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January 11, 1963

Pan-American Petroleum Corp.  
P. O. Box 480  
Farmington, New Mexico

Attn. Mr. T. M. Curtis  
District Superintendent

Dear Mr. Curtis:

Reference is made to your letter of December 18, 1962 requesting approval to inject salt water into the Estrada-Chinle zone by using the USG Section 19 No. 17 Well.

We feel that all zones through Triassic age rock should be protected if the water occurring in these zones contains less than 5,000 ppm dissolved solids. Since quality of water information is meager in this area we cannot consent to the disposal in these formations without the aid of a reliable analysis showing what the quality of water is in this proposed injection zone.

Very truly yours,

S. E. Reynolds  
State Engineer

DEG/ma  
cc-A. L. Porter, Jr.

By: *D. E. Gray*  
D. E. Gray  
Engineer  
Water Rights Division

# PAN AMERICAN PETROLEUM CORPORATION

MAIL ROOM OFFICE 000

P. O. Box 480, Farmington, New Mexico

January 16, 1963

1963 JUN 13 PM 1 29

File: N-32-986.510.1

Subject: Disposal of Produced Salt Water  
Hogback Pennsylvanian Pool  
San Juan County, New Mexico

Mr. S. E. Reynolds  
New Mexico State Engineer  
Capitol Building  
Santa Fe, New Mexico

Attention: Mr. D. E. Gray

Dear Sir:

This refers to your letter of January 11, 1963, concerning the quality of water present in the Entrada-Chinie zone into which we propose to dispose of produced Pennsylvanian salt water in the subject field.

Unfortunately, we are not able to find an analysis of any sample of water from the Entrada-Chinie zone on the two wells in the Hogback Pennsylvanian Pool. However, we do have an analysis of Entrada water recovered on a drill stem test from our Navajo Tribal No. 1 located in Section 12, T-29-N, R-17-W, San Juan County, New Mexico, approximately three miles northwest of the Hogback Pennsylvanian Pool. A copy of the sample data sheet and resulting analysis is attached. Referring to the attached analysis, you can see that the total solids content of this water was well in excess of 5,000 ppm.

As you may notice, there is a possibility that this sample was contaminated somewhat with drilling fluids; however, as the well was drilled with a fresh water based mud for this drill stem test, it is likely that the formation water was contaminated with mud filtrate fresher than formation water. Therefore, the Entrada water may possibly have a total solids content in excess of 10,000 ppm in the subject field. If you need any additional information on this matter, please feel free to contact us.

Yours very truly,

PAN AMERICAN PETROLEUM CORPORATION

T. M. Curtis  
District Superintendent

FHH:en  
Attach.

cc: Mr. Phil McGrath - U.S.G.S.

Mr. A. L. Porter, Jr. - NMOCC

# PAN AMERICAN PETROLEUM CORPORATION

SECURITY LIFE BUILDING

DENVER, COLORADO 80202

May 1, 1970

File: AMR-959-986.511

Re: Salt Water Disposal  
USG Section 19 Well No. 17  
Hogback Field  
San Juan County, New Mexico

Mr. A. L. Porter, Jr. (3)  
New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

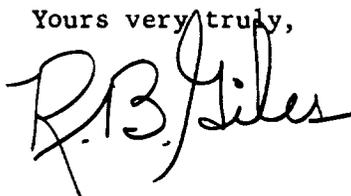
Dear Sir:

Under Order No. R-2438 dated February 27, 1963, Pan American Petroleum Corporation dually completed the subject well as a producer from the Pennsylvanian Formation, and a water disposal well in a non-productive zone of the Chinle Formation. The attached field map and wellbore diagram show the location and present completion status of Well No. 17. The Pennsylvanian zone has been shut-in since January, 1965, due to uneconomical production and we now plan to permanently abandon that formation. We wish to retain that portion of the hole above 3,100' for continued water disposal, and the planned abandonment will in no way change the established injection method which has been down the annulus between the 7 inch and 9-5/8 inch casing strings, as specified in Order R-2438.

Since the Pennsylvanian Formation in Well No. 17 will be abandoned, and the only other Pennsylvanian completion in the field (USG Section 19 Well No. 13) has been shut-in since May, 1968 due to uneconomical production, only Dakota water will now be disposed of at Well No. 17. Dakota water is also being disposed of into USG Section 19 Well No. 24, as authorized under Order R-3419 dated May 29, 1968. With water production from the Hogback Dakota Pool having continued to increase, averaging 3,700 BWPD during March, 1970, the use of Well No. 17 is considered essential to the salt water disposal program in this field.

Well No. 17 was originally completed as a disposal well to handle produced Pennsylvanian water. We therefore respectfully request your approval to dispose of Dakota water into the same zones, as described herein. A Form C-103 setting out our specific plans for abandonment of the Pennsylvanian will be submitted for your approval by our Farmington Office. We are writing at this time to be certain you are fully informed of our plans to continue the use of Well No. 17 for salt water disposal after the deeper horizons are abandoned.

