

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

APPLICATION OF MARBOB ENERGY CORPORATION
FOR AN ORDER AUTHORIZING THE DRILLING OF A
WELL IN THE POTASH AREA, LEA COUNTY, NEW MEXICO

CASE NO. 14026

JANUARY 24, 2008

1220 South St. Francis
Santa Fe, New Mexico

EXAMINER: DAVID BROOKS

ATTORNEY FOR APPLICANT:

OCEAN MUNDS-DRY, Esq.
HOLLAND & HART
Santa Fe, New Mexico 87501

WITNESSES: BRENT MAY and RAYE MILLER

EXHIBITS: 1 - 11

REPORTED BY: Jan Gibson, CCR-RPR-CRR
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1 EXAMINER BROOKS: At this time we call
2 14026, the Application of Marbob Energy Corporation
3 for an order authorizing the drilling of a well in
4 the potash area, Lea County, New Mexico. I would
5 call for appearances.

6 MS. MUNDS-DRY: Ocean Munds-Dry with the
7 law firm of Holland & Hart. I have two witnesses.

8 EXAMINER BROOKS: Please identify them for
9 the record.

10 THE WITNESS: Brent May.

11 THE WITNESS: Raye Miller.

12 (Note: Both witnesses were administered an oath.)

13 MS. MUNDS-DRY: Mr. Examiner, with your
14 permission, I have a brief opening statement.

15 EXAMINER BROOKS: Proceed.

16 MS. MUNDS-DRY: I just wanted to give you
17 some background of why we are here today. This
18 application that was filed Marbob's application for
19 permit to drill was filed in the district office and
20 was denied because it is located within a buffer
21 zone of the Life Mine Reserves or the LMR.

22 As you know, at the district office
23 there's no opportunity to show that there would not
24 be undue waste of potash. It's basically an
25 administrative procedural process where it's

1 automatically rejected, so we needed to bring this
2 before you in order to make the requisite showing
3 under R111P.

4 As you well know, Mr. Brooks, R111P is a
5 compromise between both the oil and gas and the
6 potash industry where oil and gas drilling shall not
7 be conducted where it will cause the undue waste of
8 potash.

9 Adversely, conversely, mining operations
10 will not be conducted where it would interfere with
11 the development of oil and gas. The Oil and Gas Act
12 also declares that drilling in producing operations
13 for oil and gas should be prohibited where it would
14 interfere unduly with the orderly development of
15 potash deposits.

16 This area where Marbob proposes to drill
17 its well is outside of the LMR but within the buffer
18 zone, but it is also an area where extensive
19 drilling has taken place. As you will see with the
20 testimony today, using current potash standards,
21 conventional potash mining could not occur in this
22 entire section, and even as the testimony will show
23 in surrounding sections. We believe that the
24 testimony today will show that the application
25 should be granted because it will not cause the

1 undue waste of potash and it will also protect the
2 area from drainage from offsetting wells, because as
3 I mentioned, there's significant drilling in the
4 area already.

5 With that, Mr. Brooks, I would ask that we
6 turn to Mr. Miller's testimony.

7 EXAMINER BROOKS: You may proceed.

8 RAYE MILLER

9 (being duly sworn, testified as follows)

10 EXAMINATION

11 BY MS. MUNDS-DRY

12 Q. State your name for the record.

13 A. Raye Paul Miller.

14 Q. Where do you reside?

15 A. Artesia, New Mexico.

16 Q. By whom are you employed?

17 A. Marbob Energy Corporation.

18 Q. What is your title with Marbob Energy?

19 A. I am a titled the secretary treasurer.

20 Q. Have you previously testified before the
21 division?

22 A. Yes, I have.

23 Q. And were your credentials made a matter of
24 record and accepted by the division?

25 A. Yes, I was qualified as a practical oil

1 man is how I was qualified.

2 Q. Are you familiar with the application
3 that's been filed in this case?

4 A. Yes, I am.

5 Q. Are you familiar with the status of the
6 lands that are the subject of this application?

7 A. Yes, I am.

8 Q. With that, Mr. Brooks, we would tender
9 Mr. Miller as a practical oil man.

10 EXAMINER BROOKS: Well, I am assuming that
11 means an expert in the oil and gas operation, so are
12 you that, Mr. Miller?

13 THE WITNESS: Twenty-eight years and as
14 Mr. Stodder says, Mr. John Art Gray trained me for a
15 long time to try to get me to know something.

16 EXAMINER BROOKS: I have heard Mr. Miller
17 testify or address oil and gas issues in several
18 task force meetings, and I am convinced that he is
19 very familiar with oil and gas operations. So I
20 will say he is so qualified. I will add that I have
21 always been rather curious about what a practical
22 oil man is, because the only context I have run into
23 that is a prior version of the New Mexico Oil and
24 Gas Act that directed that if the governor chose not
25 to sit personally on the Oil Conservation

1 Commission, which in those days he was authorized to
2 do, that he was to designate a practical oil man to
3 sit in his stead.

