

CASE 6409: ATLANTIC RICHFIELD COMPANY
FOR DIRECTIONAL DRILLING, LEA COUNTY,

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CASE NO.

6479

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,
ETC.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico
20 December 1978

EXAMINER HEARING

IN THE MATTER OF:)
)
) CASE
Application of Atlantic Richfield Company) 6409
for directional drilling, Eddy County,)
New Mexico.)
)

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Lynn Teschendorf, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: Conrad Coffield, Esq.
HINKLE, COX, EATON, COFFIELD, &
HENSLEY
Midland, Texas 79702

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I N D E X

I. J. NATURA

Direction Examination by Mr. Coffield

E X H I B I T S

Applicant Exhibit One, Empire-Abo Unit	8
Applicant Exhibit Two, Well D-361 and Well E-392.	8
Applicant Exhibit Three, Well K-131 and Well L-133	8

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1 MR. NUTTER: Call Case Number 6409.

2 MS. TESCHENDORF: Case 6409. Application of
3 Atlantic Richfield Company for directional drilling, Eddy
4 County, New Mexico.

5 MR. COFFIELD: Conrad Coffield with the Hinkle
6 Law Firm in Midland, Texas, appearing on behalf of Atlantic
7 Richfield Company. I have one witness.

8
9 DIRECT EXAMINATION

10 BY MR. COFFIELD:

11 Q Please state your name, address, occupation, and
12 employer.

13 A My name is I. J. Natura. I live in Midland,
14 Texas. I am an operations engineer for Atlantic Richfield
15 Company.

16 Q Mr. Natura, are you familiar with the applica-
17 tion of Atlantic Richfield in this case?

18 A Yes, sir.

19 Q Have you previously testified before the Oil
20 Conservation Division as a petroleum engineer?

21 A Yes, sir, I have.

22 Q Were your qualifications accepted and made a
23 matter of record?

24 A Yes, sir.

25 Q Is the witness considered qualified?

MR. NUTTER: Yes, he is.

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1 Q Mr. Natura, would you please state briefly
2 what Atlantic Richfield Company seeks to accomplish by this
3 application?

4 A Briefly, we are requesting approval for four
5 wells; to directionally drill four wells in Empire-Abo Unit
6 in Eddy County, New Mexico. These four wells are designated
7 as the D-361, the E-392, the K-131 and the L-133. All are
8 within the Empire-Abo Unit of Eddy County, New Mexico.

9 Q Mr. Natura, please refer to what has been
10 marked as Exhibit One and explain what this represents?

11 A Exhibit One is essentially a land map showing
12 the outline of the Empire-Abo Unit in Eddy County, New
13 Mexico. Also shows in the dark circles, phase five wells
14 which we are in the process of completing at the present
15 time. It is a 25-well program and in the open circles it is
16 a 50-well, 10-acre in-field program that we are going to
17 start at the beginning of 1979. Forty-six of these fifty
18 wells have been approved administratively. Four of them we
19 are asking for approval at the present time. These four
20 are colored in red.

21 Q Is there more on that exhibit for now?

22 A Also it shows -- the hashed area shows the Abo
23 producers that are not committed to the Empire-Abo Unit.

24 Q Mr. Natura, please refer to what has been
25 marked as Exhibit Two, and explain what this represents?

26 A Exhibit Two is essentially a blow-up of the
east part of the Unit, which includes Well D-361 and Well
E-392. It also shows the surface location of these two wells

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1 and within that red circle would be the proposed bottom-
2 hole location of the E-362. I mean, of both of these wells.

3 The D-361, the reason we couldn't locate that
4 well over the bottom-hole location is because of the presence
5 of the highway leading from Loco Hills to Artesia, New Mex-
6 ico, and also the high-line, about 100, 150 feet from the
7 highway.

8 The E-392, we could not locate that well at the
9 bottom-hole location because of the presence of gas gathering
10 systems for Amoco and Phillips and high-lines leading to our
11 pumping units in the other wells in the Empire-Abo Unit.

12 Q Go ahead.

13 A What we propose to do in these two wells. -- I
14 may refer to the structure map also on that exhibit. That's
15 a structure on the top the Adel Reef. In well D-361, we
16 propose to directionally drill that well using the dyna-drill

17 In well E-392, what we propose to do in this
18 well is based on experience in the field, and that experience
19 has been that we do get deviation 2 - or 300 feet above the
20 reef. At the present time, we are holding the deviation to
21 about 5-degrees.

