

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date FEBRUARY 15, 1989 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
William F. Egan	Campbell + Block	Santa Fe
W. Perry Pearce	Montgomery, Andrews, P.H.	Santa Fe
Chad Dickerson	Duker, Fair & Vachon	Albuquerque, NM
Leslie Bantz	Yates' Pe	Artesia, NM
Tim Wilcox	NICOR Exp	Denver, CO
Gene N. Garnett	Wintergreen Energy Corp.	Dallas, TX
R.R. Kendrick	El Paso Natural Gas	El Paso, TX
DANAN RICHARDS	WENDELL BEST, THELMA PARKER SANDERS LAW FIRM	Roswell, N.M.
R.M. Reed	Read + Stevens	Roswell, NM
RANDALL FORT	Read + Stevens, Inc.	Roswell NM
John Mafey	Read + Stevens, Inc.	Roswell NM
Bub Hulter	Byram	Santa Fe
Victor Lopez	CCD	"
Don Blalock	YPC	Artesia
R.H. [unclear]	[unclear]	Santa Fe
Don Board	BLM	S.F.
Bud Newson	READ + STEVENS	Roswell, NM

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NAME	REPRESENTING	LOCATION
Ray Beck	Yates	Orosia
Ernest H. Canoll	H&S Oil - Lopez Canyon H&S & Canoll	Aretaria

1 STATE OF NEW MEXICO
2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
3 OIL CONSERVATION DIVISION
4 STATE LAND OFFICE BUILDING
5 SANTA FE, NEW MEXICO

6 15 February 1989

7 EXAMINER HEARING

8 IN THE MATTER OF:

9 Application of Arthur B. Ramsey d/b/a CASE
10 Ramsey Petroleum Company for a unit 9600
11 agreement, Hidalgo County, New Mexico.

12
13
14 BEFORE: Michael E. Stogner, Examiner

15
16 TRANSCRIPT OF HEARING

17
18 A P P E A R A N C E S

19 For the Division: Robert G. Stovall
20 Attorney at Law
21 Legal Counsel to the Division
22 State Land Office Bldg.
Santa Fe, New Mexico

23 For the Applicant: Arthur B. Ramsey, pro se
24
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I N D E X

STATEMENT BY MR. RAMSEY 3

STATEMENT BY CHARLES B. REYNOLDS 9

E X H I B I T S

Ramsey Exhibit One, Letter 3

Ramsey Exhibit Two, Letter 4

Ramsey Exhibit Three, Unit Agreement

Ramsey Exhibit Four, Geology Report 4

Ramsey Exhibit Five, Geology Report 21

1 MR. STOGNER: Call next Case
2 Number 9600.

3 MR. STOVALL: Application of
4 Arthur B. Ramsey, d/b/a Ramsey Petroleum Company for a unit
5 agreement, Hidalgo County, New Mexico.

6 MR. STOGNER: Call for ap-
7 pearances at this time.

8 MR. STOVALL: Mr. Ramsey,
9 would you identify yourself, please?

10 MR. RAMSEY: Yes. Arthur
11 Ramsey, Albuquerque, New Mexico. I'm appearing for myself
12 as operator and owner of all the leases. I have one wit-
13 ness, Charles Reynolds, geologist.

14 MR. STOGNER: Mr. Ramsey, are
15 you going to be presenting testimony today also?

16 MR. RAMSEY: Yes, sir.

17 MR. STOVALL: Mr. Ramsey,
18 would both of you gentlemen rise to be sworn, then?

19

20 (Mr. Ramsey and Mr. Reynolds sworn.)

21

22 MR. STOGNER: You may proceed,
23 Mr. Ramsey.

24 MR. RAMSEY: All right, sir.
25 I have given you Exhibit One, application letter for unit

1 to the Commissioner.

2 Exhibit Two, a letter from the Commis-
3 sioner giving preliminary approval of the unit.

4 Exhibit Three, unit agreement, executed.
5 With that is Exhibits A and B attached and made a part of,
6 being a list of leases and a plat of the unit area.

7 Number Four, geological report by Mr.
8 Charles Reynolds.

9 Number Five, geological map by Mr.
10 Reynolds.

11 Do you want me to state some of these
12 matters pertaining to drilling the well, et cetera, and
13 acreage, or would you ask questions on that, Mr. Stogner?