4 THE WITNESS: Being one of the only few
5 left, that will give me an opportunity for a job
6 someday.

7 MS. MUNDS-DRY: Good to know you have a
8 future.

9 EXAMINER BROOKS: Very good. Mr. Miller
10 is qualified as an expert in oil and gas operations.

11 MS. MUNDS-DRY: Thank you.

12 Q. Mr. Miller, would you please state what
13 Marbob seeks with the application?

14 A. Obviously with this application we are
15 asking for an order granting the APD for the Magnum
16 Pronto State No. 2. Likewise, after review of the
17 testimony, if it can be considered we would ask you
18 consider an order that would actually cover the
19 entire section for subsequent wells if it's so
20 demonstrated in the testimony.

21 EXAMINER BROOKS: Now, is that request
22 included in the notice for this proceeding?

23 MS. MUNDS-DRY: It is not. We would have
24 to amend and renotify.

25 EXAMINER BROOKS: Okay. You may proceed.

1 Q. Mr. Miller, is this area within the potash
2 area as designated in R111P?

3 A. Yes.

4 Q. If you would turn to what's marked as
5 Marbob Exhibit No. 1 and identify and review that
6 for Mr. Brooks.

7 A. This is a copy of a Midland land map that
8 basically shows Section 32 of 1932 and the offset
9 sections to that. I have highlighted there in
10 orange the actual location of the Magnum Pronto No.
11 2. You can see that there are several wellbores
12 there in Section 32. But anyway, this is also a
13 deep morrow well. It falls in the Lusk Morrow pool.
14 That requires -- there are special pool rules for
15 the Lusk Morrow. As a result, it requires a section
16 proration unit, so actually it would be a full
17 section proration unit.

18 Q. Would you please review for the examiner
19 the oil and gas development that has occurred in
20 this immediate area? You may refer to Exhibit No.
21 1.

22 A. In looking there to the south in Section
23 5, you will notice that there are two gas wells.
24 The George No. 1, which is fairly close to the line
25 there in the north half of the northeast, and the

1 George Federal No. 2, which is in the northeast, lot
2 3, or in the northeast of the northwest. Those are
3 both currently producing morrow gas wells.

4 Marbob operates a Bone Springs well in the
5 northwest northwest of 32. It is actually shown
6 there as the No. 1 well that is ⁹⁹⁰9-99-90 from the
7 north and west. We also operate a salt water
8 disposal in the northwest and southwest of 32.

9 Marbob operates three deep gas wells in Section 31.
10 Those would be the Trace Elo Federal No. 1 in the
11 northeast corner, the String Bean No. 1 in the
12 southwest southwest and the String Bean No. 2 in the
13 northeast southeast.

14 We also operate a deep gas well in Section
15 6 of ²⁰⁻³²~~2032~~ there to the south. It's ^{no Capstone}capped Federal
16 No. 1 and it is a producing morrow well. Matador
17 also operates a shallow well in the northwest of the
18 northeast of the said Section 32 and ^CSimarex
19 operates a deep well in the southwest of the
20 northeast of Section 32. I am not personally
21 familiar with the operations of the last two wells I
22 have listed, but I know that the wellbores do exist.

23 Q. Would you please turn to what's been
24 marked as Exhibit No. 2 and review that for the
25 examiner?

1 A. Exhibit No. 2, actually you have to turn
2 it to where it kind of looks like this. Because
3 that will actually be north. This is actually the
4 1993 potash map that we have in our office. The
5 little blue dot there is actually identified as this
6 well's location in Section 32, and it gives a
7 reference -- the outline of the block to the north
8 there is the outline of the R111 area and, of
9 course, in 1993 this identified the mine workings
10 that were to the south of us and where this well
11 actually lay in relationship to those workings.

12 EXAMINER BROOKS: Is the yellow coloration
13 the mine workings?

14 THE WITNESS: That's the mine area and
15 that mine is currently idle.

16 Q. Would you then turn to what's marked as
17 Exhibit No. 3 and explain this packet to Mr. Brooks.

18 A. This packet is actually what was printed
19 off from the website. We now are filing our
20 applications electronically. This is our
21 application for this location showing a standard
22 location 640-acre proration unit. It includes the
23 plat and then also, Page 4 has some of the notes of
24 the OCD as to their work in regards to this
25 application.

1 Q. On Page 4, what does the last entry from
2 the district office indicate?

3 A. It indicates that they have -- the State
4 Land Office and Bureau of Land Management have
5 responded and state that the well is inside -- the
6 well location is in the LMR and within the buffer
7 zone and that they are rejecting the application.

8 Q. That's why we are here today?

9 A. Right. Now, the spacing unit is actually
10 642.2 acres. It's not a standard 640 section.
11 There are some lots involved. And our location is
12 1980 from the south and west ^{lines} ~~lots~~, and the target,
13 as we stated earlier, is a morrow well in the
14 Lusk-Morrow pool. The application was filed in
15 August of 2007. We did not notify the potash
16 company at the time. Of course, the district office
17 made contact and rejected the application.

18 Q. What is Exhibit No. 4?

19 A. Exhibit 4 is a notice letter sent to
20 Intrepid of this application after our APD was
21 denied.

22 Q. Are they the only lessee within a mile?

23 A. Yes. Mosaic actually has some leases to
24 the southeast over there. They have no mine
25 workings but the lease is within a mile of this

1 location or actually owned by Intrepid.

2 Q. And has Intrepid responded to Marbob as a
3 result of this notice we sent?

4 A. Yes. We discussed the APD with them. We
5 visited with them initially and they said in
6 December that they would not object at the hearing.
7 Now, when they indicated to us that they wouldn't
8 object, they figured why come to hearing, we will
9 just ask them to grant us a waiver so we could
10 resubmit back to the district showing the potash
11 company had waived any objection to the well.

