STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION FOR THE PURPOSE OF CONSIDERING:)))
APPLICATION OF BASS ENTERPRISES PRODUCTION COMPANY FOR AN ORDER AUTHORIZING THE DRILLING OF A WELL IN THE POTASH AREA, EDDY COUNTY, NEW MEXICO) CASE NOS. 13,367)))
APPLICATION OF DEVON ENERGY PRODUCTION) 13, 26 8
COMPANY L.P. FOR AN ORDER AUTHORIZING	13, 268) 13, 268) UN
THE DRILLING OF A WELL IN THE POTASH) \(\bar{\bar{\bar{\bar{\bar{\bar{\bar{
AREA, EDDY COUNTY, NEW MEXICO)
)
APPLICATION OF DEVON ENERGY PRODUCTION	13,332
COMPANY, L.P., FOR APPROVAL OF AN	,
UNORTHODOX WELL LOCATION AND)
AUTHORIZATION TO DRILL A WELL IN THE)
POTASH AREA, EDDY COUNTY, NEW MEXICO) ယ
) (Consolidated)

REPORTER'S TRANSCRIPT OF PROCEEDINGS COMMISSION HEARING

BEFORE: MARK E. FESMIRE, CHAIRMAN

JAMI BAILEY, COMMISSIONER

WILLIAM C. OLSON, COMMISSIONER

June 5th, 2006 Santa Fe, New Mexico

These matters came on for hearing before the Oil Conservation Commission, MARK E. FESMIRE, Chairman, on Monday, June 5th, 2006, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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* * *

WHEREUPON, the following proceedings were had at 1 8:24 a.m.: 2 CHAIRMAN FESMIRE: Let's go on the record. 3 the record reflect it's 8:25 a.m. on Monday, June 5th, 4 This is a specially set meeting of the New Mexico 5 Oil Conservation Commission. The record will reflect that 6 Commissioners Olson, Bailey and Fesmire are all present and 7 that we do have a quorum. 8 Administratively, we are going to take up the 9 potash cases first, the potash cases being Case Number 10 13,368, Number 13,367, and Number 13,372. 11 After the Commission hears the evidence in those 12 cases, we intend to take up an Application for re-hearing 13 on Case Number 13,589. 14 And then Case Number 13,586, which is the 15 Application of the Oil Conservation Division for repeal of 16 existing Rule 709, 710, 711, and replacement of those 17 Rules. 18 So at this time we'll call Cause Number 13,367, 19 13,368, and 13,372, which have been consolidated. 20 21 We'll take the entries of appearance now. 22 MR. CARR: May it please the Commission, my name 23 is William F. Carr with the Santa Fe office of Holland and 24 Hart, L.L.P. Appearing with me today is Ocean Munds-Dry of

We represent Bass Enterprises Production

25

our office.

Company in Case 13,367. We also represent Devon Energy Production Company, L.P., in Cases, 13,368 and 13,372.

I have three witnesses for Bass and two witnesses for Devon.

CHAIRMAN FESMIRE: Mr. High?

MR. HIGH: Yes, Charlie High and C.B. Burns of
Kemp Smith, L.L.P., appearing for Mosaic Potash Carlsbad
IMC. And with us is Mr. Dan Morehouse; he will be our only
witness today. We'll have three exhibits, I believe.

And if I may, we -- in the interest of a full record in this case, we submitted exhibits that contain our LMR. We failed to mark them "confidential" because we PDF'd them to you, but we would ask that the two exhibits that we submitted to you -- the third being the BLM map, which is certainly not confidential -- but the two other exhibits that we submitted as exhibits in this hearing contain and show our LMR, we would ask that those be marked "confidential". We do want them in this record because we want a full and complete record, clearly showing the amount of potash that would be wasted in this case, so we took the unusual step of disclosing the LMRs for the purpose of a full record, but we ask they be kept confidential.

CHAIRMAN FESMIRE: Okay. Mr. High, you realize that that might be difficult because the proceedings of these --

I understand, but I had to say that MR. HIGH: 1 for the record. 2 CHAIRMAN FESMIRE: Okay. Are there any other 3 appearances in this case? 4 MR. BRUCE: Mr. Chairman, Jim Bruce of Santa Fe. 5 I'm representing Kenneth Smith, who is a landowner in the 6 two Devon Energy Cases, and I will be calling Mr. Smith as 7 8 a witness. CHAIRMAN FESMIRE: Okay. Are there any other 9 appearances? 10 Okay, with that, Mr. Carr, did you have an 11 opening statement? 12 MR. CARR: Yes, sir, I do. 13 CHAIRMAN FESMIRE: Okay. 14 MR. CARR: May it please the Commission, in these 15 consolidated cases you are being asked to approve three 16 well locations in the oil/potash area in southeast New 17 We're asking you to do that pursuant to the 18 Mexico. 19 provisions of Order R-111-P. 20 As you may know, this order was adopted in 1998 21 because, as the Commission found, operations under the old 22 potash order had become virtually unworkable because of a 23 lack of tolerance on the parts of both the oil and gas 24 industry and the potash industry. 25 So a work group was named comprised of

representatives of both industries, and a compromise was developed. And it was a carefully drafted compromise.

It states that the objectives are to prevent waste, to protect correlative rights and to assure the maximum conservation of oil and gas and potash resources in New Mexico, and it calls upon you to balance the interests of two industries that often find themselves competing with one another to develop particular properties.

In balancing these interests, you are directed to protect potash from drilling that would result in undue waste of potash deposits. But you are also required, and I quote, to assure that, quote, no mining shall be conducted in the potash area that would constitute a hazard to oil or gas production or that would unreasonably interfere with the orderly development and production from any oil and gas pool. So you have to balance these industries and their interests.

And Order R-111-P came forward with some very specific rules, and under these rules potash companies periodically designate their LMR, their life-of-mine reserve areas. And they provide this information to the BLM and to the State Land Office, and this information is reviewed by those agencies, and then the LMR is established.

If, on the other hand, an oil and gas operator

proposes to drill in the area, they file an APD with you, and then that APD -- you take that, confer with the Land Office or BLM and determine whether or not the well is in the LMR area.

The three wells we're talking about today are in the LMR area of Mosaic Potash. And the Rules contain very particular provisions concerning how wells may be drilled in the LMR. And they provide, and I quote, Any application to drill in the LMR area, including buffer zones -- buffer zones in the LMR are treated the same under this order -- may be approved only by mutual agreement of lessors and lessees of both potash and oil and gas interests.

So here today we have cases where we have wells in the LMR. But we also have cases where we have agreements between the lessors and lessees of the potash and the oil and gas rights, and we ask permission to go forward under the provision of Order R-111-P that I just discussed with you.

Order R-111-P does not lock out any industry. It by itself doesn't prevent either industry from developing its reserves. It doesn't replace a potash lease or an oil and gas lease. If you are to benefit or receive the benefits of Order R-111-P, you have to have a right to develop the reserves. You must own an interest.

And in this case the evidence is going to show

you that Bass owns the oil and gas lease under the 40 acres on which it is proposing to drill, 40 fee acres. It will show you that Devon owns the oil and gas lease under the 40 acres on which it proposes to drill wells.

And these are within the potash area, within Mosaic's LMR. These are fee lands. And in these tracts, Mosaic does not own any potash rights. They have no lease and no right to develop any of the potash reserves.

We're here today with the mineral owners, the owners of the potash rights, and these owners are going to testify and tell you that they have reached a mutual agreement with Bass and Devon, that they desire to have their oil and gas minerals developed first and in preference to the development, if any, of the potash reserves underlying these fee tracts.

Our land evidence is going to establish that Bass and Devon followed the provisions of Order R-111-P. They reached mutual agreement with the owners of the potash rights, they filed APDs, two of the three were approved by the OCD, and they notified the potash lessees as required of their plans to drill.

Mosaic objected to those applications. The Bass objection is because -- and they cited to the Division as the reason for their objection that any application to drill in an LMR, including a buffer zone, may only be

approved by mutual agreement of the lessor and lessee of both the potash and oil and gas interest. In that case, we have that agreement.

We weren't contacted by the OCD, the OCD simply acted and rescinded our APD.

As to the objections raised to the Devon

Applications, we were told that we were planning to drill

in an area with measured ore, like all these wells are,

many of the wells out there are. They noted that looking

at their five-year mining plan, in 2007 they expected to be

within a quarter of a mile of the area where Devon proposed

to drill. In fact, they testified they could be within

1000 feet of the wellbore, and they presented evidence to

that fact.

The evidence today is going to show that they're not going to be within a quarter of a mile in 2007. They anticipate maybe being a mile and a quarter away in 2010. But the evidence is going to show, Mosaic has no potash rights, and yet they're coming in here and asking you to deny the owners of both the potash and the oil and gas the right to develop the minerals they own, that they desire to develop, and that they are proposing to develop consistent with the provisions of Order R-111-P.

There have been several cases like this before.

They've gone to the Division. And in those cases the

Division has decided that the APD should be approved because there was an agreement between the owners of the oil and gas and the potash. And we're going to ask you to reach that same conclusion here today. I believe this is the first case, though, that would be appealed to the Commission. We're also going to call two engineering witnesses, simply to show that wells as proposed will be drilled, cased and cemented in accordance with provisions

The landowners, as I have indicated, will then testify. They will confirm with you that they prefer to have their oil and gas developed first.

of subpart D of Order R-111-P.

At the close of the case at the Division level, the APDs were either approved or reinstated for each of these three wells, and we believe at the end of this case the evidence will show that both Bass and Devon are entitled to drill these wells where they have complied with the provisions of the Rules of the Oil Conservation Division.

CHAIRMAN FESMIRE: Mr. High, would you like to give your statement or reserve it till your case?

MR. HIGH: No, I'll go ahead and do it now, Mr. Chairman.

The opposition of Mosaic Potash to these APDs is

quite simple. We are not opposed to the owners of the fee lands developing their oil and gas right. What we are opposed to is the manner in which Devon and Bass are proposing to develop those mineral interests.

The manner in which they are proposing to develop these three APDs, as our evidence will show, will waste in excess of \$90 million in commercial potash.

Under the New Mexico Oil and Gas Act, R-111-P, as well as the New Mexico State Constitution, this Commission has an obligation, indeed, a duty to protect potash. And we think that the Commission can do that by denying these APDs and requiring that these oil and gas rights be developed in a manner in which potash will not be wasted, but that these fee owners can, in fact, develop their oil and gas rights.

With respect to the two wells that Devon is proposing in Section 7, it is undisputed that those surface locations are right in the middle of ore that meets the BLM standard for potash enclave. I don't think there will be any dispute that all three of these surface locations are in commercial-grade potash. The only unique factor is, they're on fee land, 40-acre spots.

The Section 24 wells -- there's two of them,

Apache Number 6 and Apache 7A -- one is proposed to be a

Delaware well and one is proposed to be a deep gas well.

We don't think that any fee owner has the right to develop their land, their oil interest, in a manner that adversely affects the mineral rights of adjoining If you drill a deep gas well on a 40-acre spacing, as Devon is proposing here, that will waste potash beyond the 40-acre spacing, because an underground mine like Mosaic that operates anywhere from 1000 to 1800 feet underground with people cannot afford, for safety reasons,

So if this deep gas well is allowed in Section 24, it is going to create the waste of potash beyond the 40-acre spot -- 40-acre spacing unit.

to mine up to a deep gas well, particularly to the Devonian

where you're dealing with H2S as well as a methane hazard.

Our position is that a fee landowner does not have the right to develop their land in a manner that adversely affects adjoining landowners. And if this Commission approves that, our position is, it's a violation of the New Mexico Oil and Gas Act, R-111-P, as well as it will be an unconstitutional taking of our mineral interest and our potash leases without just compensation.

If this well is allowed -- and our evidence is going to show that the amount of potash that will be wasted in wasted in Section 24 will be in the neighborhood of \$80 million, someone needs to compensate us for that, whether it's Devon, the landowners, or the OCC, because that well

will waste that amount of potash on our leases, because we hold the leases in the adjoining sections.

We also submit that those APDs, contrary to what Mr. Carr said, are not in compliance with R-111-P. I am aware -- in fact, I tried the other case that Mr. Carr referred to, the Snyder Ranch case, where this Commission held that you cannot have an LMR on fee land. I don't agree with that, but I accept it.

But R-111-P also says you cannot drill a well within one quarter mile of an LMR without that LMR owner's consent. Both of these wells in Section 24 are within a quarter mile of Mosaic's lease in the adjoining sections. So they cannot drill these wells consistent with R-111-P without Mosaic's consent, and we do not consent.

We have no objection to the -- as I said before, to these fee landowners developing the wells that they are proposing. There's no reason in the world that the fee land in Section 24 cannot be developed with directional wells from the west boundary of WIPP. There's already wells there.

That is, in fact, what the BLM has required. All development in Section 24 has been from directional wells on the west boundary of WIPP. Why should this Commission do anything different than what the BLM has required?

Because it's in violation of R-111-P, we submit, the New

Mexico Oil and Gas Act, as well as the New Mexico State Constitution.

So those two wells in Section 24, we submit, should be denied as proposed and required to be relocated to the west boundary of WIPP and directionally drilled, for which we have no objection. That way the oil and gas can be developed as it should be, and you can prevent the waste of potash totaling some \$80 million.

With respect to Section 7, this well is critical to us. Section 7 is also on fee land, a 40-acre spot. The entire Section 7 is already being developed for deep gas.

James Ranch 14 is on the north boundary. It's just across the north boundary of Section 7. It's a directional well, and the prorated unit is the north half of Section 7. So the fee landowner in Section 7 is already participating in the development of the gas in his 40-acre spot. What we're proposing is an infill well.

The south half of Section 7 is also being developed, again with a directional well, James Ranch 15, which is located to the south and to the east, but it also is a directional well.

So the two wells developing deep gas in Section 7 are already directional wells.

This 40-acre spot proposed by Bass can also be developed with a directional well. If they want to infill

with it, we have no objection. Just go up to James Ranch
14, which is already a deep gas well, and drill another
directional well. We've got no problem with that. But
don't come right out in measured ore and waste in the
neighborhood, just in the area -- waste in the neighborhood
of \$12 million worth of potash.

But the biggest concern that we have -- and our evidence will show it -- this well, this 40-acre spot, happens to be so strategically located that its damages to us far exceeds \$12 million. Because our evidence will show, and we'll have it on a BLM map, this Section 7 well is located right in the middle of access to the east side -- the ore on the east side of WIPP.

If this well is allowed, all of Mosaic's access to the ore to the east and north of WIPP is cut off. We no longer have any access.

We've worked hard with the BLM for years, and they have created a corridor, they have protected a corridor on the east side of WIPP for us to access all of that ore on the east and north side of WIPP.

If this well is allowed, all of that -- it just goes right out the window. This Commission ought not destroy what we and the BLM have worked for years to do, and that's protect a corridor so that the ore up on the other side of WIPP can be mined. That's exactly what this

Section 7 well will do, and there's no reason why it can't be developed with a directional well. There's already two directional wells developing Section 7. This well ought to be no different.

So we're not opposed to the development of this oil and gas, just the manner in which it is being proposed is simply a strategic effort to take advantage of the fee land issue under R-111-P, and we find that both obnoxious and contrary to R-111-P, because it will waste a tremendous amount of potash, and that's the nature of our opposition.

So we ask the Commission to deny these APDs and ask Devon and Bass to re-file APDs to develop in a manner consistent with R-111-P and the New Mexico Oil and Gas Act.

Thank you, sir.

CHAIRMAN FESMIRE: Mr. Bruce?

MR. BRUCE: Mr. Chairman, of course you'll hear a lot of talk about Order Number R-111-P today. Now if you're talking about state and federal land, that would be -- in that instance the Land Office and the BLM have the chance to review data and deal with the inclusion of their lands in an LMR.

But Mr. Smith has never consented to inclusion of his lands in an LMR, nor has he leased his land for potash development. He and his family have leased his minerals to Devon Energy Production Company for oil and gas

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development, and they approve of Devon's proposal to drill
1
     on his land.
2
               Mr. Smith -- and although he will testify he has
 3
     no ill will whatsoever toward the potash companies; he
 4
     considers them a good neighbor. But he requests the
 5
     Division to approve his application -- excuse me, to
 6
     approve the Applications. To do otherwise is granting the
 7
     potash company a unilateral right over his mineral
 8
 9
     development on his property.
10
               Thank you.
               CHAIRMAN FESMIRE: Are all three wells on Mr.
11
     Smith's fee land?
12
               MR. BRUCE:
                           Two.
13
               CHAIRMAN FESMIRE: Two of them, thanks.
14
               Mr. Carr, would you --
15
               MR. CARR: May it please the Commission, at this
16
17
     time we would call J. Wayne Bailey as witness for Bass.
18
               CHAIRMAN FESMIRE:
                                  Okay.
19
               MR. CARR: We have additional copies,
20
     incidentally, of the exhibits if anyone needs them.
21
               CHAIRMAN FESMIRE: Okay. Mr. Bailey, are all
22
     your witnesses -- I mean, Mr. Carr, are all your witnesses
     present?
23
24
               MR. CARR:
                          I believe so, yes.
25
               CHAIRMAN FESMIRE:
                                  Why don't all the witnesses
```

r	
1	who intend to give testimony today please stand to be
2	sworn?
3	(Thereupon, the witnesses were sworn.)
4	CHAIRMAN FESMIRE: Mr. Bailey, you've been sworn?
5	For the record, would you
6	MR. BAILEY: Yes.
7	CHAIRMAN FESMIRE: Okay.
8	MR. CARR: Also before we begin, I would like to
9	point out to the Commission that Case 13,372 as styled
10	seeks approval of an unorthodox well location. That was
11	dismissed before the Examiner, and it's not part of this
12	hearing.
13	CHAIRMAN FESMIRE: The unorthodox ?
14	MR. CARR: Yes, the well is proposed to the
15	Devonian, and it is at a standard location.
16	CHAIRMAN FESMIRE: Okay.
17	J. WAYNE BAILEY,
18	the witness herein, after having been first duly sworn upon
19	his oath, was examined and testified as follows:
20	DIRECT EXAMINATION
21	BY MR. CARR:
22	Q. Would you state your full name for the record,
23	please?
24	A. It's Jerry Wayne Bailey.
25	Q. Mr. Bailey, where do you reside?

1	A. Fort Worth, Texas.
2	Q. By whom are you employed?
3	A. Bass Enterprises.
4	Q. And what is your current position with Bass
5	Enterprises?
6	A. I'm division land manager, west Texas/New Mexico
7	division.
8	Q. Have you previously testified before the New
9	Mexico Oil Conservation Commission?
10	A. Yes.
11	Q. Has the Commission changed since your prior
12	testimony?
13	A. No.
14	Q. Could you briefly summarize for the Commission
15	your educational background?
16	A. I have a business degree from the University of
17	Alabama, and I joined Bass Enterprises in 1980, and I've
18	been active in the land department there, and in 1996 I
19	started working southeast New Mexico area.
20	Q. At all times since you went to work for Bass,
21	have you been employed as a landman?
22	A. Yes.
23	Q. Are you familiar with the Application filed in
24	this case?
25	A. Ves.

1	Q. In fact, are you the land person responsible for
2	putting the prospect together for the well in Section 7?
3	A. That's correct.
4	Q. Was it your responsibility to contact the
5	affected owners in this acreage?
6	A. Yes.
7	Q. Were you also involved in obtaining the necessary
8	regulatory permits for the drilling of this well?
9	A. Yes.
10	Q. And are you familiar with the status of the lands
11	involved in this matter?
12	A. Yes.
13	MR. CARR: We tender Mr. Bailey as an expert in
14	petroleum land matters.
15	CHAIRMAN FESMIRE: Is there any objection
16	MR. HIGH: No objection.
17	CHAIRMAN FESMIRE: to Mr. Bailey's
18	qualifications?
19	Commissioners?
20	COMMISSIONER BAILEY: No.
21	COMMISSIONER OLSON: (Shakes head)
22	CHAIRMAN FESMIRE: Mr. Bailey is so accepted.
23	Q. (By Mr. Carr) Mr. Bailey, would you briefly
24	state what Bass seeks in this case?
25	A. We seek the authorization to drill the James

Ranch Unit Number 93 well according to Division Rule 1 R-111-P. 2 Let's go to what has been marked as Bass Exhibit Q. 3 Number 1. Would you identify this, please? 4 The Exhibit 1 is a map that shows several Α. 5 different items. 6 Did you present this very same exhibit at the Q. 7 Examiner Hearing? 8 Α. Yes. 9 And it has not been revised since that time? 10 0. Α. No. 11 Let's review for the Commission what this exhibit Q. 12 is designed to show. 13 Okay, in yellow are the Bass leases. They're 14 Α. located in the James Ranch Federal Unit. And the green 15 area, the green-outlined area, is identified as open, which 16 means it's unleased for potash. The blue-outlined area is 17 where IMC Potash has potash leases. IMC potash is now 18 Mosaic. And the brown area is where Western Ag Mineral 19 20 owns potash leases, and Western Ag is now Mosaic. 21 In Township 23 South, 31 East, in Section 7, the red-striped 40-acre tract is fee land that's owned by Stacy 22 23 Mills and his family. 24 The north half of Section 7 is the 320-acre

proration unit for an existing gas well, the James Ranch

25

1 14.

And the map also shows where there's measured potash reserves and barren -- or areas that are barren for minor potash mineralization areas. And the potash information is taken from the published Bureau of Land Management map that reflects leases and barren areas.

- Q. Bass is the owner of all the working interest under Section 7; is that correct?
 - A. Correct.
- Q. And Section 7 is indicated to be within measured potash ore; is that right?
 - A. Yes.
- Q. Have you drilled in other areas where there has been -- in other areas designated as measured potash ore?
 - A. Yes.
- Q. How did you go about determining what acreage was actually open acreage or unleased?
- A. We had federal records that show us what federal lands are leased for potash. We have state records for state land and we have county records for the fee land, and we reviewed all those records. And we also contacted all the mineral owners under the fee tract to make sure there were no unrecorded potash leases, and we were told that there were not.
 - Q. To the best of your knowledge, and based on your

research, is the area outlined in green still unleased for 1 potash in this area? 2 Yes. 3 How close is IMC now mining to this tract? 4 you know? 5 According to the maps that we've been furnished Α. 6 in the past --7 MR. HIGH: Excuse me, your Honor, I want to 8 object to his testifying about Mosaic's location of mining. 9 It's not shown on this exhibit. He has no knowledge, that 10 I'm aware of, where Mosaic is mining and not mining. 11 CHAIRMAN FESMIRE: Mr. Carr? 12 (By Mr. Carr) Mr. Bailey, I'll ask another 13 Q. question. Have you discussed the Mosaic mining activity 14 with Mr. Morehouse of IMC? 15 16 A. Yes. 17 Has he indicated to you how close to this tract Q. they are actually mining? 18 MR. HIGH: Your Honor, I'm going to object as 19 20 hearsay. Mr. Morehouse will be a witness and we can ask 21 him those exact questions. 22 CHAIRMAN FESMIRE: Mr. Morehouse is a party opponent, he can rebut it if necessary. 23 24 Continue, Mr. Bailey. 25 THE WITNESS: According to what we've been told,

the closest active potash mining is about a mile and a half to the west of the proposed James Ranch 93 location. It would be over in the western part of Section 12 of 23 South, 30 East.

- Q. (By Mr. Carr) What is the current development status of Section 7, in terms of oil and gas development?
- A. There's a producing Morrow well, the James Ranch Number 14, that was drilled by Belco Oil and Gas in the early 1980s. There's a producing Morrow well in the south half of Section 17, the James Ranch 15, that was also drilled by Belco. Belco became Enron, and Enron sold all its wells in this area to Bass in 1998. So Bass operates all the wells that are on the yellow on the map.
- Q. And the well you're proposing to drill to the Morrow in the north half of Section 7 will be the second well producing from the Morrow in the north half of that section; is that correct?
 - A. Correct.

- Q. And you will communitize that acreage with the remaining tracts, remaining 280 acres, in the north half of the section?
- A. Correct, all zones, Morrow, Atoka, possibly the Wolfcamp, would be communitized on that 320 acres.
- Q. Mr. Bailey, would you identify what has been marked Bass Exhibit Number 2?

I have it. Α. 1 What is that? 2 Exhibit 2 are oil and gas leases that are owned 3 Α. by Bass from the mineral owners under the 40-acre tract, 4 being the northeast quarter of the northeast quarter of 5 Section 7. 6 And how many mineral owners -- from how many 0. mineral owners have you obtained a lease? 8 There are five or six. 9 These actually indicate that they were leased, I 10 Q. believe, to a Mr. -- were they leased directly to Bass, or 11 12 to Belco? Directly to Belco, and then Bass took over as 13 A. lessee under those leases, and the leases together comprise 14 all of the mineral ownership under the 40 acres. 15 I'd like you now to go to what has been marked 16 Q. for identification as Bass Exhibit Number 3. Would you 17 just identify what this exhibit contains? 18 Exhibit 3 is the actual application for permit 19 Α. 20 that was directed to the New Mexico Oil Conservation 21 Division, a Bryan Arrant in the Artesia Office. 22 Q. Attached to this is there also some 23 correspondence concerning this application? 24 Α. Yes. 25 Q. And are these documents from the files of Bass?

1	A. Yes.
2	Q. And does Bass keep these records in the ordinary
3	course of its business?
4	A. Yes.
5	Q. Let's go to what has been what is the first
6	page of this exhibit, and I would ask you simply to
7	identify this for the Commission, explain what it is.
8	A. It's a letter dated August 12th, 2004, to the
9	OCD, application for permit to drill the well, and it was
10	made according to Division Rules, specifically Rule
11	R-111-P.
12	Q. Does this letter also reference the fact that a
13	copy of the letter was being provided to IMC Potash
14	Carlsbad?
15	A. Yes.
16	Q. And is that the predecessor to Mosaic?
17	A. Correct.
18	Q. What is the second document in this exhibit?
19	A. A letter dated August 16th, also to Mosaic, to
20	Dan Morehouse.
21	Q. We don't have that in this exhibit. Let's go
22	A. Okay.
23	Q. The second document that I have is an APD.
24	A. Okay.
25	Q. For the Number 93 well. Do you have that?

1	A. Yes.
2	Q. Will you just identify what that is and then
3	explain when it was filed?
4	A. It was filed with the OCD August 12th, and it's
5	the permit to drill the well to the Morrow formation in Los
6	Medanos-Morrow Pool.
7	Q. And what is the proposed location for that well?
8	A. It's 660 feet from the north line and 660 feet
9	from the east line of Section 7.
10	Q. And attached to this is various information that
11	was also provided at the time the application was filed; is
12	that correct?
13	A. Correct.
14	Q. Will Bass also be calling an engineering witness
15	to review how the well is proposed to be completed, in
16	regards to the requirements of Order R-111-P?
17	A. That's correct.
18	Q. Why does Bass propose to drill at this particular
19	location?
20	A. Well, we've filed for permits in various places
21	in this area, and with the exception of this 40-acre tract,
22	all the areas is BLM lands, and we've been denied permits
23	to drill at several locations.
24	Also to drill a it's necessary to drill a
25	vertical well on this 40-acre tract, to intersect all the

potential productive zones. There's Delaware, Bone Spring, Wolfcamp, Atoka, Morrow, and a directional well would be sufficient to reach the deeper zones under this tract but not the shallower ones.

So based upon our knowledge of regulatory issues with the BLM and denied permits from the past, we knew we could not directionally drill this well and reach all the productive formations underneath that. We've been denied permits in the west half of Section 8. If you'll refer back to Exhibit 1, we've been denied permits in the northwest quarter of Section 17, the north half of Section 18, and in the south part of Section 6.

CHAIRMAN FESMIRE: Why were these permits denied?

THE WITNESS: Because of potash. And it is true

that permits were granted for the James Ranch 14 and the

James Ranch 15, but it was in the early 1980s, and at that

time the BLM was more liberal about granting drilling

permits in the potash enclave in measured ore. But

recently we've been denied every -- in many areas on this

map, we've been denied drilling permits. We've even been

denied drilling permits when Mosaic agreed, and the BLM

still denied the permits. And if we're denied a permit at

the BLM local office, our only recourse is Interior Board

of Land Appeals.

Q. (By Mr. Carr) And have you pursued that remedy?

1	A. Yes.
2	Q. And what success have you had?
3	A. None. Now, they've on this map, in the west
4	half of Section 6, for example, those well locations that
5	are shown there, the 2, 3, 4, are examples of wells that
6	were proposed in a barren area where Mosaic agreed and had
7	no objection, but they're on federal land and the permits
8	were denied.
9	Q. If this Division would tell you to go ahead and
10	drill directionally from a federal tract, do you believe
11	you could get permission to drill that well?
12	A. No.
13	Q. This well is located in the center of a 40-acre
14	tract; is that correct?
15	A. Correct.
16	Q. That means it is 660 feet from offsetting potash
17	leases; is that correct?
18	A. Yes.
19	Q. The 40-acre tract is offset by potash leases
20	east, west and south?
21	A. Yes.
22	Q. What rules govern the development of the Morrow
23	formation in this area?
24	A. The Division Rules and the Los Medanos Pool that
25	require the well to be at least 660 feet from the outer

1 boundary of a quarter section. And so this well is proposed at standard Q. 2 location? 3 Correct. A. To your knowledge, does Mosaic own any potash or Q. 5 other mineral rights under the 40-acre tract? 6 No, they own no potash rights. 7 Α. I'd like to ask you to review for the Commission Q. 8 the history of the Oil Conservation Division's approval 9 process as it relates to this well. With whom did Bass 10 file an application for permit to drill? 11 Well, according to R-111-P we filed it with the 12 local OCD office and sent notice to the potash lessees 13 within one mile of the proposed location. 14 15 Q. And on what date was that notice provided? August 12th. 16 Α. August 12th -- ? 17 Q. 18 The August 12th was the OCD permit, and August A. 16th it was provided to Mosaic. 19 20 Q. And is a --21 CHAIRMAN FESMIRE: Of 2004? 22 MR. CARR: Of two thousand --23 THE WITNESS: Yes. 24 Q. (By Mr. Carr) And is a copy of a letter from Bass to IMC included in Exhibit Number 3? 25

-		
1	Α.	Yes.
2	Q.	How long
3		MR. HIGH: Excuse me, I don't believe we have
4	that.	
5		MR. CARR: It's the very last page.
6		MR. HIGH: Okay, fine. Thank you.
7	Q.	(By Mr. Carr) You're familiar with Order
8	R-111-P?	
9	A.	Yes.
10	Q.	When did that order How long does a potash
11	company h	ave to object to the an APD?
12	A.	Well, we were told by the OCD, Bryan Arrant, that
13	the potas	h company had 20 days to respond.
14	Q.	Now, the certified letter was sent on August the
15	16th?	
16	A.	Correct.
17	Q.	When did you receive a response from the OCD to
18	the Appli	cation?
19	A.	They approved the permit on September 15th.
20	Q.	Did you talk with Mr. Arrant at that time?
21	A.	Yes.
22	Q.	And why did you contact him?
23	A.	Well, I called Bryan Arrant to enquire about the
24	status of	the permit and to see or to ask if he had
25	received	any notification from the potash company, because

Bass had received no response from Mosaic Potash. 1 And Mr. Arrant advised me that they would approve 2 the application if Bass would confirm in writing that 3 Mosaic had not responded. So I wrote a letter that day to 4 Mr. Arrant -- it said simply that we had received no 5 response from Mosaic -- and Mr. Arrant immediately issued 6 the permit to drill the well. 7 And is a copy of the approved APD marked as Bass 8 Exhibit Number 4? 9 Yes. A. 10 How long after the application was filed was it 11 Q. 12 actually approved? 13 A. Twenty-seven days. Had an objection to the Bass application been 14 Q. filed at the time the APD was approved? 15 No. 16 Α. 17 What response did Bass receive from IMC Mosaic to Q. this proposed location? 18 19 Α. We received no notice from IMC, no response from IMC or Mosaic. 20 21 Would you identify what has been marked as Bass Q. Exhibit Number 5? 22 It's a letter from IMC to the NMOCD, objecting to 23 24 the permit and according to R-111-P. 25 Q. And the date on this letter?

1	A. September 17th.
2	Q. Two days after the APD was approved?
3	A. Yes.
4	Q. What reason was given in this letter for the
5	objection to the proposed well location?
6	A. There was a citation of R-111-P that any
7	application to drill in an LMR, including buffer zones,
8	must be approved only by mutual agreement of both potash
9	and oil and gas interests.
10	Q. Does it also provide that the APDs will be
11	approved if no protest is received within 20 days?
12	A. Yes.
13	Q. Was a copy of this letter sent to Bass?
14	A. It was sent to Bass from the OCD.
15	Q. Do you know who is the owner of the minerals
16	under the 40-acre tract on which you proposed to drill the
17	Bass well?
18	A. Yes, the same mineral owners from whom Bass
19	acquired oil and gas leases.
20	Q. Have you reviewed your plans for the proposed
21	well with these owners, the mineral owners, in the
22	A. Yes.
23	Q in the 40-acre tract that's the subject of
24	this hearing?
25	A. Yes.

1	Q. Have you been able to reach an agreement with	
2	these owners concerning the development of these lands?	
3	A. Yes, and the ones that we have questioned and	
4	contacted all agreed that they own the potash rights, the	
5	potash rights are unleased, and they propose that Bass	
6	drill the well prior to mining potash, or superior to	
7	mining potash under the 40-acre tract.	
8	Q. Is a representative of these owners here today to	
9	testify in support of Bass's Application?	
10	A. Yes, Mr. Stacy Mills will testify.	
11	Q. Can you identify for me what has been marked as	
12	Bass Exhibit Number 6?	
13	A. Yes, this is a the letter from the OCD to	
14	rescind the application for permit to drill.	
15	Q. And what reason was given for rescinding the	
16	Application?	
17	A. Rule R-111-P, as stated in IMC's letter, that an	
18	application to drill in the LMR, including buffer zones,	
19	may be approved only by mutual agreement of lessor and	
20	lessee of potash and oil and gas interests.	
21	Q. Before rescinding this permit, was Bass contacted	
22	by the Oil Conservation Division to determine whether or	
23	not IMC or there was another entity that owned the potash	
24	lease on this acreage?	
25	A. No.	

Did the OCD contact you to determine whether or Q. 1 not you had reached agreement with the potash owner for the 2 development of these lands? 3 No. 4 Have you had experience in putting together 0. 5 blocks of land for drilling, for the drilling of 6 directional and horizontal wells? 7 Α. Yes. 8 Does your experience include obtaining permits Q. 9 for these wells? 10 11 Α. Yes. 12 0. Internally at Bass, are you given directions 13 concerning the kinds of development prospects you are to put together? 14 A. Yes. 15 Are directional wells one of the matters which 16 Q. 17 you are directed to try and develop? Yes, they are. 18 Α. What instructions -- what are the rules that 19 Q. 20 govern your activity for Bass in developing prospects for directional wells? 21 Well, we try to avoid directional wells unless 22 Α. it's absolutely necessary, because the directional wells 23 are more costly, they're more complicated and technically 24 more difficult to drill, to complete and to produce. 25

oil well is much more difficult to produce because of the downhole equipment and pumping equipment if it's a directional well.

And also that in -- many times a directional well will not test all the formations that are prospective at a specific location because of what I said before. We have -- in this location we have all zones that are typical in southeast New Mexico, they're all prospective here, from the Delaware down to the Morrow.

- Q. In Mosaic's prehearing statement, and also in Mr. High's opening statement, Mosaic has suggested that these wells, your well, could be drilled from an alternative location. In your opinion, could this well be drilled from another location, as suggested by Mosaic?
- A. No. In addition to the physical difficulties that I just mentioned, the BLM would not approve it. It's been my experience in this area --
- MR. HIGH: Excuse me, I'm going to object to him testifying on what the federal government agency will or will not do.

CHAIRMAN FESMIRE: I'll sustain that objection.

THE WITNESS: -- in the past --

Q. (By Mr. Carr) Mr. Bailey, would you just explain to the Commission the success you have had as Bass getting an APD approved by the BLM?

Yes, we've had no success in this area, and we 1 have applied for permits in virtually every spot in Section 2 8, 7, 18, 6, on this map. 3 In your experience as a landman, have you had 4 experience drilling from any federal tract to access fee or 5 state minerals? 6 Yes. 7 Α. And when you do that, when you drill from a 8 Q. 9 federal tract anywhere to access fee minerals, from whom do 10 you have to get approval? 11 You would have to get approval from the mineral owner that's affected by any portion of the well, and we 12 would have to get an approved agreement from the surface 13 14 owner, where the surface location is staked. 15 Q. Do you also have to obtain approval of an APD 16 from the federal government? 17 For a directional well in this area that would Α. bottom under this 40-acre tract, yes, a permit from the BLM 18 would be necessary. 19 20 If you drilled a directional well from some other Q. tract to the 40 acres that are the subject of this hearing, 21 22 who would receive the royalty for the reserves produced by that well? 23 24 For what formation? 25

Delaware.

Any formation.

Q.

1	Q. From the oil formations that are spaced on 40
2	acres, the owners of the 40 acres would receive the royalty
3	as below that, in the 320-acre gas formations, all
4	royalty owners under the 320-acre proration unit would
5	receive royalty which is the BLM under 280 acres and the
6	fee owners under the 40 acres, prorated.
7	Q. If a well was drilled directionally to the north
8	half of Section 7 from a point where it did not intersect
9	the Delaware under the fee tract that you propose to drill
10	on today, would the owners in that fee tract receive any
11	benefit or any production proceeds from the Delaware?
12	A. None.
13	Q. If that acreage was being drained in the Delaware
14	by a directional well, would there be any way to produce
15	their reserves, other than drilling a well on this tract?
16	A. No, it would have to be a vertical well.
17	Q. If you were to drill from a a directional well
18	from a federal tract, would you be required to get a
19	commercial lease from the BLM for that well?
20	A. Yes.
21	Q. Have you in the past had to deal with situations
22	where you go out and drill a well and then have to obtain a
23	commercial lease for the surface location?
24	A. No, the permits are obtained before the well is

25

drilled.

1	Q. Are you aware if there's any no-surface-occupancy	
2	provision in this area?	
3	A. No.	
4	Q. Now summarize why it is you're proposing a	
5	vertical well.	
6	A. Well, in order to protect correlative rights	
7	under the 40-acre tract, the vertical well is the only way	
8	to test all the potentially productive formations under the	
9	40-acre tract. And also based on our experience with	
10	permitting in the past from the BLM, the BLM would not	
11	grant a permit anywhere surrounding this 40-acre tract.	
12	MR. HIGH: Objection, move to strike.	
13	CHAIRMAN FESMIRE: Reason?	
14	MR. HIGH: He's testifying again what the BLM	
15	will or will not do.	
16	CHAIRMAN FESMIRE: I'll sustain that.	
17	MR. CARR: I believe Mr. Bailey said based on his	
18	experience they couldn't get one approved.	
19	Q. (By Mr. Carr) Mr. Bailey, have you in your	
20	experience been able in this area to get the BLM to approve	
21	a location?	
22	A. No.	
23	Q. Could waste result from having to drill a	
24	directional well?	
25	A. Yes.	

1	Q. And how so?		
2	A. There would be no production from the shallow		
3	zones under the 40-acre tract, and there's no way to		
4	predict if any hydrocarbons could be produced from that		
5	tract.		
6	Q. I'd like to go back and discuss with you your		
7	efforts to contact and reach agreement with the other		
8	mineral owners in this acreage. You testified that you		
9	have an agreement from 100 percent of the interest owners		
10	in this 40-acre tract; is that correct?		
11	A. Correct.		
12	Q. Mr. Mills and his family own 50 percent of those		
13	minerals; is that not correct?		
14	A. Fifty-three.		
15	Q. And then there are other interests that are		
16	administered by Sunwest Bank?		
17	A. Correct.		
18	Q. Have you reached an agreement with Sunwest Bank		
19	for the development of the property with an oil and gas		
20	well before potash reserves		
21	A. Yes, we have.		
22	Q are developed?		
23	And do you have as Bass Exhibits 7 and 8		
24	affidavits confirming that you have reached that agreement?		
25	A. That's correct.		

Would you identify Bass Exhibit Number 9? 1 0. It's an affidavit from Larry Eudy, trust officer 2 of Wells Fargo Bank --3 No, let's look for Exhibit Number 9. You've got 0. 4 the old exhibit number on there, Mr. Bailey. 5 Affidavit from Dottie McLaughlin? A. 6 No. 7 Q. 8 A. Okay. We're using the same exhibits from the Examiner 9 Q. Hearing, and those were the prior numbers. 10 11 A. Okay. Is that the order, Bill? MR. HIGH: 12 Yes, sir. MR. CARR: 13 THE WITNESS: Exhibit 9 is Order of the Division 14 that came after a hearing before Examiner Stogner, granting 15 the permit to drill the James Ranch 93. 16 17 (By Mr. Carr) Now it took some time to get a Q. 18 decision from the OCD; is that right? A. Correct. 19 Do you know why it took so long to get the order? 20 Q. 21 A. Well, one reason was that Examiner Stogner 22 requested Bass and Mosaic to meet to discuss an alternative drilling location. 23 And did such a meeting occur? 24 Q. 25 Yes, myself and another representative of Bass A.

traveled to Carlsbad and met with Mr. Morehouse and another 1 Mosaic representative, and they informed us that they were 2 not interested in pursuing an alternative location. 3 Were there any discussions concerning any 4 alternative location? 5 None. Α. 6 Will Bass also call a drilling engineer to 7 0. testify concerning how this proposed well will be drilled, 8 cemented and cased? 9 Yes, our drilling testimony will show that the 10 Α. plan of the well is to be drilled and completed according 11 12 to R-111-P. 13 Q. Mr. Bailey, in your opinion will approval of the Application and the drilling of the well as proposed by 14 Bass be in the best interests of conservation, the 15 prevention of waste and the protection of correlative 16 rights? 17 A. Yes. 18 19 Were Bass Exhibits 1 through 9 either prepared by 20 you or compiled under your direction and supervision? 21 Α. Yes. 22 MR. CARR: May it please the Commission, we move 23 the admission into evidence of Bass Exhibits 1 through 9. 24 CHAIRMAN FESMIRE: Any objection, Mr. High? 25 MR. HIGH: No objection except with respect to

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Exhibit Number 1, with the understanding that the Mosaic
1
     leases shown there are complete only with respect to
2
     Section 7 and not other sections indicated on the map.
3
               CHAIRMAN FESMIRE: Mr. Carr, will you accept
 4
     that, or would you like to lay a foundation for the rest of
 5
     the map?
 6
                          Well, what we have represented here as
 7
               MR. CARR:
     the open acreage is our best understanding of that.
 8
                          Then I would object to the document as
               MR. HIGH:
 9
     being incorrect and would like to take the witness on voir
10
     dire.
11
               CHAIRMAN FESMIRE: Mr. Carr?
12
               MR. CARR:
                          Go ahead.
13
14
               CHAIRMAN FESMIRE: Mr. Bailey, he gets to talk to
15
     you.
               MR. HIGH: May I take the witness?
16
17
               CHAIRMAN FESMIRE:
                                  You may, sir.
                        VOIR DIRE EXAMINATION
18
     BY MR. HIGH:
19
20
          Q.
               Mr. Bailey, did you prepare Bass Exhibit Number
     1?
21
22
          A.
               Yes.
23
               Is this to be used primarily for your testimony
     regarding Section 7?
24
25
          Α.
               Yes.
```

