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MAY 19 1997**Anadarko**OIL CON. DIV.  
DIST. 2

April 17, 1997

Bureau of Land Management  
Carlsbad Area Resource Headquarters  
620 E Greene Street  
Carlsbad, NM 88220O.M. Oil Cons. Division  
811 S. 1st Street  
Artesia, NM 88210-2834Re: NTL-2B  
Ballard GB-SA Unit Tract #5, Well #18  
SW/4 NE/4, Sec. 8, T18S, R29E  
Eddy County, NM

Gentlemen:

The checklist of information which is needed for approval of disposing water at the BGSAU Tract #5, Well #18, SW/4 NE/4, Sec. 8, T18S, R29E, Eddy County, New Mexico, is as follows:

- (a) Well produces from the San Andres & Grayburg formations.
- (b) Amount of water produced = 367 bbls/day.
- (c) Water Analysis (attached).
- (d) Water is stored on the lease in a tank or tanks.
- (e) Water is piped to or injected into approved facilities.
- (f) For approved water disposal facility, see attached sheet.

Sincerely,

Howard D. Hackett  
Field Foreman

HDH/md

Enclosures

**APPROVED**

MAY 16 1997

  
AUTHORIZED OFFICER, MINERALS  
BUREAU OF LAND MANAGEMENT


ANADARKO PETROLEUM CORPORATION

DISPOSAL FACILITIES

The facility listed below is where the water is sent for disposal from the Ballard #5-18.

Ballard WP                      R-4493  
SW/4 NW/4, Sec. 8, T18S, R29E, Eddy County, NM (LC-028772)

This disposal facility is an approved Water Injection Plant belonging to Anadarko located in the SW/4 NW/4, Sec. 8, T18S, R29E, Eddy County, NM. This water injection facility was approved by NMOCC order #R-4493, dated March 16, 1973.

  
Howard D. Hackett  
Field Foreman





# Water Analysis Report

Analysis Number : 00005033

Company.....:	<b>Anadarko</b>	Date of Sampling.....:	<b>03/14/97</b>
Location.....:	<b>Midland, Texas</b>	Date of Analysis.....:	<b>03/17/97</b>
Field.....:		Baker Representative..:	<b>Steven Stroud</b>
Lease.....:	<b>Ballard</b>	Well#.....:	<b>5-18</b>
Sample Source....:	<b>Well Head</b>	Analysis by.....:	<b>Green</b>

### DISSOLVED SOLIDS

<b>CATIONS:</b>	<u>mg/l</u>	<u>me/l</u>
Ca++	4360.00	218.00
Mg++	1122.40	92.00
Fe+++	0.10	0.01
Ba++	0.00	0.00
Na+	60540.37	2632.19
Mn++	0.00	0.00

### DISSOLVED GASES

Hydrogen Sulfide, H2S.....:	200.0
Carbon Dioxide, CO2.....:	79.2
Oxygen, O2.....:	0.0

### PHYSICAL PROPERTIES

pH.....:	6.8
Specific Gravity.....:	1.075
TDS (calculated) ppm.....:	171533.6
TIS (calculated).....:	3.1

### ANIONS:

Cl-	102000.00	2873.24
SO4--	2450.00	51.04
HCO3-	1049.20	17.20
CO3--	0.00	0.00
OH-	0.00	0.00
S-	11.52	0.72

### SCALE STABILITIES

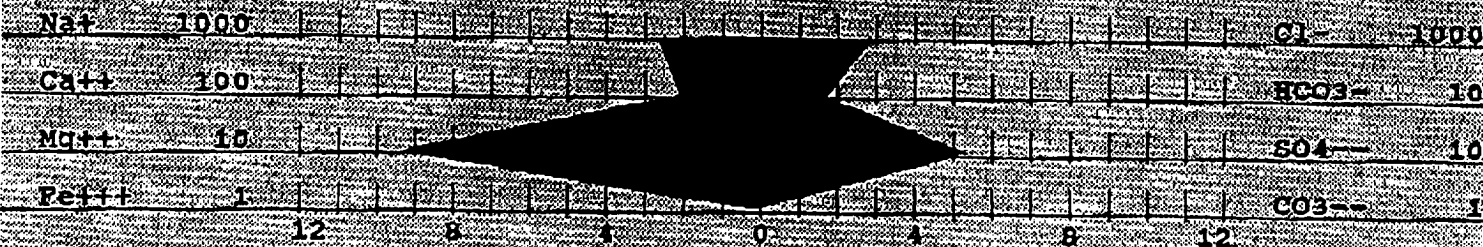
Temp.	°C	°F	CaCO3	CaSO4	BaSO4
	25	77	1.20	4380	0
	35	95	1.43	4771	0
	45	113	1.70	6045	0
			Max entity, (calculated):	3660	0

