companies to keep the  
17 R-111-A Area up to date by their requests for extensions, so  
18 the oil company, when it's drilling its well, is not coring  
19 potash to see if the potash is present.

20                   Q           Let me ask the question a different way,  
21 Mr. Nutter.

22                               Is it your contention here today that the  
23 OCC should allow Bass Enterprises to drill a well outside R-  
24 111-A without regard to whether or not there may be commer-  
25 cial grade potash deposits there?

                  A           We are taking the position that the pot-  
ash companies will keep R-111-A up to date by requesting an  
extension.

1  
2 If they drill a hole outside of R-111-A,  
3 drill a core and discover commercial grade potash, they'll  
4 come -- they'll file an application with the Commission,  
5 come in and ask for the R-111-A area to be extended, and we  
6 rely on the potash industry to keep those R-111-A boundaries  
7 current.

8 Then, of course, if they extended R-111-  
9 A, that would mean that we would have to go back that dis-  
10 tance plus 250 feet and drill our well there.

11 Q If the potash industry did not do that,  
12 you're asking this Commission to waste the potash that may  
13 be there.

14 A They can't protect it if they don't know  
15 it's there. So it's up to the potash industry to tell the  
16 Commission where the commercial potash is.

17 Q And the oil and gas industry bears no  
18 responsibility as far as you're concerned in defining  
19 whether or not there is -- there are or are not commercial  
20 grade ores.

21 A It's not the responsibility of the oil  
22 and gas industry to core potash, make that discovery for the  
23 potash industry, no, sir.

24 Q Okay. So you think the potash industry  
25 should define the area, spend the money and define the area  
where you can drill.

A No, not where we can drill; where they  
want us to not drill.

1  
2 Q Would your proposal, again, if your pro-  
3 posed III-A were adopted, would that have any effect on the  
4 existing one mile rule?

5 A The one mile rule?

6 Q Are you aware of the one mile rule?

7 A Yeah.

8 Q And what is that rule?

9 A I presume you're talking about the rule  
10 where you give notice in the potash, in the oil/potash area?

11 Q Yes, sir.

12 A That's applicable inside the area. That  
13 would not change with respect to the wells inside the potash  
14 area. No, sir, it would not. We're drilling outside the  
15 potash area, though.

16 Q It would have no effect whatsoever.

17 A No, that wouldn't have any effect on  
18 that.

19 Q Now, you sought an amendment to I believe  
20 it was paragraph (1) (b).

21 A Right.

22 Q I believe the language you used, if I  
23 wrote it down correctly, was "intentional deviation".

24 A After the word "boundary" we inserted  
25 "and shall not be intentionally deviated."

26 Q Why is this an unintentional deviation?

27 A Well, there's a -- there's a requirement  
28 that a sufficient number of deviation surveys have to be



1  
2 conducted to insure that the well hasn't penetrated the pot-  
3 ash/oil area in the next paragraph.

4 Q Now does that apply to every well or only  
5 producers?

6 A Oh, no, that applies to every well. That  
7 applies to every well.

8 The only rule that applies if it's a pro-  
9 ducer would be in (g) where you take the survey from the  
10 kickoff point down to the bottom hole location so you can  
11 know exactly where the oil and gas is coming from. Of any  
12 well, whether -- if it -- if it got -- if it got to the Sal-  
13 ado, which is only 26-2400 feet in this particular area,  
14 that's -- if it got that far you'd take those deviation sur-  
15 veys to be sure of the straightness of the hole.

16 Q What would you do during drilling to know  
17 where the drill is?

18 Let's assume you had a blowout.

19 A You're not going to get a blowout at 2400  
20 feet.

21 Q All right, let's assume your -- you got  
22 down to kickoff point and you start to deviate. Are you  
23 saying you will do surveys to always know where you are?

24 A You're going to survey the well prior to  
25 kicking off.

26 Q Okay.

27 A And then after you kick off you're going  
28 to keep control of the well.

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Q When you going to do any surveys?

A Well, we have a drilling, directional drilling expert who's going to testify on the manner in which these wells are directionally drilled.

Q Well, my question, Mr. Nutter, is you have words on a piece of paper that's entitled III-A.

A Right.

Q Under those words would you do any surveys after the kickoff to determine where you are in the event a blowout occurs?

A You keep a constant -- you keep a constant reading on where you are and then after you get there you make that final survey, which is prescribed in (g) and you start at the bottom of the hole and come up and tie onto the original survey, but you know where you're going all the way down, yes, sir.

Q But you're doing no surveys.

A Yes, you are. You're doing it constantly. It's not a survey, it's a reading. It's a constant reading that you're making. It's not a survey as such. A survey is a continuous reading.

Q So if you have an underground blowout after you kick off, you will know where to go to solve the problem.

A Right, right.

Q You don't have to drill an test holes to try to find it. You'll know where to go.

1  
2 A You'd have a very good idea where to  
3 drill your well so you could intercept that. If you had to  
4 rely on that means of killing that blowout, that you could  
5 intercept that well and pump cement into it to kill it, yes.

6 That's why we keep a constant reading on  
7 where it's going.

8 Q Now under these casing requirements that  
9 you propose, Mr. Nutter, is it your contention that these  
10 casing requirements will eliminate any risk whatsoever of  
11 that methane gas leaking into the potash zones?

12 A I believe that these casing and cementing  
13 rules as adopted in '55, which we're not proposing any  
14 change to in these rules here, have proven quite adequate.  
15 They minimize any such risks to the maximum that's possible,  
16 I believe, and they've proven satisfactory. There haven't  
17 been any incidents that I know of to prove to the contrary,  
18 and like I said, no one has asked to amend those rules since  
19 1955, so I presume both the industries and the Commission  
20 have been satisfied with them.

21 Q Are you aware of the casing standards  
22 that were being followed in the mishaps that you referred to  
23 earlier?

24 A The mishaps that we referred to earlier  
25 were not drilled under these types of casing and cementing  
rules.

Q Do you know that for a fact?

A Well, I don't think they were drilling

1  
2 with potash area rules over in Lea County or somewhere else.  
3 I think that it's expensive and I don't think they'd be us  
4 ing those expensive casing and cementing rules where they  
5 weren't really necessary and required.

6 Q What is the risk or how would you define  
7 the risk of gas migration from an underground blowout up in-  
8 to the potash zones?

9 A Well, I think there's all kinds of imper-  
10 vious beds that lie horizontally bedded that are impermeable  
11 that keep this stuff from migrating to the surface or  
12 through the salt section. Most of that high pressure gas is  
13 pretty deep and there's all kinds of impervious beds to hold  
14 that pressure in. It's had 10-million years or 100-million  
15 years to leak out and it hasn't leaked out yet.

16 So I think that those beds down there are  
17 quite impermeable, and if there should be some escape into  
18 some lower formation, like the Bone Spring, it could migrate  
19 laterally, but still couldn't come up to the salt.

20 Q You don't think the gas can migrate up to  
21 the bottom of the salt, then.

22 A I don't anticipate that any gas would mi-  
23 grate to the bottom of the salt.

24 Q What about up around your casing?

25 A Well, that's what these casing and  
cementing rules are for.

Q Are you saying that gas can't migrate up  
around your casing?

1  
2 A Not -- not in the wells that are cemented  
3 like this.

4 Q How are you going to know?

5 A Well, there's requirements on the cement-  
6 ing.

7 Q How are you going to monitor that?

8 A Well, if we go to -- if we go to R-111,  
9 we'll find that for the surface casing it shall be cemented  
10 with not less than 150 percent of the calculated volume of  
11 cement necessary to circulate to the surface, and it will  
12 come to the surface, they'll see the cement. They'll know  
13 it's around the surface casing.

14 The salt protection string says --

15 Q Well, I'm aware of what it says.

16 A Okay.

17 Q But my question is how are you going to  
18 decide it's doing what it's supposed to do?

19 A You'll see the cement circulate, Mr.  
20 High.

21 Q Well, how are you going to determine if  
22 there's a good bond?

23 A Well, if you got a good cement job, it's  
24 going to have a good bond.

25 Q Well, my question is how are you going to  
determine in your proposal whether or not you have good  
bonding or no bonding at all?

A Okay. It says if the cement fails to

1 reach the surface or the bottom of the cellar where re-  
2 quired, the top of the cement shall be located by a tempera-  
3 ture gamma ray survey and additional cementing shall be  
4 done.

5 Q That's after the gas has leaked and  
6 you've found it --

7 A No.

8 Q -- and go back and correct it.

9 A No. No. If it fails to -- if it fails  
10 to come up back to where it's supposed to come back to, then  
11 you'll run this temperature or gamma ray survey to find out  
12 where that cement is, and you can also run bonding logs to  
13 find out what --

14 Q But you haven't proposed any bonding  
15 logs, have you?

16 A The bonding -- it's not in R-111-A.

17 Q Well, actually --

18 A We haven't proposed to amend the casing  
19 and cementing rules of R-111-A in this case.

20 Q But there's nothing in your proposal that  
21 would assure you that you have good bonding.

22 A None other than what's contained in the  
23 parent provisions of R-111-A.

24 Q Were the blowouts you mentioned earlier,  
25 Mr. Nutter, were they in deep wells or shallow wells?

A There've been blowouts in both kinds.

Q I don't recall, I may have asked the

1  
2 question. Do you recall whether or not there was any later  
3 al migration of that gas?

4 A I told you, I don't know of any lateral  
5 migration of gas in southeast New Mexico.

6 Q There could have been, though, couldn't  
7 there?

8 A There could have been some I didn't hear  
9 about. I'm sure I'd have heard about it if it had been sig-  
nificant.

10 MR. HIGH: Okay, I have no fur-  
11 ther questions at this time, Mr. Chairman. Thank you.

12 MR. RAMEY: Any other questions  
13 of Mr. Nutter?

14 MR. ROBB: Yes, Mr. Chairman.

15 CROSS EXAMINATION

16 BY MR. ROBB:

17 Q Mr. Nutter, you are not an employee, a  
18 regular employee, of Bass, are you?

19 A No, I'm a consultant.

20 Q You're an independent consulting en-  
21 gineer.

22 A That's correct.

23 Q And you are not a licensed attorney at  
24 law?

25 A No, I'm not an attorney.

Q And when you signed this application, you

1 signed it on behalf of Bass.

2 A That's correct.

3 Q Not on behalf of yourself.

4 A That's correct.

5 Q You have no personal interest in this  
6 yourself.

7 A I have no personal property interest in  
8 Bass Enterprises.

9 Q All right, sir. And you have no personal  
10 interest in this -- in this property.

11 A No, I have no personal interest in this  
12 property; only have a personal interest in the case.

13 Q All right, sir, you have a personal in-  
14 terest in the case.

15 You said that you wanted to -- one of the  
16 purposes of this amendment is to avoid the hassle, I believe  
17 were your words, of these hearings that are held when an  
18 operator, an oil and gas operator, files a notice and inten-  
19 tion of drilling, is that right?

20 And the hassle that you have referred to  
21 involves giving a notice to certain potash operators that  
22 are directly affected, those within a mile of the area, is  
23 that right?

24 A No, no, not within a mile, because we're  
25 talking about drilling from outside the potash area, and you  
don't have to give that notice if you're outside the potash  
area; however, you do have to have that hearing for the di



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rectional drilling. I presume you're talking about a hearing for directional drilling. You do have to give that notice for the directional drilling. Then anybody could come in, not just potash operators that are within a mile but other oil and gas operators, everybody could come in if they wished to and attend that hearing.

