Form 3160-5
(June 1990)

UNITED STATES
'ARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

N.M.
P.O. Box
Hobbs, NM

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.
~~LC 032579(C)~~ NM90798

6. If Indian, Allottee or Tribe Name
N/A

7. If Unit or C.A. Agreement Designation
N/A

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
CARLSON A FEDERAL #1

2. Name of Operator
Permian Resources, Inc. dba Permian Partners, Inc.

9. API Well No.
30-025-11697

3. Address and Telephone No.
P. O. Box 590 Midland, TX 79702 915/685-0113

10. Field and Pool, or Exploratory Area
LANGLIE MATTIX 7 RVRS

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
UNIT LETTER P, SEC.22, T-25S, R-37-E
330' FROM THE SOUTH LINE, 990' FROM THE EAST LINE

11. County or Parish, State
LEA CO., NM

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
☐ Notice of Intent	☐ Abandonment	☐ Change of Plans
☒ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☐ Other _____	☒ Dispose Water

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

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any 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.)*

REQUESTING WATER DISPOSAL APPROVAL(SEE ATTACHMENTS)

RECEIVED
1999 MAY -7 P 4:30
BUREAU OF LAND MGMT.
HOBBS, NEW MEXICO

14. I hereby certify that the foregoing is true and correct
Signed Beverly Bryant Title Agent Date 5-6-99

(This space for Federal or State office use)
Approved by (ORIG. SGD.) DAVID R. GLASS Title PETROLEUM ENGINEER Date MAY 13 1999
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

SEE ATTACHED FOR CONDITIONS OF APPROVAL

TOTAL P.02

Water Production & disposal Information

In order to process your disposal request, the following information must be completed:

1. Name of formations producing water on the lease. Seven Rivers

2. Amount of water produced from all formations in barrels per day. 6

3. Attach a current water analysis of produced water from all zones showing at least the total dissolved solids, ph, and the concentrations of chlorides and sulfates. (one sample will suffice if the water is commingled)

4. How water is stored on the lease. Water dumps straight into disposal line

5. How water is moved to the disposal facility. Pipeline

6. Identify the Disposal Facility by :

   A. Facility operators name. Rice Operating Company

   B. Name of facility or well name & number. Henry No.2 Well

   C. Type of facility or well (WDW)(WIW) etc. SWD

   D. Location by 1/4 1/4 Unit N section 26 township 25S range 37E

7. Attach a copy of the State issued permit for the Disposal Facility.

Submit to this office, **414 West Taylor, Hobbs, NM 88240,** the above required information on a Sundry Notice 3160-5. Submit 1 original and 5 copies, within the required time frame. (This form may be used as an attachment to the Sundry Notice.) Call me at 505-393-3612 if you need to further discuss this matter.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ORDER NO. SWD-349

GARREY CARRUTHERS
GOVERNOR

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

APPLICATION OF RICE ENGINEERING CORPORATION

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701(B), Rice Engineering Corporation made application to the New Mexico Oil Conservation Division on July 5, 1988, for permission to complete for salt water is Henry Well No. 2, located in Unit N, of Section 26, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico.

THE DIVISION DIRECTOR FINDS THAT:

(1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations.

(2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified; and

(3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met.

(4) No objections have been received within the waiting period prescribed by said rule.

IT IS THEREFORE ORDERED THAT:

(1) The applicant herein, Rice Engineering Corporation is hereby authorized to complete its Henry Well No. 2 located in Unit N of Section 26, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, in such a manner as to permit the injection of salt water for disposal purposes into the San Andres and Glorieta formations at approximately 3500 feet to approximately 5000 feet through 3 1/2-inch plastic lined tubing set in a packer located at approximately 3450 feet.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

Prior to commencing injection operations into the well, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 700 psi.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the San Andres and Glorieta formations. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment and of the mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Hobbs district office of the Division of the failure of the tubing, casing or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

PROVIDED FURTHER THAT, jurisdiction of this cause is hereby retained by the Division for such further order or orders as any seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of the operator to conduct operations in a manner which will ensure the protection of fresh water or in a manner inconsistent with the requirements set forth in this order, the Division may, after notice and hearing, terminate the injection authority granted herein.

