

Imperial-American Management Company

September 16, 1970

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

Attention: Mr. H. L. Porter, Jr.

Re: Request for Exception to Rule 303-A
Down-Hole Commingling - per Rule 303-C
Elliott Fields Lease, Well No. 1
Drinkard and Wantz Abo Pools
Lea County, New Mexico

(30-025-22827)

Gentlemen:

Imperial-American Management Company respectfully requests administrative approval under the provisions of Order No. R-3845 to commingle, in the well bore, oil production from the Drinkard Pool and the Wantz Abo Pool which are dually completed in our Elliott Fields No. 1 well located in Unit U, Section 6, T-21-S, R-38-E, Lea County, New Mexico. This dual completion was permitted by Administrative Order No. MC-1855 dated May 5, 1969.

We believe that this well qualifies for administrative approval of down-hole commingling under the Provisions of Rule 303-C. Both zones are classified as oil zones. The deepest perforation in the lower zone is at 7417' in this well. We attach Form C-116 which indicates that production rates for both oil and water fall within the limits specified by Rule 303-C. We also attach a copy of our production decline curve for each zone. Both zones are presently artificially lifted by rod pumps, therefore, a rod pump will be utilized after commingling.

We have had water samples collected from each zone and have had these samples checked for compatibility by Baroid. Copies of their reports are attached. The reports indicate there will not be an instability problem caused by mixing these waters.

We also attach a data sheet on which we have indicated our estimate of the current bottom hole pressures of these zones and a calculation showing that the commingled production will not have less value than the individual streams sold separately.

507 Midland Savings Building - Midland, Texas 79701 - 945-684-8241

Cable Address - IMPAM

New Mexico Oil Conservation Commission
Attention: Mr. H. L. Porter, Jr.
Re: Request for Exception to Rule 303-A
Elliott Fields Lease, Well No. 1
Lea County, New Mexico

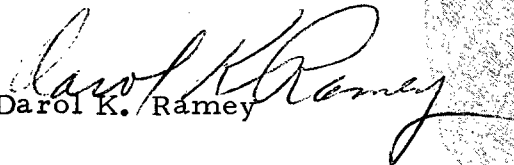
Page 2

Ownership of the production from both zones to be commingled in common as to royalty, overriding royalty, and working interests.

This lease is Federal Lease No. LC-065525. A copy of this application is being submitted to the United States Geological Survey. A copy is also being submitted to each of the offset operators shown on the attached list.

Very truly yours,

IMPERIAL-AMERICAN MANAGEMENT COMPANY


Darol K. Ramey

DKR:lb
Attachments

LIST OF OFFSET OPERATORS

Imperial-American Management Company
Elliott Fields Lease
Lea County, New Mexico

Continental Oil Company
P. O. Box 431
Midland, Texas 79701

Humble Oil & Refining Company
P. O. Box 1600
Midland, Texas 79701

Elliott Production Company
P. O. Box 5669
Roswell, New Mexico

NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS

C-116
Revised 1-1-65

Operator Imperial-American Management Co.		Pool *See Below		County Lea											
Address 507 Midland Savings Bldg., Midland, Texas 79701		TYPE OF TEST - (X)		Completion ☐ Scheduled ☐		Special ☒									
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW. ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.F.T./BBL.		
		U	S	T						R	WATER BBLs.	GRAV. OIL		OIL BBLs.	GAS M.C.F.
<u>Drinkard Pool</u>															
Elliott Fields	1	U	6	21-S38-E	9-8-70	P	Open	25	7	24	15	37.6	5	8.22	1644
<u>Wantz Abo Pool</u>															
Elliott Fields	1	U	6	21-S38-E	9-8-70	P	Open	25	16	24	8	40.5	16	63.5	3969
*SPECIAL TEST: REQUEST FOR DOWN-HOLE COMMINGLING															

