



THE ATLANTIC REFINING COMPANY

INCORPORATED - 1870

PETROLEUM PRODUCTS

February 15, 1966

PMX-18

Jan May 10

NORTH AMERICAN PRODUCING DEPARTMENT
NEW MEXICO - ARIZONA DISTRICT

S. L. SMITH, DISTRICT MANAGER
JACK BIARD, DISTRICT LANDMAN
E. R. DOUGLAS, DISTRICT GEOLOGIST
A. D. KLOXIN, DISTRICT DRG. & PROD. SUP'T.
M. D. ROBERTS, DISTRICT GEOPHYSICIST
W. P. TOMLINSON, DISTRICT ENGINEER
B. R. WARE, DISTRICT ADMINISTRATIVE SUP'V.

FEB 18 AM 10 '66

SECURITY NATIONAL BANK BLDG.

MAILING ADDRESS

P. O. BOX 1978

ROSWELL, NEW MEXICO

New Mexico Oil Conservation Commission (4)

P. O. Box 871

Santa Fe, New Mexico

Attention: Mr. A. I. Porter, Jr.

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

In accordance with Rule 11 of Order No. R-2210 concerning the Horseshoe-Gallup Unit in San Juan County, New Mexico, The Atlantic Refining Company requests approval to convert the following two producing wells to injection. These wells were not listed as future injection wells in the exhibits presented by Atlantic at the hearing.

Unit Well No.	Former Operator	Lease	Former Well No.	Location
5	Atlantic	Navajo	5	SE/4 SE/4 Section 30 T-31-N, R-16-W
7	Atlantic	Navajo	7	SE/4 NW/4 Section 30 T-31-N, R-16-W

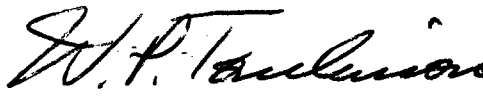
Wells No. 5 and 7 are both located in the fairway portion of the field where there exists good development of both the upper and lower zones. The injection patterns in this area are nine-spots. Two circumstances prompt the conversion of these two wells. (1) The injectivity of the existing wells is sufficient to sustain present producing rates but contributes very little extra to replace past voidage and yield response. Conversion of the two wells will convert the patterns in the area to five-spots, giving a more favorable injection to production ratio. (2) Center wells of existing nine-spots have tended to water out prematurely probably as a result of the NW-SE directional permeability which has been found to exist primarily in the upper zone. Wells Nos. 5 and 7 have both been producing water for about two years. Currently production from No. 5 is 16 BOPD and 66 BWPD and from No. 7 is 20 BOPD and 13 BWPD. Because of these factors it is believed that Wells Nos. 5 and 7 will more readily do the project as injectors rather than producers. It is expected that approximately 200 BWPD per zone will be injected into Wells Nos. 5 and 7 at surface pressure in the range of 600 to 800 psig.

A schematic sketch of Wells Nos. 5 and 7 is attached as Exhibits Nos. 1 and 2. As shown, injection is proposed to be into the upper zone through the tubing casing annulus and into the lower zone through tubing with the two zones separated by a packer. This is the identical physical set-up of all the dual injectors in the project. Exhibits Nos. 3 and 4 are Induction-Electric logs on these wells. Exhibit No. 5 is a plat showing the locations of Wells Nos. 5 and 7, all the wells within the project area, and offset operators and wells.

As Wells Nos. 5 and 7 are interior wells in the project, there are no offset operators to the proposed injectors and thus we have not furnished a letter concerning offset operators as provided for in Section 3 of Rule 11. The proposed conversions were submitted to the working interest owners of the unit for their approval. An affirmative vote of more than 65% of the working interest, which is required by the Unit Operating Agreement, was received.

We would appreciate approval of this request at your earliest convenience. Please forward a copy of your approval letter to the United States Geological Survey and the New Mexico Commissioner of Public Lands. If you need additional information please let us know.

Yours very truly,


W. P. Tomlinson

EMP:job

Attachments

cc: United States Geological Survey
P. O. Box 959
Farmington, New Mexico
Attn: Mr. Phil McGrath

Commissioner of Public Lands of New Mexico
State Land Office
Santa Fe, New Mexico

State of New Mexico, State Engineer
State Capitol
Santa Fe, New Mexico
Attn: Mr. Frank E. Irby,
Chief Water Rights Division

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SECURITY NATIONAL BANK BLDG.

MAILING ADDRESS
P. O. BOX 1978
ROSWell, NEW MEXICOState of New Mexico
State Engineer Office
State Capitol
Santa Fe, New Mexico 87501Attention: Mr. Frank E. Irby,
Chief Water Rights Division

Gentlemen:

The Atlantic Refining Company is requesting permission to convert Wells Nos. 5 and 7 in the Horseshoe-Gallup Unit, San Juan County, New Mexico from producing to injection status. A copy of our application to the New Mexico Oil Conservation Commission is attached.