12 We sent them, basically, a plain Jane
13 waiver, the type that has been used in years past.
14 It took them a long time, in fact about six weeks,
15 but they finally responded with a suggested waiver
16 that they would consider and that waiver had several
17 requirements that were basically, we felt, beyond
18 what should have been included.

19 They asked us to log the potash interval
20 and provide them with logs. We typically don't log
21 that interval with a series of open hole logs that
22 they requested. There were also some future
23 liability issues that they were requesting that we
24 waive for them.

25 As a result, we didn't see that we could

1 live with those conditions. We advised them that we
2 were going forward to hearing.

3 Q. What is Exhibit No. 5?

4 A. Exhibit No. 5 is Intrepid's letter that we
5 received, I believe, yesterday. If we could, I
6 would like to read it into the record, because it's
7 actually, I believe, what they consider as their
8 objection. It's addressed to the OCD and it says,
9 "In regards to Case No. 14026, Magnum Pronto State
10 Com Well No. 2, 1980 from the south line, 1980 from
11 the west line, Section 32 of Township 19 South,
12 Range 32 East, Lea County, New Mexico.

13 "Ladies and gentlemen: Marbob Energy
14 Corporation (Marbob) has requested that Intrepid
15 Potash-New Mexico, LLC (Intrepid) not object to the
16 morrow gas test well that Marbob proposes to drill
17 vertically to a depth of approximately 12,700 feet
18 at the above-described location (the well).
19 Marbob's APD for the well was rejected by the OCD
20 due to the potential of the well to cause undue
21 waste of potash, and Marbob filed the captioned
22 appeal.

23 "The proposed location of the well is
24 within Intrepid's approved LMR under OCD Rule 111P.
25 As Intrepid has indicated to Marbob, Intrepid owns

1 the North Mine and idled underground potash mine
2 that Intrepid may choose to reopen in the future and
3 that already has in place mine shafts, leases,
4 permits, and much of the transportation and utility
5 infrastructure required for underground potash
6 mining operations (the North Mine). Two of
7 Intrepid's federal potash leases at the North Mine,
8 Lease NMNM 011776 and NMLC-065286 include lands in
9 Section 5 and 6, 20-32, less than one mile from the
10 proposed location of the well. The existing
11 underground mine workings of the North Mine are less
12 than two miles from the proposed location of the
13 well.

14 "Intrepid wishes to emphasize that the
15 safety hazard presented by this high pressure, deep
16 gas well to Intrepid's nearby mine workings has not
17 been evaluated by the United States Bureau of Land
18 Management (BLM) or the State of New Mexico. Where
19 the BLM has studied similar safety hazards posed by
20 high pressure gas wells, the BLM has found that such
21 wells create a hazard to miners. Unlike the
22 shallower Delaware wells, the proposed well targets
23 the deeper morrow formation. The deeper formations
24 in the Potash Area (Morrow, Strawn, Wolfcamp, et
25 cetera) characteristically contain much larger

1 volumes of gas that is at high pressures. Due to
2 the nature of underground mining, mine employees are
3 particularly vulnerable to potential hazards by
4 concurrent development of the two resources and
5 potential release of highly combustible gas into
6 underground mine workings. The risks posed by
7 testing or producing from these formations in close
8 proximity to mine workings in the Potash Area are
9 subject of a pending safety study by the BLM. The
10 BLM has already studied similar risks posed by oil
11 and gas and drilling to underground trona mining in
12 Wyoming and banned further drilling after
13 considerable study.

14 "Intrepid has been in discussions with
15 Marbob pursuant to which Intrepid would agree not to
16 object to the well in exchange for certain data in
17 the potash zones that Intrepid believes will be
18 useful to it and the State and BLM's efforts to
19 protect commercial potash developments.

20 Unfortunately, Marbob and Intrepid have not yet
21 agreed to these terms, so Intrepid continues its
22 objection to the well at this time and hopes that
23 these terms can be worked out between the parties.

24 "Sincerely, Katie Keller, Landman."

25 I hope in some of our subsequent testimony

1 here that we can actually show that their request
2 and their objection is actually quite unreasonable,
3 based on further evidence.

4 Q. With that, let's turn to Exhibit No. 6 and
5 show why Marbob believes it's unreasonable.

6 A. Exhibit No. 6 is a circle map exhibit. We
7 met a few weeks ago with the Mosaic mine manager to
8 talk about another area of potash, and he pulled out
9 Mosaic's map in the 111 area, and basically showed
10 us that for each shallow well, they basically draw a
11 quarter mile circle around a shallow well, being
12 like a Delaware well, and for each deep well they
13 draw a half mile circle around each deep well. And
14 that basically they don't believe it is safe for
15 mining operations to be conducted within a half mile
16 of deep gas wells.

17 It winds up being a thing where what we
18 have done here, our geology department actually
19 prepared this for us, is we went in and drew the
20 half mile circles around the already existing
21 penetrations that occur in Section 32 and some of
22 the neighboring sections.

23 As you can see, by the time you draw the
24 circles just for the deep wells and none of the
25 shallow wells are included in there, that every inch

1 of Section 32 is basically covered by a circle.

