

CASE 5236: Appli. of ATLANTIC  
RICHFIELD FOR 5 UNORTHODOX OIL  
WELL LOCATIONS & ADMIN. PROCEDURE,



CASE No.

5236

Application,

Transcripts,

Small Exhibits

ETC.

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
May 8, 1974

EXAMINER HEARING

IN THE MATTER OF:

Application of Atlantic Richfield  
Company for five unorthodox oil well  
locations and an administrative pro-  
cedure, San Juan County, New Mexico.

Case No.  
5236

BEFORE: Richard L. Stamets, Examiner.

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation  
Commission:

Thomas Derryberry, Esq.  
Legal Counsel for the  
Commission  
State Land Office Bldg.  
Santa Fe, New Mexico

For the Applicant:

Clarence Hinkle, Esq.  
HINKLE, BONDURANT, COX  
& EATON  
Hinkle Building  
Roswell, New Mexico

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I N D E X

PAGE

DON C. WOOD

Direct Examination by Mr. Hinkle  
Cross Examination by Mr. Stamets

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14

E X H I B I T S

Marked

Admitted

Applicant's Exhibits Nos.  
1 through 8

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MR. STAMETS: We will call the next Case, 5236.

MR. DERRYBERRY: Case 5236. Application of Atlantic Richfield Company for five unorthodox oil well locations and an administrative procedure, San Juan County, New Mexico.

MR. HINKLE: Clarence Hinkle, Hinkle, Bondurant Cox & Eaton, appearing on behalf of Atlantic Richfield. We have one witness we would like to have sworn.

MR. STAMETS: Are there any other appearances in this Case? The Witness will stand and be sworn, please.

(Witness sworn.)

DON C. WOOD

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, your residence, and by whom you are employed?

A My name is Don C. Wood; I am employed by Atlantic Richfield, and I reside in Denver and am employed in Denver.

Q Have you previously testified before the Oil Conservation Commission?

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A No, I haven't.

Q State briefly your educational background and experience as a Petroleum Engineer.

A I am a graduate of Colorado School of Mines, 1972, and since that date I have worked for Atlantic Richfield in the Rocky Mountain Region.

Q Have you made a study of the Horseshoe-Gallup Area?

A Yes, I have made a study of the Horseshoe-Gallup Area and the Many Rocks-Gallup Area, which is just to the north.

MR. HINKLE: Are his qualifications acceptable?

MR. STAMETS: Your degree and experience has been in Petroleum Engineering?

MR. WOOD: Right

MR. STAMETS: Yes, the Witness is qualified.

BY MR. HINKLE:

Q Are you familiar with the Application of Atlantic Richfield in this Case?

A I am.

MR. HINKLE: Mr. Examiner, I've forgotten one thing here. We have an attorney from the Denver Office of Atlantic Richfield here, Gary Hoff, and I would like

to introduce him from Denver and let the record show that he is associated with us in connection with this Case.

BY MR. HINKLE:

Q What is Atlantic Richfield seeking to accomplish by this Application?

A Atlantic is seeking to have approval of drilling five unorthodox locations in the Horseshoe-Gallup Unit, San Juan County, New Mexico. They are further seeking to amend the special Rules and Regulations that were approved by Order 1699 as amended to provide for administrative procedure for the drilling of additional in-fill drill wells. I might note that these will be drilled under the intention of producing oil but they will be completed as injection wells if possible if they do not produce oil.

Q Have you prepared or has there been prepared under your direction certain exhibits for introduction into this Case?

A I have prepared Exhibits 5, 7 and 8 personally, and the rest of the exhibits were prepared by the engineer and sub-committee in 1962.

Q Have you checked the data shown on those exhibits?

A Yes, I have verified the data on all of those and I verify that --

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Q (Interrupting) They are true and correct to the best of your knowledge and belief?

A Yes.

MR. STAMETS: Which Exhibits did you prepare?

MR. WOOD: 5, 7 and 8.

MR. HINKLE:

Q The exhibits you refer to are the ones that have been marked 1 through 8?

A Yes, they are.

Q Refer to Exhibit No. 1 and explain what this is and what it shows?

A Exhibit No. 1 is a plat showing the outline of the Horseshoe-Gallup Area, the outline of the project area. It also shows all of the wells that are completed in the Horseshoe-Gallup Unit. The oil wells are indicated by blue dots and the injection wells are indicated by arrows through a circle. The locations of these five unorthodox locations are plotted on the map and indicated by circles and red arrows. Also, Atlantic Richfield being the operator, we have our interest on the map of 47.0321. Our acreage is shaded in blue.

Q Does this show the outline of the unit area as well as the project area?

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A Right.

Q Does the unit area cover all of the Horseshoe-Gallup Pool?

A No. The Horseshoe-Gallup Pool extends for several miles on both the northwest and the southeast.

Q Do you have any further comments with respect to this Exhibit?

A No, I do not.

Q Refer to Exhibit No. 2 and explain what that is and what it shows.

A Exhibit No. 2 is a structure map of the Gallup formation. It is contoured on the top of the correlation point, just above the first initial sand in the Gallup formation. The structure shows a monocline dipping to the northeast and steeply dipping into the San Juan Basin along the southeast edge of the field. The new well locations are also indicated by red arrows on this map.

Q Is this any particular kind of structure?

A No, it's just a monocline.

Q Just a monocline?

A The well entrapment is stratigraphic.

Q What formations are unitized under the unit agreement?

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A The Gallup formation.

Q Only the Gallup formation?

A Pardon?

Q Only the Gallup formation?

A The Gallup formation, yes.

Q Now refer to Exhibit 3 and explain that?

A Exhibit No. 3 is an isopach map of the upper sands in the Gallup formation. I might say before I start this that we have picked two sands in the Gallup formation that are sometimes referred to as the upper and lower Tocio. We have isopach on both of these sands. This is the upper sand which is approximately 7 feet thick on the average in our unit area. It shows somewhat of an erratic deposition of the sand and that's about all it shows. It also indicates the in-fill wells to be drilled and their locations.

Q Now refer to Exhibit 4 and explain that?

A Exhibit 4 is the next-pay isopach map of the lower Gallup sand. This is a little bit different than the upper sand where it is restricted mostly to the central portion of this reservoir or the entire unit. It runs the complete unit, however, it is only about a mile wide. It's thicker; it's average thickness is around 10

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feet. Therefore, we believe it to be a little more productive and a little more clean than the upper sand is. The wells that we intend to drill are located on this. Two of the wells, 286 located in Section 30 and 285 located in Section 32, will be the only two wells of these five wells that will be completed in the lower Gallup because of the lack of sand in the other locations.

Q Now refer to Exhibit 5 and explain what that shows.

A Exhibit 5, I refer to it as a recovery map, is essentially showing drainage areas that I have calculated for each well. The yellow, you will notice from the other two maps, of the isopach maps, you'll notice that most of the yellow, which means that the recovery has been greater than 13 percent in this area, is in the area which overlaps both sands. It has been very successful, we think, in the flooding, in the water flood. The red arrows are just an assumption of 13 percent. If you will look at the area that does not involve both sands, the recovery has been about 13 percent in that total area; so these circles are based on this 13 percent. The green areas, which are in between it, just indicate that these areas are believed to be undrainable, and these

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are the areas that we would like to drill out there.

Q Water is being injected at the present time for maintenance purposes, pressure maintenance?

A Yes, water is being injected into both sands, or the area where both sands are present.

Q When did you commence injection of the water?

A Water began to be injected in 1959 on two pilot floods, however, the field-wide injection did not start until about 1963.

Q Now, refer to Exhibit 6 and explain that?

A Exhibit 6 is a performance curve of the Horse-shoe-Gallup Unit indicating the oil, water, and water injection and daily production. You will notice that the flood, or the injected water, went up considerably around 1963. This was when the field-wide flood started. You will also notice that there has been somewhat of a normal response to this flood. The oil has peaked; it peaked in April of 1965, about 9000 barrels a day, and throughout that time the water has increased in production. The current production of water is 25,000 barrels a day; the current injection is 25,000 barrels a day and the current oil production is 1000 barrels a day. The cumulatives of the Unit, as of 1/1/74, we've injected a total of 130 million

barrels of water and we have accumulative oil of about 27-million barrels and 50-million barrels of water. There are now 115 producing wells in the field and 57 injection wells.

Q What is the objective of Atlantic Richfield in the drilling of these five proposed wells?

A Atlantic Richfield is attempting to find out what the water flood has really done. We want to check the performance of the water flood and test the feasibility of drilling additional wells in the Unit.

Q Have you made an estimate of what the additional production might be recovered by the drilling of these wells?

A Yes. The wells that involve only the upper sand I have estimated from purely volumetric calculations of those green undrained areas. The average reserve up there will be around 20,000 barrels. The other two wells, where both sands are present, the reserve estimate that I have made is around 25,000 barrels.

Q Now refer to Exhibits 7 and 8 and explain what these show?

