OL CONSERVATION DA STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES APERARTMENT OIL CONSERVATION DIVISION IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING: APPLICATION OF YATES PETROLEUM CASE NOS. 12,130 CORPORATION FOR AN UNORTHODOX GAS WELL LOCATION TO ACCOMMODATE THE REDEDICATION ) OF ACREAGE FOR GEOLOGIC REASONS, LEA COUNTY, NEW MEXICO APPLICATION OF YATES PETROLEUM and 12,128 CORPORATION FOR EXTENSION OF THE VERTICAL LIMITS OF THE SAND SPRINGS-ATOKA GAS POOL AND FOR SPECIAL POOL RULES, LEA COUNTY, NEW MEXICO (Consolidated)

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#### REPORTER'S TRANSCRIPT OF PROCEEDINGS

#### EXAMINER HEARING

BEFORE: MARK ASHLEY, Hearing Examiner

April 1st, 1999

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MARK ASHLEY, Hearing Examiner, on Thursday, April 1st, 1999, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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April 1st, 1999 Examiner Hearing CASE NOS. 12,130 and 12,128 (Consolidated)

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EXHIBITS APPEARANCES APPLICANT'S WITNESSES: <u>ERIC CUMMINS</u> (Geologist)

Direct Examination by Mr. Carr Examination by Examiner Ashley <u>DAVID PEARSON</u> (Engineer)

Direct Examination by Mr. Carr Examination by Examiner Ashley

REPORTER'S CERTIFICATE

\* \* \*

STEVEN T. BRENNER, CCR (505) 989-9317 2

# EXHIBITS

Applicant's		Identified	Admitted
Exhibit	1	8	14
Exhibit	2	8	14
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Exhibit	7	21	25
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\* \* \*

# APPEARANCES

FOR THE DIVISION:

RAND L. CARROLL Attorney at Law Legal Counsel to the Division 2040 South Pacheco Santa Fe, New Mexico 87505

FOR THE APPLICANT:

CAMPBELL, CARR, BERGE and SHERIDAN, P.A. Suite 1 - 110 N. Guadalupe P.O. Box 2208 Santa Fe, New Mexico 87504-2208 By: WILLIAM F. CARR

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1	WHEREUPON, the following proceedings were had at
2	9:27 a.m.:
3	EXAMINER ASHLEY: At this time the Division calls
4	Case 12,130.
5	MR. CARROLL: Application of Yates Petroleum
6	Corporation for an unorthodox gas well location to
7	accommodate the rededication of acreage for geologic
8	reasons, Lea County, New Mexico.
9	EXAMINER ASHLEY: Call for appearances.
10	MR. CARR: May it please the Examiner, my name is
11	William F. Carr with the Santa Fe law firm Campbell, Carr,
12	Berge and Sheridan. We represent Yates Petroleum
13	Corporation in this matter, and I have two witnesses.
14	I would also request, Mr. Examiner, that you also
15	call at this time Case Number 12,128. The cases are
16	interrelated, and we would request that they be
17	consolidated for the purpose of hearing.
18	EXAMINER ASHLEY: Okay, the Division also calls
19	Case 12,128.
20	MR. CARROLL: Application of Yates Petroleum
21	Corporation for extension of the vertical limits of the
22	Sand Springs-Atoka Gas Pool and for special pool rules, Lea
23	County, New Mexico.
24	EXAMINER ASHLEY: Call for appearances? Is there
25	any others?
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1	MR. CARR: If not, Mr. Examiner, at this time we
2	call Eric Cummins.
3	EXAMINER ASHLEY: Will the witnesses please stand
4	and be sworn?
5	(Thereupon, the witnesses were sworn.)
6	ERIC CUMMINS,
7	the witness herein, after having been first duly sworn upon
8	his oath, was examined and testified as follows:
9	DIRECT EXAMINATION
10	BY MR. CARR:
11	Q. Will you state your name for the record, please?
12	A. Eric Cummins.
13	Q. Will you spell your last name?
14	A. C-u-m-m-i-n-s.
15	Q. Where do you reside?
16	A. Artesia, New Mexico.
17	Q. By whom are you employed?
18	A. Yates Petroleum Corporation.
19	Q. Mr. Cummins, what is your position with Yates
20	Corporation?
21	A. Geologist.
22	Q. Have you previously testified before this
23	Division?
24	A. No, I have not, sir.
25	Q. Could you summarize for the Examiner your