It's an onerous chore to have to burden the Commission with those hearings, and to have to prepare cases. We're trying to avoid a lot of those unnecessary hearings.

Q All right, so you want to avoid the directional drilling hearing.

A That's correct.

Q Is that what you're talking about?

A Right.

Q All right. And if you are actually drilling outside of the boundary, horizontal boundary, of R-111-A, and drilling into R-111-A, then you're saying that under current practice you would not necessarily have to give a notice to potash operators?

A That's correct.

Q That's -- that's your interpretation.

A Yes, sir, that is correct.

Q All right.

A That if you're drilling outside of R-111-A, you don't have to give that personal notice to potash operators within one mile.

1 Q Okay. And so if you were drilling one  
2 foot outside of R-111-A, your position would be you would  
3 give no notice but if you're drilling one foot inside, you'd  
4 give it.

5 A That's correct. That's the way the rules  
6 read.

7 Q I see, okay. So a two foot difference,  
8 then, makes quite a bit of difference on whether or not the  
9 potash operators would be entitled to come in and try to  
10 show where the potash ore is actually located.

11 A The potash operators have shown where the  
12 ore is located by the establishment of the boundary of R-  
13 111-A, and that's what the Commission presumes is the bound-  
14 ary because there hasn't been a request for extension on --  
15 on file and the extension hasn't been made in a given area.

16 So the Commission assumes this is the  
17 boundary of the commercial potash.

18 Q I understand that, but even so, even  
19 though the boundaries have been established where within the  
20 boundaries the potash operators come in, you've presided and  
21 been involved in many, many of these hearings, haven't you?

22 A Right.

23 Q Involving potash operators and requests  
24 by oil and gas companies to drill inside R-111-A.

25 A And outside.

Q Yes, so you're clearly familiar with the  
procedures and what have you, aren't you?

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A That's correct.

Q All right. And the procedure is that if it's within -- let's take the one foot within R-111-A, the notice is given to any operator within -- who has a lease within a mile, right?

Okay. And then you have a provision for arbitration, do you not?

A That's correct.

Q All right, and even though it's within R-111-A, even though it's within the area where there -- where there's potash, the operators still come in and you talk about what the impact would be of drilling at that proposed location covered in the Notice of Intention upon the potash occurrences in that area.

A For the well that's proposed --

Q Proposed.

A -- inside the area.

Q Right, that's a single well, one well.

A Right.

Q Okay. And then -- then at that arbitration hearing there's often discussion. If the potash operators object and they say, look, you're proposing to drill down through good ore, then there's discussion, well, can we move the location to a different place or perhaps we can drill in a barren area or a largely barren area, so there will be the minimum impact upon the potash, isn't that right?

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A That's the normal procedure in those arbitrations.

Q And there's some give and take in those procedures, isn't there?

A We would hope so.

Q And sometimes they result in agreement of an alternate location and the potash operators will withdraw their objections.

A That has occurred.

Q Yes, sir, so -- and even if that doesn't occur, the parties get full knowledge of what the contentions are, don't they? The potash operators understand what it is that the oil and gas operator is proposing and likewise, ordinarily there's an exchange of information about where the ore reserves are, where the mining operations are, and that type of thing.

A Yes, sir.

Q And so that when you go to a hearing after that there has been this exchange of information.

Now, you are proposing a solution to the drilling outside the R-111-A area, isn't that right?

A We're proposing to drill outside the area.

Q That's right, and you have emphasized a lot of drilling that's going on outside R-111-A area, but how many wells have there been drilled outside the R-111 Area that directionally drill underneath it?

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2 A There's only two to my knowledge that are  
3 drilled, the surface locations outside, bottom hole loca-  
4 tions inside. There are only two.

5 Q All right, then we only have two examples  
6 of the kind of situation you were talking about earlier that  
7 you say are not regulated in your interpretation by the cur-  
8 rent R-111-A regulations.

9 A That's correct. I would like to mention  
10 another case where an operator came in for directional drill-  
11 ing at a location that was outside of the R-111-A Area and  
12 he proposed to drill in the exact opposite direction, away  
13 from the R-111-A Area and the potash operator came in and  
14 opposed that.

15 Q All right. Are you saying that the po-  
16 tash operator has no legitimate objection or no legitimate  
17 interest in the occurrences of potash that might lie just  
18 beyond the boundary of the R-111-A Area?

19 A If he's got that interest he should have  
20 asked for an extension to the R-111-A Area.

21 Q In the drilling that takes place in this  
22 area, and there is some drilling outside the R-111-A Area by  
23 the potash operators, is there not, and there's a lot --

24 A You mean core test drilling by the potash  
25 operators?

Q Yes.

24 A Well, sure they drill outside the area,  
25 yes, sir.

1  
2 Q The Federal Area, the Secretary's Area,  
3 is much larger than the R-111-A Area.

4 A That's correct.

5 Q Okay, and -- and there has been extensive  
6 drilling in the Secretary's Area and outside R-111-A.

7 A Right.

8 Q Are you -- do you have any idea how many  
9 core holes or how much ore has been established outside R-  
10 111-A Area and within the Secretary's Area?

11 A If you look at the old enclave map you  
12 can see what is portrayed as being potash; you can see the  
13 barren areas outlined on that, and there are some rather  
14 large extensions beyond the boundary of R-111-A.

15 Q A great deal of coring is going on there,  
16 isn't it?

17 A Yeah.

18 Q And are you suggesting that every time an  
19 operator puts down a hole and discloses some more ore that  
20 he rushes to the Commission and goes through the hassle that  
21 you're telling us you want to avoid in order to have an  
22 amendment to the R-111-A Area?

23 A I think when he discovers a sizeable  
24 block of mineralization that he should ask for an extension.  
25 It provides him with that protection and the arbitration  
meeting, and such as that.

Q Do you have any idea how many amendments  
there would be to R-111-A if a potash operator did that

1 every time they had made a discovery outside the area?

2 A Well, I don't know if every time. I said  
3 when they determine that a sizeable block exists of  
4 mineralization they should come in and ask for an extension.

5 Some of the extensions have been rather  
6 large, too, way down in the south end when International  
7 discovered all that langbeinite, they took in a couple of  
8 townships down there that wasn't in the original R-111.

9 They found some good ore and they came in  
10 and asked the Commission to extend it and the Commission  
11 extended it.

12 Q Don't you know that even a single bore  
13 hole in potash under accepted geological, anybody's accepted  
14 geological standards results in a sizeable additional  
15 deposit of potash?

16 A Well, I realize that one core hole  
17 usually has a large impact by interpretation.

18 Q How many alphabet letters, how many times  
19 would you run through the alphabet from A to Z if the potash  
20 operators had come in and filed amendment to R-111-A every  
21 time they had a hole that had mineralization?

22 A I don't know. You'd probably be in  
23 several alphabets by now.

24 Q Yes, sir.

25 A Rather than just up to "O".

Q Yes, sir, and speaking about hassles,  
that would be the hassle of the year, wouldn't it?

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A Well --

Q Or the century, maybe.

A Well, you know what maybe they ought to do is ask for some kind of an administrative procedure whereby the area could be extended without a hearing. That would be a good idea. I might work on that for them if they want to hire me.

Q So if this hearing, Mr. Nutter, if this hearing had been postponed and should ultimately get postponed, maybe there would be some opportunities to sit down and discuss solutions like what you have been talking about, although I doubt that having an amendment to R-111-A every time there was a hole would be one of them.

MR. KELLAHIN: Mr. Chairman, is that a speech or a question.

MR. ROBB: I'm responding to a speech that the witness made, I think.

MR. KELLAHIN: We'll object to counsel's speeches.

MR. RAMEY: Continue, Mr. Robb.

Q Now, since you are proposing a solution to this problem by the amendment that you have come up with, I want to ask you, let's assume that you would, under your proposal, you would drill 200 feet or you discussed maybe 250.

A Right.

Q 200 to 200 feet outside the boundary, and



1  
2 you have indicated that you think that this would be a great  
3 accommodation to the potash industry.

4 At these hearings that you have been  
5 present at, Mr. Nutter, you have heard many times, have you  
6 not, of the problems of subsidence?

7 A Oh, yeah.

8 Q And you have heard many times of the for-  
9 mula used by mining operations -- mining -- or potash mining  
10 operators in this Carlsbad Basin, that they feel that they  
11 should leave as a pillar of support for an oil and gas well  
12 a sheer, 45 degree sheer angle from the surface on down to  
the mining level.

13 A Yes, I'm acquainted with that.

14 Q And you know, don't you, that Kerr McGee  
15 is mining at a level to 2000 feet, or thereabouts?

16 A 1900, I think, yeah.

17 Q And under that sheer angle, and they also  
18 have a practice, you have found in the hearings, haven't  
19 you, that in addition to allowing that kind of block of mat-  
20 erial that needs to be left in place, they have -- to pre-  
21 vent subsidence, that they also allow a 10 percent addi-  
22 tional factor for margin, so that in a 1900 foot well, that  
23 would mean that if an oil and gas well were drilled down in  
24 a potash ore formation, that you would then have a diameter  
of 3800 feet of potash ore in which there would only be  
first mining.

25 A Well, your mathematics sounds right.

1  
2 Q All right, and then as you add another  
3 ten percent to that, you're then talking about something  
4 over 4000 feet of column of ore, potash ore, that would be  
5 left in the ground, is that right?

6 A Well, that sounds like it's about right.

7 Q Okay. Now, that would then produce half  
8 of, let's say, 4200 is 2100 feet? The radius would be 2100  
9 feet in that block that you left in place, and if you put a  
10 well 200 feet from the edge of the R-111-A Area, no invest-  
11 igation about whether there's ore, and it turns out that you  
12 have got that oil and gas well, which was drilled without  
13 notice to the potash operator, is in ore, then you know from  
14 the prior testimony of the potash operators, they would not  
15 feel safe in going ahead and mining closer than 1900 feet to  
16 that well.

17 A Yeah, they'd mine. You, yourself, said  
18 they'd mine 60 percent.

19 Q Yeah, that would be a high level. At a  
20 low level, you know first mining you can't get much out, can  
21 you?

22 A You get less at deep mining, yes.

23 Q Yes. And so basically, you know, too,  
24 that the extraction rate generally in those mines is consid-  
25 ered to be about 90 percent when they have none of these ob-  
stacles.

A Right.

Q And so that at a deep mine like the one

1 Kerr McGee might have at 1900 feet, Kerr McGee, then, would  
2 be able to extract, perhaps, 40-45-50 percent on up.  
3

4 A I don't know what the numbers would be.

5 Q But something in that order, and they'd  
6 have to leave the rest of the 50 or 55 percent in place for  
7 1900 feet south of the R-111-A under the formula you're pro-  
8 posing.

9 A Right, but you're talking about the well  
10 that's drilled on the outside of the R-111-A.

11 Q That's right.

12 A Right now they can go in and drill that  
13 well without notice to the potash companies --

14 Q I understand that --

15 A -- so that part of it doesn't change.

16 Q You are proposing a solution to the prob-  
17 lem, and I'm saying to you, sir, do you think that is a good  
18 solution?

19 A There's no less notice to the potash  
20 operators under the proposal here today than there would be  
21 under the existing rules.

22 Again, if that potash is out there, that  
23 operator should seek the revision of the R-111-A boundary so  
24 that he would get that notice.