A In the event that these wells are not productive in oil, I did say that we will complete them as injection wells. We feel that we can inject water and still recover

a lot more oil from any one of these wells, or any one of the vicinity wells. Exhibit 7 is a single completion which would involve Wells 282, 283 and 284. They will only be completed in the upper Gallup sand. The schematic diagram shows the type of completion using 8-5/8ths-inch-surface casing, 5-1/2-inch-production casing, and cementing those both to the surface. The perforations are indicated there for each well, the perforation depth, and also the 2-3/8th-inch-plastic-coated tubing and a type of packer that will be set just above the perforation. Water will be injected down the tubing in the upper Gallup.

Exhibit No. 8 is very similar although it involves the completion of both the upper and lower Gallup sands. Like the other Exhibit it shows 8-5/8th-inch-surface casing and 5-1/2-inch-production casing being cemented to the surface. It also shows the approximate depth of the upper and lower Gallup perforations. It also shows that the lower Gallup injection will be down-tubing and the upper Gallup injection will be down-casing. The tubing will be 2-7/8th-inch-plastic-coated tubing and the packer will be set between the producing formations.

Q At the time you prepared Exhibit 3 did you know about the Memorandum of the Commission of March requiring

that water be injected to the tubing into each formation?

A No, I did not.

Q What would you propose in view of that Memorandum?

A We will submit another schematic diagram showing the completion of an injection well using two sets of tubing and inject as the Memorandum stated. We also have other alternatives that we could do.

Q So you will comply with the Memorandum of the Commission?

A Yes.

Q Now, you stated you're seeking approval of a procedure, or administrative approval of additional drilling of additional wells at that unorthodox location, is that right?

A Yes, yes, that is correct.

Q How many wells do you anticipate that Atlantic Richfield might want to drill in that unorthodox location?

A With the success of these five wells in the evaluation that we will do on them, we have plans to drill about 90 wells in unorthodox locations.

Q Have you had any protests in drilling of these wells from any off-set owner, off-sets to the Unit?

A No, we have not had any protests from off-set

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CROSS

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owners.

Q All of these proposed bottom wells are a mile or more from the outer boundaries of the Unit, or the project area, is that right?

A Yes.

Q In your opinion, will the approval of this Application be in the interests of conservation, the prevention of waste and protect correlative rights?

A Yes, it will.

MR. HINKLE: We would like to over in evidence Exhibits 1 through 8.

MR. STAMETS: Without objection, Exhibits 1 through 8 will be admitted.

(Whereupon, Applicant's Exhibits Nos. 1 through 8 were admitted into evidence.)

MR. HINKLE: That's all on direct.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Wood, as to future non-standard locations, which would be approved administratively, do you propose that these be located no closer than 330 feet to the outer boundary of the Unit or closer than 10 feet to any quarter quarter section line?

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A No. They will comply with that Order.

Q That's you agree with that?

A Yes.

Q Is there currently a provision in this Order allowing for administrative approval of additional injection wells?

A I don't --

MR. HINKLE: (Interrupting) Yes there is.

MR. WOOD: Injection but not--

MR. HINKLE: (Interrupting) Not producing wells.

MR. STAMETS: Not producing wells.

BY MR. STAMETS:

Q What type of water will you be injecting here? What's the quality of it, salt water, fresh water?

A No, it is salt water; it is Dakota-Morrison water that we are injecting now.

Q Are the injection wells in this area equipped with the gauge on the annulus, leakage detection devices?

A I'm not familiar with that.

Q Atlantic Richfield would be agreeable to equipping any such well authorized by this Order, under the provisions of this Order, with an adequate leakage detection

device?

A Yes.

Q And load the annulus with inhibited fluid?

A Yes.

Q These wells are being drilled primarily as oil wells and they would only be injection wells as a last resort?

A Right.


MR. STAMETS: Are there any other questions of this Witness?

MR. HINKLE: That's all I have.

MR. STAMETS: If not, he may be excused. Anything further in this Case? We will take the Case under advisement.

STATE OF NEW MEXICO )  
 )  
COUNTY OF SANTA FE ) SS.

I, RICHARD L. NYE, Court Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

  
RICHARD L. NYE, Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5236, heard by me on 5-8-68, 19 24.

  
Richard L. Nye, Examiner  
New Mexico Oil Conservation Commission

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**OIL CONSERVATION COMMISSION**

**STATE OF NEW MEXICO**  
**P. O. BOX 2088 - SANTA FE**  
**87501**

**I. R. TRUJILLO**  
**CHAIRMAN**  
**LAND COMMISSIONER**  
**ALEX J. ARMIJO**  
**MEMBER**  
**STATE GEOLOGIST**  
**A. L. PORTER, JR.**  
**SECRETARY - DIRECTOR**

May 21, 1974

**Mr. Clarence Hinkle**  
**Hinkle, Bondurant, Cox & Eaton**  
**Attorneys at Law**  
**Post Office Box 10**  
**Roswell, New Mexico 88201**

Re: CASE NO. 5236

ORDER NO. R-2210-A

**Applicant:**

Atlantic Richfield Co.

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC           x            
Artesia OCC                             
Aztec OCC               x          

Other \_\_\_\_\_

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 5236  
Order No. R-2210-A

APPLICATION OF ATLANTIC RICHFIELD  
COMPANY FOR FIVE UNORTHODOX OIL  
WELL LOCATIONS AND AN ADMINISTRATIVE  
PROCEDURE, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 8, 1974,  
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 21st day of May, 1974, the Commission, a  
quorum being present, 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 Commission has jurisdiction of this cause and the  
subject matter thereof.

(2) That the applicant, Atlantic Richfield Company, seeks  
approval for the unorthodox location of five oil wells in the  
Horseshoe-Gallup Oil Pool in Township 31 North, Range 16 West,  
NMPM, San Juan County, New Mexico, to be drilled at the following  
points:

1975 feet from the North line and 890 feet from the  
West line of Section 28; 150 feet from the North line  
and 1375 feet from the East line of Section 33; 2580  
feet from the South line and 295 feet from the West line  
of Section 35; 2605 feet from the North line and 2580  
feet from the East line of Section 32; and 2540 feet  
from the South line and 2570 feet from the East line  
of Section 30.

(3) That the applicant further seeks an administrative  
procedure for the approval without notice and hearing of addi-  
tional unorthodox locations for infill wells to be drilled  
within applicant's Horseshoe-Gallup Unit Pressure Maintenance  
Project.

(4) That the subject unorthodox locations are proposed for  
the purpose of infill drilling in the Horseshoe-Gallup Oil Pool.

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CASE NO. 5236  
Order No. R-2210-A

(5) That wells drilled at the proposed unorthodox locations will better enable the applicant to recover its just and equitable share of the oil in the Horseshoe-Gallup Oil Pool, will otherwise prevent waste, and not violate correlative rights.

(6) That Rule 11 of the Special Rules and Regulations for applicant's Horseshoe-Gallup Pressure Maintenance Project as promulgated by Commission Order No. R-2210 entered April 18, 1962, should be amended to provide a procedure whereby additional injection and production wells drilled in unorthodox locations may be approved without the necessity of notice and hearing.

IT IS THEREFORE ORDERED:

(1) That the applicant, Atlantic Richfield Company, is hereby authorized to drill oil wells in the following unorthodox locations in Township 31 North, Range 16 West, Horseshoe-Gallup Oil Pool, San Juan County, New Mexico:

1975 feet from the North line and 890 feet from the West line of Section 28; 150 feet from the North line and 1375 feet from the East line of Section 33; 2580 feet from the South line and 295 feet from the West line of Section 35; 2605 feet from the North line and 2580 feet from the East line of Section 32; and 2540 feet from the South line and 2570 feet from the East line of Section 30.

(2) That Rule 11 of the Special Rules and Regulations for applicant's Horseshoe-Gallup Unit Pressure Maintenance Project as promulgated by Commission Order No. R-2210 entered April 18, 1962, is hereby amended to read in its entirety as follows:

RULE 11. The Secretary-Director of the Commission is hereby authorized to approve such additional producing wells and injection wells at orthodox and unorthodox locations within the boundaries of the Horseshoe-Gallup Unit Area as may be necessary to complete an efficient production and injection pattern, provided said wells are drilled no closer than 330 feet to the outer boundary of said unit nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary. To obtain such approval, the project operator shall file proper application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional production or injection wells shall include the following:

(1) A plat showing the location of proposed well, all wells within the project area, and offset operators, locating wells which offset the project area.

(2) A schematic drawing of the proposed well which fully describes the casing, tubing, perforated interval, and depth.

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CASE NO. 5236

Order No. R-2210-A

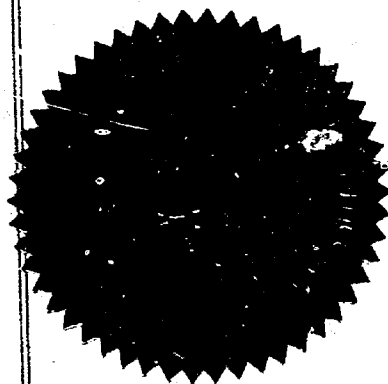
(3) A letter stating that all offset operators to the proposed well have been furnished a complete copy of the application and the date of notification.