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1	educational background?
2	A. I have a bachelor of science degree in geology
3	from New Mexico State University in 1988, master of science
4	in geology from the University of Southwestern Louisiana,
5	1990.
6	Q. Since graduation in 1990, for whom have you
7	worked?
8	A. I worked for Texaco Exploration and Production in
9	New Orleans, Louisiana, through 1994, for Western Atlas C&P
10	Services in Houston, Texas, till June, 1996, and until that
11	time I've been with Yates Petroleum since that time I've
12	been with Yates Petroleum.
13	Q. Mr. Cummins, are you familiar with the
14	Applications filed in each of these cases?
15	A. Yes, I am.
16	Q. And have you made a geological study of the area
17	which is the subject of the Applications?
18	A. Yes, I have.
19	Q. Are you prepared to present the results of your
20	work to the Examiner?
21	A. Yes, I am.
22	MR. CARR: We would tender Mr. Cummins as an
23	expert witness in petroleum geology.
24	EXAMINER ASHLEY: Mr. Cummins is so qualified.
25	Q. (By Mr. Carr) Mr. Cummins, would you briefly

1	summarize what it is that Yates Petroleum Corporation seeks
2	in these cases?
3	A. Yates seeks authorization to change the spacing
4	and proration unit dedicated to its Sand Springs State Well
5	Number 1, located 330 from the north line, 1650 from the
6	west line in Section 11 of Township 11 South, Range 34
7	East, in the Atoka and Morrow formations, Sand Springs-
8	Atoka Gas Pool, from a north-half to a west-half spacing
9	and proration unit.
10	We also seek approval of an unorthodox gas well
11	location for the Sand Springs State Well Number 1 for the
12	west-half spacing unit, and also an order extending the
13	vertical limits of the Sand Springs-Atoka Gas Pool, to
14	include both the Atoka and Morrow formations, and for
15	issuance of special pool rules for the expanded pool,
16	including provision for a second gas well on each standard
17	spacing and proration unit.
18	Q. How is the location for the Sand Springs State
19	Com Number 1 unorthodox?
20	A. It's too close to the north line of the section.
21	Q. It was unorthodox when it was originally drilled,
22	was it not?
23	A. That is correct.
24	Q. But now if you are able to reorient the spacing
25	unit, you're going to be, based on the rules, even further

<ul> <li>just identify that and review the information on this</li> <li>exhibit for the Examiner.</li> <li>A. Exhibit Number 1 is a land plat in the immediate</li> <li>area. It shows and the red dot is the Sand Springs</li> <li>"ASU" State Number 1. It shows other Yates acreage in the</li> <li>area, also other owners and operators in the area.</li> <li>The yellow outline is the current proration unit.</li> <li>Q. What are the current boundaries for the Sand</li> <li>Springs-Atoka Gas Pool?</li> <li>A. All of Section 1 and the south half of Section 2.</li> <li>Q. Is Exhibit Number 2 a notice affidavit confirming</li> <li>that notice of these Applications has been provided to all</li> <li>affected parties?</li> <li>A. Yes, it is.</li> <li>Q. And to whom was notice provided?</li> <li>A. Notice was provided to all operators within one</li> <li>mile of the proposed pool boundaries and all parties</li> <li>affected by the unorthodox well location.</li> <li>Q. What is the status of the ownership throughout</li> </ul>		5
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10The yellow outline is the current proration unit.11The orange outline is the proposed amended proration unit.12Q. What are the current boundaries for the Sand13Springs-Atoka Gas Pool?14A. All of Section 1 and the south half of Section 2.15Q. Is Exhibit Number 2 a notice affidavit confirming16that notice of these Applications has been provided to all17affected parties?18A. Yes, it is.19Q. And to whom was notice provided?20A. Notice was provided to all operators within one21mile of the proposed pool boundaries and all parties22affected by the unorthodox well location.23Q. What is the status of the ownership throughout24Section 11?	8	"ASU" State Number 1. It shows other Yates acreage in the
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16 that notice of these Applications has been provided to all affected parties? 18 A. Yes, it is. 19 Q. And to whom was notice provided? 20 A. Notice was provided to all operators within one 21 mile of the proposed pool boundaries and all parties 22 affected by the unorthodox well location. 23 Q. What is the status of the ownership throughout 24 Section 11?	14	A. All of Section 1 and the south half of Section 2.
<ul> <li>affected parties?</li> <li>A. Yes, it is.</li> <li>Q. And to whom was notice provided?</li> <li>A. Notice was provided to all operators within one</li> <li>mile of the proposed pool boundaries and all parties</li> <li>affected by the unorthodox well location.</li> <li>Q. What is the status of the ownership throughout</li> <li>Section 11?</li> </ul>	15	Q. Is Exhibit Number 2 a notice affidavit confirming
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22 affected by the unorthodox well location. 23 Q. What is the status of the ownership throughout 24 Section 11?	20	A. Notice was provided to all operators within one
23 Q. What is the status of the ownership throughout 24 Section 11?	21	mile of the proposed pool boundaries and all parties
24 Section 11?	22	affected by the unorthodox well location.
	23	Q. What is the status of the ownership throughout
25 A. Section 11 has common ownership, Yates Petroleum,	24	Section 11?
	25	A. Section 11 has common ownership, Yates Petroleum,

