

MERRION OIL & GAS CORPORATION

610 REILLY AVE. • P. O. Box 840

FARMINGTON, NEW MEXICO 87499

OIL & GAS DIVISION
RECEIVED
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February 13, 1990

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attn: Mr. David Catanach

RE: Produced Water Disposal
Little Blue Federal #1
Federal 15-2H
Papers Wash Field
McKinley County, New Mexico

File into 183

Dear Mr. Catanach:

We have recently drilled two new wells in the Papers Wash Field and are planning to inject their produced water into the Navajo 15-6 disposal well (Section 15, T19N, R5W). Disposal into the Gallup in that well has been approved per State Order #SWD-183.

The Little Blue Federal #1 (Section 15, T19N, R5W) is producing \pm 150 BWPd from the Mesaverde formation (analysis attached). We plan to commingle the Mesaverde water with the water currently being produced from the Entrada Formation (analysis also attached). According to these analyses, the Mesaverde water is actually fresher than the Entrada water, and there should be no compatibility problems commingling the two.

The Federal 15-2H is a horizontal well that was recently drilled into the Entrada Formation. We are currently completing that well, and anticipate an initial water production rate of \pm 500 BPD.

Please contact George Sharpe at (505) 327-9801 if you have problems with our proposal or if you need additional information.

Sincerely,

Steven S. Dunn
Operations Manager

GFS/eg

CC: Frank Chavez-NMOCD-Aztec, NM
Ron VanWick-EPA-Dallas, Texas
Navajo 15-6 Well File
Federal 15-2H-Well File
Little Blue Federal #1-Well File

Unichem International

707 North Leech

P.O.Box 1499

Hobbs, New Mexico 88240

Company : MERRION OIL & GAS

Date : 01-09-1990

Location: Little Blue Fed #1 (on 12-22-89)

| | |
|-------------------------|-----------------|
| | <u>Sample 1</u> |
| Specific Gravity: | 1.005 |
| Total Dissolved Solids: | 7245 |
| pH: | 9.10 |
| IONIC STRENGTH: | 0.121 |

| <u>CATIONS:</u> | | <u>me/liter</u> | <u>mg/liter</u> |
|-----------------|---------------------|-----------------|-----------------|
| Calcium | (Ca ⁺²) | 0.400 | 8.00 |
| Magnesium | (Mg ⁺²) | 2.48 | 30.1 |
| Sodium | (Na ⁺¹) | 111 | 2550 |
| Iron (total) | (Fe ⁺²) | 0.705 | 19.7 |
| Barium | (Ba ⁺²) | 0.016 | 1.10 |
| Manganese | (Mn ⁺²) | 0.019 | 0.510 |

| <u>ANIONS:</u> | | | |
|----------------|-----------------------------------|------|------|
| Bicarbonate | (HCO ₃ ⁻¹) | 19.2 | 1170 |
| Carbonate | (CO ₃ ⁻²) | 0 | 0 |
| Hydroxide | (OH ⁻¹) | 0 | 0 |
| Sulfate | (SO ₄ ⁻²) | 10.1 | 483 |
| Chloride | (Cl ⁻¹) | 84.6 | 3000 |

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 | 1.2 | -27 |
| 120°F | 49°C | 2.1 | -27 |

Comments:

This water to be mixed with Media - Entrada #6

Unichem International

707 North Leech

P.O.Box 1499

Hobbs, New Mexico 88240

Company : MERRION OIL & GAS
 Date : 01-09-1990
 Location: Media - Entrada #6 (on 9-13-89)

| | |
|-------------------------|-----------------|
| | <u>Sample 1</u> |
| Specific Gravity: | 1.013 |
| Total Dissolved Solids: | 17838 |
| pH: | 7.50 |
| IONIC STRENGTH: | 0.351 |

| <u>CATIONS:</u> | | <u>me/liter</u> | <u>mg/liter</u> |
|-----------------|---------------------|-----------------|-----------------|
| Calcium | (Ca ⁺²) | 14.4 | 288 |
| Magnesium | (Mg ⁺²) | 8.80 | 107 |
| Sodium | (Na ⁺¹) | 256 | 5890 |
| Iron (total) | (Fe ⁺²) | 0.014 | 0.400 |
| Barium | (Ba ⁺²) | 0.003 | 0.200 |

| <u>ANIONS:</u> | | | |
|----------------|-----------------------------------|------|------|
| Bicarbonate | (HCO ₃ ⁻¹) | 7.20 | 439 |
| Carbonate | (CO ₃ ⁻²) | 0 | 0 |
| Hydroxide | (OH ⁻¹) | 0 | 0 |
| Sulfate | (SO ₄ ⁻²) | 116 | 5550 |
| Chloride | (Cl ⁻¹) | 157 | 5560 |

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 | 0.21 | -9.4 |
| 120°F | 49°C | 1.1 | -9.4 |