22 But what we propose to do to this particular
23 well is when we get to 2 - or 300 feet, survey the bottom-
24 hole location and then add weight to the weight on the bed
25 and this way we permit ourself to travel -- if we're going
in the right direction, then we will add weight and go to
that bottom-hole location. If we're not, then we'll drill
it with a dyna-drill.

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1 I might also add that the producing wells
2 around these two wells are all committed to the Empire-Abo
3 Unit and also that these two wells are in the best pattern
4 that we can figure out for maximum recovery of oil and the
5 minimizing of interference between the wells.

6 Q Anything more on that Exhibit?

7 A No.

8 Q Go on to Exhibit Three, Mr. Natura, and explain
9 what that represents?

10 A Exhibit Three is a blow-up of the top of the
11 reef structure map in the west end of the Empire-Abo Unit.
12 It shows K-131. It shows surface location and the bottom-
13 hole location as colored in a red circle. Also shows Well
14 L-133 with its surface location and bottom-hole location.

15 What we are proposing to do right here is the
16 same as we do on the E-392, and that is to survey the bottom-
17 hole location and if we're going in the right direction, step
18 one away and try to get to that target. If we can't, then
19 we'll dyna-drill it.

20 MR. NUTTER: Does that apply to both of these
21 wells?

22 A Yes, sir, applies to both of these wells. I
23 might also add that the area around these wells are all com-
24 mitted to the Unit, and also that these two wells would be
25 in the best position to drain the maximum amount of oil to
maximize recovery and to prevent interference between the
wells.

These wells are close to the Amoco Empire-Abo

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1 Gasoline plants, and there are a lot of gathering lines,
2 injection lines, and everything else around these wells,
3 which prevented us from locating these wells close to the
4 needed bottom-hole location or proposed bottom-hole location.

5 I might also add, since we are not -- on all of
6 these wells that we are not drilling with a dyna-drill, that
7 we would like to have some language entered into the order,
8 if our application was approved, as to the 150 feet, if we
9 survey the bottom-hole location and the bottom-hole location
was off 150 feet by reasonable footage.

10 I don't mean 300 or 400 feet, because we're de-
11 ceiving our purpose if we go like that. But what we would
12 like to do, say if we came in 170 feet or 175 feet from that
13 bottom-hole location, we would like to have language in that
14 order permitting us for administrative approval of this
extra footage.

15 BY MR. COFFIELD:

16 Q Do you have anything further to add on the
17 Exhibit?

18 A No, sir.

19 Q Mr. Natura, were these Exhibits prepared by you,
20 or under your supervision?

21 A Yes, sir.

22 Q In your opinion, is the approval of this appli-
23 cation of Atlantic Richfield in the interest of conservation
24 and will prevent waste and protect correlative rights?

25 A Definitely.

MR. COFFIELD: I move the admission of Exhibits

One through Three.

MR. NUTTER: Arco Exhibits One through Three will be admitted in evidence.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Natura, all of these wells will bottom in the same 40-acre tract that the surface location is in, with the exception of D-361, correct?

A Yes, sir, that is correct.

Q That will bottom in another 40-acre tract. In fact, in another Section.

A Yes, sir. That's why we're proposing to dynamite that well to that target area. I might add, Mr. Nutter, that all of these wells will be bottomed within the Commission Rules for the in-field drilling in the Empire-Abo, which said that every well drilled would be ten feet from the quarter-to-quarter section line and 660 feet from the boundary of the Unit.

MR. NUTTER: I'm just afraid on your suggestion there that the order containing language to permit deviation in excess of 150 feet is beyond the call of this hearing. You're either going to have to keep it within the 150 feet of the described bottom-hole location or have another hearing to amend the order. There's your options.

MR. COFFIELD: Mr. Nutter, if we may, however, we would respectfully request that the order be couched in terms such that we are not required to go to the 150 feet.

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MR. NUTTER: We can do that without a hearing.

MR. COFFIELD: 150 feet or less, in other words.

MR. NUTTER: Oh, you can go less. You can hit the target if you want. Are there any further questions of Mr. Natura? He may be excused.

Do you have anything further, Mr. Coffield?

MR. COFFIELD: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case Number 6409?

We will take the case under advisement.

(Hearing concluded.)

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REPORTER'S CERTIFICATE

I, STEFANIE XANTHULL, a court reporter, DO HEREBY CERTIFY that the foregoing and attached 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 hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

Stefanie Xanthull
Stefanie Xanthull, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6409 heard by me on 12/20 1978.

