		'A <sup>TTS</sup>			
	DEPARTMENT OF THE		a ta <b>6 6</b> 1 12		udget Bureau No. 1004-0135
B		MANAGEMENT	N.M. 5		Expires: March 31, 1993
1 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (			P.O. Box	5. Lease Designatio	
SUN	DRY NOTICES AND	REPORTS ON WELL	LSHODDS, NM 882	6. If Indian, Allotte	N.M. 14214
		to deepen or reentry to a		6. II Indian, Allolle	201 mochane
Use "/	APPLICATION FOR PE	RMIT- for such propos	als		greement Designation
· <u>····································</u>	SUBMIT IN T			7. If Unit of CA, A	preditetit Designation
	SUBMIT IN I			8. Well Name and	
ype of Well Oil	X Gas	Other			Vells Federal 12 & 13
weii	Well			9. API Well No.	
ane of Operator Jy Petroleum Manag	nement Co				-1-5-2538
Idress and Telephone No.				10. Field and Pool	, or Exploratory Area
Day 440007 Indir	ng Tx. 75014-0907,	972-401-3111		Langlie N	lattix 7 Rivers
Deation of Well (Footage, Sec., T.	, R., M., or Survey Description)	572 401 0111		11. County or Pari	sh, State
		•		Lea Cour	NM
/SW, Sec. 4, Twp. 2	25S, Rge.37 E				
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TYPE OF SUBMI	SSIÓN		TYPE OF A		
Notice of I	intent	Abandonment		Change	of Plans
		Recompletion		New Con	struction
Subseque	nt Report	Plugging Back		Non-Rou	tine Fracturing
		Casing Repair		Water St	nut-Off
Final Abar	ndonment Notice	Altering Casing		Conversi	on to Injection
		T Other Dispos	al Method Info.	Dispose	Water port results of multiple completion on We
				Completio	n or Recompletion Report and log form)
)escribe Proposed or Completed	Operations (Clearly state all pertin sured and true vertical depths for al	ent details, and give pertinent dates, I markers and zones pertinent to this	work.)*	iff all brobonog non	
	sured and true vertical depths for a	il markets and solves bermein to pus	uncluding estimated date of starts work.)*	ng any proposed in ou	
ve subsurface locations and meas Onshore Oil & Gas	sured and true vertical depths for a	tion.	including estimated date of starts work.)*	ng alj proposod nom	
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FAX TRANSMITT	AL	I of pages In /		-
"Reno Jarrio	From R	atty	- Bin	
Fax 8 972 - 443 - 6 470 NEN 7540 01 317 7868 5009.101	Fax # GENERAL	SERVICES ADMIN	BIRATION	_

ATTACHMENT to Incident of Noncompliance number \_\_\_\_\_

The following information is needed before your disposal of produced water can be approved, Onshore Oil & Gas Order # 7.

- 1.- Name(s) of all formation(s) producing water on the lease.
- 2.- Amount of water produced from all formations in ba rels per day.
- 3.- 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.
- 4.- How water is stored on the lease.
- 5. How water is moved to the disposal facility.
- 6.- Identify the Disposal Facility by :
  A.- Operators name.
  B.- Well name. OR OCD PrRmi TT.
  C.- Well type and well number. (SWDW) (WIW)
  D.- Location by 1/4 1/4, section, township, & range.
- 7.- A copy of the Underground Injection Control Permit issued for the injection well by the Environmental Protection Agency or New Mexico Oil Conservation Division where the State has achieved primacy.

Submit all the above required information, to this office, on a Sundry Notice form 3160-5 in triplicate within the required time frame.

# CAPITAN CHEMICAL WATER ANALYSIS REPORT

Company : GRUY PETROLEUM MANAGE Lease Name : WELLS Well Number : # 13	C	Capi	Sampled tan Rep. pany Rep.	: JOI	/99 E HUGHES	5
VVEII NUMBER :						
Location						
ANALYSIS	6.03					
1. pH	1.037					
2. Specific Gravity @ 60/60 F.	-0.599					
3 CaCO3 Saturation Index @ 80 F.			Coloium Ca	arhon	ate Scale F	Possible'
@ 140 F.	+0.341	(				
Dissolved Gasses		_				
	350		PM			
4. Hydrogen Sulfide	180	F	PPM			
5. Carbon Dioxide	Not Determined					
6. Dissolved Oxygen	mg/L	1	Eq. Wt.	=	MEQ/L	
Cations	1,350	1	20.1	=	67.16	
7. Calcium (Ca++)	1,154	1	12.2	=	94.61	
8. Magnesium (Mg++)	11,651	,	23.0	=	506.56	
9. Sodium (Na+) Calculated		1	68.7	=	0.00	
10. Barium (Ba++)	Not Determined	,	00.1			
Anions			17.0	=	0.00	
11. Hydroxyl (OH-)	0	1	30.0	=	0.00	
12. Carbonate (CO3=)	0	1		=	15.93	
13. Bicarbonate (HCO3-)	974	- 1	61.1		46.76	
	2,282	- 1	48.8	=	605.63	
14. Sulfate (SO4=)	21,500	- 7	35.5	=	605.05	
15. Chloride (Cl-)						-
Other	3	1	18.2	=	0.16	
16. Soluble Iron (Fe)	38,911					
17. Total Dissolved Solids	8,125					
18 Total Hardness As CaCO3	4,566					
19. Calcium Sulfate Solubility @ 90 F.	0.220		Ohm/Met	ers	@ 86	Degrees (F)
20. Resistivity (Measured)	0.220		Uningenot		-	
20. ((00)0000) (						