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

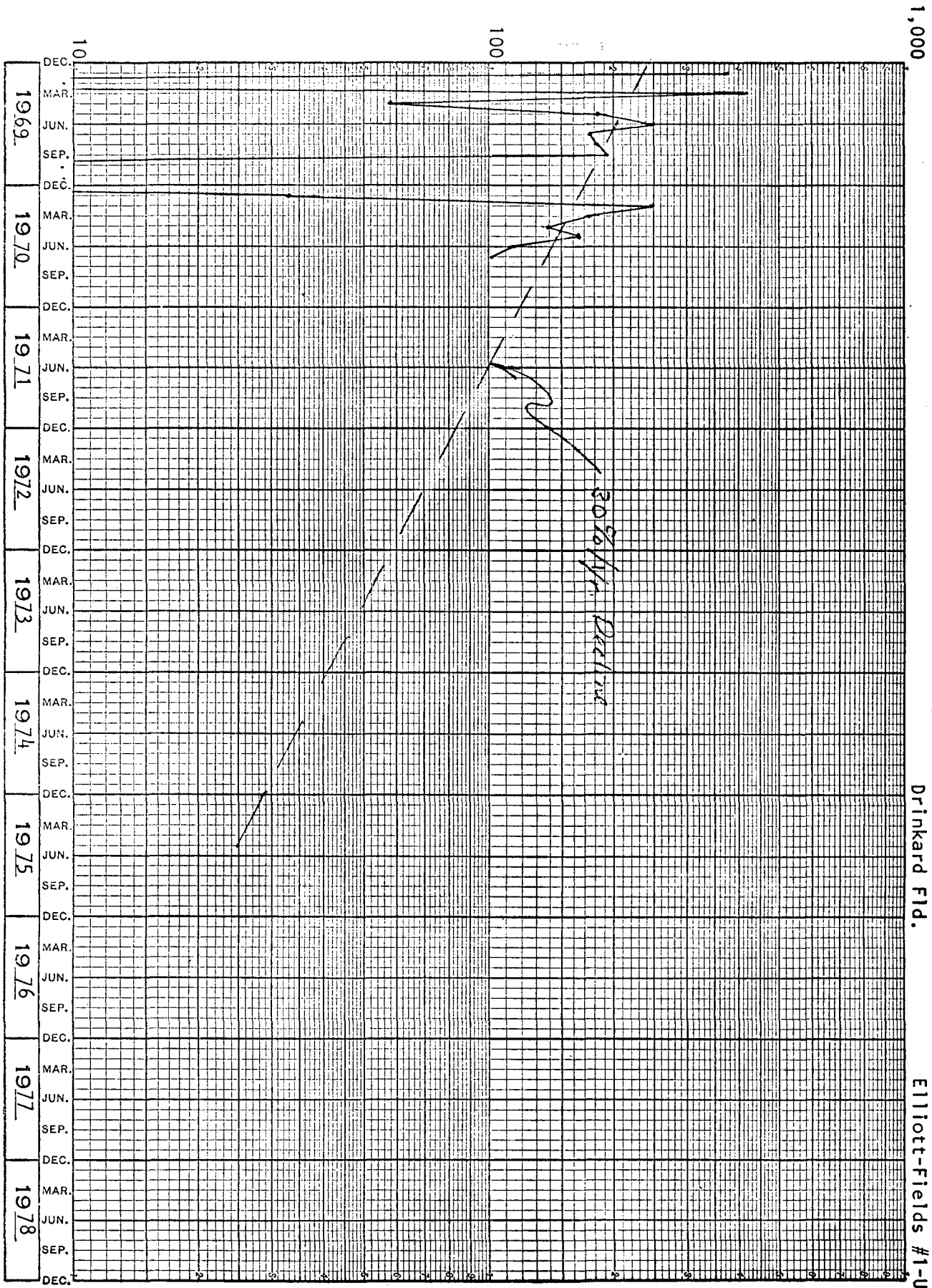
No well will be assigned an allowable greater than the amount of oil produced on the official test.
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.
Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.
Report casing pressure in lieu of tubing pressure for any well producing through casing.
Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

David H. Hancey
(Signature)
Division Mgr.

