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Approved by	D' . r			•	Date 8-12-97
Conditions of approval if any: BLM(6), BRK, PONCA, DJS, FILE ROOM		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Title	OLEUM ENGINEER	Date AUG 2.8 4000
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 statement			4		States and false finitians of far but the

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SUBJECT: SALT WATER DISPOSAL WELL

ORDER NO. SWD-223

P. 1

THE APPLICATION OF A. A. OILFIELD SERVICE, INC. FOR A SALT WATER DISPOSAL WELL

ADMINISTRATIVE ORDER OF THE OIL CONSERVATION DIVISION

Unde: the provisions of Rule 701 (C), A. A. Oilfield Service, Inc. made application to the New Mexico Oil Conservation Division on April 18, 1980, for permission to cmplete for salt water disposal its Southland Royalty State "AB" Well No. 1 located in Unit C of Section 3, Township 19 South, Range 37 East, NMPM, Lea County, New Mexico.

The Division Director finds:

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

(2) That satisfactory information has been provided that all offset operators of surface owners have been duly notified;

(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, A. A. Oilfield Service, Inc., is hereby authorized to complete its Southland Royalty State "AB" Well No. 1 located in Unit C of Section 3, Township 19 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 formation at approximately 4897 feet to approximately 4919 feet through 2 3/8 inch plastic lined tubing set in a packer located at approximately 4900 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 injection pressure shalk not exceed 980 pounds per square inch as measured at the surface.

That the operator shall shall notify the supervisor of the Division's Hobbs District Office before injection is commenced through said well;

That the operator shall immediately notify the Supervisor of the Division 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

Post-it* Fax Note 7671	Date 8-5 pages 2
To Vernon Maskun	From Donna
Co.Dept. Conoco	COAA alfild surce
Phone #	Phone #12-2577
Fax # 393-1554	Fax 1 3922570

P. 2

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 may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after notice and hearing, the Division may terminate the authority hereby granted in the interest of conservation. That applicant shall submit monthly reports of the disposal operations in accordance with Rule 704 and 1120 of the Division Rules and Regulations.

APPROVED at Santa Fe, New Mexico, on this 5th day of May, 1980.

STATE OF NEW MEXICO OLL CONSERVATION DIVISION

mer-Ï JOE D. RAMEY

Division Director

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A Baker Hughes company

Baker Petrolite

422 West Main Street Artesia, NM 88210-2041 USA Phone: (505) 746-3588 Fax: (505) 746-3580 Web site: www.bakerhughes.com/bpci

Reply to: P.O. Box 1140 Artesia, NM 88211-1140 USA

Company Address Lease Well Sample		xico	Date Date Sampled Analysis No.		
	ANALYSIS		mg/L		* meq/L
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	pH H2S Specific Gravity Total Dissolved Solids Suspended Solids Dissolved Oxygen Dissolved CO2 Oil In Water Phenolphthalein Alkal Methyl Orange Alkalin	inity (CaCO3)	302382.7 N/R N/R 178 N/R		
11.	Bicarbonate	нсоз	231.8	HCO3	3.8
	Chloride	C1	194682.0	C1	5491.7
	Sulfate Calcium	SO4 Ca	1050.0 9600.0	SO4 Ca	21.9 479.0
15.	Magnesium	Ma	21331.4	Ma	1754.9
16.	Sodium (calculated)	Na	75485.6	Na	3283.4
	Iron	Fe	1.9		
	Barium Strontium	Ba Sr	N/R N/R		
	Total Hardness (CaCO3		N/R 111800.0		

WATER ANALYSIS REPORT

PROBABLE MINERAL COMPOSITION

<pre>*milli equivalents per Liter ++</pre>	Compound	Equiv wt	X meq/L	= mg/L			
+====+							
479 *Ca < *HCO3 4	Ca (HCO3) 2	81.0	3.8	308			
/>	CaSO4	68.1	21.9	1488			
1755 *Mg> *SO4 22	CaCl2	55.5	453.4	25158			
<	Mg (HCO3)2	73.2					
3283 *Na> *Cl 5492	MgSO4	60.2					
++ ++	MgC12	47.6	1754.9	83544			
Saturation Values Dist. Water 20 C	NaHCO3	84.0					
CaCO3 13 mg/L	Na2SO4	71.0					
CaSO4 * 2H2O 2090 mg/L	NaCl	58.4	3283.4	191883			
BaSO4 2.4 mg/L							

REMARKS: Small amount of water from 2" value on ----- bottom of the gas separator.

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Baker Petrolite

SCALE TENDENCY REPORT

Company	: Conoco Inc.	Date : 6 Aug 97	
Address	: Hobbs, New Mexico	Date Sampled : 6 Aug 97	
Lease	: Britt A-18	Analysis No. :	
Well	: #6	Analyst : W.C. Peterson	
Sample Pt.	: Gas Separator		L

STABILITY INDEX CALCULATIONS (Stiff-Davis Method) CaCO3 Scaling Tendency

S.I.	#	-0.0	at	60	deg.	F	or	16	deg.	С
s.I.	Ŧ	-0.0	at	70	deg.	F	or	21	deg.	С
S.I.	#	-0.1	at	80	deg.	F	or	27	deg.	С
S.I.	¥	-0.1	at	90	deg.	F	or	32	deg.	С
S.I.	#	-0.1	at	100	deg.	F	or	38	deg.	С

CALCIUM SULFATE SCALING TENDENCY CALCULATIONS (Skillman-McDonald-Stiff Method) Calcium Sulfate

S = 1057 at 60 deg. F or 16 deg $S = 1125 at 70 deg. F or 21 deg$ $S = 1172 at 80 deg. F or 27 deg$ $S = 1206 at 90 deg. F or 32 deg$ $S = 1204 at 100 deg. F or 38 deg$	eg C eg C eg C
S = 1241 at 100 deg. For 38 de	≥g C

Baker Petrolite

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Respectfully submitted, W.C. Peterson