The Secretary-Director may approve the proposed well if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

Expansion of the project area may be approved by the Secretary-Director of the Commission administratively when good cause is shown therefor.

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

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



STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*I. R. Trujillo*  
I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

*A. L. Porter, Jr.*  
A. L. PORTER, JR., Member & Secretary

S E A L

jr/

DOCKET: EXAMINER HEARING - WEDNESDAY - MAY 8, 1974

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

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

CASE 4790: (Reopened) (Continued from April 10, 1974, Examiner Hearing)

In the matter of Case No. 4790 being reopened pursuant to the provisions of Order No. R-4370, which order established temporary rules for the Dublin-Ellenburger Gas Pool, Lea County, New Mexico, including a provision for 640-acre spacing. All interested parties may appear and show cause why said pool should not be developed on 320-acre spacing units.

CASE 5220: (Continued from the April 25, 1974, Examiner Hearing)

Application of Atlantic Richfield Company for an unorthodox gas well location and non-standard proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its McDonald State WN Well No. 24 located 1780 feet from the North line and 660 feet from the West line of Section 25, Township 22 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to a 320-acre non-standard gas proration unit comprising the N/2 of said Section 25.

CASE 5229: Application of Texas International Petroleum Corporation for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Lower Federal Well No. 1 located in Unit H of Section 31, Township 20 South, Range 30 East, Golden Lane Field, Eddy County, New Mexico, in such a manner as to produce Strawn and Morrow gas through parallel strings of tubing.

CASE 5230: Application of Gulf Oil Corporation for the amendment of Order No. R-4079, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-4079 which authorized the commingling of Hobbs Grayburg-San Andres and Hobbs-Blinebry production from its W. D. Crimes "A" and "B" leases in Sections 32 and 33, Township 18 South, Range 38 East, Lea County, New Mexico, to include in said commingling authority Bowers-Seven Rivers production.

CASE 5231: Application of Mesa Petroleum Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Nash Unit Area comprising 5,124 acres, more or less, of State, Federal and fee lands in Township 23 South, Ranges 29 and 30 East, Eddy County, New Mexico.

CASE 5232: Application of Texas Pacific Oil Company, Inc. for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Phantom Draw Unit Area comprising 8,465 acres, more or less, of Federal, State and fee lands in Township 26 South, Range 31 East, Eddy County, New Mexico.



CASE 5233: Application of Burleson & Huff for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down to and including the Queen formation underlying the SW/4 of Section 29, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico, to be dedicated to its Jenkins Well No. 3 located 760 feet from the South line and 1980 feet from the West line of said Section 29. Also to be considered will be the cost of recompleting and equipping said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and a charge for risk involved in recompleting and equipping said well.

CASE 5234: Application of Atlantic Richfield for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 320-acre non-standard gas proration unit comprising the S/2 of Section 14, Township 22 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to its McDonald WN State Wells Nos. 1 and 27 located in Units L and O, respectively, of said Section 14.

CASE 5235: Application of Atlantic Richfield 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 9, Township 21 South, Range 26 East, Eddy County, New Mexico, to form a standard 320-acre unit to be dedicated to a well to be drilled at a standard location for said unit, and pooling all mineral interests in the Pennsylvanian formation underlying the S/2 of said Section 9 to form a standard 320-acre unit to be dedicated to a well to be drilled at a standard location for said unit, if it is determined that said Section 9 should be developed on 320-acre spacing. Applicant further seeks a provision in said order that would pool all mineral interests in the Pennsylvanian formation underlying all of said Section 9 to form a standard 640-acre unit to be dedicated to a well to be drilled at a standard location for said unit if it is determined that said Section 9 should be developed on 640-acre spacing. Also to be considered will be the cost of drilling and completing said well, or wells, and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well, or wells, and a charge for risk involved in drilling said well, or wells.

CASE 5236: Application of Atlantic Richfield Company for five unorthodox oil well locations and an administrative procedure, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of five oil wells in the Horseshoe-Gallup Oil Pool in Township 31 North, Range 16 West, San Juan County, New Mexico, to be drilled at the following points:



(Case 5236 continued from Page 1)

1975 feet from the North line and 890 feet from the West line of Section 28; 150 feet from the North line and 1375 feet from the East line of Section 33; 2500 feet from the South line and 295 feet from the West line of Section 35; 2605 feet from the North line and 2580 feet from the East line of Section 32; and 2540 feet from the South line and 2570 feet from the East line of Section 30.

Applicant further seeks an administrative procedure for the approval without notice and hearing of additional unorthodox locations for infill wells to be drilled within the Atlantic Horseshoe-Gallup Unit Area.

CASE 5237: Application of General American Oil Company of Texas for sixteen unorthodox oil well locations and an administrative procedure, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of sixteen oil wells in the Grayburg-Jackson Pool, Eddy County, New Mexico, to be drilled at the following points: 1295 feet from the South line and 1345 feet from the East line of Section 13; 1345 feet from the North line and 25 feet from the East line, 1295 feet from the North line and 2615 feet from the East line, 1295 feet from the North and East lines, 1295 feet from the South line and 2615 feet from the West line, 1345 feet from the South line and 25 feet from the East line, and 2615 feet from the South line and 1345 feet from the East line of Section 23; 1345 feet from the North and West lines, 2615 feet from the South line and 25 feet from the West line, 2615 feet from the South line and 1295 feet from the West line, 2615 feet from the South and West lines, 1345 feet from the South line and 2615 feet from the East line, and 1295 feet from the South line and 1345 feet from the West line of Section 24; and 25 feet from the North line and 2615 feet from the East line of Section 26, all in Township 17 South, Range 29 East, and 1295 feet from the North line and 2665 feet from the East line and 25 feet from the North line and 2615 feet from the East line of Section 30, Township 17 South, Range 30 East.

Applicant further seeks the adoption of an administrative procedure whereby additional infill wells at unorthodox locations could be drilled on its leases in this area without notice and hearing.

CASE 5238: Application of Yates Petroleum Corporation for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation through the indicated perforated interval of the following wells in Township 17 South, Range 25 East, Eagle Creek-San Andres Pool, Eddy County, New Mexico: from 1286 feet to 1456 feet in its Federal BZ Well No. 6 located in Unit N of Section 21; from 1270 feet to 1440 feet in its Ingram Jackson BV Well No. 2 located in Unit D of Section 26; and from 1295 feet to 1372 feet in its Gissler AV Well No. 1 located in Unit C of Section 23. Applicant further seeks an administrative procedure for approval of additional salt water disposal into the San Andres formation in the subject pool without notice and hearing.

CASE 5239: Southeastern nomenclature case calling for the creation and extension of certain pools in Lea and Eddy Counties, New Mexico.

(a) Create a new pool in Lea County, New Mexico, classified as a gas pool for Morrow production and designated as the Ojo Chiso-Morrow Gas Pool. The discovery well is the Brunson & McKnight, Inc. Ojo Chiso Unit Well No. 1 located in Unit E of Section 23, Township 22 South, Range 34 East, NMPM. Said pool would comprise:

TOWNSHIP 22 SOUTH, RANGE 34 EAST, NMPM  
Section 23: W/2

(b) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Delaware production and designated as the Washington Ranch-Delaware Gas Pool. The discovery well is the Black River Corporation BR 4 Federal Well No. 3 located in Unit H of Section 4, Township 26 South, Range 24 East, NMPM. Said pool would comprise:

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM  
Section 4: NE/4

(c) Extend the West Atoka-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 25 EAST, NMPM  
Section 1: All  
Section 2: E/2  
Section 12: All

(d) Extend the Atoka-Pennsylvanian Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM  
Section 12: W/2

(e) Extend the Burton Flat-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM  
Section 27: S/2  
Section 35: W/2

TOWNSHIP 21 SOUTH, RANGE 27 EAST, NMPM  
Section 7: All  
Section 11: All

(f) Extend the Burton Flat-Strawn Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM  
Section 35: W/2

TOWNSHIP 21 SOUTH, RANGE 27 EAST, NMPM  
Section 11: All

- (g) Extend the Cabin Lake-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 30 EAST, NMPM  
Section 11: N/2

- (h) Extend the Crossroads-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 36 EAST, NMPM  
Section 26: NE/4

- (i) Extend the Drinkard Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM  
Section 6: SE/4

- (j) Extend the Fowler-Devonian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM  
Section 10: NE/4

- (k) Extend the Indian Basin-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 25 EAST, NMPM  
Section 31: All  
Section 32: All

- (l) Extend the Penasco Draw San Andres-Yeso Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 24 EAST, NMPM  
Section 12: NW/4

- (m) Extend the Quail Ridge-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 34 EAST, NMPM  
Section 17: E/2

- (n) Extend the Rocky Arroyo-Wolfcamp Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 22 EAST, NMPM  
Section 7: E/2  
Section 8: SW/4

- (o) Extend the Sand Dunes-Cherry Canyon Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM  
Section 26: NW/4 SE/4

- (p) Extend the North Vacuum-Abo Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM  
Section 1: NE/4

- (q) Extend the Vada-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 33 EAST, NMPM  
Section 13: NE/4

- (r) Extend the Wantz-Granite Wash Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM  
Section 26: NE/4

- (s) Extend the Washington Ranch-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM  
Section 12: N/2

- (t) Extend the White City-Pennsylvanian Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 26 EAST, NMPM  
Section 17: All

- (u) Extend the Wilson-Pennsylvanian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 34 EAST, NMPM  
Section 13: E/2

- (v) Extend the Winchester-Strawn Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 28 EAST, NMPM  
Section 35: S/2

Examiner Hearing - Wednesday - May 8, 1974

Dockets Nos. 12-74 and 13-74

-7-

(w) Extend the Winchester-Wolfcamp Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 28 EAST, NMPM  
Section 35: S/2

CASE 5208: (Continued from the April 25, 1974, Examiner Hearing)

Application of S. P. Yates for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to Order No. R-3221, as amended, authority to dispose of produced salt water in an unlined surface pit on its Federal LC 065598 lease in the SW/4 SW/4 of Section 4, and the NE/4 of Section 5, Township 17 South, Range 30 East, Square Lake Pool, Eddy County, New Mexico.