2 Now, he explained to us that, you know,
3 without having, you know, areas that they can
4 actually not be within a half mile, that they can't
5 risk the safety of any mining operations in that.

6 It winds up being a thing where the wells
7 there in Section 5 are direct south offsets to the
8 proposed location. Those are actually producing
9 morrow gas wells. They are producing today, and
10 that's really one of the primary reasons that we
11 came forward with this application.

12 Q. Mr. Miller, if I could interrupt you for a
13 second, for the benefit of the examiner and I don't
14 know if this is done best with the circle map and
15 the map of the potash area, but where, in relation
16 to this map, is the LMR boundary or the mine?

17 A. The LMR boundary, and obviously we are
18 looking -- all of these circles are basically on
19 this white area that's inside the LMR or the R111
20 boundary. But, you know, basically cover all of
21 that white section there where our proposed well is
22 actually located.

23 As you can see, and part of where I am at
24 on this is, you know, if we drill this well, they
25 would draw a half mile circle around the well and

1 say that they couldn't mine within that half mile.
2 But the key becomes that all of that area is already
3 condemned by existing deep wells that have half-mile
4 circles drawn around them which completely overlap
5 any area that would be impacted by this well.

6 Q. And, in fact, these George Federal wells
7 are closer than Marbob's proposed location here; is
8 that correct?

9 A. Right. The George Federal 1 and 2 are not
10 that old of wells. The George Federal No. 1 started
11 producing in June of 2006. The BLM actually
12 approved us drilling that federal location through
13 December of '07 it has cumed 4/10 of BCF of gas.

14 We filed application for the George
15 Federal No. 2, which is west of the George Federal
16 No. 1 there in Section 5. You would have to go back
17 to the original map here on Exhibit 1 to actually
18 see those wells. The George Federal No. 2 is
19 actually a very good morrow well and, in fact, it
20 came on production in August of '07 and in just the
21 time from August of '07 to December of '07 it
22 actually has cumed 2/10 of a BCF.

23 Many companies when they produce the
24 morrow wells open them wide open and flow them at
25 maximum rate to get the cash value, you know, most

1 gas sold, get the return as quickly as possible on
2 their production.

3 We actually don't do that. Our company
4 believes that if you produce wells at a lower rate,
5 don't pull them as hard. We believe, and we don't
6 have any way of actually proving it, but we believe
7 that the ultimate recovery out of the reservoir may
8 be greater by not actually pulling them as hard.

9 As a result, the current production on the
10 George Federal No. 2 is 1.3 million ^{feet of} ~~feeding~~ gas a
11 day. It also 28 barrels of condensate and three
12 barrels of water. But the interesting thing is the
13 flowing tubing pressure on that well was 2800
14 pounds. Basically, we've had very little decline in
15 flowing tubing pressure in the four months that the
16 well has been on, and as a result we believe that
17 the well has significant morrow reserves behind it
18 and could actually be such a well that it actually
19 extends beyond possibly the boundaries of the -- or
20 the reservoir extends beyond the boundaries of the
21 federal lease that it's currently located on.

22 The lease in Section 5 is obviously
23 federal acreage, the George Federal 1 and 2 that we
24 operate. The George Federal No. 2 is obviously the
25 well that's closest to the proposed Magnum Pronto

1 No. 2. Obviously, we are dealing with federal
2 minerals there. We wind up Magnum Pronto's lease is
3 actually all of the entire section is state
4 minerals. It winds up being a thing where the
5 George Federal No. 2, we own about 97 percent of the
6 working interest in that well and the Magnum Pronto
7 No. 2, as I will describe later, we actually own 75
8 percent of the morrow.

9 But given the potential issue that the
10 State Land Office might raise at some point in the
11 future regarding drainage and the fact that our
12 nonoperating partner in Section 32 might raise the
13 question of the fact of why we didn't propose an
14 offset to that prolific well in Section 5, we felt
15 as a prudent operator that we should actually
16 propose the drilling of the location in Section 32
17 to see if the morrow sands indeed extended on up to
18 Section 32 and would be productive.

19 So we believe that, you know, the only way
20 the State can actually be protected is by actually
21 having this well drilled.

22 Q. With that, in your opinion, will the
23 drilling of this well cause undue waste of potash?

24 A. We don't believe any potash would be lost
25 by the drilling of this well, because there are

1 existing wellbores that completely cover the area of
2 the half mile circle around this well. And as a
3 result, that potash has already been condemned by
4 those existing wells. And the potash company --
5 because I thought well, once wells are plugged that
6 would free them up to actually go back in to look
7 for or consider mining those reserves. The potash
8 companies believe that plugged wells, deep plugged
9 wells, still pose the potential to a safety risk, so
10 these potash reserves are already condemned, lost,
11 cannot be mined safely the way potash is currently
12 mined in underground mine shafts, and as a result,
13 we don't see this application would cause any
14 additional loss of potash.

15 Q. Do you know if Intrepid Potash holds the
16 lease under this acreage for potash?

17 A. That I did not check. The fact that their
18 letter references only their two federal leases to
19 the south, I would expect there is no lease on the
20 State, because I think they would have quoted it had
21 they had a lease on the state acreage.

