

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

31 July 1985

EXAMINER HEARING

IN THE MATTER OF:

Application of Marshall R. Young  
Oil Company for a unit agreement,  
Grant County, New Mexico.

CASE  
8655  
8656

BEFORE: Gilbert P. Quintana, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation  
Division:

Jeff Taylor  
Legal Counsel to the Division  
Oil Conservation Division  
State Land Office Bldg.  
Santa Fe, New Mexico 87501

For the Applicant:

W. Thomas Kellahin  
Attorney at law  
KELLAHIN & KELLAHIN  
P. O. Box 2265  
Santa Fe, New Mexico 87501

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MR. QUINTANA: We'll call next Case 8655 and Case 8657, which will be consolidated for purposes of -- excuse me, 8655 and 8656, which will be consolidated for purposes of testimony.

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MR. TAYLOR: The application of Marshall R. Young Oil Company for a unit agreement, Grant County, New Mexico.

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11

MR. KELLAHIN: If the Examiner please, I'm Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of the applicant and I have two witnesses.

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MR. QUINTANA: Are there other appearances in Case 8655 and 8656?

14

15

If not, you may be sworn in.

16

(Witnesses sworn.)

17

18

BRAD HENTSCHEL,

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being called as a witness and being duly sworn upon his oath, testified as follows, to-wit?

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22

DIRECT EXAMINATION

23

BY MR. KELLAHIN:

24

25

Q Mr. Hentschel, for the record would you please state your name and occupation?

1           A           My name is Brad Hentschel. I'm a petro-  
2 leum landman. I work for Edmundson & Associates in Denver,  
3 Colorado.

4           Q           Mr. Hentschel, have you previously testi-  
5 fied before the New Mexico Oil Conservation Division as an  
6 expert petroleum landman?

7           A           Yes, I have.

8           Q           And pursuant to your employment by Ray  
9 Edmundson, have you been retained as consultants to Marshall  
10 R. Young Oil Company to prepare the necessary unit agree-  
11 ments and other documents in both of these cases?

12          A           Yes, I have.

13                   MR. KELLAHIN: Mr. Quintana, we  
14 tender Mr. Hentschel as an expert petroleum landman.

15                   MR. QUINTANA: Mr. Hentschel,  
16 when was the last time you did testify before this commis-  
17 sion? Recently, or what?

18          A           It was probably less than a year ago.

19                   MR. QUINTANA: Fine. His qual-  
20 ifications are acceptable.

21                   You may proceed.

22          Q           Mr. Hentschel, let me direct your atten-  
23 tion first of all to Case 8655, which is the Marshall R.  
24 Young Oil Company application for the Saltys Unit Area in  
25 Grant County, New Mexico.

1                   Pursuant to that case, Mr. Hentschel,  
2 have you caused to be prepared a unit agreement?

3                   A           Yes, I have.

4                   Q           Mr. Hentschel, I show you what is marked  
5 as Exhibit Number One in this case and ask you to identify  
6 that document.

7                   A           Exhibit Number One is a unit agreement  
8 for the Saltys Unit, Grant County, New Mexico. It's a  
9 standard form unit agreement, 1983 reprint, that has been  
10 modified to include all the provisions required by the Com-  
11 missioner of Public Lands and the Oil Conservation Division,  
12 New Mexico.

13                  Q           Will you turn now, sir, to Exhibit Number  
14 Two, which is the plat captioned "Exhibit A" to the unit  
15 agreement, and fold out Exhibit Number Two so that we might  
16 discuss some of the information contained on that exhibit.

17                               Directing your attention now to Exhibit  
18 Number Two, to the Saltys Unit Agreement, Mr. Hentschel,  
19 does this plat accurately depict the configuration of the  
20 leases and the ownership to be contained within this unit?

21                  A           Yes, it does.

22                  Q           Would you summarize for the Examiner what  
23 the total number of acreage --

24                  A           Yes.

25                  Q           -- is for the Federal, State, and fee ac-

1 reage that's to be committed to this unit?