TOTAL HARDNESS.....: 310.00  
 TOTAL SOLIDS (quantitative).....: 171533.60  
 RESIDUAL HYDROCARBONS(ppm).....: 0.00

⊕ = not determined

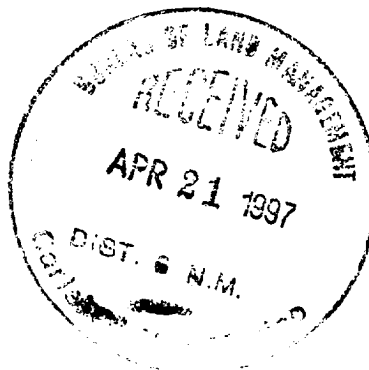
### WATER ANALYSIS PATTERN

(number beside ion symbol indicates me/l scale unit)



### NOTES:

@25°C CALCIUM SULFATE SCALING IS UNLIKELY  
 @25°C SEVERE CARBONATE SCALING



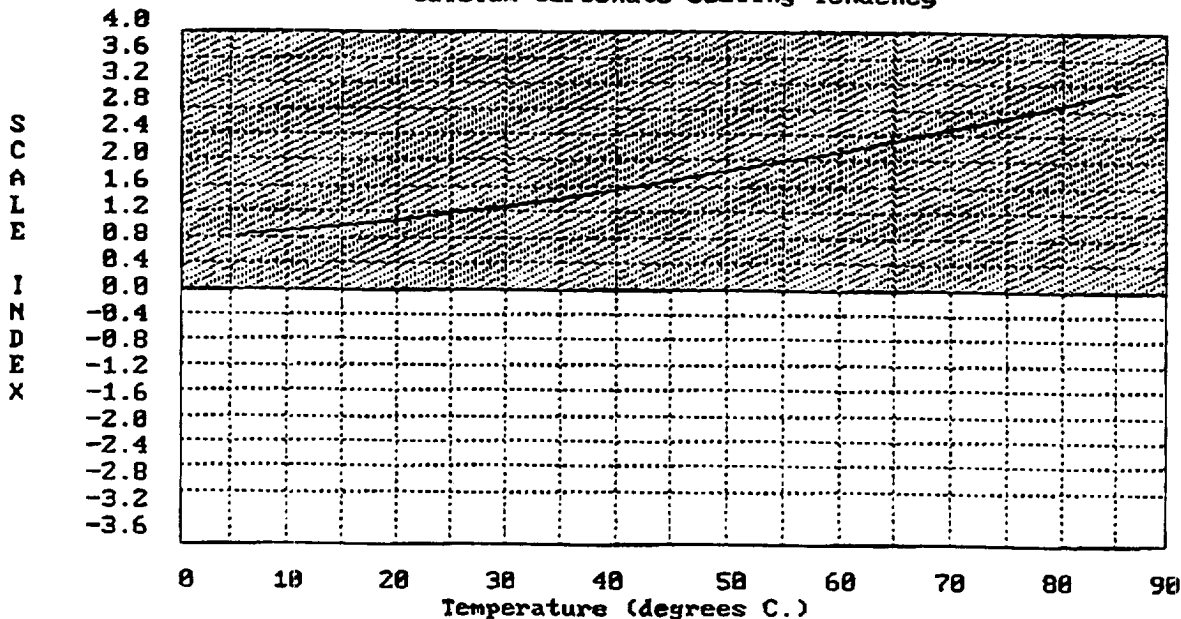


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Field.....		Baker Representative..	Steven Stroud
Lease.....	Ballard	Well#.....	5-18
Sample Source....	Well Head	Analysis by.....	Green

### Calcium Carbonate Scaling Tendency



### Calcium Sulfate Solubility