22 Q. As far as we know they don't have a right
23 to mine the potash under this land anyway?

24 A. We don't, but I have not actually verified
25 that.

1 Q. Do you believe this application to be in
2 the best interest of conservation, protection of
3 drill space and prevention of waste?

4 A. Yes, I believe it will.

5 Q. And is Exhibit No. 7 a copy of mine notice
6 affidavit -- affidavit of publication and the green
7 card showing that Intrepid Potash received our
8 notice letter?

9 A. Yes, it is.

10 Q. And were Exhibits No. 1 through 7 either
11 prepared by you or compiled under your direct
12 supervision?

13 A. Yes.

14 MS. MUNDS-DRY: And with that, Mr. Brooks,
15 we would move the admission of Exhibits 1 through 7
16 into evidence.

17 EXAMINER BROOKS: 1 through 7 are
18 admitted.

19 (Note: Marbob's Exhibits 1 through 7
20 admitted into evidence.)

21 Q. That concludes my ~~direction~~ of Mr. Miller.

22 EXAMINER BROOKS: Okay. Well, I really
23 don't believe I have many questions. Or any
24 questions. It looks like, just to clarify, on
25 Exhibit No. 6, the circles you have drawn, the blue

1 circles you have drawn are represent a one-half mile
2 radius around existing --

3 THE WITNESS: Deep wells.

4 EXAMINER BROOKS: Existing producing or
5 plugged deep wells.

6 THE WITNESS: Deep wells, right. If you
7 look at the very bottom circle here, like, you know,
8 is over here to the right of Section 5, that would
9 be the circle that relates to the George Federal No.
10 1. The circle that, you know, is just to the left
11 of it relates to the George Federal No. 2. You
12 know, we didn't draw -- you know, obviously there's
13 a capped Federal over here in Section 6 that would
14 also have a half-mile circle around it. We didn't
15 draw it because it didn't actually impact the
16 Section 32.

17 Likewise, up here in Section 32 in this
18 convoluted area right west of the location where we
19 are proposing to drill, there's a dot there. Well,
20 that is actually our CR No. 4, which is a Delaware
21 disposal well.

22 EXAMINER BROOKS: Where is this now? What
23 part of Section 32 is this?

24 THE WITNESS: The wellbore directly west
25 or to the left of the proposed location.

1 EXAMINER BROOKS: That would be in the
2 northwest of the southwest of Section 32?

3 THE WITNESS: Correct. We didn't draw the
4 quarter-mile circle around the well because it was
5 already covered by numerous circles of the deep
6 wells in the surrounding areas. So you could
7 actually draw more circles, but you can't condemn
8 any more land after it got condemned once.

9 EXAMINER BROOKS: The circle that seems to
10 cover the largest part of Section 32 is the blue
11 circle that appears to be around the -- what you
12 have shown here as the Texaco City Service State Com
13 well. Is that --

14 THE WITNESS: Right.

15 EXAMINER BROOKS: Is that a deep well?

16 THE WITNESS: It was a deep well. It
17 currently is operated by ^{C.}Symarex, and the last time
18 I was out there they had one of those huge hydraulic
19 pumps on it that they were actually pumping it at
20 some deep depth, but obviously had some type of
21 fluid issue that they were actually producing it.

22 EXAMINER BROOKS: Do you know in what
23 formation it's completed?

24 THE WITNESS: I believe originally it was
25 a morrow and recompleted to something shallower.

1 Even if it was plugged, it would still be a problem
2 for potash.

3 Likewise, there's another circle that
4 impacts the southeast quarter that relates to the CR
5 No. 2 down there, which was drilled to 11,500. I
6 believe that well was actually plugged. That would
7 be the well here in the southeast southeast. In the
8 fact that they believe a plugged well still affords
9 the same risk as the producing well, if it was
10 drilled to a deep depth and that well TD's at
11 11,500, it still poses the risk of where they don't
12 believe mining operations would be done safely
13 anywhere inside that area.

14 EXAMINER BROOKS: So you drew a circle
15 there also?

16 THE WITNESS: Yes.

17 EXAMINER BROOKS: Then going off to the
18 west, then you have your String Bean Com No. 2,
19 which appears to be in the northeast southeast of
20 Section 31.

21 THE WITNESS: Right. That's this circle
22 here. To the north is the Tres Elo No. 1, and
23 that's this circle here. The Magnum Pronto well,
24 the two of them are right up there. The two wells
25 in the northwest northwest that are close together,

1 they were both drilled deep. One is now plugged,
2 the other is producing out of the Bone Springs, but
3 they would be those two circles that all those
4 outlying the same area.

5 If you notice to the north there's two
6 circles relatively close to one another, that's the
7 two circles indicative of those two wells.

8 You know, we looked at, you know -- and
9 it's a thing where potash basically has, over time,
10 standardized this half mile area, and we thought
11 well, maybe things had changed over the years.
12 Maybe plugged wells did not pose the risk. But our
13 discussion with the Mosaic mine manager indicates
14 that no, they do not believe that they can safely
15 mine within even a half mile of a plugged well if it
16 was drilled as a deep well.