Okay, you're not testifying about anything north Q. 1 of Section 7, are you? 2 Only to show what my knowledge is about the area 3 and where the potash leases are. 4 Did you look at Mosaic's potash leases, for 5 Q. example, in Sections -- Section 23? 6 I obtained that information from the BLM, federal 7 Α. records, showing where the potash leases are, and they 8 could very well have leases up there to the north --9 Is it --10 Q. -- I could not --11 A. -- your testimony, Mr. Bailey, that there's no 12 Q. 13 mosaic potash leased in Section 23? 14 A. I don't know. 15 Q. Okay. I cut this -- I made the north brown line because 16 17 it was outside our area of interest. So would it be a fair statement to say, then, 18 Q. that your testimony about Mosaic's potash leases, that 19 20 you're sure about --21 Uh-huh. Α. 22 -- is down around Section 7? Q. 23 No, I'm sure of everything that's on the map. 24 They do have leases, if it's colored, leased by Western Ag 25 or IMC, then they definitely have leases there, or they

1	definitely do not.	
2	Q. Is it your testimony that what you've shown here	
3	in blue is the only leases potash leases, Mosaic has in	
4	the whole potash basin?	
5	A. That was not my intent, no.	
6	Q. Okay, so you what you've shown as being Mosaic	
7	leases in blue are not all of Mosaic's leases, is it?	
8	A. No.	
9	MR. HIGH: Okay. With that understanding, Mr.	
10	Chairman, I don't have any objection to it, as long as we	
11	all know it does not show all of Mosaic's leases.	
12	CHAIRMAN FESMIRE: Okay, Mr. High, if your	
13	witness would have rebuttal testimony concerning this	
14	exhibit, we will certainly accept it, but we will admit	
15	Exhibits 1 through 9 as presented.	
16	MR. CARR: Pass the witness.	
17	CHAIRMAN FESMIRE: Mr. High?	
18	MR. HIGH: Yes, Mr. Chairman, thank you.	
19	CROSS-EXAMINATION	
20	BY MR. HIGH:	
21	Q. Mr. Bailey, when did you say you started with	
22	Bass?	
23	A. 1980.	
24	Q. Okay. So you've been with them now, what, 26	
25	years or so?	

A. Correct. 1 All doing land work? Q. 2 Yes, in different states, different regions of 3 A. the country, yes. 4 What percent of your time has been spent in the 5 0. potash basin? And you understand what I mean by potash 6 basin, don't you? 7 A. Yes. 8 Okay. 9 Q. Since 1996, approximately. 10 Α. And what happened in 1996 that brought you to the 11 Q. 12 potash basin? Just my area of supervision changed from Gulf 13 A. Coast area to the west Texas/New Mexico area. 14 All right. When did Bass obtain from whoever the 15 0. prior owner was, the leases in Section 7? The lease on the 16 -- the one we're talking about? 17 19- -- Well, Belco obtained the leases in 1981, Α. 18 and that's when the two gas wells were drilled. 19 obtained the leases through a joint operating agreement 20 with Belco; we obtained a partial interest in those leases; 21 22 it was in the early 1980s. And then we bought 100 percent of the leases from Belco -- we bought Belco's remaining 23 interest in 1998. 24 25 Q. So that was a couple years after you started

1	doing some work in the potash basin?
2	A. Correct.
3	Q. Do you know whether or not there was any
4	litigation over James Ranch 14 or 15?
5	A. Not that I've seen in the records.
6	Q. You weren't working in the potash area then, were
7	you?
8	A. Well, those two wells were drilled in 1981.
9	Q. So the answer
10	A. That's correct.
11	Q to my question is no, isn't it?
12	A. No.
13	Q. All right. Do you know why they were
14	directionally drilled?
15	A. I assumed it was to avoid potash.
16	Q. And as we sit here today, there are no wells
17	producing in Section 7, are they, that have not been
18	directionally drilled?
19	A. That's correct.
20	Q. And would you assume from that fact that whoever
21	the approval agencies have been, have made some effort to
22	protect the potash in Section 7?
23	MR. CARR: I don't think that this witness can
24	assume what the agency has considered. It's same objection
25	Mr. High was raising.

CHAIRMAN FESMIRE: I'll sustain the objection. 1 (By Mr. High) Have you -- Well, let's talk about Q. 2 your experience with actual drilling. You're a landman? 3 Yes. Α. 4 What do you do with respect to the actual 5 Q. drilling of the well? Do you have any experience at all, 6 Mr. Bailey? 7 I'm experienced in the wellbore plans as it 8 Α. relates to permitting to obtain permits from any landowner 9 that the wellbore might pass through --10 11 0. Do you do ---- permit the leases. I do not have direct 12 A. supervision for drilling wells. 13 Q. Do you do any well design? 14 No. 15 A. Do you as part of your job keep up with 16 Q. directional drilling technology? 17 18 A. No. Do you as part of your job keep up with the 19 0. 20 economics of directional drilling? No, not closely. 21 A. 22 Do you know if Bass has drilled any directional 23 wells in the potash basin? Yes. 24 Α. 25 And the answer to that is, they have drilled some Q.

directional wells, haven't they? 1 Α. Yes. 2 And do you know how many? Q. 3 No. Α. 4 Do you know whether or not any of those Q. 5 directional wells have been Delaware wells? 6 They have not. 7 A. Do you know whether or not there are any 8 directional wells in the potash basin that are, in fact, 9 Delaware wells? 10 Not that I know of. 11 Q. If you look at --12 There are Delaware horizontal wells, but not Α. 13 Delaware directional wells. 14 All right, and you do have enough experience to 15 draw a difference between a horizontal well and a 16 directional well? 17 A. Yes. 18 And what's your understanding of that difference? 19 A horizontal well goes vertically straight down 20 from the surface location to the target zone, and then it 21 turns approximately 90 degrees and drills through the 22 productive formation. 23 A directional well goes from the surface in an 24 25 "S" curve or some other angle to a target bottomhole

1	location.	
2	Q.	Okay. Do you Are you holding yourself out as
3	an expert	on directional drilling?
4	A.	No.
5	Q.	Now you testified that you've had some APDs
6	denied in	and around Section 7. I want to talk about
7	those.	
8	Α.	Okay.
9	Q.	First of all, how many are we talking about?
10	Α.	I have to approximate because I did not bring
11	that.	
12	Q.	That's good enough. Just give me your best
13	guess.	
14	Α.	Fifteen.
15	Q.	And can you
16	Α.	Uh
17	Q.	I'm sorry?
18	A.	What sections would you like for me to
19	Q.	All of them. In and around Section 7, whatever
20	you think	in and around is. I want to know
21	Α.	Okay, in Section 8, 17, 18, 6, 5, and then
22	Section 1	there's 20.
23	Q.	There's what?
24	A.	Twenty.
25	Q.	Twenty what? Twenty APDs?

_		
1	Α.	Denied
2	Q.	In Section 1
3	A.	permits.
4	Q.	Oh, okay.
5	Α.	Well, there's five in Section 1, and 15 in
6	Sections	8
7	Q.	Well, wait a minute
8	Α.	17 and 18.
9	Q.	All right. Now of all those APDs that you say
10	were deni	ed, were they denied by the BLM?
11	Α.	Yes.
12	Q.	Any denied by the OCD?
13	Α.	No.
14	Q.	And that's because there's no state lands
15	involved,	right?
16	Α.	There are no state lands except for Section 36
17	and Secti	on 2
18	Q.	But the ones
19	Α.	and we have no
20	Q.	just mentioned to me are all federal lands?
21	Α.	Correct.
22	Q.	Okay. So when we're talking about an APD being
23	denied, w	e're talking about the BLM?
24	Α.	Correct.
25	Q.	And you mentioned some appeals to the IBLA. Have

1	you been involved in any of those?
2	A. Yes.
3	Q. Which ones were you involved in?
4	A. There's five in Section 1 that were appealed to
5	the IBLA.
6	Q. And that's where the did the IBLA approve
7	or uphold the BLM denial of those APDs?
8	A. They have not ruled. And the IBLA appeal was
9	filed in 2001
10	CHAIRMAN FESMIRE: Mr. High
11	THE WITNESS: approximately.
12	CHAIRMAN FESMIRE: can I interrupt you here
13	just a second? When you talk about Section 1, you're
14	talking about 1 in 23-31?
15	THE WITNESS: Correct.
16	MR. MOREHOUSE: 23-30.
17	Q. (By Mr. High) 23-30, I believe.
18	A. Oh, I'm sorry. Section Yeah, 23 South, 30
19	East.
20	CHAIRMAN FESMIRE: Okay, just to the north
21	THE WITNESS: Section 1.
22	CHAIRMAN FESMIRE: Just to the northwest of where
23	we're talking about?
24	THE WITNESS: Yes.
25	CHAIRMAN FESMIRE: Okay.

Where those -- in the west half of THE WITNESS: 1 that Section 1, where the circles are the wells that I'm 2 referring to. 3 Okay. CHAIRMAN FESMIRE: (By Mr. High) Now of all the APDs that you say 5 0. BLM denied, were all of them in what the BLM described as 6 7 being measured ore? No, some of them were in barren areas, and they 8 were denied due to the proximity of a potash mine or the 9 proximity of an LMR or proximity to another landmark that 10 the BLM used to make its denial decision. 11 All right, do you know how many of those -- the 12 APDs you're talking about denied, that were in what the BLM 13 14 considered to be measured ore? All of the ones in 8 Section -- and I'm in 23 15 16 South, 31 East, in Section 8, Section 17, Section 18, all 17 those are -- my understanding, are in measured ore. 18 Q. Okay. In Section 6 is -- shows to be in measured ore. 19 20 The ones in Section 1, according to this map are not. They were in a barren area? 21 Q. 22 Α. Yeah, according to this map, yes. The letter from the BLM on the denial just is a plain vanilla, it 23 doesn't go into detail. It just says permit denied. 24

All right, and those are on appeal, the IBLA is

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Q.

still pending? 1 Just the five in Section 1. 2 And so you may ultimately prevail on those, 3 Q. depending on what the IBLA does, correct? 4 We don't know. A. 5 Now of all those APDs that were denied by the Q. 6 BLM, how many of them were for directional wells? 7 None. A. 8 They were all for vertical holes, right straight 9 Q. through -- at least the ones you've told us about --10 11 through measured ore? Α. Correct. 12 13 Q. Okay. According to this map, that's correct. 14 With respect to Section 7, you testified that the 15 Q. BLM had denied APDs for other locations, okay? Is that 16 what you said? 17 I don't believe I said -- or --18 19 Q. All right. 20 You can go back and read to me what I -- I -- to 21 my knowledge, we have not applied for another well in 22 Section 7 in the past. 23 Q. Other than the well -- the APDs that we're here 24 on today, have you applied -- filed any APD anywhere, with

the OCD, BLM or anybody, to develop the oil and gas

interest in this 40-acre tract we're here today in Section 1 7? 2 Just this one, that's correct. 3 So you have not had an APD denied for any 4 alternative locations to develop the oil and gas in this 5 40-acre tract that we're here on today, have you? 6 Correct. 7 A. So you don't know if that would be approved or 8 Q. not? 9 The only way to get an approval or a denial is to 10 A. make an application. 11 And you haven't made one, have you? 12 0. We have not -- Well, in what area? 13 For this -- Have you made any application 14 Q. 15 anywhere to develop the oil and gas interests under this 40-acre tract in Section 7, other than by a vertical hole 16 17 directly through the measured ore? 18 A. Correct. You haven't done that, have you? 19 Q. 20 That's correct, we've only applied for permits in 21 and around the sections that I've told you. Those are the permits that we've issued. 22 23 Q. It would be a fair statement to say, would it 24 not, that you have not filed an APD with the BLM for a

directional hole, using the surface location for James

1	Ranch 14 and a bottomhole location under this 40-acre tract	
2	in Section 7? You haven't done that, have you?	
3	A. For the reasons I stated in my testimony, that's	
4	correct.	
5	Q. Now, you mentioned that you have made some effort	
6	to locate fee owners of land; did I understand that	
7	correctly?	
8	A. Well, they were contacted in 1981 to obtain the	
9	oil and gas leases.	
10	Q. But have you done any I don't You weren't	
11	there in 1981. I want to know what you've done, what's Mr.	
12	Bailey	
13	A. Either myself of people under my employ have	
14	contacted the mineral owners under the 40-acre tract.	
15	Q. I'm not talking about this one, I'm talking about	
16	Did I understand you correctly that you or people under	
17	your supervision have made some effort to contact fee	
18	owners in the potash basin?	
19	A. Yes.	
20	Q. And the reason for that is because of what?	
21	A. Well, for the reason that I gave in our in my	
22	testimony	
23	Q. That you are	
24	A is to see if there were potash leases, just	
25	Q. You are aware of the issues that this Commission	

has dealt with, with respect to fee land, have you? 1 Yes. A. 2 You're aware of the Snyder Ranch case, aren't 0. 3 you? 4 Yes. Α. 5 You knew that, at least according to the OCD's 6 decision in the Snyder Ranch case, that you can't have an 7 LMR on fee land, right? 8 That's what it says. 9 Α. And that's part of why you've been seeking out 10 Q. these fee land issues? 11 I have not wholesale contacted fee owners in Eddy 12 13 County, New Mexico, or in the potash enclave. The only reason -- The only fee owners that I've contacted are the 14 ones under this 40-acre tract, and the only reason was to 15 make sure that there were no potash leases that were 16 unrecorded. 17 Looking at Bass Exhibit Number 1, can you tell us 18 Q. where Mosaic's LMR is from that particular document? 19 20 Α. No. Do you know where Mosaic's LMR is with respect to 21 Q. 22 this 40-acre tract that you want to drill on in Section 7? The only thing I know are maps that have been A. 23 24 generated by Mosaic, and I received one at the Examiner's 25 Hearing, and that's the last one that I've seen that

identifies an LMR outline. 1 Okay. And that LMR outline butts up against this Q. 2 40-acre plot, does not? 3 I'd have to look back at it to see what the 4 proximity is. I can't tell you it butts up against it or 5 includes it. I would have to go look back at the map to 6 discuss it. 7 Well, on the 40-acre tract your well is proposed 0. 8 to be what offset from the boundary? 660? 9 I'd have to look at the LMR outline. A. 10 Well, look at your documents. You've already 11 0. testified about them on the well design. I believe it's 12 Exhibit Number 3. 13 Well, but does it include a distance from the 14 Α. LMR? 15 Q. No, from the boundaries of the 40 acres? 16 Oh, yeah, 660 feet. 17 A. Okay. So it's located 660 from each -- it would 18 Q. be 660 from the east and 660 from the north line, would it 19 20 not? Correct. 21 Α. So if Mosaic's LMR did, in fact -- if the 22 Q.

Q. So if Mosaic's LMR did, in fact -- if the evidence does show -- and we're going to present evidence on that, but let's suppose for a minute that Mosaic's LMR goes right up to the edge of the 40 acres. Would you agree

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with me, then, that your proposed site is within 660 feet of Mosaic's LMR?

- A. I don't know, I -- Well, you're asking me a "what if?" And if you would like to give me the map or the LMR that shows where it is and I can measure it off, then -- Hypothetically, what you're saying is true --
 - Q. Well, I --

- A. -- but I would have to look for --
- Q. -- Mr. Bailey, I don't want to put words in your mouth. All I want you to do is to assume something. Can you do that?
 - A. Sure.
- Q. Assume Mosaic's LMR -- and Mr. Morehouse is going to testify, and you're welcome to listen to it. Assume for a minute -- and I'm not saying assume it's true, just assume that Mosaic's LMR does, in fact, butt up against this 40-acre plot. If that proves to be a fact, would you agree with me that your well, your proposed well, is within 660 feet of that LMR?
 - A. Based on that assumption, yes.
- Q. Now you testified about R-111-P and what it says and some things it doesn't say, correct? I take it you're familiar with it, right?
 - A. Yes.
 - Q. Were you involved in the development of R-111-P?