Yours very truly,



Attachments

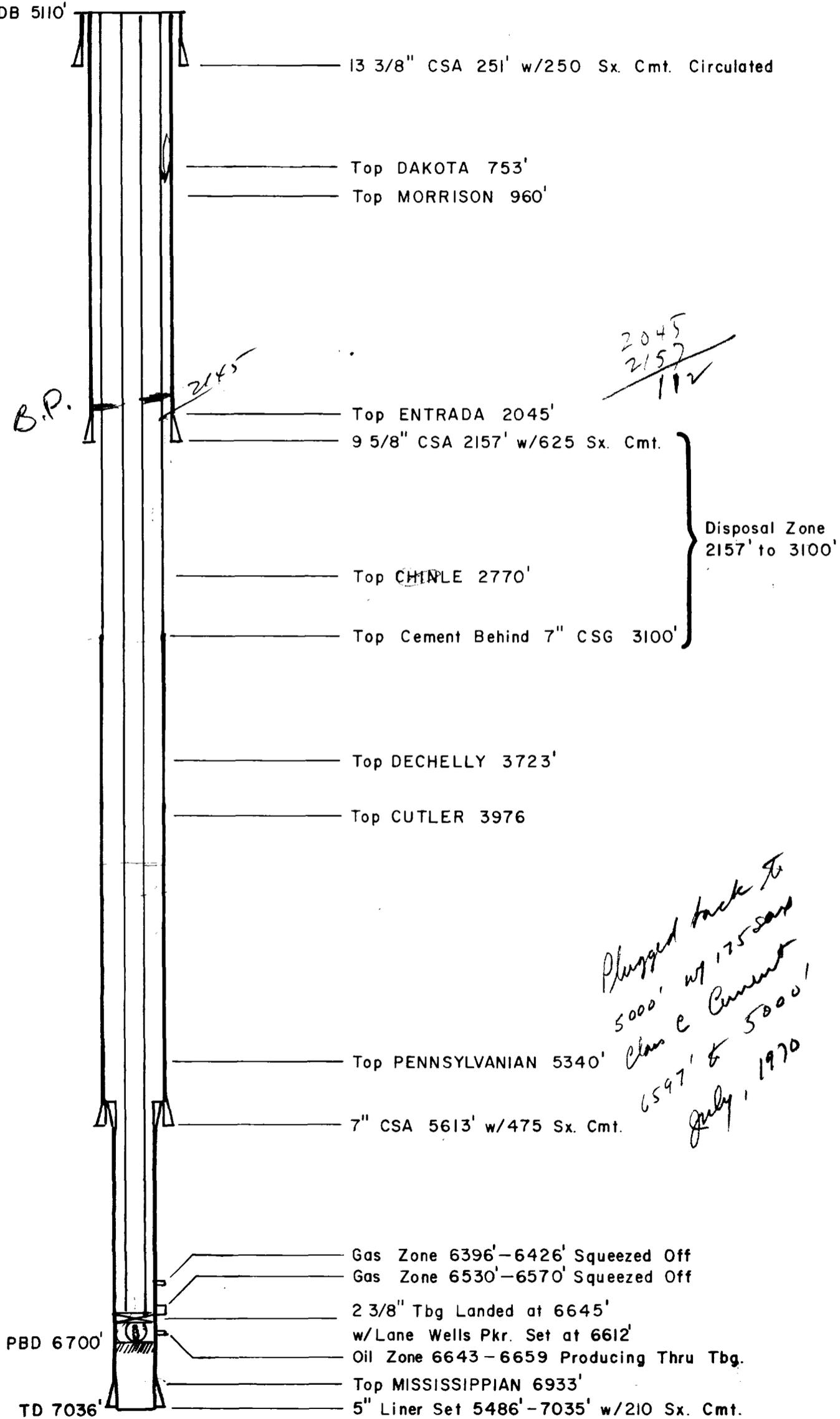
cc: Mr. E. C. Arnold  
New Mexico Oil Conservation Commission,  
1000 Rio Brazos Road  
Aztec, New Mexico

U. S. Geological Survey  
P. O. Box 965  
Farmington, New Mexico  
and Drawer 1857

# PAN AMERICAN

## No. 17 USG Section 19

ELEVATION RDB 5110'



13 3/8" CSA 251' w/250 Sx. Cmt. Circulated

Top DAKOTA 753'

Top MORRISON 960'

Top ENTRADA 2045'

9 5/8" CSA 2157' w/625 Sx. Cmt.

Disposal Zone  
2157' to 3100'

Top CHINLE 2770'

Top Cement Behind 7" CSG 3100'

Top DECHELLY 3723'

Top CUTLER 3976'

Top PENNSYLVANIAN 5340'

7" CSA 5613' w/475 Sx. Cmt.

Gas Zone 6396'-6426' Squeezed Off

Gas Zone 6530'-6570' Squeezed Off

2 3/8" Tbg Landed at 6645'

w/Lane Wells Pkr. Set at 6612'

Oil Zone 6643-6659 Producing Thru Tbg.

Top MISSISSIPPIAN 6933'

5" Liner Set 5486'-7035' w/210 Sx. Cmt.

PBD 6700'

TD 7036'

*2045  
2157  
112*

*Plugged back to  
5000' w/ 175 sacks  
Class C Cement  
6597' to 5000'  
July, 1970*

*B.P.*

*2145*