17 EXAMINER BROOKS: Thank you. That's all
18 my questions.

19 THE WOMAN: I would like to call Brent
20 May.

21 BRENT MAY

22 (being duly sworn, testified as follows:)

23 EXAMINER BROOKS: You may proceed.

24 EXAMINATION

25 BY MS. MUNDS-DRY:

1 Q. Please state your full name for the
2 record?

3 A. Brent Allen May.

4 Q. Where do you reside?

5 A. Artesia, New Mexico.

6 Q. By whom are you employed?

7 A. Marbob Energy Corporation.

8 Q. How are you employed?

9 A. I'm a geologist.

10 Q. Have you previously testified before the
11 division?

12 A. Yes, I have.

13 Q. Were your credentials accepted and made a
14 matter of record at that time?

15 A. Yes, they were.

16 Q. For the benefit of Mr. Brooks, because I
17 don't believe you have been before him before, how
18 long have you been employed with Marbob and where
19 were you previously employed?

20 A. I have been employed with Marbob
21 approximately seven years. Before that I was with
22 Yates Petroleum in Artesia, New Mexico for about 11
23 years.

24 Q. Were you employed as a petroleum
25 geologist?

1 A. Yes, I was.

2 Q. Are you familiar with the application
3 that's been filed in this case?

4 A. Yes, I am.

5 Q. Are you familiar with the geology that is
6 the subject of this application?

7 A. Yes, I am.

8 MS. MUNDS-DRY: Mr. Brooks, we tender
9 Mr. May as an expert in geology.

10 EXAMINER BROOKS: So qualified.

11 Q. Would you please, Mr. May, turn to what's
12 marked as Exhibit No. 8 and explain the exhibit for
13 the examiner.

14 A. This is a stratigraphic cross-section AA
15 prime. There is a location map on the lower
16 right-hand corner along with a trace of a
17 cross-section. This is essentially a northwest
18 southeast cross-section. The datum is the top of
19 the lower Morrow, which has been marked. The top of
20 the middle Morrow has also been marked on the
21 cross-section --

22 Starting off on the left-hand side, the
23 first well is the Marbob Energy Tres Elo Federal No.
24 1 in Section 31 of 19 South 32 East located 990 off
25 the north and east lines.

1 Marbob attempted a completion in the lower
2 morrow. Failed, moved up to the middle morrow and
3 made a good completion in this well. This well has
4 cumulative production of the morrow of approximately
5 1.5 BCF.

6 The next well on the cross-section is the
7 Marbob Energy Magnum Pronto, ^{State} ~~State~~ No. 1, 32 of 19
8 south 32 East. It's located 990 off the north and
9 west lines.

10 Marbob drilled this well. The lower
11 morrow had no sand in it so we moved immediately up
12 to the middle morrow. Attempted a completion there,
13 failed, and the main reason we failed in the middle
14 morrow on the well is because there's quite a bit --
15 several sands in the wells but most were very thin
16 and tight. We moved up the hole to Strawn, which is
17 not on the cross-section, failed there. Moved up
18 the hole to the Bone Spring, made a completion
19 there. It's produced approximately 24,000 barrels
20 of oil out of the Bone Spring.

21 The next well is the Marbob Energy George
22 Federal No. 2, section 5, 20 south 32 east, 570 off
23 the north line and 1700 off the west line.

24 We attempted a completion in the lower
25 morrow, failed there, moved up to the middle morrow,

made
1 ~~mailed~~ a good completion of this well as Mr. Miller
2 alluded to.

3 Mr. Miller gave some cumulative production
4 off this well and also the George No. 1. I just
5 want to mention that my cumulative production is a
6 little bit different. He used internal Marbob data,
7 I used public data. So at the time that I put this
8 cross-section together, the George No. 2 was new
9 enough that there was no cumulative production out
10 on it, so I put an IP down on it IP'd for over 1.8
11 million cubic feet a day, and I believe it's still
12 making 1.3 million cubic feet a day.

13 The last well in the cross-section is the
14 Marbob Energy George Federal No. 1 in section 5 of
15 20 south 32 East, located 990 off the northeast *and*
16 line. *S* Marbob completed this in the lower morrow
17 initially. It IP'd at a little over 1.1 million
18 cubic feet of gas a day. Unfortunately, it appears
19 to be a limited reservoir and dropped off fairly
20 dramatically. We moved up hole to the middle
21 morrow, recompleted there. Approximately right
22 before we *dd* sputted the George Federal No. 2 we made a
23 good well in the middle morrow.

24 EXAMINER BROOKS: What you are talking
25 about now is the George Federal No. 1?

1 THE WITNESS: Yes, sir, the far right-hand
2 side. I'm sorry. That is the well I'm currently
3 talking about.

4 It is also currently producing out of the
5 middle morrow. It's currently producing about 1.2
6 million cubic feet of gas a day out of the middle
7 morrow section.

8 Q. (By Ms. Munds-Dry) Let's turn to what's
9 been marked Exhibit No. 9, if you would please
10 review that for the examiner.

11 A. This is a structure map on the top of the
12 lower morrow which also is the same datum that was
13 used on Exhibit 8, the cross-section. The proposed
14 location is shown in red on the southwest corner of
15 Section 32, 19 south 32 east, located 1980 off the
16 south and west lines.

17 There's two different colors of well spots
18 on the map, black and green. The green well spots
19 indicate current morrow producers. The black are
20 all other formations. There is also some black
21 numbers below each well spot, which is the TD of the
22 well.

23 Also in addition to that, there's some
24 green cumulative production numbers around some of
25 the wells. You can see some of them. They show the

1 cumulative production in BCF on some of the wells.
2 That is morrow production only, so if a well spot
3 does have that, it did produce out of the morrow
4 formation.