25 Q And that is your position.

A I believe that's the only position we can  
take, that it's up to the potash operators to protect the R-  
111-A boundary by extensions.

1  
2 Q So then you would suggest that they simply  
3 do what we've been talking about a moment ago, come  
4 rushing in here, and I'm sure Mr. Ramey would be delighted  
5 for us to be in here every couple of weeks to make another  
6 extension of the potash area, and that's -- that's the only  
7 way that the potash operators are going to be able to protect  
8 themselves against that situation.

9 A They're best protection is maintain a  
10 current boundary on the commercial potash.

11 Q And you have propose a solution where you  
12 will be released of all the hassle of any hearings on directional  
13 drilling and the potash industry will have it all.

14 A I'm not proposing that we could drill any  
15 wells that we couldn't drill now. The only thing is that we  
16 wouldn't have hearings on directional wells, but the wells  
17 would be located where they can be located now without notice  
18 to those potash operators.

19 Q It is your opinion, sir, that no hearings  
20 are required when there are directional drillings going  
21 within the R-111-A Area, and I think that you said earlier  
22 that the order itself places on vertical limits on R-111-A.

23 A Now we're talking about the wells that  
24 would go under the --

25 Q Yes, sir.

A -- potash area.

Q That's right.

A That's correct, but the straight hole

1  
2 could be drilled outside the R-111-A Area. We're proposing  
3 we would drill straight until we're past the salt.

4 Q I understand that, and that would have  
5 the effect of, based on the practice of the potash operators  
6 we're talking about, of basically having to waste or leave  
7 in place these giant pillars of potash.

8 A Well, if the well was drilled straight  
9 they'd have to do the same thing.

10 Q Yes, either way.

11 A Right.

12 Q You are aware, sir, are you not, that the  
13 Federal Government has strict regulations on the amount of  
14 gas, flammable gas, that can exist within a potash or other  
15 mine?

16 A I'm aware of those regulations but I'd  
17 rather not answer questions about them because I'm not real  
18 well versed in them.

19 Q No, I'm not going to ask you a lot of de-  
20 tails about them, but you're aware generally that there are  
21 strict regulations.

22 A Stricter regulations for gassy mines than  
23 there are for non-gassy mines.

24 Q And you know that applies to the potash  
25 mines.

A It applies to all mines under Federal re-  
gulation, I believe.

Q And you know that the tenor of regulation

1  
2 in recent years has been to have increasingly strict regu-  
3 lation and to lower the limits of that -- of permissible  
4 gaseous intrusion in those mines that you're going to have?

5 A No, I don't know that.

6 MR. KELLAHIN: Mr. Chairman,  
7 I'm going to object to that question and ask the answer be  
8 stricken.

9 It's a line of questions that  
10 deal with Federal jurisdiction and Federal regulations of  
11 drilling operations in a potash area. That is not the sub-  
12 ject matter of this application, Mr. Chairman, dealing with  
13 the Oil Conservation Division of New Mexico potash area, and  
14 what the Secretary of the Interior may do, or what other  
15 Federal agencies might do with regards to their regulations  
16 is really not material to this hearing.

17 MR. ROBB: I'm not going deeply  
18 into it, Mr. Chairman, I just want to set a foundation for a  
19 question or two about the -- about the practice of the drill-  
20 ing of the older wells, oil and gas wells.

21 MR. KELLAHIN: Mr. Chairman, I  
22 don't care how shallow or deep he wants to drill with this  
23 series of questions. I think they're all immaterial.

24 MR. RAMEY: I'll overrule the  
25 objection, Mr. Kellahin.

MR. ROBB: I'll get right to  
it.

MR. RAMEY: All right, please.

1  
2 Q Mr. Nutter, the -- you know, do you not,  
3 that potash operators are more apprehensive today about the  
4 problems of gas escaping from oil and gas wells into the  
5 mines.

6 MR. KELLAHIN: Mr. Chairman,  
7 that asks for this question to speculate on an answer as to  
8 what is in the minds of industry in potash and those individual  
9 members and I think it's an improper question.

10 MR. ROBB: Let me rephrase it.

11 Q You have been present at all these hearings,  
12 Mr. Nutter, in which the potash operators have been  
13 present and have testified about the dangers of gas escaping  
14 in the mines and the concerns that they have, have you not?

15 MR. KELLAHIN: Mr. Chairman, I  
16 object to that question. It calls for a hearsay answer from  
17 this witness.

18 MR. ROBB: I think I'm entitled  
19 to lay a foundation for a question about the increasing apprehension  
20 about the gas among the potash operators as the  
21 reason for them having the increased concern today as the  
22 Federal regulations get tighter and they have expressed  
23 those concerns at many hearings before this Commission and  
24 this witness knows it.

25 MR. KELLAHIN: Mr. Chairman,  
not when the answer from the witness calls for hearsay.

MR. PEARCE: Mr. Robb, could  
you refresh my recollection, please, what was it specifical-

1  
2 ly that you asked this witness?

3 MR. ROBB: What I asked him was  
4 whether or not he wasn't familiar with the fact, as I recall  
5 the question, that he wasn't familiar with the fact that  
6 there is increasing apprehension among the mining people  
7 about the possibility of gas escaping into the mines.

8 MR. RAMEY: We'll sustain the  
9 objection.

10 Q Mr. Nutter, the -- do you from your know-  
11 ledge as being with this Oil Conservation Commission for  
12 many years and being a hearing examiner and having heard the  
13 hearings, do you think that there is an increasing risk of a  
14 mine being declared gassy today as a result of flammable  
15 gas, if gas does get into a mine? Do you think there's an  
16 increasing risk to the mine operators of additional expense  
17 in trying to cure that problem than there was twenty years  
18 ago, fifteen years ago, ten years ago?

19 MR. KELLAHIN: Mr. Chairman,  
20 I'll object to that question. It asks for this witness to  
21 speculate for an answer. The question is based upon an "if"  
22 proposition. An expert witness can testify as to reasonable  
23 probability and not testify based on speculation. The ques-  
24 tion could be phrased with an "if" a mining operation turns  
25 gassy, "if" these factors that he has set forth for you hap-  
pen.

There is no foundation laid for  
that question having a reasonable probability and until it's



1 framed in that posture it's an improper question.

2 MR. ROBB: I haven't asked him  
3 to speculate. I've asked him for his opinion, Mr. Chairman,  
4 as an expert.  
5

6 MR. RAMEY: We'll overrule the  
7 objection. You may answer if you can, Mr. Nutter.

8 A What was the question?

9 Q Let's see if we can reconstruct it.

10 A Let her read it. Maybe she can read it.

11 Thereupon the reporter repeated the  
12 question as requested.

13 A Okay, Mr. Robb. I don't know if there's  
14 more risk today than there is now -- than there was. I do  
15 know that in the second part of your question, would it be  
16 more expensive to the operator, I can answer that definite-  
17 ly, because the cost of everything is up, so I'm sure if you  
18 were dealing with a gassy mine today, it would cost more  
19 than if you were dealing with a gassy mine yesterday.

20 Q And don't you also know that the -- there  
21 are more requirements on an operator today than previously,  
22 also in reference to increasingly expensive then there were  
23 fifteen or twenty years ago?

24 A The part of a mine operator?

25 Q Yes, sir.

A No, I'm not -- I'm not well enough ac-

1  
2 acquainted with mining expenses.

3 Q All right. Let's return just briefly to  
4 this problem of drilling on the perimeter.

5 Under the position that Bass takes in  
6 this case that -- that the duty is on the potash operator  
7 every time he finds a core beyond the perimeter of R-111-A  
8 to file an application, let's suppose that a drilling loca-  
9 tion is proposed for an oil and gas well outside R-111-A but  
10 close to it, and there has been no drilling by the potash  
operator of the vicinity of the boundary. Okay?

11 A Well, there should have been some drill-  
12 ing at some time or other or the boundary wouldn't have  
been there where it's established.

13 Q Well, sir, there are many areas, I sug-  
14 gest to you, inside the R-111 area up near the boundary that  
15 have not been fully explored. Are you saying they have all  
16 been fully explored?

17 A No, but I'm sure if they had a core hole  
18 over here and a core hole over here, and a core down here,  
19 that would have crossed the line and connected those two  
20 cores, plus probably half a mile or maybe a mile beyond  
21 those cores, to come up with that original contour map that  
I had.

22 I might answer that question by reading  
23 Article II of R-111-A.

24 The potash/oil area as outlined in Exhi-  
25 bit A attached hereto and made a part hereof, represents the

1  
2 area in various parts of which mining operations are now in  
3 progress or in which core tests indicate commercial potash  
4 reserves.

5 This is our contention. The R-111-A Area  
6 indicates where the mines are and where core tests indicate  
7 commercial potash reserves, and it's still my contention  
8 that it's up to the potash operators to keep the map up to  
9 date.

10 Q So then you're assuming as an oil and gas  
11 operator that there is potash ore right up to the boundaries  
12 of R-111-A.

13 A Either that or indicated by inference.

14 Q Yes, sir.

15 A Between core holes.

16 Q So then your proposal to solve the prob-  
17 lem involves your putting wells within 200 or 250 feet of  
18 the boundary where you know you are going to require wasting  
19 of potash ore, as much as a couple of thousand feet based on  
20 the example we had just a moment ago.

21 A If the potash extended all the way to the  
22 boundary, if the commercial potash came all the way to the  
23 boundary, there inevitably would be a certain amount of pot-  
24 ash that could not be mined; however, we've got another wit-  
25 ness that will testify as to the quantity of potash that  
would be interfered with.

Q I understand that, but you have told us  
several times now, that R-111-A was based on the fact that

1  
2 there is ore to the boundary and you have made the assump-  
3 tion that there's ore to the boundary.

4 A Except now, there would be some cases  
5 where there wasn't any indication because the -- the con-  
6 tours that were given to me probably came down like this,  
7 and I had to draw the zigzag line to be sure to take in the  
8 contours, so it zigzags outward there would be some noncom-  
mercial ore beyond the contour line.

9 Q All right.

10 A So it had to be taken in so you could  
11 take in squares, you know, to follow the subdivisions on the  
12 map.

13 Q So there are a few areas where -- where  
14 that wouldn't necessarily be true.

15 A Yeah.

16 Q Okay, and in those few areas where it  
17 wouldn't necessarily be true, if I understand you correctly,  
18 if you propose to drill right outside that boundary there,  
19 then, and there hasn't been any drilling there, are you say-  
20 ing that the oil and gas -- the potash operator should then  
rush out and drill a bunch of core holes there?

21 A Well, we've got 32 red wells that have  
22 been drilled on the perimeter of it and that's the same  
23 thing that we're proposing here today, to drill those wells;  
24 however, those wells don't have that 250-foot restriction,  
and our proposal would have that 250-foot restriction.

25 Q I understand. I understand, sir, but the

1 fact is that if there hasn't been any drilling in those few  
2 years you've talked about, then the potash operator, in or-  
3 der to keep you from drilling there, or to try to make some  
4 kind of a showing, would have to run out and drill some  
5 holes to find out if there was ore.

6 A Well, if he suspected that there was ore  
7 beyond the R-111-A Area, he'd be --

8 Q Okay.

9 A -- willing to drill a core test, yes.

10 Q And how in the world is he going to sus-  
11 pect it if you don't give him notice?

12 A Well, it's up to him to find his re-  
13 serves. Is he looking for reserves just to -- to prevent  
14 the oil and gas operator from drilling wells or is he look-  
15 ing for reserves to add to his reserve picture, to his eco-  
16 nomic assets?