1	et al., 100 percent. Therefore, reorientation of the
2	proration unit will not result in the adjustment of any of
3	the owners' interests in the area.
4	Q. Let's go to Exhibit Number 3. What is this?
5	A. Exhibit Number 3 is a stratigraphic cross-
6	section, A-A', through the north east-west, through the
7	northern part of the area.
8	I would also at this time refer you to Exhibit
9	Number 5, which is a net channel sand map. It has the two
10	cross-sections that I'll refer to laid out on the map.
11	Q. The traces for the cross-section are shown on
12	Exhibit 5?
13	A. That's correct.
14	Q. All right, let's go to cross-section A-A', and
15	I'd ask you to review that.
16	Q. Cross-section A-A' is a stratigraphic cross-
17	section east-west through the northern part of the area.
18	The westernmost well in Section 10 is the Mobil State "GG"
19	Number 1. It goes east through the three wells currently
20	in the north half of Section 11 and north to the Yates
21	Tenneco "ADP" State Number 1 in the southeast corner of
22	Section 2.
23	The cross-section shows the location of basal
24	Atoka-Morrow channel sands present in the north half of
25	Section 11. It shows that in Section 10, the Mobil State

1	"GG" Number 1, on the left side of the cross-section, the
2	sands are not present. And also on the farthest right
3	well, the Yates Fed Tenneco "ADP" State Number 1, the sands
4	are not present.
5	Q. Anything else with this exhibit?
6	A. No, there's not.
7	Q. All right, let's go to the southern cross-
8	section, B-B'.
9	A. Cross-section B-B' is a stratigraphic cross-
10	section through the southern part of the area. It extends
11	from the J.M. Huber Gulf State A 1 in the southeast corner
12	of Section 23, east to Section 25, to the Yates Petroleum
13	Carper McAlester Number 1, and northeast to the Bogel Farms
14	State Number 1 in Section 13.
15	This again shows the presence of the basal Atoka-
16	Morrow channel sands in the center part of the cross-
17	section, but not present on either side, constraining the
18	width of the channel sands.
19	Q. Mr. Cummins, can you explain to the Examiner and
20	show the Examiner why it is that Yates is requesting an
21	order that combines the Atoka and the Morrow formations in
22	this area?
23	A. Yes, if you'll refer to, again, cross-section
24	B-B', on the top of the cross-section I've marked the top
25	of the Atoka formation. From the top of the Atoka, down to
•	

1	the top of the Mississippian Chester formation, is a
2	section of sandstone, shale and limestone that is fairly
3	consistent, and there is not a reliable geologic marker on
4	which to pick the top of the Morrow formation.
5	Q. Let's go now to Exhibit 5, and I'd ask you to
6	review the information on the isopach map for the Examiner.
7	A. Exhibit 5
8	Q. Your net channel sand map.
9	A is a net channel sand map through the area.
10	It shows the three wells that you've seen previously on
11	cross-section A-A', in the north half of Section 11, that
12	have the basal Atoka-Morrow channel sands present. And to
13	the south, the well referred to in cross-section B-B', in
14	the northwest quarter of Section 25, that also has the
15	basal Atoka-Morrow channel sands present.
16	It also shows other control in the area, that
17	we're deep enough to penetrate the section but did not have
18	any of the channel sands present, therefore constraining
19	the width of the channel, and the contours represent my
20	interpretation of the orientation of the channel sands.
21	Q. Mr. Cummins, I'd like you to explain to the
22	Examiner the benefits that will result from reorienting the
23	spacing units within Section 11, the standup units proposed
24	by Yates. You might want to refer to Exhibit Number 1
25	again, as you review that.

