

CL

HICKS OIL & GAS, INC.
P.O. DRAWER 3307
FARMINGTON, NM 87499

505-327-4902

February 4, 1994

NEW MEXICO OIL CONSERVATION DIV.
1000 Rio Brazos Road
Aztec, NM 87410

Att: Charles Gholson

Dear Charlie:

Per your telephone request, I have searched our files and am forwarding to you the attached information on the Tiffany Hogback Water Injection well. All I have found documents our position, as we discussed this afternoon.

If I can be of further help, don't hesitate to call.

Sincerely,



Jim Hicks
Agent, Tiffany Gas Co.

encs.

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FEB - 8 1994
OIL CON. DIV.
DIST.

GREEN

501 Airport Drive
Farmington, New Mexico 87401

August 22, 1972

File: JAS-96-501.6

Re: Hogback Dakota Field
Water Disposal

Mr. H. T. Hunter
Denver, Colorado

Recent tests and production practices at our Hogback Dakota field have indicated that injecting produced water back into the Dakota formation will severely hurt our production. All evidence we now have infers that the most efficient method of producing this reservoir is to obtain a pressure sink in the producing area. Whenever we are forced to recommence injections into the Dakota, not only do our oil rates drop, but the increased WOR's resulting from water cycling push our injection facilities beyond their volumetric limits. As a result the producing wells must then be unduly restricted to avoid putting water into the overflow pits.

The reason we must fall back on reinjecting the produced water in the Dakota is that our only non-Dakota disposal well, No. 17, which injects into shaley sequences of the Entrada and Chinle formations, has pressured up to the point where our disposal pump can no longer put the water away at the required rates. To illustrate the problem we have attached a copy of the wellbore diagram of Well No. 17 along with the logs which were run across the zones of present interest. Currently water is being injected down the 7" - 9-5/8" casing annulus into either the Entrada or Chinle formations between 2157' and the probable cement top behind the 7" casing at 3100'. Very likely some of our high pressure problems at Well No. 17 results from trying to inject at 5000 BWPD rates in the small clearance between the 7" casing couplings and the 9-5/8" casing I.D.

JAS
We feel that purchasing additional pumping equipment for surface installation would be only a temporary solution, lasting only until the current tight and shaley injection zone increases still further in pressure. Therefore, we recommend that the upper zone of the Entrada be opened in the 60-foot interval of fairly clean, highly porous sandstone from 2045-2105'. This zone is behind the 9-5/8" casing and should have a good cement job. Our recommended procedure is as follows:

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- 1) Kill the well.
- 2) Run free point and pull 7" casing.
- 3) Set bridge plug at 2130' in the 9-5/8" casing.
- 4) Perforate the Upper Entrada from 2050'-2100'.
- 5) Breakdown perforations with acid and place on injection test.

Estimated cost of the above procedure is \$6050. The State may require that we run a packer and tubing and place an inert fluid in the casing-tubing annulus. If such is the case we plan to run 3-1/2" internally plastic coated tubing to reduce corrosion and friction losses. If the well will not take the required volumes of water after completion of the work, we have the options of fracturing the Upper Entrada or knocking out the bridge plug and injecting into the entire perforated and open hole interval.

Along with your approval to perform this work we would appreciate your comments as to the most proper form in which to file on this work with the State and the USGS. It would seem that as we are already injecting into a 613-foot section of the Entrada that only a quick administrative approval would be required. However, we do note one possible complication.

Amoco's original application (File: N-80-986.510.1) was filed on January 30, 1963, and requested permission to inject Pennsylvanian produced water into the zone from 2157'-3100' and mentioned specifically both the Entrada and Chinle formations. However, the order which resulted from the request, No. R-2438 issued February 27, 1963, from the NMOCC, granted permission to inject in the entire 2157 to 3100-foot interval desired, which is mostly Entrada, but the order mentions only the Chinle by name as the injection formation. Amoco's request of May 1, 1970, File: AMR-959-986.511 to change from injecting Pennsylvanian produced water to injecting Dakota produced water also mentions only the Chinle even though both zones were open then as now.

For your information, a water sample from an Entrada DST on a wildcat we drilled was submitted at the 1963 hearing and the Entrada was found to be a suitable disposal zone by all regulatory bodies concerned. Somehow, however, the Entrada formation never made it on the official order.