[Signature] Examiner
Oil Conservation Division

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NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date

DECEMBER 20, 1978

Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION
Paul M. Burchell	El Paso Natural Gas Co.	El Paso, TX
I. J. Watour	Atlantic Richfield Co.	Midland TX.
R.L. Stramp	"	"
WOODROW COLEMAN	"	"
Scotty Alcorn	BTA Oil Producers	Midland TX.
James D. Offord	Shells how firm	Midland, Texas
SG. Buell	JASPAR & Buell	Santa Fe
Tom Kellahan	KELLAHAN & Fox	Santa Fe
George Brown	T. H. W. & Elvira O & G	Santa Fe
Edward K. David	Carl Schellinger	Roswell, N.M.
Carl Schellinger	" "	Roswell, N.M.
William F. Hall	Campbell + Black	Santa Fe
CC Parsons	Southland Royalty Co.	Farmington
Chad Dickerson	Honda Drilling Co - Ralph Mix	Midland Tex
Bill Mix	Ralph Mix	
Merle Savage	Consolidated Oil & Gas	Denver

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 6409
Order No. R-5906

APPLICATION OF ATLANTIC RICHFIELD
COMPANY FOR DIRECTIONAL DRILLING,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on December 20, 1978, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 16th day of January, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Atlantic Richfield Company, seeks approval for the directional drilling of four wells on its Empire Abo Unit Area, Empire-Abo Pool, Eddy County, New Mexico, as follows:

In Township 17 South, Range 28 East:

Well No. D-361, surface location 136 feet from the South line and 800 feet from the East line of Section 27, bottom-hole location 300 feet from the North line and 500 feet from the East line of Section 34; this well would be designated as being in Unit A of Section 34.

Well No. E-392, surface location 959 feet from the North line and 2400 feet from the East line, bottom-hole location 600 feet from the North line and 2500 feet from the East line, in Unit C of Section 35.

-2-

Case No. 6409
Order No. R-5906

In Township 13 South, Range 27 East:

Well No. K-131, surface location 1500 feet from the South line and 600 feet from the West line, bottom-hole location 1600 feet from the South line and 250 feet from the West line, in Unit L of Section 2; and

Well No. L-133, surface location 800 feet from the South line and 950 feet from the West line, bottom-hole location 1250 feet from the South line and 700 feet from the West line, in Unit M of Section 2.

(3) That all of the above wells would be bottomed at unorthodox locations within 150 feet of the described bottom-hole locations.

(4) That the applicant should be required to determine the subsurface locations of the bottom of the holes of each of the wells by means of a continuous multi-shot directional drilling, if said well is to be completed as a producing well.

(5) That approval of the subject application will prevent the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Atlantic Richfield Company, is hereby authorized to directional drill four wells on its Empire Abo Unit Area, Empire-Abo Pool, Eddy County, New Mexico, bottoming them at unorthodox locations as follows:

In Township 17 South, Range 28 East:

Well No. D-361, surface location 136 feet from the South line and 800 feet from the East line of Section 27, bottom-hole location 300 feet from the North line and 500 feet from the East line of Section 34 in Unit A;

Well No. E-392, surface location 959 feet from the North line and 2400 feet from the East line, bottom-hole location 600 feet from the North line and 2500 feet from the East line, Section 35 in Unit C.

In Township 18 South, Range 27 East:

Well No. K-131, surface location 1500 feet from the South line and 600 feet from the West line, bottom-hole location 1600 feet from the South line and 250 feet from the West line, Section 2 in Unit L; and

-3-

Case No. 6409
Order No. R-5906

Well No. L-133, surface location 800 feet from the South line and 950 feet from the West line, bottom-hole location 1250 feet from the South line and 700 feet from the West line, Section 2 in Unit M.

(2) That all of the above wells would be bottomed at unorthodox locations within 150 feet of the described bottom-hole locations.

PROVIDED HOWEVER, that subsequent to the above-described directional drilling, should any of said wells be a producer, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the surface with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, Box 2088, Santa Fe, New Mexico, and that the operator shall notify the Division's Artesia District Office of the date and time said survey is to be commenced.

(3) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depths in addition to measured depths.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY
Director


S E A L

fd/

Dockets Nos. 1-79 and 2-79 are tentatively set for hearing on January 3 and 17, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - DECEMBER 20, 1978

9 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

ALLOWABLE: (1) Consideration of the allowable production of gas for January, 1979, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.

