

NEW MEXICO OIL CONSERVATION COMMISSION

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

OPERATOR Shell Oil Company		ADDRESS P.O. Box 109, Midland, Texas	
LEASE NAME Hall Federal	WELL NO. 1	FIELD Antelope Ridge	COUNTY Lea
LOCATION UNIT LETTER <u>b</u> ; WELL IS LOCATED <u>660</u> FEET FROM THE <u>north</u> LINE AND <u>1980</u> FEET FROM THE <u>east</u> LINE, SECTION <u>9</u> TOWNSHIP <u>24S</u> RANGE <u>34</u> NMPM.			

CASING AND TUBING DATA

NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	20"	1060'	1785	Surface	
INTERMEDIATE	13 3/8"	5500'	3293	Surface	
LONG STRING	9 5/8"	12,530'	3200	4800	Temperature Survey
TUBING			NAME, MODEL AND DEPTH OF TUBING PACKER None		

NAME OF PROPOSED INJECTION FORMATION Delaware Sand		TOP OF FORMATION 5200	BOTTOM OF FORMATION 5800
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Perforations	PROPOSED INTERVAL(S) OF INJECTION 5200 - 5300 and 5700 - 5800
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Penn. Producer		HAS WELL EVER BEEN PERFORMED 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 - 1000 ft.		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 1000	MINIMUM 500	MAXIMUM 1000	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 1000 psi (max)
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 - Dev. and Penn.			WATER TO BE DISPOSED OF NATURAL WATER IN DISPOSAL ZONE		ARE WATER ANALYSES ATTACHED? yes

NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Rubert Madera, Box 1224, Jal, New Mexico	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Shell Oil Company - Antelope Ridge Unit	

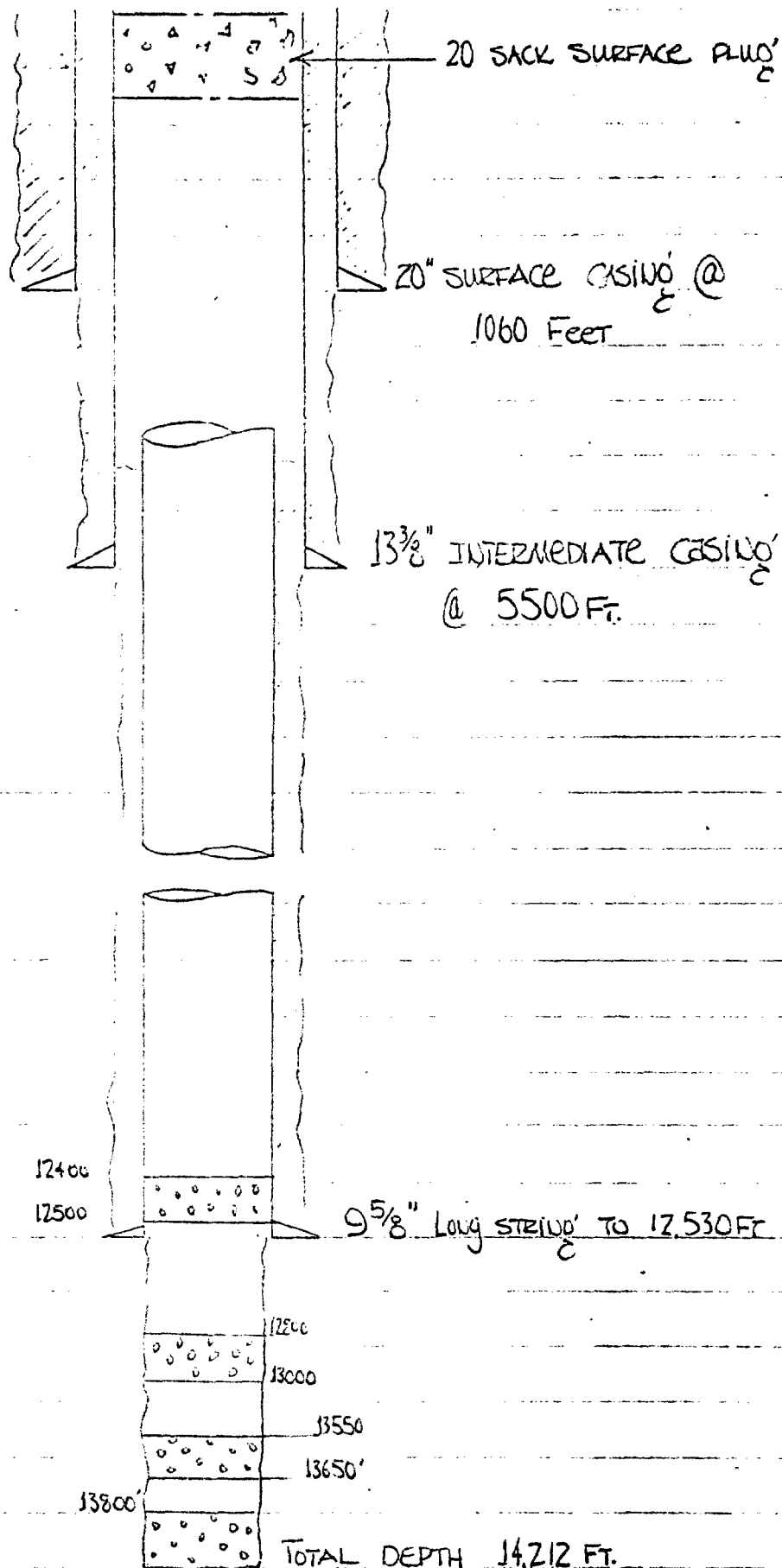
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?	SURFACE OWNER X	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL	THE NEW MEXICO STATE ENGINEER X
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)	PLAT OF AREA X	ELECTRICAL LOG None available	DIAGRAMMATIC SKETCH OF WELL X

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

R. J. D. Daniel
(Signature)Division Mechanical Engineer
(Title)July 26, 1966
(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.