1	A.	No.
2	Q.	Do you know if Bass itself was?
3	Α.	I don't know.
4	Q.	You don't know the history of R-111-P?
5	Α.	I know the history of it to a certain degree, but
6	what peop]	le were involved, or when was R-111-P signed into
7	order	
8	Q.	You don't even know that?
9	Α.	Do you?
10	Q.	Yes.
11		(Laughter)
12	Α.	And ? Educate us.
13	Q.	So does Bass, but It may come as a surprise,
14	but Bass -	
15		CHAIRMAN FESMIRE: Mr. Bailey, your function is
16	to answer	the questions.
17		(Laughter)
18		THE WITNESS: Okay.
19	Q.	(By Mr. High) Do you consider yourself to be
20	fairly kno	owledgeable about R-111-P?
21	Α.	In some respects. R-111-P is a document with
22	many aspec	cts and
23	Q.	And different many interpretations, I suppose,
24	right?	
25	Α.	Which interpretations have been interpreted in

the past by the Division. 1 Would it surprise you to know that R-111-P says 2 that there will be no drilling of an oil and gas well 3 within one quarter or one half mile of an LMR without the 4 leaseholder's consent? 5 It says what it says. A. 6 Do you know whether or not it says that? You 7 Q. either know or you don't. 8 Would you like for me to get the exact wording? 9 Α. No, I just want to know if you know or not. 10 Q. MR. CARR: May it please --11 THE WITNESS: Yes, I do. 12 MR. CARR: -- the Commission --13 14 MR. HIGH: Okay. MR. CARR: -- I am not certain that that is what 15 I believe it creates buffer zones based on R-111-P states. 16 17 depths of wells, but that's not exactly what it states, and 18 I think it's unfair to ask Mr. Bailey to opine on what the actual language of the order is. It is what it is. 19 20 CHAIRMAN FESMIRE: Mr. Carr, if he doesn't know 21 the answer he can so state, and you can bring out your 22 points on --23 Q. (By Mr. High) And I'll move on. If you don't 24 know, just say I don't know.

I cannot recite the specific sentence or two.

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A.

Q. Okay. If R-111-P does, in fact, say you can't drill within a quarter or a half mile of an LMR without that leaseholder's consent -- and the point I'm getting at here, you testified that Mosaic didn't respond to your letter. All right? When you sent out for objection or no objection, you said they didn't respond?

A. Correct.

Q. R-111-P says you can't -- at least our interpretation; you don't have to adopt it, okay. Just so

interpretation; you don't have to adopt it, okay. Just so you'll understand, our interpretation of R-111-P, and we think we know what it says, is that you can't drill within a quarter mile or a half mile of an LMR without Mosaic's consent. It doesn't have to respond to anything. But I take it you don't have feeling one way or the other whether that's correct or not, right?

- A. Well, there's no potash lessee under -- or Mosaic does not have a potash lease under the 40-acre tract.
- Q. And we don't dispute that, but we do have a potash lease that butts up against it?
- A. When we applied for the permit, we asked the Division if Mosaic should respond. They said they had 20 days. There was no response. The permit was granted. Then Mosaic responded, the permit was rescinded. Then the permit was re-granted by the Examiner, based on R-111-P.
 - Q. Is it your position, Mr. Bailey, that as the

owner of the oil and gas rights on this 40-acre plot, that 1 you have the right to develop that oil and gas interest 2 without any regard whatsoever to its impact on potash? 3 No, the regard is included in the R-111-P and in 4 the secretarial -- the federal secretarial orders. 5 Q. My question is, do you believe you have the right 6 7 to develop it without regard to the potash that may be impacted? 8 (Shakes head) 9 Α. So did you take into account the potash that may 10 Q. 11 be impacted? We took into account the rules that the OCD 12 13 adopted based on the technical evidence and the testimony when R-111-P was adopted. It says what it says for a 14 15 reason. 16 Q. Do you have any belief one way or the other that 17 the drilling of this deep gas well on this 40-acre plot, 18 660 feet from each side, will have any impact whatsoever on 19 the adjoining mineral interest owners? 20 A. The potash mineral interest owners or the oil and 21 gas? Any of them. 22 Q. 23 That the drilling of our well will have --Α. 24 Yes. Q. 25 -- an impact? Α.

Yes. Q. 1 Yes, it will have an impact. 2 Α. In fact, isn't it true that the reason you have 3 Q. setback requirements is to account for impact beyond the 4 particular location of a well? 5 Correct. A. 6 So do you think that the drilling of this well on 7 Q. a 40-acre plot, where the setback is only 660 feet -- that 8 deals with oil and gas, doesn't it? 9 10 Α. Correct. 11 0. Do you think that the drilling of this well on 12 that 40-acre plot will have an impact on the potassium mineral resources beyond the 40-acre tract? 13 I know that in my experience and what I've seen 14 Α. 15 in other parts of New Mexico, there are potash mines that 16 come very close to existing oil and gas wells. 17 Do you know --0. 18 That's all I know, I cannot give you a 19 technical --20 Q. You can't identify a single well either, can you? 21 A. I can if you give me enough time. 22 Can you identify a single deep gas well that Q. 23 Mosaic Potash has ever mined up to? 24 A. No. 25 Do you think there might be a reason for that? Q.

I don't -- You're asking me something that I Α. 1 don't know the answer to. 2 Just say I don't know, and we'll go on. 3 Okay. Α. 4 If the evidence shows that the drilling of this Q. 5 deep gas well -- it is a deep gas well, isn't it? 6 Yes. Α. 7 And it's to what, the Devonian? Q. 8 9 A. Morrow. To the Morrow. Is there any H2S -- I don't think 10 Q. there's any H₂S in this area, is there? 11 12 Α. No. CHAIRMAN FESMIRE: In the -- ? 13 THE WITNESS: -- Morrow. 14 15 Q. (By Mr. High) If the evidence shows that the 16 drilling of this deep gas well will, in fact, impact the potash mineral resources outside the 40-acre tract, is Bass 17 Enterprises prepared to compensate Mosaic for that wasted 18 potash? 19 20 I don't know. We've never been asked that Α. 21 question. Have you discussed with the mineral interest 22 Q. 23 owners of the 40-acre tract whether or not they are 24 prepared to compensate Mosaic for any impact outside their 25 mineral interest?

- 69 We have not discussed that. Α. 1 Do you think it's unreasonable for adjoining 2 Q. mineral interest owners to feel like they ought to be 3 compensated if a particular mineral interest owner develops 4 their interest in such a way that it does, in fact, impact 5 them? 6 I don't know. It depends on the situation, and I 7 Α. don't know what -- You're asking a general question, so I 8 don't know. 9 Now, you made the statement, if I understood Q. 10 correctly, that this particular well -- I don't know if you 11 12 said couldn't or can't or won't, but why can't it -- this 13 mineral -- the oil and gas mineral interest on this 14 particular 40-acre tract, why can't it be developed directionally? 15 Because a directional well would not test all the 16 17 potentially productive formations under the 40-acre tract. 18 And you've already told us you're not an expert Q. on directional drilling, are you? 19 20 A. Correct. Would it surprise you to know there are some 21 Q.
 - Q. Would it surprise you to know there are some directional Delaware wells in the potash basin? Would that surprise you?
 - A. Yes.

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Q. If what you're saying is true -- and I believe

one of the points you made is, on a directional well you 1 can't test every formation. Is that a big deal to Bass? 2 Α. Yes. 3 If that were true, Mr. Bailey, would you agree 4 with me that there would never, ever, be a directional 5 well? 6 I don't know. 7 Α. Will a directional well allow you to test every Q. 8 formation all the way to the bottomhole location? 9 No. A. 10 Well, if what you're saying, then -- if you feel 11 Q. like you have to test every formation, wouldn't that 12 completely rule out all directional drilling? 13 Α. It would rule out directional drilling for the 14 shallower zones, not for the deeper zones, as I said in my 15 testimony. 16 17 Now currently, the mineral interest owner on this Q. 40-acre tract, they are participating, are they not, in the 18 320-acre prorated north half of Section 7? 19 20 Α. Correct. So they're already getting compensation from the 21 Q. gas being developed, based upon their prorated share of the 22 40 acres? 23 24 They're getting their production based on a Α. 25 portion of what could be developed --

Q. So --

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- 2 A. -- yes.
- Q. So this lease is actually being held by production, isn't it?
 - A. Yes, but it's not being fully developed.
 - Q. And since the prorated unit is the north 320 acres, you could, in fact, drill an infill well anywhere on that 320 acres, couldn't you?
 - A. No.
 - Q. And why couldn't you?
 - A. Because the spacing rules call for the second well -- the second gas well in a 320, to be in the other quarter section, 660 feet from the outer boundaries of that quarter section. So we could not drill in the northwest quarter of Section 7, and we could not drill --
 - Q. That's the bottomhole location?
- 17 A. Correct.
- Q. Okay. So if you wanted to use the James Ranch 14
 surface location as a drilling island, you could drill a
 vertical -- I'm sorry, a directional well, from the pad of
 James Ranch 14 to a bottomhole location in the location
 that you say you have to, and there's no problem, at least
 with gas production, is there?
- A. I don't know, that's a long way to drill a directional well, so you'd have to --

Well, you show some pretty long directional Q. 1 wells, even on Bass Exhibit Number 1, don't you? 2 Which one? 3 Α. Well, look at the James Ranch 15. That's a 4 pretty long directional well, isn't it? 5 Yes. A. 6 That's a Morrow well too, isn't it? 7 Q. A. Yes. 8 And James Ranch 14, that's a Morrow well too, 9 Q. isn't it? 10 11 Α. Yes. And look up, the one that drilled under WIPP. 12 Q. that Bass? 13 14 A. It's owned by Bass now. It was a --Q. Do you remember who drilled that? 15 -- Enron --16 A. 17 No, Enron --Q. -- or Belco, okay, same company --18 Α. That's a pretty long directional well, isn't it? 19 Q. 20 Yes, and I've never said that a directional well 21 to the deeper gas zones is impractical if the distance is 22 reasonable. But a directional well cannot exploit the 23 shallower zones under this 40-acre tract. 24 The mineral interest owners in the prorated gas Q. 25 unit in the north half, the 320-acre north half of Section

1	7, did you say that included the BLM?
2	A. The BLM owns everything in Section 7 except for
3	the 40 acres.
4	Q. So most of the royalties from any additional
5	drilling would go to the BLM?
6	A. No. Well, it depends on what formation we're
7	considering. If it's
8	Q. Well, who does it go to?
9	A. If it's spaced on 320 acres, then most of the
10	royalty would go to the BLM. If it's not spaced on 320
11	acres, then the royalty goes to the owner of the 40 acres.
12	Q. But the well you're proposing is to the Morrow
13	formation, is it not?
14	A. And all other zones above that.
15	Q. If it hits gas in the Morrow formation, most of
16	the royalty will go to the BLM, does it?
17	A. Yes.
18	Q. Okay. And they're the same people that you say
19	deny the APDs in this area?
20	A. Yes.
21	Q. But again, none of those APDs were to further
22	develop this 320-acre gas unit in Section 7, were they?
23	A. That's correct.
24	Q. Okay. So you haven't proposed to the BLM any
25	infill drilling in Section 7, have you?

1	A. No.
2	Q. As the mineral interest owner, the largest
3	mineral interest owner in Section 7, don't you think that
4	they might like to further develop it?
5	MR. CARR: Objection.
6	CHAIRMAN FESMIRE: Sustained.
7	Q. (By Mr. High) Have you asked them that question?
8	A. We've asked them about the surrounding sections,
9	and they denied our permits.
10	Q. But none of that involved development in Section
11	7, did it?
12	A. No.
13	Q. In fact, if those wells had been allowed, would
14	you agree with me they might, in fact, have drained Section
15	7?
16	A. No.
17	MR. HIGH: Okay. I believe that's all we have.
18	CHAIRMAN FESMIRE: Mr. Bruce?
19	MR. BRUCE: I have no questions of Mr. Bailey,
20	Mr. Chairman.
21	CHAIRMAN FESMIRE: Mr. Carr, do you have a
22	redirect?
23	MR. CARR: No, sir, I do not.
24	CHAIRMAN FESMIRE: Okay, is that all you have of
25	this witness?

MR. CARR: Yes. 1 CHAIRMAN FESMIRE: Oh, Commissioner Bailey, I'm 2 3 sorry. (Laughter) 4 **EXAMINATION** 5 BY COMMISSIONER BAILEY: 6 Well 14 was directionally drilled? 7 Yes. 8 A. It penetrated the Delaware? 9 Q. It did, but it didn't penetrate the Delaware at Α. 10 the same place it penetrated the Morrow. If you look at 11 12 the map where -- Are you referencing the James Ranch 14 or 13 the 15? Both, we asked --Q. 14 Okay. 15 Α. -- about both. 16 Q. The gas well symbol is where it reached the 17 Α. It reached the Delaware somewhere in between the 18 19 surface location and the Morrow gas -- between the black 20 dot and the gas symbol is the -- it intersects the Delaware 21 somewhere. I don't know -- I don't know exactly where. 22 Along that wellbore path. 23 Q. Will anybody be presenting well logs, so we can 24 look to see what the Delaware looks like in either Section -- in either Well 14 or 15? 25

1	A. We don't have that as part of the drilling and
2	completion testimony, no.
3	Q. Of all the wells in the section to the north,
4	Section 6
5	A. Uh-huh.
6	Q did all of those wells penetrate the Delaware?
7	A. Yes, they're all All the oil wells that you
8	see on this map, whether they're in on the yellow or to
9	the east of the yellow, are Delaware-formation producers.
LO	Q. Will you be giving us any well logs so we can
11	evaluate the Delaware section?
L2	A. Sure, it's in between two Delaware fields, and so
L3	it's a potentially productive formation between those two
L4	fields. But we can easily send you the logs.
15	Q. For 14 and 15 I think it would be rather
16	interesting.
L7	A. Sure.
18	COMMISSIONER BAILEY: That's all I have.
19	CHAIRMAN FESMIRE: Commissioner Olson?
20	COMMISSIONER OLSON: I don't have any questions.
21	CHAIRMAN FESMIRE: And I don't have any
22	questions. Mr. Bailey, you're for the record, let's
23	reflect, you're not related to Commissioner Bailey, are
24	you?
5	THE WITNESS. Not that I know of but I would be

-	
1	pleased.
2	(Laughter)
3	CHAIRMAN FESMIRE: Let the record reflect that
4	Mr. Bailey is very glib and is not related to the
5	Commissioner.
6	(Laughter)
7	MR. HIGH: He never misses an opportunity.
8	MR. CARR: Objection.
9	(Laughter)
10	MR. CARR: He's simply answering your question.
11	CHAIRMAN FESMIRE: Mr. Carr, you had a next
12	another witness?
13	MR. CARR: Yes, sir. May it please the
14	Commission, at this time we call William Dannels.
15	CHAIRMAN FESMIRE: Mr. Dannels? Mr. Dannels, for
16	the record you've been previously sworn; is that correct?
17	MR. DANNELS: That's correct.
18	WILLIAM R. DANNELS,
19	the witness herein, after having been first duly sworn upon
20	his oath, was examined and testified as follows:
21	DIRECT EXAMINATION
22	BY MR. CARR:
23	Q. Would you state your name for the record, please?
24	A. William Ray Dannels.
25	Q. Mr. Dannels, where do you reside?

1	A. I live in Midland, Texas.	
2	Q. Would you spell your last name for the reporter	•
3	please?	
4	A. D-a-n-n-e-l-s.	
5	Q. By whom are you employed?	
6	A. Bass Enterprises Production Company.	
7	Q. And what is your current position with Bass	
8	Enterprises Production Company?	
9	A. I'm currently the west Texas division drilling	
10	superintendent.	
11	Q. Have you previously testified before the New	
12	Mexico Oil Conservation Commission?	
13	A. No, sir.	
14	Q. Would you summarize your educational background	l?
15	A. I have a BS in natural gas engineering out of t	:he
16	Texas A&I University, now called Texas A&M, at Kingsville	: .
17	I graduated in 1973.	
18	Q. And since graduation, for whom have you worked?	,
19	A. Worked for I went to work for Texaco right	
20	after school in 1973 in New Iberia, Louisiana. I was in	
21	all their engineering disciplines, reservoir, drilling an	ıd
22	production.	
23	Q. What does a drilling engineer do?	
24	A. Supervises the direct drilling of the well	
25	construction.	

_	
1	Q. You have drilling experience in the R-111 area,
2	the potash area?
3	A. Yes.
4	Q. Have you designed drilling programs for wells
5	that Bass has drilled in this area?
6	A. Yes.
7	Q. Have you had experience with directional
8	drilling?
9	A. Yes.
10	Q. Are you familiar with the Application filed in
11	this case on behalf of Bass?
12	A. Yes.
13	Q. And are you familiar with Bass's plans for the
14	drilling of the James Ranch Unit Well Number 93?
15	A. Yes.
16	MR. CARR: We tender Mr. Dannels as an expert
17	witness in drilling engineering.
18	CHAIRMAN FESMIRE: Any objection, Mr. High?
19	MR. HIGH: No objection.
20	CHAIRMAN FESMIRE: Mr. Bruce?
21	MR. BRUCE: No objection.
22	CHAIRMAN FESMIRE: From the Commission?
23	Mr. Bailey will "Mr. Bailey". Mr. Williams
24	will be so accepted.
25	COMMISSIONER BAILEY: Dannels.

THE WITNESS: Dannels. 1 CHAIRMAN FESMIRE: Dannels, I'm sorry. Excuse 2 3 me. (By Mr. Carr) Mr. Dannels, are you familiar with Q. 4 the cementing and casing provisions in subpart D of Order 5 Number R-111-P? 6 Yes. Α. 7 Could you identify what has been marked Bass Q. 8 Exhibit Number 10? 9 I believe that's the proposed well construction Α. 10 for James Ranch 93. 11 Would you review for the Commission how the well 0. 12 will be drilled, cased and cemented? 13 We'll be drilling a 17-1/2-inch hole to 600 feet, 14 A. which is through the Rustler -- or not through, into the 15 top of the Rustler, and through all the freshwater zones. 16 We'll be running 13-3/8 surface pipe and cementing it to 17 18 surface. 19 Then we'll be drilling through the salt section 20 into the Lamar lime, just above the Delaware. At 4040 feet be setting 9-5/8 protection string, and then drilling 8-3/4 21 hole, set 7-inch at 12,000 feet, and then drilling a 6-1/8-22 inch hole to 14,800, proposed TD depth. 23 24 Does the proposed program comply with the casing Q. 25 and cementing provisions of Order Number R-111-P?

A. That is correct.

- Q. Will Bass provide notice to Mosaic so they can witness work on the well to assure themselves it is being drilled and completed in accordance with the provisions of Order Number R-111-P?
 - A. That is correct, we will.
- Q. Mr. Dannels, you have experience with directional drilling, do you not?
 - A. That is correct.
- Q. What are the problems posed by trying to drill a directional well to the north half of Section 7?
- A. That depends on what your objectives are. If you're trying to keep the shallow Delaware objectives, which is just below the salt, it's difficult to do much directional drilling in the salt section at all, simply because it's so soft and it washes out, so therefore you can't hardly do any directional work there. You have to wait until you get into the more competent Delaware section for your kickoff points.

And to drill a couple thousand feet, once you're into those competent sections, is not a problem. But you do jeopardize the shallow formations.

- Q. When you say jeopardize, do you mean --
- A. From a reservoir standpoint, it would be jeopardizing the production.

1	Q. Are you familiar with the James Ranch Unit Well
2	Number 14?
3	A. Yes.
4	Q. Is it possible to in your opinion, to
5	directionally drill from that surface location to access
6	the Delaware formation under the northeast northeast of
7	Section 7?
8	A. It would be basically impossible.
9	Q. If you drilled from that location to the Morrow,
10	you would intersect the Delaware at some point on that
11	wellbore, would you not?
12	A. That's correct.
13	Q. Where would the Delaware be? Under whose
14	property?
15	A. It would be That's difficult to say, because
16	it's right on the line. I forget how many feet, I think
17	it's only like isn't it only 150 feet from the property
18	line or section line there? So most of it would be on the
19	south side.
20	Q. You wouldn't be able, would you, to access the
21	Delaware under the northeast northeast from the James Ranch
22	14 location?
23	A. That's correct, you wouldn't.
24	Q. A well that intersected the Delaware could drain,
25	potentially, reserves from that acreage, could it not?

1	A. The Delaware is not a very continuous zone.
2	That's the reason it's drilled on 40-acre spacing. If it
3	was a better developed zone, then yes, but it's not.
4	Q. Do you know of any way to produce the Delaware
5	for the mineral owners of the Delaware under the northeast
6	northeast of Section 7, other than by drilling a vertical
7	well in that acreage?
8	A. No.
9	Q. Was Exhibit 10 prepared by you?
10	A. Yes.
11	MR. CARR: I move the admission of Bass Exhibit
12	Number 10.
13	CHAIRMAN FESMIRE: Any objection?
14	MR. HIGH: I have no objection.
15	CHAIRMAN FESMIRE: Bass 10 is admitted.
16	MR. CARR: That concludes my direct examination
17	of Mr. Dannels.
18	CHAIRMAN FESMIRE: Mr. High?
19	MR. HIGH: Yes, thank you, Mr. Chair.
20	CROSS-EXAMINATION
21	BY MR. HIGH:
22	Q. Mr. Dannels, you said you've had experience in
23	the potash basin. How much experience?
24	A. Since I was transferred to the west Texas
25	division in August the 1st of 1993.

1	Q. Since you have been in the potash Is that just
2	one of your several areas?
3	A. Yes, that's just one of several areas, but that's
4	our most active.
5	Q. About
6	A. But that is our most active.
7	Q. And about what percent of time would you say you
8	spend drilling wells in the potash basin?
9	A. I would say that it's 85 or 90 percent of our
10	business.
11	Q. All right, and how many wells would you estimate
12	that you've drilled in the potash area?
13	A. Hoo! Hundreds, I'd say. I don't know exactly,
14	you know, how many. I'd have to go back and count them
15	Q. No, that's fine
16	A but it's hundreds.
17	Q that's fine, I'm just asking for you best
18	recollection.
19	Now did you actually drill those wells?
20	A. I supervised them, yes.
21	Q. And what does that mean? Are you first line or
22	second line or
23	A. No, I'm the In most cases I am in the office,
24	and I all the drilling procedures, all the drilling cost
25	estimates go through me

All right, so you --Q. 1 -- to specifically approve them. 2 Α. All right, so you see all the well design? 3 Q. That's correct. 4 A. Do you do any well design? 5 Q. Yes, I do. Not as much as I used to, because I 6 Α. 7 have some people working under me now. Okay. So you're, at least to some extent, 8 0. involved in the actual well design? 9 That's correct. 10 Α. And out of these hundreds of wells that you've 11 Q. drilled in the potash basin, how many of those have been 12 directionalized? 13 14 Α. Two. 15 Q. And what sections were they in? 16 I can't tell you. A. 17 Can you give us some indication of the general Q. 18 location in the potash area? 19 A. They're in the Big Eddy Unit, they're not in the 20 James Ranch Unit. 21 Q. Okay. And is that in the potash area, the Big 22 Eddy Unit? 23 Some of it is. Α. 24 How deep are those directional wells? Q. 25 A. They're Morrow wells.

1	Q. Have you drilled any directional wells, other
2	than those two to the Morrow?
3	A. Only for sidetracking around fish or to
4	straighten up straighten up wells that got deviated.
5	Basically straight holes.
6	Q. Have you attempted any directional wells to any
7	formation other than the Morrow?
8	A. Not yet. We've proposed some, but not yet.
9	Q. Do you know if there's any rules regarding
10	kickoff points on directional wells in the potash basin?
11	A. I only know of one.
12	Q. What's that rule?
13	A. 6000 feet underneath the WIPP site.
14	Q. Okay, but you're not drilling in the WIPP site?
15	A. No, but you asked me about
16	Q. Okay.
17	A rules in the potash.
18	Q. Well, you made an interesting comment about it's
19	hard to kick off in the salt.
20	A. It is. It's hard
21	Q. Do you know if you're even allowed to kick off in
22	the salt in the potash basin on a directional well, or do
23	you have to completely penetrate the salt before you kick
24	off, or do you know?
25	A. I wouldn't know. Wouldn't recommend it, though.

1	Q. So you're not familiar with the rules of	
2	directional drilling to shallow locations in the potash	
3	basin?	
4	A. I guess not, no.	
5	Q. Have you drilled any horizontal wells in the	
6	potash basin?	
7	A. We have drilled two.	
8	Q. And can you give us a general idea where those	
9	are?	
10	A. Those are the Big Eddy wells I was talking about	•
11	Q. They're You drilled horizontal wells to the	
12	Morrow?	
13	A. We are, yes, we have.	
14	Q. Were they deviated were they directional well	s
15	and then horizontal, or vertical and then horizontal?	
16	A. They were vertical and then horizontal. We did	
17	have to make a correction for deviation up high, but in	
18	the surface, in the salt section, but other than that they	
19	were considered straight holes.	
20	Q. Were they permitted as vertical holes?	
21	A. They were permitted as vertical holes.	
22	Q. And during the drilling process they were	
23	inadvertently deviated?	
24	A. That's correct.	
25	Q. And that had to be corrected?	

A. That's correct. 1 Okay, and that's for both of them? Q. 2 No, only one. Α. 3 What about the other one? Was it --4 Q. The other one was a re-enter into an old A. 5 wellbore. 6 Was it permitted as a vertical well? 7 Q. The original permit -- it was an old wellbore 8 that was drilled in the 1970s, 1978, I believe, and we re-9 entered the wellbore to sidetrack and drill a horizontal 10 well. 11 Do you know how deep you were when you went 12 Q. 13 horizontal? 14 We were about 12,500. So when you told me you had drilled two 15 directional wells to the Morrow, those were really vertical 16 wells and then horizontal? 17 That's correct. 18 A. Have you ever, then, drilled a directional well 19 20 in the potash basin that was designed to be a directional well? 21 No. 22 Α. 23 Q. During the drilling process, I take it things can go wrong, right? 24

25

A.

Yes.

In the Big Eddy Unit, is any H2S over there? 1 Q. Not in the Morrow, no. A. 2 Is there shallow H2S in the Big Eddy Unit? 3 Q. No, sir, it's beyond the threshold. 4 Α. Has there been any problem you're aware of in the 5 Q. Big Eddy Unit with casing deterioration because of H2S. 6 I don't have any knowledge of that. Α. In your experience as a drilling engineer, 8 0. 9 mistakes happen, don't they? Yes. 10 Α. Have you ever encountered -- You told us about 11 Q. one, I quess, with the unintentional deviation. Have you 12 ever had a casing leak? 13 In old wellbores, yes, sir. 14 Α. 15 How do you find out if it's leaking? 0. 16 Α. I'm not in the production department, but I do 17 know they run a test once a year. 18 Q. And if you -- what is the -- Or do you know what 19 the bottomhole pressure is in a Morrow well? 20 A. Yes, it would be 8.3 pressure gradient, 8.3-21 pound-per-gallon pressure gradient. 22 Q. And what would that be in terms of p.s.i.? 23 Oh, it will be less than -- about 4500 pounds 24 shut-in tubing pressure, maximum. 25 Q. Do you know what the Delaware bottomhole pressure

-	
1	is?
2	A. Yes, sir.
3	Q. What is that?
4	A. It won't flow with a freshwater gradient, so it's
5	probably about an 8-pound-per-gallon.
6	Q. Would it surprise you that most in fact, did
7	you indicate Did you fill out any forms on any of these
8	wells?
9	A. "Forms" meaning what?
10	Q. Any of the permitting forms for these wells?
11	A. I can't
12	Q. Or was that Mr. Bailey's job?
13	A. No, I do the forms, I fill out the forms, but I
14	don't know that it was myself or whether it was under my
15	direction
16	Q. Well, we've tried
17	A but I can look.
18	Q we've tried a lot of these Delaware well
19	cases
20	A. Uh-huh.
21	Q and the testimony in general is around 3000
22	p.s.i. at the Delaware. Do you disagree with that?
23	A. That's about right, I guess.
24	Q. Well, I thought you said it was eight.
25	A. Eight point pounds per gallon, times

1	whatever	
2	Q.	All right.
3	Α.	hydrostatic head you have
4	Q.	All right.
5	Α.	times the depth.
6	Q.	So 3000 p.s.i. at the Delaware is not
7	unreasona	able to you?
8	Α.	No.
9	Q.	And in your testimony it's only another 1500 in
10	the Morro	ow?
11	Α.	Yes, in the Big Eddy.
12	Q.	Is it higher elsewhere?
13	A.	Not substantially, no.
14	Q.	Have you ever had a blowout?
15	A.	No, not technically.
16	Q.	Do you know of any blowouts in the potash area?
17	А.	No, not that I've been directly associated with.
18	Q.	Well, are you just generally aware of any?
19	Α.	No.
20	Q.	Are you aware of a recent blowout in Carlsbad
21	where the	ey had to evacuate part of a neighborhood
22	because -	-
23	Α.	Oh, yeah, I've heard about that one.
24	Q.	And that was a deep gas well, wasn't it?
25	A.	Yes, I think so. That's what I was told.

So things go wrong sometimes? Unintentionally, 1 0. but they go wrong, right? 2 Unintentionally, right. Α. 3 Do you know what happens to the gas that might Q. 4 5 escape from a leak in one of these casings? 6 Α. Do I know what it might -- what's the effect of 7 it or what -- Yes, it'll go out into the formation. If you put a match to it, would it burn? 8 Q. If you could get it to surface and mix it with 9 Α. 10 oxygen. Now you said, I believe, that you can't 11 Q. 12 directionally drill to the Delaware under this 40-acre plot? 13 14 That's correct. Α. 15 Why not? Q. 16 Because the Delaware section is just below the 17 salt and anhydrite section that we're protecting by -- with 18 the R-111. 19 Q. The bottom of the salt is at what depth, did you 20 say? 21 The top of the Morrow is basically the base of Α. 22 the salt. 23 Q. Well, according to your Exhibit Number 10 it looks to me like the base of the salt, you show 658 feet? 24 25 A. That's the top of the salt.

