



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

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

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE Sept. 26, 1984

RE: Proposed MC _____
Proposed DHC α _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated August 29, 1984
for the Jarvis Oil Co. Flonore 439 B-35-30N-8W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Agree

Yours truly,

Frank D. Chazy

Tenneco Oil
Exploration and Production
A Tenneco Company

6162 South Willow Drive
P.O. Box 3249
Englewood, Colorado 80155
(303) 740-4800

Western Rocky Mountain Division

August 29, 1984

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

Attention: Gilbert Quintana

RE: Florance 39
Sec. 35, T30N, R8W
San Juan County, NM

Gentlemen:

We have enclosed all necessary data for administrative approval to commingle production in the referenced well.

Questions concerning this request can be directed to Mr. Mark Owen (303/740-4840).

Very truly yours,

TENNECO OIL COMPANY



Paul Doyle
Division Production Engineer

SMc:srp

Enclosures

RECEIVED
SEP 25 1984
OIL CON. DIV.
DIST. 3

The Florance 39 was completed as a Mesaverde-Dakota dual in September, 1965, with 4-1/2" casing and one string of 2-3/8" tubing. The Dakota produces up the tubing and the Mesaverde flows up the casing-tubing annulus. Because of the large flow area in the annulus, the Mesaverde is experiencing liquid loading problems which are restricting the production from that zone.

Enclosed are decline curves for both the Mesaverde and Dakota zones.

The bottom-hole pressure of the Dakota was measured with a pressure bomb and found to be 700 psig at 7020' after 8 days of shut-in. This Dakota pressure corrected to a datum of 4807' is 666 psig. A pressure bomb could not be run for the Mesaverde since this zone produces up the annulus. A dead weight surface pressure of 425 psig was recorded for the Mesaverde after 8 days of shut-in and the fluid level on the annulus was recorded at 4524'. The bottom-hole pressure for the Mesaverde was then calculated to be 593 psig at a datum of 4807'. This value is 89% of the Dakota pressure at this datum and, therefore, satisfies the requirement that the lower pressured zone have a pressure that is greater than 50% of the pressure of the higher pressured zone corrected to a common datum.

A compatibility test was conducted using the produced Dakota water from this well and the Mesaverde water from the 39A, the infill well of the same proration unit. The test indicated that no scale or precipitate problems should result from the commingling of these two zones. In addition, the salinities of the two zones are similar enough that no formation damage should occur in either zone.

The intent of commingling these two zones is to increase the total production from the well. This will be accomplished by increasing the flow velocity by flowing both zones up the tubing. The cross-sectional area of the tubing is 3.13 square inches, as opposed to 11.27 square inches for the tubing and annulus. Even if no production increase were realized, a 3.6 fold increase in average flow velocity would result from this commingling. This velocity increase will enable the well to unload produced fluids and will result in increased gas production from each zone. This greater production rate will increase the velocity in the tubing, yielding even more liquid lifting capacity.

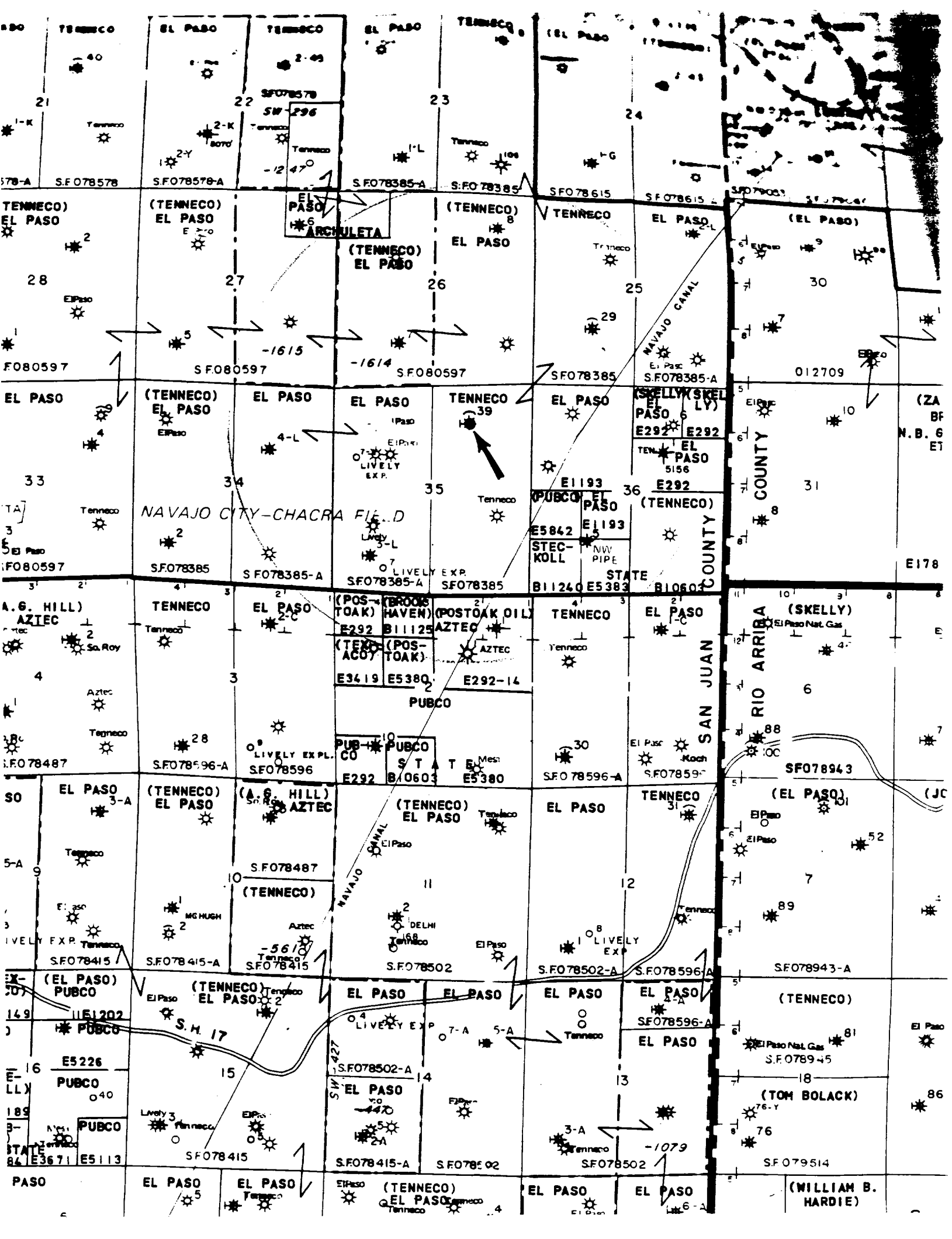
Based upon the decline curves and reserve estimates for these zones, I recommend that the production be allocated on a strict percentage basis with 89% assigned to the Mesaverde and 11% assigned to the Dakota.