Well Federal No. 1
Antelope Ridge Field
Sandoval County, New Mexico

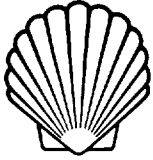


Delaware Sand 5282 Ft.

Boue Spring 8887 Ft.

Pennsylvanian 12,380 Ft.

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



SHELL OIL COMPANY

WESTERN DIVISION
P. O. BOX 1509
MIDLAND, TEXAS 79701

July 20, 1966

Subject: Disposal of produced water into
Hall Federal No. 1, Antelope
Ridge Field, Lea County, New
Mexico.

Mr. John Anderson
Regional Supervisor
United States Geological Survey
Roswell, New Mexico

Dear Sir:

Shell Oil Company is presently in the process of engineering a salt water disposal system to dispose Devonian and Pennsylvanian produced water into the Hall Federal No. 1, Antelope Ridge Field, Section 9, Township 24S, Range 34E, Lea County, New Mexico.

The subject disposal well was originally drilled as a Pennsylvanian producer by Shell, but was temporarily abandoned as a dry hole. Shell would like to re-enter and test two (2) possible disposal zones in the Delaware Sand group, and if tests prove successful, install a disposal system to handle produced water from our Antelope Ridge Unit.

For your information you will find attached a copy of Shell's application for sub-surface disposal, as well as a plat of the area and schematic drawing of the subject well.

Should further information be necessary, please contact Mr. M. C. Sport, Production Department Staff.

Yours very truly,

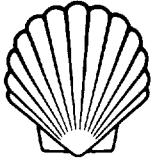
ORIGINAL SIGNED
By J. E. R. SHEELER

J. E. R. Sheeler
Division Production Manager

MCS:mas

Attachments (3)

cc with Attachments: New Mexico State Engineer
New Mexico Oil Conservation Commission
Santa Fe, New Mexico



SHELL OIL COMPANY

WESTERN DIVISION
P. O. BOX 1509
MIDLAND, TEXAS 79701

July 26, 1966

Subject: Disposal of Produced Water
Into Hall Federal No. 1,
Antelope Ridge Field,
Lea County, New Mexico

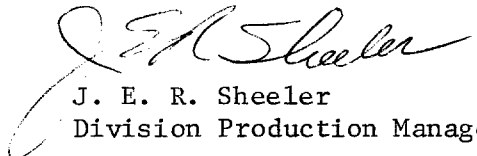
Mr. J. E. Kapteina
New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Dear Sir:

As per your letter of July 22, you will find attached the supplemental material you requested concerning the subject disposal well.

If we can be of further assistance in your investigation please advise us at your convenience.

Yours very truly,

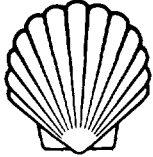

J. E. R. Sheeler
Division Production Manager

Attachments (4)

1966 JUL 28 AM 7 35

MAIN C

1966 AUG 8



SHELL OIL COMPANY

WESTERN DIVISION
P. O. BOX 1509
MIDLAND, TEXAS 79701

August 4, 1966

SWD-60
Don't say 19

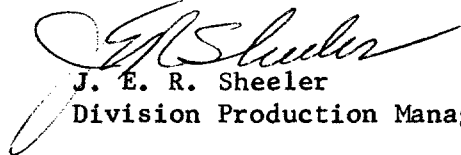
New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Attention: Mr. J. E. Kapteina

Gentlemen:

Attached are additional copies of information
required for application of Form C-108 on Hall Federal
No. 1, Antelope Ridge Field, Lea County, New Mexico.

Yours very truly,


J. E. R. Sheeler
Division Production Manager

WTO:CW

Attachments

MIN OF.
ES AUG 8 1966

OIL CONSERVATION

DATE Aug. 15, 1966

Re: Proposed NSP _____
 Proposed Triple _____
 Proposed NSL _____
 Proposed NFO _____
 Proposed DC _____

SWD X

I have examined the application dated 8/9/66

for the Shell Oil Co. Hall Federal #1 9-24-34
Operator Lease and Well No. S-T-R

and my recommendations are as follows:

.....

.....

1. The first part of the paper is devoted to the study of the asymptotic behavior of the solutions of the system (1.1) as $\epsilon \rightarrow 0$. It is shown that the solutions of the system (1.1) converge to the solutions of the system (1.2) in the sense of the weak convergence in the space $L^2(\Omega; \mathbb{R}^n)$.

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Yours very truly,

9-10-1964

[Faint handwritten notes, possibly "C. 10"]



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

September 8, 1966

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

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Santa Fe, N. M.

MAIL ROOM

Dear Mr. Porter:

'66 SEP 9 AM 8 06

Reference is made to the application of Shell Oil Company which seeks to dispose of produced water into their Federal Hall No. 1 in the NE $\frac{1}{4}$ of Sec. 9, T. 24 S., R. 34 E.

After reviewing the application and the exhibits attached thereto, I find no reason to object to the granting of this application.

Yours truly,

FEI/ma

cc-J. E. R. Sheeler
F. H. Hennighausen

S. E. Reynolds
State Engineer

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