That's the top of the salt? Look at Exhibit 1 0. Number 10 and tell -- and point out to me what you believe 2 to be the bottom of the salt. 3 Just above the top of the Morrow. 4 Top of the -- Oh, okay. So that would be what, Q. 5 about 4000 feet? 6 That's correct. 7 Α. Is that your testimony? 8 Q. What does the T/Lamar stand for? 9 Top. 10 Α. That's top of --11 Q. Top of the Lamar lime. 12 Α. And the 4060 feet is the top of the Delaware? 13 Q. That's correct. 14 A. But the proposed -- Well, where's the bottom of 15 Q. the Delaware? Just above 7885? 16 17 Α. That's correct, at the --18 Q. So the ---- the top of the --19 -- Delaware would be --20 Q. -- Bone Spring lime is the base of the Delaware. 21 Α. And so the Delaware would be from 4060 feet down 22 Q. to something around 7800 feet? 23 24 Α. That's correct. 25 Q. So you could test it anywhere in that area?

1	A. There is productive zones throughout the Delaware
2	mountain group, yes, sir.
3	Q. Then why couldn't you use the James Ranch 14
4	surface location and drill a horizontal well in the
5	Delaware under this 40 acres?
6	A. Because you couldn't get there.
7	Q. What do you mean, you couldn't get there?
8	A. You can't set you can't do any directional
9	work in the salt section. I would not recommend it. It
10	would be too costly to do that.
11	Q. You can't go down 4000, 4100 feet I'm sorry,
12	4030 feet, and then go horizontal?
13	A. Yes, but you would be under several different
14	properties.
15	Q. But you've got a bottomhole location under the 40
16	acres?
17	A. Yes, but you also contacted all that other
18	most of the That's correct, you would have to case that
19	off.
20	Q. You would only produce from the
21	A from the tip of the casing
22	Q bottomhole location under the 40 acres,
23	correct?
24	A. You could do that, it's quite expensive to do
25	that.

1	Q. Well, there's always one or two or three
2	different ways to do something, one may cost a little bit
3	more than the other one, right?
4	A. Yes.
5	Q. But just because it costs a little bit more
6	doesn't mean you can't do it, does it?
7	A. No.
8	Q. So would you agree with me that at least
9	technologically let's just talk about technology, since
10	you're the drilling guy technologically, you could use
11	the pad of James Ranch 14 and drill a horizontal well and
12	produce the oil and gas at the Delaware bottomhole location
13	under this 40-acre slot, could you not?
14	A. There are people that's doing that, yes. But it
15	would take multiple wells.
16	MR. HIGH: I'm sorry, we have nothing else.
17	CHAIRMAN FESMIRE: Mr. Bruce?
18	EXAMINATION
19	BY MR. BRUCE:
20	Q. One question, Mr. Dannels, just to follow up on
21	your last comment about the directional or horizontal
22	drilling in the Delaware. Looking at, say, the bottom-most
23	Delaware zone, the Brushy Canyon, aren't there generally a
24	number of productive intervals
25	A. That's correct.

1	Q in the Brushy Canyon?
2	A. That's correct, it would take a number of wells
3	to test all the productive zones from the Delaware,
4	possibly the Bone Spring, the Wolfcamp, all those zones in
5	between.
6	Q. And if you were just looking at the Delaware,
7	you'd have to drill one well, say, to test the bottom-most
8	productive zone in the Brushy Canyon, but you'd have to
9	have another well for an upper zone, and like I said, there
10	could be eight or ten production zones
11	MR. HIGH: I'm going to object to leading. If
12	Mr. Bruce wants to testify, let's put him under oath. But
13	let him ask questions of the witness, not tell him what to
14	say.
15	CHAIRMAN FESMIRE: But I don't believe this is
16	his witness, Mr. High.
17	Continue, Mr. Bruce.
18	Q. (By Mr. Bruce) And that wouldn't even take into
19	account the lower zones that you've talked about, the
20	deeper zones, the Bone Spring and the Wolfcamp?
21	A. Right.
22	MR. BRUCE: Thank you.
23	MR. HIGH: May I have follow-up questions?
24	CHAIRMAN FESMIRE: On that subject?
25	MR. HIGH: On that subject.

1	CHAIRMAN FESMIRE: Okay.
2	FURTHER EXAMINATION
3	BY MR. HIGH:
4	Q. Mr. Dannels, does every well test every
5	formation?
6	A. No, but there sometimes there's geologic
7	reasons for that.
8	Q. If every well had to be drilled where you could
9	test every formation, would you agree with me that there
10	would never be a directional well anywhere?
11	A. There are wells that can't be accessed for
12	certain surface problems, for different reasons. They
13	don't have to be reservoir problems.
14	Q. But would you agree with me that if the criteria
15	for drilling a well was the ability to test every
16	formation, that you would never have a directional well?
17	A. Yes.
18	MR. HIGH: Okay, I have nothing else.
19	CHAIRMAN FESMIRE: Commissioner Bailey?
20	MR. CARR: No, I have if I may.
21	CHAIRMAN FESMIRE: Do you want to do it after the
22	Commissioners' questions?
23	MR. CARR: Whenever you want me to do it.
24	(Laughter)
25	CHAIRMAN FESMIRE: I didn't forget you.

Commissioner Bailey? 1 EXAMINATION 2 BY COMMISSIONER BAILEY: 3 Wells 14 and 15 were directionally drilled in 4 5 1981? That's correct. A. 6 And they are successful wells, they have produced 7 Q. continuously from the Morrow since then? 8 I can't say continuously, but yes, they're --9 A. 10 they're producers. 1981 must have been some of the very earliest of 11 Q. the directionally drilled wells in this area; is that 12 13 right? 14 Α. I only got here in 1993, so I don't know, but I 15 would suspect that you're probably correct, in this area. 16 And has technology improved and changed and 17 developed with each new well, new techniques and more 18 knowledge about directional drilling? Yes, ma'am, that's correct. 19 Α. 20 So the technology of 1981 is probably primitive Q. compared to 2006 and -7? 21 That's correct. 22 A. 23 So we would expect, if the directional drilling was done according to current technology, the wells would 24 25 be just as successful if not more successful than wells

drilled in 1981? 1 Except for those problems that unintentionally 2 Α. occur, that's correct. 3 If a well is drilled horizontally to the Okay. 4 Delaware under this 40-acre tract, would it then be 5 possible to make a 90-degree and tap into the Morrow under 6 7 this quarter? Could you repeat that? I'm sorry. 8 Α. Okay. Mr. High's question was, couldn't you 9 Q. horizontally drill to the Delaware under this 40-acre 10 tract? If you drilled to the Delaware under this 40 to 11 access the Morrow, would it be possible to do that within 12 that distance? 13 No, ma'am, you couldn't access it from the 14 14 Α. .15 surface, no. That's all I have. COMMISSIONER BAILEY: 16 CHAIRMAN FESMIRE: Commissioner Olson? 17 COMMISSIONER OLSON: I have no questions. 18 I have no questions. 19 CHAIRMAN FESMIRE: Mr. Carr, do you have a short redirect? 20 21 MR. CARR: Yes. 22 REDIRECT EXAMINATION 23 BY MR. CARR: 24 Q. Mr. Dannels, you talked about two horizontal 25 wells being drilled in the potash area. When were those

wells drilled?

- A. We drilled one last year and we've got one drilling now.
- Q. And were those wells to test horizontal drilling to see if you could use this technique in the potash area?
 - A. Yes, and so far we've been unsuccessful.
 - Q. The first well was a failure?
 - A. That's correct.
 - Q. What about the second well?
- A. The second well, we're out approximately 2000 feet out of a 2500-foot well, proposed. We've got a fish in the hole that we're sidetracking around now. Hopefully we'll get around it, but we've spent almost 8 million bucks already, too.
- Q. Based on this effort, do you have an opinion as to whether or not horizontal drilling in the Morrow looks like a technically appropriate way to try and access these reserves?
- A. I think we can eventually drill it, but the production part is still -- it has not been tested, and what I'm talking about there is the producing of the zone without putting it under an underbalanced condition. The shales tend to slough and to flow, which occurred down south of Poker Lake in the Wolfcamp. So we still have that to test. It still may not -- Even though we can drill it

successfully, we still may not be able to successfully 1 complete it and make a producer. 2 You're familiar with the characteristics of the 3 Delaware formation, are you not? 4 5 Α. Yes. Are there multiple producing horizons in that 6 Q. formation? 7 Α. Yes. 8 Could you -- I believe you testified you could 9 0. 10 drill a horizontal well to the Delaware? We could. Again, you'd just have to case it off 11 Α. and only produce the section that was under the 40 acres. 12 Could you produce all the Delaware horizons with Q. 13 one horizontal wellbore? 14 15 Α. No. How many basic zones do you know are there in the Q. 16 Delaware? 17 Α. There's about four. 18 19 Q. Is the Brushy Canyon present? Yes, you have a middle -- You have a Brushy 20 Α. 21 Canyon, and then you have a middle Brushy Canyon, you have a lower Brushy Canyon, and there's several zones in each 22 23 one of those. 24 Q. And what about Bushy Canyon? Is it present in 25 this area?

1	A. Which one? Brushy?
2	Q. Bushy Canyon?
3	A. No.
4	Q. Cherry Canyon?
5	A. Cherry Canyon is productive in other places, but
6	I don't think it's productive here.
7	Q. How much vertical separation is there between
8	these horizons in the Delaware?
9	A. You know, from the top of the Ramsey to the
10	like what's shown here, from the top of the Ramsey to the
11	base, it's like 4000 feet, so
12	Q. To access all of those, you would have to drill
13	maybe four horizontal wellbores?
14	A. You'd have to pick out a particular zone and
15	drill for that particular zone.
16	Q. What would that do to the costs of accessing
17	these Delaware reserves?
18	A. Well, that would multiply it if you had four
19	zones, that would multiply the cost by four.
20	Q. Could this type of drilling program make it
21	economically impossible to produce those reserves?
22	A. Yes.
23	Q. Okay. Would drilling a horizontal well, in any
24	event, increase the costs of drilling?
25	A. Ves.

1	Q. And this would be done to accommodate the potash
2	industry in this area?
3	A. That's correct.
4	Q. Has Mosaic suggested that they should pay you for
5	these extra costs incurred in developing these reserves?
6	A. I would think that that would be something that
7	we would ask them to do.
8	Q. If the cost just simply will not justify drilling
9	this way to the Delaware, would those reserves be left in
10	the ground?
11	A. Yes.
12	Q. Is there any way, to your knowledge, to use
13	today's the best technology, drilling technology today,
14	to efficiently and effectively produce the Delaware in this
15	area but with a vertical well?
16	A. That's the only way efficiently to drain the 40
17	acres.
18	Q. If you drill a vertical well, you access every
19	horizon cut by that wellbore; isn't that correct?
20	A. That's correct.
21	Q. If you drill a directional well, you also access
22	every horizon cut by that wellbore; isn't that right?
23	A. Right, but the surface if we should drill over
24	there next to 14, we've already seen those horizons.
25	O. And if you drill from 14

1	A. The shallow horizons, we've already seen the
2	shallow horizons.
3	Q is it your opinion that you would be able to
4	produce any of the minerals that are owned by Mr. Mills in
5	the northeast northeast quarter of that section?
6	A. No.
7	MR. CARR: That's all I have.
8	MR. HIGH: I do have some follow-up to that, if I
9	may.
10	CHAIRMAN FESMIRE: Confining it strictly
11	MR. HIGH: And I'll be very brief.
12	CHAIRMAN FESMIRE: strictly to the issues
13	that
14	MR. HIGH: Strictly to what Mr. Carr just raised.
15	CHAIRMAN FESMIRE: Okay, Mr. High.
16	RECROSS-EXAMINATION
17	BY MR. HIGH:
18	Q. Mr. Dannels, let's be realistic for a minute.
19	How many other mineral interest owners are there, other
20	than this 40-acre plot in Section 7? If you know.
21	A. I don't know, but what I was told, there was only
22	the Mills and the
23	Q BLM?
24	A and the BLM.
25	Q. Okay. Is there any reason you couldn't use the

1	pad of James Ranch 14, go down below the salt, and go
2	horizontal or directional, whatever you want to do,
3	intersect the Delaware as many times as you want to, or the
4	Bone Springs or anything else, to hit the northeast quarter
5	section and then go to the Morrow and unitize all of it?
6	Is there any reason you can't do that?
7	A. It would take lots of multiple wells to do
8	that.
9	Q. You could do that with one well, couldn't you?
10	A. No, sir.
11	MR. HIGH: That's all I have.
12	CHAIRMAN FESMIRE: At this time, why don't we
13	take a 10-minute break, come back at 20 till 11:00.
14	Mr. Dannels, thank you very much.
15	(Thereupon, a recess was taken at 10:32 a.m.)
16	(The following proceedings had at 10:43 a.m.)
17	CHAIRMAN FESMIRE: Let's go back on the record.
18	It is 22 till 11:00 or 18 till 11:00. This is a
19	continuation of three consolidated cases, Number 13,367,
20	13,368 and 13,372.
21	I believe, Mr. Carr, you were ready to call your
22	next witness?
23	MR. CARR: May it please the Commission, at this
24	time we'd call Stacy Mills.
25	CHAIRMAN FESMIRE: Mr. Mills? Mr. Mills. vou've

1	been previously sworn?
2	MR. MILLS: Yes.
3	STACY MILLS,
4	the witness herein, after having been first duly sworn upon
5	his oath, was examined and testified as follows:
6	DIRECT EXAMINATION
7	BY MR. CARR:
8	Q. Would you state your name for the record, please?
9	A. Stacy Mills.
10	Q. Where do you reside?
11	A. Southeast of Carlsbad.
12	Q. Do you own minerals under the 40-acre fee tract
13	on which Bass is proposing to drill the subject well?
14	A. Yes, sir.
15	Q. Do you own this in conjunction with other members
16	of your family?
17	A. Yes.
18	Q. Do you own any other minerals in the north half
19	of Section 7?
20	A. No, sir.
21	Q. So what you're here to testify today about is
22	your interest in that 40-acre parcel
23	A. Yes, sir.
24	Q is that right?
25	How did you acquire this interest, Mr. Mills?

1	A. My grandfather purchased this land in the early
2	1970s, and it's remained in the ownership of our family.
3	Q. And is it now held in a family partnership?
4	A. Yes, sir.
5	Q. And are you authorized to speak for your family?
6	A. Yes, sir.
7	Q. Has your interest in the oil and gas mineral
8	rights under this land been leased for oil and gas
9	development?
10	A. It was originally leased by Belco in 1981, I
11	think, and at some time after that Bass Enterprises
12	acquired the lease.
13	Q. And since that time have any wells been drilled
14	from this 40-acre tract?
15	A. No, sir.
16	Q. You do share in a portion of the minerals from
17	the north half, from the existing Morrow well, do you not?
18	A. The James Ranch 14, yes, sir.
19	Q. Has Mosaic ever attempted to lease your potash
20	interest under this 40-acre tract?
21	A. Never.
22	Q. Are you aware of Bass's plans to drill its
23	proposed vertical well on this acreage?
24	A. Yes.
25	Q. And have you been in discussions with them

1	concerning this development?
2	A. For a couple of years.
3	Q. Have you reached an agreement with Bass?
4	A. Yes.
5	Q. And what is that agreement?
6	A. Look forward to them getting approved and drill
7	the well.
8	Q. And why are you interested in having the well
9	drilled?
10	A. Well, they tell me that they're you know,
11	they're certain of the prospects of production from several
12	zones, and most surely interested in the royalty checks.
13	Q. Is it your desire as the owner of the potash
14	rights and lessor of the oil and gas rights under this
15	tract to have the oil and gas minerals developed first, in
16	preference to the potash reserves under the acreage?
17	A. Yes, it is.
18	Q. And you support Bass in this hearing today?
19	A. I do.
20	MR. CARR: That's all I have of Mr. Mills.
21	CHAIRMAN FESMIRE: Mr. High?
22	MR. HIGH: We have no questions, Mr
23	CHAIRMAN FESMIRE: Mr. Bruce?
24	MR. BRUCE: No questions.
25	CHAIRMAN FESMIRE: Commissioner Bailey?

1	COMMISSIONER BAILEY: No questions.
2	COMMISSIONER OLSON: No questions.
3	CHAIRMAN FESMIRE: Okay, and I too have no
4	questions.
5	Thank you very much, Mr. Mills.
6	Mr. Carr, does that
7	MR. CARR: That concludes the Bass portion of the
8	presentation, and I think we'll move to the Devon portion,
9	if that's all right with
10	MR. HIGH: That's fine with us.
11	MR. CARR: And at this time I would call Mr. Ken
12	Gray.
13	CHAIRMAN FESMIRE: Mr. Gray?
14	MR. CARR: Mr. Chairman, our Exhibit Number 2 was
15	filed in black and white. I have color copies of it here.
16	It's easier to testify. It's exactly the same, except this
17	copy has the colors on it, and if there is no objection I'd
18	like to work from that. It will facilitate the testimony.
19	MR. HIGH: We have no objection.
20	CHAIRMAN FESMIRE: No objection from Mr. High.
21	Mr. Bruce, I'm assuming you'll have no objection?
22	MR. BRUCE: Zero.
23	CHAIRMAN FESMIRE: Mr. Gray, for the court
24	reporter is it G-r-e-y or G-r-a-y?
25	MR. GRAY: It's G-r-a-y.

1	KENNETH H. GRAY,
2	the witness herein, after having been first duly sworn upon
3	his oath, was examined and testified as follows:
4	DIRECT EXAMINATION
5	BY MR. CARR:
6	Q. Would you state your full name for the record,
7	please?
8	A. Yes, my name is Ken Gray.
9	Q. Where do you reside?
10	A. I reside in Oklahoma City, Oklahoma.
11	Q. By whom are you employed?
12	A. Devon Energy Production Company, L.P.
13	Q. Have you previously testified before this
14	Commission?
15	A. Yes, I have.
16	Q. Would you review for the Commission your
17	educational background?
18	A. Yes, I graduated from the University of Oklahoma
19	in 1972 with a language arts degree, graduated again in
20	1973 with a master's in language arts.
21	Went to work in the oil and gas business in 1977,
22	worked for Sun Oil Company from 1982 to 1992, and have
23	since been with Devon, since 1992.
24	Q. And while employed by the oil and gas industry,
25	have you worked as a netroleum landman?

1	A. Yes, I have.
2	Q. Are you familiar with the Applications filed in
3	each of the consolidated cases for Devon?
4	A. Yes, I am.
5	Q. You are the person at Devon who is charged with
6	the responsibility for putting these prospects together
7	from a land perspective?
8	A. Yes, I am.
9	Q. In that regard, you were in charge of talking
10	with other interest owners in the subject spacing units?
11	A. That's correct.
12	Q. And you also were involved with the efforts to
13	obtain permits for these wells?
14	A. Correct.
15	Q. Are you familiar with both Applications?
16	A. Yes, I am.
17	Q. And the status of the lands in the area that's
18	involved in this case?
19	A. Yes, I am.
20	MR. CARR: We tender Mr. Gray as an expert in
21	petroleum land matters.
22	CHAIRMAN FESMIRE: Is there any
23	MR. HIGH: No objection.
24	CHAIRMAN FESMIRE: Okay. Mr. Gray is so
25	accepted.

(By Mr. Carr) Mr. Gray, would you briefly state 1 0. what it is that Devon seeks in these cases? 2 Basically we're seeking authorization from the 3 A. OCD to drill two wells, one Delaware well approximately 4 7900 feet and one Devonian well at about 15,500 feet, both 5 6 of which are located in the potash area as defined by 7 Division Order R-111-P. Now in Case 13,368 we're talking about the Apache 8 24 Fee Well Number 6? 9 Correct. 10 A. Is that well the Delaware well? 11 Q. 12 Yes, it is. A. 13 And in what pool will that be completed? Q. 14 That's the southeast Quahada, I guess, Ridge-Α. 15 Delaware Pool. 16 Q. And in Case 13,372 we're seeking permission to 17 drill the Apache 24 Fee Well Number 7A. What formation is 18 that projected to? 19 A. That's projected to the Devonian formation. 20 If we drill a Delaware well, what acreage will be 21 dedicated to the well? 22 A. Forty acres. And is that the 40 fee acres that are the subject 23 Q. of this case? 24 25 A. That's correct.

1	Q. If the well is successful in the Devonian, what
2	acreage would be dedicated?
3	A. The 320-acre spacing unit being the north half of
4	Section 24.
5	Q. Does Devon own all the working interest in the
6	north half of Section 24?
7	A. No, we do not. We own currently 87 1/2 percent.
8	Q. Let's go to what has been marked Exhibit Number
9	1. Would you identify this, please?
10	A. Exhibit Number 1 is an area map centered around
11	the 40 acres in question, and that 40 acres is kind of
12	small on this map, but it's the southwest quarter of the
13	northwest quarter of Section 24, 22 South, 30 East. Along
14	with that 40 acres is the remainder of Devon's acreage
15	position in Sections 12, 13, 24 and 25, all of which are
16	federal leases.
17	Q. Now what is the source of this map?
18	A. Of the ?
19	Q. Of the base plat.
20	A. Of the potash?
21	Q. Yes.
22	A. This is the BLM's version of the distribution of
23	the potash reserves in the area. In the outline in green,
24	just to the east of our acreage position, is the WIPP site,
25	and we have mining areas to the southwest and also to the

west northwest.

- Q. Is the purpose of this exhibit just to provide some general orientation as to the location of this tract in regard to the WIPP site?
 - A. Yes.
- Q. Now the wells that you're proposing to drill on this 40-acre tract, they are in what is classified as measured ore; is that right?
 - A. That's correct.
- Q. Let's go to Exhibit Number 2. This is the one
 I've just replaced with the color copy. Could you identify
 that and explain to the Commission what it shows?
- A. Well, it's just a closer version of our acreage position. Again, the two wells in question are located in the southwest of the northwest of Section 24, and they're spotted there on the map. There's kind of a pink color.

Devon's acreage, again, is in yellow. The WIPP site is to the east. The James Ranch Unit outline is the dotted green line. The cross-hached green acreage is acreage that we believe to be leased for potash by Mosaic. And the red cross-hached acreage are lands that we believe are not leased for potash.

We've also listed a number of wells on here.

This well -- the well positioning and the well count is not currently accurate on here. This is the plat we used in

December of 2004. We have since drilled a number of 1 additional wells on this acreage. 2 Is the tract which is the subject of today's 3 hearing within the LMR area? 4 It's either in the LMR or the quarter- or half-5 Α. mile buffer zone. I don't -- You know, where the LMR is, I 6 can't tell you right here. 7 Have you had conversations with Mosaic concerning 8 Q. where they are mining in regard to this acreage? 9 A. Yes, we have. 10 And when were those conversations? 11 Q. When? Maybe a couple years ago. 12 A. Do you have any knowledge as to specifically 13 Q. 14 where there is active mining at this time? I believe their closest active mine is about a 15 mile and a half to two miles to the south southwest of our 16 location. 17 Could you identify what has been marked as Devon 18 Q. Exhibit Number 3? 19 Exhibit Number 3 is four oil and gas leases that 20 21 were acquired in -- what is this? -- October of 2003 from 22 the four mineral owners whose combined ownership represents 23 100 percent of the minerals under the southwest of the northwest of Section 24. 24 25 Q. And is Devon also the lessee of 100 percent of

the working interest under the north half of Section 24? 1 No, we own 87 1/2 percent of the working interest A. 2 in the north half, but 100 percent of 40-acre. 3 Now Devon has filed applications for permits to 4 drill two wells in the southwest of the northwest of this 5 section; is that right? 6 7 Α. Yes. I'd like to look at each of those with you, Mr. 0. 8 Gray, and direct your attention to what has been marked 9 Devon Exhibit Number 4. What is this? 10 Exhibit Number 4 is our original application for Α. 11 permit to drill that we submitted electronically, I guess 12 in December of 2003, for a 7900-foot Delaware test to be 13 located 1980 from the north line and 660 from the west line 14 of Section 24, as a vertical Delaware well. 15 0. And what rules govern the development of the 16 Delaware in this area? 17 Yeah, the Quahada Ridge-Delaware Pool. 18 A. And what is the spacing for this pool? 19 Q. It would be 40-acre spacing. 20 Α. And what setbacks are prescribed by these rules? 21 0. 22 Α. Not closer than 330 feet to the spacing unit 23 boundary. Does Mosaic own any minerals under the 40 acres 24 Q. 25 fee tract upon which you're proposing to drill these wells?

1	A. No.
2	Q. Let's look at Exhibit Number 4, the materials for
3	the Well Number 6, the Delaware well.
4	A. Uh-huh.
5	Q. The first page is the AFE I mean the APD; is
6	that correct?
7	A. That's right.
8	Q. And behind that you have an acreage dedication
9	plat?
10	A. Yes.
11	Q. And then about the fourth page back is a letter
12	to Devon from Mr. Arrant with the OCD. Do you see that?
13	A. Yes, I do.
14	Q. Would you explain what the purpose of this
15	Could you explain what the OCD was bringing to Devon's
16	attention with this letter?
17	A. Well, the purpose of this letter was the Artesia
18	OCD's requirement that we notify Mosaic of our intention to
19	of this application for permit to drill, and that we
20	needed to give them notice of that, and they would have 20
21	days within which to object.
22	Q. And what is the next document in this exhibit?
23	A. The next document is a letter dated January 23rd,
24	2004, from Devon to Mosaic, giving them notice of our

application for permit to drill.

25

1	Q. And behind that are there copies of the certified
2	receipts for that letter?
3	A. Yes, sir.
4	Q. Okay. Would you go to the next document, a
5	letter dated January 30th, and explain what that is?
6	A. That's, again, a letter dated January 30th from
7	Devon to the OCD Artesia office, indicating that notice had
8	been given to at the time, IMC, of our application for
9	permit to drill.
10	Q. How long did the potash company have to object to
11	this proposed location?
12	A. We were told by OCD Artesia that they would have
13	20 days.
14	Q. And did the OCD approve the APD?
15	A. Yes, they did.
16	Q. And what was the day the application was actually
17	approved? That's shown on the second page of this exhibit.
18	A. February 19th, 2004.
19	Q. How long after the application filed was it
20	actually approved by the OCD?
21	A. Well, we applied in December of '03, and it was
22	approved it looks like 60 more or less 60 days later.
23	Q. When
24	A. Or Yeah, 60 days.
25	Q. When the application was actually approved, had

an objection been filed to this application? 1 When it was approved? Α. 2 Yes. 0. 3 Α. No. 4 What response did Devon receive to this 5 Q. application from IMC? 6 We have a letter, which is the next piece of the 7 exhibit -- it's dated April 12th, 2004 -- a letter from Dan 8 Morehouse, the superintendent at Mosaic, objecting to our 9 permit to drill for the Apache 24 Number 6. 10 And what is the reason given in that letter for 11 0. 12 the objection? The first reason was that it's in measured ore, 13 Α. it's in their LMR, and lastly it's in their five-year mine 14 plan, and they expected at least as of April 12th, 2004, to 15 be mining within a quarter mile of this location in 2007. 16 Did you respond to this letter? 17 Q. Yes, I did, the next page is a letter dated April 18 Α. 20th to Dan Morehouse at IMC, where we object -- we advised 19 20 them that the lands in question weren't part of any LMR designation or any such other designation by BLM, any five-21 year mine plan, and that we intended to proceed in 22 accordance with any permits as issued by the OCD. 23 24 And what is the last letter in this packet of Q. material? 25

1	A. Last letter is a letter from Bryan Arrant with
2	the Artesia OCD, dated September 20th, 2004, rescinding the
3	previously approved permit, based on IMC's objection.
4	Q. So the history of this application is, it was
5	filed in December of 2003, correct?
6	A. Yes.
7	Q. Notice was provided in January of 2004?
8	A. Right.
9	Q. It was approved by the OCD in February of 2004?
10	A. Correct.
11	Q. An objection was received in April of 2004, and
12	when was the permit actually rescinded?
13	A. September 20th, 2004.
14	Q. Let's go now to the exhibits concerning the
15	Apache Well Number 7A which are marked as Exhibit Number 5.
16	Would you identify this material, please?
17	A. Well, again, this is the Form C-101, application
18	for permit to drill the Apache 24 Fee 7A, located 1460 from
19	the north line, 1150 from the west line of Section 24,
20	proposed depth 15,500 feet, to test the Devonian formation.
21	Q. And is this well proposed at a standard location?
22	A. Yes, it is.
23	Q. Would this be the first well to be drilled on
24	this 320-acre spacing unit?
25	A. I believe it is, yes.

CHAIRMAN FESMIRE: Mr. Carr, may I ask a quick 1 question? 2 MR. CARR: Yes, sir. 3 CHAIRMAN FESMIRE: Mr. Gray, are you all so sure 4 of the shallow location that your intent is to drill two 5 wells instead of drill the deep well, test it, and have the 6 shallow zone as a bailout zone? I guess I'm curious. 7 two wells so close together? 8 THE WITNESS: Well, the Delaware in the deep well 9 would be at an unorthodox location. I don't know that we 10 could produce it at that location anyway --11 CHAIRMAN FESMIRE: Okay. 12 THE WITNESS: -- without an exception. 13 CHAIRMAN FESMIRE: Continue, Mr. Carr, I'm sorry. 14 Q. (By Mr. Carr) Now Mr. Gray, we're looking at 15 16 Devon Exhibit Number 5 --17 Α. Uh-huh. -- forms concerning the Well Number 7A. You've 18 testified that this is at the standard location and the 19 first well on the acreage. Why did Devon propose the well 20 at this location? 21 Well, to access this private land, which is, by 22 Α. 23 the way, surrounded by federal land, we had to get a right 24 of way from the BLM to cross federal lands to get to the 25 40-acre location. During that process, the BLM's

archaeologist discovered what they deemed to be significant 1 arch. sites pretty much everywhere on that 40-acre 2 location, and that they would not approve the right of way 3 to access the 40 acres unless we would agree to drill our 4 Devonian well at the location that is shown on this APD. 5 Does Mosaic own any minerals under the 40-acre Q. 6 tract on which you're proposing to drill? 7 No, sir. 8 Α. Does Mosaic own any potash rights under the north 9 Q. half, the 320-acre unit for that? 10 Not to my knowledge. 11 Α. When was the APD for this well actually filed? 12 0. It was actually filed electronically on September Α. 13 the 16th, 2004. 14 And what response did you receive from -- did 15 Q. Devon receive from Mosaic to this application? 16 To this particular well, we did not receive a 17 Α. 18 response. Q. Would you identify what is marked as Exhibit 6? 19 20 Exhibit 6 is a letter from Dan Morehouse at IMC dated August 30th, 2004, where they object to the drilling 21 22 of the Apache 24 Number 7, which originally was proposed and permitted as a Delaware well. 23 24 Q. And what were the reasons given for this

25

objection?