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Docket No. 13-74

DOCKET: EXAMINER HEARING - WEDNESDAY - MAY 15, 1974

9 A.M. - OIL CONSERVATION COMMISSION 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 from seventeen prorated pools in Lea, Eddy, Roosevelt, and Chaves Counties, New Mexico, for June, 1974;
- (2) Consideration of the allowable production of gas from five prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for June, 1974.

CLARENCE E. HINKLE  
W. E. BONDURANT, JR.  
LEWIS C. COX, JR.  
PAUL W. EATON, JR.  
CONRAD E. FIELD  
HAROLD L. HENSLEY, JR.  
STUART D. SHANOR  
C. D. MARTIN  
PAUL J. KELLY, JR.

LAW OFFICES  
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600 HINKLE BUILDING  
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ROSWELL, NEW MEXICO 88201

TELEPHONE (505) 622-6510

MIDLAND, TEXAS OFFICE  
521 MIDLAND TOWER  
(915) 683-4691

April 5, 1974

*Case 5236*

Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

Gentlemen:

We enclose herewith application in triplicate of Atlantic Richfield Company for approval of five unorthodox well locations in the Horseshoe-Gallup Pool and requesting administrative approval of future unorthodox locations in the pool.

We would appreciate your placing this matter on the docket for the first examiner's hearing in May.

Yours very truly,

HINKLE, BONDURANT, COX & EATON

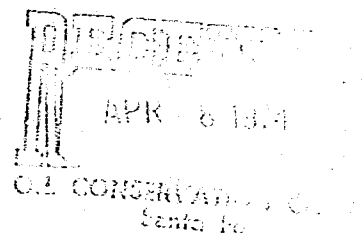
BY 

CEH:cs

Enc.

cc: Gary Hoff

cc: Don Wood



DOCKET MAILED

Date 4-25-74

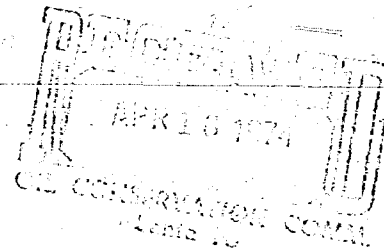


BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

Case 5236

APPLICATION OF ATLANTIC RICHFIELD COMPANY FOR APPROVAL OF UNORTHODOX WELL LOCATIONS IN THE HORSESHOE-GALLUP POOL, SAN JUAN COUNTY, NEW MEXICO. APPLICANT SEEKS APPROVAL OF THE DRILLING OF FIVE WELLS TO BE LOCATED AT UNORTHODOX LOCATIONS AS FOLLOWS: WELL NO. 282, 1975 FEET FROM THE NORTH LINE AND 890 FEET FROM THE WEST LINE OF SECTION 28; WELL NO. 283, 150 FEET FROM THE NORTH LINE AND 1375 FEET FROM THE EAST LINE OF SECTION 33; WELL NO. 284, 2580 FEET FROM THE SOUTH LINE AND 295 FEET FROM THE WEST LINE OF SECTION 35; WELL NO. 285, 2605 FEET FROM THE NORTH LINE AND 2580 FEET FROM THE EAST LINE OF SECTION 32; AND WELL NO. 286, 2540 FEET FROM THE SOUTH LINE AND 2570 FEET FROM THE EAST LINE OF SECTION 30, ALL IN TOWNSHIP 31 NORTH, RANGE 16 WEST, SAID WELLS TO BE USED FOR EITHER INJECTION OR PRODUCTION PURPOSES. APPLICANT ALSO SEEKS TO AMEND THE SPECIAL RULES AND REGULATIONS FOR THE HORSESHOE-GALLUP PRESSURE MAINTENANCE PROJECT APPROVED BY ORDER R-1699, AS AMENDED, TO PROVIDE AN ADMINISTRATIVE PROCEDURE FOR THE APPROVAL OF ADDITIONAL UNORTHODOX WELL LOCATIONS FOR THE DRILLING OF IN-FILL WELLS WITHIN THE PROJECT AREA FOR EITHER INJECTION OR PRODUCTION PURPOSES.



Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

Comes Atlantic Richfield Company, acting by and through the undersigned attorneys, and hereby makes this amended application for approval of unorthodox well locations in the Horseshoe-Gallup Pool, San Juan County, New Mexico as described in the caption hereof. Applicant also seeks to amend the special rules and regulations for the Horseshoe-Gallup Pressure Maintenance Project approved by Order R-1699, as amended, to provide an administrative procedure for the approval of additional unorthodox well locations for the drilling

of in-fill wells within the project area for either injection or production purposes, and in support thereof respectfully shows:

1. Applicant is unit operator of the Horseshoe-Gallup Unit which embraces a portion of the Horseshoe-Gallup Oil Pool and which also embraces the pressure maintenance project heretofore approved by the Commission. Applicant has heretofore filed with the original application a plat of the Horseshoe-Gallup Unit area, which shows all of the wells within the unit area which are producing from the Horseshoe-Gallup Pool. Said exhibit also shows the location of the five proposed unorthodox locations.

2. Water is being injected at the present time into the two producing zones in the Horseshoe-Gallup Pool referred to as the Upper Gallup and Lower Gallup formations.

The five wells which applicant proposes to drill at the unorthodox locations referred to above will be drilled to evaluate past performance of the waterflood and the feasibility of future drilling within the unit and, depending upon conditions which may be encountered, one or more of these wells may be used either as injection wells or as producing wells.

Applicant has heretofore filed diagrammatic sketches showing the method of completion of the proposed wells, identified as Exhibits "B" and "C". Exhibit "B" shows the manner in which the wells will be completed as injection wells if completed only for the purpose of injection of water into the Upper Gallup formation and Exhibit "C" shows the manner in which the wells will be dually completed if they are to be used as injection wells for the injection of water in both the Upper and Lower Gallup formations. These exhibits show the casing strings, including diameters and the manner in which the casing will be cemented, perforations and type and location of packers.

3. It is anticipated that the drilling of the proposed wells at the unorthodox locations indicated will result in the recovery of an appreciable amount of oil which would not otherwise be recovered. Furthermore, if the drilling of the proposed wells proves successful, 90 to 100 additional wells will be drilled as in-fill wells at unorthodox locations, all of which will be in the interest of conservation, the prevention of waste and the protection of correlative rights and will result in the greatest ultimate recovery of unitized substances from the unitized area.


4. Special rules and regulations for the Horseshoe-Gallup Pressure Maintenance Project were originally promulgated under Commission Order R-1699 and applicant desires that said special rules be amended to provide for an administrative procedure for the approval of the drilling of additional in-fill wells at unorthodox locations to be used either as injection or producing wells without the necessity of additional hearings before the Commission.

5. Applicant requests that this matter be set down for hearing at the first examiner's hearing in May, 1974.

Respectfully submitted,

ATLANTIC RICHFIELD COMPANY

BY

  
HINKLE, BONDURANT, COX & EATON  
P.O. Box 10  
Roswell, New Mexico 88201  
Attorneys for Applicant

EXHIBITS

1. Plat-----Horseshoe Gallup Unit
2. Structure Map-----Lower Gallup Sand
3. Isopach Map-----Upper Gallup Sand
4. Isopach Map-----Lower Gallup Sand
5. Recovery Map-----Upper Gallup Isopach Map
6. Performance Curve-----Horseshoe Gallup Performance  
History Curve from 1-1-62
7. Diagrammatic Sketch-----Upper Gallup Injection Completion  
(Single Completion)
8. Diagrammatic Sketch-----Upper & Lower Gallup Injection Completion  
(Dual Completion)