5 There's a few wells that have black well
6 spots and the green cumulative production numbers.
7 That just means at one time they did produce out of
8 the morrow but they are currently producing out of
9 other horizons at this point.

10 This structure map is basically -- well,
11 it shows a structural high in Section 30 to the
12 northwest of Section 32. That's the southern end of
13 the Lusk structure. And that Lusk structure extends
14 off the map towards the north.

15 The proposed location is not on top of
16 that structural high, but you might note that the
17 George No. 1 and No. 2 down on Section 5, the two
18 wells I discussed on Exhibit 8, the proposed
19 location should be up from those two wells.

20 There is another well that I discussed in
21 Exhibit No. 8, the Tres Elo Federal Com No. 1 in the
22 northeast corner of Section 31. It's been a good
23 producer. It produced 1.5 BCF out of the morrow
24 will be down-dipped with our proposed location.
25 Structure, I don't think is going to be a huge

1 component in whether we make a well or not in
2 Section 32.

3 Now, back to the north in the Lusk pool,
4 that is the case. But down here, I don't believe it
5 will be, considering that we will be down dipped and
6 up dipped of currently producing morrow wells.

7 Q. I believe, Mr. Miller said that the
8 primary target for the proposed location, the Magnum
9 Pronto, is the morrow, and you showed on your
10 cross-section both the middle morrow and the lower
11 morrow. If you could clarify where is the primary
12 target for the well?

13 A. The primary target will be the middle
14 morrow. The lower morrow is a secondary target. If
15 you remember on Exhibit 8 we failed several times in
16 the lower marrow and made wells in the middle
17 marrow, so the middle marrow is the primary target.

18 Q. Thank you. If you would please turn to
19 what's marked as Exhibit No. 10 and review this for
20 the examiner.

21 A. This is a clean sand map of the lower
22 marrow only. And what I mean by clean sand map, I
23 took the thickness of the sands within the lower
24 marrow that had gamma rays of 58 PI units or less.
25 Basically what I am showing here are some channel

1 sands. I believe in the lower and middle marrow
2 most of the sands are channelized. Most of them are
3 trending a northwest to southeast or north to south.
4 Proposed location is in a sand thick. That will
5 give us a better chance of encountering some good
6 reservoir within the lower morrow, but I repeat, the
7 lower morrow has been a secondary target.

8 Q. Let's turn to Exhibit No. 11. Identify
9 and review this for Mr. Brooks.

10 A. This is also a clean sand map, but it's of
11 the middle morrow only. Again, the proposed
12 location is in the southwest corner of Section 32.
13 You might note a sand thick running north south
14 through the center of Section 30 and 31. That sand
15 thick splits off and heads down to the southeast
16 through the southwest corner of Section 32 and a
17 proposed location is spotted in the middle of that
18 thick.

19 Again, most of our wells, including the
20 George 1 and 2, the Tres Elos, made good production
21 out of the middle morrow, and I think that we will
22 have a little bit thicker section here than those
23 wells, so I think we have a good shot of
24 encountering some hydrocarbons here. I will also
25 point out that the Magnum Pronto State No. 1, the

1 well in the northwest corner of Section 32, which we
2 failed in the morrow on, is also somewhat in its
3 thick. Let me point that out. Just because you are
4 in a thick doesn't guarantee you are going to make a
5 well but it increases your chances.

6 Q. Understanding you don't know what you will
7 get until you drill the well, can you make any kind
8 of estimate how much oil and gas can be produced
9 from this proposed well?

10 A. Based on some of the surrounding wells,
11 the Tres Elo Federal No 1 made 1.5 BCF. There's a
12 Texaco City Service well No. 1, Texaco City Services
13 State Com No. 1 in the northeast of 32. It also
14 made 1.5 BCF out of the marrow. We have a well in
15 the southeast corner of Section 30, the SLD Federal
16 Com No. 1, which made 2.2 BCF out of the marrow. So
17 I think we have a good shot of making anywhere from
18 1.5 BCF to 2 BCF, which would be economic for this.
19 Of course, we would like to have more than that,
20 too, but I think we will be fine with 1.5 or 2.

21 Q. If the application is denied, Mr. May,
22 will this cause the waste of oil and gas?

23 A. I believe it will, because I believe that
24 there's some good gas reserves, especially under the
25 southwest corner of 32. Could be some under the

1 southeast corner of 32. If we are not allowed to
2 drill the Magnum Pronto State No. 2, I don't think
3 we will be able to recover those reserves.

4 Let me just go through a little history
5 now that you asked that of the first well we drilled
6 in Section 32 was the Magnum Pronto State No. 1. Of
7 course, we failed in the ^omarrow so we got a little
8 bit cold in this section. We moved down to Section
9 5, drilled at George No. 1, made a decent well,
10 moved over to George No. 2, made a good well, and so
11 that made us look at Section 32 again and realize
12 that there was still potential left in Section 32.

13 Also I might want to point out the Magnum
14 Pronto State Com No. 1. I mentioned it had made
15 24,000 barrels of oil out of the Bone Spring.
16 There's a well spot just about 470 feet due
17 northwest of the Magnum No. 1. That well is
18 currently plugged, but it made 26,000 barrels of oil
19 out of the Bone Spring. We have currently spotted a
20 Bone Spring horizontal test in the northwest corner
21 of 32. So not only if we can't drill in 32 will the
22 gas reserves be lost, we feel there would be oil
23 reserves lost, too.