1	A. Yes. Yates desires to re-enter one of the wells
2	that are in the northeast corner of Section 11, but we're
3	currently restricted because of the proration unit. We
4	would like to reorient the proration unit to a west half,
5	to allow us to re-enter one of the other wells in the
6	northeast quarter of the section. It would be the most
7	economical way to get a second well in the section and
8	result in more efficient drainage of the remaining
9	reserves.
10	Q. Do you know at this time if there are sufficient
11	reserves in this pool to justify drilling a second well in
12	Section 11?
13	A. No, sir, we at this time do not know.
14	Q. And by being able to reorient the spacing unit,
15	instead of drilling a new well, you would be able to re-
16	enter and recomplete in the existing well in the southeast
17	of the northeast?
18	A. That's correct.
19	Q. Would you just generally summarize your
20	geological conclusions?
21	A. In this area, we believe that there is
22	essentially one reservoir section, the Atoka-Morrow
23	section, and there is not a good geological reason to
24	separate the two formations, as I referred to earlier, from
25	the top of the Atoka formation to the top of the Chester

1formation. Reorientation of the spacing unit is necessary2in order to allow us to re-enter one of the wells in the3east half of Section 11, and an unorthodox location results4if we take this approach.5Q. When we look at this pool, have all the wells in6the pool been have any of the wells been new drills?7A. No.8Q. They're all recompletions or using existing9wellbores to test the Atoka in this area?10A. That's right.11Q. And that's what you're attempting to do, again,12by reorienting the spacing units, is enable you to get13another well in the formation. Based on that information,14you will be able to determine whether or not it's possible15to drill stand-alone wells to this depth; is that right?16A. That's correct.17Q. And the locations of these wells are The wells18are drilled so the unorthodox locations are locked in;19isn't that right?20A. That's correct.21Q. You're seeking approval for the locations on the22 spacing unit?23A. That is right.24Q. Will Yates also be calling an engineering witness25to discuss the portion of the case related to the need for		15
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second wells on the spacing units? 1 2 Α. Yes, we will. Were Exhibits 1 through 5 prepared by you or 3 Q. 4 compiled under your direction and supervision? 5 Α. Yes, they were. MR. CARR: At this time, Mr. Ashley, we would 6 move the admission of Yates Exhibits 1 through 5. 7 EXAMINER ASHLEY: Exhibits 1 through 5 will be 8 admitted as evidence. 9 MR. CARR: That concludes my direct of this 10 witness. 11 12 EXAMINATION 13 BY EXAMINER ASHLEY: Mr. Cummins, the north half right now is 14 Q. currently dedicated to the Sand Springs "ASU" State Number 15 16 1? That's right. 17 Α. And that was a re-entry? 18 Q. 19 Α. Yes, it was. And it's producing right now? 20 Q. It's currently shut-in, but capable of 21 Α. production. 22 And it has the nonstandard location approval for 23 ο. the north half? 24 25 Yes, it does. Α.

	13
1	Q. Okay. And by reorienting to the west half, then,
2	you would re-enter a well in the east half, the northeast
3	quarter of Section 11?
4	A. Yes, we're looking right now at re-entering the
5	well that's in the southeast of the northeast quarter.
6	Q. Okay. Do you know if this I guess that's the
7	Springs Number 1 that's in the southeast of the northeast?
8	That's the one you want to re-enter?
9	A. Yes, that's correct.
10	Q. Would that be a standard location?
11	A. Yes, I believe it would.
12	Q. Okay. And you say Okay, now, back to
13	extending the vertical limits to include Atoka and the
14	Morrow for this pool, you say it's essentially one
15	reservoir, there's really no you can't really
16	differentiate between the Atoka-Morrow?
17	A. You can't really differentiate between the Atoka-
18	Morrow
19	Q. Okay.
20	A in this area.
21	Q. So like on cross-section B-B', would it be
22	possible that that upper channel sand in the Carper
23	McAlester State A Number 1, I mean, could you say that that
24	might be Atoka you wouldn't know for sure if that was
25	Atoka or Morrow?

