STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

1935 - 1985

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

October 28, 198

RECEIVED BY
NOV 1 1985
O. C. D.

Hal H. Crabb, Jr.
Consulting Engineer
2403 Apperson
Midland, Texas 79705

Dear Mr. Crabb:

✓ Your request to fill the casing-tubing annulus of the Dorstate Well No. 1 SWD, located 1980 feet from the North line and 660 feet from the East line of Section 27, Township 25 South, Range 28 East, NMPM, Eddy County, New Mexico, with a 13 lb /gal inverted emulsion mud mix has [illegible] tion with my staff it was decided to allow you to proceed with your recommended procedure subject to the following conditions:

1. Commencing January 1, 1986, an annual temperature survey must be performed on the subject well and submitted to the Artesia district office for review. — Plus BH survey

2. Every fifth year a radioactive tracer survey must be performed and the results also submitted to the Artesia district office. — Included in MIT

3. At the discretion of the Artesia district office, adverse effects detected by said injection tests may require shut-in or plugging of the subject well.

Hal H. Crabb, Jr.
Consulting Engineer
2403 Apperson
Midland, Texas 79705
September 23, 1985

State of New Mexico
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. Dick Stamets, Director

Dear Sir:

Mr. Stubblefield, from your Artesia Office, checked the annulus on the Fluid Waste Corp. Dorstate No. 1 SWD, located in Eddy Co., New Mexico during the month of August, 1985. Mr. Stubblefield notified Mr. Carter Hughes of Fluid Waste that a slight flow of fluid was detected coming from the annulus and that the well would have to be shut in until the leak was stopped. A tubing or packer leak was suspected. The well was shut in & guages were placed on the tubing and casing. The tubing shut in at 400 psi and the casing as 480. The well was back flowed with the tubing wide open and the casing pressure did not drop. This indicated that the tubing and packer were holding and that we had a casing leak. The leak was a stream about the size of a pencil and was 4-5 bbls/day from a bucket test.

Attached are copies of the recompletion reports, converting the SWD in the Delaware Sand to the Bone Springs, and the recent attempt to shut off the leaking Delaware perfs. Also attached is a well bore sketch showing the present status of the well.

The Delaware perfs. 2919-3138 were originally squeezed October 25, 1984 w/150 sx H + 2% $CaCl_2$ drilled out and did not hold. They were resqueezed October 27, 1984 w/100 sx H + 2% $CaCl_2$ and drilled out and tested to 500 psi and held. Well was recompleted in Bone Springs and annulus tested to 500 psi, witnessed and OK'd by Mr. Mike Williams of Oil Conservation Division October 31, 1984.

September 6, 1985 I moved on the Dorstate No. 1 SWD to locate and squeeze the casing leak. SITP was 340 and SICP 480. Flow from casing was the size of a pencil. The Delaware perfs 2919-3138 were isolated with a bridge plug and packer and we had the same size pencil size flow back. The Delaware perfs were squeezed with 117 sx Class H + 2% $CaCl_2$ mixed with 35 sx in formation. Pressure locked up to 4000 psi. Drilled out squeeze and Delaware perfs were flowing

approximately twice as much as before squeeze. Resqueezed perfs. 9-12-85, with 100 sx H + .4% Halad 9 and 50 sx H neat. Pressure locked up @ 3500 psi with 117 sx in formation. Drilled out cement. Did not have back flow. Tested squeeze to 900 psi for 15 minutes. Held OK and witnessed by Mr. Stubblefield. Ran tubing and back flowed well to clean up. Left annulus open over night. Next morning had pencil size flow from annulus. Placed guages on tubing and casing. SITP 340 SICP 480. Exactly same as before workover.

The Delaware perfs. have been squeezed four times and it appears that we will not be able to get a 100% shut off on all 415 perfs. in this interval

Proposal #1 For Your Approval

I propose to load the annulus with 13#/gal inverted emulusion mud mixed with very high viscosity to prevent any flow into the well bore and also to prevent corrosion on tubing and casing.

The annulus is presently loaded with fresh water with 480 psi on casing. Bottom hole pressure @ top perf. at 2919 is calculated as follows:

BHP @ 2919 = Casing Pressure and Hydrostatic Head
= 480 + .434 (2919)
= 480 + 1267
= 1747 psi

Mud wt. to balance BHP of 1747 @ 2919 = (1747 psi ÷ 2919) ÷ .052
= .59 ÷ .052
= 11.34#/gal

BHP 13#/gal mud @ 2919' = 13 (2919) (.052)
= 1956 psi

13#/gal in annulus would give 1956-1747 = 209 psi over kill over present BHP and would not let any fluid entry into well bore. We would leave the annulus open for inspection or put a guage in it if you desire. We will check the casing at any time interval you suggest and give whatever type report you desire. If at any time flow is detected from casing the well will be shut in immediately for remedial procedures and reported to the Artesia Office. If further data or information is desired. Please advise.