14 MR. STOGNER: Why don't you go
15 ahead and present yourself, Mr. Ramsey, and give me a run-
16 down on what you plan to do and if I have any questions
17 I'll ask them at that time.

18 MR. RAMSEY: All right, sir.

19 We're applying for the State
20 Unit, Playas Valley Unit, covering 6,280 acres in part of
21 26 South, 27 South, 17 West, Hidalgo County, all New Mexico
22 State leases, of which I own all of them myself, being 8
23 leases, 8 tracts, 14 sections.

24 We plan to drill a test well
25 to 2300 feet to the Mojado formation --

1 MR. STOGNER: I'm sorry,
2 Mojado?
3 MR. RAMSEY: Mohado, yes.
4 MR. STOGNER: Spell that for
5 me.
6 MR. RAMSEY: M-O-J-A-D-O.
7 MR. STOGNER: Thank you, sir.
8 MR. RAMSEY: And as I stated,
9 I will be the operator and own 100 percent of the leases.
10 This project is about 15 miles
11 east of the Town of Animas, New Mexico, called Playas, New
12 Mexico, a very small place.
13 MR. STOGNER: Mr. Ramsey,
14 where do you plan to drill the first well?
15 MR. RAMSEY: as I understand
16 it, we have to drill it on the first expiring lease, which
17 is May 1, '89, and that would be Section 25, the blue one
18 on the chart.
19 MR. STOGNER: And the unit
20 agreement requires you to drill only one well at this time
21 and --
22 MR. RAMSEY: Yes, sir.
23 MR. STOGNER: -- if possible
24 shows --
25 MR. RAMSEY: One well to that

1 depth, and we must start it prior to May 1, '89.

2 MR. STOGNER: And what forma-
3 tions will be unitized? Are you proposing to unitize more
4 than just the Mojado or --

5 MR. RAMSEY: We're proposing
6 to unitize everything.

7 MR. STOGNER: Okay. Who will
8 be the operator of this unit, Mr. Ramsey?

9 MR. RAMSEY: I will be the
10 operator.

11 MR. STOGNER: Will you be
12 doing business as Ramsey Petroleum Company or --

13 MR. RAMSEY: Yes.

14 MR. STOGNER: -- will it be
15 under your --

16 MR. RAMSEY: It will be my
17 name d/b/a Ramsey Petroleum Company, which is not a corpor-
18 ation.

19 MR. STOGNER: Which is as it
20 appears on the advertisement there.

21 MR. RAMSEY: Yes, that is cor-
22 rect, and in the unit agreement, Exhibit Three.

23 MR. STOGNER: Let's look at
24 Section Number 34 up in your northern portion of your unit,
25 Mr. Ramsey, and I show that you have a northeast quarter

1 and then a southwest quarter.

2 MR. RAMSEY: That's correct
3 and they're all under one lease, correct.

4 MR. STOGNER: That's all under
5 one state lease.

6 MR. RAMSEY: Yes, sir.

7 MR. STOGNER: I'd like to re-
8 fer now to General Rule Number 507 --

9 MR. RAMSEY: Yes.

10 MR. STOGNER: -- in our
11 General Rules and Regulations. Are you familiar with that,
12 Mr. Ramsey?

13 MR. RAMSEY: Yes, contiguous.

14 MR. STOGNER: Contiguous.
15 What -- do you want to comment on that?

16 MR. RAMSEY: I think we're
17 contiguous. We did -- I talked with you about that north-
18 west corner and you felt you could let that join with the
19 -- the northeast corner with the southwest of 34. I believe
20 you said normally leases that touch by corners are not suf-
21 ficient --

22 MR. STOGNER: Right.

23 MR. RAMSEY: -- but you felt
24 this one could because it was one lease. That was my un-
25 derstanding, is that correct, sir?

1 MR. STOGNER: What I remember
2 our conversation, and that was about what, two weeks ago --

3 MR. RAMSEY: Yes.

4 MR. STOGNER: And I believe I
5 was looking -- I didn't -- I don't recall that I said that
6 it would, as I recall, I would look into the matter.

7 MR. RAMSEY: You feel north-
8 east might have to be deleted, is that what you're saying?

9 MR. STOGNER: It may at this
10 time. There is a definition for "contiguous" in our -- in
11 our definitions portion and let me read the definition as
12 shown. "Acreage joined by more than one common point; that
13 is, the common boundary must be at least one side of a
14 governmental quarter quarter section."