15

1	A. That is correct.
2	Q. Okay. And you also want to have in the special
3	pool rules approval for an additional well in each spacing
4	unit; is that correct?
5	A. That's correct.
6	Q. Will that be addressed by another witness?
7	A. Yes.
8	EXAMINER ASHLEY: Okay. I have no further
9	questions, Mr. Cummins. Thank you.
10	MR. CARR: Mr. Ashley, at this time we call Dave
11	Pearson.
12	DAVID PEARSON,
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. CARR:
17	Q. Would you state your name for the record, please?
18	A. David Pearson.
19	Q. Where do you reside?
20	A. Artesia, New Mexico.
21	Q. By whom are you employed?
22	A. Yates Petroleum.
23	Q. And what is your position with Yates?
24	A. I'm a reservoir engineer, petroleum engineer.
25	Q. Have you previously testified before this

1	Division?
2	A. Yes.
3	Q. At the time of that testimony, were your
4	credentials as an expert in reservoir engineering accepted
5	and made a matter of record?
6	A. Yes.
7	Q. Are you familiar with the Applications filed in
8	these cases?
9	A. Yes.
10	Q. Have you made an engineering study of wells in
11	the area of interest?
12	A. Yes.
13	Q. And are you prepared to share the results of your
14	work with the Examiner?
15	A. Yes.
16	MR. CARR: Are the witness's qualifications
17	acceptable?
18	EXAMINER ASHLEY: They are.
19	Q. (By Mr. Carr) Now, initially, Mr. Pearson, could
20	you I'd like to have you review for us the history of
21	the well currently producing from the Atoka in the north
22	half of Section 11.
23	A. The well The situation, generally speaking, in
24	the area is a little bit confusing because there's been a
25	sequence of name changes as wells have been drilled,

1 | plugged and abandoned and re-entered.

-	prugged and abandoned and re encered.
2	But I'll start with the Sand Springs Number 1,
3	which is the well most recently drilled or re-entered
4	and deepened by Yates Petroleum. The well was originally
5	drilled to about 10,500 feet as a Wolfcamp test, and was
6	re-entered this fall or last fall by Yates Petroleum
7	and deepened to the Devonian and recompleted eventually
8	after being tested in the Devonian, recompleted eventually
9	to the Atoka or Morrow sands that you see here today.
10	Q. And is that well currently producing?
11	A. The well has been on production. It is today
12	currently shut in as a function of market conditions.
13	Q. But it is capable?
14	A. It is capable of production, it was on production
15	until a few weeks ago.
16	Q. And the north half of Section 11 is dedicated to
17	that well?
18	A. That is correct.
19	Q. There's also a second wellbore that is available
20	that could be used to test the Atoka in the north half?
21	A. That's correct.
22	Q. And that is the well shown on Exhibit 1 in the
23	southeast of the northeast?
24	A. That is correct. It's labeled on Exhibit 1 as
25	the Trainer Springs Number 1 and is labeled on cross-

<pre>1 section A-A' as the Helbing and Podpechan Kelce State 2 Number 1. There have been two name changes on that and 3 probably will be a third, so 4 Q. Is that well in the southeast of the northeast 5 11 the only other well in the section that could reasona 6 be used to attempt an additional completion in the Atoka 7 without drilling a new wellbore? 8 A. No, it would be possible, or it might be 9 possible, to re-enter the well that is variously labeled 10 on Exhibit Number 1 it's labeled Ashman and Hillard Numb 11 1. For mechanical reasons, it's much more attractive to</pre>	bly ,  er
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11 1. For mechanical reasons, it's much more attractive to	
12 us, in addition to the location being slightly better, i	t
13 is a legal location at the well in the southeast of the	
14 northeast. So we would prefer to re-enter, both for	
15 mechanical reasons and because it would be a clearly leg	al
16 location in an east-half proration unit.	
Q. In any event, all of those wells are in the no	rth
18 half of the section?	
19 A. That's correct.	
20 Q. By re-orienting the spacing units, you would t	nen
21 be able to complete a well in the Atoka on an east-half	
22 standup unit?	
23 A. Correct.	
Q. All right. How many wells are there in this a	rea
25 with a long enough production history for you to be able	to

actually plot the reserves?