24 Q. And will this proposed well be drilled in
25 accordance with the requirements under R111P?

1 A. Yes.

2 Q. And will Marbob provide notice of the
3 drilling of this well and any other work it plans to
4 do on the well so it can be witnessed by Intrepid
5 representatives to assure it is drilled in
6 conformance with R111P?

7 A. Yes, we will.

8 Q. Were Exhibits 8 through 11 prepared by you
9 or under your direct supervision?

10 A. Yes.

11 MS. MUNDS-DRY: Move the admission of 8
12 through 11 into evidence.

13 EXAMINER BROOKS: 8 through 11 are
14 admitted.

15 (Note: Marbob's Exhibits 8 through 11
16 admitted into evidence.)

17 MS. MUNDS-DRY: That concludes my direct
18 examination of Mr. May.

19 EXAMINER BROOKS: Mr. May, you said that
20 structure was not a major consideration of the
21 location of the proposed well; is that correct.

22 THE WITNESS: That's correct, in the area
23 of Section 32, I believe that. Considering that we
24 have the George 1 and 2 that are way down dip of
25 other producers and we will be up dip, and neither

1 one of them make hardly any water whatsoever. Up in
2 the main Lusk pool, back a couple miles to the
3 north, that's different. Structure is a big concern
4 up there, but down here, it is not.

5 EXAMINER BROOKS: What is the principal
6 geologic decideratum for this location, proposed
7 location? What is the reasoning that primarily
8 supports this location?

9 THE WITNESS: I believe on Exhibit 11 is
10 my sand thick through the middle Marrow.

11 EXAMINER BROOKS: Okay. And that is
12 established -- well, you have got a reference
13 point -- you have the George Federal Com No. 1,
14 which is in the middle of the thickest or right
15 about the thickest portion?

16 THE WITNESS: Yes, sir. If you look on
17 Exhibit 11, the George Com No. 1 had 43 feet of
18 sand. The George Com No. 2 had 49 feet. The Texaco
19 City Services Well, State Com No. 1 in the northeast
20 corner of Section 32, had 44 feet.

21 EXAMINER BROOKS: That one cummed 1.5 BCF?

22 THE WITNESS: Yes, sir. The Tres Elo
23 Federal Com in the northeast corner of 31 had 60
24 feet, so that was several data points I used to draw
25 this thick.

1 EXAMINER BROOKS: Okay. Very good.

2 That's all I have.

3 MS. MUNDS-DRY: That's all I have as well.

4 MR. MILLER: I hate to tell you all of the
5 things that I missed but if I could add one thing.
6 Part of the reason for actually asking for the
7 Section 32, and he alluded to it, we have filed an
8 application with the Hobbs OCD for the horizontal
9 Bone Springs Magnum Pronto No. 3. Its location is
10 330 from the north, 1980 from the west for the
11 surface location. It's bottom hole horizontal
12 target will actually be 2310 to the north, 1980 from
13 the west, and part of the reason for asking for
14 consideration to where if this location is approved
15 it will be amended and ask for Section 32 is so we
16 don't have to come back up for subsequent hearing on
17 each separate application in that section. I
18 apologize for not being clearer on that when we
19 first presented.

20 EXAMINER BROOKS: The well you mentioned,
21 the one you just described, that's in Bone Springs?

22 MR. MILLER: Bone Springs horizontal.
23 That application has been filed with Hobbs OCD but
24 they have not taken action on it yet.

25 EXAMINER BROOKS: Okay. Ms. Munds-Dry, do

1 you want us to take the case under advisement?

2 MS. MUNDS-DRY: Thank you for reminding
3 me. We should renotify and if we could continue the
4 case for, I guess, 30 days, it would be the 21st is
5 the docket, I guess. To give us a sufficient notice
6 period.

7 EXAMINER BROOKS: Yes, it would have to
8 be -- yeah, the 21st should work, although you have
9 to file an amended application.

10 MS. MUNDS-DRY: Yes.

11 EXAMINER BROOKS: But there's nothing that
12 says an amended application has to be filed in 30
13 days, so you would only originally application, so I
14 think the 31 -- the 21st would work, even though
15 that's only 28 days.

16 MS. MUNDS-DRY: At least we have the
17 28-day period for notice.

18 EXAMINER BROOKS: Okay. Very good. 14026
19 will be continued until February 21st for the
20 purposes of notice.

21 (Note: The hearing was concluded.)

22

23

24

25

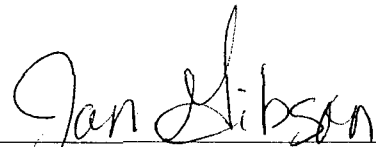
I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 14026,
heard by me on 1/24 2008.

David K. Brooks Examiner
Oil Conservation Division

REPORTER'S CERTIFICATE

I, JAN GIBSON, Certified Court Reporter for the State of New Mexico, do hereby certify that I reported the foregoing proceedings in stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings and was reduced to printed form under my direct supervision.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this case and that I have no interest in the final disposition of this case.



JAN GIBSON, CCR-RPR-CRR
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