NEW MEXICO OIL CONSERVATION COMMISSION EXAMINER HEARING SANTA FE, NEW MEXICO Time: 8:15 A.M. FEBRUARY 3, 1988 Hearing Date LOCATION REPRESENTING Greg Davin Jim Ban Pennasil Company Houston, Tx. Pennsail Company 5 1= Harold Spice OCP Duckeyon, Find Vanderen Anteria Chad Dickerson Yates Pet. Aitesia Noibert F. Rampe Atesia Ken Barly !! YPC FORM Oil Company Dallas JOE FORAL RD Caybell midland ARCO Jonmy Roberts Hixon Development Farmington William F. Jan Steny bell and Hack florta te Hinkle Law Firm S.F. James Bruce 12 pone, 1X El Poso Matural Gos J.R. Manzing Conto F Collabor Kelleberry Ho. ale Aubra farmington, Hixon Development Company Cleanles Erin toster JOHN C. CORSETT HIXON DELEVENTE CO. FARMINGTON

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STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT 1 OIL CONSERVATION DIVISION STATE LAND OFFICE BUILDING 2 SANTA FE, NEW MEXICO 3 3 February 1988 4 EXAMINER HEARING 5 6 7 IN THE MATTER OF: 8 Application of Yates Petroleum Corp-CASE 9 oration for a unit agreement, Lea 9301 County, New Mexico. 10 11 12 BEFORE: Michael E. Stogner, Examiner 13 14 15 16 TRANSCRIPT OF HEARING 17 18 19 APPEARANCES 20 21 For Yates Petroleum: Chad Dickerson Attorney at Law 22 DICKERSON, FISK & VANDIVER Seventh & Mahone/Suite E 23 Artesia, New Mexico 88210 24 25

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INDEX KEN BEARDEMPHL Direct Examination by Mr. Dickerson Cross Examination by Mr. Stogner NORBERT REMPE Direct Examination by Mr. Dickerson Cross Examination by Mr. Stogner EXHIBITS Yates Exhibit One, Unit Agreement Yates Exhibit Two, Operating Agreement Yates Exhibit Three, Letter Yates Exhibit Four, Geologic Report 

3 1 MR. STOGNER: We will call next 2 Case Number 9301, which is the application of Yates Petro-3 leum Corporation for a unit agreement, Lea County, New Mex-4 ico. 5 Call for appearances. 6 7 MR. DICKERSON: Mr. Examiner, I'm Chad Dickerson of Artesia, New Mexico, on behalf of the 8 applicant and I have two witnesses. 9 MR. STOGNER: 10 Are there any other appearances in this matter? 11 Being none will the witnesses 12 please stand to be sworn? 13 14 (Witnesses sworn.) 15 16 17 Mr. Dickerson? 18 19 KEN BEARDEMPHL, 20 being called as a witness and being duly sworn upon his oath, testified as follows, to-wit: 21 22 DIRECT EXAMINATION 23 24 BY MR. DICKERSON: 25 Q Mr. Beardemphl, will you please state

4 your name, your occupation and by whom you're employed? 1 Ken Beardemphl, landman with Yates Petro-2 Α leum Corporation. 3 And you have previously testified before 4 Q 5 this Division as a landman and your credentials are a matter of record, are they not? 6 7 Α Yes, sir. MR. DICKERSON: Is this witness 8 9 qualified, Mr. Examiner? MR. STOGNER: Yes, he is. 10 Mr. Beardemphl, are you familiar with the 11 0 purpose of Yates' application in Case 9301? 12 Yes, sir, I am. А 13 And what is that? 14 Q is -- Yates Petroleum Corporation 15 Α It 16 seeks approval of the Echols State Unit Area, comprising approximately 1,440 acres, more or less, of state lands in 17 18 Township 11 South, Range 38 East, Lea County, New Mexico. 19 And are you familiar with the land situa-0 tion within the boundaries of tha proposed Echols 20 State 21 Unit? 22 Α Yes, sir. Will you identify what we've submitted as 23 0 Yates Exhibit Number One and tell the examiner what that in-24 25 strument is?