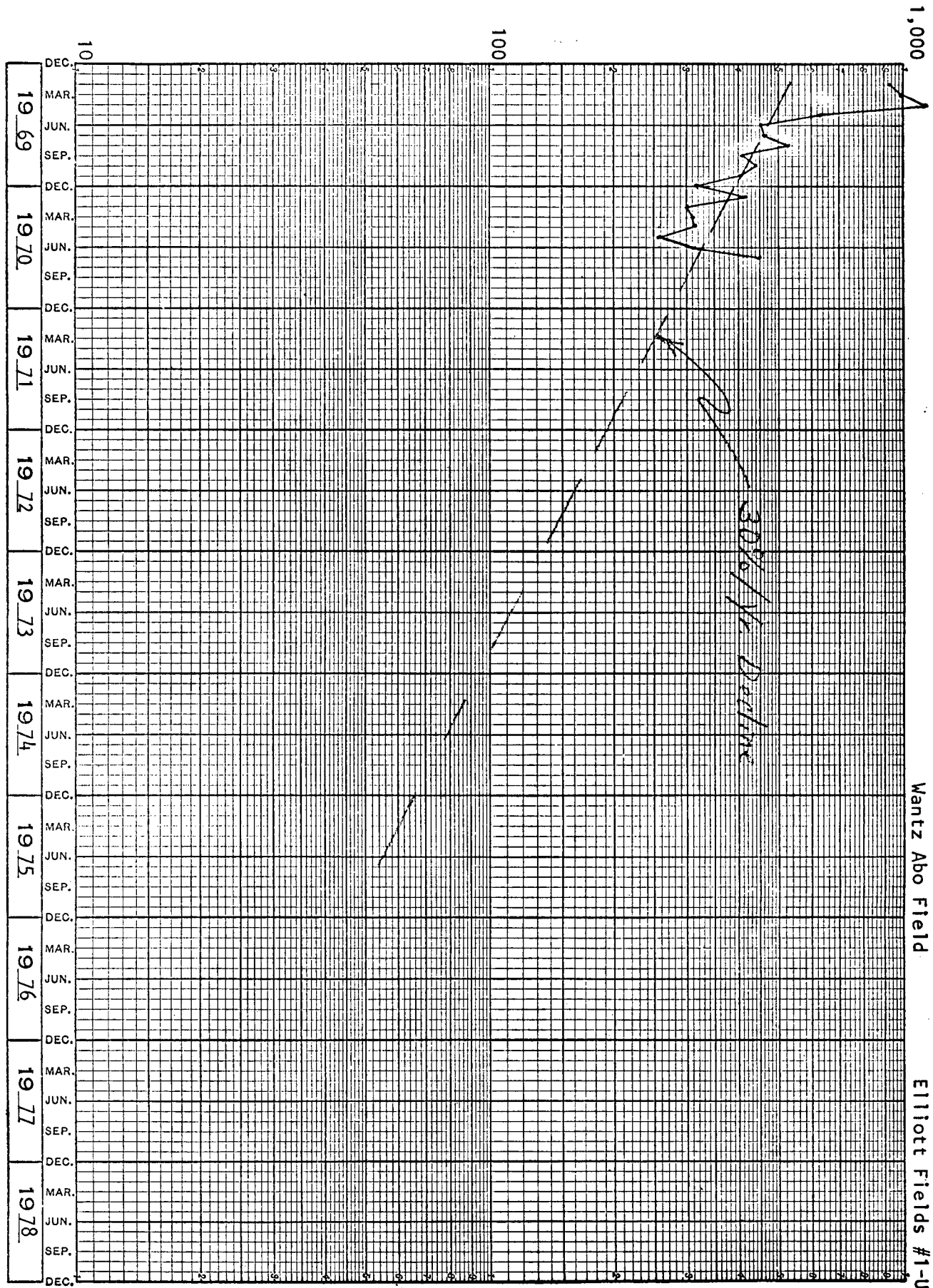
(Title)

9-16-70

(Date)