1	A. Again, they cited IMC's five-year mine plan,
2	proximity to their LMR, and that they again expect to be
3	mining within approximately a quarter mile of this location
4	in 2007.
5	Q. Did the Oil Conservation Division approve your
6	APD to drill the 7A well?
7	A. No.
8	Q. And were you advised by the OCD of the reason
9	that the application was denied?
10	A. I really don't remember. I suspect they probably
11	if they were going to object to the Delaware well, they
12	certainly would object to the Devonian well.
13	MR. CARR: In fact, no objection was ever filed
14	May it please the Commission, this is a point I don't
15	think we have any disagreement on. This letter references
16	the Apache Number 7 well. We're actually talking about the
17	7A, and I believe Mr. High agrees with me that this
18	objection letter is the objection letter that applied to
19	the 7A and that we have no dispute as to that point.
20	MR. HIGH: I don't have any problem.
21	Q. (By Mr. Carr) So in any event, what is marked as
22	Exhibit 6 is what has been treated as the objection to this
23	location?
24	A. For all practical purposes, yes.

Do you have experience putting together prospects

25

Q.

for directional drilling or drilling of horizontal wells? 1 Α. Yes. 2 Is your experience limited just to the land 3 Q. portion of the effort to drill these wells? 4 5 Yes, it is. A. Do you have any policies within Devon and its 6 0. land department concerning the development and proposal of 7 horizontal and directional wells? 8 I don't know that it's considered policy, but we 9 try to avoid drilling horizontal wells unless there's just 10 absolutely no way to do it -- horizontal or directional, 11 unless there's no other way to get around it. 12 And what are the reasons for that? 13 Q. Well, they're more costly. Directional wells, 14 Α. more often than not, can't access all of the prospective 15 formations that you would normally have a right to test and 16 access and penetrate in a vertical wellbore. 17 18 Q. Now you've been present for the hearing, have you 19 not? 20 Yes, I have. Α. And you understand that Mosaic is proposing that 21 Q. 22 the Applications be denied and that these wells be drilled from alternative locations? 23 24 Α. That's correct. 25 Were you present for Mr. Bailey's testimony? Q.

Yes, I was. A. 1 Do you have an opinion or concur in his testimony Q. 2 as to the problems experienced with a directional drilling 3 program? 4 Yes, I do. 5 A. And do you concur? 0. 6 Yes, I do. 7 Α. In your opinion, do you think it would be 8 possible to directionally drill the Delaware reserves under 9 this 40-acre tract with a directional well, or do you know? 10 MR. HIGH: Mr. Chairman, this witness was not 11 tendered as an expert in directional drilling. You know, I 12 don't really object to his opinion, but I just want to 13 14 clearly understand --MR. CARR: Correct. 15 MR. HIGH: -- and I'm going to ask him the 16 question, he's not an expert, so I don't know what 17 relevance his opinion has on directional drilling. 18 19 CHAIRMAN FESMIRE: Well, I think that's evident 20 from the testimony so far, that he is not an expert on directional drilling but has an opinion on the rest of the 21 questions. 22 23 (By Mr. Carr) Let's just go ahead. Mr. Gray, do Q. 24 you have experience drilling from a federal tract to fee 25 minerals?

1	A. I don't recall any, no.
2	Q. Do you know what permits would be required if you
3	were trying to do that?
4	A. Well, any action on federal lands would require
5	BLM approval, a permit, yes, and of course the associated
6	permits from the State and the OCD on the fee tract.
7	Q. In your opinion, would approval of the Devon
8	Application and the drilling of these wells be in the best
9	interest of conservation, the prevention of waste and the
LO	protection of correlative rights?
1	A. Yes, sir.
L2	Q. You are the person who has contacted the mineral
L3	owners concerning the development of these properties; is
L 4	that correct?
L 5	A. That's correct.
16	Q. And who owns the oil and gas rights under the
L 7	property?
L8	A. Our witness that will be here in just a few
L9	minutes, Mr. Kenny Smith, and his family, own 75 percent of
20	the minerals under the 40-acre tract.
21	Q. And have they leased to Devon?
22	A. Yes, they have.
23	Q. What about the potash rights? Do you know who
24	owns those rights under the acreage?
25	A. Mr. Smith and his family own 75 percent of the

1	potash rights.
2	Q. Have you reached an agreement with these owners
3	for the development of the acreage with the wells that are
4	the subject of today's hearing?
5	A. Yes, we have.
6	Q. Would you identify what has been marked Exhibit
7	Number 7?
8	A. Exhibit Number 7 is Order Number R-12,403,
9	dated or I guess it's dated August the 8th, 2005, which
10	is Mr. Stogner's order approving the permit to drill the
11	Apache 24-6 and the Apache 24-7A.
12	Q. This case was presented to an Examiner on what
13	date, do you know?
14	A. Yes, it was presented to Mr. Stogner on December
15	2nd, 2004.
16	Q. And were you prepared to drill these wells at
17	that time?
18	A. Yes, we were.
19	Q. Does Devon request that the Commission expedite
20	the handling of these Applications to the extent possible?
21	A. Yes, we do.
22	Q. Will Devon call a petroleum or a drilling
23	engineer, to testify concerning how the well will be
24	drilled and cased?
25	A. Yes, we will.

1	Q. May it please the Commission or were Devon
2	Exhibits 1 through 7 prepared by you or compiled under your
3	direction?
4	A. Yes, they were.
5	MR. CARR: May it please the Commission, at this
6	time we would move the admission into evidence of Devon
7	Exhibits 1 through 7.
8	MR. HIGH: No objection.
9	CHAIRMAN FESMIRE: No objection?
10	MR. BRUCE: No, sir.
11	MR. CARR: Pass the witness.
12	CHAIRMAN FESMIRE: We'll admit the exhibits.
13	Mr. High?
14	MR. HIGH: Thank you, your Honor Mr. Chairman.
15	CROSS-EXAMINATION
16	BY MR. HIGH:
17	Q. Mr. Gray, how long have you worked in the potash
18	basin?
19	A. Since 1993.
20	Q. I'm intrigued by your comment, at least what I
21	understood, that you had never processed an APD on federal
22	lands?
23	A. That I've never processed an APD I think
24	you're talking about the question where we were drilling
25	from federal lands to fee lands. I think that was the

A directional well located on federal with a question. 1 bottomhole on fee, I think that's what we were talking 2 about. 3 All right, then I may have misunderstood and so 4 let me get it cleared up. If you'd been working in the 5 potash area since 1993, you'd be involved, I take it, in a 6 number of APDs? 7 8 A. Yes, I have. What would you guess to be the number? 9 Q. 10 A. Hundreds. And how many of those would have been Hundreds. 11 Q. on federal land, as opposed to fee or state? 12 Vast majority on federal. 13 Α. So you know how to process an APD for the BLM? 14 0. I personally don't file the permits, no. 15 Α. You're not involved in that process? 16 Q. 17 No. Α. Okay. Have you filed any APDs for any well 18 Q. location in Section 24? 19 20 Yes. A. 21 Q. Is that for these two wells we're talking about here today? 22 23 A. No, we've filed other --24 No, I'm talking about you. Did you file the APDs 25 for the two wells we're on today, Apache 6 and 7A?

1	A. I personally did not file the APDs. We have an
2	operations group that files all of our permits.
3	Q. Is that under your supervision?
4	A. No.
5	Q. That's somebody else's job?
6	A. That's correct.
7	Q. What do you do in connection with the APDs,
8	anything?
9	A. Nothing really, no.
10	Q. You just put the deals together and then somebody
11	else handles them?
12	A. Well, unless there's an unorthodox location to be
13	acquired, I get involved then. But typically I don't have
14	much to do with it.
15	Q. So you didn't correspond with the OCD and Mosaic
16	that's reflected in the exhibits we were just talking
17	about? That was somebody else at Devon?
18	A. The only exception is the letter that I did
19	respond to on the Dan's objection to the 24-6.
20	Otherwise, all the correspondence was done through our
21	operations group, who's in charge of
22	Q. Okay.
23	A permitting wells.
24	Q. Let me direct your attention to your Devon
25	Exhibit Number 2.

Okay. A. 1 You told us that is not up to date. 2 Q. With regard to the location of the wells, that's 3 Α. correct. 4 And that's -- there's more wells in Section 24 Q. 5 now than what's shown in your Exhibit 2, aren't they? 6 There are several horizontal Delaware wells 7 Α. throughout Section 24 and 13, and I believe there's 8 probably a horizontal well in the north half of 25, but I 9 can't --10 All right, now --Q. 11 -- remember exactly. 12 Α. -- now with the exception of this 40-acre tract 13 Q. that we're talking about here, all the lands in 13, 14, 23 14 and 24 are federal lands, are they not? 15 16 A. Yes. Now let's start with Section 24. 17 Q. 18 Α. Okay. All of the wells shown on the right-hand side of 19 20 Section 24, that would be the west line of the WIPP site, would it not? 21 That's correct. 22 Α. 23 Were you involved in the drilling of any of those Q. wells? 24

We've permitted and drilled a few of those, yes.

25

Α.

1	Q. All right. And this shows I believe Exhibit 2
2	shows, right now, five; am I correct?
3	A. In Section 24?
4	Q. Correct.
5	A. Yes.
6	Q. And there's probably a couple more now in
7	Section
8	A. There's some additional horizontal wells, yes
9	Q. Okay.
10	A whose surface location is in that same
11	along the same line.
12	Q. And those are all filed with the BLM; am I
13	correct?
14	A. Correct.
15	Q. And they've all been approved, provided they are
16	located right next to the WIPP boundary?
17	A. Correct.
18	Q. Have you filed for any APDs out into Section 24?
19	A. I honestly can't remember if we've filed any.
20	We've talked to the BLM a lot about what we can or can't
21	do. Whether we've actually filed permits out there, I
22	don't remember. I'm sure our engineering witness could
23	remember better than I.
24	Q. Would it be a fair statement to say that BLM will
25	not allow you to drill out into Section

1	A. I think that would be more than a fair statement,
2	yes.
3	Q. They want you to drill along the boundary, and
4	have they called that anything in particular?
5	A. It's been referred to as a drilling island, but
6	I've never seen a formal document that states that.
7	Q. All right. But the BLM calls it a drilling
8	island
9	A. Yeah
10	Q don't they?
11	A they do.
12	Q. And from that drilling island, they've allowed
13	multiple wells
14	A. Correct.
15	Q to be kicked off and drilled either
16	directionally or horizontally out to just about anywhere
17	you want in 24, right?
18	A. That's correct.
19	Q. And in fact, is Apache Number 9 a Devon well?
20	A. If it's on that lease, it's ours.
21	Q. Okay. Well, let's look at the one that I
22	can't It doesn't come through on my copy, but I know
23	from other stuff that it's Apache Number 9.
24	A. Okay.
25	Q. See that real long red line across almost all of

That's a Devon well, isn't it? Section 24? 1 That's correct. 2 Α. Do you know what formation that's drilled to? 3 It's in one of the Delaware formations. 4 couldn't cite it specifically. 5 All right, would you agree me that that 6 Q. horizontal well is almost a mile drilled horizontally? 7 8 Α. Almost. Is it producing? 9 Q. As far as I know. 10 A. So would it be a fair statement to say that 11 Q. 12 Devon, when it did its -- I don't know what you guys call it, but your analysis of the cost versus production -- Do 13 you have a --14 15 Economics, yeah. Α. What do you call it? Q. 16 Well, we run economics --17 Α. 18 Q. Okay. 19 -- based on the project. Α. 20 Q. I take it when you ran the economics on Apache 21 Number 9 -- You would do that before you drill a well, 22 right? 23 A. Yes. That the economics, even with the cost of 24 25 horizontal drilling of almost a mile, Devon concluded that

it was economic to do that and hit the Delaware formation? 1 That's correct. Α. 2 Now, are there any other horizontal wells shown 3 0. on your Exhibit 2 that you're aware of? There's four dots 4 on here. 5 There are -- Like I said, this plat is outdated. 6 Α. We've since December, 2004, drilled a number of horizontal 7 Delaware wells from the east side of that acreage block. 8 0. All right. Do you know the maximum offset of 9 those horizontal wells? 10 This --11 Yes, the horizontal portions of them. 12 Not specifically, no, but there's some similar to 13 that one that's on there, and there's some that aren't 14 quite as long. Our engineering witness could tell you all 15 the details about how long they are. 16 Well, if you can -- and again, I'm going to refer 17 Q. to that yellow line across there, and our document will 18 19 show it, I think, a little bit better, but I'm going to 20 represent to you that's Apache Number 9. 21 A. Okay. 22 Do you know what it is? Q. 23 No, I don't. Α. Okay. Well, you don't have to agree with me, but 24 25 I'm going to refer to it as Apache Number 9.

1	A. Okay.
2	Q. If Devon could start on the west boundary of the
3	WIPP site and hit the Delaware formation in Section 24,
4	right below where you now want to drill Apache 6
5	A. Uh-huh.
6	Q would you agree with me that you could get
7	over here next to the WIPP site and hit the Delaware for
8	this Apache Number 6 you want to drill vertically?
9	A. Absolutely we can.
10	Q. And you could do the same thing, could you not,
11	for the Apache 7A, the deep gas well you want to drill?
12	A. We can drill a directional it's possible to
13	drill a directional We've already proven we can drill a
14	horizontal Delaware well, as you said, almost a mile. And
15	it's within reason and it's physically possible to drill
16	from Lea County to hit the Devonian well at that location,
17	if you have enough money.
18	Q. Well, if you if you Where's the bottomhole
19	location for Apache 7A? Do you remember?
20	A. It's way up in the very northeast corner of that
21	40 acres. The footage is
22	Q. That would be back toward the WIPP site, wouldn't
23	it?
24	A. Yeah.
25	Q. How far back further toward the WIPP site?

1		
1	A.	Than a standard location?
2	Q.	Well, what's your proposed bottomhole location
3	for 7A?	
4		Why don't you Look at your documents there and
5	see if yo	u can tell me.
6	Α.	1460 from the north
7	Q.	Okay.
8	Α.	line of Section 24
9	Q.	Okay.
10	A.	and 1150 from the west line. I think it's on
11	that map.	
12	Q.	Okay, maybe. I can't read it
13	Α.	Maybe
14	Q.	it's too small for me.
15	Α.	it might be faded.
16	Q.	That must be what that little jumble of letters
17	and thing	s are there.
18	A.	Yeah.
19	Q.	So you could, then, hit that bottomhole location
20	with a di	rectional well or a horizontal well from the west
21	side of W	IPP, could you not?
22	A.	We could, yes.
23	Q.	Did you ever file an APD with the BLM seeking to
24	do that?	"That" being, drill the Apache 7A as a
25	direction	al to the Devonian and the Apache 6 to the

Delaware? 1 2 A. No. Now looking at the proposed surface locations of 3 Q. these wells, you said the hached lines on your Exhibit 4 Number 2 represent Mosaic potash leases, correct? 5 The blue -- bluish-green ones, yes. 6 Α. All right. Now where did you get that 7 Q. information? 8 9 Α. Federal Abstract Company. Okay. We have an exhibit, you may have -- if 10 Q. you're sitting in the room, we heard -- you heard me 11 earlier ask, I believe, Mr. Bailey or somebody. He didn't 12 show Mosaic's leases up there. You were able to find them, 13 weren't you? 14 Yeah. 15 Α. So you don't dispute the fact that Mosaic 16 Q. Okay. holds the potassium lease in Section 3 which adjoins this 17 40-acre tract, do you? 18 Section 3 or 23? 19 Α. 20 Q. I'm sorry, 23. 21 Α. Yeah, 23. 22 All right. Q. 23 Α. That's not in dispute. 24 Q. Okay. And your proposed Apache Number 6 would be 25 located how many feet away from the boundary of Mosaic's

1	potassium lease?
2	A. 660 feet.
3	Q. All right. And your proposed Apache 7A, the deep
4	gas well, would be located how many feet away from the
5	boundary of Mosaic's potash lease?
6	A. 1150 feet.
7	Q. Would you agree with me that both of those
8	proposed locations are less than a quarter mile?
9	A. I would agree with that.
LO	Q. Now if the Apache Number 7A were, in fact,
L 1	directionally drilled from the west line of WIPP to the
L2	same bottomhole location, the proration unit would be the
L3	same, would it not?
L 4	A. Yes, sir.
15	Q. And all the mineral interest holders would be the
L6	same, wouldn't they?
L7	A. Yes, sir.
L8	Q. Would you agree with me, in this particular case
L9	there's only two groups of mineral interest holders,
20	whoever has it in the 40 acres, and the BLM?
21	A. Yes, sir.
22	MR. HIGH: Okay. I believe that's all the
23	questions I have. Thank you, Mr. Gray.
24	THE WITNESS: You're welcome.
>5	CHAIDMAN FEGMIDE: Mr Bruca?

1	М	R. BRUCE: Just a few questions.
2		EXAMINATION
3	BY MR. BRUC	E ∶
4	Q. M	r. Gray, your Exhibit 3, the leasehold
5	A. U	n-huh.
6	Q	- data, I just want to clarify. These leases
7	cover a hund	dred percent of the oil and gas rights in the
8	southwest q	uarter, northwest quarter of Section 24?
9	A. T	nat's correct.
10	Q. A:	nd three-fourths of that is owned by Mr. Smith
11	and his fam	ily?
12	A. T	hat's correct.
13	Q. O	kay. Who is T. Verne Dwyer?
14	А. Т	. Verne Dwyer is a contract landman in Midland
15	that acquir	ed those leases on our behalf.
16	Q. H	e acquired them specifically on Devon's behalf?
17	A. Y	es.
18	Q. H	e didn't acquire them for himself and then sell
19	them to Dev	on?
20	A. N	o.
21	Q. A	nd have they been assigned of record to Devon?
22	A. Y	es, they have.
23	M	R. BRUCE: That's all I have, Mr. Examiner or
24	Mr. Chairma	n.
25	CI	HAIRMAN FESMIRE: Commissioner Bailey?

EXAMINATION

2 BY COMMISSIONER BAILEY:

Q. I got a little confused. You said one of these wells was an unorthodox location, and I thought you said the Number 6. Was I wrong?

A. Well, the question was, from Mr. Fesmire, Why would we want to drill two wells in the same 40 acres that potentially could produce from the Delaware? And my response was, The location for the 7A, which is the deep well, is an unorthodox location for Delaware. If you ever came back up to want to produce at the Delaware, you'd have to get an exception and approvals from our friends at Bass and some other people.

So you might not be able to produce the Delaware at the surface location for the 7A, I think, is what I said. Otherwise, that -- the 24-6 is at a legal location.

- Q. Why don't I have a map showing all of the recent horizontal wells drilled within 24?
- A. That's a legitimate question. We just haven't updated it since the -- Actually, this map that we have was outdated in December, 2004. We had drilled a couple of other horizontal wells by the time we got to this hearing in December, 2004.
- Q. So how many more should be on this map for Section 24?

1	
1	A. I'd have to guess. It's another Our
2	engineering witness can tell you for sure, but I'm guessing
3	another four or five more.
4	Q. And they're all horizontal Delawares?
5	A. Yes.
6	Q. Do they all produce from the same zone of the
7	Delaware, or are they in different zones?
8	A. It's my understanding that there's one interval
9	in the Delaware mountain group that they produce from.
10	Q. And their bottomholes are located where?
11	A. Oh, they vary. But for instance, there's
12	probably a couple of more that are equally as long on a
13	lateral the horizontal lateral as this one that's shown
14	on your map. And we would typically drill them all the way
15	over to the 660 feet, or maybe even closer than that, maybe
16	330 feet from the west edge of our acreage block.
17	Q. So in unit letter D in Section 24, 22 South, 31
18	East, there's probably a bottomhole Delaware?
19	A. In unit letter D?
20	Q. Uh-huh.
21	A. I don't think so, no, because we don't
22	Q. Northwest of the northwest.
23	A. We don't own that lease, no, so that we would not
24	have drilled a well or we have not drilled a well that

would include that 40 acres. We may have one that goes

25

1	through unit letters A, B and C, and likely do, but not
2	into D.
3	Q. How about the south half of the north half?
4	A. Of 24?
5	Q. Uh-huh.
6	A. We do, yes.
7	Q. And goes to within
8	A. Looks real similar to the one that you see there
9	on your map, yes.
10	COMMISSIONER BAILEY: Okay, that's all I have.
11	Thank you.
12	THE WITNESS: You're welcome.
13	CHAIRMAN FESMIRE: Commissioner Olson?
14	COMMISSIONER OLSON: I have no questions.
15	EXAMINATION
16	BY CHAIRMAN FESMIRE:
17	Q. Mr. Gray, I'm a little bit confused now. This
18	horizontal well that you're showing on you know, going
19	through this south half of Section 24, you say there are
20	four or five more in that section, right?
21	A. Well, maybe not in that section but maybe on this
22	acreage block, yes.
23	Q. Okay. And are those drain holes, or are those
24	directionally cased Is the intent to get to some
25	bottomhole location, or are they horizontal drain holes?

1	A. They're horizontal drain holes.
2	CHAIRMAN FESMIRE: I have no further questions.
3	MR. HIGH: We have nothing else.
4	CHAIRMAN FESMIRE: Is that all you've got of this
5	witness, Mr. Carr?
6	MR. CARR: He may be excused, I have no further
7	questions.
8	CHAIRMAN FESMIRE: Thank you, Mr. Gray.
9	THE WITNESS: You're welcome.
10	MR. CARR: May it please the Commission, at this
11	time I would call Jim Blount.
12	CHAIRMAN FESMIRE: Blount?
13	MR. CARR: Yes.
14	CHAIRMAN FESMIRE: Mr. Blount, you have been
15	previously sworn?
16	MR. BLOUNT: Yes.
17	JAMES BLOUNT,
18	the witness herein, after having been first duly sworn upon
19	his oath, was examined and testified as follows:
20	DIRECT EXAMINATION
21	BY MR. CARR:
22	Q. Would you state your name for the record, please?
23	A. James Blount.
24	Q. Where do you reside?
25	A. In Edmond, Oklahoma.

1	Q. By whom are you employed?
2	A. By Devon Energy.
3	Q. And what is your position with Devon?
4	A. I'm an operations engineer.
5	Q. Could you review your educational background for
6	the Commission?
7	A. I have a bachelor of science degree from Texas
8	A&M University in petroleum engineering.
9	Q. And since graduation, for whom have you worked?
10	A. I've worked for various companies in Midland,
11	I've worked for Mitchell Energy, I've worked for Santa Fe
12	Energy, I've worked for Southwest Royalties, Concho
13	Resources, and now Devon Energy.
14	Q. In your work experience, have you been involved
15	with the drilling of directional wells?
16	A. Yes, I have.
17	Q. And have you been involved with the drilling of
18	wells in the potash area?
19	A. Yes.
20	Q. Are you familiar with the Applications filed in
21	these consolidated cases
22	A. Yes.
23	Q for Devon?
24	And are you familiar with the status of the lands
25	in the area or are you just limited in terms of your

technical knowledge as to the drilling of the wells? 1 In the lands, as in what respect? Α. 2 I mean, do you have any -- do you have any 0. 3 information or experience or knowledge about the leases in 4 5 the area, things of that nature? I'm familiar with them vaguely. 6 A. Are you here to testify about engineering 7 Q. 8 concerns? 9 Α. Yes. MR. CARR: We tender Mr. Blount as an expert in 10 drilling engineering. 11 MR. HIGH: No objection. 12 CHAIRMAN FESMIRE: Mr. Blount will be so 13 accepted. 14 (By Mr. Carr) Are you familiar with the 15 Q. cementing and casing provisions of Oil Conservation 16 Division Order Number R-111-P? 17 Yes, I am. 18 A. 19 Q. Would you refer to what has been marked Exhibit 20 8, which is a schematic for the Apache 24 Fee Well Number 6 and review that for the Commission, please? 21 Okay, this shows a wellbore diagram of what we're 22 A. 23 proposing to drill on this -- in unit letter E. 24 will be drilled down to 600 feet, and set 13-3/8 at that 25 point, cementing it to the surface, and we'll continue

drilling down to 3800 feet, which would be through the salt section, and set 8-5/8 and cement it also to the surface, and then drill to our proposed TD of 7805, set 5-1/2-inch casing at that point and cement that to the surface via a two-stage cementing job.

- Q. Let's now go to Exhibit Number 9, the schematic for the Apache 24 Com Number 7A well.
- A. Okay. That's also a wellbore diagram for the 7A. We'll be drilling to 700 feet -- I'm sorry, 600 feet, setting 13-3/8 and cementing that to the surface, then we'll drill to 3800 feet, which is through the base -- through the salt, and set 10-3/4-inch pipe at that point and cement it to the surface. We'll drill through the Wolfcamp, or into the Wolfcamp, at 12,050, set 7-5/8 at that point and cement it to the surface, and then we'll set a -- or drill to the top of the Devonian at 15,300, set 5-1/2 at that point and cement it, and then we'll open-hole drill 200 additional feet into the top of the Devonian.
- Q. Do these well programs comply with the cementing and casing requirements of Order Number R-111-P?
 - A. Yes, they do.

Q. Will Devon provide notice to Mosaic so they can witness the work on these wells to assure themselves that they're being drilled and completed in accordance with the provisions of the potash order?

1	A. Yes.
2	Q. Mr. Blount, do you know of a way to directionally
3	drill a well to access all the Devonian I'm sorry, all
4	the Delaware zones under the 40-acre tract on which you're
5	proposing to drill a vertical well?
6	A. The only way you could do it is with a very
7	deviated S-curve. You'd have to drill all the way over to
8	unit letter E from the far east side of the section, and
9	then drop an S at that point and go straight down. It
10	would create tremendous drilling problems.
11	Q. Would it also create operational problems?
12	A. Yes, absolutely.
13	Q. Now Devon has drilled horizontal wells in the
14	Delaware; is that not correct?
15	A. Yes, we have.
16	Q. When you drilled those wells, how many of the
17	Delaware zones have you been able to access with those?
18	A. Only one.
19	Q. And the other zones are not producing?
20	A. That's correct.
21	Q. Now Mr. Gray testified that you could
22	directionally drill and you could horizontally drill to
23	access these reserves?
24	A. It physically could be done, it economically
25	could not be done.

1	Q. Would you Do you believe that Devon
2	economically could justify directional horizontally
3	drilling to recover the Delaware reserves
4	A. No.
5	Q under the 40-acre tract?
6	A. No, there's no way we'll drill this well by any
7	means other than
8	Q. Do you know of any way other than with a vertical
9	wellbore on this acreage for Mr. Smith to be able to
10	recover the Delaware reserves under his acreage?
11	A. It won't be done by Devon.
12	Q. Were Exhibits 8 and 9 prepared by you?
13	A. Yes, they were.
14	MR. CARR: I move the admission of Devon Exhibits
15	8 and 9.
16	MR. HIGH: No objection.
17	MR. BRUCE: No objection.
18	CHAIRMAN FESMIRE: Okay, Devon Exhibits 8 and 9
19	are admitted.
20	MR. CARR: That concludes my direct of Mr.
21	Blount.
22	CHAIRMAN FESMIRE: Mr. High?
23	CROSS-EXAMINATION
24	BY MR. HIGH:
25	Q. Mr. Blount, how long have you had some

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responsibility in the potash area? 1 For 17 years. A. 2 And I take that wasn't all with Devon, right? Q. 3 That's correct, it was various companies. 4 with various companies, although most of them are actually 5 owned by Devon now. 6 (Laughter) 7 Q. I won't go there. 8 And what's your actual job? Do you design the 9 well? I mean, what do you really do for a living? 10 I design the well design, and then I implement 11 12 the actual completion of the well and monitor the production of the wells. My actual job is not to actually 13 drill in my current capacity, although I have done that in 14 the past with other companies. 15 More well design? 16 Q. 17 Yes, sir. Α. Okay. And how long have you done that for Devon? 18 Q. 19 Α. I've been with Devon for five years. 20 All right. Have you been involved in any of the Q. 21 other wells that Devon has drilled in either Sections 13, 24 or 25 shown on Devon Exhibit Number 2? 22 23 Α. Yes, I have, all of them. 24 Q. So all -- And this exhibit, we know, is not complete, but just what's on Devon Exhibit Number 2, in 25

Section 13 it shows four wells. You were involved in 1 those? 2 Yes, sir. 3 A. In Section 24 it shows five wells. 4 involved in all those? 5 Of the five shown, and then there's also three 6 additional. 7 All right, and in Section 25 there's -- it looks 8 0. like just nine wells. Are you involved in those too? 9 Actually there's more than that now, but yes, Α. 10 sir, I've been involved in all -- I was even involved in 11 the original two that were drilled by Mitchell Energy. 12 Q. Okay. So you've been involved in a lot of wells 13 in this particular area that we're talking about? 14 A. That's correct. 15 Now how many more wells has Devon drilled in 16 Section 24 that are not actually shown on Devon Exhibit 17 Number 2? 18 There are three additional. 19 A. 20 Q. All right. And are those Delaware wells? 21 Yes, they are. Α. 22 All right. How many of the wells -- Let's take Q. 23 the five shown on Devon Exhibit Number 2. There's five of these and three more. That's eight. How many of those 24

25

wells are Delaware wells?