15 However, this doesn't meet
16 that.

17 MR. RAMSEY: No, it doesn't,
18 and we took out the other ten leases to the north at your
19 request.

20 MR. STOGNER: Did you see the
21 deletion of the northeast quarter as any severe consequence
22 to this unit, Mr. Ramsey?

23 MR. RAMSEY: No, we just -- we
24 cut it down from 50,000 to 6,280.

25 MR. STOGNER: Okay. Do you

1 have anything more to add, Mr. Ramsey, at this time?

2 MR. RAMSEY: No, sir, I think
3 with the plats and the list of the leases that is the whole
4 story, and the unit agreement, plus our geology report and
5 that's to be presented by Mr. Charles Reynolds.

6 MR. STOGNER: Okay, Mr. Rey-
7 nolds, do you want to identify yourself and state your name
8 and place of employment and --

9 MR. REYNOLDS: My name is
10 Charles B. Reynolds. I'm with Charles B. Reynolds and As-
11 sociates, Incorporated, Albuquerque, New Mexico.

12 I am a geologist and a geophy-
13 sivist.

14 MR. STOGNER: Would you --
15 have you testified before this Commission before and had --

16 MR. REYNOLDS: No, sir.

17 MR. STOGNER: Okay, would you
18 please state your education and your work experience?

19 MR. REYNOLDS: All right, sir.

20 I hold degrees in geology, a
21 Bachelor's degree and a Master's degree from the University
22 of New Mexico.

23 I have approximately 18 years
24 experience with Chevron Oil Company working as a geologist
25 and as a geophysicist. I have worked on all continents ex-

1 cept Antarctica with Chevron. I have been involved in
2 perhaps a dozen major and giant oil and gas discoveries in
3 various continents.

4 I've been a consulting geolo-
5 gist and geophysicist in Albuquerque for sixteen years.

6 MR. STOGNER: Thank you, Mr.
7 Reynolds, I believe your credentials are qualified. It
8 might have helped if you'd worked in Antarctica if you're
9 going down to Hidalgo County, but we'll accept your cre-
10 dentials.

11 Why don't you give us a little
12 rundown and presentation on the -- your feeling on this --

13 MR. REYNOLDS: All right.

14 MR. STOGNER: -- and I'll ask
15 some questions.

16 MR. REYNOLDS: I feel that
17 this project is very well reasoned geologically. It's
18 based first and foremost on the fact that the Lower
19 Cretaceous rocks of southwestern New Mexico are, in my
20 opinion very attractive in that there is a thick accumula-
21 tion of marine sandstone, shale and limestone.

22 The major problem in the area
23 in terms of oil and gas is that much of the area has been
24 greatly faulted during basin and range faulting, mountains
25 have been raised, the mountains are probably not attractive

1 because in general the evidence is that they have pro-
2 bably been flushed with fresh water; however, the valleys
3 have probably comparatively been protected from these
4 effects, simply due to their lying relatively low and by
5 analogy to the principal producing region in the basinal
6 range, that is Nevada, the valleys are far and away the
7 most attractive area.

8 In particular, the Playas
9 Valley looks very interesting because there are existing
10 petroleum tests which have shown that the most attractive
11 stratigraphic section of the Lower Cretaceous, that is the
12 Mojado formation, consisting of marine shales and sand-
13 stones, and the U-Bar formation, consisting of marine
14 shales and limestones, including locally reefs, are pre-
15 served beneath the valley.

16 The southern part of the
17 valley, Sam Thompson's work has shown, has been, to use a
18 colloquial phrase, "cooked". The evidence is that the pos-
19 sible petroleum source beds of the Lower Cretaceous shales
20 have been overheated so that they have long since generated
21 all oil and gas they might generate and oil and gas are
22 unlikely to be preserved in that area.

23 The northern part of the
24 valley, where Mr. Ramsey's proposed unit lies, is believed
25 by Sam Thompson and myself to be north of this zone of

1 over cooking.