Below is information that might be useful to you in reviewing the application and making your determination to the New Mexico Oil Conservation Commission.

As shown on the application it is planned to inject water down tubing below a packer into the lower zone and down the tubing casing annulus into the upper zone. This is the practice in all dual zone wells in the Unit.

1. The production casing in No. 5 and No. 7 was installed on October 10 and October 22, 1958 respectively. In each case the casing was new.
2. The interval above the upper zone in both wells is primarily shale and is impermeable. If a casing leak should occur, it would be detected by a leak at the braden head. Once a leak is detected, it would be repaired by means of cementing or in an extreme case, running a liner inside the production casing. We feel that a casing leak is improbable as all injected water is inhibited for corrosion.
3. The project is expected to be in operation until approximately 1978.

We hope this information will be helpful in substantiating your waiver of objection to this proposal. Please send us a copy of your determination to the N.M.O.C.C. If you need additional information please let us know.

Yours very truly,

Original Signed
W. P. Tomlinson

W. F. Tomlinson

EIP:jcb

cc: New Mexico Oil Conservation Commission
Santa Fe, New Mexico



MAIN OFFICE 300

MAR 1 AM 11 19 STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

February 28, 1966

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, NEW MEXICO 87501

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Atlantic Refining Company dated February 15, 1966 which seeks authority to convert their Navajo No. 5 and Navajo No. 7 wells in the Horseshoe Gallup Unit to injection wells.

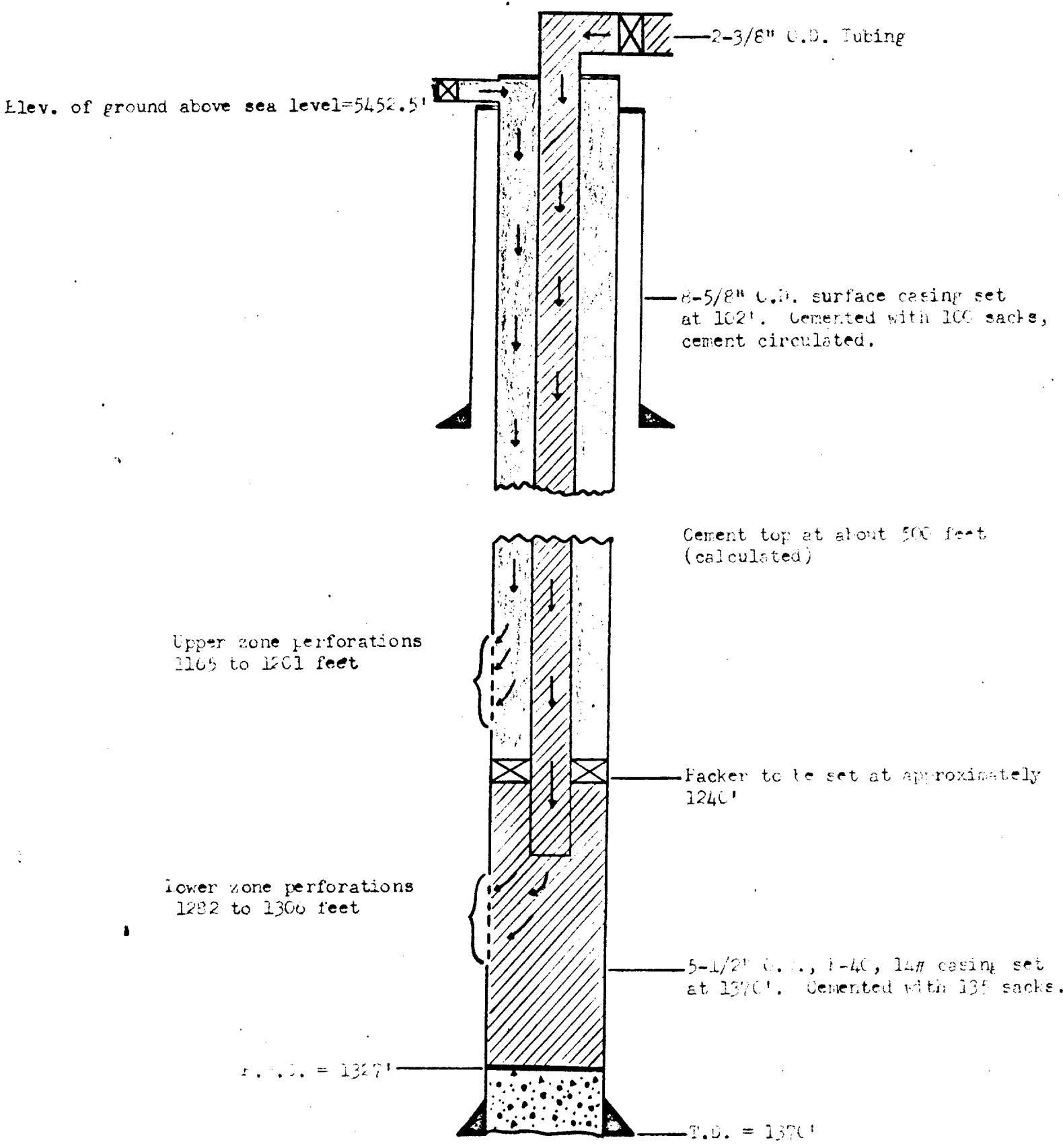
In view of the information submitted with the application and the letter written to me under the same date as the application, I find no reason to object to the granting of this application.