BEFORE EXAMINER STAMETS  
OIL CONSERVATION COMMISSION

EXHIBIT NO. \_\_\_\_\_

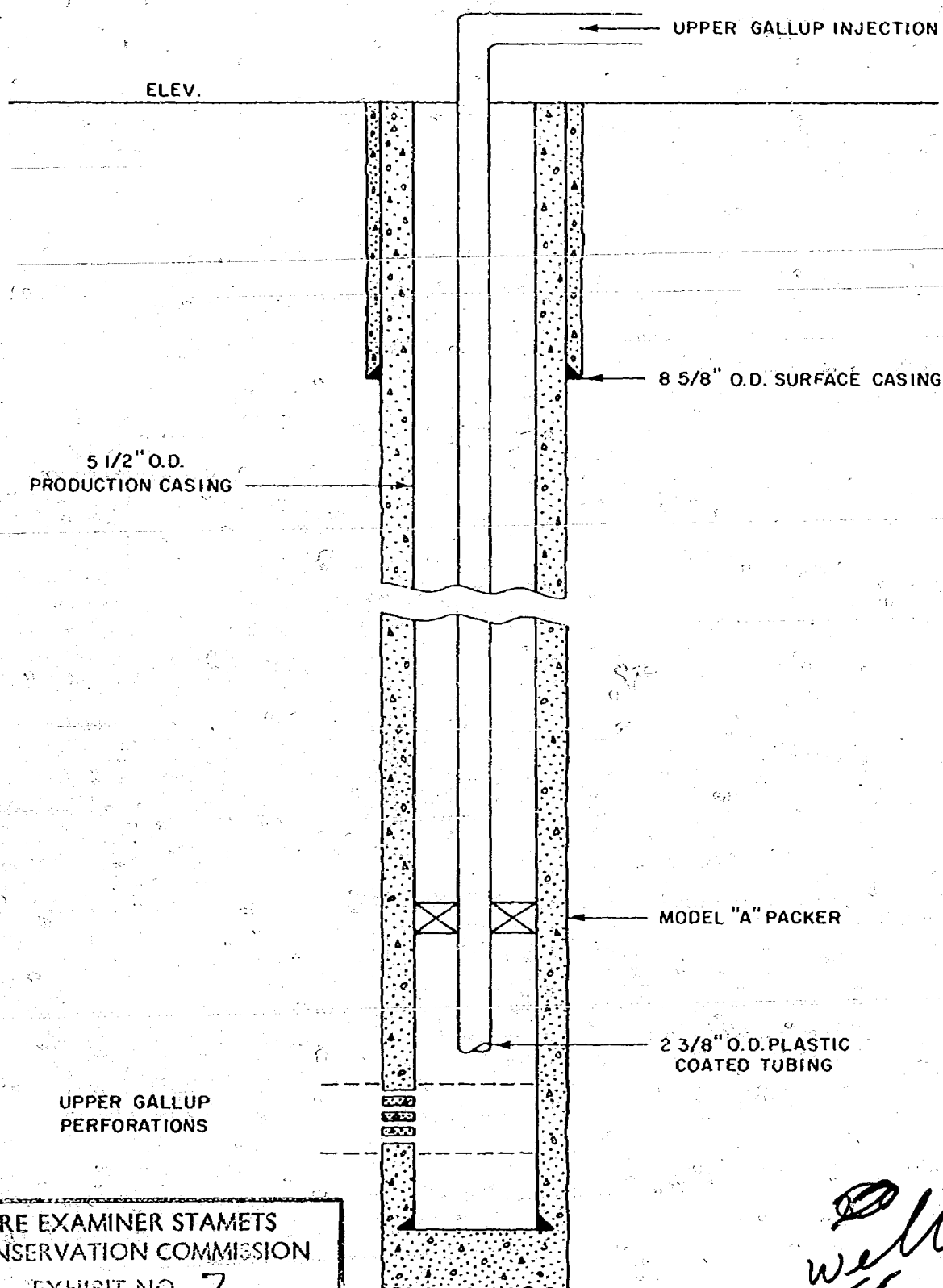
CASE NO. \_\_\_\_\_

Submitted by \_\_\_\_\_

Hearing Date \_\_\_\_\_

# DIAGRAMMATIC SKETCH OF WATER INJECTION INSTALLATION SINGLE COMPLETION

Atlantic Richfield Company  
HORSESHOE-GALLUP UNIT  
SAN JUAN COUNTY, NEW MEXICO



BEFORE EXAMINER STAMETS  
OIL CONSERVATION COMMISSION

EXHIBIT NO. 7

CASE NO. 5236

Submitted by *Oil-Richfield*

Hearing Date 5-8-78

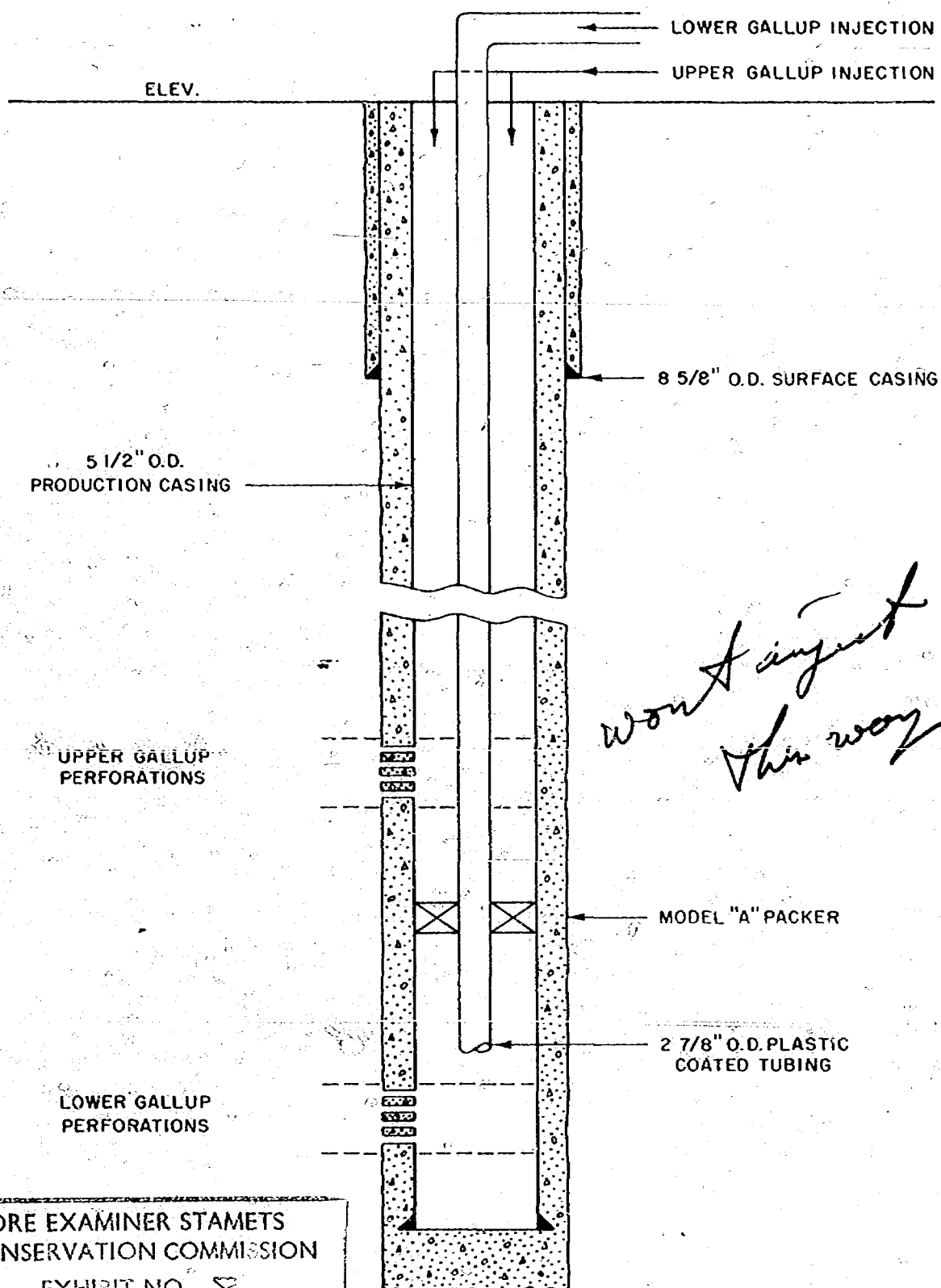
## WELL STATISTICS

WELL NUMBER	282	283	284
SURFACE ELEVATION	5660	5380	5480
SURFACE CASING (SETTING DEPTH)	120	120	120
PRODUCTION CASING (SETTING DEPTH)	1650	1600	1500
PACKER (SETTING DEPTH)	1440	1380	1330
UPPER GALLUP (APPROXIMATE TOP DEPTH)	1460	1400	1350

*Wells*

# DIAGRAMMATIC SKETCH OF WATER INJECTION INSTALLATION DUAL COMPLETION

AtlanticRichfieldCompany  
HORSESHOE-GALLUP UNIT  
SAN JUAN COUNTY, NEW MEXICO



*won't inject  
this way*

BEFORE EXAMINER STAMETS  
OIL CONSERVATION COMMISSION

EXHIBIT NO. 8

CASE NO. 5236

Submitted by *Atl Rich field*

Hearing Date 5-8-74

## WELL STATISTICS

WELL NUMBER	285	286
SURFACE ELEVATION	5370	5580
SURFACE CASING (SETTING DEPTH)	150	120
PRODUCTION CASING (SETTING DEPTH)	1300	1550
PACKER (SETTING DEPTH)	1180	1350
UPPER GALLUP (APPROXIMATE TOP DEPTH)	1115	1280
LOWER GALLUP (APPROXIMATE TOP DEPTH)	1220	1400