2 The evidence of existence of
3 hydrocarbons in the northern part of the valley comes pri-
4 marily from one test, KCM Cochise State No. 1-A --

5 MR. STOGNER: Whoa, back up.

6 MR. REYNOLDS: I'm sorry.

7 MR. STOGNER: You want to go a
8 little slower on that?

9 MR. REYNOLDS: Right. One old
10 test, the KCM No. 1 State Cochise, is that correct?

11 MR. RAMSEY: No. 1-A.

12 MR. REYNOLDS: No. 1-A, which
13 is at the -- more or less at the south edge of the area of
14 interest, did have apparently legitimate shows of natural
15 gas from the Mojado. On this reasoning Mr. Ramsey has nar-
16 rowed his interest to the northern part of the valley; that
17 is, attractive rocks present in the subsurface and not over
18 cooked. He has narrowed his interest further on, I think, a
19 very rational basis in that the gravity evidence suggests
20 that the eastern side of the valley is likely to be rela-
21 tively high structurally. The gravity suggests this quite
22 strongly. Furthermore, there is from the gravity and the
23 surface geology a suggestion that the -- some of the old
24 Laramide, that is, latest Cretaceous, earliest Tertiary,
25 structural grain may persist across the valley and this

1 could be very attractive in that you could have relatively
2 early existing structural traps which may be preserved be-
3 neath the valley.

4 For this reason we narrow our
5 interest down to the east side of the valley and especial-
6 ly to a zone which may perhaps have been structurally high
7 since late Cretaceous time.

8 In addition, the aeromagnetic
9 data suggests that there are no large igneous intrusions
10 within the northern valley area. The closest anomaly sug-
11 gesting a significant igneous intrusive lies immediately
12 south of the area of interest adjacent the frontal fault of
13 the Little Hatchet Mountains and opposite a preserved part
14 of an igneous intrusive present in the mountains immediate-
15 ly on the upthrown side of the fault.

16 To summarize, we feel that
17 this is an area of attractive Cretaceous stratigraphy pre-
18 served beneath the valley fill in the valley and very
19 likely, on the basis of the gravity, structurally high on
20 the east side of the valley, and possibly preserving older
21 structural or possible traps in the valley under the val-
22 ley, under the valley fill.

23 MR. STOGNER: Mr. Reynolds, in
24 looking at the Mojado formation in this unit, the first
25 well will be drilled in the extreme southern portion. Do

1 we see much of a formation dip, extreme, or is it pretty
2 flat in the area, or what? How is the Mojado in this unit
3 characterized?

4 MR. REYNOLDS: We do not know
5 directly here. We have no seismic and of course there are
6 no wells in the unit.

7 Equating to the valleys in
8 Nevada and valleys in New Mexico in which we have done
9 quite a bit of seismic, we can anticipate the dips will
10 probably be low; that is less than 10 degrees; possibly
11 less than 5. At this stage the odds are almost equally
12 good as to whether the dips will be toward the mountains,
13 that is eastward, or westward, away from the mountain
14 front, the reason being that in these areas near the
15 mountain fronts in basinal range structure we find that
16 sometimes they dip away from the range and sometimes they
17 dip towards the range.

18 The gravity is not definitive
19 in that regard, but we can say from experience elsewhere
20 that the odds are we are not looking at high dips except,
21 perhaps, very close to major step faults paralleling the
22 mountain fronts.

23 MR. STOGNER: Mr. Reynolds,
24 now you referred to the State Cochise Well No. 1. Where
25 exactly is that well or roughly how far away is that well

1 from this unit?

2 MR. RAMSEY: That's in Sec-
3 tion 18, 28 South --

4 MR. STOVALL: Excuse me, Mr.
5 Ramsey --

6 MR. RAMSEY: Yes, sir, oh --

7 MR. STOVALL: -- for the sake
8 of the reporter, --

9 MR. RAMSEY: Yes.

10 MR. STOVALL: -- I think it
11 would be much easier if we let one person at a time answer.

12 MR. RAMSEY: I'm sorry.

13 MR. REYNOLDS: I do not have
14 that information handy. May I request that from Mr.
15 Ramsey, please?

16 MR. STOVALL: Okay.

17 MR. RAMSEY: Section 18,
18 northwest -- northeast quarter of Township 28 South, 17
19 West. Total depth of that well was 5916. It's KCM No. 1
20 Cochise State A.