The operator shall submit monthly reports of the disposal operations in accordance with Rule 706 and 1120 of the Division Rules and Regulations.

Approved at Santa Fe, New Mexico, on this 14th day of September, 1988.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

RECEIVED
SEP 1
PRICE ENGINEERING CORPORATION
HOBBS, NEW MEXICO

TO	
SAH	
GLEAD	
FILE	

DONCO

CHEMICAL CORPORATION

P.O. Box 775 Andrews, Tx. 79714 Telephone 915 524-6500

DATE ANALYSIS: May 6, 1999

COMPANY: Permian Resources

SOURCE: *Carlson A-22 Battery*

	ANALYSIS	MG/L	*MEG/L
1	PH	7.00	
2	H2S (QUALITATIVE)	Pos.	
3	SPECIFIC GRAVITY	1.01	
4	DISSOLVED SOLIDS	30781	
5	SUSPENDED SOLIDS		
6	PHENOLPHTHALEIN ALK (CACO 3)		
7	METHYL ORANGE ALK (CACO 3)	1140	
8	BICARBONATE (HCO 3)	1391	22.80
9	CHLORIDES (Cl)	12900	363.38
10	SULFATES (SO 4)	5500	114.58
11	CALCIUM (Ca)	2320	116.00
12	MAGNESIUM (Mg)	194	15.93
13	TOTAL HARDNESS (CaCO 3)	6600	
14	TOTAL IRON (FE)	8	
15	BARIUM (QUALITATIVE)		
16	STRONTIUM		

*MILLI EQUIVALENTS PER LITER

PROBABLE MINERAL COMPOSITION

116.00	Ca	HCO 3	22.80
15.93	Mg	SO 4	114.58
368.83	Na	Cl	363.38

COMPOUND	EQUIV. WT. X	MEG/L=	MG/L
Ca (HCO 3)2	81.04	22.80	1847.71
Ca So 4	68.07	114.58	7799.69
Ca Cl 2	55.50	-21.38	-1186.78
Mg (HCO 3)2	73.17	0.00	0.00
Mg SO 4	60.19	0.00	0.00
Mg Cl 2	47.62	15.93	758.80
Na HCO 3	84.00	0.00	0.00
Na 2 SO 4	71.03	0.00	0.00
Na Cl	58.46	368.83	21561.75
			30781.18

MAY-06-99 10:34 AM DONCO CHEMICAL 5246514 P.02

S.I.=PH - PC - -PC - PALK - K
S.I. = STABILTY INDEX
PH. = AS MEASURED ON FRESH SAMPLE
PCA. = NEG. LOGARITHM OF CALCIUM CONCENTRATION
PALK.= NEG. LOGARITHM OF TOTAL ALKALINITY
K. = CONSTANT, DEPENDS UPON TEMP. & SALT

CALCULATIONS

NA	8483.07	0.00	0.19
CA	2320.00	0.00	0.12
MG	194.40	0.00	0.02
CI	12900.00	0.00	0.18
HCO 3	1390.80	0.00	0.01
SO 4	5500.00	0.00	0.12
TOTAL IONIC STRENGTH		0.00	0.63

STABILTY INDEX

PH =	7.00	PH =	7.00
PCA =	1.23	PCA =	1.23
PALK =	1.66	PALK=	1.66
K =	1.62	K =	3.20
SI @180°	2.49	SI @ 80°	0.91

WATER
SI= 0 OR RELATIVELY STABLE UNDER 50 °F

REMARKS INDICATES SCALING @ TEMP ABOVE 50 °F
(POS. SI INDICATES SCALING)

SCALING TENDENCY CALCULATION USING SKILLMAN-McDONALD-STIFF METHOD

@ 80°, K =	0.001253600
@ 180°, K =	0.001159600
X =	0.000800000
X*X =	0.000000640

	meq/l	mg/l
@80°, S =	70.00	4765.00
@180°, S =	67.30	4581.00
From Probable Mineral Composition, Ca SO4 =		7799.69
		4630.00

Because probable mineral composition is less than 4813 (calculated), the water should be stable. At temperatures close to 180 degrees, there is a slight potential toward the deposition of Calcium Sulphate