FEI/ma
cc-Atlantic Refining Co.
F. H. Hennighausen

Yours truly,

S. E. Reynolds
State Engineer

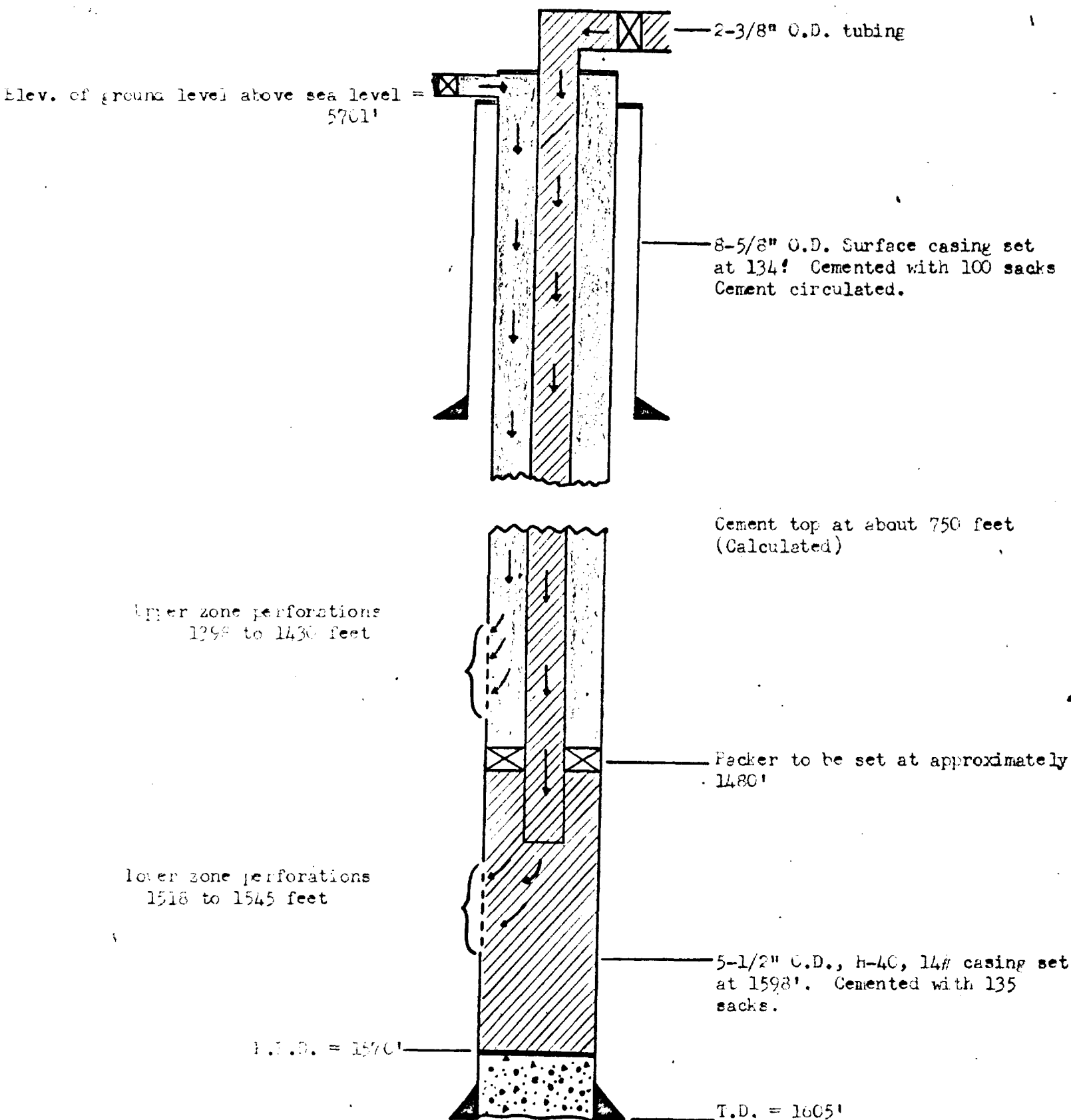
By: *Frank E. Irby*
Frank E. Irby
Chief
Water Rights Division



THE ATLANTIC REFINING COMPANY
SCHEMATIC DRAWING

Horseshoe-Gallup Unit Well No. 5
San Juan County, New Mexico

EXHIBIT NO. 1



THE ATLANTIC REFINING COMPANY
SCHEMATIC DRAWING

Horseshoe-Gallup Unit Well No. 7
San Juan County, New Mexico

EXHIBIT NO. 2

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE