

5-2-77  
5-9-77  
5-10-77  
5-20  
5-31

OIL CONSERVATION COMMISSION  
Aguila DISTRICT

OIL CONSERVATION COMMISSION  
BOX 2088  
SANTA FE, NEW MEXICO

DATE May 2, 1977

RE: Proposed MC \_\_\_\_\_  
Proposed DHC \_\_\_\_\_  
Proposed NSL \_\_\_\_\_  
Proposed SWD ✓ \_\_\_\_\_  
Proposed WFX \_\_\_\_\_  
Proposed PMX \_\_\_\_\_

*Carl H. Ivag*

Gentlemen:

I have examined the application dated 4-25-77  
for the Dana Petroleum Corp. Navajo Allotted 15<sup>th</sup> 6 M-15-19N-SW  
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yours very truly,

*AR Kendrick*



E. C. GENT  
VICE PRESIDENT

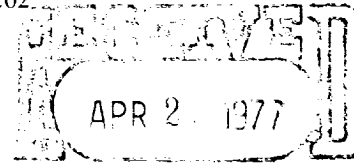
# DOMESTIC PETROLEUM CORP.

SUITE 1500, COLORADO STATE BANK BLDG.

1600 BROADWAY

DENVER, COLORADO 80202

TELEPHONE  
(303) 861-1230



OIL CONSERVATION COMM  
Santa Fe

April 25, 1977

Mr. Joe D. Ramey  
Secretary-Director  
New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Re: Application for Saltwater Disposal  
Papers Wash Entrada Pool  
Section 15, T19N, R5W  
McKinley County, New Mexico



Gentlemen:

Dome Petroleum Corp., the operator of all of the currently producing wells in the Papers Wash Entrada Pool, respectfully submits this Application to Dispose of Saltwater by Injection Into a Porous Formation for Administrative Approval. In support of this application are the following required data:

1. A plat of Township 19 North, Range 5 West showing all wells drilled to date, their status and the various lease ownerships. Important factors to note here are a) five producing Entrada wells (15-1 thru 15-4 and 22A-1) and b) the absence of any presently producing wells other than the aforementioned in the Township.
2. A diagrammatic sketch of the well to be drilled for saltwater disposal. The important factor of note here is the Navajo Allotted 15-6 is to be drilled and cased thru the Entrada Formation. Any tests on the Entrada will be adequately squeezed thru a cement retainer. In addition, Dome plans to cement in two stages utilizing an inflatable packer and a "DV" tool to insure adequate cement to surface over the length of the pipe. This technique was successfully employed on the Navajo Allotted 15-3, 15-4, and 22A-1, cement being circulated to the surface in all cases.
3. A copy of a Water Analysis performed on produced water from the Federal 15-1. This analysis indicates the water to have a total dissolved solids content of 3010 parts per million.

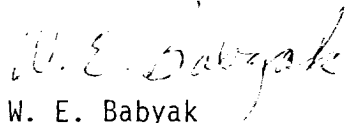
Mr. Joe D. Ramey  
New Mexico Oil Conservation Commission  
April 25, 1977  
Page two

4. A copy of Form C-108 detailing significant well data, offset operations, and information distribution.

Per instructions, three copies of this application are enclosed. In addition, by copy of this letter, the New Mexico State Engineer, the Navajo Tribe (surface owner), and the offset operators within one-half mile are being notified of this application.

It is Dome's understanding that the Secretary-Director, upon receiving no objection within fifteen (15) days of this application, can give Administrative Approval. We hope the Application is in order and appreciate your cooperation in this matter.

Yours very truly,



W. E. Babyak  
District Engineer

WEB:km

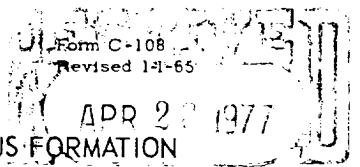
cc: Mrs. Billie Robinson  
P. O. Box 1281  
Santa Fe, New Mexico 87501

New Mexico State Engineer  
State Land Office Building  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Navajo Tribe  
Office of Mineral Development  
P. O. Box 146  
Window Rock, Arizona 86515  
Attn: W. B. Armstrong

## NEW MEXICO OIL CONSERVATION COMMISSION

## APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION



OPERATOR Dome Petroleum Corp.		ADDRESS 1600 Broadway, Denver, CO 80202	
LEASE NAME Navajo Allotted	WELL NO. 15-6	FIELD Papers Wash	COUNTY McKinley
LOCATION UNIT LETTER <u>M</u> ; WELL IS LOCATED <u>850</u> FEET FROM THE <u>West</u> LINE AND <u>990</u> FEET FROM THE <u>South</u> LINE, SECTION <u>15</u> TOWNSHIP <u>19N</u> RANGE <u>5W</u> NMPM.			

## CASING AND TUBING DATA

NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	10-3/4"	225'	200	surface	circulation
INTERMEDIATE					
LONG STRING	7"	5250'	600	Surface	circulation
TUBING	3-1/2"		NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model "FA" @ 2860'		

NAME OF PROPOSED INJECTION FORMATION Gallup		TOP OF FORMATION 2908' (est)	BOTTOM OF FORMATION 3200 (est)
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? perforations	PROPOSED INTERVAL(S) OF INJECTION to be determined from logs
IS THIS A NEW WELL DRILLED FOR DISPOSAL? Yes	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED?		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No

LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH

DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 2100'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 5160'	
ANTICIPATED DAILY INJECTION VOLUME (BBLS.) 6000	MINIMUM 15000	MAXIMUM 15000	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 750
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -			WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Yes	ARE WATER ANALYSES ATTACHED? Yes-disposed wtr.

NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Navajo Allotted - Contract No. N00-C-14-20-5377	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Mrs. Billie Robinson P. O. Box 2181, Santa Fe, N.M. 87501	

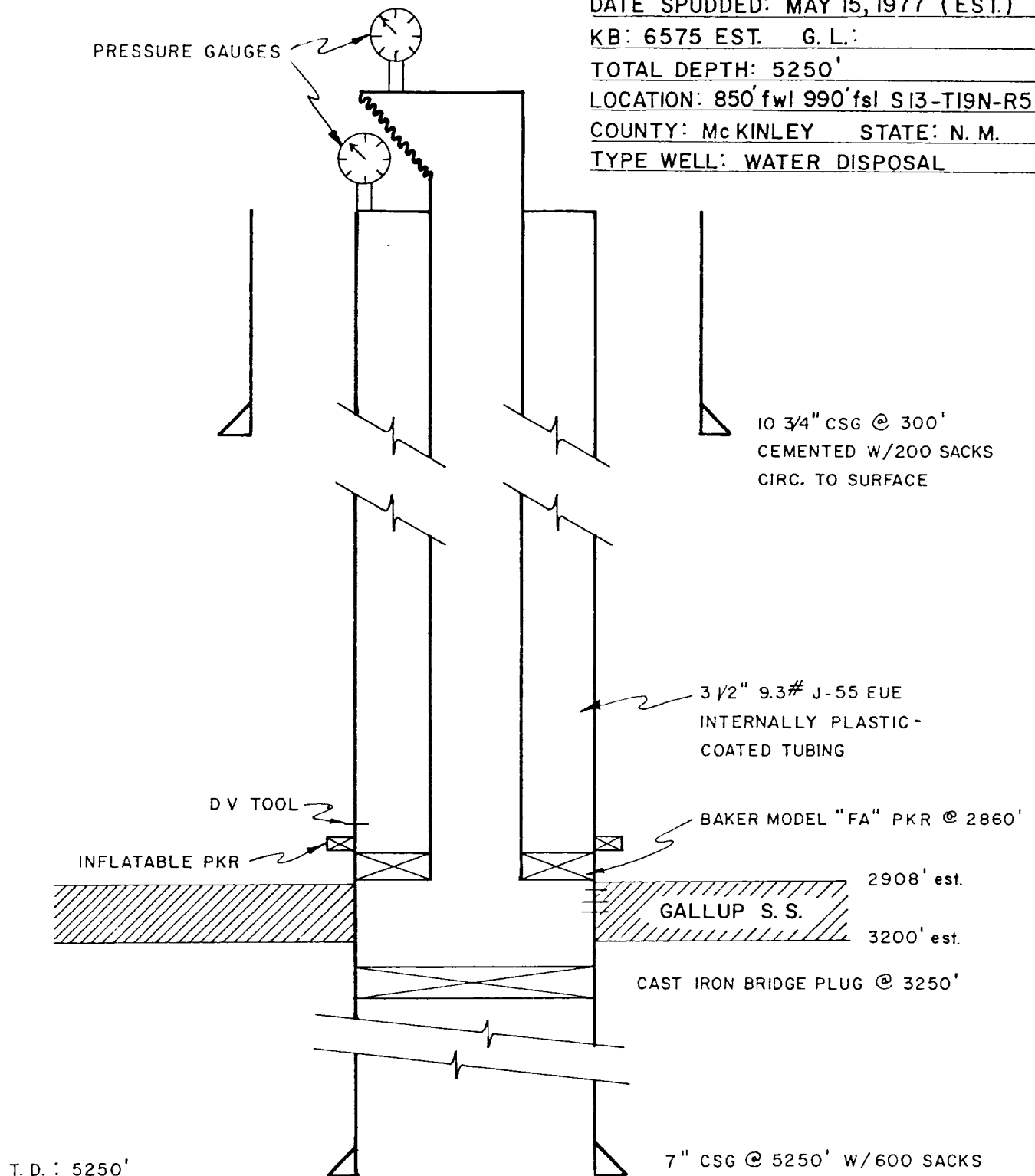
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes		THE NEW MEXICO STATE ENGINEER Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		PLAT OF AREA Yes		ELECTRICAL LOG no-well not yet drilled		DIAGRAMMATIC SKETCH OF WELL Yes	

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

William S. Doherty, P.E. District Engineer March 24, 1977  
(Signature) (Title) (Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

FIELD: PAPERS WASH ENTRADA  
 WELL & NO.: NAVAJO ALLOTTED 15-6  
 DATE SPUDDED: MAY 15, 1977 (EST.)  
 KB: 6575 EST. G. L.:  
 TOTAL DEPTH: 5250'  
 LOCATION: 850' fwl 990' fsl S13-T19N-R5W  
 COUNTY: MCKINLEY STATE: N. M.  
 TYPE WELL: WATER DISPOSAL



NOTE: AN INFLATABLE PKR WILL BE SET OUTSIDE THE 7" CSG ABOVE THE GALLUP TO KEEP THE HYDROSTATIC OF THE SECOND CEMENT STAGE OFF THE GALLUP AND ASSURE ADEQUATE CEMENT UPHOLE.

DOME PETROLEUM CORP.

WELL BORE SCHEMATIC

SCALE : NONE

DRAWN BY: WEB CHECKED BY:



**CORE LABORATORIES, INC.**

*Petroleum Reservoir Engineering*

**DALLAS, TEXAS**

**WATER ANALYSIS**

File WA-5

Company Dome Petroleum Corp. Well Name Fed. 15 Well No. 1 Sample No. SS-1

Formation \_\_\_\_\_ Depth \_\_\_\_\_ Sampled From \_\_\_\_\_

Location Sec 15 T 19 N R 5W Field \_\_\_\_\_ County McKinley State N.M.

Date Sampled 3-8-77 Date Analyzed 3-13-77 Engineer RGC

Total Dissolved Solids 3010.1 mg/L

Sp. Gr. 1.001 @ 70 °F.

Resistivity 2.55 ohm-meters @ 70 °F.

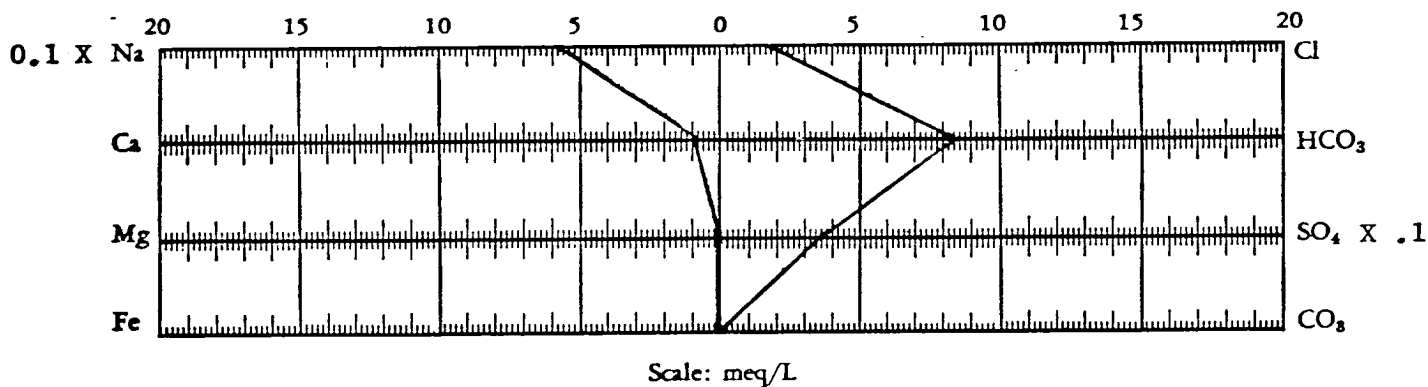
Hydrogen Sulfide Not Detected

pH 7.60

Constituents	meq/L	mg/L
Sodium	<u>44.36</u>	<u>1019.8</u>
Calcium	<u>0.80</u>	<u>16.0</u>
Magnesium	<u>0.16</u>	<u>2.0</u>
Iron	<u>0.05</u>	<u>1.3</u>
Barium	<u>N.D.</u>	<u>N.D.</u>

Constituents	meq/L	mg/L
Chloride	<u>0.84</u>	<u>29.9</u>
Bicarbonate	<u>8.31</u>	<u>506.9</u>
Sulfate	<u>36.22</u>	<u>1740.0</u>
Carbonate	<u>N.D.*</u>	<u>N.D.</u>
Hydroxide	<u>N.D.</u>	<u>N.D.</u>

\* ND = Less than 0.1 mg/L



All analyses except iron determination performed on a filtered sample.