



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

August 1, 1988

Mr. Steve Dunn
Merrion Oil & Gas Corp.
P.O. Box 840
Farmington, NM 87499

Re: Arena Blanca #1 Produced Water

Dear Mr. Dunn:

Your request to use produced water from the referenced well for road construction in the area is approved. The water will not be allowed to collect in the bar ditches or run down any arroyos.

Sincerely,

Frank T. Chavez
District Supervisor

FTC/dj

xc: Well File

MERRION OIL & GAS CORPORATION

610 REILLY AVE. • P. O. Box 840
FARMINGTON, NEW MEXICO 87499

July 26, 1988

State of New Mexico
Oil Conservation Division
1000 Rio Brazos
Aztec, New Mexico 87410

Attention: Mr. Frank Chavez

Subject: Produced water
Arena Blanca No. 1
Sec 36, T20N, R5W
McKinley County, N.M.

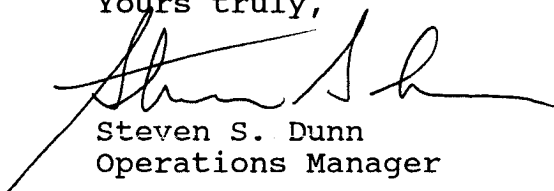
Dear Frank:

In accordance with your instructions please consider this letter Merrion Oil & Gas Corporation's request to provide produced water from the Arena Blanca No. 1 for use on a road improvement project in the Ojo Encino area. Northwest Piping, Inc. is under a BIA contract to upgrade roads in the vicinity of the Ojo Encino School and has requested Merrion to provide water for use in obtaining compaction of road fill.

Enclosed for your information is a recent water analysis. The produced water is from the Entrada formation.

If further is required, please advise.

Yours truly,



Steven S. Dunn
Operations Manager

SSD:ks
Enc.

RECEIVED
JUL 28 1988
OIL CON. DIV.
DIST. 3

WATER ANALYSIS

BOOK

2/9/88

(Signature)

Unichem International

707 North Leech

P.O. Box 1499

Hobbs, New Mexico 88240

Company : Merrion Oil & Gas

Date : 01-08-1988

Location: Areal Blanco - Wellhead (on 12-16-1987)

| | |
|-------------------------|-----------------|
| | <u>Sample 1</u> |
| Specific Gravity: | 1.008 |
| Total Dissolved Solids: | 10930 |
| pH: | 7.10 |
| IONIC STRENGTH: | 0.225 |

| <u>CATIONS:</u> | | <u>me/liter</u> | <u>mg/liter</u> |
|-----------------|---------------------|-----------------|-----------------|
| Calcium | (Ca ²⁺) | 12.0 | 240 |
| Magnesium | (Mg ²⁺) | 8.80 | 107 |
| Sodium | (Na ⁺) | 148 | 3410 |
| Iron (total) | (Fe ²⁺) | 0.025 | 0.700 |
| Barium | (Ba ²⁺) | 0.000 | 0.020 |
| Manganese | (Mn ²⁺) | 0.010 | 0.276 |

| <u>ANIONS:</u> | | <u>me/liter</u> | <u>mg/liter</u> |
|----------------|-----------------------------------|-----------------|-----------------|
| Bicarbonate | (HCO ₃ ⁻¹) | 2.80 | 171 |
| Carbonate | (CO ₃ ⁻²) | 0 | 0 |
| Hydroxide | (OH ⁻¹) | 0 | 0 |
| Sulfate | (SO ₄ ⁻²) | 87.4 | 4200 |
| Chloride | (Cl ⁻¹) | 79.0 | 2800 |

SCALING INDEX (positive value indicates scale)

| <u>Temperature</u> | | <u>Calcium</u> | <u>Calcium</u> |
|--------------------|------|------------------|----------------|
| | | <u>Carbonate</u> | <u>Sulfate</u> |
| 86°F | 30°C | -0.47 | -8.4 |
| 120°F | 49°C | 0.43 | -8.4 |