Exhibit One is the unit agreement for the Α 1 development and operation of the Echols State Unit Area, and 2 in the agreement it has a map showing the boundaries and the 3 -- and it has the tract numbers and then it has Exhibit 4 Β, which has the tract numbers, has a description of the lease, 5 the number of acres of the lease, serial numbers and expira-6 tion dates of the lease, basic royalty owner and percent-7 ages, and the lessee of record, the overriding royalty owner 8 percentages, and the working interest owners and percent-9 ages. 10 This instrument is on the standard, 11 0 approved form by the Commissioner of Public Lands for an oil 12 13 state unit, Mr. Beardemph1? That is true. А 14 And in what manner does this instrument 15 0 allocate unitized substances among the various tracts 16 committed to the unit? It allocates those substances on a sur-17 face acreage basis, does it not? 18 Yes, sir, it does by surface acreage. 19 Α 20 And paragraph two of this agreement unit-0 izes all hydrocarbon substances in all formations, there are 21 22 no depth limitations within this unit. That is correct. 23 Α Will you in a little more detail 24 Q refer 25 the examiner to Exhibit A, the map attached to the unit

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6 agreement, and describe for him the unit boundaries? 1 The unit boundaries are in Section Α Okay. 2 It has all, it has two tracts, two state tracts in it. 9. 3 And in Section 10 it is the southwest quarter. It has one 4 state tract in it. 5 And then it involves Section 15. It has 6 the north half that has two state tracts in it, and they are 7 each marked with the tract number and the unit outline is on 8 the map. 9 And I notice that four of those five 0 10 state leases have an expiration date of March 1st, 1988. Is 11 it Yates' intention to commence the drilling of the initial 12 unit well prior to that lease expiration date? 13 That is correct. Α 14 All the working interest within this Q 15 Beardemphl, is owned by Yates Petroleum Corporaunit, Mr. 16 tion or one of it's in-house corporations, is it not? 17 That is correct. А 18 So you have 100 percent commitment of the 0 19 working interest to this unit? 20 100 percent committed. Α 21 Beardemphl, identify what we submit-22 0 Mr. as Exhibit Number Two and tell the examiner what ted that 23 is. 24 Exhibit Number Two is the model form А 25

7 operating agreement, 1977, for the Echols State Unit, and it 1 includes the descriptions and it has the -- on page, let's 2 see, page 4 it has the initial well location and the date. 3 The date that well must be commenced is Q 4 when? 5 Must be commenced, yes, sir, March 1st of 6 Α 7 1988. Q Okay, and Exhibit A to that joint oper-8 ating agreement sets forth the working interest of all the 9 parties throughout the unit area? 10 11 Α Yes, sir, Exhibit A has the lands subject to the agreement and the depth restrictions, which are none, 12 13 and it has the percentage interest of the parties under the agreement for the initial well and after payout and the sub-14 sequent wells. 15 Mr. Beardemphl, turn to Exhibit Number 16 0 Three and tell the examiner what that instrument is. 17 18 А Exhibit Number Threre is a letter from the Commissioner of Public Lands on the proposed Echols 19 20 State Unit, with their preliminary approval. There were no substantial changes reques-21 0 ted by the State Land Office, were there? 22 No, sir. There's one change and it has 23 Α been done, that number six, it has been revised. 24 25 Okay, Mr. Beardemphl, were Exhibits One, Q

8 Two, and Three compiled by you or under your direction and 1 supervision? 2 Yes, sir. А 3 MR. DICKERSON: Move admission 4 of Yates' Exhibits One, Two, and Three, Mr. Examiner. 5 MR. STOGNER: Exhibits One, Two 6 and Three will be admitted into evidence. 7 8 CROSS EXAMINATION 9 BY MR. STOGNER: 10 0 Mr. Beardemphl, whenever I look at Exhi-11 bit A, or the map, on your first exhibit, I should say, that 12 Tract 5, that takes in the northwest guarter and the south-13 east quarter, is that correct? They're not contiguous with 14 each other? 15 Northwest, excuse me? Α 16 I guess Tract 4 and 5 would (unclear) it, Q 17 18 wouldn't they? Α Oh, oh, I see what you mean, 19 yes, sir. 20 Uh-huh. That is, let's see, Tract 5 is 320 acres and Tract 4 is 320 acres, being the -- Tract 5 is also, yes, sir, it's 21 the northwest and the southeast quarters. 22 Okay. 0 23 As in Exhibit B has the description. 24 Α 25 Q And the proposed well will be in Section