17 Q Isn't that exactly the point? He is  
18 drilling on an orderly drilling program to develop his re-  
19 serves and he cannot afford to go running around the peri-  
20 phery of all the R-111 area like he'd have to do under your  
21 proposal in order to demonstrate that there's ore there and  
22 therefore you couldn't have a well.

23 A He has to do it right now. He has to do  
24 it right now, because we can drill on the outside of the R-  
25 111-A Area right now without notice to him.

Q I understand on a straight well what  
you're talking about.

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A I don't --

Q What I'm saying --

A -- understand any difference between drilling a well on the -- just outside the R-111-A Area and drilling a well 250 feet. I don't see the obligation is any greater to show that he should keep the area up to date. It's his obligation today to keep that area up to date.

Q But today, if the well were just inside the boundary we know that he would get notice and if it's just outside the boundary, he doesn't.

A That's right, and we're proposing to drill just outside.

Q Okay. And you are saying that that is a fine solution and since you are trying to oblige the potash industry for the future planning here, you have built in a plan that perpetuates a system where you're almost guaranteed to waste ore every time you drill in that area.

A It's not any different than the system that's in effect right now for the wells that are drilled outside the area.

Q Whether it's in effect or not, that's the result, isn't it?

A No, we're not perpetuating it any more than it is right now. No one's proposed any rule change for the wells that can be drilled outside the area except us, and we're not making -- we're not -- I don't distinguish the difference between a straight hole that's drilled outside

1 and these wells we're proposing to be drilled outside. I  
2 don't distinguish the difference.  
3

4 Q Mr. Nutter --

5 A As far as the salt is concerned.

6 Q Excuse me, sir. If Bass was so inter-  
7 ested in helping out the potash industry, don't you think  
8 they might have had a little solution to that serious prob-  
9 lem?

10 A The answer to the problem is keep the R-  
11 111-A Area updated. The answer to that problem is that.

12 Q And the hassle won't occur.

13 A And come up to the Commission with a pro-  
14 cedure for administrative extension on the showing that  
15 you've drilled a core test and that the cores are a valid  
16 reason for extending the area and the Commission will adopt  
17 a procedure, I think, if you come up with a reasonable pro-  
18 cedure, and you wouldn't have those -- those hearings for  
19 extensions.

20 Q And that's your position.

21 A I believe that's a viable solution to the  
22 problem.

23 MR. ROBB: No further ques-  
24 tions.

25 MR. RAMEY: Any other questions  
of Mr. Nutter?

MR. TEMPLEMAN: I do have a few  
questions.

MR. RAMEY: Mr. Templeman.

CROSS EXAMINATION

BY MR. TEMPLEMAN:

Q Mr. Nutter, in your 28 years working for the OCD, I take it that you became reasonably familiar with the obligation and duties that the Commission would have had bestowed upon it by the Legislature of the State.

A Yes, sir.

Q Is that true?

A Uh-huh.

Q Is it also true that the Legislature has imposed upon this Commission an obligation to protect the potash reserves that may exist in this State and to prohibit oil and gas drilling in an area in such a fashion that would interfere with potash reserves?

A No. No. It's unduly interfere.

Q Which would unduly interfere.

A Right.

Q I take it you are familiar with that duty which has been imposed by the Legislature.

Is it your understanding that such a duty was imposed by the Legislature upon this Commission in an effort to protect and recognize the interest of the public at large?

A I think all the citizens in the state benefit by the R-111-A Area and by the statutes --



1  
2 Q Yeah, I'm speaking about the statutes  
3 here.

4 A Yeah, I think all the citizens of the  
5 State benefit by those statutes.

6 MR. KELLAHIN: Mr. Chairman,  
7 I'm going to object to that question. The question is based  
8 upon the statute; the statute speaks for itself. The Com-  
9 mission can read it and can understand what its statutory  
10 obligations are.

11 MR. TEMPLEMAN: Well, I'm sure  
12 the Commission is well aware of what the statutory obliga-  
13 tions are. I'm trying to get Mr. Nutter's understanding  
14 even though not here on behalf of the Commission today but  
15 he's here on behalf of the applicant. I simply asked for  
16 his understanding. I don't intend to dwell on this point  
17 any further.

18 MR. KELLAHIN: It's irrelevant  
19 as to what Mr. Nutter's understanding is of the statute, Mr.  
20 Chairman.

21 MR. TEMPLEMAN: Well, I had a  
22 question and answer. Perhaps I'll move on and it will avoid  
23 the problem.

24 MR. RAMEY: Yes, why don't you  
25 move on.

MR. TEMPLEMAN: Thank you.

MR. KELLAHIN: Are we moving on  
in the same direction or --

1  
2 MR. RAMEY: We'll let the ques-  
3 tion stand and the answer stand, Mr. Kellahin.

4 MR. KELLAHIN: Over my objec-  
5 tion, Mr. Chairman?

6 MR. RAMEY: Yes, sir.

7 MR. KELLAHIN: Thank you.

8 Q I'll ask a question and if there's an ob-  
9 jection I'm sure Mr. Kellahin will speak right up.

10 Is it your understanding, Mr. Nutter,  
11 that the R-111 order which was adopted by this Commission  
12 restricted its statutory obligation in any way?

13 MR. KELLAHIN: Objection, Mr.  
14 Chairman, same reason.

15 MR. TEMPLEMAN: This entire  
16 hearing is about R-111 and the guidelines and boundaries  
17 which are involved and I'm simply asking for his understand-  
18 ing. He's gone on at great length about what the purpose of  
19 R-111 is and I believe I'm entitled to find out if one of  
20 the purposes was to restrict the obligation of this Commis-  
21 sion as he understands it to be.

22 MR. KELLAHIN: Mr. Chairman,  
23 that calls for a legal conclusion from this witness, I be-  
24 lieve, as to whether or not the R-111-A procedures and rules  
25 are consistent with your statutory authority. I think  
that's what we're getting to. He may not have said it quite  
that way, but I think the question is the same and the an-  
swer is improper.

1  
2 MR. TEMPLEMAN: In behalf of  
3 his understanding, I'm willing to --

4 MR. KELLAHIN: His understand-  
5 ing is immaterial to this hearing.

6 MR. RAMEY: We'll overrule the  
7 objection and let the witness answer if he can.

8 A Now what was it about the --

9 MR. PEARCE: Let -- may I?

10 Let me try to rephrase what I  
11 think the question is and if that's not the question, we'll  
12 have the question again and we may have the objection again.

13 I believe the question is, in  
14 your working with R-111 and its amendments over the years,  
15 is it your recollection that the intention of the Oil Con-  
16 servation Division or Commission in adopting those orders  
17 and amendments, was the intention to restrict the respons-  
18 ibility of the agency under the statute?

19 Was that, first of all, was  
20 that the question, Mr. Templeman?

21 MR. TEMPLEMAN: That was thrust  
22 of my question.

23 MR. PEARCE: Now, I believe  
24 that in my dealings with the Commission just now that is the  
25 question which we discussed.

MR. KELLAHIN: And that's the  
question to which I've objected and --

MR. PEARCE: Then I believe

1 that's the question that you may answer.

2 A Well, in the first place, the R-111-A  
3 originally didn't restrict the Commission's interpretation  
4 of a statute because there was no statute for the protection  
5 of potash when R-111-A was written. It was written without  
6 any statutory authority just on the good judgment of the  
7 Commission and the desire by the oil industry and the potash  
8 industry to come up with some rules that would provide for  
9 orderly development of the two resources, and that order  
10 stayed in effect and was never challenged for many years.

11 Finally, one oil operator was denied a  
12 permit under the provisions of R-111-A and he appealed that  
13 to the court and said there was no statutory authority for  
14 R-111-A and it ought to be thrown out.

15 So at the next legislative session Roy  
16 Blackman and bunch of people from Carlsbad came up to the  
17 Legislature and got the provision that the potash would be  
18 protected in the statute not one but four different places,  
19 and I don't believe it restricts the responsibility of the  
20 Commission in any way. I believe that it --

21 Q Well, the responsibility of the Commis-  
22 sion extends to all areas within the state --

23 A For oil and gas operations and also now  
24 under the amended statutes, to the potash, also, and the  
25 Commission is obligated to protect both natural resources.

Q Mr. Nutter, if I recall your prior testi-  
mony, you indicated that all amendments to Order R-111 were

1  
2 made primarily on the basis of data submitted by potash com-  
3 panies.

4 A That's correct, for extensions of the  
5 area.

6 Q For extensions.

7 A Yes, sir.

8 Q Is it true that the original R-111 order  
9 was made on the basis of data submitted by primarily potash  
10 companies?

11 A There was a committee that submitted the  
12 data. They worked out that contour map, as I recall.

13 Q As a result of exploratory work done by  
14 potash companies primarily.

15 A And oil and gas companies, too. I might  
16 go into that a little. I mentioned this morning that the  
17 file had been pilfered on that. I thought I would be able  
18 to find that original contour map in the file but, you know,  
19 the Federal government didn't come out with an enclave map  
20 until 1975 and to my knowledge there was never a map that  
21 showed where the potash was, so I suppose that some entre-  
22 preneur that wanted to know where the potash was went to the  
23 Commission's file and put that in his briefcase when he left  
24 the building. That contour map's not in there any more.

25 And the record in the case is very slim  
on the thing. It says the committee submits this report and  
the map was included with the report. So there's really not  
much basis, but as I recall, there was this contour map that

1  
2 a committee had worked up showing where they interpreted the  
3 potash body to be.

4 Q Since that time the initial R-111, the  
5 potash companies have instigated the amendments.

6 A When they find new ore with core holes  
7 they come in and ask for an extension.

8 Q Do the oil and gas companies as a rule in  
9 doing their drilling work, gather information that would in-  
10 dicate the existence of potash reserves?

11 A They'll show -- the logs will show the  
12 salt but not show the quality of the salt, or whether potas-  
13 sium mineralization is in that salt. Most of the time the  
14 oil logs are pretty useless unless they should happen to  
15 core or something should come up with the cuttings, or some-  
16 thing happens.

17 Q That wouldn't be in the ordinary course,  
18 then, the --

19 A It wouldn't be -- it wouldn't be the  
20 basis for extension of R-111.

21 Q So an oil company or gas drilling company  
22 would not as a rule generate that type of information, make  
23 it available to the Commission, and thereby cause either on  
24 the application of the oil company or on the application by  
25 the Commission itself for an extension of R-111.

26 A No.

27 Q You also spoke briefly about the purpose  
28 of Rule R-111 as your understanding was. I believe you men-

tioned that it was to provide for multiple use of lands in New Mexico and also to avoid interference by oil companies with potash operations and vice versa.

A Right.

Q Isn't another purpose for Rule R-111 to provide for notice to potash companies in and around the R-111-A area such that they are in a position to come before the Oil Conservation Commission to present evidence if they choose to in order to abide by and promote the theory of Rule R-111, protecting potash reserves?

A Now you said in and around.

Q In -- within the --

A If it's within the boundaries of R-111; not around.

Q You would agree with --

A Yes.

Q -- my statement that that is also a purpose of Rule R-111 to provide notice.

A Within the boundaries.

Q Within the boundaries.

A Yes.