(2) Consideration of the allowable production of gas for January, 1979, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

CASE 6406: In the matter of the hearing called by the Oil Conservation Division on its own motion at the request of Enserch Exploration, Inc., to consider the assignment of 39,040 barrels of oil discovery allowable to the Enserch Lambirth Well No. 1 located in Unit K of Section 31, Township 5 South, Range 33 East, South Peterson-Fusselman Pool, Roosevelt County, New Mexico.

CASE 6407: Application of T. H. McElvain Oil & Gas Properties for an unorthodox oil well location, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox oil well location of its Miller B Well No. 6 located 1460 feet from the North line and 2285 feet from the East line of Section 12, Township 24 North, Range 7 West, undesignated Dakota oil pool, Rio Arriba County, New Mexico.

CASE 6408: Application of BTA Oil Producers for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its 7811 JV-P Rojo Well No. 1, to be located 660 feet from the North and West lines of Section 27, Township 25 South, Range 33 East, Lea County, New Mexico, the W/2 of said Section 27 to be dedicated to the well.

CASE 6409: Application of Atlantic Richfield Company for directional drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to directionally drill four wells on its Empire Abo Unit Area, Empire-Abo Pool, Eddy County, New Mexico, as follows: In Township 17 South, Range 28 East: Well No. D-361, Surface location 136 feet from the South line and 800 feet from the East line of Section 27, bottom-hole location 300 feet from the North line and 500 feet from the East line of Section 34; Well No. E-392, Surface location 959 feet from the North line and 2400 feet from the East line, bottom-hole location 600 feet from the North line and 2500 feet from the East line, Section 35. In Township 18 South, Range 27 East: Well No. K-131, Surface location 1500 feet from the South line and 600 feet from the West line, bottom-hole location 1600 feet from the South line and 250 feet from the West line, Section 2; Well No. L-133, Surface location 800 feet from the South line and 950 feet from the West line, bottom-hole location 1250 feet from the South line and 700 feet from the West line, Section 2. All of the above wells would be bottomed at unorthodox locations within 150 feet of the described bottom-hole locations.

CASE 6410: Application of Carl A. Schellinger for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox gas well location of a proposed Pennsylvanian test to be drilled 660 feet from the South line and 1650 feet from the West line of Section 1, Township 22 South, Range 24 East, McKittrick Hills Field, Eddy County, New Mexico, the S/2 of said Section 1 to be dedicated to the well.

CASE 6411: Application of Amoco Production Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the N/2 of Section 20, Township 23 South, Range 29 East, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6412: Application of Ralph Nix for compulsory pooling and an unorthodox location, or in the alternative, an amendment to pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the S/2 of Section 27, Township 18 South, Range 26 East, Atoka-Pennsylvanian Gas Pool, Eddy County, New Mexico, to be dedicated to a well to be drilled at an unorthodox location in the SW/4 of said section. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of Hondo Drilling Company as operator of the well and a charge for risk involved in drilling said well.

As an alternative to the above unorthodox location, applicant seeks an order amending the Special Pool Rules for the Atoka-Pennsylvanian Gas Pool so that well location requirements therein would conform to statewide Rule 104(c).

CASE 6390: (Continued from November 21, 1978, Examiner Hearing)

Application of C & E Operators for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down thru the Pictured Cliffs formation underlying the SW/4 of Section 10, Township 30 North, Range 11 West, San Juan County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6401: (Continued from December 7, 1978, Examiner Hearing)