Production BOPM





BAROID DIVISION
NATIONAL LEAD COMPANY
PETROLEUM INDUSTRY CHEMICALS

WATER ANALYSIS TEST REPORT

SHEET NUMBER

COMPANY Imperial American Management Co		DATE 9-9-70	
FIELD Eunice		COUNTY OR PARISH Lea	STATE New Mexico
LEASE OR UNIT Elliott Fields	WELL(S) NAME OR NO. 1	WATER SOURCE (FORMATION) Drinkard	
DEPTH, FT.	BHT, F	SAMPLE SOURCE Well Head	TEMP, F
TYPE OF OIL		API GRAVITY 0	TYPE OF WATER ☒ PRODUCED WATER ☐ INJECTION WATER OTHER

WATER ANALYSIS PATTERN
(NUMBER BESIDE ION SYMBOL INDICATES me/l * SCALE UNIT)

Na ⁺ 20	15	10	5	0	5	10	15	20 Cl ⁻
Ca ⁺⁺								HCO ₃ ⁻
Mg ⁺⁺								SO ₄ ⁼
Fe ⁺⁺⁺								CO ₃ ⁼

DISSOLVED SOLIDS

CATIONS

Total Hardness
Sodium, Na⁺ (calc.)
Calcium, Ca⁺⁺
Magnesium, Mg⁺⁺
Iron (Total), Fe⁺⁺⁺

me/l *

774

3231

559

215

1.7

mg/l *

74313

11180

2623

31

ANIONS

Chloride, Cl⁻
Sulfate, SO₄⁼
Carbonate, CO₃⁼
Bicarbonate, HCO₃⁻
Hydroxyl, OH⁻
Sulfide, S⁼
Phosphate - Meta, PO₃⁼
Phosphate - Ortho, PO₄⁼

3971

29

6.9

141,000

1420

421

DISSOLVED GASES

Hydrogen Sulfide, H₂S
Carbon Dioxide, CO₂
Oxygen, O₂

mg/l *

mg/l *

mg/l *

PHYSICAL PROPERTIES

pH 7.6
Eh (Redox Potential) MV
Specific Gravity
Turbidity, JTU Units
Total Dissolved Solids (Calc.) mg/l *
Stability Index @ F
CaSO₄ Solubility @ F mg/l *
Max. CaSO₄ Possible (Calc.) mg/l *
Max. BaSO₄ Possible (Calc.) mg/l *
Residual Hydrocarbons ppm (Vol/Vol)

SUSPENDED SOLIDS (QUALITATIVE)

Iron Sulfide ☐ Iron Oxide ☐ Calcium Carbonate ☐ Acid Insoluble ☐

REMARKS AND RECOMMENDATIONS:

* NOTE: me/l and mg/l are commonly used interchangeably for epm and ppm respectively. Where epm and ppm are used, corrections should be made for specific gravity.

PIC ENGINEER Cliff G. Gardner	DIST. NO. 21	ADDRESS Eunice, New Mexico	OFFICE PHONE 393-8622	HOME PHONE 394-2421
TESTED BY Cliff G. Gardner	DATE 9-9-70	DISTRIBUTION ☐ CUSTOMER ☐ PIC ENGINEER OR ☐ PIC LAB	☐ AREA OR ☐ DISTRICT OFFICE ☐ PIC SALES SUPERVISOR	



BAROID DIVISION
NATIONAL LEAD COMPANY
PETROLEUM INDUSTRY CHEMICALS

WATER ANALYSIS TEST REPORT

SHEET NUMBER

COMPANY

Imperial American Management Co

DATE

9-9-70

FIELD

Eunice

COUNTY OR PARISH

Lea

STATE

New Mexico

LEASE OR UNIT

Elliott Fields

WELL(S) NAME OR NO.

1

WATER SOURCE (FORMATION)

Abo

DEPTH, FT.

BHT, F

SAMPLE SOURCE

Well Head

TEMP, F

WATER, BBL/DAY

OIL, BBL/DAY

GAS, MMCF/DAY

TYPE OF OIL

API GRAVITY

0

TYPE OF WATER

☒

PRODUCED WATER

☐

INJECTION WATER

OTHER

WATER ANALYSIS PATTERN

(NUMBER BESIDE ION SYMBOL INDICATES me/l * SCALE UNIT)

Na ⁺ 20	15	10	5	0	5	10	15	20 Cl ⁻
Ca ⁺⁺								HCO ₃ ⁻
Mg ⁺⁺								SO ₄ ⁼
Fe ⁺⁺⁺								CO ₃ ⁼

DISSOLVED SOLIDS

CATIONS

Total Hardness

me/l *

833

mg/l *

Sodium, Na⁺ (calc.)