9 9, what quarter section? 1 А Southwest and that will be in Tract No. 2 2. 3 Q In the southwest quarter. Now is 4 the correct name the Echols State Unit or the Echols -- the 5 Echols Unit? 6 7 А It's Echols State Unit. MR. STOGNER: Okay, I have no 8 further questions of this witness. 9 Are there any other questions 10 of Mr. Beardemphl? 11 You may be excused. 12 Mr. Dickerson? 13 14 NORBERT REMPE, 15 being called as a witness and being duly sworn upon his 16 oath, testified as follows, to-wit: 17 18 DIRECT EXAMINATION 19 20 BY MR. DICKERSON: Mr. Rempe, will you state your name, your 21 Q 22 occupation, and by whom you're employed and in what 23 capacity? Α Yes, I am Norbert Rempe, geologist for 24 Yates Petroleum in Artesia. 25

10 1 0 And you have testified on numerous 2 occasions before this Division as a geologist previously, 3 have you not, Mr. Rempe? 4 Yes, I have. А 5 0 And have you made a study of the 6 available geological data surrounding the Echols State Unit 7 proposed by Yates in this case? 8 Α Yes, sir, I have. 9 MR. DICKERSON: Tender Mr. 10 Rempe as an expert petroleum geologist, Mr. Examiner. 11 MR. STOGNER: Mr. Rempe is so 12 qualified. 13 Rempe, can you briefly summarize for 0 Mr. 14 us the geological study that you have undertaken surrounding 15 the formation of this proposed state unit agreement? 16 А Yes. The geological exhibit consists of 17 a narrative on the geological information pertaining to this 18 unit and are three maps and one schematic cross section, and 19 if you will, please, turn your attention to the first map in 20 the exhibit, this is a structure map on the base of the 21 Wolfcamp pay, and what you see on this map in Section 16 is 22 the existing East Echols Devonian Field, which also has in 23 it two Wolfcamp producers outlined by the circle around ---24 well, one Wolfcamp producer and one well that had a Wolfcamp 25 show on a drill stem test in the wells that are circled.

You also see an inferred Devonian fault that cuts through the unit in a northwest/southeastly direction. This fault does not cut the Wolfcamp but it cuts the Devonian.

The second map is an Isopach map on the Wolfcamp pay, so it shows the thickness of the Wolfcamp pay in the various wells that were used to construct this map and it does show that we have a thick Wolfcamp pay to the east of the fault and then again to the west of the fault.

10 Q Mr. Rempe, what is the primary objective
11 that Yates seeks in this unit?

Α The primary objective is actually the 12 Wolfcamp but we do believe that we also have a chance for 13 the Deovnian and in order to enhance our chances to hit 14 either one or both of the pays, we selected the first loca-15 the location for the initial test well tion, or in the 16 southwest quarter of Section 9 of 11, 38; to be exact, at 17 1980 from the west and 330 feet from the south line. 18

19 Q And do you -- you have submitted a map 20 illustrating some of the Devonian structure which forms a 21 part of this objective, as well?

A Yes, that is correct, and as I have mentioned, all the plugged producers are Devonian producers,
with only one of them in addition to the Devonian also having produced from the Wolfcamp.