21 MR. STOGNER: When was that
22 drilled, Mr. Ramsey?

23 MR. RAMSEY: About eight years
24 ago, approximately.

25 MR. STOGNER: Mr. Reynolds,

1 did -- obviously most of your information, subsurface in-
2 formation, came off of the reports on this well --

3 MR. REYNOLDS: Yes.

4 MR. STOGNER: -- I would as-
5 sume?

6 MR. STOGNER: You are pro-
7 posing a well at 23 -- to 2300 feet.

8 MR. REYNOLDS: Yes.

9 MR. STOGNER: Is that suffi-
10 cient depth, you believe, to go through the Mojado forma-
11 tion?

12 MR. REYNOLDS: Not to go
13 through it, but it should be, so far as we know, adequate
14 to test at least several hundred feet of the Mojado. At
15 the kind of position relative to the range front we're
16 talking about, one can typically expect that the valley
17 fill, the Gila formation, Santa Fe Group type of rock, will
18 be typically 1 to 2000 feet thick; probably closer to 1000
19 feet thick, so saying 2300, we are estimating that most
20 likely that would penetrate something between 500 and 1000
21 feet of the Mojado.

22 Now the Mojado may be as thick
23 as 5000 feet; however, we feel reasonably that if we are
24 going to see shows of potential production, we would anti-
25 cipate them most likely to occur in the upper part of

1 the Mojado because in most of the oilfields I've worked on
2 in Nevada, in this type of structural setting, the oil
3 tends to be accumulated relatively closely under the valley
4 fill type deposits.

5 MR. STOGNER: Mr. Reynolds,
6 what kind of formations -- I'm not familiar with the geo-
7 logy in this area. Could you elaborate a little bit about
8 the younger formations which you will be going through to
9 reach the Mojado?

10 MR. REYNOLDS: Yes. The --
11 present at the surface are Quaternary sands and gravels,
12 which bear many names, but in most literature they're
13 simply referred to as Quaternary. They are largely allu-
14 vial sands and gravels resulting from deposition by inter-
15 mittent streams flowing from the mountain range toward the
16 center of the valley, toward the bolson, center. These --

17 MR. STOGNER: I'm sorry,
18 towards the what?

19 MR. REYNOLDS: Toward the
20 bolson in the center of the -- playa lake, in the center of
21 these internally drained valleys. The thickness of the
22 Quaternary is typically 100 to 200 feet in most of these
23 valleys. It's rather unusual to find it thicker than that.
24 Sometimes also it's thinner.

25 Beneath the Quaternary sands

1 and gravels is what is usually in most of New Mexico termed
2 the Santa Fe group but in this area it is called the Gila
3 formation or sometimes Gila conglomerate. These are rocks
4 called late, middle to late Tertiary age, basically Mio-
5 sene, Pliocene, or early Pleistocene rocks. They are usu-
6 ally, mostly sands and gravels near the mountain range,
7 again of Piedmont alluvial deposits deposited by ephemeral
8 streams running from the -- out of the mountains toward the
9 center of the valley.

10 In the centers of the valleys
11 there are commonly much finer grained silts, clays and in
12 some cases, such as in the Tularosa Valley, there are
13 evaporites, gypsum, anhydrite and sometimes halite included
14 within these central lacustrine deposits, playa deposits.

15 The sediments of the Gila are
16 -- their facies, their rock types are controlled typically
17 more by their position with regard to the adjoining moun-
18 tain ranges or the center of a valley than with their age.

19 Near the mountain ranges they
20 are usually much coarser and of a more alluvial nature,
21 more a stream laid nature; whereas in the center of the
22 valley they tend to become much more silty, as I said, much
23 more clay ridge, and tend to be largely deposited, have
24 been deposited in intermittent generally evaporative lakes,
25 playas, in other words.

1 At the base of the Gila there
2 may be present earlier, that is, Oligocene -- there may be
3 present volcanic and tectonic derived rocks, commonly
4 called the Datil formation, D-A-T-I-L, and post-Datil for-
5 mations consisting largely of acidic to intermediate vol-
6 canic rocks such as ash flows, airborne ash, and welded
7 tufts, interbedded with sedimentary rocks, largely sands
8 and gravels, containing clasts of the same types of volcan-
9 ic rocks.

10 These rocks may or may not be
11 present under this unit because on the flanks of some of
12 the mountain ranges, edges of the valleys, they were re-
13 moved before deposition of the Gila conglomerate type
14 rocks; however, they -- they also are sometimes present and
15 typically range in thickness from 200 to 1000 feet. Local-
16 ly they are trending much thicker but in this position we
17 have no reason to be particularly afraid that there are
18 going to be volcanics present or if they are present, that
19 they be thick.