CLARENCE E. HINKLE  
W. E. BONDURANT, JR.  
LEWIS C. COX, JR.  
PAUL W. EATON, JR.  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY, JR.  
STUART D. SHANOR  
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ANDREW ALLEN

LAW OFFICES  
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600 HINKLE BUILDING  
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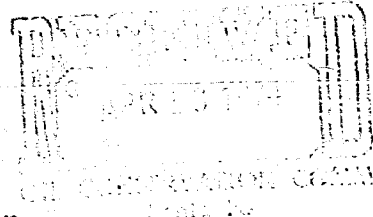
ROSWELL, NEW MEXICO 88201

April 15, 1974

TELEPHONE (505) 622-6510

MIDLAND, TEXAS OFFICE  
521 MIDLAND TOWER  
(915) 683-4891

*Ccc 5236*



Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

Gentlemen:

On April 5, we forwarded to you application of Atlantic Richfield for approval of 5 unorthodox well locations in the Horseshoe-Gallup Pool. Atlantic has decided to change the location of some of the wells and you will find enclosed in triplicate amended application, with the correct description of the well locations. The exhibits filed with the original application are to be a part of the amended application.

Yours very truly,

HINKLE, BONDURANT, COX & EATON

BY *[Signature]*

CEH:cs  
Enc.

DOCKET MAILED

Date *4-25-74*



BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

APPLICATION OF ATLANTIC RICHFIELD COMPANY  
FOR APPROVAL OF UNORTHODOX WELL LOCATIONS  
IN THE HORSESHOE-GALLUP POOL, SAN JUAN  
COUNTY, NEW MEXICO. APPLICANT SEEKS  
APPROVAL OF THE DRILLING OF FIVE WELLS TO  
BE LOCATED AT UNORTHODOX LOCATIONS AS  
FOLLOWS: WELL NO. 282, 1975 FEET FROM  
THE NORTH LINE AND 890 FEET FROM THE  
WEST LINE OF SECTION 28; WELL NO. 283,  
150 FEET FROM THE NORTH LINE AND 1375 FEET  
FROM THE EAST LINE OF SECTION 33; WELL NO.  
284, 2580 FEET FROM THE SOUTH LINE AND  
295 FEET FROM THE WEST LINE OF SECTION 35;  
WELL NO. 285, 2605 FEET FROM THE NORTH LINE  
AND 2580 FEET FROM THE EAST LINE OF SECTION  
32; AND WELL NO. 286, 2540 FEET FROM THE  
SOUTH LINE AND 2570 FEET FROM THE EAST LINE  
OF SECTION 30, ALL IN TOWNSHIP 31 NORTH,  
RANGE 16 WEST, SAID WELLS TO BE USED FOR  
EITHER INJECTION OR PRODUCTION PURPOSES.  
APPLICANT ALSO SEEKS TO AMEND THE SPECIAL  
RULES AND REGULATIONS FOR THE HORSESHOE-  
GALLUP PRESSURE MAINTENANCE PROJECT APPROVED  
BY ORDER R-1699, AS AMENDED, TO PROVIDE AN  
ADMINISTRATIVE PROCEDURE FOR THE APPROVAL  
OF ADDITIONAL UNORTHODOX WELL LOCATIONS FOR  
THE DRILLING OF IN-FILL WELLS WITHIN THE  
PROJECT AREA FOR EITHER INJECTION OR PRODUCTION  
PURPOSES.

*Case 5234*

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Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

Comes Atlantic Richfield Company, acting by and through the undersigned attorneys, and hereby makes this amended application for approval of unorthodox well locations in the Horseshoe-Gallup Pool, San Juan County, New Mexico as described in the caption hereof. Applicant also seeks to amend the special rules and regulations for the Horseshoe-Gallup Pressure Maintenance Project approved by Order R-1699, as amended, to provide an administrative procedure for the approval of additional unorthodox well locations for the drilling



of in-fill wells within the project area for either injection or production purposes, and in support thereof respectfully shows:

1. Applicant is unit operator of the Horseshoe-Gallup Unit which embraces a portion of the Horseshoe-Gallup Oil Pool and which also embraces the pressure maintenance project heretofore approved by the Commission. Applicant has heretofore filed with the original application a plat of the Horseshoe-Gallup Unit area, which shows all of the wells within the unit area which are producing from the Horseshoe-Gallup Pool. Said exhibit also shows the location of the five proposed unorthodox locations.

2. Water is being injected at the present time into the two producing zones in the Horseshoe-Gallup Pool referred to as the Upper Gallup and Lower Gallup formations.

The five wells which applicant proposes to drill at the unorthodox locations referred to above will be drilled to evaluate past performance of the waterflood and the feasibility of future drilling within the unit and, depending upon conditions which may be encountered, one or more of these wells may be used either as injection wells or as producing wells.

Applicant has heretofore filed diagrammatic sketches showing the method of completion of the proposed wells, identified as Exhibits "B" and "C". Exhibit "B" shows the manner in which the wells will be completed as injection wells if completed only for the purpose of injection of water into the Upper Gallup formation and Exhibit "C" shows the manner in which the wells will be dually completed if they are to be used as injection wells for the injection of water in both the Upper and Lower Gallup formations. These exhibits show the casing strings, including diameters and the manner in which the casing will be cemented, perforations and type and location of packers.

3. It is anticipated that the drilling of the proposed wells at the unorthodox locations indicated will result in the recovery of an appreciable amount of oil which would not otherwise be recovered. Furthermore, if the drilling of the proposed wells proves successful, 90 to 100 additional wells will be drilled as in-fill wells at unorthodox locations, all of which will be in the interest of conservation, the prevention of waste and the protection of correlative rights and will result in the greatest ultimate recovery of unitized substances from the unitized area.

4. Special rules and regulations for the Horseshoe-Gallup Pressure Maintenance Project were originally promulgated under Commission Order R-1699 and applicant desires that said special rules be amended to provide for an administrative procedure for the approval of the drilling of additional in-fill wells at unorthodox locations to be used either as injection or producing wells without the necessity of additional hearings before the Commission.

5. Applicant requests that this matter be set down for hearing at the first examiner's hearing in May, 1974.

Respectfully submitted,

ATLANTIC RICHFIELD COMPANY

By

  
HINKLE, BONDURANT, COX & EATON

P.O. Box 10

Roswell, New Mexico 88201

Attorneys for Applicant

BEFORE THE OIL CONSERVATION COMMISSION  
STATE OF NEW MEXICO

APPLICATION OF ATLANTIC RICHFIELD  
COMPANY FOR APPROVAL OF UNORTHODOX  
WELL LOCATIONS IN THE HORSESHOE-  
GALLUP POOL, SAN JUAN COUNTY, NEW  
MEXICO. APPLICANT SEEKS APPROVAL  
OF THE DRILLING OF FIVE WELLS TO  
BE LOCATED AT UNORTHODOX LOCATIONS  
AS FOLLOWS: WELL NO. (282), 2,000  
FEET FROM THE NORTH LINE AND 800  
FEET FROM THE WEST LINE OF SECTION  
28; WELL NO. (283), 100 FEET FROM THE  
NORTH LINE AND 1250 FEET FROM THE  
EAST LINE SECTION 33; WELL NO. (284),  
2,659 FEET FROM THE NORTH LINE AND  
50 FEET FROM THE EAST LINE OF  
SECTION 34; WELL NO. (285), 2,700 FEET  
FROM THE NORTH LINE AND 2500 FEET  
FROM THE EAST LINE OF SECTION 32;  
AND WELL NO. (286), 2,650 FEET FROM  
THE NORTH LINE AND 2,600 FEET FROM  
THE EAST LINE OF SECTION 30, ALL IN  
TOWNSHIP 31-NORTH, RANGE 16 WEST,  
SAID WELLS TO BE USED FOR EITHER  
INJECTION OR PRODUCTION PURPOSES.  
APPLICANT ALSO SEEKS TO AMEND THE  
SPECIAL RULES AND REGULATIONS FOR  
THE HORSESHOE-GALLUP PRESSURE MAIN-  
TENANCE PROJECT APPROVED BY ORDER  
R-1699, AS AMENDED, TO PROVIDE AN  
ADMINISTRATIVE PROCEDURE FOR THE  
APPROVAL OF ADDITIONAL UNORTHODOX  
WELL LOCATIONS FOR THE DRILLING OF  
IN-FILL WELLS WITHIN THE PROJECT  
AREA FOR EITHER INJECTION OR PRODUCTION  
PURPOSES.

Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

Comes Atlantic Richfield Company, acting by and through the  
undersigned attorneys, and hereby makes application for approval of  
unorthodox well locations in the Horseshoe-Gallup Pool, San Juan

County, New Mexico. Applicant seeks approval of the drilling of five wells to be located at unorthodox locations as follows: Well No. 282, 2,000 feet from the north line and 800 feet from the west line of Section 28; Well No. 283, 100 feet from the north line and 1,250 feet from the east line of Section 33; Well No. 284, 2,650 feet from the north line and 50 feet from the east line of Section 34; Well No. 285, 2,700 feet from the north line and 2,500 feet from the east line of Section 32; and Well No. 286, 2,650 feet from the north line and 2,600 feet from the east line of Section 30, all in Township 31 North, Range 16 West, said wells to be used for either injection or production purposes. Applicant also seeks to amend the special rules and regulations for the Horseshoe-Gallup Pressure Maintenance Project approved by Order R-1699, as amended, to provide an administrative procedure for the approval of additional unorthodox well locations for the drilling of in-fill wells within the project area for either injection or production purposes, and in support thereof respectfully shows:

1. Applicant is the unit operator of the Horseshoe-Gallup Unit which embraces a portion of the Horseshoe-Gallup Oil Pool and which also embraces the pressure maintenance project heretofore approved by the Commission. There is attached hereto, made a part hereof and for purposes of identification marked Exhibit "A", a plat of the Horseshoe-Gallup Unit Area, which shows all of the wells within the unit area which are producing from the Horseshoe-Gallup Pool. Said exhibit also shows the location of the five proposed unorthodox locations.

2. Water is being injected at the present time into the two producing zones in the Horseshoe-Gallup Pool referred to as the Upper Gallup and Lower Gallup formations.

The five wells which applicant proposes to drill at the unorthodox locations referred to above will be drilled to evaluate past performance of the waterflood and the feasibility of future drilling within the unit and depending upon conditions which may be encountered, one or more of these wells may be used either as injection wells or as producing wells.

There are attached hereto as Exhibits "B" and "C" diagrammatic sketches showing the method of completion of the proposed wells. Exhibit "B" shows the manner in which the wells will be completed as injection wells if completed only for the purpose of injection of water into the Upper Gallup formation and Exhibit "C" shows the manner in which the wells will be dually completed if they are to be used as injection wells for the injection of water in both the Upper and Lower Gallup formations. These exhibits show the casing strings, including diameters and the manner in which the casing will be cemented,

perforations and type and location of packers.

3. It is anticipated that the drilling of the proposed wells at the unorthodox locations indicated will result in the recovery of an appreciable amount of oil which would not otherwise be recovered. Furthermore, if the drilling of the proposed wells proves successful, 90 to 100 additional wells will be drilled as in-fill wells at unorthodox locations, all of which will be in the interest of conservation, the prevention of waste, the protection of correlative rights and will result in the greatest ultimate recovery of unitized substances from the unitized area.

4. Special rules and regulations for the Horseshoe-Gallup Pressure Maintenance Project were originally promulgated under Commission Order R-1699 and applicant desires that said special rules be amended to provide for an administrative procedure for the approval of the drilling of additional in-fill wells at unorthodox locations to be used either as injection or producing wells without the necessity of additional hearings before the Commission.

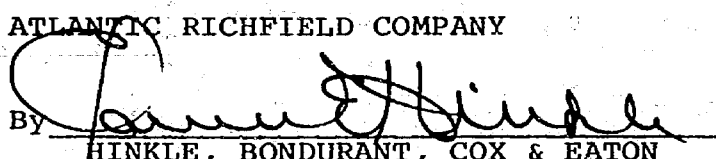
5. All of the working interest owners within the unit area have been advised of the plan to drill the five additional wells at the unorthodox locations indicated and all of the working interest owners have approved the drilling of the same.

6. Applicant requests that this matter be set down for hearing at the first examiner's hearing in May, 1974.

Respectfully submitted,

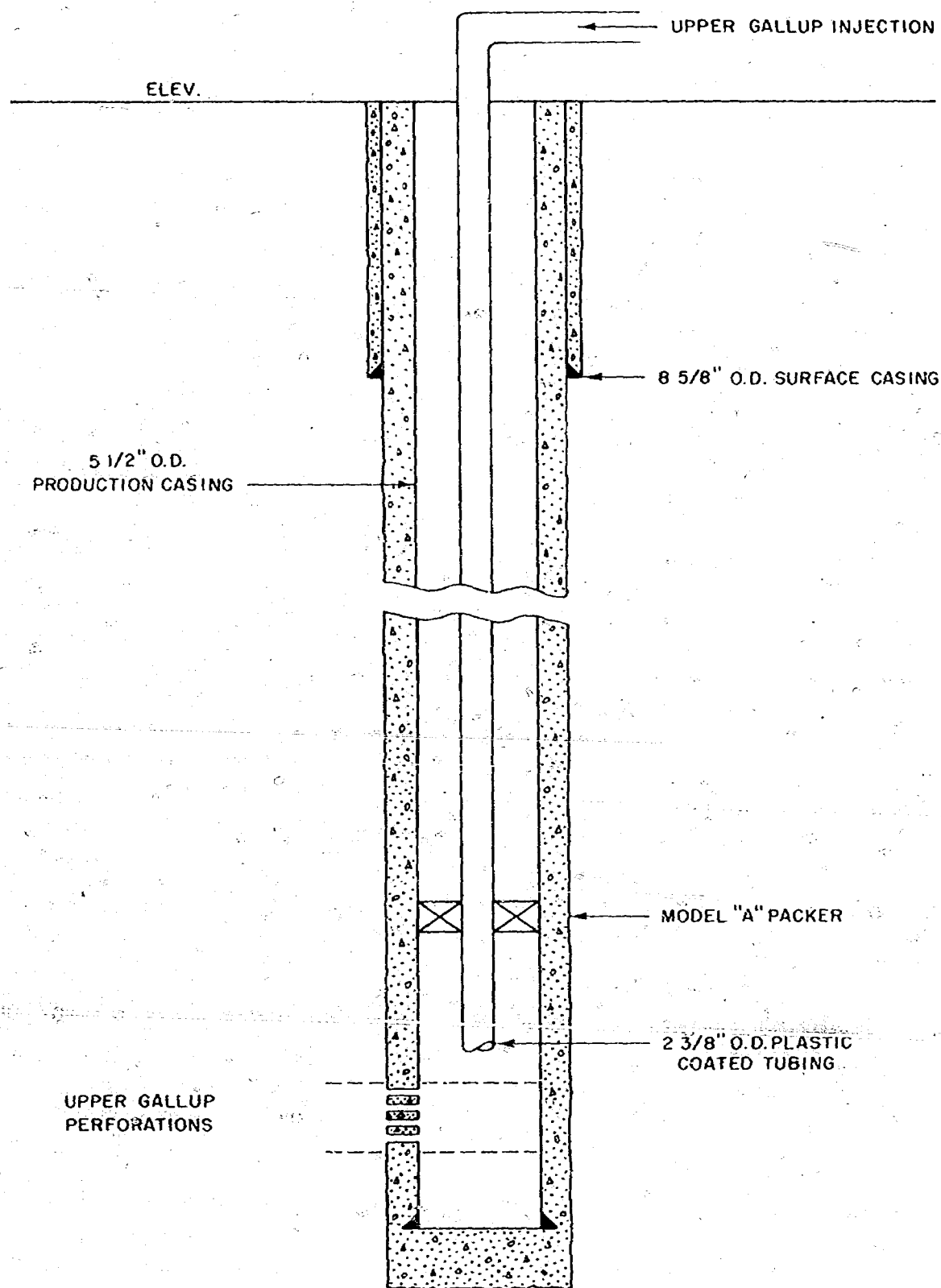
ATLANTIC RICHFIELD COMPANY

BY

  
HINKLE, BONDURANT, COX & EATON  
P.O. Box 10  
Roswell, New Mexico 88201  
Attorneys for Applicant