Q Doesn't the amendment that you are seeking act contrary to the spirit of this particular purpose of R-111 insofar as it would cut off notice and hearing requirements contained within R-111, thereby deprive this Commission of information which potash companies may bring before it that would be pertinent to this Commission's obli-

1 gation to protect potash reserves in New Mexico?

2 A Not if the well is drilled outside the  
3 area; not if it's drilled outside of R-111.  
4

5 Q Well, I think we've established that this  
6 Commission's statutory obligation is to protect potash  
7 everywhere in the state where it may exist.

8 Isn't your proposal contrary to efforts  
9 by this Commission to require notice and hearing in an ef-  
10 fort to receive all the information it can in order to pro-  
11 perly exercise its statutory duties?

12 A The Commission has no way of knowing  
13 where the potash exists if the potash companies don't tell  
14 it where it exists.

15 Q Well, if the potash companies are in-  
16 formed of a desire on the part of an oil or gas company to  
17 drill in an area and they have information which they have  
18 not previously brought to the Commission's attention, but  
19 they chose to do so as a result of the notice and hearing  
20 that they are given, wouldn't they be deprived or wouldn't  
21 the Commission be deprived of that information if such no-  
22 tice and hearing were not given to the potash companies and  
23 the application or the drilling went forward?

24 A Well, if they have that information they  
25 should bring it to the Commission so the Commission, as you  
say, could protect the potash wherever it occurs in the  
state.

The only way the Commission has of pro-



1  
2 tecting potash is to declare an area where they know the  
3 potash is. Then they'll do their utmost to protect it with-  
4 out undue interference.

5 Q Excuse me, you indicated the only way  
6 that the Commission has to protect the potash within the  
7 state is to delineate R-111 area?

8 A Is to know where the potash is. How can  
9 they protect something they don't know where it is?

10 Q And if they do not have an R-111 area de-  
11 signated and on the boards, then they might not know if  
12 there's potash anywhere else.

13 A That's right. They have no way of know-  
14 ing where there's potash. They can't protect something they  
15 don't know about.

16 Q If a potash company appeared before this  
17 Commission and submitted evidence of commercial potash re-  
18 serves in an area outside of R-111, that would be one means  
19 by which the Commission could be informed of potash reserves  
20 outside the R-111-A area.

21 A Yes, this is what I was discussing with  
22 Mr. Robb, the extension of the area or the formation of a  
23 new area, if they find a new body somewhere.

24 Q Or a hearing following an application for  
25 directional drilling into the R-111-A area.

A That's kind of late coming in if you wait  
until somebody wants to drill a well, then you come in and  
say I've got potash here. You should have said you've got

1 potash there before and the oil company could have made  
2 other plans.

3 Q Well, it's not too late until the Commis-  
4 sion has approved your application, isn't that true?

5 A Well, it seems like it's kind of tardy to  
6 be coming -- wait until an applicant files an applicaiton  
7 for an oil well and then come trotting in with your evidence  
8 of mineralization.

9 Q Well.

10 A Come in and get the area extended and  
11 then he's precluded from even filing an application without  
12 notifying you.

13 Q You, I believe, have identified two wells  
14 which have been drilled which are just outside the R-111  
15 boundary and have by way of directional drilling gone under-  
16 neath the R-111-A area, one of which you said was in the  
process of being drilled.

17 A Right.

18 Q Do you know who is drilling that?

19 A Yes, Belco. That's James Ranch No. 15.

20 Q Okay, are you familiar with the proceed-  
21 ings by which that particular application was presented to  
this Commission?

22 A I was present at the hearing.

23 Q Was there -- was there any potash com-  
24 panies there?

25 A Yes, sir, you were there.

1  
2 Q Did you -- well then, you observed the  
3 introduction of the evidence by the potash companies of in-  
4 formation that they had at their disposal which they believe  
5 indicated that there were commercial potash reserves in the  
6 area of your drilling.

7 A Yes, they objected to the drilling of the  
8 well at the proposed location on the grounds that there was  
9 commercial potash in that area.

10 I believe Noranda had an option to buy  
11 that area, or something, as I recall.

12 Q But as I understand and remember it, the  
13 potash company did not have specific data of -- from an ex-  
14 ploratory drill hole that they had dug -- drilled in the  
15 specific area where you proposed to drill.

16 A That's right.

17 Q And as a consequence, the Commission  
18 granted the application because there was no hard data indi-  
19 cating that there was commercial reserves in this specific  
20 area.

21 A I believe the Commission first gave the  
22 potash company a certain amount of time or asked them how  
23 long it would take before they could drill the well, drill  
24 the core test, I mean.

25 Q Yes, I believe --

A And the time appeared to be quite long,  
as I recall. It was first proposed it would take them nine  
months to drill the core hole, or something like that, and

1  
2 the Commission thought that was an extreme length of time in  
3 which to drill a core test so they entered the order approv-  
4 ing the location, and I believe a de novo hearing was filed,  
5 was it not?

6 Q It was. Do you know whether a core sam-  
7 ple was ever taken to determine whether there were commer-  
8 cial potash reserves at that particular location?

9 A I don't believe a core test was taken. I  
10 believe maybe the oil well was cored through the potash,  
11 wasn't it?

12 Q You are --

13 A As I recall, I believe the oil well or  
14 the gas well was cored through the potash zone, and it was  
15 nonproductive.

16 Q Nonproductive from --

17 A Noncommercial potash.

18 Q Did you actually review the results of  
19 that test?

20 A No, that's my understanding.

21 Q Do you have any idea how much it costs  
22 for a potash company to do an exploratory through here?

23 A No, I don't.

24 Q If I could just get one last thing  
25 straight in my mind as to your position here, it's my under-  
standing that you feel it is the burden of the potash com-  
panies to go forward to drill exploratory holes to confirm  
whether there are commercial potash reserves in any area in

1  
2 New Mexico outside the R-111 Area and to go forward and have  
3 that area brought within the R-111 Area and that if they  
4 have not done so, they are not entitled to any notice for  
5 any hearing for any other protections that are provided by  
6 R-111.

7 A Well, I don't know what kind of protec-  
8 tion they have under the courts, but Article II says that  
9 this area is an area where mining is in progress or in which  
10 core tests indicate commercial potash reserves. So how can  
11 you give notice to somebody that has some potash some place  
12 if they haven't told anybody they've got potash? How can  
13 you give notice to them?

14 Q Well, I --

15 A Now you have -- you have to establish  
16 procedure by a set of rules. You have to establish the pro-  
17 cedure by a set of rules. So if someone -- if I go out here  
18 tomorrow and drill a well in my back yard and I find potash  
19 and I don't tell the Commission or anybody else that I've  
20 got potash there, and there's a guy comes across the street  
21 and wants to drill an oil well, how is he going to be put on  
22 notice that he's got to protect potash if I haven't  
23 told anybody I've got that potash?

24 MR. ROBB: Mr. Chairman, shall  
25 we put Mr. Templeman on the stand to answer that question?

26 A My answer is in the form of a question.  
27 I do not know how you would notify them, let me put it that  
28 way.

1                   Q           It's also my understanding, though, that  
2 your feeling that the Oil Conservation Commission is re-  
3 quired to rely on the potash companies to come forward and  
4 inform them so they are entitled -- so they are able to fol-  
5 low up with their statutory obligation to protect potash re-  
6 serves in the state.

7                   A           It's their duty to protect potash but  
8 they can't protect it unless you tell them where it is. If  
9 I find that potash in my back yard, I'm going to tell Joe  
10 about it.

11                  Q           And Bass is proposing a means by -- which  
12 will in effect restrict potash companies from approaching  
13 the Commission with information which may be relevant to --

14                  A           Not at all; not at all. You can still  
15 come in and ask for the extension of the area. If you've  
16 got a core test that shows potash, come in and ask Joe to  
17 extend it.

18                               MR. TEMPLEMAN: I have nothing  
19 further.

20                               MR. RAMEY: Any other questions  
21 of Mr. Nutter? Mr. Stamets?

22                               QUESTIONS BY MR. STAMETS:

23                  Q           Mr. Nutter, looking at your map with R-  
24 111-A on it, it appears as though some of the orange lines  
25 run down the section lines and some appear to run down quar-  
ter quarter section lines.

1  
2 A That's correct.

3 Q A standard location for a gas well, let's  
4 say, to a section line, how -- what's the closest standard  
5 location to a section line?

6 A A gas well, it depends on how the unit  
7 was lined up. A gas well could be as close as 660 feet to  
8 be standard.

9 Q How about a quarter quarter section line,  
10 what would be the closest standard location you could get to  
11 that?

12 A 330 feet.

13 Q Would it be reasonable to presume that a  
14 potash company might rely on -- on that distance as knowing  
15 that no well could be drilled outside the potash area closer  
16 than those distances without some sort of special dispensa-  
17 tion?

18 A I don't know. There could be instances  
19 where administrative approval would be sought for a location  
20 that would be closer than those distances we just talked  
21 about where potash operators wouldn't be notified.

22 Q You've alluded to your analogy that the  
23 potash area rules would be similar to pool rules with  
24 specific horizontal and vertical limits.

25 In special pool rules if somebody wants a  
non-standard location, do they have an obligation to notify  
offset owners?

A Yes.

1  
2 Q Would it be reasonable to provide some  
3 sort of a notice to the potash interest owners that a well  
4 is going to be located closer to R-111 than the standard lo-  
5 cation?

6 A I don't know.

7 Q Mr. Templeman asked you a number of ques-  
8 tions about the statute protecting potash. To the best of  
9 my recollection that is commercial potash.

10 A Right.

11 Q I think a reading of the law might show  
12 that. Is there a difference between commercial potash and  
13 just potash?

14 A I would imagine so. You have to have an  
15 awful lot of potash cores to justify the sinking of a shaft  
16 and building of a mine.

17 Q So there might be areas --

18 A One core hole that established the pre-  
19 sence of potash, if it's not within reach of a mine, is  
20 proof of nothing.

21 Q So there could be areas in the state that  
22 have potash underlying them but not commercial potash.

23 A Unless there's a bunch of cores that show  
24 a sizeable bed that justifies the sinking of that shaft,  
25 that's correct.

MR. STAMETS: That's all.

MR. RAMEY: Any other questions  
of Mr. Ramey.



MR. KELLAHIN: Mr. Chairman.

REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Nutter, we have talked this morning and this afternoon about the R-111 and subsequent amendments to that order.

I show you what I've marked as Bass Exhibit Number Two-B and ask you if you can identify those as the orders that you have been discussing throughout your testimony?

A Two-B contains Order No. R-111, R-111-A, R-111-B, a sizeable extension; C, which is an extension; D, an extension; E, an extension; F, an extension; G, an extension; H, an extension; I, a great big extension; J, an extension; K, K is a misprint that's not complete. The first page of K is here, K-1 is here, which was a de novo hearing, and I really can't tell whether that was an extension or what it was.

L was an extension. M is an extension. M-1 is a dismissal of a de novo. N is an extension. N-1 is a correction to that order. And we need O.

We need the second page of K and we need O. Otherwise that is the orders, those are the orders that I've been referring to numerous times today.

MR. KELLAHIN: Mr. Chairman, we would request that the Commission take administrative notice of Commission Orders R through R -- let's see, R-111 through

1 R-111-O in this proceedings, and while I will not submit it  
2 as an exhibit, I have a complete set for reference here with  
3 those two exceptions. We need to get a copy of Extension O  
4 and the second page of K.

5 I don't propose to tender this  
6 as an exhibit. We would request that you simply take admin-  
7 istrative notice of those orders that have been discussed  
8 throughout the hearing today.

9 MR. RAMEY: We will take admin-  
10 istrative notice of R-111 through R-111-O.

11 Q Mr. Nutter, Mr. Templeman, in reference  
12 to the Belco case that involved one of two wells, I believe  
13 it was that is drilled adjacent to but outside the R-111-A  
14 boundary?

15 A Right, it's the one that's drilling at  
16 the present time.

17 The other well down there has already  
18 been drilled and completed.

19 Q And that is referred to as the James  
20 Ranch 15?

21 A The one that's drilling now is the 15.  
22 The one that has been completed is the No. 14.

23 Q All right, sir, and which one of those  
24 wells was the subject matter of the hearing for which Mr.  
25 Templeman was asking your --

26 A James Ranch 15, the one that's drilling  
27 now.

1  
2 MR. KELLAHIN: Mr. Chairman,  
3 we'd ask you to take administrative notice of Commission  
4 Case 8057, which is the hearing transcript and the record  
5 and order in that case that Mr. Templeman was asking Mr.  
6 Nutter about.

7 MR. RAMEY: We'll take adminis-  
8 trative notice of Case 8057, Mr. Kellahin.

9 Q Mr. Nutter, with regards to that case, do  
10 you recall approximately when that took place before the Di-  
11 vision?

12 A No, I don't. I believe it was probably  
13 last spring sometime, maybe May, some place along in there.

14 Q All right, sir, and you attended the  
15 hearing, did you?

16 A Yes, sir, I was at the hearing.

17 Q And you attended that hearing on behalf  
18 of what company, sir?

19 A Bass Enterprises.

20 Q Do you recall, Mr. Nutter, the potash  
21 companies that were involved as protestants in that hearing?

22 A International Minerals and Noranda.

23 Q I think Mr. Templeman has indicated that  
24 Noranda was his client in that case?

25 A That's correct.

Q Do you recall whether or not the potash  
protestants at that hearing provided evidence with regards  
to their concern about the undue waste of commercial potash

1  
2 in that area?

3 A Yes.

4 Q Did they?

5 A Yes.

6 Q And do you recall whether or not the pot-  
7 ash operators presented evidence with regards to their con-  
8 cerns about the safety of the mining operations that might  
9 take place in that area affected by that gas well?

10 A Yes, they expressed concern.

11 Q And do you recall the outcome of that  
12 particular hearing, Mr. Nutter?

13 A The well was approved and it's presently  
14 drilling.

15 Q All right, sir.

16 A A de novo was filed and then dismissed on  
17 the part -- by the applicant for the de novo, which was the  
18 potash company.

19 Q All right, sir, let me ask you this.  
20 With regards to the de novo hearing you've indicated that it  
21 was dismissed?

22 A Yes, sir.

23 Q The application for the de novo hearing  
24 was applied for by what part, Mr. Nutter?

25 A I don't remember if it was Noranda or In-  
ternational. I believe it was -- well, I don't know.

Q It was by one of the potash companies?

A One of the protestants.

1  
2 Q And you said that that application was  
3 dismissed, was it not, at the request of the potash protes-  
4 tant?

5 A At the request of the applicant for the  
6 de novo hearing.

7 Q Do you know what reasons were behind the  
8 dismissal of that de novo hearing?

9 A I don't know if it was before the oil --  
10 the gas well cored the potash and they had determined that  
11 it was noncommercial or if it was upon agreement with the  
12 operator of the well to core.

13 I believe was upon agreement with the  
14 operator to core the potash that they dismissed the applica-  
15 tion for the de novo hearing.

16 Q Thank you very much. I --

17 A I might say that the applicant in that  
18 case was not Bass. It was another company.

19 Q Thank you.

20 MR. KELLAHIN: I have nothing  
21 further.

22 MR. RAMEY: Any other questions  
23 for Mr. Nutter?

24 MR. HIGH: Yes, Mr. Chairman,  
25 just one clarification. Mr. Chairman, you indicated you'd  
take judicial notice of certain aspects of Case 8057. There  
are certain parties to this proceeding today that were not  
parties to that proceeding, namely, PCA, AMAX, and Duval,

1  
2 and we would -- we certainly have no objection to you taking  
3 judicial notice of that case and terms of the decision, but  
4 we would certainly object to -- to any judicial notice of  
5 the testimony underlying the decision since we did not have  
6 a right to be there and cross examine the witnesses in that  
7 particular case.

8 So to that extent we'll object  
9 to it, but otherwise we have no objection to notice of the  
10 decision itself.

11 And if I may, I have a few  
12 questions I would like to ask Mr. Nutter.

13 RECROSS EXAMINATION

14 BY MR. HIGH:

15 Q Mr. Nutter, have you been involved with  
16 Bass in drilling in any areas other than R-111-A?

17 A Yes.

18 Q Do you do directional drilling elsewhere?

19 A I don't know. I don't think I've been  
20 involved with any of their applications for directional  
21 drilling anywhere else.

22 They haven't had an application for  
23 directional drilling in here, I don't believe.

24 Q Well, have you done any work for Bass in  
25 any area other than R-111-A?

A Yes.

Q Have any of those cases involved direc-

1 tional drilling?

2 A No.

3 Q Have any of them involved environmental  
4 concerns?

5 A Yeah. The -- I've handled a case for  
6 salt water disposal for them, which was for the protection  
7 of the fresh waters and certainly an environmental consider-  
8 ation.

9 Q Do you know what the current technology  
10 is in terms of being able to determine the lateral -- the  
11 possibility of lateral migration of gases?

12 A I'm not acquainted with the lateral mi-  
13 gration. I say that there hasn't been any that I know of  
14 and I haven't made an effort to --

15 Q You don't know what the technology is?

16 A No, I don't know what the technology is.

17 MR. HIGH: I have nothing else.

18 MR. RAMEY: Any other questions  
19 of Mr. Nutter? He may be excused and we'll take a fifteen  
20 minute recess.

21 (Thereupon a recess was taken.)

22 MR. RAMEY: The hearing will  
23 please come to order.

24 Call your next witness, Mr.  
25 Kellahin.

1  
2 MR. KELLAHIN: Thank you, Mr.  
3 Chairman. At this time we'd call Mr. T. B. O'Brien.

4  
5 T. B. O'BRIEN,  
6 being called as a witness and being duly sworn upon his  
7 oath, testified as follows, to-wit:

8 DIRECT EXAMINATION

9 BY MR. KELLAHIN:

10 Q Mr. O'Brien, would you please state your  
11 name and occupation, sir?

12 A I'm T. B. O'Brien and I am a drilling en-  
13 gineer. I'm the President of O'Brien, Goins, Simpson, In-  
14 corporated, which is a drilling engineering consulting firm.

15 Q Where do you locate your drilling con-  
16 sulting firm, Mr. O'Brien?

17 A My office, the home office for the com-  
18 pany, is in Midland, Texas. We also have an office in Hous-  
19 ton.

20 Q Were you one of the witnesses that was  
21 sworn this morning?

22 A Yes, I was.

23 Q Would you identify and describe for the  
24 Commission when and where you obtained your degree?

25 A I received a Bachelor of Science in chem-  
ical engineering from Louisiana State University in 1948.

Q Subsequent to graduation, would you de-



1  
2 scribe for us your employment history?

3 A That's about thirty-seven years, I think,  
4 if I remember right, thirty-six or seven, somewhere in that  
5 neighborhood.

6 I went to work for Gulf Oil as a rough-  
7 neck and derrick man and boiler fireman for a period of  
8 about six months or so, and then I became a mud engineer.

9 Then I spent --

10 Q What's a mud engineer do?

11 A The mud engineers control the drilling  
12 fluid that's used in the rotary method of drilling wells.  
13 That, over a period of time, was expanded into drilling en-  
14 gineering and after several years of this I got off into the  
15 care and maintenance of six worn out drilling rigs. I work-  
16 ed as the drilling engineer in the construction of several  
17 off-shore drilling vessels.

18 Then my chores became more in the realm  
19 of pure drilling engineering and well supervision. To some  
20 degree, or to a large degree the well supervision was  
21 trouble-shooting on wells that had problems.

22 In 19 --

23 Q You say you're a drilling engineer, Mr.  
24 O'Brien. What does a drilling engineer do?

25 A Drilling engineers design the well, or  
wells. They requisition materials, specify materials for  
the drilling of wells. They develop drilling programs and  
all of the plans and -- that are connected therewith. That

1  
2 is the pure engineering side of it, in addition, of course,  
3 to developing new and improved techniques.

4 The operational side of that was the --  
5 represented by the work I did in well supervision and  
6 trouble-shooting.

7 Q To what extent do you employ and use your  
8 chemical engineering background in the work you perform as a  
9 drilling engineer?

10 A The chemical engineering background was  
11 originally employed in the control of drilling fluids. It  
12 has been expanded to a considerable degree into corrosion  
13 control and through some connection, materials chemistry in-  
14 to some metallurgy.

15 Q You've described your work experience and  
16 background up through your employment with Gulf as a drill-  
17 ing engineer?

18 A That's correct.

19 Q All right, sir, would you continue with  
20 describing your professional background for us?

21 A This, the part that I described ran on  
22 until about 1958 at which time I was transferred from at that  
23 time in south Louisiana into Gulf's Technical Services  
24 Group, in which I was in charge of their drilling mud and  
25 cement laboratory and continued to do drilling engineering  
more in the technical service and field development of new  
techniques, and in trouble-shooting.

During that -- I was in that job for

1  
2 seven years and during that period of time I worked on wells  
3 in 25 states and 13 countries.

4 After that period of time, probably a  
5 significant thing, during that time an associate, who is now  
6 one of my partners, and I developed and published what has  
7 become the standard method for control of threatened blow-  
8 outs in the oil industry.

9 After that time, that seven years, which  
10 would have been about '65, I was transferred to Gulf's Hous-  
11 ton District and was in charge of the Gulf drilling opera-  
12 tions on the Gulf Coast of Texas.

13 In 1967 I left there and went to work for  
14 an independent in West Texas, Rodin Oil Company, and as the  
15 Operations Manager. In that case I was in charge of all the  
16 drilling and production operations for this outfit, and our  
17 primary activities were drilling deep wells and by that I  
18 mean in the order of 18 to 22 or 3 thousand foot wells.

19 In 1969 our company was bought by Houston  
20 Natural Gas Corporation, we like to say we merged with them.  
21 We formed HNG Oil Company, a subsidiary of the corporation,  
22 and I became Vice President in charge of drilling and pro-  
23 duction operations for that company.

24 Q Did your responsibilities for that com-  
25 pany include oil and gas properties in West Texas and south-  
eastern New Mexico?

A Yes, wherever we had properties and they  
did include West Texas and southeast New Mexico.

1  
2 I stayed in that job until 1976, when I  
3 left and then in 1977 Goins and I founded O'Brien, Goins,  
4 and later added Simpson, and that's our company now.

5 We have about ten engineers, I think, and  
6 about thirty field people who supervise the drilling of  
7 wells in the United States and in three foreign countries.

8 Q What do you and your company do with re-  
9 gards to activities in the oil and gas industry? What ser-  
vice do you perform for that industry?