In Section 24? 1 A. Q. Yes, sir. 2 There's -- All wells in Section 24 are Delaware 3 Α. except for one. 4 Okay, and what is it? Q. 5 A. That's the 24-1, it's a Morrow well. 6 Okay, and it's not shown on Devon Exhibit Number 7 Q. 8 2, is it? I don't have that exhibit, so --9 Α. 10 Q. Okay. -- should I get a copy of that? 11 So -- and all of Devon's wells are located along Q. 12 the west edge of the WIPP site, are they not? 13 A. That's correct. 14 15 And do you know what BLM calls that? Q. 16 Α. The drilling island. 17 Okay. Were you involved in the well design for Q. 18 all of those Delaware wells along the west side of WIPP in Section 24? 19 20 Yes, I was. 21 Q. So you designed the horizontal stuff? 22 Α. Yes. 23 What's the greatest offset of any of the 24 horizontal wells that you were involved in? 25 A. It would have been the 24 Number 9, and it goes

1	all the way from 330 from the east line to 330 from the
2	west line.
3	Q. All right, so and that's the little red line
4	You now have in front of you Devon Exhibit Number 2?
5	A. That's correct.
6	Q. That little red line across there, is that Apache
7	Number 9?
8	A. Yes, it is.
9	Q. Okay. And so that's a horizontal well that goes
10	for almost one mile, isn't it?
11	A. That's correct.
12	Q. And you designed that?
13	A. Yes.
14	Q. And Devon drilled it?
15	A. That's correct.
16	Q. And I take it, it's producing?
17	A. Yes.
18	Q. And how many of the other wells are also
19	horizontal?
20	A. There are three others in Section 24, two others
21	in Section 13 and one other in Section 25.
22	Q. Okay. And what kind of offset do they have?
23	A. They basically go as far as the acreage goes, so
24	the one in Section 25 starts at 330 from the east line,
25	goes to 330 from the west line, in the units letters A, B,

1	C and D.
2	Q. I'm sorry, you're in what section now?
3	A. Section 25.
4	Q. All right, let's stick with 24.
5	A. Okay, in Section 24 the well in the very south
6	half is the 24 Number 8. It covers units letters P, O, N
7	and M, and it goes to 330 from the west line.
8	The well in the south half of the north half of
9	24 starts at 330 from the east line and goes to let's
10	see, that would be 1650 from the west line.
11	And the one in the far north of Section 24
12	that's the 24-11 goes from 330 from the east line to
13	1650 from the west.
14	So they basically go within 330 feet of where our
15	federal acreage was.
16	Q. And translating that into a distance, we know
17	that Apache Number 9 is almost a mile?
18	A. That's correct.
19	Q. Those would be approximately how far?
20	A. Three-quarter mile.
21	Q. Okay. So we've got four horizontal wells in
22	Section 24?
23	A. Correct.
24	Q. Anywhere from three-quarters of a mile to a mile
25	offset?

1	A. Correct.
2	Q. Now where's the Morrow well you referred to?
3	A. The Morrow well is actually located on this map.
4	It's about 1300 feet from the south line and 330 from the
5	east. It's the
6	Q. What section is it?
7	A. It's in Section 24.
8	Q. Okay.
9	A. It's on this map, it's just very light.
10	Q. Do you know what the offset on that one is?
11	A. It's straight, it's a vertical well.
12	Q. Vertical hole. So Devon has been able to
13	successfully and economically directionally drill Delaware
14	wells from this drilling island along the west side of WIPP
15	in Section 24?
16	A. Correct.
17	Q. But did I understand you to say that you can't do
18	it with respect to this Delaware well on this 40 acres?
19	A. That's correct.
20	Q. And what is it that distinguishes this little 40-
21	acre patch from all these other wells that you've
22	successfully done?
23	A. All the other horizontals have multiple pay
24	intervals open every 600 feet in the wellbore, so we're
25	equally making producing wells from four proration units,

as opposed to one proration unit. 1 And why can't you do that here? Q. 2 Because it would only be one proration unit. Ι Α. 3 already have a horizontal well that accesses any Delaware 4 that's east of this 40-acre tract. 5 Well, why can't it be unitized? Q. 6 I don't know the answer to that. Α. 7 Have you asked? 8 Q. The well is already drilled. 9 Α. 10 Q. What well is already drilled? 11 A. The 24-10, it's already accessed up to the east side of this acreage. 12 Q. Oh, you're talking about a well that's not shown 13 on this exhibit. 14 That's correct. 15 Α. Okay, we've got another exhibit that shows this. 16 Q. Could that be extended into this 40 acres? 17 18 Α. No. 19 Q. Why? 20 Because you'd be dealing with a situation where 21 you couldn't effectively stimulate it. Without a fracture 22 stimulation in the Delaware you're not going to make any 23 oil at all in the Delaware. And you'd have to go in there 24 with slimhole tools, or you'd have to drill a -- you know,

we have 4-1/2-inch casing set through the -- all the way

out to 1650 from the west line of Section 24, so you would 1 have to drill basically a 3-inch hole, and there's just no 2 way you could effectively stimulate open hole through... 3 What if you -- What if you did a horizontal well 4 from the north part of Section 24? 5 Where were you referring to? 6 Α. Well, let's go up to -- These don't have numbers 7 on them, at least legible, but go up to the well in the top 8 right-hand corner of Section 24. 9 Okay. A. 10 Why can't you drill directionally from there --11 Q. We have. 12 Α. -- to this Delaware on the 40 acres? 13 Q. We've drilled every location -- we've drilled 14 Α. every proration unit out here, except for this fee acreage, 15 via horizontal wells. 16 17 0. So the reason you can't do the horizontal well to 18 this 40 acres is because of other wells you've already drilled? 19 That's correct. 20 So the limitations that we're talking about here, 21 Q. 22 or that you're talking about, are those that have been created by Devon? 23 24 You could say that, due to the fact that we had

We held off

an APD in hand that was never decided on.

drilling the south half of the north half for two years, 1 waiting on this hearing, and we couldn't wait any longer. 2 At any time has Devon ever prepared and filed an 3 APD for a horizontal or directional well to develop oil on 4 this 40-acre plot? 5 Could you repeat the question? A. 6 Has Devon to your knowledge ever filed an APD for 7 Q. a directional horizontal well, for either its proposed 8 Apache 6 or 7A? 9 10 Α. No, sir. When were these other horizontal wells drilled by 11 Q. 12 Devon? The first one was drilled in October of 2004, and 13 we took about six months before we drilled the second one. 14 The second well drilled was the 25-14, which is in the very 15 north half of 25. Then we drilled the well up in Section 16 13, and that was probably mid-2005. 17 The latest two wells that are in the north half 18 19 of Section 24 were -- one of them was drilled in December 20 of last year and one of them was drilled in January of last year -- of this year. 21 22 Q. So all of the wells that you say now prevent you from drilling a horizontal well to this 40-acre plot were 23 24 drilled after this APD was filed and denied?

No, it was filed and approved the first time.

25

Α.

The only reason we didn't get it drilled the first time was 1 because we couldn't get access by the BLM. 2 Then you should have known -- If you had the APD 3 Q. in the process, which I take it you did when you 4 horizontally drilled these other wells, right? When you 5 drilled these other wells, you should have known, shouldn't 6 you, that that would preclude you from then horizontally 7 drilling this particular well? 8 We felt like we were going to -- we already had 9 A. won the case the first time. We're in a de novo case now. 10 11 Q. You felt like that, by golly, you're going to get 12 a vertical well --If we didn't, we weren't going to drill it. 13 Α. That's correct, if we didn't we weren't going to drill it. 14 The commingling authority for that would have been 15 16 something that I don't think would have been worth 17 pursuing. I don't think we have anything else, 18 MR. HIGH: Mr. Chair. Thank you. 19 20 CHAIRMAN FESMIRE: Mr. Bruce? 21 MR. BRUCE: Maybe just one thing. 22 **EXAMINATION** 23 BY MR. BRUCE: 24 Mr. Blount, I think it's the 24-9 well, which is 25 in the north half of the south half of Section 24?

1	A. Yes, sir.
2	Q. The terminus is in what, the northwest quarter,
3	southwest quarter of that section?
4	A. It's in the yeah, northwest of the southwest.
5	Q. Can that wellbore be used to test the Bone Spring
6	or the Wolfcamp?
7	A. No, sir.
8	Q. Could it be used to test an upper Delaware zone?
9	A. No, sir.
10	MR. BRUCE: Thank you.
11	CHAIRMAN FESMIRE: Commissioner Bailey?
12	EXAMINATION
13	BY COMMISSIONER BAILEY:
14	Q. Is it physically impossible Let me back up.
15	These horizontal Delaware wells had been
16	completed as open hole?
17	A. No, ma'am, only the first one, the 24-9 was
18	completed as open hole, all the others have been cased.
19	And the reason was that we didn't get near as good a well
20	with the open hole completion as we got with cased hole.
21	We couldn't control where the frac was going.
22	Q. So it is physically impossible to extend any of
23	these horizontal wellbores to
24	A. The only way you could do it is with slimhole
25	tools, and you wouldn't be able to do any kind of

stimulation where you could control where the stimulation 1 would actually occur. 2 Unitization is a method that has been set up for 3 accessing lands that -- through horizontal or directionally 4 drilled? 5 A. Uh-huh. 6 Why hasn't Devon attempted to unitize? 7 Q. I can't speak to that. I have no idea. 8 A. COMMISSIONER BAILEY: That's all I have. 9 CHAIRMAN FESMIRE: Commissioner Olson? 10 COMMISSIONER OLSON: I have no questions. 11 **EXAMINATION** 12 13 BY CHAIRMAN FESMIRE: 14 Q. Mr. Blount, I think your answer to Commissioner 15 Bailey's question may have answered mine, but you drill 16 down to the Devonian along this drilling alley, you take a 17 hard left, right, or a 90-degree turn. 18 Are we talking Delaware? A. 19 Delaware, I'm sorry. Take a hard turn. Q. 20 out 660 -- nearly a mile, less the 660s on each end --Uh-huh. 21 Α. 22 -- and you perforate -- Where do you perforate the horizontal pipe? 23 24 Α. We perforate roughly every 600 feet. 25 Every 600 feet. What kind of perforations? Q.

mean, how big, how many? 1 They're group-perforated within a 2-foot A. 2 interval. We'll typically shoot at four shots per foot. 3 And that's for the frac design? Q. 4 That's correct. 5 Α. Okay. Now you've got one of those in basically 6 Q. the south half of the north half that's only three-quarters 7 as long, right? 8 That's correct. A. 9 Okay, and it doesn't extend onto the Smith tract? 10 Q. Correct. 11 Α. 12 Q. Okay, and it's the same thing: 4-1/2, group-13 perforated every 300 feet? A. Six hundred. 14 Every 600 feet? 15 Q. Α. Uh-huh. 16 Okay. So the only way to get out of there is to 17 Q. run a slimhole mud motor out that end, and you wouldn't be 18 able to control the frac, you wouldn't be able -- the 19 20 casing; is that correct? That's correct. A. 21 22 Q. Okay. You said, or somebody said, that Smith owns 75 percent of the interests in that tract. Who owns 23 24 the other 25 percent? 25 I don't know. A.

	Dut Desembles that leage too?
1	Q. Okay. But Devon has that lease too?
2	A. Yes.
3	CHAIRMAN FESMIRE: I have no further questions.
4	Mr. Carr, did you have a follow-up?
5	EXAMINATION
6	BY MR. CARR:
7	Q. Yeah, Mr. Blount, in response to a question from
8	Mr. Bruce you indicated that a horizontal well in the
9	Delaware couldn't be used to access Bone Springs, Wolfcamp
10	or upper Delaware production, correct?
11	A. Correct.
12	Q. To access the production in those other horizons,
13	what would be required?
14	A. You would have to drill directional wells from
15	the far east side to you know, slant it to whatever
16	formation you were trying to get to.
17	Q. You would need one well per horizon?
18	A. Well, I mean, you could drill and S-curve, but it
19	wouldn't be economically feasible.
20	Q. Now if you unitized an area, you still need
21	wells, do you not, to produce the reserves?
22	A. Yes, sir.
23	Q. And if you unitized for horizontal drilling,
24	you're going to need one well per horizon; isn't that
25	right?

1	A. That's correct.
2	Q. If you're going to access all the formations
3	under a unit, whether it be a spacing unit or an areawide
4	unit, doesn't a vertical well give you effective access to
5	the horizons, access that isn't available with a
6	directional or horizontal well?
7	A. Correct.
8	MR. CARR: That's all I have.
9	CHAIRMAN FESMIRE: Commissioner Bailey, did you
10	have a question?
11	FURTHER EXAMINATION
12	BY COMMISSIONER BAILEY:
13	Q. Unitization oftentimes can be one formation or
14	multiple formations. Have you been much involved with
15	unitizations?
16	A. None.
17	Q. Okay, so you don't know that unitization can
18	cover just one formation
19	A. I'm certainly familiar with unitization. I
20	haven't been involved with putting any together.
21	COMMISSIONER BAILEY: Okay, thanks.
22	CHAIRMAN FESMIRE: Any further questions of this
23	witness?
24	MR. HIGH: We have none, thank you.
25	MR. CARR: No, no further questions.

1	CHAIRMAN FESMIRE: Thank you very much, Mr.
2	Blount.
3	Mr. Carr
4	MR. CARR: That concludes our case.
5	CHAIRMAN FESMIRE: Okay.
6	MR. BRUCE: Mr. Chairman, I do have the landowner
7	witness who I think will be quite brief. You know, maybe
8	take care of him before lunch if it's at the Commission's
9	pleasure.
10	CHAIRMAN FESMIRE: Mr. High, you have
11	MR. HIGH: I have no problem.
12	CHAIRMAN FESMIRE: you have two witnesses
13	listed.
14	MR. HIGH: One witness.
15	CHAIRMAN FESMIRE: One witness listed. And given
16	that the things have run a little longer than estimated,
17	how long do you think your witness will take?
18	MR. HIGH: Twenty minutes, 30 minutes, max.
19	CHAIRMAN FESMIRE: Maximum?
20	MR. HIGH: I'll try to be brief. We've covered a
21	lot of this stuff already, that so we don't have to re-
22	plow old ground. So I'll try to be as quick as I can.
23	COMMISSIONER BAILEY: I'll eat my energy bar.
24	CHAIRMAN FESMIRE: Mr. Bruce, why don't we tail
25	in with your witness, and we'll go ahead with Mr. High's

1	witness.
2	MR. HIGH: I don't mind taking him out of order
3	if he wants to.
4	CHAIRMAN FESMIRE: Would you rather do it that
5	way?
6	MR. BRUCE: Yeah, it does flow along with Devon's
7	testimony.
8	CHAIRMAN FESMIRE: Okay.
9	MR. BRUCE: It will be quite brief.
10	CHAIRMAN FESMIRE: I assume it's Mr. Smith again?
11	MR. BRUCE: Mr. Smith.
12	CHAIRMAN FESMIRE: Mr. Smith, you've been
13	previously sworn, have you not?
14	MR. SMITH: Yes, sir.
15	CHAIRMAN FESMIRE: Thank you.
16	KENNETH MARK SMITH,
17	the witness herein, after having been first duly sworn upon
18	his oath, was examined and testified as follows:
19	DIRECT EXAMINATION
20	BY MR. BRUCE:
21	Q. Mr. Smith, would you please state your full name
22	for the record?
23	A. Mark Smith.
24	Q. And where do you live?
25	A. I live almost halfway between Hobbs and Carlshad

1	Q. Now, the two Devon cases involve a quarter
2	quarter section of land, the southwest quarter, northwest
3	quarter of Section 24 of 22 South, 30 East, and all my
4	questions are going to be with respect to that land. Are
5	you the surface owner of that tract of land?
6	A. Yes, I am.
7	Q. You own 100 percent of the surface?
8	A. No Well, I do of the 40.
9	Q. Of that 40. Now with respect to the mineral
10	rights, what fraction of the minerals do you own?
11	A. Well, that belonged to a fourth interest when we
12	bought the ranch in '58. They held a fourth interest in
13	it.
14	Q. Okay, so your sellers retained a fourth interest;
15	is that what you're telling me?
16	A. My dad and my brother and I retained a fourth.
17	I've got a sister, and she has inherited and I don't
18	know what the fraction is
19	Q. Okay.
20	A but we own three-fourths of it.
21	Q. Okay, you and your family members own three-
22	fourths of it
23	A. Right.
24	Q is that what you're telling me?
25	Mr. Gray testified about some leases, and one of

them was from -- of course from you and your wife, one is 1 from William C. Smith, and who is that? 2 That's my brother. 3 Α. And then one is from Laura Nell Glenn as trustee, 4 and who is that? 5 That's my sister. A. 6 Okay. And so those three leases cover the three-7 Q. fourths family mineral interest? 8 Yes, right. A. 9 And then the other lease that Mr. Gray testified Q. 10 about is a non-family member? 11 12 A. Right. Okay. And are you authorized today to speak on 13 Q. 14 behalf of your brother and sister, as well as yourself? Α. Yes, I am. 15 Have any oil wells ever been drilled on this 40-16 0. acre tract? 17 18 No, they haven't. Α. 19 Q. Has this 40 acres ever been leased for potash 20 mining? No, it hasn't. 21 Α. 22 Q. And again, how long have you and your family been 23 out on this property, owned this property? 24 In the fall of '58 is when I moved down there, 25 and I raised my family there, I lived there 39 years.

1	Q. Okay. Now you've leased this land to Devon
2	Energy. Have the potash companies since then approached
3	you about leasing the land for potash mining?
4	A. I don't believe so.
5	Q. Now you've reached agreement for with Devon
6	for development of the oil and gas under this acreage, and
7	do you wish to see Devon drill wells on your acreage?
8	A. Yes, I do.
9	Q. And is it your understanding that Devon is ready
10	to drill when and if it gets approval for these wells?
11	A. (Nods)
12	Q. And when I say you own the mineral rights, you
13	as well as the oil and gas mineral rights, you also, you
14	and your family, own potash mineral rights also?
15	A. That's right.
16	Q. Is it your desire as the owner of the potash
17	rights and the oil and gas rights to have the oil and gas
18	developed on this tract?
19	A. I'd like to have the oil and gas and the potash
20	too.
21	(Laughter)
22	Q. And you're not here today to be critical of the
23	potash company, are you, Mr. Smith?
24	A. No, we've been neighbors with them for 39 years.
25	Q. Okay. And Mr. Smith, if you don't know the

real .

1	answer to this you've heard you've sat through the
2	testimony today and you've heard talk about LMRs or life-
3	of-mine reserve areas. Do you know anything about those?
4	A. No, I don't.
5	MR. BRUCE: Thank you, that's all I have, Mr.
6	Examiner.
7	CHAIRMAN FESMIRE: Mr. High?
8	MR. HIGH: We have no questions, thank you.
9	CHAIRMAN FESMIRE: Mr. Carr?
10	MR. CARR: No questions.
11	CHAIRMAN FESMIRE: Commissioner Bailey?
12	COMMISSIONER BAILEY: No.
13	CHAIRMAN FESMIRE: Commissioner Olson?
14	COMMISSIONER OLSON: (Shakes head)
15	EXAMINATION
16	BY CHAIRMAN FESMIRE:
17	Q. Before you leave, you said you'd like to see both
18	of them developed. If you had to have only one developed,
19	which would you rather have developed? The oil and gas or
20	the potash reserves?
21	A. I don't have any idea what the potash is worth,
22	and I don't have any idea what the oil and gas it might
23	be a dry hole.
24	Q. But your preference would be the most lucrative?
25	A. Well, sure.

1	CHAIRMAN FESMIRE: Okay. I have no further
2	questions.
3	MR. BRUCE: That's it.
4	CHAIRMAN FESMIRE: Thank you very much, Mr.
5	Smith.
6	Mr. High, would you like to begin your
7	MR. HIGH: If I could take three minutes to go to
8	the men's room.
9	(Laughter)
10	MR. CARR: No, I object.
11	(Laughter)
12	CHAIRMAN FESMIRE: Overruling that objection
13	MR. HIGH: I will hurry, but I sure need to go.
14	CHAIRMAN FESMIRE: Okay.
15	(Thereupon, a recess was taken at 11:58 a.m.)
16	(The following proceedings had at 12:05 p.m.)
17	CHAIRMAN FESMIRE: Let's go back on the record.
18	Again, this is the continuation of the consolidated cases
19	13,368, 13,367 and 13,372. Mr. Charlie High, the attorney
20	for Mosaic, was about to present his first witness.
21	MR. HIGH: We would call Mr. Dan Morehouse.
22	CHAIRMAN FESMIRE: Mr. Morehouse, you've been
23	previously sworn; is that correct?
24	MR. MOREHOUSE: Yes, sir.
25	MR. HIGH: Before I start, Mr. Chair, if I may

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1	I'd like to follow Mr. Carr's example and substitute
2	exhibits. I have larger colored exhibits, the same ones we
3	e-mailed to you, but they'll be a lot easier to see and
4	deal with, if I may substitute these for the ones that we
5	filed with the Commission.
6	CHAIRMAN FESMIRE: Mr. Carr, Mr. Bruce, do you
7	have any objection?
8	MR. CARR: And how many exhibits do you have, Mr.
9	High?
10	MR. HIGH: Three.
11	CHAIRMAN FESMIRE: Thank you.
12	DANIEL J. MOREHOUSE,
13	the witness herein, after having been first duly sworn upon
14	his oath, was examined and testified as follows:
15	DIRECT EXAMINATION
16	BY MR. HIGH:
17	Q. Mr. Morehouse, would you state your name, please,
18	sir?
19	A. My name is Daniel Jerome Morehouse.
20	Q. And would you spell your last name for the court
21	reporter?
22	A. M-o-r-e-h-o-u-s-e.
23	Q. And where are you employed, Mr. Morehouse?
24	A. Presently with Mosaic Potash Carlsbad, Inc.
25	Q. And what's your position there?

I'm superintendent of mine engineering. A. 1 And what are your duties as superintendent of 2 Q. mine engineering? 3 Most relationships with the BLM and the State 4 Land Office, mine design, grade -- to some extent, grade 5 control where engineering could have some effect on it. 6 In 7 fact, all kinds of mining issues. All right. Tell us, if you will, your 8 Q. educational background, please, sir. 9 Α. I received a bachelor's in mining engineering 10 from Colorado School of Mines in 1978 and a master's in 11 12 industrial engineering from NMSU about 1984, if I remember right. 13 14 Q. And how long have you worked in the mining 15 industry? 16 Α. Since 1978 -- well, since 1975 in mining in 17 general. 18 And have you had experience underground as well Q. as on the surface? 19 20 Α. Yes, sir. 21 Q. Have you ever testified before either the OCD 22 Hearing Examiner or the OCC itself? 23 A. Yes, I have. 24 Q. And have you testified as an expert mining 25 engineer?

Α. Yes. 1 MR. HIGH: We would offer Mr. Morehouse as an 2 expert mining engineer. 3 MR. CARR: No objection. 4 MR. BRUCE: No objection. 5 CHAIRMAN FESMIRE: Seeing no objection, Mr. 6 Morehouse is so accepted. 7 (By Mr. High) Mr. Morehouse, explain to the 8 Commission, if you will, Mosaic's mining operations. 9 Mosaic began as a -- basically -- and IMC was the Α. 10 previous name -- back in 1938, sunk some shafts based on 11 information of potash that was discovered during oil 12 drilling in the area. They have mined there continuously 13 14 since 1939. We have approximately 3800 miles of drift open, a drift being a room approximately the size of this, 15 32 feet wide, eight foot tall, and 3500 miles that way. 16 We produce about 8 million tons a year of ore, 17 18 from which they get approximately 1.2 to 1.4 million tons of product. We have 500 -- over 500 people employed, about 19 20 250 of which are underground. Describe, if you will, the underground operation. 21 Q. What does the underground of a mine look like? How deep it 22 23 is and how do people get around in the ground? We -- Our mine currently has access to seven 24

vertical shafts, different locations around the mine, that

intersect with the underground openings. We have openings on four horizons, anywhere from -- the shallowest place of the shallowest horizon is about 650 feet deep, to the deepest being about 1400 feet deep currently, but headed on to the southeast it will continue to get deeper.

Manpower is allowed to go underground down these shafts. It's an electrical hoist that, like an elevator, lets them down, get off on the station, get on -- usually on diesel man-trips, is what they're called, a means of locomotion underground, where they'll drive out to the panels anywhere from three to eight miles away from whatever shaft they went down, to get to where they're going to do some mining.

- Q. Is the mining operation underground regulated by any governmental agency with respect to safety?
- A. Yes, we're extremely regulated by MSHA, Mine Safety Health Administration --
 - Q. And are they --

- A. -- part of the Department of Labor.
- Q. -- are they required to do any certain number of safety inspections every year?
- A. They make an inspection, on-site inspection, at least once a quarter. It's usually between one and a half and three weeks long, where they bring in two inspectors.

 They separate and go different ways for -- we get -- Once a

quarter we're inspected thoroughly.

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- Q. And are there regulations that Mosaic complies with dealing with the presence of methane gas in an underground mine?
- Yes, MSHA has a classification for our type of Α. mine. We're considered Category 4 gassy mine, and what that means is that we have experienced methane coming into our mine in the past, but it has never come in in a quantity -- a concentration that's capable of sustaining combustion. Typically, the connate gases that are near our horizon are primarily nitrogen with some methane present in It may have 10 percent methane in it. I'm not certain of the quantities, but everything else is nitrogen. You introduce it into a mine, you mix it with normal air. order to get combustion on methane, you have to get up to 5-percent methane with -- I think it's 18-percent oxygen; I'm not sure of the oxygen. But we've never been able to achieve that combination with the airs that do flow from our local existing gases.
- Q. So given those underground conditions in the potash basin, is the Mosaic underground operation classified as a gassy or a non-gassy mine?
- A. We're considered Category 4 gassy, but that -- in our terms, that means it's a non-gassy mine in that we don't have to comply with Schedule 33 requirements.

- 1 2

- Q. If methane in explosive quantities were discovered in the underground workings of Mosaic's potash mine, what could be the consequence?
- A. Well, depending upon the mode of discovery, if it was an ignition and some kind of explosion, it could be devastating immediately. If it's just discovered that we have that kind of a flow, MSHA is required to be notified. We would be inspected, and the would most likely determine, if it really was a flow and this really was happening, that we would be a gassy mine and have to start complying with their full gassy mine regulations.
- Q. And when you say complying with the full gassy mine regulations, what does that mean in terms of equipment, electrical, diesel-powered equipment, those sorts of things?
- A. Everything that's out by the last open breakthough, is the words they use, which means anything that's exposed to an exposure of -- a flow of this flammable gases has to be intrinsically safe, which means that if a -- like a piece of electrical equipment has to be sealed such that you can't expect to keep gas out of it, but if there's an explosion occurs inside that piece of equipment, it'll contain that explosion and will not ignite the exterior atmosphere. It's an extremely expensive --
 - Q. Let's contrast Mosaic's underground operation

with Sego Mine or some other underground coal mine. Just tell us briefly the difference between those two operations.

- A. Gee, world of differences. They're required to maintain their belt lines in a separate air split.

 Currently we keep our belt lines on the return. We wouldn't be allowed to do that anymore, we'd have to redesign our ventilation system. All the equipment that drives to the face would have to be, like I said, intrinsically safe, all the power equipment, transformers, switch gear, BCBs, would have to be made intrinsically safe.
- Q. What is it about a coal mine that creates that explosion hazard?
- A. It is -- Methane and coal dust are the two explosives that are available to the coal mine.
- Q. And in the potash basin, the presence of methane is not in explosive mixtures?
 - A. That's correct.

- Q. Is that risk changed if you have an oil and gas well close to the mine?
- A. If you -- Just having a well close by changes the risk only in that currently -- or over the eons, there developed a seal to keep the petroleum products below the salt. That's why the traps are there and why the oil and

gas is available. And these penetrations do alter the 1 situation, the current condition. And having a gas well 2 there may not introduce gas to us, but then it may. So the 3 risk of it is increased. Now -- Did I answer the question? 4 Is there a difference in risk between a deep gas Q. 5 well and a Delaware well? 6 Α. Yes. 7 Which one presents the greatest risk? 8 Q. Deep gas is more terrifying to us. 9 Α. Let's direct your attention to Section 24. First 10 Q. let me ask you to look at Mosaic Exhibit Number 1, which is 11 the map -- the BLM map --12 Α. Actually, I've got exhibit numbers written on 13 there, so... 14 15 Q. Oh, do you? Where? Well, I don't on that one. But the other two 16 have 1 and 2 written on them, down there in the --17 18 Q. Oh, I see, okay. Well then, let's call the one where in the key box -- what do you call it, under Mosaic, 19 20 I see one says Exhibit 1, Mine Plan and LMR? 21 A. Yes. All right, let's call that Exhibit 1. 22 Q. And there's another one, to the right of Mosaic, 23 24 Existing and Proposed Well Locations, Exhibit Number 2. Let's call that Number 2. 25

And then we'll call the last one, which is the 1 BLM Map, Exhibit Number 3. 2 All right, let's start, then, with Exhibit Number 3 3. What is that? 4 That's --5 Α. CHAIRMAN FESMIRE: Mr. High, does the court 6 reporter have a copy of these exhibits, labeled correctly? 7 8 MR. HIGH: Yes, sir, he does now. My apologies. THE WITNESS: This is a -- just a reprint of the 9 exist- -- of the BLM's measured ore, enclave map, we call 10 it over the years. It's probably somewhat behind. They 11 have a work map they work from down there, that we don't 12 get access to all the time, but it's --13 (By Mr. High) But this is public information? Q. 14 Yes, this is what's publicly available. 15 All right. If we look at this -- I'm sorry, did 16 you say this is a reproduction of what BLM has available to 17 18 the public? 19 A. Yes. 20 If we look at Section 24 on here, the Q. section involved in this particular case, can you point out 21 22 where that is on this particular exhibit? 23 If you see the WIPP site area, the 16 sections A. 24 involved with WIPP, it's immediately west of there. 25 the second one from the top.