Sincerely,

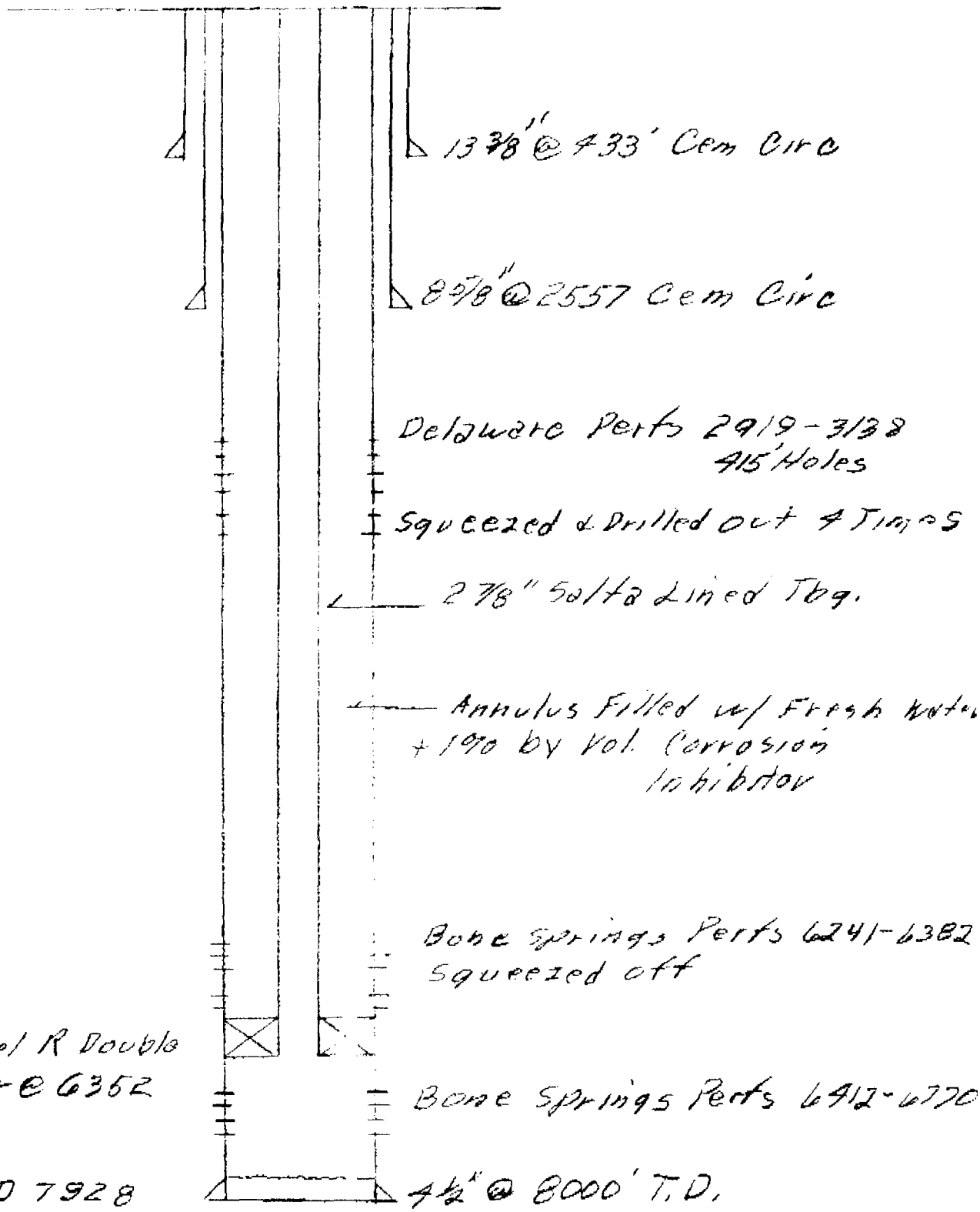
Hal H. Crabb, Jr.

cc: L. A. Clements
State of New Mexico
Oil Conservation
Drawer DD, District II
Artesia, New Mexico 88210

FLUID WASTE, INC. DORSTATE NO1 SWD

1980 FNL & 660 FEL Sec 27 T-25-S R-28-E

EDDY COUNTY, NEW MEXICO



H.H.C 9-24-85