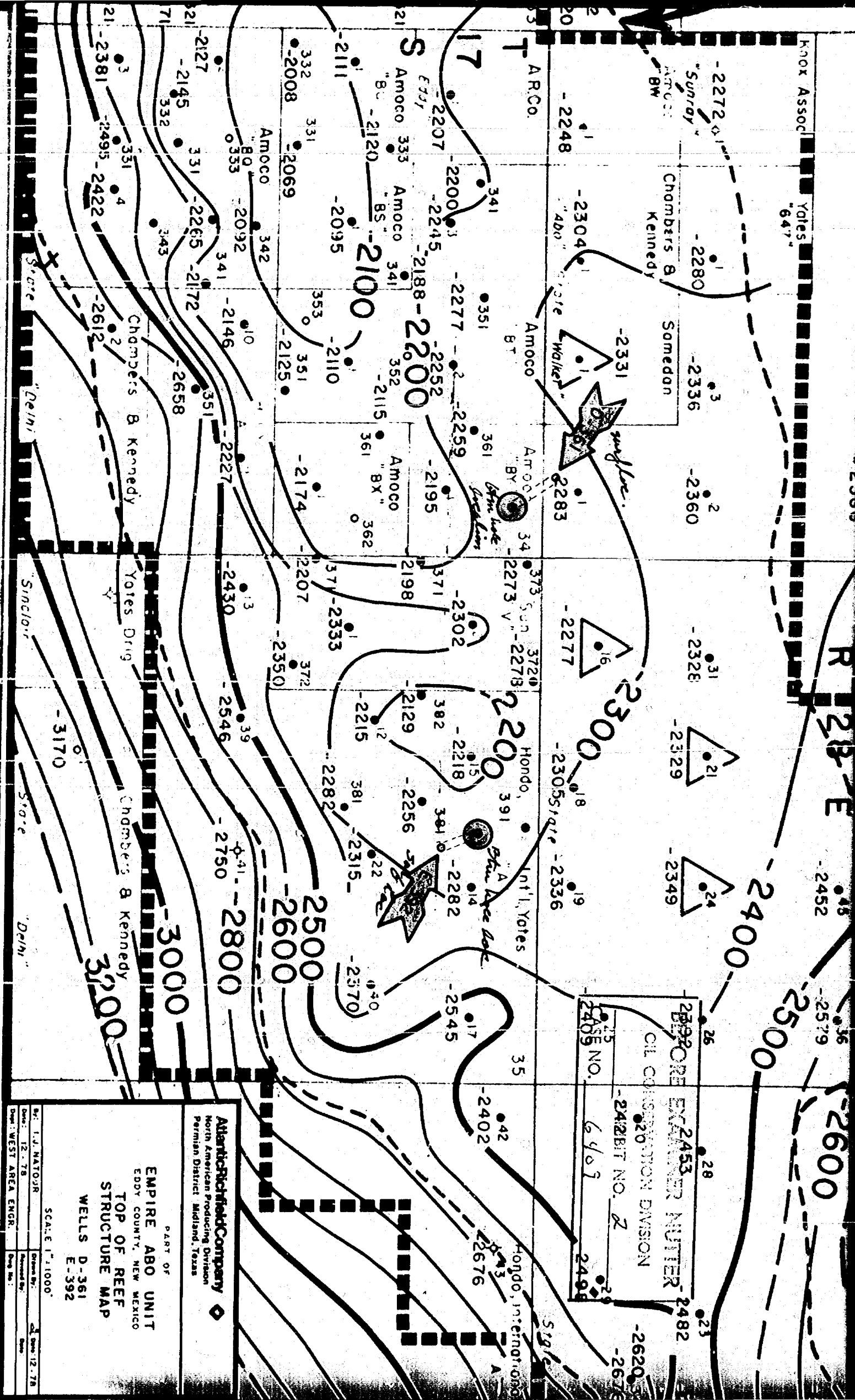
Application of Southland Royalty Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Pictured Cliffs and Mesaverde production within the wellbore of its Jicarilla 101 Well No. 1 located in Unit A of Section 1, Township 26 North, Range 4 West, Rio Arriba County, New Mexico.

CASE 6402: (Continued from December 7, 1978, Examiner Hearing)

Application of Southland Royalty Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Gallup and Dakota production within the wellbore of its Jicarilla 101 Well No. 2 located in Unit M of Section 12, Township 26 North, Range 4 West, Rio Arriba County, New Mexico.

CASE 6403: (Continued from December 7, 1978, Examiner Hearing)

Application of Consolidated Oil & Gas, Inc. for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Basin Dakota and Blanco Mesaverde production within the wellbore of its O'Shea Well No. 1 located in Unit K of Section 3, Township 31 North, Range 13 West, San Juan County, New Mexico.