1	Q. Just to the left of the green thing sticking up
2	inside of WIPP?
3	A. Yeah.
4	Q. Okay. And according to the BLM, the entire
5	Section 24 is measured ore?
6	A. That's correct.
7	Q. Now can you also point out to us on this
8	particular exhibit Section 7 that's involved in this case?
9	A. If you go to the southwest corner of WIPP, not
10	the first section south of there but the second one, is
11	Section 7.
12	Q. So if we go to the southwest corner of WIPP, that
13	says Section 31, the one immediately below it is Section 6?
14	A. That's correct.
15	Q. And then the one below that, Section 7?
16	A. That's correct.
17	Q. And that's the section that's involved in this
18	case?
19	A. That's right.
20	Q. And what's the green line?
21	A. That's the outline of Mosaic's held leases,
22	potash leases.
23	Q. So is Section 7 within Mosaic Potash's lease,
24	with the exception of that little area in the northeast
25	corner?

1	A. Yeah, 600 acres of the 640 is ours.
2	Q. Okay. And is Section 24, Mosaic does not have
3	a lease on, right?
4	A. That's correct.
5	Q. But the adjoining section it does?
6	A. That's correct.
7	Q. Okay. Now tell us what Exhibit Number 2 is,
8	please, sir. I'm sorry, Exhibit Number 1.
9	A. Exhibit Number 1, our mining plan and LMR. It
10	was just to get kind of an updated view of what our mine
11	plan looks like now. As been noted, it's different than
12	our 2004 one.
13	Q. When was the LMR shown on Exhibit Number 1 filed
14	with the State?
15	A. It's filed every year, and most recently in
16	January of this year, 2006.
17	Q. That's in January, 2006?
18	A. That's correct.
19	Q. Okay. And so this LMR is on file in the State
20	Land Office?
21	A. Yes.
22	Q. All right, and did you prepare Exhibit Number 2
23	I'm sorry, Exhibit Number 1?
24	A. Yes, I did.
25	Q. And explain to us what that shows, please, sir,

other than the LMR.

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- A. There's some mine working shown to the southwest on this thing, outlined in red. There's -- the langbeinite level mine plan is what you see as shaded-in areas with dates written --
- Q. Stop there for a minute. Explain to us langueinite and the other ores that Mosaic mines.
- A. Okay, we -- like I was saying before, we mine from four -- we have mined from four different horizons, currently we mine from three. The fourth ore zone, we call 850 level, is the langbeinite level. It is what you see outlined in red, the open workings are outlined in red.

 And the future mining for the langbeinite level are these shaded areas to the -- on the south end of this thing, and there's a little bit up on the northwest side.
 - Q. When you say shaded, is that the orange-looking and the brown --
 - A. Yes.
- 19 Q. -- colors?
- 20 A. Yes.
- Q. That's the mine plan for langueinite?
- 22 A. That's correct.
- 23 Q. Okay.
- A. And there's just a little bit of black outline shown on the west edge of the map. That's just a little

bit shown in of the 700 level, another horizon we've mined
on. And the open wire-frame-type boxes at the very top of
the page are the 700-level sylvite mine plan numbers
currently.

Q. All right. And this is the mine plan that was

- Q. All right. And this is the mine plan that was filed in January of 2006?
 - A. That's correct.
- Q. And it shows that Mosaic will be mining in Section 23 -- 22, 23, 26 and 24?
- A. Yeah.

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- Q. How do we know the dates of that mine plan? When are you going to be where?
- A. In some ways mining is a little bit like oil and gas in that you don't always know what you're going to get when you get there. And we're mining west on the sylvite level, coming into -- What is that? Section 27. That was our mine plan two years ago. It kind of petered out.

 We've turned it, and currently we're mining up into Section 22.
- Q. So you're currently in Section 22, which is the top section at the left -- top left of the document?
 - A. That's correct.
- 23 | Q. Okay.
- A. And a year from now the mine plan may -- You're asking when we're going to get --

1	Q. Right.
2	A. We make our best guess at normal mining rates and
3	where we think we're going to be going and put it on a map,
4	and then when we get out there and we get stopped for one
5	reason or another, we come up with another plan.
6	Q. Do you have an estimate of when you would be
7	mining in Sections 23 and 24?
8	A. Yes, it's on here.
9	Q. Where would it be?
10	A. It's those little black boxes that can't hardly
11	be read.
12	Q. The little black boxes that you can't read?
13	A. Yes, sir.
14	Q. If we could enlarge that, we could tell What
15	is that? The date or the year, or what is that?
16	A. Yeah, it'll say something like Area 4 and the
17	year, 2008. And unfortunately
18	Q. You can't tell from this exhibit, though, what
19	that number is, right?
20	A. No, I can't.
21	Q. It would have to be enlarged more to see it?
22	A. Yes.
23	Q. All right. And what is Exhibit Number 2?
24	A. Exhibit Number 2 is the our knowledge and
25	I've got to admit, it's not always current or accurate

on the drilling in the area.

- Q. Did you prepare this document?
- A. I did.

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- Q. From what data?
- A. From all kinds of different data. I try to keep track of drilling from -- I get information from the OCD websites, I get information from the oil companies when they do write me saying they'd like to drill a well there and that we know it's not protested, we end up putting a well in, just anyplace somebody tells me about a well being there, I'll get it on the map.
 - Q. Okay. And this shows the wells in Section 24?
- 13 A. Yes.
 - Q. And then Section 7 would be down at the bottom right of this exhibit?
 - A. That's correct.
- 17 | Q. Okay.
- A. Variously the red dots are oil wells, the green star shapes are gas wells. The big, blue open things are APDs that I know of that have come out, not knowing -- but they've been a while back. The black are more currently active APDs, as far as --
 - Q. All right. Well, let's talk now about -- specifically about the two wells in Section 24.
 - A. Okay.

Is the proposed location of Apache Number 6 and Q. 1 Apache 7A within what you believe to be Mosaic's LMR? 2 They're inside a line that would be drawn to 3 include all lands that have grades that meet the 4 5 requirements of LMR. All right, let's look at Exhibit Number 1. If I Q. 6 go to the top of that document, in Section 24 there's a red 7 line that starts coming down it. 8 9 Α. Yes. Is that the edge of the LMR that Mosaic has on Q. 10 file with the State Land Office? 11 That's correct. A. 12 The LMR is which direction from that red line? Q. 13 It's everything west of that line. 14 So if we wanted to color your LMR, we'd color 15 Q. everything from the left side of that red line? 16 That's correct. 17 Α. 18 Q. So the location shown -- the little blue square in Section 24, which by the legend shows it to be fee land, 19 20 and the location of these is at least drawn in what you say is the LMR? 21 That's correct. 22 Α. 23 So your LMR -- And let's assume for a minute that 0. the fee land itself is not in the LMR, let's put that 24 25 aside.

1	A. Okay.
2	Q. The land on all four sides of the 40-acre section
3	would be within the LMR that Mosaic has on file?
4	A. Yes, this is the LMR we have on file, that's
5	correct.
6	Q. Okay. And currently we have a lease, what, in
7	Section 23? And how about the south half of 24? Do we
8	have a lease there?
9	A. No, we don't have any lease in 24. We have all
10	of 23 and the south half of 12 or no, 14, just north of
11	23.
12	Q. Okay.
13	A. We have all of 26, most of 25. It's on the
14	Exhibit 3.
15	CHAIRMAN FESMIRE: Mr. High, may I interject a
16	question here while you're
17	MR. HIGH: Yes, sir, you sure can.
18	CHAIRMAN FESMIRE: I think this is one of Mr.
19	Carr's major points, but Mr. Morehouse, in the oil business
20	if you start booking reserves where you don't have a lease,
21	folks look at you a little askance.
22	THE WITNESS: Uh-huh.
23	CHAIRMAN FESMIRE: How can the potash industry
24	declare that the life-of-mine reserves extend under lands
25	 where they don't have a lease?

THE WITNESS: Life-of-mine reserves is defined as 1 a height and a grade, and that's the way we've drawn them, 2 and then OCD is so far the only people that do use the LMR 3 line, use it and restrain us to on-lease. The BLM doesn't 4 use LMR but uses an indication of where we think ore is. 5 It's an indication of where ore exists. It is not booked 6 as reserves in our 10K reports as our financial base for 7 8 having reserves, but it is reserve-quality materials. 9 CHAIRMAN FESMIRE: Okay, so the LMR, the life-ofmine reserves, there is no claim that those reserves 10 actually belong to you; it's just a potential --11 12 THE WITNESS: The only --CHAIRMAN FESMIRE: -- mining area? 13 14 THE WITNESS: The only restriction to it 15 belonging to us was the OCD ruling in the Snyder Ranch case. And we have made application for lease on Section 16 17 24, so it's -- even though it's not our lease, it's under 18 application. 19 CHAIRMAN FESMIRE: When you say you've made 20 application --21 THE WITNESS: With the BLM. 22 CHAIRMAN FESMIRE: -- have you made application 23 to Mr. Smith and his family? 24 THE WITNESS: No. All federal parts of it. 25 did have a short discussion with Mr. Smith about it, but

since we're in the midst of this, we decided -- both decided it was best to just wait till this was all over and then see where we're at.

MR. HIGH: We -- And just for further clarification, we are required to file all core hole data with the BLM and show them the outline of where we believe ore is. Regardless of who leases -- whether it's leased or not, we have to show that and share it with the BLM, to what we think is ore. And then if we come up mining on an area that's unleased, BLM can order us to go ahead and mine it. So we don't -- under BLM regs, we cannot limit what we show the BLM, just a lease plan.

But -- So this LMR doesn't mean we lease it; it just shows what the data shows to be ore out there.

THE WITNESS: And on Exhibit 3, if you see immediately west of Section 24, in Section 21, that's an unleased area where we recently was mining and came up to the edge there, and ore was continuing, and we did cross unleased land there with BLM permission, and on into 22.

- Q. (By Mr. High) With respect to the Section 23, then, Mosaic's lease would include all of Section 23?
 - A. Yes.
- Q. And this LMR would also include all of Section 24 23?
- 25 A. Yes.

Which would mean if the proposed Apache Number 6 Q. 1 is 660 feet from the west line of Section 24, it would mean 2 that that well location would be 660 feet from the edge of 3 Mosaic's LMR? That's correct. Α. 5 And if the Apache 7A were in the northeast corner 6 0. of the blue box in Section 24, it would be roughly 1100 7 feet, or whatever it is, from Mosaic's LMR? 8 Α. Yes. 9 What is your understanding, Mr. Morehouse, of the 0. 10 right of an oil and gas operator to drill within a quarter 11 or a half mile of Mosaic's LMR? 12 My understanding of R-111-P is that no well will 13 be allowed within a half mile or quarter mile of an LMR, 14 depending on the steps, without the express consent of the 15 LMR owner. 16 17 That if a proposed well is within an LMR or a Q. 18 quarter mile or a half mile of an LMR, that well should not be allowed under R-111-P without that leaseholder's 19 20 consent? That's correct. 21 Α. 22 Where, then, there's no need to object to it? Q. That's correct. R-111-P is written such that --23 24 my understanding of it is that an objection -- no objection 25 means the OCD can move ahead with wells outside the buffer

zone without any further thought. But within that, we 1 still have to have some kind of agreement arrived. 2 These two wells, Apache 6A [sic] and 7A, then, 3 Q. according to your interpretation of R-111-P, would have 4 been within the area of the LMR where no objection was 5 required from Mosaic? 6 That's correct. Α. 7 Now, if these two wells are allowed, Mr. 0. 8 Morehouse, have you done any calculation on the amount of 9 potash that they would waste? 10 Yeah, I've done some notebook-type calculations 11 A. 12 on --Would you share with us -- We know from Exhibit 13 14 Number 3 that according to the BLM, the entire Section 24 is measured ore? 15 A. Yes. 16 Explain to us, if you will, what impact the 17 Q. drilling of these two wells would have on potash in that 18 particular area? 19 20 Well, the drilling of the oil well without the drilling of the gas well would impact some, but I didn't do 21 any calculation on that. I based my calculations on the 22 23 gas well alone, because it umbrella'd anything that the oil

well would have.

Why is that?

Q.

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The deep gas well has a half-mile buffer to it, Α. 1 and the shallow Delaware has only a quarter-mile, in our 2 opinion. 3 And that comes from R-111-P? 4 It's included in the R-111-P, and it's kind of a Α. 5 historical rule of thumb for maintaining distances. 6 All right. And do you know whether or not those Q. 7 same distances, those being a quarter mile and a half mile, 8 are also contained in the 1986 Secretarial Order that 9 governs the federal land in this area? 10 I believe they are. 11 A. All right. Go ahead and explain to us, if you 12 13 will, the amount of potash that will be wasted if these 14 wells are allowed. Well, drawing a half-mile-radius circle around 15 16 7A, on the 10th ore zone I got about -- just under five 17 foot of height, average, at something in excess of 11 18 percent sylvite. I took the lower end of my grade charts. 19 And including all lands, including the fee lands to which we have no right to mine, but just all lands, it 20 21 came to approximately \$56 million worth of potash, or about .6 years of mining for Mosaic. 22 23 Or another way of looking at it was about 300 man-years of labor. 24

So that would give 300 years of work for one

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Q.

person? 1 Α. Yes. 2 Now I want to go back and make sure everyone 3 Q. understands how this calculation is determined. You took a 4 half-mile circle around the physical -- the surface 5 location of 7A? 6 Yeah, half-mile radius, one-mile diameter. 7 A. And that half mile is what, a safety buffer? Q. 8 Yes. Α. 9 And you then, what, calculated the ore inside 10 Q. that half-mile core which could not be mined because of the 11 presence of that deep gas well? 12 13 I calculated the ore present and the expected 14 recoveries and extraction and the grade, and I came up with 15 a gross value. Okay, and that was \$56 million? Q. 16 For the entire circle, yes. 17 Α. How much of that -- Well, let me back up first. 18 Q. 19 Was any of the ore that would be wasted in Section 23? 20 Α. Yes. So the amount of ore -- When you do the 21 Q. 22 calculation for the half-mile buffer zone around Apache 7A, that half-mile safety buffer zone also wastes ore in 23 24 Section 23 where Mosaic has a lease? 25 That's correct. A.

How much of the \$56 million, if you know, is ore Q. 1 that's wasted in Section 23, as opposed to on the 40-acre 2 area? 3 Well, the way I calculated it, I used Section 23 4 and 14 just north of there, because it wasted on both of 5 them. But on Mosaic's leases, it came out to \$23 million 6 on Mosaic lands. 7 So it's \$23 million of the \$56 million would be 8 losses on leases held by Mosaic Potash? 9 The actual numbers would probably come a Yes. 10 A. little higher. I was being conservative. 11 12 So is it your testimony, Mr. Morehouse, that if 13 the Apache 7A well is allowed on this 40-acre parcel in Section 24, that the impact of that well will exceed beyond 14 the boundaries of the 40 acres? 15 The impact will exceed beyond the boundaries for 16 17 sure, yes. What would be wrong with -- if anything, with 18 Mosaic mining right up to the west edge of the 40 acres, if 19 20 that deep gas well were 1100 feet away? 21 It can be done. If you mine in a manner where 22 you normally want to just extract ore, you do disturb a lot 23 of land. Full extraction means you're going to have 24 subsidence, which causes some kind of motion of the ground

If you get too close with too much extraction,

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around you.

you can break the well casing on your own.

If the casing wasn't properly installed, if the man that was putting the joint together at the collar got something cross-threaded and didn't quite get it started right, he could have a leak down there that would already be -- A leak can permeate through the salt horizon horizontally, and we don't have a good distance; we're using a half mile. But somewhere out there, we could run into this gas.

- Q. Is it reasonable, in your opinion, Mr. Morehouse, for a mine to mine up within 1100 feet of a deep gas well?
- A. It is entirely too much risk involved for us to assume that kind of risk and go do that.
- Q. And if Devon insists on drilling this deep gas well on this 40-acre plot, and the impact is beyond the 40-acre boundaries, would you expect Devon or someone to compensate Mosaic for the potash that would be lost as a result of drilling that well?
- A. I would expect we'd try to get some out of them, some kind of compensation. It condemns a right we have, a realty that we have.
- Q. Would Mosaic have any objection if Devon wanted to develop either the Delaware or the deep gas well on this 40-acre parcel with either a directional or a horizontal well from the west boundary of the WIPP area in Section 24?

1	A. No, we would have no objection. And we have	
2	discussed it with Devon in the past, that it would be	
3	wonderful if we could do that.	
4	Q. All right. Look at Exhibit Number 2, please,	
5	sir.	
6	A. Okay.	
7	Q. According to this exhibit you show three	
8	directional or horizontal wells in Section 24?	
9	A. Yes.	
10	Q. One is the Apache Number 9, I can't tell the	
11	numbers on the others.	
12	A. Yes, that's correct.	
13	Q. Would that indicate to you, Mr. Morehouse, tha	t
14	you can go a long way with directional or horizontal	
15	drilling?	
16	A. Yes, and it indicates to me the Delaware can b	е
17	developed horizontally.	
18	Q. And avoid the waste of \$56 million in potash?	
19	A. Yes.	
20	Q. All right, let's go down and talk a little bit	
21	about Section 7. And we've already Go back to Exhibi	t
22	Number 3, if you would, the BLM map.	
23	A. Yes.	
24	Q. The 40-acre spot in Section 7, do you see that	?
25	A. Yes.	

Where is that located with respect to the Q. 1 presence of measured ore going to the northeast of WIPP? 2 It's dead center of the --3 Α. So if --Q. 4 -- of the measured ore. 5 -- if a deep gas well is allowed on this 40-acre 6 Q. parcel in Section 7, there would have to be a safety buffer 7 zone there as well, correct? 8 Α. Yes. 9 What would that do to Mosaic's ability to access Q. 10 the ores south of WIPP and to the east of WIPP? 11 Cuts it off. Α. 12 Has Mosaic or any of the other potash companies 13 Q. had any dealings with BLM with respect to the future mining 14 of the ores to the north and east of WIPP? 15 Yes, back --16 A. 17 Has there been any discussions about access? Q. Yes, we've had a lot of discussions about access. 18 Α. Back in 1991 to 1994, approximately, we were trying to keep 19 20 this area open for mining in measured ore, and we were --21 since WIPP had been withdrawn, we were trying to keep a corridor open to go around the southeast corner of WIPP and 22 23 turn north to barren areas and to get back into mixed ores 24 there on the east side.

And Mosaic, in fact, has the lease on -- it looks

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Q.

1	like a piece of 2 and
2	A. 2, 3 and 4.
3	Q. And is that for access to the east side of WIPP?
4	A. Yes.
5	Q. And if the well in Section 7 is allowed, all that
6	effort with respect to access, what happens to it?
7	A. It puts a big obstacle in the way. I don't see a
8	way around it.
9	Q. So if Have you done a calculation on the
10	amount of commercial grade potash that would be lost if the
11	well is allowed in Section 7?
12	A. Only I've only looked at it as to what would
13	be lost immediately due to its circle of influence, not
14	what's lost beyond it, up around the corner, I didn't
15	Q. Okay, well
16	A get into that.
17	Q let's just stick with the safety buffer zone
18	that would have to be left if the well in Section 7 is
19	allowed.
20	A. Okay.
21	Q. Do you know how much potash would be lost or
22	wasted if that
23	A. Due to the previous two wells on either side that
24	leave a fairly small corridor through there currently,
25	there was an additional .66 million tons of 4-1/2-percent

1	lang. It's worth about \$11 million.
2	Q. So if the well in Section 7 is allowed, then
3	there will be about \$11 million in potash wasted?
4	A. Additional, over previous wasting, yes.
5	Q. Is that within Mosaic Potash's leases?
6	A. No, that was on and off, just everything outside
7	the two wells.
8	Q. Would Mosaic Potash have any objection if Devon
9	wanted to develop that 40-acre parcel using the pad of
10	James Ranch 14
11	A. No.
12	Q and drill either a horizontal or a directional
13	well?
14	A. No, we'd love that too.
15	Q. Would that, then, keep open Mosaic's access to
16	the ores to the south and east of WIPP?
17	A. Yes.
18	Q. Mr. Morehouse, is there anything else that you
19	want to tell these Commissioners about your opposition to
20	why these wells should not be allowed?
21	A. It's hard to sit over here and come up with new
22	ideas.
23	Q. I'm just going to give you the opportunity, if
24	you want to add something that I haven't covered.
25	A. Not really. We fully feel that an LMR if,

say, Smith Ranch was a potash operation, they would have 1 their own LMR on their land. 2 Let's just talk about Intrepid and Mosaic. If we 3 butt up against each other, we'll both have LMRs, and 4 they'd go right to our property lines. And I guess it 5 could be considered a weapon where Mosaic would allow an 6 oil and gas operator to put a well down on our lands 7 immediately adjacent to Intrepid in order to condemn a 8 large portion of their reserves, but I don't think it would 9 10 be allowed. I mean, I don't think even you guys would allow that. 11 And a fee owner is in a similar situation. 12 13 got an LMR that he can either protect or not, we've got our LMR that we need to protect, and the buffer zones are 14 around those legitimate LMRs. 15 Thank you, sir. We pass the witness. 16 MR. HIGH: CHAIRMAN FESMIRE: Mr. Bruce? 17 18 MR. BRUCE: Just a second, Mr. Chairman. 19 CHAIRMAN FESMIRE: Would you like Mr. Carr to go first? 20 21 MR. BRUCE: Yeah, why don't you let Mr. Carr go, and that will probably reduce any questions that I'm going 22 to --23 CHAIRMAN FESMIRE: 24 Okay, Mr. Carr? 25 MR. BRUCE: -- ask.

1	CROSS-EXAMINATION
2	BY MR. CARR:
3	Q. Mr. Morehouse, how long have you been with IMC or
4	Mosaic?
5	A. Hired on in 1978.
6	Q. Were you involved in any of the efforts or
7	negotiations to develop Order R-111-P?
8	A. In a broader sense. I wasn't one of the
9	committee members, but I was involved.
10	Q. Would you agree with me that it was a compromise
11	effort to try and enable both industries to develop their
12	resources in this particular area?
13	A. Absolutely.
14	Q. And you would agree with me that both Bass and
15	Devon have a right to go out and develop the oil and gas
16	that they have under these tracts?
17	A. With the only exception being, not develop any
18	way they want to.
19	Q. But they do have a right to develop those. Would
20	you say that Mr. Mills and Mr. Smith also have a right to
21	develop the oil and gas?
22	A. That's correct.
23	Q. As to Mr. Mills and Mr. Smith, they also have a
24	right to decide how the potash is going to be developed
25	under that

Yes, they do. 1 A. -- isn't that fair to say? 0. 2 I think we're in agreement on this, that both of 3 the 40-acre fee tracts that we're talking about here today 4 fall west of the LMR line and are in the LMR area. 5 6 you agree with me on that? Both of the tracts? 7 A. Both 40-acre tracts are --8 Q. In what I'd consider good ore --9 Α. 10 Q. And ---- quality ore. 11 Α. 12 And they are based on your line of the LMR, in Q. 13 the LMR area --14 A. Yes. -- is that right? 15 Q. That's correct. 16 A. Mr. High was asking Devon witnesses if -- when 17 Q. 18 they develop oil and gas, do they consider the impact their plans will have on the potash industry? So I want to ask 19 you the same question. When you're developing potash 20 21 reserves, do you consider what impact your activities would 22 have on the oil and gas industry? 23 Α. Yes. 24 And how do you do that? Q. 25 Α. Well, once a well is there we have to consider

what our mining will do to that well, and that's this halfmile, half-mile stuff.

- Q. I mean, is that half-mile radius to protect the oil and gas operator? Is that what you're telling us?
- A. It's really about a depth of ore plus 10 percent, would be to protect that oil operator. And that depends on the depth that we're mining at. So in a place where we're 1400 feet deep, it's about a quarter mile --
 - Q. The --

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- A. -- to protect the casing.
- Q. The core that you leave around a well, is that set by regulation, how much you have to leave around a wellbore?
 - A. Not anywhere I'm aware of.
 - Q. That's a decision that you at Mosaic make?
- 16 A. Yes.
- Q. Have you ever mined closer than a half mile to an oil and gas well?
- 19 A. To an oil and gas well.
- 20 Q. To an oil and gas well.
- A. We have mined closer than a half a mile to dry
 and abandoned wells that were drilled back in the 1920s and
 '30s that were no-shows.
- Q. Do you know of other operators who've ever drilled closer than a half mile to an oil or a gas well?

1	A. I don't know of anybody that's drilled any closer
2	than that to a gas well.
3	Q. Up in the Eddy potash area, didn't they actually
4	even
5	A. They
6	Q hit a wellbore at one time
7	A. Yeah, but they
8	Q they were that close?
9	A not a gas well. I think they went over and
10	they did They were trying to mine within 250 feet, if I
11	remember right, of shallow Yates formation oil wells, yes.
12	Q. Now
13	A. Back in the 1950s and 1960s, before MSHA and
14	gassy mines and all of the all of this regulation.
15	Q. Now you've commented on directional drilling and
16	that you think that would be a viable tool. Do you have
17	any expertise in directional drilling?
18	A. Absolutely none.
19	Q. Any expertise in horizontal drilling?
20	A. No, not a bit.
21	Q. Do you understand that to develop these resources
22	with a directional horizontal well would increase the cost
23	of developing the oil and gas resources?
24	A. In some cases I'd say that would be true. Like
25	in Section 24. I imagine the cost to have increased that

horizontal well at the time they were drilling it would 1 have been very minor, to get the -- to get that --2 If horizontal drilling and directional drilling 0. 3 4 were used or required to develop these resources, to avoid the potash mine, would you think it appropriate that Mosaic 5 compensate the oil and gas operator for the additional 6 7 costs that they incur? I'm sure we would resist that. 8 And when you say that you're sure you would look 9 Q. and try and recover costs from the oil and gas industry --10 I'm sure you would resist that. Α. 11 12 Q. Thank you. 13 (Laughter) 14 MR. HIGH: Next stop. 15 (Laughter) (By Mr. Carr) Do you understand that with a 16 Q. 17 vertical well you're drilling straight down through all the formations on a tract? 18 19 Α. Yes. 20 And do you understand that with horizontal and directional wells that becomes more difficult? 21 22 Α. I understand you can't hit all your pays. have to pick the most productive pays for the area. 23 24 Q. And if we did that, we might have to leave some 25 reserves in the ground?

Some that you decided to leave, at least on Α. 1 federal lands in the same area, yes. 2 Now one thing I think we can maybe again both Q. 3 agree on, your industry is cost-sensitive? 4 Very. A. 5 Do you understand that the oil and gas industry Q. 6 is also cost-sensitive? 7 Α. Some years. 8 (Laughter) 9 CHAIRMAN FESMIRE: Mr. Carr, is that --10 (Laughter) 11 (By Mr. Carr) Are you an expert on what it would Q. 12 cost to horizontally drill four wells to produce a Delaware 13 zone, as opposed to producing with a vertical well? 14 Α. I am not --15 You do --Q. 16 -- qualified to --17 -- understand that the costs might impact the 18 Q. desire or the interest or the ability of a company to --19 I'm sure it would. 20 Α. Now I'm going to try and work on these exhibits, 21 Q. but I've made terrible notes on them. I think if we would 22 go -- I guess let's start with -- I believe it's Exhibit 23 Number 1 that shows the mine workings in orange? 24 25 Α. Yes.

This is similar to a map that you presented at 0. 1 the hearing in 2004; is that correct? 2 That's correct. Α. 3 And if we look at the area up in the northwest 4 portion of this exhibit in Sections 22 and 23, the blocks 5 that are outlined in red or orange, that's part of your 6 sylvite mine plan; is that right? 7 The ones that are like wire-frame boxes, yeah. 8 And has mining occurred in those at this time? 9 Q. No, nothing on this map, none of those on this 10 11 map. And in 2004, 18 months ago, you actually had 12 projected that mining would occur as close as a quarter of 13 a mile to the Devon tract --14 Yes --15 Α. 16 Q. -- isn't that right? -- at that time our -- what we call our Area 2 17 development was heading east in Section -- Get this right. 18 In Section 28, it was going to -- it was straight across a 19 20 kind of a low-grade area that pretty much covered a lot of Section 27 on this map, and it was widening back out in 26 21 22 and turning north, yes. There was a different plan going on, on this. 23 24 At this time are you pursuing active mining of

the sylvite in Sections 22 and 23?

We are actually mining in 22, we are in there Α. 1 mining. 2 And the exhibit doesn't have any dates as to when 3 Q. you anticipate getting to these zones, and I'm --4 Not good enough --5 A. -- I know from my --6 0. -- that we can tell. 7 Α. And I know from my experience of 18 months ago, 8 9 these change. Α. Yes. 10 But can you tell me when you estimate you might 11 be mining in the northeast of Section 23, or do you just 12 not know? 13 I don't recall the dates that we're going to be Α. 14 I'd just have to -- I believe it's probably 15 about four to five years away. 16 If we go down to the area where you show the 17 Q. orange, the -- on langueinite mine workings and the dates 18 19 on those --20 Α. Yes. 21 Q. -- those don't exist at this time, do they? That's correct. Well --22 Α. 23 How close --Q. -- some of it does, but --24 A. 25 Well, how much of this as shown actually exists Q.

today? 1 Well, if you look at the langbeinite, where it 2 shows the year 2006 -- and I guess it only shows in one 3 place, that's in Section 2 on the west edge, that's been 4 mined out already, that part of it. We were in there 5 mining and we figured out we'd finish out, and we did 6 finish out that time. 7 How close at this time do you have any active 8 potash mines to the 40-acre tract in Section 24? 9 Section 24. Α. 10 11 Q. Devon. 12 Approximately two miles --Α. 13 Q. And so --14 -- west southwest. Α. 15 And so we were thinking that you would be moving 0. in on a quarter of a mile 18 months ago. Now you're two 16 miles out? 17 18 Right. A. 19 If this trend continues, will you ever get there? Q. 20 Α. It'll always get there, but the plan always 21 changes, yes. 22 Q. Now if I look at this exhibit, Exhibit 1, the red 23 line that goes up and down, that is the buffer zone? No, it's the --24 Α. 25 I'm sorry, that's the --Q.