Logarithmic Water Pattern



PROBABLE MINERAL COMPOSITION							
	Eq. Wt.	X	MEQ/L	=	mg/L		
COMPOUND	81.04	X	15.93	=	1,291		
Ca(HCO3)2	••••	X	46.76	=	3,183		
CaSO4	68.07	x	4.47	=	248		
CaCl2	55.50	x	0.00	=	0		
Mg(HCO3)2	73.17	x	0.00	=	0		
MgSO4	60.19	x	94.61	=	4,505		
MgCl2	47.62 84.00	x	0.00	=	0		
NaHCO3	71.03	x	0.00	=	0		
NaSO4 NaCl	58.46	x	506.56	=	29,613		

# CAPITAN CHEMICAL WATER ANALYSIS REPORT

Company	GRUY PETROLEUM MANAG			e Sampled			
Lease Name : WELLS			Capitan Rep. : JOE HUGHES				
Well Number : # 12				npany Rep	.:		
Location							
Loodion	•						
A	NALYSIS						
1. pł	H	6.12					
2. S	pecific Gravity @ 60/60 F.	1.045					
3. Ci	3. CaCO3 Saturation Index @ 80 F0.613						Densible
	@ 140 F.	+0.327	1	Calcium C	arbo	nate Scale	Possible
Di	issolved Gasses		_				
4. H	lydrogen Sulfide	250		PPM			
5. C	arbon Dioxide	130	F	PPM			
6. Di	issolved Oxygen	Not Determined				MEO/	
C	ations	mg/L		Eq. Wt.	=	MEQ/L	
7. C	Calcium (Ca++)	1,300	1	20.1	=	64.68	
8. M	lagnesium (Mg++)	1,458	1	12.2	=	119.51	
9. Se	odium (Na+) Calculated	15,548	1	23.0	Ξ	675.99	
10. Bi	Barium (Ba++)	Not Determined	1	68.7	=	0.00	
A	nions					0.00	
11. H	lydroxyl (OH-)	0	1	17.0	=	0.00	
12. C	Carbonate (CO3=)	0	1	30.0	=		
	Bicarbonate (HCO3-)	913	1	61.1	=	14.94 42.42	
14. Si	Sulfate (SO4=)	2,070	1	48.8	=	42.42 802.82	
15. C	Chloride (Cl-)	28,500	1	35.5	=	802.02	
0	Other			40.0		0.22	-
	Soluble Iron (Fe)	4	1	18.2	=	0.22	
	otal Dissolved Solids	49,788					
	otal Hardness As CaCO3	9,250					
19. C	Calcium Sulfate Solubility @ 90 F.	4,995				@ %	Degrees (F)
20. R	Resistivity (Measured)	0.175		Ohm/Mete	IS	@ 86	Degrees (1)

Logarithmic Water Pattern



PROBABLE MINERAL COMPOSITION							
COMPOUND	Eq. Wt.	Х	MEQ/L	=	mg/L		
Ca(HCO3)2	81.04	Х	14.94	=	1,210		
CaSO4	68.07	Х	42.42	=	2,887		
CaCl2	55.50	X	7.32	Ξ	406		
Mg(HCO3)2	73.17	X	0.00	=	0		
	60.19	x	0.00	=	0		
MgSO4	47.62	x	119.51	=	5,691		
MgCl2	84.00	X	0.00	Ξ	0		
NaHCO3	71.03	x	0.00	=	0		
NaSO4			675.99	=	39,518		
NaCl	58.46	Х	075.99	_	00,010		

122 West Taylor, Hobbs, NM 88240 Phone: (505)393-9174 Fab: (505)397-1471

# **RICE** Operating Company



Tot	Reggi	e Reston, Gruy Pe	tr	From:	Carolyn Doran Hay	/nes
Fax	393-9	838		Pages:	8+cover	
Phone	E			Dete:	07/23/99	·····
Re:	Dispo	sal Orders for Justi	s SWD	CC:		
C) Vrg	ent	XX For Review	🗆 Please C	omnent	🗆 Please Reply	🗆 Pisase Recycle

#### • Comments:

Mr. Reston:

At the Justis SWD System, there are three disposal wells. They are somewhat connected in sequence through the system to accommodate irregular water flow volumes and enhance capacity.

The Wells Federal lease most likely is disposed at SWD Well B-12.

Carlson Federal, Federal Carlson A and Federal Carlson leases most likely dispose at SWD Well N-26.

There is overflow capability from B-12 to N-26 and from N-26 to H-2.

Hence, here are all three Disposal Orders for the Justis SWD System.