20 Below the volcanic units some-
21 times there are locally pre-volcanic (unclear) continental
22 sediments called by various names in various areas. In
23 this area the name that has been used in literature is the
24 Ringbone.

25 MR. STOGNER: The what?

1 MR. REYNOLDS: Ringbone.

2 MR. STOGNER: Ringbone.

3 MR. REYNOLDS: Ringbone forma-
4 tion. The rocks of this type are typically, principally
5 redbeds and vari-colored conglomerates, sandstones, silt-
6 stones and shales deposited for the most part in lacustrine
7 conditions during this (unclear) after the major tectonic
8 developments of the latest Cretaceous and earliest Ter-
9 tiary, and before the Oligocene or the volcanic.

10 Again, in this location we are
11 doubtful that we will find any Ringbone formation. Most
12 likely, if it was deposited here, it's probably been
13 stripped off before deposition of the Gila conglomerate.

14 So we are predicting that we
15 will probably go through the order, let's say, of somewhere
16 between 1000 and 2000 feet of Quaternary alluvium and Gila
17 conglomerate, and probably straight into Mojado at that
18 stage.

19 As to prediction of the depth
20 at which that would occur, I think we would say in round
21 numbers we would expect to enter the Mojado in the vicinity
22 of 1500 feet.

23 MR. STOGNER: Thank you, Mr.
24 Reynolds.

25 Did you prepare Exhibits

1 Number Four and Five?

2 MR. REYNOLDS: Yes, sir.

3 MR. STOGNER: Exhibit Number
4 Four is geological and geophysical appraisal and I assume
5 that --

6 MR. REYNOLDS: Yes, sir.

7 MR. STOGNER: -- you pretty
8 much have gone over that to this point, is that correct?

9 MR. REYNOLDS: Yes.

10 MR. STOGNER: Do you want to
11 describe Exhibit Number Five?

12 MR. REYNOLDS: Yes, sir. Ex-
13 hibit Number Five

14 Exhibit Number Five is a
15 diagrammatic map showing the principal elements interpreted
16 from the gravity data we had available.

17 Along the eastern margin of
18 the map area is a curved line marked with a capital G,
19 which is the approximate position of the frontal fault on
20 the west side of the Little Hatchet Mountains. This fault
21 is up-thrown on the east, downthrown on the west, as shown,
22 and probably would be the principal mechanism protecting
23 the Mojado formation on the western or downthrown side of
24 that fault from the large amounts of fresh water which had
25 entered the mountain area on the east and therefor, hope-

1 fully preserving any hydrocarbons which may have accumu-
2 lated in the area of the downthrown side.

3 Farther west is a curved line
4 marked "MIN", M-I-N, which is the axis of a rather broad,
5 rather profound gravity minimum, which as can be seen by
6 looking at Exhibit Five, swings around -- swings out to the
7 west around the area of interest, implying that the deepest
8 part, thickest part of the Gila conglomerate and Quaternary
9 alluvium probably follows approximately that line marked
10 "MIN" and its departure to the west in this area suggests
11 that inside that departure, basically in the east half of
12 Township 22 South, Range 17 West, there should be an area
13 of relatively thin tertiary, that is relatively thin Gila
14 conglomerate and Quaternary alluvium, and that relatively
15 thin Gila conglomerate and Quaternary alluvium should be
16 able to be equated to a gross structural high.

17 The curved line marked "MAX"
18 is the boundary of the largest, highest gravity maximum
19 values against the frontal fault of the Little Hatchet
20 Mountains there and should include, should probably include
21 the highest areas structurally within that area.

22 Now, one has to understand
23 that we are probably basically talking here about the depth
24 to the top of the Mojado. We are not necessarily talking
25 about structure within the Mojado because we don't know

1 that the Mojado, that beds within the Mojado are parallel
2 to the surface on top of the Mojado, due to erosion at the
3 top of the Mojado and before deposition of the Gila con-
4 glomerate; however, this is the best information we have to
5 go on and it does suggest that within that area marked by
6 the line labeled "MAX" on the west and the frontal fault
7 marked "G" of the Little Hatchets on the east, probably is
8 the structurally highest area within the northern Playas
9 Valley.