10 A We develop new techniques. We teach  
11 schools for drilling engineers. These are primarily ad-  
12 vanced schools for experienced engineers and drilling super-  
13 visors. We do trouble-shooting on wells. We drill relief  
14 wells for blowouts. We furnish supervisors for drilling  
15 wells, as representatives for operators for drilling wells.  
16 We are managing a drilling operation sponsored by the World  
17 Bank for drilling some wells for the Samali government. We  
18 furnish drilling supervisors and managers for the Kuwait Oil  
19 Company. We have drilling engineers in Norway that do drill-  
20 ing engineering for the Norwegian oil company, I can't  
think of the name of it.

21 In addition to that, we do a variety of  
22 engineering work for a number of national oil companies  
throughout the world; probably a dozen of them.

23 Q Mr. O'Brien, have you published any ar-  
24 ticles in professional magazines or journals in your indus-  
25 try?

1  
2 A About thirty.

3 Q And would you describe generally what is  
4 the subject matter of those published articles?

5 A They deal with the drilling and comple-  
6 tion of wells and in some degree to the management of drill-  
7 ing personnel.

8 Q Directing your attention to southeastern  
9 New Mexico, sir, would you describe for us, if any, particu-  
10 lar experiences you have had in southeastern New Mexico --

11 A I have --

12 Q -- in your profession?

13 A I have been either in direct supervision  
14 or in management of probably thirty or forty wells, starting  
15 in 1959 to the point that my company is presently drilling a  
16 14,000 foot Devonian test in southeast New Mexico.

17 In addition to that, I worked for the  
18 Federal Government, and I'm not sure, Department of Energy,  
19 I think it was, in regard to the condemnation hearings on  
20 the WIPP site, which I think is included in the area in  
21 question here.

22 Q All right, sir, what specific duties or  
23 services did you perform with regards to the WIPP site?

24 A They, two things. One was determination  
25 of the cost that would be involved in drilling because of  
the condemnation. One of the plans they had was to allow  
some drilling islands in or around the WIPP site and they  
proposed as possibilities the drilling of directional wells

1 under the potash area there to displacements up to, in one  
2 case it was considered as far as 15,000 foot displacement.

3 Q Have you had drilling experience as a  
4 drilling engineer, or practiced your profession with regards  
5 to salt reservoirs or mineralized areas like the potash area  
6 that we have discussed today?

7 A I drilled salt in a wide variety of  
8 places around the world. Of course, practically all of the  
9 wells we drill in West Texas and New Mexico and Oklahoma  
10 drill some salt. The thickness of the salt bed varies but  
11 we do drill salt in almost every one of those wells.

12 I've drilled through and around salt  
13 domes on the Gulf Coast. I've drilled salt in a variety of  
14 places outside the United States, the Middle East, in west-  
15 ern Europe, eastern Europe.

16 Q Have you had an opportunity to examine  
17 and review the casing and cementing program that the Commis-  
18 sion has set forth in its R-111-A procedures?

19 A Yes, sir.

20 Q Are you familiar with the drilling tech-  
21 niques that allow for the drilling of oil and gas wells di-  
22 rectionally?

23 A Yes, sir.

24 MR. KELLAHIN: Mr. Chairman, we  
25 tender Mr. O'Brien as an expert drilling engineer.

MR. RAMEY: He seems to be so  
qualified, Mr. Kellahin.

1  
2 Q Mr. O'Brien, I'd like to commence my  
3 questions for you with regards to the casing and cementing  
4 program that is set forth in the Commission's R-111-A proce-  
5 dures, and ask you, sir, whether or not you believe those  
6 procedures to be adequate in order to protect the salt in-  
7 terval in which those cement and casing programs apply.

8 A I think they are adequate, yes, sir.

9 Q And upon what do you base that opinion  
10 that they are adequate?

11 A To take the casing strings as they are  
12 set in the well, the first string, a water string, is set  
13 through the water, possible fresh water, into the top of the  
14 salt. It's cemented to the surface with a considerable ex-  
15 cess of cement and because of the methods of cementing and  
16 the volume of cement required by the -- required by the Com-  
17 mission, the probability of getting a good cement job is ex-  
18 tremely high.

19 Additionally, to cap that, the Commission  
20 requires that a long setting time be used, much longer than  
21 is really necessary, but in an abundance of caution they re-  
22 quire that length of time.

23 They additionally require a hydrostatic  
24 test of the casing shoe when the cement is drilled out of  
25 the bottom of the casing and a new hole is started. The  
hole is displaced with water and a test of 600 pounds is ap-  
plied. This is approximately -- well, this is in addition  
in excess of a one pound per foot in most cases. The actual

1  
2 equivalent varies a little bit, depending on exactly the  
3 depth at which the pipe is set, and that test is a proof  
4 test that is superior to any kind of logs, monitoring, sur-  
5 veys, or anything else that might be used. It is proof that  
6 the cement will prevent the movement of fluids past the shoe  
7 of that pipe.

8 When the salt string is run, that is the  
9 string that is run through the salt to the base of the Sal-  
10 ado section, a similar procedure is followed. Additionally,  
11 the hole is drilled with a saturated water to minimize hole  
12 enlargement. The hole is drilled with water, brine water.

13 Those conditions provide the best atmo-  
14 sphere for -- or environment for getting a good cement job.  
15 Again, they use a large volume of cement. The cement is al-  
16 lowed to cement -- to set for an extended period of time and  
17 a test of 1000 pounds on top of fresh water is applied.

18 At 2400 feet, the extreme depth, this is  
19 about 8/10ths of a pound per foot. Again, this is a posi-  
20 tive test for the competency of the cement job.

21 Additionally, in the program that is out-  
22 lined, a third string of pipe is set through the Delaware.  
23 It is also cemented and this provides two -- this is not in  
24 the R-111, I don't think. This is a program that -- so I'll  
25 skip that, but in the R-111, that's the -- those two strings  
are required.

Now, this gives positive proof that the  
casing shoes will not leak and those are adequate require-



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2 to the adequacy of those programs if wells, both within and  
3 without the R-111-A Area, are deviated or directionally  
4 drilled?

5 A I think the program is adequate in -- in  
6 either case. The question, as I understand it, or the  
7 problem, as I understand it, revolves around drilling  
8 vertically to some depth below the Salado and then deviating  
9 the well.

10 In that case, that portion of the well  
11 above the point at which it's -- at which deviation starts  
12 doesn't know whether the hole is straight or crooked, goes  
13 sideways or anything else. As far as that portion of the  
14 hole is concerned, it performs, and everything in it per-  
15 forms, as though it were a vertical hole.

16 Q Do you have an opinion, Mr. O'Brien, as  
17 to whether or not there is an increased risk to either the  
18 oil and gas industry, the oil and gas operator, or the pot-  
19 ash industry, with regards to the deviation of a wellbore as  
20 we've just discussed?

21 A The -- as far as the hazard to the oil  
22 and gas industry, there is an economic hazard in that. The  
23 cost of drilling directional holes is inherently greater  
24 than the cost of drilling straight holes.

25 Additionally, because there is -- there  
is an increased possibility of mechanical difficulties,  
there is a lower success ratio in getting wells to total  
depth, or to complete project; however, as far as any risk

1 as to migration of fluids, or blowout, or any of those prob-  
2 lems, there is no difference whatsoever.

3 Q When we talk about mechanical problems in  
4 the drilling of a well vertically or directionally, what are  
5 you generally discussing?

6 A Well, it is easier, because of some of the  
7 physical construction of the rock and the tools that we use  
8 to drill, it's easier for drill pipe to become stuck. We  
9 -- it's more difficult to fish that pipe out of a direction-  
10 al hole.

11 That is the kind of problem that I'm  
12 talking about.

13 Q If an operator encounters mechanical  
14 problems as you've defined them in the drilling of a direc-  
15 tional well or a vertical well, will, in your opinion, that  
16 mechanical difficulty breach the integrity of the casing and  
cementing program that's applied to the salt interval?

17 A Not at all.

18 Q When we use the phrase "lost circulation"  
19 in your industry, Mr. O'Brien, what are we talking about?

20 A Lost circulation refers to the loss of  
21 the drilling fluid into a permeable zone, either one which  
22 has pore space large enough to accept mud particles or frac-  
tures which will accept mud particles.

23 Q In the event an oil and gas, or either,  
24 well is drilled that experiences a lost circulation problem,  
25 would that occurrence breach the integrity of the cementing

1 and casing program as applied to the salt interval pursuant  
2 to the R-111-A procedure?

3 A No, sir.

4 Q Why not?

5 A Well, I presume that you're speaking of  
6 lost circulation at a depth below that casing and in which  
7 case the casing would be strong enough to support any col-  
8 lapsing pressure that might be applied and the loss of cir-  
9 culation would be something that occurred down the hole and  
10 that portion of the hole behind the casing wouldn't know  
11 that it happened.

12 If the loss in circulation occurs in the  
13 portion of the hole that is cased off into the salt, this  
14 could have some effect; however, the pressures and the frac-  
15 ture gradient in the salt section, in all salt sections, is  
16 high enough so that you do not lose returns in that section  
17 of the hole. You could lose returns in the section above  
18 the salt, but the cementing techniques that are used are  
adequate to overcome that problem, also.

19 When we talk about drilling deep gas wells in the  
20 area involved in the potash/oil area immediately adjacent to  
21 that, when we talk about a deep gas well being attempted in  
22 the Morrow formation, what is the approximate vertical rela-  
23 tionship between that Morrow horizon and the salt interval  
that has mineralized potash?

24 A The bottom of the salt at the deepest  
25 point, as I understand, is about 2400 feet, and the Morrow

1 section is somewhere in the order of about 12 to 13,000  
2 feet, so we're talking about a vertical relationship in the  
3 order of 10 or 11,000 feet.  
4

5 Q What is, to your knowledge, the shallow-  
6 est hydrocarbon formation that is productive immediately be-  
7 low the salt or the Salado base that we've discussed?

8 A I understand that the -- some of the  
9 sands in the Delaware Group at a depth of between 3 and 4000  
10 feet, I think it is. I may be off somewhat, but it's in  
11 that order.

12 Q Do you have an opinion as to whether or  
13 not the production of gas from the Morrow formation and the  
14 pressures involved in that formation would cause any diffi-  
15 culty with using this wellbore as a way or a vehicle to mi-  
16 grate gas from the Morrow formation up into the salt sec-  
17 tion?

18 A The Morrow is cemented with adequate  
19 cement in the normal program to prevent gas migration; how-  
20 ever, in the remote event that some, by -- for some reason  
21 the cement were not adequate, then there are two zones with-  
22 in the well. One is the Delaware, which is extremely low  
23 pressured, and the other is the Bone Springs, which is not  
24 quite so low pressured but it is also very low pressured,  
25 and gas from below the salt will enter those zones before  
they would -- before it would enter the salt, even if there  
were no casing in front of it.

1  
2 Q The proposed procedure that Mr. Nutter  
3 has testified to with regards to extending the casing and  
4 cementing programs to the area outside the R-111-A Area  
5 includes a provision for being 250 feet outside that  
6 boundary.

7 Mr. Robb asked Mr. Nutter some questions  
8 about the potash industry's subsidence pillars. Assuming a  
9 pillar that has a radius of 250 feet around this wellbore,  
10 and assume that pillar is not subject to either first or  
11 second mining, based upon your experience as a drilling  
12 engineer in salt intervals, do you have an opinion as to  
13 whether or not that is an adequate pillar in terms of your  
14 profession and your industry to adequately protect the  
15 integrity of that wellbore?

