

MARTIN YATES, III
1912 - 1985
FRANK W. YATES
1936 - 1986



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December 8, 1989

S. P. YATES
CHAIRMAN OF THE BOARD
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TREASURER

U. S. Department of the Interior
Bureau of Land Management
PO Box 11857
Roswell, New Mexico 88201

Re: Vest Ranch RE Federal #1, NM-81259
NW/SE, Section 21, T14S, R30E, Chaves County, NM


Gentlemen:

Yates Petroleum Corporation is hereby submitting application for produced water from the above captioned well pursuant to NTL-2B and requests your approval.

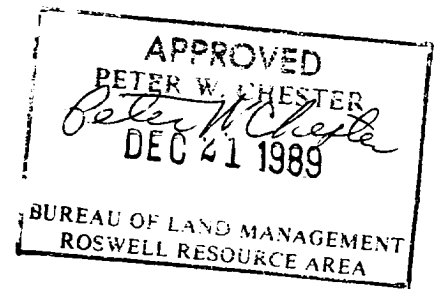
The well is producing approximately 2 BWPD from the Queen formation. The water is stored in a 210-barrel fiberglass tank, with top, until the tank has filled for hauling. The water is trucked by I&W Hot Oil Service, Loco Hills, NM, to the Loco Hills SWD. The Loco Hills SWD is a surface disposal, located in NE/NE, Section 16, T17S, R30E, Loco Hills, NM. The disposal is approved by Order R-68-11B.

A water analysis is attached.

Yours truly,


Juanita Goodlett
Production Supervisor

Encl.

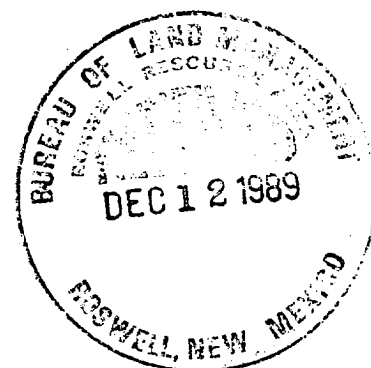


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OCD
MOBBS OFFICE

WATER ANALYSIS REPORT
furnished by TRETOLITE CHEMICALS



COMPANY: YATES PETROLEUM
LEASE: VEST
SAMPLE POINT: WELL
SAMPLE DATE: 12-6-89
SAMPLE TEMP.: N/A

pH: 5.5

H₂S:

NEG.

SPECIFIC GRAVITY: 1.185

TITRATED AND CALCULATED IONS

	MILLIGRAMS PER LITER	MILLIEQUIVALENTS PER LITER
HCO ₃	280.60	4.60
Cl	175725.00	4950.00
SO ₄	1125.00	23.44
Ca	9360.00	468.00
Mg	5880.60	482.02
Na	92644.49	4028.02

IONIC STRENGTH = 5.47

TOTAL HARDNESS = 47600.0 mg/ltr.

TOTAL DISSOLVED SOLIDS = 284817.9 mg/ltr.

PROBABLE MINERAL COMPOSITION AND ION PAIRING

	MILLIEQUIVALENTS PER LITER	MILLIGRAMS PER LITER
Ca(HCO ₃) ₂	4.60	372.78
CaSO ₄	23.44	1595.39
CaCl ₂	439.96	24417.92
Mg(HCO ₃) ₂	0.00	0.00
MgSO ₄	0.00	0.00
MgCl ₂	482.02	22953.62
NaHCO ₃	0.00	0.00
Na ₂ SO ₄	0.00	0.00
NaCl	4028.02	235478.10

CALCULATED SCALING TENDENCIES

SCALING INDEX

CaCO₃ @ 80 DEG F. = 0.3

CaCO₃ @ 120 DEG F. = 1.0

SATURATION POINT

CaSO₄ @ 70 DEG F. = 1263.5 MG/LTR.

CaSO₄ @ 110 DEG F. = 1381.0 MG/LTR.

(THIS SAMPLE CONTAINED 1595.4 MG/LTR. CaSO₄)