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12 So we do believe that we have a good 1 chance for the Devonian at the indicated location. 2 0 Rempe, what is the reason for Mr. the 3 omission from your proposed unit boundaries of the northeast 4 quarter of Section 16, which would be adjoining the balance 5 of the unit acreage? 6 part of that reason is that Α Well. 7 Yates Petroleum has tried one re-entry in that northeast quarter 8 9 of 16 and was unsuccessful in that, so we do believe that we have sufficiently evaluated that -- that lease. 10 0 Exhibit 4-D to your submittal, Mr. Rempe, 11 is a cross section. Will you identify that for us and tell 12 us what you show by that cross section? 13 А Yes. The third -- well, the -- that part 14 of the geological exhibit is a diagrammatic east/west cross 15 section through the Echols State Unit, and it shows under 16 that on the -- on the west the two wells that actually had 17 shows in the Wolfcamp. 18 19 The well, the most west -- the western-20 most well actually produced from the Wolfcamp, and as indicated on this cross section the cumulative production of 21 11,026 barrels of oil. 22 If you will direct your attention to the 23 24 drill stem test results, which are for the Wolfamp interval, 25 and it indicated that on the drill stem test this well

13 flowed 8 barrels of oil in 95 minutes. Compare that then to 1 the second well, the Cities Service No. 1 State BE, which 2 tested the same Wolfcamp interval and received 23 feet of 3 oil and had a slightly lower final shut-in pressure. 4 These two wells are actually the key in-5 dicators why we believe that we have a good chance at our 6 indicated initial test location. 7 Mr. Rempe, in your opinion will the gran-0 8 ting of this application, the approval of this Echols State 9 Unit, be in the interest of conservation, the prevention of 10 waste, and the protection of correlative rights? 11 Yes, it will. А 12 And was your Exhibit Four prepared by you? Q 13 Yes, it was. А 14 MR. DICKERSON: Mr. Examiner, I 15 move admission of Yates' Exhibit Four, and I have no further 16 questions. 17 MR. STOGNER: Exhibit Four will 18 be admitted into evidence at this time. 19 20 CROSS EXAMINATION 21 BY MR. STOGNER: 22 Now, Mr. Rempe, whenever I look at Exhi-Q 23 bit 4-A, that was your first map --24 Α Yes, sir. 25

-- and subsequently throughout all 1 0 the maps, there is a well that you show in Section 9, 2 other that's in the southeast quarter of Section 9, it's plugged 3 4 and abandoned but it shows to be TD'ed at 85 -- I'm sorry, well. I don't know what the TD of it is, but could you ex-5 6 pound on that well a little bit? 7 Yes. It was TD'ed in the Devonian and it А -- it was not commercial; that's why it was plugged. 8 9 It also was not commercial in the Wolfor was not considered to be commercial in the Wolf-10 camp, 11 and you notice actually on the second well, where I camp, have the Isopach map, that the Wolfcamp pay in that well was 12 only 10 feet, which is considerably less than we have in the 13 two wells to the west. 14 15 Of course, I show that to be on that 0 16 fault line. Do you know if the Wolfcamp or the Devonian --17 Yes. А 18 -- on which side of the fault that has 0 19 penetrated those two formations? 20 Yes, sir. If you go to the third А map, 21 that is the Devonian structure map, it shows the Devonian 22 subsea elevation at -8388, which is about 285 feet low to 23 the next well over to the west. That's why we put a fault 24 between these two wells. 25 So that fault did not --Q

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15 Not --А 1 -- do anything to the Wolfcamp formation. 2 0 No, it does not cut the Wolfcamp. А The 3 Wolfcamp drapes over the fault. 4 Q Okay. 5 MR. STOGNER: I have no further 6 questions of Mr. Rempe. 7 Are there any other questions 8 of this witness? 9 MR. DICKERSON: No. 10 11 MR. STOGNER: If not, he may be excused. 12 13 Mr. Dickerson, do you have anything further in this case? 14 MR. DICKERSON: No, sir. 15 16 MR. STOGNER: Does anybody else have anything further in Case Number 9301? 17 18 Case Number 9301 will be taken under advisement. 19 20 (Hearing concluded.) 21 22 23 24 25

16 1 CERTIFICATE 2 3 4 I, SALLY W. BOYD, C.S.R., DO HEREBY 5 CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; 6 7 that the said transcript if a full, true, and correct record of the hearing, prepared by me to the best of my ability. 8 9 10 11 Souly W, Boyd CSR 12 13 14 15 1 do by as a char he for roing is 16 a cos Maria da Angelang Ang OF LAN the states 17 A233 ... 9301. heard by me 98. 18 1988 . 19 , Examiner Oil Conservation Division 20 21 22 23 24 25