16 A The 250-foot pillar is adequate. We have  
17 experienced in drilling salt in a number of areas where two  
18 wells have been drilled adjacent to each other, at much  
19 closer proximity than 250 feet, and one well was emptied,  
20 void of any fluids. The other well was drilling with a  
21 drilling fluid that would be very close to the equivalent  
22 pressure that's exerted by the Morrow, and we got no flow  
23 from one well to the other.

24 The -- it is fairly difficult to fracture  
25 salt and that is the only method by which you could get flow  
from one wellbore to another or from a wellbore into a mine  
in this case.

Q Thank you, Mr. O'Brien.

1  
2 MR. RAMEY: Are there any ques-  
3 tions of Mr. O'Brien?

4 MR. HIGH: Yes, sir, we have  
5 some questions.

6 Again we'd make the same re-  
7 quest that we did earlier for a postponement to allow us to  
8 consult with our experts in connection with Mr. O'Brien's  
9 testimony.

10 MR. RAMEY: We'll recess for  
11 ten minutes.

12 (Thereupon a recess was taken.)

13  
14 CROSS EXAMINATION

15 BY MR. HIGH:

16 Q Mr. O'Brien, I believe you testified you  
17 were a drilling engineer but you said you had a degree in  
18 chemical engineering. What is a drilling engineer? Is that  
19 a title or is that just something you use or is that an in-  
20 dustry term?

21 A Well, I suppose it's probably some of  
22 that in that it is a specialization, I suppose, within the  
23 realm of oilfield engineering.

24 Q Are there any academic degrees offered in  
25 drilling engineering?

A Not to my knowledge.

Q So that's just an industry type designa-



1  
2 tion.

3 A That's -- yes.

4 Q And your -- your company is in the drill-  
5 ling business?

6 A We are in the drilling engineering busi-  
7 ness. In the industry typically the drilling business re-  
8 fers to drilling contractors and we're not drilling contrac-

9 Q Well, do you -- does your company now  
10 hold any interest in oil and gas leases?

11 A I have interest in oil and gas leases but  
12 myl engineering company does not.

13 Q Okay, does your company receive any roy-  
14 alty payments --

15 A No, sir.

16 Q -- from oil and gas production?

17 A No, sir.

18 Q Okay, do you individually?

19 A Yes, sir.

20 Q Okay, do you hold any lease interests in  
21 southeastern New Mexico?

22 A No, sir.

23 Q Do you receive any royalty payments of  
24 any kind from southeast New Mexico?

25 A Yes, I do.

Q Let me just ask you just point blank, Mr.  
O'Brien, would your company benefit in any way or would you

benefit in any way with the changes that Bass is seeking in this proceeding?

A None whatsoever. They're going to pay me for my time here and that's the end of it.

Q Have you ever worked for Bass before?

A No, sir.

Q Have you ever testified as an expert before?

A Yes, sir.

Q So you have been -- have you drilled for other people or consulted with other companies in southeastern New Mexico.

A Yes, sir.

Q On both deep and shallow wells?

A What's deep and what's shallow? I think by your terminology they'd largely be deep; maybe a few shallow ones, I'd have to say probably both.

Q Is it both oil and gas wells?

A Yes.

Q Have you had any experience with any wells drilled within R-111-A?

A Only insofar as the work I did for the WIPP site. There were no actual wells drilled that I know of.

Q So all of your consulting work then, I take it, has been on -- on wells that did not require the casing and cementing and requirements of R-111-A?

1  
2 A I have been on those that required no  
3 casing whatsoever and I've been on those that required much  
4 more than R-111-A requires.

5 Q Okay, but my question --

6 A I have not -- if your question is have I  
7 ever drilled any wells under the requirements of R-111-A,  
8 then no.

9 Q Have you ever drilled any wells that re-  
10 quired casing requirements similar to those in R-111-A?

11 A Yes, sir.

12 Q Have you ever had any leaks from those  
13 casngs?

14 A No, sir.

15 Q Never in your history of your operation?

16 A Not those wells.

17 Q Well, are you aware of any wells in which  
18 there have been leaks in the casing when the casings were at  
19 least equal to or better than that required by R-111-A?

20 A Under similar circumstances, no.

21 Q So you're -- well, are you saying, Mr.  
22 O'Brien, that the casing requirements under R-111-A are so  
23 great that we can all go home with absolute assurance we're  
24 not going to have any leaks?

25 A I think you can go home with equal assur-  
ance that you will leave here and get home.

Q But I'm worried about after I get home.

A I think that you'll have equal assurance

1  
2 that -- as you lasting the night.

3 Q What's going to happen to me after I get  
4 home?

5 A I don't know.

6 Q What if I got down in the mine, that's  
7 what I want to know.

8 A I think that with as -- that the safety  
9 of the mine will not be impaired if the program that is used  
here is used.

10 Q And that's a guarantee.

11 A That's an Oklahoma guarantee. The oil  
12 field people can tell you that.

13 Q Are you really that absolute? Do you  
14 have that degree of certainty?

15 A As we all understand, there are very few,  
16 if any, absolutes in nature; however, within the realm of  
17 reasonable probability, in which I stake my life on the  
18 wells that I work on quite often, in much more serious cir-  
19 cumstances than are here, and on that level I'm -- I consi-  
der these -- this program to be adequate.

20 Q What experience have you had, Mr.  
21 O'Brien, in casing design?

22 A I wrote Gulf Oil's casing design manual.  
23 I designed casing for wells with pressures on them up to and  
24 exceeding 20,000 psi. I designed wells -- I've designed  
25 some for wells that didn't go below 100 feet. I've designed  
some for wells that presently are drilling in a field that

1  
2 on my design, the wells are below 25,000 feet. They produce  
3 very large quantities of very high pressured gas, which in-  
4 cludes hydrogen sulfide, carbon dioxide, and probably some  
5 other contaminants, which if improperly handled pose a haz-  
6 ard to a much larger group of people than you have involved  
7 here.

8 Q Well, I want to follow up on that, but  
9 are you saying that this is no hazard because we have a  
10 small number of people?

11 A No, sir, I'm just comparing the size of  
12 the hazard. I'm saying that some of the other designs that  
13 I'm involved in are -- present much greater potential haz-  
14 ards than are involved here.

15 Q It's a greater hazard than wiping out  
16 3000 people and jobs?

17 A There are -- I've designed a well that  
18 had there been a failure on it, it could have gotten well  
19 over 3000 people.

20 Q In all of your casing design experience  
21 -- well, let me back up. Do you consider yourself an expert  
22 on casing design?

23 A I think so.

24 Q What types of connections would you say,  
25 Mr. O'Brien, are susceptible of leaking, say, in the salt  
string? Is that a problem? Is that a concern?

A Under the conditions that we have here, I  
think that within the realm of the normally used connec-

1 tions, the probability of failure of a reasonably handled  
2 and installed connection is very, very small.

3 Q Well, you've used an awful lot of adjectives.  
4 You're saying that there is a risk.

5 A There is a risk in everything.

6 Q Okay, what if you add to that high pressure  
7 gas, is that risk increased?

8 A If there is -- well now, again, your  
9 statement is, you know, how high is up. What's high pressure  
10 gas?

11 Q Well, does the degree of hazard increase,  
12 I'm sorry, let me rephrase that. Does the degree of -- the  
13 hazard of a leak through one of these connections increase  
14 with high pressure?

15 A In this particular case, I think that  
16 we're talking about Morrow gas, which probably would have a  
17 pressure in the order of 5000 psi at the surface, or no more  
18 than that, and at that level and because of the conditions  
19 of the hole below this casing, then it's my opinion that  
20 there would be no appreciable or significant increase in the  
21 hazard relative to the threads.

22 As a matter of fact, I did a study for  
23 Gulf on the use of threads and we found that the threads  
24 here are adequate, particularly when cemented in place, to  
25 contain the pressures that might possibly be applied to them  
in this case.

Q Have you ever been involved in a well

A Yes, sir.

Q Would you say, how many occasions?

Q But those, of course, I assume were different from what we're talking about?

Q           What about leaks between the salt string  
production string?  Is that a -- is that something  
I --

In either case, if a leak occurs, the probability -- in the oil string, if a leak does occur in the oil string, the probability of a leak through the one string and cement, or the two strings and cement, as whichever option the operator chooses, and most of them will choose to put the other string in, the leak will dissipate way down the hole at a depth that will not have any effect at the level of the salt.

A. Yes, sir.

1  
2 Q What's the probability of a leak like  
3 that?

4 A It's miniscule.

5 Q Do you know how much gas is a hazard to  
6 the potash industry, Mr. O'Brien?

7 A I assume that any is. I assume you mean  
8 gas in the mine.

9 Q Yes, sir.

10 A I would assume that any is. I don't  
11 know.

12 Q And is it your testimony that you have  
13 never seen a well with R-111-A type casing and cementing  
14 where there's a leak in the casing.

15 A Under similar circumstances.

16 Q Well, what do you mean under similar cir-  
17 cumstances?

18 A That has pressures and had a hole open  
19 below it or additional strings of pipe set, and all of these  
20 other conditions, all the other things being equal, the an-  
21 swer is I have not seen a leak.

22 Q Okay, well, let's strip all that away.  
23 Okay, and let's talk about those instances where that type  
24 casing and cementing was there and a leak occurred. Forget  
25 about the other circumstances, have you seen that?

MR. KELLAHIN: Mr. Chairman, I  
believe that's an improper hypothetical. He's stripped away  
all the factual considerations on which this expert reached



1 a reasonable probability as to an answer.

2 The hypothetical becomes so ab-  
3 stract as to be meaningless.

4 We would object to the form of  
5 the question.

6 MR. HIGH: Mr. Chairman, it's  
7 not a hypothetical. I'm asking him about specific fact  
8 situations, not a hypothetical.

9 MR. KELLAHIN: Then we object  
10 on the grounds that it's irrelevant and immaterial the way  
11 he asked it in light of the factual situation.

12 MR. HIGH: Again predictive of  
13 what we can expect in the potash industry in terms of leaks  
14 from the casing and cementing requirements, and again we'd  
15 (not understood.)

16 MR. RAMEY: Mr. High, I didn't  
17 understand your question. What are you stripping away?

18 MR. HIGH: Okay, the witness  
19 qualified his answer in terms of the casing and cementing  
20 requirements by saying "under similar conditions". I want  
21 to know what he means by "under similar conditions".

22 I want to know from the witness  
23 that what his experience has been in situations where you  
24 have casing and cementing requirements like you do, or simi-  
25 lar to those in R-111-A, where there has been a leak, and  
we'll talk about -- then we'll get into the other circum-  
stances he's talking about, but that's what I want to ask

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
September 6, 1984

COMMISSION HEARING

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IN THE MATTER OF: )

Application of Bass Enterprises Production Co. )  
for the amendment of Division Order No. R-111-A, )  
Eddy and Lea Counties, New Mexico. )  
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CASE 8287

BEFORE: Joe D. Ramey, Director

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil  
Conservation Commission:

Jeff Taylor  
Legal Counsel for the Commission  
State Land Office Building  
Santa Fe, New Mexico

MR. RAMEY: The hearing will come to order. Call Case 8287.

MR. TAYLOR: Case 8287, the application of Bass Enterprises Production Co. for the amendment of Division Order No. R-111-A, Eddy and Lea Counties, New Mexico.

MR. RAMEY: At the request of the applicant this case will be continued indefinitely. The hearing is adjourned.