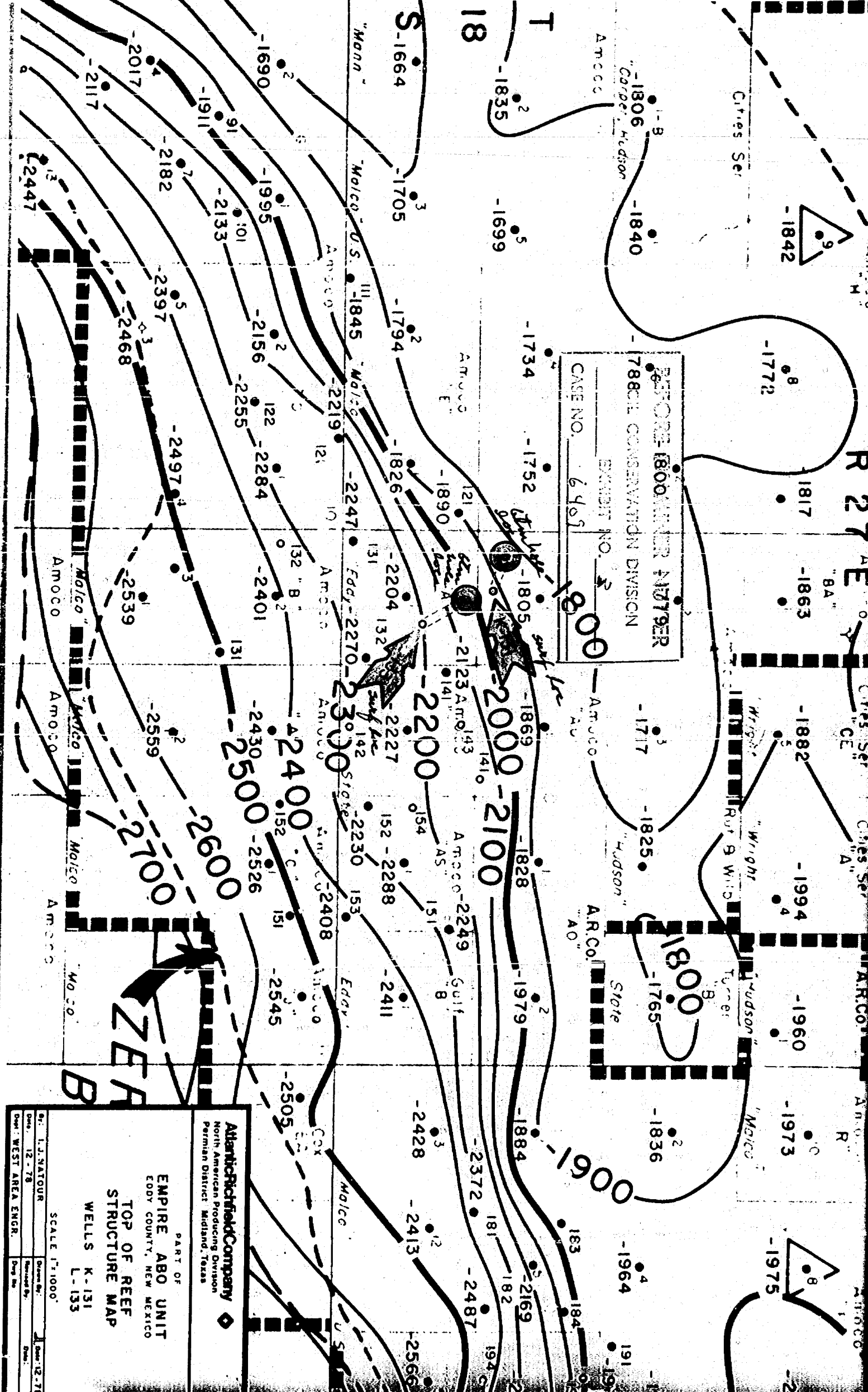
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Atlantic Richfield Company
North American Producing Division
Permian District Midland, Texas

PART OF
EMPIRE ABO UNIT
EDDY COUNTY, NEW MEXICO
TOP OF REEF
STRUCTURE MAP
WELLS D-361
E-392

SCALE 1"=1000'

By: I.J. NATOUR
Drawn: 12-78
Checked: 12-78
Date: 12-78
Project: WEST AREA ENGR.



BEFORE-1800 MINER 11079ER
7880L CONSERVATION DIVISION
CASE NO. 6461
EXHIBIT NO. 200

Atlantic Richfield Company
North American Producing Division
Permian District Midland, Texas

PART OF
EMPIRE ABO UNIT
EODY COUNTY, NEW MEXICO
TOP OF REEF
STRUCTURE MAP
WELLS K-131
L-133

SCALE 1"=1000'

By: L.J. NATOR	Drawn By: J. Dyer	Date: 12-78
Check: WEST AREA ENGR.	Check By: [blank]	Date: [blank]

Richfield Company

North American Producing Division
Permian District
Post Office Box 1610
Midland, Texas 79702
Telephone 915 684 0100

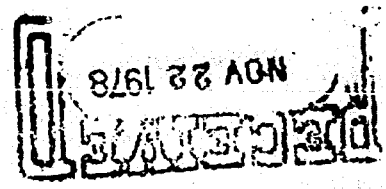
Case 6409



Santa Fe

November 20, 1978

Energy & Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501



Attn: Mr. J. D. Ramey

Re: Request for Non-Standard Drilling Locations
Within the Project Area of the ARCO-Empire
Abo Unit Pressure Maintenance Project
Eddy County, New Mexico

NSL
R-4549-B
and
directions!
dr/g

Gentlemen:

Atlantic Richfield Company, as operator of the Empire Abo Unit Pressure Maintenance Project, acting on behalf of itself and the other participating working interest owners, requests administrative approval under the provisions of Order No. R-4549-B, Rule 14 under "Special Rules and Regulations for the Empire Abo Pressure Maintenance Project," for the drilling of 50 Unit wells at non-standard locations shown on the attached Exhibit 1.