2 A There are 9,975.32 acres of Federal  
3 lands. That represents 41.88 percent of the unit area.

4 There are 12,724.74 acres, which repre-  
5 sents 53.41 percent of the unit for State lands.

6 And patented lands are 1,122.72 acres,  
7 representing 4.71 percent of the unit, for a total of  
8 23,822.78 acres.

9 I might point out at this time that the  
10 Bureau of Land Management has designated the unit as a logi-  
11 cal unit area and they have designated the total of  
12 23,822.14 acres as opposed to 23,822.78 acres. There's some  
13 confusion on some of the lots.

14 Q On the western side of the plat there are  
15 a number of 40-acre tracts that are not 40 acres in size.

16 A That's correct.

17 Q And there lies a difference between the  
18 BLM calculation and your calculation.

19 A That's correct.

20 Q And the difference is less than an acre.

21 A Right.

22 Q Have you caused to be tabulated the indi-  
23 vidual leases to be contained within the unit and had that  
24 tabulation prepared showing the ownership?

25 A Yes, I have.

1 Q And is that Exhibit Number Three?

2 A Yes.

3 Q All right. Let me direct your attention  
4 to Exhibit Number Three. Does that exhibit accurately re-  
5 flect the ownership, the leases, and the acreage contained  
6 within each of those leases to be dedicated?

7 A Yes, it does.

8 Q All right. Would you identify for us  
9 what is to be the unitized formation? How is that expressed  
10 in the unit agreement?

11 A All formations are unitized. The unit  
12 obligation well is to be drilled to a depth of 10,000 feet  
13 or to test the base of the El Paso formation.

14 Q Have you caused all necessary documenta-  
15 tion to be submitted to the Bureau of Land Management?

16 A Yes, we have.

17 Q And what action has the Bureau of Land  
18 Management taken upon the proposed unit?

19 A The -- on July 25th, 1985, they desig-  
20 nated this area as a logical unit area.

21 Q And is that letter of designation marked  
22 as Exhibit Number Four in this case?

23 A Yes, it is.

24 Q All right. Have you also caused the ne-  
25 cessary documents to be submitted to the Commissioner of



1 Public Lands for preliminary approval of the dedication of  
2 the State acreage to this unit?

3 A Yes.

4 Q At this point, Mr. Hentschel, is Marshall  
5 R. Young Oil Company in effective control of a substantial  
6 portion of the working interest ownership for this unit?

7 A Yes, they should have verbal agreements  
8 on in excess of 90 percent.

9 Q All right, sir. What is the timing in  
10 terms of drilling the first unit well, Mr. Hentschel?

11 A We hope to be able to initiate the first  
12 test well by the first part of September.

13 Q All right, sir, let's leave those unit  
14 documents for the Saltys Unit and direct your attention now  
15 to the unit documents in the South Cedar Mountain Unit Area  
16 of Grant County.

17 With regards to the South Cedar Mountain  
18 Unit, Mr. Hentschel, have you caused to be prepared under  
19 your direction the necessary unit documents and exhibits for  
20 submittal of this unit for approval to the Commissioner of  
21 Public Lands, the Bureau of Land Management and to the Oil  
22 Conservation Commission?

23 A Yes, I have.

24 Q Let me direct your attention, then, to  
25 the unit agreement itself, which is marked as Exhibit Number

1 One in Case 8656, and have you identify that for the record.

2 A Exhibit One is a unit agreement for the  
3 South Cedar Mountain Unit. It's in Grant County, New Mexi-  
4 co. It is a standard form unit agreement, 1983 reprint,  
5 modified to include the provisions required by the Commis-  
6 sioner of Public Lands and the Division, Conservation Divi-  
7 sion of the State of New Mexico.

8 Q Would you identify for us what is the  
9 unitized formation for this unit?

10 A All formations are unitized.

11 Q Have you caused to be prepared a plat  
12 showing the leases to be dedicated to this unit?

13 A Yes, I have.

14 Q All right, let's turn to Exhibit Number  
15 Two. Is that the plat?

16 A Yes.

17 Q If you'll fold that plat out, Mr. Hent-  
18 schel, let me ask you some questions about the plat.

19 To the best of your knowledge, informa-  
20 tion, and belief does this plat contaion a true and accurate  
21 representation of the various leases to be included in this  
22 unit?