If you concur with our plug back procedure on this well, we will contact the regulatory bodies locally on an informal basis to see if administrative approval might be obtained just by filing sundry notices. The

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prompt return of your comments would be appreciated as we are currently operating our injection facilities at maximum conditions.

A handwritten signature in cursive script, appearing to read "L. O. Jones", followed by a horizontal line.

gwc 8/23/72
gwc:eb
Attachments

ATTACHMENT M.

EPA ID 0008

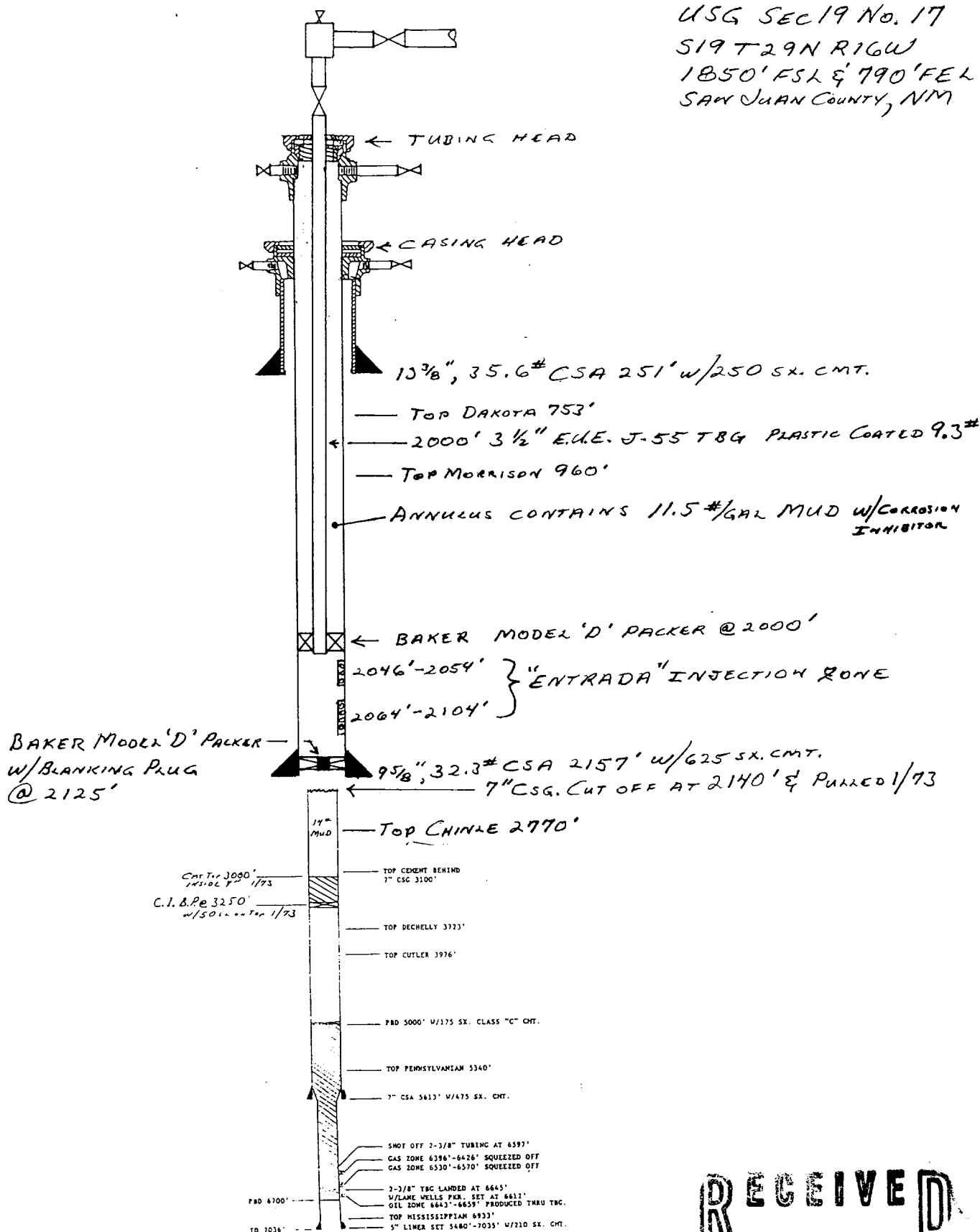
TIFFANY GAS CO.