The proposed non-standard locations meet all requirements of Order R-4549-B, Rule 14, said wells being located "no closer than 660 feet to the outer boundary of said Unit, nor closer than 10 feet to any quarter-quarter section of subdivision inner boundary.

The proposed drilling of these wells is necessary to complete a more efficient producing pattern to conserve reservoir energy, promote the greatest ultimate recovery of Unit reserves, prevent waste, and protect correlative rights.

Very truly yours,

ATLANTIC RICHFIELD COMPANY

J. L. Tweed
District Engineer

IJN/agp

cc: Mr. Bill Gressett
Energy & Minerals Dept.,
Oil Conservation Div.,
Artesia, New Mexico

Exhibit 1
Empire Abo Unit
Phase VI
(cont'd.)

ELEV. GL	WELL NAME	LOCATION	SEC.	TWP-S	RANGE-E
3660.9	H-341	1200' FSL & 2500' FWL	34	17	28
3663.6	I-292	485' FNL & 1070' FWL	4	18	28
3672.9	J-235	1750' FNL & 1600' FEL	6	18	28
3517.0	* K-131	1500' FSL & 600' FWL	2	18	27
3523.4	K-142	1700' FSL & 1400' FWL	2	18	27
3533.0	K-143	1820' FSL & 2550' FWL	2	18	27
3558.7	K-161	1310' FSL & 590' FEL	2	18	27
3521.4	L-122	100' FSL & 420' FEL	3	18	27
3501.4	L-123	660' FSL & 250' FEL	3	18	27
3518.5	* L-133	800' FSL & 950' FWL	2	18	27
3535.3	L-134	10' FSL & 640' FWL	2	18	27
3552.7	L-155	1040' FSL & 2025' FEL	2	18	27
3574.8	L-156	600' FSL & 1330' FEL	2	18	27
3588.6	L-171	670' FSL & 300' FWL	1	18	27
3630.3	L-191	1120' FSL & 1440' FEL	1	18	27
3533.2	M-123	1050' FNL & 100' FEL	10	18	27
3557.0	M-133	450' FNL & 1175' FWL	11	18	27
3574.8	M-141	225' FNL & 2280' FWL	11	18	27
3593.0	M-153	200' FNL & 1925' FEL	11	18	27

Due to surface conditions, the following wells will be drilled directionally at the surface location mentioned above, and bottomed within a circle of 150' radius with its center being the bottom hole location specified below.

<i>Empire Abo Unit</i> Well No E-361	Surface location 136' FSL & 800' FEL, Sec. 27, T-17S, R-28E Bottom hole location 300' FNL & 500' FEL, Sec. 34, T-17S, R-28E
E-392	Surface location 959' FNL & 2400' FEL, Sec. 35, T-17S, R-28E Bottom hole location 600' FNL & 2500' FEL, Sec. 35, T-17S, R-28E
K-131	Surface location 1500' FSL & 600' FWL, Sec. 2, T-18S, R-27E Bottom hole location 1600' FSL & 250' FWL, Sec. 2, T-18S, R-27E
L-133	Surface location 800' FSL & 950' FWL, Sec. 2, T-18S, R-27E Bottom hole location 1250' FSL & 700' FWL, Sec. 2, T-18S, R-27E

Empire Abo Pool,
Eddy County, New
Mexico,

Application of Atlantic Richfield Company
for directional drilling, Eddy County, New Mexico

Applicant, in the above-styled cause, seeks
authority to directionally drill four wells
on its Empire Abo Unit Area as follows:
^{In Township 17 South, Range 28 East}
Well No. D-361, Surface location 136 feet from
the South line and 800 feet from the East line
of Section 27, bottom-hole location 300 feet from
the North line and 500 feet from the East
line of Section 34; Well No. E-392, Surface
location 959 feet from the North line and 2400
feet from the East line, of Section 35, bottom-hole
location 600 feet from the North line and
2500 feet from the East line, of Section 35. ~~and~~
~~of the above being in Township 18 South, Range~~
~~28 East~~: Well No. K-131, Surface location
1500 feet from the South line and 600 feet
from the West line, of Section 2, bottom-hole
location 1600 feet from the South line and
250 feet from the West line, Section 2; Well
No. L-133, Surface location 800 feet from the
South line and 950 feet from the West line,
bottom-hole location 1250 feet from the South
line and 700 feet from the West line, Section
2. All of the above wells would be bottomed
within 150 feet of the at unorthodox
locations within 150 feet of the described
bottom-hole locations.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