23 A Yes, it does.

24 Q And the leases have been assigned a tract  
25 number?

1           A           That's correct.

2           Q           Would you summarize for the Examiner what  
3 the makeup is, the composition is of the unit in terms of  
4 State, Federal, and fee acreage?

5           A           There are 21,506.64 acres of Federal  
6 land. It represents 85.92 percent of the unit.

7                       There are 3,522.95 acres of State lands,  
8 equals 14.08 percent of the unit.

9                       There are no patented lands in the unit.

10                      The total acreage is 25,029.59 acres.

11           Q           Have you prepared a tabulation by lease  
12 or by tract number for the leases in the unit to show the  
13 ownership and interest?

14           A           Yes, I have.

15           Q           And that is marked as Exhibit Number  
16 Three in this case?

17           A           Yes.

18           Q           To the best of your knowledge, informa-  
19 tion, and belief, are the numbers and parties properly iden-  
20 tified on Exhibit Number Three?

21           A           Yes.

22           Q           How is the unit participation in the pro-  
23 duction to be allocated, Mr. Hentschel? Is this in partici-  
24 pating areas or do they have an undivided interest for all  
25 the unit?

1           A           The -- the participation will be based on  
2 participating areas when a well has been drilled and deter-  
3 mined to be productive.

4           Q           The participation formula is one that's  
5 calculated on a straight acreage basis at this time?

6           A           Yes.

7           Q           Is that true of the other unit agreement,  
8 also?

9           A           That's right.

10          Q           Have you submitted the necessary unit do-  
11 cuments to the Bureau of Land Management?

12          A           Yes, I have.

13          Q           And have you received preliminary ap-  
14 proval from the Bureau of Land Management?

15          A           Yes, by letter of July 25th, 1985, the  
16 South Cedar Mountain was designated as a logical unit area  
17 by the Bureau of Land Management.

18          Q           And that's submitted as Exhibit Four in  
19 this case?

20          A           Yes.

21          Q           Have you also caused the necessary unit  
22 documents to be submitted to the Commissioner of Public  
23 Lands, State of New Mexico?

24                      And what is the status of his approval?

25          A           I have not received any documents at this

1 time.

2 Q Mr. Hentschel, in your opinion is appro-  
3 val of the applications of Marshall R. Young Oil Company --  
4 let me ask you this.

5 Have you completed, as best you know, all  
6 the preliminary requirements required of you by the Commis-  
7 sioner of Public Lands and the Bureau of Land Management for  
8 the approval of these units?

9 A Yes, I have.

10 MR. KELLAHIN: Mr. Quintana,  
11 that concludes my examination of Mr. Hentschel with regards  
12 to these two cases and we would move the introduction of Ex-  
13 hibits One through Four in each of the cases.

14 MR. QUINTANA: Exhibits One  
15 through Four in Cases 8655 and Exhibits One through Four in  
16 Case 8656 will be entered in evidence.

17

18 CROSS EXAMINATION

19 BY MR. QUINTANA:

20 Q Mr. Hentschel, I have two questions for  
21 you. One is in Case 8655 dealing with your testimony on the  
22 difference between the Federal calculations and your calcu-  
23 lations on the discrepancy in acreage.

24 Would you point out to me in your -- in  
25 Case 8655, your Exhibit Number Three, the discrepancy of

1 that acreage discrepancy?

2 A Do you mean the total acreage difference  
3 or --

4 Q Well, I want to know the location of that  
5 setting since we have a discrepancy in the calculation, both  
6 on the tabulation and where it's located on the map.

7 Is it located on the --

8 A I don't know --

9 Q -- west side?

10 A I just received the letter from the Bu-  
11 reau of Land Management yesterday and I haven't really had  
12 time to go through and determine exactly which lots (not un-  
13 derstood.) It was along the western portion of the unit.

14 Q You can provide that additional informa-  
15 tion at a later date, though, can't you?

16 A Yes, I could.

17 Q Fine. We'll just go with that.

18 I must have been looking at one of these  
19 documents but I missed on Case 8656 what formation you plan  
20 to test on that depth.