If I can be of any further assistance, please call me at the above number.

Thank you,

Carolyn Doran Haynes, Ops. Engr.

P. 002

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 87504 15051 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, NMPH, 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.

No objections have been received within the waiting (4) 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.

Order SWD-349 Page 2

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.

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Order SWD-349 Page 3

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

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STATE OF NEW MEXICO OIL CONSERVATION/DIVISION

WILLIAM J. LEMAY Director

SEAL



**SEP** 1 8 5

INCE ENGINEERING COOPERATION HOGES B.M.



### BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

## IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

CASE No. 3845 Order No. R-3499

APPLICATION OF RICE ENGINEERING & OPERATING, INC., FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

#### ORDER OF THE COMMISSION

#### BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 21, 1968, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this <u>12th</u> day of September, 1968, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

#### FINDS:

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(1) That due public notice having been given as required by . law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Rice Engineering & Operating, Inc., is the owner and operator of the Justis SWD Well No. H-2 (formerly the Resler & Sheldon-Bette Sue Well No. 2), located in Unit H of Section 2, Township 26 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Grayburg, San Andres, and Glorieta formations, with injection into the open-hole interval from approximately 3540 feet to 5616 feet.

(4) That the injection should be accomplished through 3 1/2inch plastic-lined tubing; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should

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-2-CASE No. 3845 Order No. R-3499

be attached to the annulus or the annulus left open at the surface in order to determine leakage in the tubing or casing.

(5) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

# IT IS THEREFORE ORDERED:

(1) That the applicant, Rice Engineering & Operating, Inc., is hereby authorized to utilize its Justis SWD Well No. H-2 (formerly the Resler & Sheldon-Bette Sue Well No. 2), located in Unit H of Section 2, Township 26 South, Range 37 East, NMPM. Langlie-Mattix Pool, Lea County, New Mexico, to dispose of produced salt water into the Grayburg, San Andres, and Glorieta formations, injection to be accomplished through 3 1/2-inch tubing into the open-hole interval from approximately 3540 feet to 5616 feet;

PROVIDED HOWEVER, that prior to said utilization, the applicant shall cause additional comenting of the 5 1/2-inch casing set at 3540 feet sufficient to ensure the annular space is cemented from said casing shoe back into the 8 5/8-inch casing set at 916 feet;

PROVIDED FURTHER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus or the annulus left open at the surface in order to determine leakage in the tubing or casing.

That the applicant shall submit monthly reports of its (2) disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

That jurisdiction of this cause is retained for the (3) entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

> STATE OF NEW MEXICO OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

GUYTON B. HAYS, Member

A. L. PORTER, Jr., Member & Secretary SEAL

# **RECEIVED**

#### SEP 17 1968

E-1

SUBJECT: SALT WATER DISPOSAL WELL

ORDER NO. SWD-179

THE APPLICATION OF RICE ENGINEERING AND OPERATING, INC., FOR A SALT WATER DISPOSAL WELL.

#### ADMINISTRATIVE ORDER OF THE OIL CONSERVATION COMMISSION

Under the provisions of Rule 701 (C) Rice Engineering and Operating, Inc., made application to the New Mexico Oil Conservation Commission on November 8, 1976, for permission to complete for salt water disposal the Texas Pacific Oil Co. N. E. Enton Well No. 18 located in Unit B of Section 12, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico.

The Secretary-Director finds:

1. That application has been duly filed under the provisions of Rule 701 (C) of the Commission Rules and Regulations;

2. That satisfactory information has been provided that all offset operators and surface owners have been duly notified; anď

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

4. That no objections have been received within the waiting period prescribed by said rule.

IT IS THEREFORE ORDERED:

That the applicant herein, Rice Engineering and Operating, Inc., is hereby authorized to complete Texas Pacific Oil Co. N. E. Eaton Well No. 18 located in Unit B of Section 12, Township 25 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the injection of salt water for disposal purposes into the San Andres formation at approximately 4236 feet to approximately 4524 feet through 3 1/2 inch plastic lined tubing

Order No. SWD-179

-2-

set in a packer located at approximately 4200 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.

That 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.

That water disposed of into this well will be by gravity flow, and in no event shall injection pressures exceed 850 pounds per square inch.

That the operator shall notify the supervisor of the Commission's Nobbs District Office before injection is commenced through said well.

That the operator shall immediately notify the supervisor of the Commission's Hobbs District Office of the failure of the tubing, casing, or packer in said well or the leakage of water from or around said well and shall take such steps as may be timely or necessary to correct such failure or leakage.

PROVIDED FURTHER:

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failurs of applicant to comply with any requirement of this order after notics and hearing, the Commission may terminate the authority heroby granted in the interest of conservation. That applicant shall submit monthly reports of the disposal operation in accordance with Rule

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ORDER NO. SWD-179 ļ; - Z -704 and 1120 of the Commission Rules and Regulations. APPROVED at Santa Fe, New Mexico, on this 30th day of November, 1976, STATE OF NEW MEXICO OIL CONSERVATION-COMMISSION m JOE D. RAMEY Secretary-Director SEAL , 8 . \* H i