10 In the southern part of the
11 area there's a circle marked "MAG". This is the approxi-
12 mate outline of the magnetic anomaly which I mentioned
13 earlier, which probably marks an igneous intrusion and
14 therefore undesirable element; however, you will see that
15 -- note that it is well south of the actual area of inter-
16 est and there do not appear on the aeromagnetic data to be
17 any such features in the area of interest, so that we feel
18 that our odds of encountering a major igneous intrusion in
19 the area of interest are small.

20 The map also shows the loca-
21 tion of the KCM No. 1 Cochise State A test, which lies on
22 the other side of the gravity minimum and may in fact have
23 been very close to or possibly even could have cut a sig-
24 nificant fault, as shown.

25 Within the area of interest

1 you will note a line trending west/northwest marked "GA".
2 This is the gravity arch mentioned earlier that is a posi-
3 tive gravity feature, which is parallel to and aligned with
4 suggestions of older pre-Tertiary geologic structure in the
5 mountain range, that is, in the Little Hachets to the
6 east. It appears that there may be an older anticline in
7 the mountain range, approximately lined up with this gra-
8 vity arch. This is what makes or suggests that there is a
9 chance that we have preserved older, that is, Laramide,
10 folding trends in this valley which might in time be very
11 attractive drilling objectives.

12 I believe that covers the ex-
13 hibit.

14 MR. STOGNER: Thank you, Mr.
15 Reynolds. Do you have anything further in your testimony
16 or in the exhibits at this time?

17 MR. REYNOLDS: I believe not.

18 MR. STOGNER: I believe we
19 will take Exhibits One through Five into evidence at this
20 point.

21 MR. STOVALL: Mr. Ramsey, I'd
22 like to ask you just a few more questions, if I might, re-
23 garding your unit agreement.

24 MR. RAMSEY: Just glancing
25 through this it appears that you're going to -- this is a,

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2 correct, that the entire unit will participate in produc-
3 tion from any well?

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5 follow you. It is a contiguous unit and what is your
6 question?

7 MR. STOVALL: Well, referring
8 to participation and the sharing of costs and the alloca-
9 tion of production.

10 MR. RAMSEY: Oh, you mean to
11 the -- to the -- what parties. I own all the leases.

12 MR. STOVALL: Well, except
13 there still has to be allocation to those leases for
14 royalty purposes, the overrides --

15 MR. RAMSEY: Oh, yes, those
16 have to be allocated and percentaged out in accordance to
17 their participation because the overriding agreements al-
18 lowed unitization and reduction of interest, and therefor,
19 those percentages will have to be figured out as to what
20 they will participate in. Some of them are 1/32nd; some of
21 them are more, and they will vary because only a portion of
22 the acreage those companies contributed is in this unit; a
23 very small portion.

24 MR. STOVALL: And the produc-
25 tion will be allocated to the entire unit, is that correct?

1 MR. RAMSEY: That's correct.

2 MR. STOVALL: Any production
3 from any well?

4 MR. RAMSEY: Yes, that's cor-
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6 MR. STOVALL: Have you given
7 -- have you given any notice to the overriding royalty
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9 MR. RAMSEY: Yes, they're
10 fully aware of it.

11 MR. STOVALL: Do you have any
12 evidence?

13 MR. RAMSEY: That was our deal
14 to start with. We would unitize it or return the leases to
15 them and we have kept them fully advised and they hope we
16 make it this time.

17 The leases, as you know, ex-
18 pire May 1 and October 1. After that the show is over.

19 MR. STOVALL: I have no fur-
20 ther questions.

21 MR. STOGNER: Are there any
22 other questions of Mr. Reynolds or Mr. Ramsey at this time?

23 I not, they may be excused.

24 Anything further in Case
25 Number 9600? This case will be taken under advisement.

1 Number Four and Five?

2 MR. REYNOLDS: Yes, sir.

3 MR. STOGNER: Exhibit Number
4 Four is geological and geophysical appraisal and I assume
5 that --

6 MR. REYNOLDS: Yes, sir.

7 MR. STOGNER: -- you pretty
8 much have gone over that to this point, is that correct?

9 MR. REYNOLDS: Yes.

10 MR. STOGNER: Do you want to
11 describe Exhibit Number Five?

12 MR. REYNOLDS: Yes, sir. Ex-
13 hibit Number Five

14 Exhibit Number Five is a
15 diagrammatic map showing the principal elements interpreted
16 from the gravity data we had available.