1

A. There are actually two wells in the Sand SpringsAtoka Pool that have a suitable history for making an
estimate of the ultimate recoverable reserves:

5 The Tenneco "ADP" State Com Number 1, which is 6 variously labeled on the different base maps. On Exhibit 7 Number 1 it is shown as the Yates Petroleum Tenneco State 8 "ADP" Number 1. It would be in the southeast quarter of 9 irregular Section Number 2.

10 There is a second well in the southwest quarter 11 of irregular Section Number 1, which is labeled on Exhibit 12 Number 1 as the Sinclair 840 State Lea. On Exhibit Number 13 5 it's shown as the Yates Petroleum Lagarto State unit. 14 That also is confusing in that there is a Yates Petroleum 15 Lagarto State Unit in Section 13. We're going to refer to 16 the one in Section 1.

Q. Okay, let's start with the Tenneco well in
Section 2 --

19 A. Yes.

20 Q. -- and let's go to Exhibit Number 6, and I'd ask 21 you to explain what that shows.

A. Okay, Exhibit Number 6 is a *Dwight's* production plot showing the daily gas rate, the daily condensate rate and the daily water rate produced by the Tenneco "ADP" State Com Number 1. The well began production in 1989 and,

1	using the last three or four years of history, I have an
2	established decline rate that is relatively consistent with
3	the overall life of the well and used that decline rate and
4	the most recent production rate to make an estimate of the
5	remaining recoverable reserves from that well.
6	Q. And is that estimate shown on the next exhibit,
7	Exhibit Number 7?
8	A. Yeah, the calculations that go into that exhibit
9	are shown on Exhibit Number 7.
10	Q. And what does that show you?
11	A. Exhibit Number 7 shows that the estimated
12	remaining recoverable reserves from the well are about 250
13	million cubic feet. Exhibit 6 shows that the cumulative
14	production to date for the well is about 800 million cubic
15	feet. It yields an estimated ultimate recovery from the
16	well of just over 1 BCF, 1060 million cubic feet.
17	It's also important to note that the well has
18	produced about 80 percent of its reserves, so the error in
19	that EUR is probably relatively low.
20	Q. All right, let's go to the other well, the well
21	in the southwest of Section, the Lagarto well, and I'd ask
22	you to identify and review Exhibit Number 8.
23	A. All right. Exhibit Number 8 also is a Dwight's
24	production plot of the production history of the Lagarto
25	AMZ State Number 1, operated by Yates Petroleum. The well

1	was completed in mid-1990 and has been on production
2	continuously since then.
3	I have used this production plot, which shows the
4	daily gas production rate, the daily oil production or
5	condensate production rate and the daily water production
6	rate to estimate a decline rate for the well using the last
7	four or five years of production history.
8	Q. Let's go to your decline curve analysis on the
9	Lagarto, Exhibit Number 9, and I'd ask you to review that.
10	A. All right. Exhibit Number 9 shows a decline
11	analysis calculation to estimate the remaining ultimate
12	or the remaining recoverable reserves from the Lagarto
13	State Number 1. That would be about 600 million cubic
14	feet. The cumulative production to date from the Lagarto
15	State Number 1 is about 1.2 BCF, yielding an estimated
16	ultimate recovery from the well of about 1.8 BCF.
17	Q. All right, let's go to Exhibit Number 10. What
18	is that?
19	A. Exhibit Number 10 is the combination of the
20	material balance decline curve estimates of recoverable
21	reserves, and original gas-in-place calculation based on
22	those recoverable reserves for each well, and a volumetric
23	calculation to estimate the drainage area, or the storage
24	volume required to reservoir that volume of hydrocarbons.
25	The first part, or the first half, is the
l	

calculation for the Lagarto State Number 1 in the southwest 1 quarter of Section Number 1. It shows that using an 80-2 percent recovery factor and recoverable reserves of about 3 1.8 BCF original gas in place would be 2 1/4 BCF or 2.24 4 BCF. 5 The calculation of the hydrocarbon storage 6 capacity required would yield an area, given the thickness 7 from the logs and the porosity from the logs, of about 180 8 9 acres for the Yates Tenneco "ADP" State Number 1, which is located in the southeast quarter of irregular Section 10 Number 2. A similar series of calculations shows original 11

12 gas in place of about 1.3 BCF and an areal extent of the 13 reservoir required to store that much gas of about 160 14 acres, 158 acres.