JERRY APODACA
GOVERNOR

NICK FRANKLIN
SECRETARY

November 22, 1978

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

Mr. J. L. Tweed
District Engineer
Atlantic Richfield Company
Post Office Box 1610
Midland, Texas 79702

Dear Mr. Tweed:

Your application dated November 20, 1978, for several non-standard locations within the project area of the ARCO-Empire Abo Unit Pressure Maintenance Project in Eddy County, New Mexico, cannot be approved administratively. This will be placed on the docket for the December 7 examiner hearing. A copy of the docket will be sent to you as soon as it is printed.

Yours very truly,

Florene Davidson
Administrative Secretary

ROUGH

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 6409

Order No. R-5906

APPLICATION OF ATLANTIC RICHFIELD
COMPANY FOR DIRECTIONAL DRILLING,
EDDY COUNTY, NEW MEXICO.

dm

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on December 20
19 78, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of _____, 19____, the
Division Director, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required
by law, the Division has jurisdiction of this cause and the
subject matter thereof.

(2) That the applicant, Atlantic Richfield Company, seeks
approval for the directional drilling of four wells on its
Empire Abo Unit Area, Empire-Abo Pool, Eddy County, New Mexico, as
follows:

In Township 17 South, Range 28 East: Well No.

D-361, surface location 136 feet from the South line and 800 feet from the East line of Section 27, bottom-hole location 300 feet from the North line and 500 feet from the East line of Section 34; *this well would be designated as being in Unit A of Section 34.*

Well No. E-392, surface location 959 feet from the North line and 2400 feet from the East line, bottom-hole location 600 feet from the North line and 2500 feet from the East line, *in Unit C of* Section 35.

In Township 18 South, Range 27 East:

Well No. K-131, surface location 1500 feet from the South line and 600 feet from the West line, bottom-hole location 1600 feet from the South line and 250 feet from the West line, *in Unit L of* Section 2; and

Well No. L-133, surface location 800 feet from the South line and 950 feet from the West line, bottom-hole location 1250 feet from the South line and 700 feet from the West line, *in Unit M of* Section 2.

(3) That all of the above wells would be bottomed at unorthodox locations within 150 feet of the described bottom-hole locations.

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Case No. 6409

Order No. R-

(4) That the applicant should be required to determine of the bottom of the holes the subsurface locations/of each of the wells by means of a continuous multi-shot directional drilling, if said well is to be completed as a producing well.

(5) That approval of the subject application will prevent the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Atlantic Richfield Company, is hereby authorized to directional drill four wells on its Empire Abo Unit Area, Empire-Abo Pool, Eddy County, New Mexico, ~~as~~ follows: *bottoming them at unorthodox locations as follows:*

In Township 17 South, Range 28 East: ^(X) Well No.

D-361, surface location 136 feet from the South line and 800 feet from the East line of Section 27, bottom-hole location 300 feet from the North line and 500 feet from the East line of Section 34 *in Unit A;*

Well No. E-392, surface location 959 feet from the North line and 2400 feet from the East line, bottom-hole location 600 feet from the North line and 2500 feet from the East line, Section 35 *in Unit C.*

In Township 18 South, Range 27 East:

Well No. k-131, surface location 1500 feet from the South line and 600 feet from the West line, bottom-hole location 1600 feet from the South line and 250 feet from the West line, Section 2 *in Unit L;* and

Well No. L-133, surface location 800 feet from the South line and 950 feet from the West line, bottom-hole location 1250 feet from the South line and 700 feet from the West line, Section 2 *in Unit M.*

(2) That all of the above wells would be bottomed at unorthodox locations within 150 feet of the described bottom-hole locations.

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Case No. 6409

Order No. R-

PROVIDED HOWEVER, that subsequent to the above-described directional drilling, should any of said wells be a producer, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the ~~whipstock~~ ^{surface} point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, Box 2088, Santa Fe, New Mexico, and that the operator shall notify the Division's Artesia District Office of the date and time said survey is to be commenced.

(3) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depths in addition to measured depths.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.