21 A That well is to be drilled to a depth of  
22 10,000 or to test the base of the U-Bar formation.

23 Q All right, and one third question, a  
24 third question I have concerning both cases.

25 Can you also provide statements, well

1 provide a letter from the Commissioner of Public Lands stat-  
2 ing their approval at a later date, also?

3 A Yes, I can.

4 MR. QUINTANA: I have no fur-  
5 ther questions of the witness.

6 Are there further questions of  
7 the witness?

8 If not, he may be excused.

9

10 TOM A. BRACE,  
11 being called as a witness and being duly sworn upon his  
12 oath, testified as follows, to-wit:

13

14 DIRECT EXAMINATION

15 BY MR. KELLAHIN:

16 Q Will you state your name, please, and  
17 your profession and employer?

18 A My name is Tom Brace and I am employed as  
19 a geologist for Marshall R. Young Oil Company in Ft. Worth.

20 Q Mr. Brace, do you spell your last name B-  
21 R-A-C-E?

22 A That's correct.

23 Q Mr. Brace, have you previously testified  
24 before the Oil Conservation Division as a geologist?

25 A Yes, I have.

1           Q           Would you identify for us what it is that  
2 you have done as a geologist in Grant County, New Mexico, in  
3 a general way, with regards to both of these applications  
4 for unit approval?

5           A           Well, what we have done is evaluated the  
6 area. I have been out on the surface, evaluated the geology  
7 in the area, and we, Marshall R. Young, have directed seis-  
8 mic surveys in the area to delineate structures to be drill-  
9 led in this basin.

10          Q           Has that work been done by you or under  
11 your direction and control?

12          A           Yes.

13          Q           And have you reviewed all the necessary  
14 geologic data by which you can reach certain expert opinions  
15 as a geologist?

16          A           Yes, I have.

17                           MR. KELLAHIN: We tender Mr.  
18 Brace as an expert geologist.

19                           MR. QUINTANA: His qualifica-  
20 tions are acceptable. You may proceed.

21          Q           Mr. Brace, let me direct your attention  
22 to Exhibits Five and Six in the Saltys Unit Area of Grant  
23 County, and have you fold out your map.

24                           I believe Exhibit Number Five is the  
25 written narrative of your geological report for this unit



1 and Exhibit Number Six is your plat.

2                   Would you first of all, sir, taking the  
3 plat, Exhibit Number Six, identify for us generally where we  
4 are in Grant County?

5           A           In Grant County we're in the very south-  
6 ern part of -- of the county. It's in Township 25 South,  
7 Range 15 West.

8           Q           Approximately where is the closest known  
9 production in relation to this unit?

10          A           It's about 190 miles east in, probably, I  
11 guess, Chaves County, New Mexico.

12          Q           All right, sir. In terms of examining  
13 and coming to a conclusion about the configuration of the  
14 proposed unit, what did you do in order to reach the conclu-  
15 sion that the proposed unit as we see it on the plat is one  
16 that's geologically reasonable?

17          A           Well, Exhibit Six is a time/structure map  
18 on the top of the lower Paleozoic rock and it is a time map  
19 contoured at 100 millisecond interval, showing a down to the  
20 south fault and a down to the west fault.

21                   Anticlinal closure on the structure is  
22 300 milliseconds independent of faulting and we have a total  
23 of 500 milliseconds with -- counting closure into the  
24 faults, and the boundary of the unit has been determined to  
25 be all sections that are cut by the 1.5 second contour. Any

1 sections that -- that had less than a third of a section  
2 within that contour interval were not included in the unit.

3 Q Is this an exhibit, this type of struc-  
4 ture map, is this an exhibit that has been submitted to the  
5 Bureau of Land Management?

6 A Yes.

7 Q All right, and have they concurred with  
8 you in agreeing that the unit boundary is one that is rea-  
9 sonable from a geologic basis?

10 A Yes.

11 Q Would you identify for us what -- where  
12 your proposed first unit well location is?

13 A The proposed location is in the northeast  
14 quarter of Section 33, Townshp 25 South, Range 15 West.

15 Q And would you identify for us by using  
16 Exhibit Number Seven, now, which is a graphic representation  
17 of the various geologic formations, using Exhibit Number  
18 Seven, would you identify for us what your target formations  
19 are?