Q. So you have two wells that immediately offset one another. One can drain approximately 180 acres, the other about 150 acres?

18 A. That's correct.

Q. What conclusions can you reach from this?
A. My primary conclusion from this would be that the
320-acre proration unit could not be efficiently drained by
one well.

Q. In your opinion, is a second well necessary to
effectively drain the reserves under these 320-acre units?
A. That would be correct.

	24
1	Q. What would be the impact on Yates if this
2	Application were denied?
3	A. If the Application were denied, Yates would be
4	denied its right to efficiently produce its reserves
5	beneath its proration unit.
6	Q. At this time, would Yates go forward and drill a
7	stand-alone well to test the Atoka in this section?
8	A. At this point in time, no, we would probably not.
9	Although the ultimate recoverable reserves appear to be
10	attractive for a stand-alone well, I would draw your
11	attention to the amount of time that it takes to produce
12	the reserves. Recoverable reserves of about 1.1 BCF from
13	the Tenneco well will take approximately 15 years to
14	produce, and recoverable of about 1.8 BCF from the Lagarto
15	well are going to take nearly 20 years to recover.
16	Q. Is it possible that you could ultimately want to
17	develop the area with four wells per section?
18	A. That's correct.
19	Q. In your opinion, would approval of the
20	Application impair the correlative rights of any interest
21	owner in the area?
22	A. No.
23	Q. You're only draining the acreage that's dedicated
24	to those wells?
25	A. That's correct.

	25
1	Q. Will approval of the Application otherwise be in
2	the best interests of conservation, the prevention of waste
3	and the protection of correlative rights?
4	A. Yes.
5	Q. Were Exhibits 6 through 10 prepared by you?
6	A. Yes.
7	MR. CARR: At this time, Mr. Examiner, we would
8	move the admission into evidence of Yates Exhibits 6
9	through 10.
10	EXAMINER ASHLEY: Exhibits 6 through 10 will be
11	admitted as evidence.
12	MR. CARR: And that concludes my direct of Mr.
13	Pearson.
14	EXAMINATION
15	BY EXAMINER ASHLEY:
16	Q. Mr. Pearson, in the two wells that you just
17	described, could you give me the depth of the perforations?
18	A. Yes Actually, I can't on the Lagarto, but it's
19	very similar to the Tenneco perforations, and if you can
20	get your Section A-A' out
21	Q. Okay.
22	A there's a pay zone at about 11,900 feet.
23	That's a CNL/LDT. It's the far right-hand well, I'm sorry.
24	It's identified on this cross-section as the Petroleum
25	Reserve Tenneco State Number 1.

1	Q. Okay.
2	A. And there's a pay zone that begins at about
3	10,000 or excuse me, at about 11,904, and the perforated
4	interval is from roughly 11,910 to -16, that little bit of
5	gas show there, a crossover effect on the density neutron
6	logs.
7	The Lagarto was not included on this section, but
8	the depth of the pay zone perforations is very similar, and
9	there's not a lot of structural relief.
10	EXAMINER ASHLEY: I have no further questions,
11	Mr. Pearson. Thank you.
12	THE WITNESS: You're welcome.
13	MR. CARR: May it please the Examiner, that
14	concludes our presentation in this case.
15	EXAMINER ASHLEY: There being nothing further in
16	this case, Case 12,130 will be taken under advisement.
17	(Thereupon, these proceedings were concluded at
18	10:00 a.m.)
19	* * *
20	
21	t do new score that the foregoing le
22	a contribute score of the proceedings in the Euclidean hearing of Case No. $p_{130}$ ,
23	heard by me on (4-) 1999
24	Off Conservation Division
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 Division 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 April 4th, 1999.

STEVEN T. BRENNER CCR No. 7

My commission expires: October 14, 2002

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