2815

64745

Calcium, Ca⁺⁺

614

12280

Magnesium, Mg⁺⁺

219

2672

Iron (Total), Fe⁺⁺⁺

2.2

41

ANIONS

Chloride, Cl⁻

3622

129000

Sulfate, SO₄⁼

23

1090

Carbonate, CO₃⁼

Bicarbonate, HCO₃⁻

5.1

301

Hydroxyl, OH⁻

Sulfide, S⁼

Phosphate - Meta, PO₃⁼

Phosphate - Ortho, PO₄⁼

DISSOLVED GASES

Hydrogen Sulfide, H₂S

mg/l *

Carbon Dioxide, CO₂

mg/l *

Oxygen, O₂

mg/l *

PHYSICAL PROPERTIES

pH

7.1

Eh (Redox Potential)

MV

Specific Gravity

Turbidity, JTU Units

Total Dissolved Solids (Calc.)

mg/l *

Stability Index @ F

@ F

CaSO₄ Solubility @ F

mg/l *

@ F

mg/l *

Max. CaSO₄ Possible (Calc.)

mg/l *

Max. BaSO₄ Possible (Calc.)

mg/l *

Residual Hydrocarbons

ppm (Vol/Vol)

SUSPENDED SOLIDS (QUALITATIVE)

Iron Sulfide ☐ Iron Oxide ☐ Calcium Carbonate ☐ Acid Insoluble ☐

REMARKS AND RECOMMENDATIONS:

The Drinkard water and this abo should cominle
without presenting any problems.

* NOTE: me/l and mg/l are commonly used interchangeably for epm and ppm respectively. Where epm and ppm are used, corrections should be made for specific gravity.

PIC ENGINEER

Cliff G. Gardner

DIST. NO.

21

ADDRESS

Eunice New Mexico

OFFICE PHONE

393-8622

HOME PHONE

394-2421

TESTED BY

Cliff G. Gardner

DATE

9-9-70

DISTRIBUTION

☐ CUSTOMER

☐ PIC ENGINEER OR

☐ AREA OR

☐ PIC LAB

☐ DISTRICT OFFICE

☐ PIC SALES SUPERVISOR

DATA SHEET

Request for Down-Hole Commingling
Imperial-American Management Company
Elliott Fields Well No. 1

I. Estimated Bottom Hole Pressure

A. Drinkard Pool Completion

Unable to obtain a satisfactory sonic fluid level.
Zone pumps off, permitting only 25% pump efficiency.
Estimated Operating BHP - 200 psi
Estimated Static BHP - 750 psi

B. Wantz Abo Pool Completion

Lower Zone - cannot obtain sonic fluid level.
Zone pumps off, permitting only 25% pump efficiency.
Estimated Operating BHP - 200 psi
Estimated Static BHP - 900 psi

II. Value of Commingled Production

Oil from both the Drinkard and Wantz Abo is presently being sold to The Permian Corporation by truck. The price is based on Atlantic Richfield's posting for West Texas-New Mexico, intermediate grade crude, with a top price of \$3.31 for 40° API and a 2¢/degree price differential for each degree API below 40° API.

Drinkard zone oil normally runs 37.5° API with a price of \$3.25/bbl.
Wantz Abo oil normally runs 40.8° API with a price of \$3.31/bbl. At current rates of production, the gravity of the mixture should be 40.0° API.

Drinkard - Avg. Price \$3.25/bbl. x 5 BOPD =	\$16.25/day
Wantz Abo - Avg. Price \$3.31/bbl. x 16 BOPD =	52.96/day
	\$69.21/day

Mixture - Avg. Price \$3.31/bbl. x 21 BOPD =	\$69.51/day
--	-------------

No loss in value of product should result from commingling these zones in the well bore.