# DIAGRAMMATIC SKETCH OF WATER INJECTION INSTALLATION SINGLE COMPLETION

Atlantic Richfield Company  
HORSESHOE-GALLUP UNIT  
SAN JUAN COUNTY, NEW MEXICO



## WELL STATISTICS

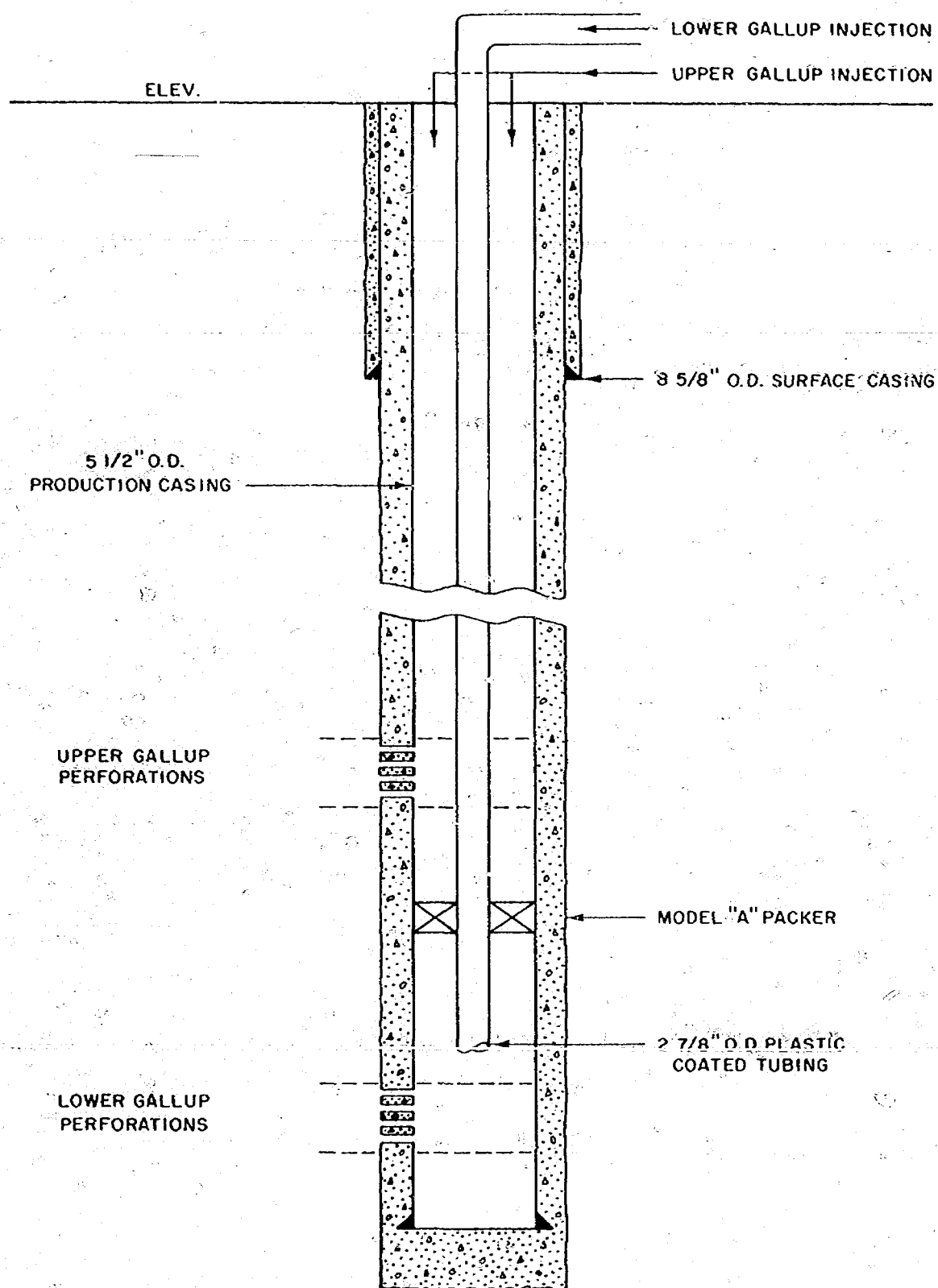
WELL NUMBER	282	283	284
SURFACE ELEVATION	5660	5380	5480
SURFACE CASING (SETTING DEPTH)	120	120	120
PRODUCTION CASING (SETTING DEPTH)	1650	1600	1500
PACKER (SETTING DEPTH)	1440	1380	1330
UPPER GALLUP (APPROXIMATE TOP DEPTH)	1460	1400	1350

EXHIBIT "B"

Case 5226

# DIAGRAMMATIC SKETCH OF WATER INJECTION INSTALLATION DUAL COMPLETION

Atlantic Richfield Company  
HORSESHOE-GALLUP UNIT  
SAN JUAN COUNTY, NEW MEXICO



## WELL STATISTICS

WELL NUMBER	285	286
SURFACE ELEVATION	5370	5580
SURFACE CASING (SETTING DEPTH)	150	120
PRODUCTION CASING (SETTING DEPTH)	1300	1550
PACKER (SETTING DEPTH)	1180	1350
UPPER GALLUP (APPROXIMATE TOP DEPTH)	1115	1280
LOWER GALLUP (APPROXIMATE TOP DEPTH)	1220	1400

EXHIBIT "C"

*Case 2-236*



DRAFT

Jr/

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 5236

Order No. P- 2210-A

APPLICATION OF ATLANTIC RICHFIELD  
COMPANY FOR FIVE UNORTHODOX OIL  
WELL LOCATIONS AND AN ADMINISTRATIVE  
PROCEDURE, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 8, 19 74,  
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this day of May, 19 74 the Commission,  
a quorum being present, 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 Commission has jurisdiction of this cause and the subject  
matter thereof.

(2) That the applicant, Atlantic Richfield Company, seeks  
approval for the unorthodox location of five oil wells in the  
Horseshoe-Gallup Oil Pool in Township 31 North, Range 16 West,  
NMPM, San Juan County, New Mexico, to be drilled at the following  
points:

1975 feet from the North line and 890 feet from the  
West line of Section 28; 150 feet from the North line  
and 1375 feet from the East line of Section 33; 2580 feet  
from the South line and 295 feet from the West line of



-2-  
CASE NO. 5236  
Order No. R-

Section 35; 2605 feet from the North line and 2580 feet from the East line of Section 32; and 2540 feet from the South line and 2570 feet from the East line of Section 30.

(3) That the applicant further seeks an administrative procedure for the approval without notice and hearing of additional unorthodox locations for infill wells to be drilled within the applicant's Horseshoe-Gallup Unit Pressure Maintenance Project.

(4) That the subject unorthodox locations are proposed for the purpose of infill drilling in the Horseshoe-Gallup Oil Pool.

(5) That wells drilled at the proposed unorthodox locations will better enable the applicant to recover its just and equitable share of the oil in the Horseshoe-Gallup Oil Pool, ~~will prevent the reduced recovery occasioned by the drilling of insufficient number of wells, and~~ will otherwise prevent waste, and ~~not~~ <sup>not violate</sup> correlative rights.

(6) That Rule 11 of the Special Rules and Regulations for applicant's Horseshoe-Gallup Pressure Maintenance Project as promulgated by Commission Order No. R-2210 entered April 18, 1962, should be amended to provide a procedure whereby additional <sup>injection</sup> and production wells drilled in unorthodox locations may be approved without the necessity of notice and hearing.

IT IS THEREFORE ORDERED:

(1) That the applicant, Atlantic Richfield Company, is hereby authorized to drill oil wells in the following unorthodox locations <sup>Township 31 North, Range 16 West,</sup> in the Horseshoe-Gallup Oil Pool, San Juan County, New Mexico:

1975 feet from the North line and 890 feet from the West line of Section 28; 150 feet from the North line and 1375 feet from the East line of Section 33; 2580 feet from the South line and 295 feet from the West line of Section 35; 2605 feet from the North line and 2580 feet from the East line of Section 32; and 2540 feet from the South line and 2570 feet from the East line of Section 30.

CASE NO. 5236  
Order No. R-

(2) That the wells drilled in the unorthodox locations set forth above <sup>have</sup> ~~be~~ dedicated <sup>then</sup> ~~to~~ the respective quarter-quarter sections in which said wells are located.

(2) That Rule 11 of the Special Rules and Regulations for applicant's Horseshoe-Gallup Unit Pressure Maintenance Project as promulgated by Commission Order No. R-2210 entered April 18, 1962, is hereby amended to read in its entirety as follows:

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~~RULE 11. (As Corrected by Order No. R-4130-A, October 27, 1962.)~~ The Secretary-Director of the Commission is hereby authorized to approve such additional producing wells and injection wells at orthodox and unorthodox locations within the boundaries of the North Vacuum Unit Area as may be necessary to complete an efficient production and injection pattern, provided said wells are drilled no closer than ~~100~~ 330 feet to the outer boundary of said unit nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary. To obtain such approval, the project operator shall file proper application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional production or injection wells shall include the following:

*Horseshoe-Gallup*

(1) A plat showing the location of proposed well, all wells within the project area, and offset operators, locating wells which offset the project area.

(2) A schematic drawing of the proposed well which fully describes the casing, tubing, perforated interval, and depth.

(3) A letter stating that all offset operators to the proposed well have been furnished a complete copy of the application and the date of notification.

The Secretary-Director may approve the proposed well if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

Expansion of the project area may be approved by the Secretary-Director of the Commission administratively when good cause is shown therefor.

~~locate project area, and offset operators, located wells which offset the project area.~~

~~(2) A schematic drawing of the proposed injection well which fully describes the casing-tubing perforated interval and depth showing that the injection of gas or water will be confined to the Gallup formation.~~

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~~(8) A letter stating that all offset operators to the proposed injection or production well have been furnished a complete copy of the application and date of notification. The Secretary-Director may approve the proposed injection or production well if within twenty days after receiving the application no objection to the proposal is received. The Secretary-Director may grant immediate approval provided waivers of objection are received from all offset operators;~~

~~PROVIDED HOWEVER, that no injection or production well shall be administratively approved which is located nearer than 330 feet to the outer project boundary; nor nearer than 10 feet to any quarter-quarter section line or subdivision inner boundary. Expansion of the project area may be approved by the Secretary-Director of the Commission. administratively when good cause is shown therefore.~~

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.  
DONE at Santa Fe, New Mexico, on the day and year herein-  
above designated.