20 A The target formation is -- well, the well  
21 will be drilled to 10,000 feet or a depth sufficient to test  
22 the base of the El Paso formation, whichever is less.

23 The target formations are the Mojado  
24 Sandstone, Cretaceous in age, and the Pennsylvanian-Missis-  
25 sippian and Ordovician carbonates present in the outcrops in

1 this part of New Mexico.

2 Q When do you propose to commence the first  
3 unit well, Mr. Brace?

4 A The first part of September of this year.

5 Q Were Exhibits Five, Six, and Seven pre-  
6 pared by you or compiled under your direction and --

7 A Yes.

8 Q -- supervision?

9 A They were.

10 Q Let's turn now, sir, if you will, to the  
11 geologic documents involved in the South Cedar Mountain Unit  
12 Area.

13 Again for this case, then, you have iden-  
14 tified a geologic report as Exhibit Five in Case 8656.

15 Exhibit Six is your time/structure map?

16 A Yes, it is.

17 Q All right, and Exhibit Seven, then, would  
18 be the vertical arrangement of the potential formations.

19 Let me direct your attention, then, to  
20 Exhibit Number Six, which is the map, and have you describe  
21 for the Examiner what geologic reasons and conclusions you  
22 have coming to the opinion that the unit boundary has a rea-  
23 sonable geologic basis?

24 A Exhibit Six is a time/structure map drawn  
25 based on the seismic information on the base of the Creta-

1 ceous rocks, and what this map shows is a southward plunging  
2 anticlinal fold with two small closures along the crest of  
3 the fold and across this nose on this map has been projected  
4 Cretaceous environments of deposition trending northwest to  
5 southeast across the unit area, and these projections are  
6 based on what I know of the rocks, the Cretaceous rocks in  
7 the area that are exposed, exposed to the southwest and to  
8 the northeast.

9 Q What's the significance of the approxima-  
10 tion of the shelf margin and the shoreline on the exhibit?

11 A Okay. The shelf margin which has been  
12 projected across the southern part of the unit is an area  
13 where in the U-Bar formation we expect the development of  
14 reefs or shelf margin carbonates which are a good place,  
15 good places that we expect porosity development and trap-  
16 ping.

17 On this map there has been a shelf area  
18 projected in between the shoreline and the shelf margin,  
19 which is an area where the Mojado Sandstone can be expected  
20 to have been deposited in a deltaic environment.

21 The shoreline drawn at the northern boun-  
22 dary of the unit would be a regional trapping mechanism in  
23 that there are no Cretaceous rocks in the north and the unit  
24 boundary has been drawn to include sections within the 1.5  
25 second contour on the structure map.

Q What is your geologic basis for the pro-

1 posed location as depicted on the Exhibit Number Six?

2           A           The proposed location was selected for  
3 the reason that it is on a small structural closure on the  
4 map and it is somewhere along the projected shelf margin  
5 which has been interpreted for the Cretaceous rock.

6           Q           Were Exhibits Five, Six, and Seven in  
7 Case 8655 prepared by you or compiled under your direction  
8 and supervision?

9           A           Yes.

10                       MR. KELLAHIN: That concludes  
11 our examination of Mr. Brace, Mr. Quintana.

12                       We move the introduction of Ex-  
13 hibits Five, Six, and Seven in both of these cases.

14                       MR. QUINTANA: Exhibits Five,  
15 Six, and Seven which have been identified in Case 8656, will  
16 be entered as evidence.

17                       I have no questions of the  
18 witness. It's very self-explanatory, his work.

19                       Are there any further questions  
20 of the witness?

21                       If not, he may be excused.

22                       Are there further matters in  
23 Cases 8655 and Case 8656?

24                       If not, Case 8655 and Case 8656  
25 will be taken under advisement.

(Hearing concluded.)

## 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 was reported by me; that the said  
transcript is a full, true, and correct record of the hear-  
ing, prepared by me to the best of my ability.

Sally W. Boyd CSR

heard by me on July 31 8655 & 8656  
Gilbert P. Pantana Examiner  
Oil Conservation Division