17 Along the eastern margin of
18 the map area is a curved line marked with a capital G,
19 which is the approximate position of the frontal fault on
20 the west side of the Little Hatchet Mountains. This fault
21 is up-thrown on the east, downthrown on the west, as shown,
22 and probably would be the principal mechanism protecting
23 the Mojado formation on the western or downthrown side of
24 that fault from the large amounts of fresh water which had
25 entered the mountain area on the east and therefor, hope-

1 fully preserving any hydrocarbons which may have accumu-
2 lated in the area of the downthrown side.

3 Farther west is a curved line
4 marked "MIN", M-I-N, which is the axis of a rather broad,
5 rather profound gravity minimum, which as can be seen by
6 looking at Exhibit Five, swings around -- swings out to the
7 west around the area of interest, implying that the deepest
8 part, thickest part of the Gila conglomerate and Quaternary
9 alluvium probably follows approximately that line marked
10 "MIN" and its departure to the west in this area suggests
11 that inside that departure, basically in the east half of
12 Township 22 South, Range 17 West, there should be an area
13 of relatively thin tertiary, that is relatively thin Gila
14 conglomerate and Quaternary alluvium, and that relatively
15 thin Gila conglomerate and Quaternary alluvium should be
16 able to be equated to a gross structural high.

17 The curved line marked "MAX"
18 is the boundary of the largest, highest gravity maximum
19 values against the frontal fault of the Little Hatchet
20 Mountains there and should include, should probably include
21 the highest areas structurally within that area.

22 Now, one has to understand
23 that we are probably basically talking here about the depth
24 to the top of the Mojado. We are not necessarily talking
25 about structure within the Mojado because we don't know

1 that the Mojado, that beds within the Mojado are parallel
2 to the surface on top of the Mojado, due to erosion at the
3 top of the Mojado and before deposition of the Gila con-
4 glomerate; however, this is the best information we have to
5 go on and it does suggest that within that area marked by
6 the line labeled "MAX" on the west and the frontal fault
7 marked "G" of the Little Hatchets on the east, probably is
8 the structurally highest area within the northern Playas
9 Valley.

10 In the southern part of the
11 area there's a circle marked "MAG". This is the approxi-
12 mate outline of the magnetic anomaly which I mentioned
13 earlier, which probably marks an igneous intrusion and
14 therefore undesirable element; however, you will see that
15 -- note that it is well south of the actual area of inter-
16 est and there do not appear on the aeromagnetic data to be
17 any such features in the area of interest, so that we feel
18 that our odds of encountering a major igneous intrusion in
19 the area of interest are small.

20 The map also shows the loca-
21 tion of the KCM No. 1 Cochise State A test, which lies on
22 the other side of the gravity minimum and may in fact have
23 been very close to or possibly even could have cut a sig-
24 nificant fault, as shown.

25 Within the area of interest

1 you will note a line trending west/northwest marked "GA".
2 This is the gravity arch mentioned earlier that is a posi-
3 tive gravity feature, which is parallel to and aligned with
4 suggestions of older pre-Tertiary geologic structure in the
5 mountain range, that is, in the Little Hachets to the
6 east. It appears that there may be an older anticline in
7 the mountain range, approximately lined up with this gra-
8 vity arch. This is what makes or suggests that there is a
9 chance that we have preserved older, that is, Laramide,
10 folding trends in this valley which might in time be very
11 attractive drilling objectives.

12 I believe that covers the ex-
13 hibit.

14 MR. STOGNER: Thank you, Mr.
15 Reynolds. Do you have anything further in your testimony
16 or in the exhibits at this time?

17 MR. REYNOLDS: I believe not.

18 MR. STOGNER: I believe we
19 will take Exhibits One through Five into evidence at this
20 point.

21 MR. STOVALL: Mr. Ramsey, I'd
22 like to ask you just a few more questions, if I might, re-
23 garding your unit agreement.

24 MR. RAMSEY: Just glancing
25 through this it appears that you're going to -- this is a,

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C E R T I F I C A T E

I, SALLY W. BOYD, C. S. R. DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9600 heard by me on 11/15/89 1989.
[Signature], Examiner
Oil Conservation Division