1	A LMR.
2	Q LMR boundary?
3	A. Yes.
4	Q. Now beyond that we also have two buffer zones; is
5	that right?
6	A. That's correct.
7	Q. A quarter of a mile for shallower wells and a
8	half mile for deeper wells, so
9	A. At least on State lands it's that way.
10	Q. Just on State lands?
11	A. When you go to federal lands, their rules are
12	different. They don't
13	Q. And they're not enforcing those buffer zones?
14	A. I don't know exactly how they enforce it. They
15	enforce a measured ore which is lower than LMR.
16	Q. If I look at this map and I compare it to, I
17	think, your map, Exhibit Number 3, it appears to me and
18	correct me if I'm wrong that in the area offsetting the
19	Devon well, no new leases have been acquired in the last 18
20	months; is that
21	A. No, not acquired, just applied for.
22	Q. And when you acquire those leases, that's the
23	first time you will have a right to actually develop
24	through those lands and develop the ore, correct?
25	A. We already have the right to go onto 23. That

will be the first time we'll be -- have the right to go on 1 24, yes. 2 You actually, though, if the BLM tells you you 3 0. can, can go ahead onto the acreage without a lease; isn't 4 5 that right? That's correct. 6 Α. But in that circumstance you do have an agreement 7 or authorization from the person who actually owns the 8 minerals; isn't that correct? 9 That's correct. 10 Α. And unless you could negotiate a lease with Mr. 11 Smith, you would never be able to acquire a right to mine 12 13 under the fee acreage that's --14 Α. That's correct. -- shown in Section 24? 15 0. Given his stated intention to do whatever is 16 lucrative, we could probably do something that would get to 17 it. 18 But it isn't lucrative until it's mined? 19 0. Yeah, and it's going to be a while before --20 A. And it won't be --21 Q. -- it's mined. 22 Α. 23 Q. -- mined until you get there? 24 Α. That's right. 25 Q. All right. If we go to Exhibit Number 2 --

1	A. Uh-huh.
2	Q I can see the red LMR line. There is also
3	sort of a blue squiggly line that comes down from the
4	northeast of the plat and moves across it. What is that?
5	A. That is a depiction I got of the BLM measured
6	ore.
7	Q. And what is the BLM measured ore? How does that
8	relate to the LMR?
9	A. They look at all mining horizons, not just the
10	ones we're mining currently. Anything that's at or above
11	four foot of 4-percent mining, 10-percent sylvite, or any
12	combination, is included, and only when there's three or
13	more wells within a mile and a half of each other to make
14	that ore zone a legitimate
15	Q. And when you say well, do you mean a
16	A. Core hole, yeah.
17	Q. You prepared Exhibit Number 2?
18	A. Yes.
19	Q. And you have a number of well spots that are
20	shown with large blue circles.
21	A. Yes, those are APDs.
22	Q. The APDs in Section 1 were approved, or Mosaic
23	agreed to those, did they not?
24	A. I think we would. I don't remember, but
25	Q. Are you aware that the BLM denied those?

and the state of t

A. I've been hearing that today, yes. 1 Some of the well symbols are in black. Why is 2 Q. that? 3 The blue meant APDs that They were more recent. 4 I knew about back when, and black kind of brings my 5 attention to those that I thought were more current. 6 Are you aware that the black well spot just north 7 0. of Section 7 has been denied by the BLM? 8 That would be 67? 9 Α. I can't read it on this exhibit. It would be --Q. 10 Okay, yeah --11 Α. -- due north, the black circle --12 Q. 13 -- yeah. A. -- above Number 7. 14 Q. I didn't know it was denied, but I would expect 15 Α. it to be, yes. 16 And then the well over in the southwest southwest 17 Q. of Section 6, also been denied? 18 19 A. Southwest southwest 6, okay. No, I didn't. 20 Q. And when you were calculating the value of the 21 reserves that would be lost at each of these wells --22 Α. Yes. 23 -- how did you make that calculation? Did you Q. bring it with you? 24 25 Α. Not really. Not over here, anyway. I might have

sketches, but -- I drew a half-mile circle around the gas 1 well that's James Ranch 14, and I drew a half-mile circle 2 around the well that's James Ranch 12, then I drew a half-3 mile circle around the new proposed hole, 93, James Ranch 4 93, and what wasn't already condemned by the previous two 5 wells I included in the calculation on --6 And you only included acreage within the LMR? 7 0. 8 Α. Anything that was ore, not on lease. I didn't 9 look at where it was leased or not. Okay, if that half-mile radius extended beyond 10 Q. the boundaries of the LMR, you didn't count any of that, 11 did you? 12 No. No, I did not include any tons for --13 Α. So that gives -- that gives me the area that you 14 Q. were looking at. Now how do we know what grade ore you 15 16 picked? I've got drill holes in the location. If you 17 Α. look at Exhibit Number 1, middle of Section 7, there was a 18 19 hole, I449 -- the 9 is cut off -- which is that green --20 the green hole, and there's a -- it looks like a 144. That's I449. 21 22 And where is that? Q. 23 Middle of Section 7 --Α. 24 Okay. Q.

-- just to the right of --

25

Α.

1	Q. All right.
2	A the number 7. That hole was six foot of 6.7-
3	percent sylvite, 5.7-percent lang., and I didn't take any
4	credit for the sylvite. Again, everything I did was trying
5	to be on the conservative side
6	Q. And so you were able to take an actual number for
7	the thickness and for the ore
8	A. Yes.
9	Q. Now, you've testified that that well sits right
10	in the middle of the access off to the
11	A. Right now we have an opening between those 14
12	and 12, that we can get through, to head on to the east.
13	Q. If that well had been moved to the extreme
L4	northwest corner of the 40-acre tract, would that have
15	given you more access?
16	A. If you draw a half-mile circle around it, these
17	40-acre plots don't make a whole lot of difference.
18	Q. And
19	A. And we did have discussions, Ken Gray, he did
20	come over and we talked about moving around. And as he
21	indicated, we didn't come to an agreement. We did say the
22	further north and the further west, the better, but you
23	still weren't anywhere of value to us.
24	Q. Well, if you move to the extreme northwest corner
25	of that tract and we could get an agreement with you and

approval from the BLM, you still would have some access on 1 the south end of the LMR, would you not? 2 We would have to get closer than half a mile to 3 two gas wells to get through that. 4 And -- How long have you had this half-mile 5 Q. boundary? As long as you've been mining out there? 6 Yes, since I've been there. 7 Α. Is your technology improving to give you a better 8 Q. 9 handle on mine safety --It really isn't our technology that worries us, 10 Α. it's the oil and gas's technology. But no, we don't have a 11 -- Other than going to gassy mine equipment, that's the 12 only change of technology that allows us to mine an area 13 that we think gas may be present. And we are resisting 14 15 that. That's a couple hundred million dollars' investment, in our mind. 16 17 To access --Q. 18 To go gassy mine. Α. 19 Q. To access maybe \$50 or more million on the other 20 side of the well? 21 Α. Yeah. 22 0. Is that right? 23 A \$200-million investment to -- just to -- yeah, 24 to continue mining, once we decide we're going to --

Did you say 200 or 2?

25

Q.

\$200 million. Or more than that, it was in Α. 1 excess of that. 2 If we go back to Exhibit Number 1 for a minute 3 and we look in Section 24, that 40-acre fee tract seems to 4 be only 300 or 400 feet to the west of the LMR line; is 5 that correct? 6 That's correct. 7 And as you move toward the LMR line, is it fair 8 to assume that the quality of the potash declines as you 9 10 get toward that line? That would be our expectation, yes. 11 And in your calculations of the reserves that 12 would be lost there, did you take that into effect as well? 13 Yes, I averaged three holes around there -- Well, A. 14 let's see if I've got it here. And I picked a -- I 15 actually have a contour map drawn with all the wells and 16 the location, and it Kriegs it and makes a depiction, and I 17 took the center of the area visually and said, Okay, the 18 grade is what it is right there, and that's where I got the 19 20 11 percent --And did you exclude anything that fell on the 21 other side of the LMR line? 22 23 A. Yes, I excluded everything outside the LMR line. 24 Now, the way you're interpreting R-111-P, isn't

it really locking Mr. Mills and Mr. Smith out of the

25

1	ability to produce their reserves?
2	A. I'd say no.
3	Q. They can't on their own produce the potash?
4	A. No.
5	Q. And you're not going to be there for some time?
6	A. And they can't on their own produce the oil,
7	right.
8	Q. And in the meantime, if they need a vertical well
9	to produce those reserves, you're objecting to those?
10	A. Yes.
11	Q. Even though you don't own anything under that 40-
12	acre tract; is that right?
13	A. That's correct.
14	Q. And so aren't you in essence telling them they
15	can't develop their minerals as in a prudent fashion?
16	A. Devon could have developed their Delaware, or a
17	portion of the Delaware, in the last year, but chose not
18	to
19	Q. But you've heard that you couldn't develop
20	A so we're not the only one telling them they
21	can't do it, yeah.
22	Q. But Devon has proposed drilling a vertical well
23	to hit all of the zones in the Delaware and the deeper
24	zones as you go down
25	A. Yeah.

1	Q correct?
2	A. And what you're saying is that that is not
3	acceptable to you?
4	A. I think to drill to worry about the multiple
5	zones that typically aren't what do you call it in the
6	oil company business? completed in. They're not
7	they're a lot of the zones you're talking about are
8	things they don't normally complete in, in this area. They
9	know what the pays are in this area. I think they can hit
10	the pays they're after.
11	Q. And is this something that you're an expert on?
12	A. I'm not an expert on it.
13	Q. Any more than I could tell you what zone you
14	ought to mine?
15	A. That's a fact.
16	MR. CARR: That's all I have, thank you.
17	CHAIRMAN FESMIRE: Mr. Bruce, are you ready?
18	MR. BRUCE: Yeah. Before I begin, let me hand
19	out a handcrafted exhibit, Mr. Chairman.
20	CHAIRMAN FESMIRE: I'm assuming this is a
21	rebuttal exhibit?
22	MR. BRUCE: Yeah, I want to ask some questions.
23	I've marked it, I don't know if it's going to be admitted,
24	but I just want to ask some questions. And what I've done,
25	Mr. Examiner, is taken Devon Exhibit Number 2 and drawn a

half-mile-radius circle around the deep gas well that Mr. 1 Morehouse was testifying about, and I just want to ask him 2 some questions on that. 3 **EXAMINATION** 4 BY MR. BRUCE: 5 But before we do, Mr. Morehouse, just ignore the 6 Q. wells for now, and go to the south half of Section 14 and 7 assume you are mining in the south half of Section 14. And 8 let's say you were heading northward, and your leasehold 9 ends at the half-section line; is that correct? 10 Currently, yes. Again, that's part of what we A. 11 applied for with Section 24. 12 If you were mining northward through the 13 0. Okay. south half of Section 14, how close can you get to that 14 half-section line in your normal mining operations? And 15 16 I'm not talking about --Α. Fifty feet. 17 Fifty feet. Okay, so you have the technology to 18 0. 19 measure so that you know when you're 50 feet away from that half- --20 21 Α. Yes. -- -section line? 22 Q. 23 And with respect to Mr. Smith's property -- well, 24 you said that -- With respect to the BLM and the LMR data,

you justified that, or you had the data to justify that to

25

1	the BLM?
2	A. Yes.
3	Q. Have you ever submitted any of that data to Mr.
4	Smith?
5	A. No.
6	Q. Have you ever requested that he agree to include
7	his land in an LMR?
8	A. No.
9	Q. And looking at Mr. Smith's property, there is
10	absolutely no place within his property that a Delaware
11	well could be located
12	A. Other than
13	Q which would be
14	A. Other than in the Delaware.
15	Q. Other there is no If there's a quarter-mile
16	buffer zone for the Delaware, there's no place in that 40
17	acres that could be outside of that buffer area?
18	A. Only by doing extending the horizontal well
19	they had down there, that's the only way I see they could
20	do that.
21	Q. It's just physically impossible with the
22	distances and the size of the acreage involved?
23	A. Physically impossible to do a vertical well on
24	that 40 acres.
25	Q. Okay. Do you at this time, Mosaic, have a potash

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lease on the southwest quarter of Section 24?
1
               No.
          Α.
2
3
          Q.
               No, okay.
               I was wondering, what is that haching to the
4
     right?
5
               Mr. Morehouse, if you look, the -- and this was
6
          0.
     Mr. Gray's exhibit, the northwest-to-southeast was supposed
7
     to be potash leases, and the northeast-to-southwest haching
8
     is oil -- is --
9
          A.
               Okay.
10
          0.
               -- is unleased --
11
               Okay.
12
          Α.
               -- for potash.
          Q.
13
                So answering Mr. High's questions -- and if you
14
     could keep your Exhibit 1 in front of you at the same time,
15
16
     Mr. Morehouse --
17
          A.
               Okay. My lease maps don't show that being leased
18
     now.
19
          Q.
               Okay.
               You might prove me wrong.
20
          A.
               I -- you know.
21
          Q.
22
                (Laughter)
23
               And you were talking about the -- Devon's
          Q.
     proposed 7A well as the deep gas well --
24
25
          A.
               Uh-huh.
```

1	Q when you were calculating lost reserves, and
2	you talked about a half-mile radius, and I think with
3	respect to that half-mile-radius circle, you gave Mr. High
4	an answer of reserves you could not access of \$56 million;
5	is that correct?
6	A. No, not to 7. \$56 million had to do with Section
7	24.
8	Q. Section
9	A. It was \$11 million of immediate losses in Section
10	7.
11	Q. Okay, what about Section 24?
12	A. Twenty-four was \$56 million
13	Q. Okay.
14	A including fee lands.
15	Q. Okay. And at this point you don't have any
16	potash leases within Section 24?
17	A. No. And that \$56 million is everybody's money.
18	I'm talking what the BLM and what the landowner and
19	everybody it's the gross value of that
20	Q. Okay.
21	A mineral.
22	Q. Okay. Well, that makes my questioning easier.
23	At this point, then, there are no potash leases within
24	Section 24, and then that \$56 million total is assuming
25	it's leased and mined at some point?

Yes. A. 1 And even looking at your Section -- excuse me, Q. 2 your Exhibit 1, even if it was leased, at this point, 3 somewhere out in the distant future, if I recognize these 4 rectangles drawn on there, you wouldn't -- you don't even 5 have any plans to mine more than a small portion of Section 6 24? 7 This mine plan ended -- I don't know if it's a 8 ten-year plan -- certain of even that, but it ended at a 9 certain time period. It continued to the north and to the 10 east until we run out of reserves. 11 Q. It could? 12 13 Α. It could. 14 Q. If you ever mine it? 15 A. (Nods) And again at this point, you have no right to 16 Q. mine it? 17 That's correct. 18 A. MR. BRUCE: Thank you. 19 20 I have nothing further, Mr. Examiner -- Mr. 21 Chairman. 22 CHAIRMAN FESMIRE: Any more redirect? Mr. High? 23 MR. HIGH: Yes, please, just -- just very, very 24 few.

First I'd like -- I've just been reminded, I

25

forgot to move into evidence Mosaic's Exhibits 1, 2 and 3, 1 which I'd like to do at this point? 2 CHAIRMAN FESMIRE: Mr. Carr? 3 MR. CARR: No objection. 4 CHAIRMAN FESMIRE: Mosaic Exhibits Number 1, 2 5 and 3 will be admitted into evidence. 6 7 REDIRECT EXAMINATION BY MR. HIGH: 8 Mr. Morehouse, in doing the calculations on the 9 Q. ore, measured ore, to be wasted if these wells are to be 10 allowed, did you use a computerized program? 11 No. Well, the Krieging, the -- I looked at a map 12 on which we do contour lines of where we expect the grade 13 to be, and I used those to come up with a less than 14 computerized quess of what that represented. 15 16 Well, did you input the corehole data into a 17 computer program and then it printed out contours of those --18 19 A. Yes. 20 Q. -- ore grades? 21 Yes. Α. 22 Okay. And then from that, then, computer-drawn Q. 23 contours of ore grades, you calculated the potash that 24 would be wasted? 25 That's correct. A.

1	Q. And I want to be clear on one point that Mr.
2	Bruce was talking about. When you say if Apache's Well 7A,
3	which is the deep gas well in Section 24, is allowed, you
4	said it would waste \$56 million in potash. That is potash,
5	is it not, that we know is now in the ground in Sections
6	24, 23 and 13?
7	A. And on the 10th ore zone alone. There's more on
8	the 8th.
9	Q. All right. And if that well is drilled, then
10	there's \$56 million worth of potash that is wasted, that
11	will never be mined, whether it's leased or not
12	A. That's correct.
13	Q because of that existence of that well; is
14	that correct?
15	A. That's correct.
16	MR. HIGH: Okay, I believe that's all we have.
17	Thank you, Mr. Chair.
18	CHAIRMAN FESMIRE: Commissioners, do you have any
19	other questions of this witness?
20	EXAMINATION
21	BY COMMISSIONER BAILEY:
22	Q. Exhibits 1, 2 and 3 all have lines on them
23	concerning potash reserves, LMRs, BLM lands lines. And
24	none of them match up. The lines of the potash enclave in
25	Exhibit 3 don't match the BLM measured ore in Exhibit 2

That's correct. Α. 1 -- and then the LMRs are --2 Q. No. the LMRs are identical. 3 Α. -- a totally different critter altogether. 4 0. The LMRs are identical. 5 Α. Yes, but they are totally different critters from 6 0. 7 the --Α. -- from measured ore. 8 -- BLM measured ore. 9 0. That's correct. And the difference between the 10 Α. BLM's -- the blue map was printed back in, I think, about 11 12 1991, 1992, and what's on the outline of this thing is, there's a -- they've got it done at the BLM office in 13 AutoCAD form that we have access to, and that's what I 14 15 pulled over here, was just that line. It's not a pretty representation, it's just a line on a map, and that's 16 17 what's on here. They're more -- the working enclave map. 18 Q. Okay, can we assume that the area inside the LMR 19 is either richer or greater depth of potash than that 20 resource between the BLM measured ore and the LMR line? 21 You can assume that it's greater thickness or 22 grade, and --23 Q. Intrepid and Mosaic are the only potash companies 24 left down there, aren't they?

That's correct.

25

A.

1	Q. Is there a reason to keep the LMR confidential
2	anymore?
3	A. I might have to turn that back over to my lawyer.
4	MR. HIGH: Don't look at me, that's not my I
5	didn't get hired to answer that question. Quite frankly, I
6	don't know.
7	THE WITNESS: We have talked about this.
8	Personally, I don't see a reason for it being a big
9	problem, but corporate-wide they said, Well, that's our
10	we need to hang onto our knowledge of this so that Intrepid
11	doesn't see what we're shooting for, and
12	MR. HIGH: Well, there's also another issue too.
13	There's other potash leaseholds. Yates Petroleum and Pogo
14	Producing own potash leases. So there's a lot of other
15	people out there who own potash leases, that we may or may
16	not want to know where our line is drawn. So I mean,
17	there's some still some competitive reasons.
18	COMMISSIONER BAILEY: I'm just trying to make the
19	process easier and more enlightened for everybody
20	THE WITNESS: Appreciate that.
21	MR. HIGH: And I will agree with you, it's not
22	near as important now as it was 10 years ago, for example,
23	simply because of the consolidation in the industry.
24	COMMISSIONER BAILEY: That's really all I have to
25	sav.

1	CHAIRMAN FESMIRE: Commissioner Olson?
2	COMMISSIONER OLSON: No questions.
3	CHAIRMAN FESMIRE: And I have no questions.
4	Are there any further questions of this witness?
5	MR. CARR: No.
6	CHAIRMAN FESMIRE: Mr. Morehouse, I appreciate
7	it. I guess that's all we'll be needing you.
8	Mr. High, did you have any other witnesses?
9	MR. HIGH: We have no other witnesses. I would
10	like to make a request of the Commissioners.
11	CHAIRMAN FESMIRE: And that is, sir?
12	MR. HIGH: This case is of paramount importance
13	to us. It raises issues of very serious concern to us, and
14	I am going to ask the Commissioners for permission to
15	submit written briefs on the factual and legal issues
16	raised in this case, as opposed to closing statements,
17	which I know from long experience is the customary form of
18	doing things.
19	CHAIRMAN FESMIRE: Right.
20	MR. HIGH: This case, to me, is far more serious
21	than oral or closing statements, so we would ask the
22	Commission to indulge us in submitting a written brief.
23	CHAIRMAN FESMIRE: Are they necessarily
24	exclusive? Can we not call for
25	MR. HIGH: No, I

1	CHAIRMAN FESMIRE: Okay. Mr. Carr, would you
2	MR. CARR: If they're not exclusive
3	CHAIRMAN FESMIRE: have any objection?
4	MR. CARR: we won't object.
5	CHAIRMAN FESMIRE: Okay.
6	MR. CARR: If they are, we will.
7	CHAIRMAN FESMIRE: Well, I intend to offer
8	everybody a chance to make a closing statement today, and
9	written briefs and supplements of the record
10	Supplements of the record?
11	MS. BADA: (Nods)
12	CHAIRMAN FESMIRE: by the time the Commission
13	meets on the 15th. Okay.
14	MR. HIGH: 15th of June?
15	CHAIRMAN FESMIRE: Of June.
16	Mr. Carr, did you have a closing statement?
17	MR. CARR: I did have a brief closing statement.
18	May it please the Commission, as you know, we're
19	here trying to get Oil Conservation Commission approval for
20	three wells that Bass and Devon are proposing to drill in
21	the potash area, and we have pursued these locations trying
22	to comply with your Order R-111-P.
23	As we discussed earlier, R-111-P is a carefully
24	drafted document to recognize the needs of both industries
25	to develop these resources. And if you look at R-111-P, I

think you can see that it is not only carefully drafted in terms of the two industries, but there is another underlying theme, and that is, rights and obligations fall on people who own interests.

R-111-P isn't just a blanket shut-out for any industry or any party in an area. You have to own an interest. You have to be a lessee to designate an LMR, you have to be a lessee to drill a well or to authorize the drilling of a well in the potash area. And so before you just launch into the potash order, you have to recognize that there is an underlying ownership component.

You don't use the LMR to take someone's rights without compensation, that's not the intent. What you have is an order that addresses the rights of different people who own different rights in the same property.

And this committee recommended and this

Commission adopted the provision that said, and I quote,

Any application to drill in the LMR area, including buffer

zones -- the one-half mile, or the one-quarter mile that

Mr. High talks about -- Any application to drill in the LMR

area, including a buffer zone, may be approved only by

mutual agreement of lessors and lessees of both potash and

oil and gas interests. That's what the Rule says. And we

stand before you with those agreements in hand.

It seems to me that if you fail to recognize the

role of owning a right, then what you're doing is turning R-111-P into a tool that can be used to take the interest of someone else. And we think that would violate your duties, particularly to protect correlative rights, because not only do Devon and Bass have correlative rights, but so does Mr. Smith, and so does Mr. Mills. And we've been talking to you about the kinds of technologies that must be employed if their reserves are to ever be economically and prudently developed. And I don't think that can just be swept away because we're in an R-111 area.

The OCD, the Division, approved two of the permits and then withdrew those. And they withdrew them based on objections stated by Mosaic. And as to the Bass objection — the objection was, you can only drill when you have an agreement between the oil and gas operator and the potash operator. As to the Bass case, we have that.

The Mosaic objection to Devon's was based on a 2004 letter where they talked about their five-year plan, how they would be mining within a quarter of a mile within a year, maybe within 1100 feet of a wellbore. And now we come only 18 months later and find they're not a quarter of a mile, they're not a mile, they're not -- they're perhaps more than two miles. And the time just stretches out into the future before they will mine, if they ever do. And then after that, perhaps, we can come back, if it's

economically feasible, and oil and gas wells today.

I would submit the data shows today that neither of the objections raised were really appropriate, and none of them are supported by the record.

I would also tell you that if you look at the prehearing statement filed in this case on behalf of Mosaic, they talk about the prohibitions that come from drilling in a buffer zone, whether it's LMR or not. But the provision we're relying on says that it applies in the LMR or in the buffer zone. It applies to both.

The Noranda case, the first case where the Division ruled as we're asking you today, was a case in the buffer zone.

And then they come in and they opine about directional drilling and how directional horizontal drilling would be the answer, but the record is very clear that these have limited viability, and in reservoir like the Delaware with multiple zones, you simply cannot economically access the minerals, and if you can't, they will be less wasted.

We ask you to affirm the decision of the Examiner. We ask you to allow us to exercise the rights that we believe we're entitled to under Order R-111-P.

CHAIRMAN FESMIRE: Mr. Bruce?

MR. BRUCE: Well, Mr. Carr always says he'll be

brief. I'll be short.

I would just second Mr. Carr's comments and turn it over to Mr. High.

CHAIRMAN FESMIRE: Mr. High?

MR. HIGH: Very briefly. I think one of the central issues I'm hearing in this case is one that I think can be framed very simply.

Devon believes that a fee simple landowner has the right to develop its oil and gas interests on a 40-acre parcel without regard to the impact that that development has on adjoining mineral interest owners.

And that's just not true, that if you are going to develop oil and gas interests on a 40-acre parcel, if that development adversely impacts your neighbors on adjoining — the adjoining mineral interest owners here, as this one does, you don't have the right to do that. You may have the right to develop it, but not in the particular manner you have chosen. You can develop it under another alternative that does not adversely impact the adjoining mineral interest owners.

And if this Commission doesn't have the duty to do that, then what in effect it does, it allows the fee landowner to transfer that damage to people that are not causing it. The additional cost by drilling on this 40 acres, when it impacts the adjoining mineral interest

owners -- all that damage transfers to someone other than those benefiting from the oil and gas, and that's simply not right.

And Mr. Carr can talk about R-111-P all he wants to. It doesn't say what he says it says.

I negotiated R-111-P, I wrote the industry agreement, I was there. And I will tell you that the idea of fee land never came up. No one ever had a clue about how fee land would be handled under R-111-P. And when it did come up, in the Snyder Ranch case, we argued about how it was, we had one view of what it ought to do, and somebody else had another one. And the OCC made a -- or the OCD made a decision as to how it would be handled.

But that was never contemplated under R-111-P if what you would do if you had fee simple land, as opposed to State land or BLM land, which is -- what, 99-point-whatever-percent of the land down there. So there was never any consideration ever given to that.

But what R-111-P does say in unequivocal terms, that before you can drill within the LMR or a quarter mile or a half mile, you have to have that lessee's consent.

Mosaic Potash is right next to -- 660 feet from Apache Number 6, and 1100 feet from Apache 7A. It is within that quarter mile that R-111-P says you can't go there without Mosaic's consent.

I don't care if you have the consent of the fee landowner or not. They don't have a potash lease, they don't have an LMR. R-111-P speaks in terms of real things like potash leases, LMRs. That's what it speaks of. The only LMR anywhere around Apache 6 and 7A is by Mosaic Potash.

So R-111-P specifically says you can't drill there without Mosaic's consent.

We believe these APDs should be denied for an additional reason. It is clear as a bell to me, notwithstanding -- and the testimony you heard today -- You can drill a Delaware well horizontally and directionally. It's done over and over again. And we look at our exhibits, and we're looking at what -- I forget the final count, five, six or seven horizontal Delaware wells in Section 24, and we're hearing people say we can't do it? I just -- That is not true. They don't want to do it.

And instead, they want to drill these wells vertically and in the process waste \$56 million of potash, part of which is owned by Mosaic, part of which is owned by the BLM, part of which is owned by the landowners.

But this OCC has an obligation under the New Mexico Oil and Gas Act to protect potash. I don't care where it's located. If that potash is located on state land or fee land, the OCC has a statutory obligation to

protect it and not let it be wasted.

The drilling of these wells will waste potash. For that reason alone they ought to be denied, because to me it is very, very clear that the oil and gas owners on these two 40-acre parcels can, in fact, develop their oil and gas interests in alternative ways. It may cost a little bit more, but they still get to develop it.

But the potash leaseholder, Mosaic, ought not to have to bear millions and millions in dollars of loss, simply because Devon doesn't want to directionally or horizontally drill.

Technologically, the evidence, I think is clear.

And if you've kept up with it -- and I'm sure that you have
-- with directional drilling now, you can drill down here
and you can knock a stake out of the ground on the other
side of a river. I mean, you can do wonders with
directional drilling. So for them to say that they can't
directionally drill this, I submit, is just -- it's just -it's hogwash.

So we think because of the waste issue, if for none other, it ought to be denied.

CHAIRMAN FESMIRE: Okay. Are there any further comments on this case?

Okay. With that, we will continue Cause Number 13,367, 13,368 and 13,372 to our regular Commission meeting

1 Thursday, June 15th. The attorneys are invited to provide written 2 briefs and supplements to the record to the Commission 3 4 secretary by Monday the 12th at 5:00 p.m., so that the Commission has time to review them prior to the meeting on 5 6 the 15th. MR. HIGH: I take it that June 15th meeting is 7 not one at which we would be talking about any --8 9 CHAIRMAN FESMIRE: The only thing -- the only thing I anticipate happening in this case in the June 15th 10 meeting is deliberation by the Commission. 11 12 MR. HIGH: Thank you. 13 CHAIRMAN FESMIRE: With that, those three cases are continued to June 15th. 14 15 (Thereupon, these proceedings were concluded at 16 1:34 p.m.) 17 18 19 20 21 22 23 24 25

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Commission was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL June 7th, 2006.

STEVEN T. BRENNER CCR No. 7

My commission expires: October 16th, 2006