USG SEC 19 NO. 17

S19 T29 N R16 W

1850' FSL & 790' FEL

SAN JUAN COUNTY, NM



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OIL CON. D.

DIS



At Chief Hogback Dakota Center Battery Repair Well

Amoco Production Company

Security Life Building
Denver, Colorado 80202

September 7, 1972

File: KWB-46-501.6

→ Mr. L. O. Speer, Jr.
Farmington, New Mexico

Subject: Hogback Dakota Field, Water Disposal

Please refer to your letter dated August 22, 1972 concerning the water disposal problem now being faced in the subject field. We agree that the Entrada zone from 2050' to 2100' should be perforated and used for Dakota water disposal. With one exception, we concur with your recommended procedure. In Step No. 2, rather than pulling all recoverable 7" casing, we believe it would be preferable, and more agreeable to the Commission also, to cut off the 7" casing just above the 9-5/8" casing shoe at approximately 2150'. This would still allow you to set a bridge plug below the new perforated zone and yet would maintain some protection of the present open hole zone below the 9-5/8" casing shoe.

With regard to obtaining approval for this procedure, we agree that a sundry notice should be satisfactory, providing you informally discuss the operation with the local regulatory personnel. Even though the name Entrada was not specifically mentioned in previous orders authorizing disposal in this well, there can be no doubt that it was intended as a disposal zone and we do not see that any useful purpose would be served by bringing this matter to a hearing.

Please advise if this informal approval of your recommended procedure is not obtained and we will make the necessary filing with the NMOCC.

H. T. Hunter

CJB:db

RECEIVED		
SEP 11 1972		
FARMINGTON AREA		
1	AS	<i>[initials]</i>
2	AAS	<i>[initials]</i>
3	AE	<i>[initials]</i>
	AA	
4	GC	<i>[initials]</i>
5	W	<i>[initials]</i>

*work up sundry's
+ well logs
w/USSE + NMOCC
Sundries Sent 9/15*

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIP
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

I-89-IND-58

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo Tribal

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

U.S.G. Section 19

9. WELL NO.

17

10. FIELD AND POOL, OR WILDCAT

Hogback - Chinle, Entrada

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

SE/4 Section 19,

T-29-N, R-16-W

12. COUNTY OR PARISH 13. STATE

San Juan

New Mexico

SUNDRY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER ☒ Water Disposal Well

2. NAME OF OPERATOR
AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR
501 Airport Drive, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

1850' FSL & 790' FEL, Section 19, T-29N, R-16W

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

5110' RDB

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐

FRACTURE TREAT ☐

SHOOT OR ACIDIZE ☐

REPAIR WELL ☐

(Other) ☒

PULL OR ALTER CASING ☐

MULTIPLE COMPLETE ☐

ABANDON* ☐

CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐

FRACTURE TREATMENT ☐

SHOOTING OR ACIDIZING ☐

(Other) ☐

REPAIRING WELL ☐

ALTERING CASING ☐

ABANDONMENT* ☐

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting and proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Amoco plans to open additional zones in the Entrada formation for the purpose of increasing water disposal capacity. The planned procedure is:

1. Cut off 7" casing at 2145' and pull casing.
2. Set bridge plug at 2130' in the 9-5/8" casing.
3. Perforate the Upper Entrada from 2050' to 2100'.
4. Breakdown perforations with 1000 gallons of 15% Acid and place well on injection.

Place cement plug inside 7" from 3100' to 3250'

NOTE: Water is currently being injected in the Entrada and Chinle formations down the 7" - 9-5/8" casing annulus under authority of Order No. R-2438 (2-27-63).

SEP 10 1972

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U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

18. I hereby certify that the foregoing is true and correct

SIGNED

Original Signed by

J. ARNOLD SHELL

Area Engineer

DATE Sept. 12, 1972

(This space for Federal or State office use)

APPROVED

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

SEP 11 1972

P. T. McGRATH

DISTRICT ENGINEER

(*See Instructions on Reverse Side)

2150' FSL, Farmington.
177' Hunter
12' gravel (area) hole.

1-Memo to Well File

Verbal approval from
USGS to perform work at
Hogback No. 17 obtained this
date on condition that
we spot cement plug
3100 feet to 3250 feet in
7" casing.

JWC
9/21/72

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