If you need any additional information, feel free to call me at (303) 740-4840.



Mark W. Owen
Production Engineer

MWO:dj (3184)



Tenneco Oil
Exploration and Production
A Tenneco Company

6162 South Willow Drive
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Englewood, Colorado 80155
(303) 740-4800

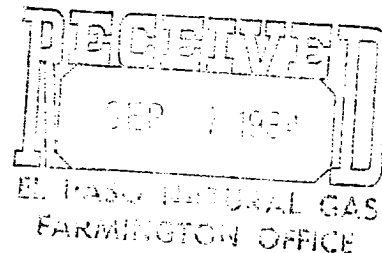
SEP 12 1984

[Handwritten signature]

Western Rocky Mountain Division

OIL CONSERVATION DIVISION

August 29, 1984



El Paso Natural Gas
P. O. Box 990
Farmington, NM 87401

Attn: Don Reed

RE: Florance 39
Sec. 35, T30N, R8W
San Juan County, NM

Gentlemen:

Tenneco has applied for administrative approval to commingle production from the Mesaverde and Dakota zones in the above referenced well. If you as an offset operator have no objection to the proposed commingling, please sign the waiver at the bottom of this page and forward to:

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501
Attention: Gilbert Quintana

We would appreciate your returning one copy to the undersigned.

Very truly yours,

TENNECO OIL COMPANY

[Handwritten signature of Paul Doyle]

Paul Doyle
Division Production Engineer

SMc:srp

WAIVER

We hereby waive any objections to Tenneco Oil Company's application to commingle production as set forth above.

Name: Donald R. Reed Title: District Operations Manager
Date: 9-10-84

Tenneco Oil
Exploration and Production
A Tenneco Company

6162 South Willow Drive
P.O. Box 3249
Englewood, Colorado 80155
(303) 740-4800



Western Rocky Mountain Division

August 29, 1984

El Paso Natural Gas
P. O. Box 990
Farmington, NM 87401

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RE: Florance 39
Sec. 35, T30N, R8W
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New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501
Attention: Gilbert Quintana

We would appreciate your returning one copy to the undersigned.

Very truly yours,

TENNECO OIL COMPANY

A handwritten signature in cursive script that reads "Paul A Doyle".

Paul Doyle
Division Production Engineer

SMc:srp

WAIVER

We hereby waive any objections to Tenneco Oil Company's application to commingle production as set forth above.

Name: _____ Title: _____

Date: _____

Tenneco Oil
Exploration and Production
A Tenneco Company

6162 South Willow Drive
P.O. Box 3249
Englewood, Colorado 80155
(303) 740-4800



Western Rocky Mountain Division

August 29, 1984

Lively Exploration
1010 1st National Bank Bldg.
Houston, TX 77002

RE: Florance 39
Sec. 35, T30N, R8W
San Juan County, NM

Gentlemen:

Tenneco has applied for administrative approval to commingle production from the Mesaverde and Dakota zones in the above referenced well. If you as an offset operator have no objection to the proposed commingling, please sign the waiver at the bottom of this page and forward to:

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P. O. Box 2088
Santa Fe, New Mexico 87501
Attention: Gilbert Quintana

We would appreciate your returning one copy to the undersigned.

Very truly yours,

TENNECO OIL COMPANY

A handwritten signature in dark ink, appearing to read "Paul Doyle", is written over the typed name.

Paul Doyle
Division Production Engineer

SMc:srp

WAIVER

We hereby waive any objections to Tenneco Oil Company's application to commingle production as set forth above.

Name: _____ Title: _____

Date: _____

FLORANCE 39

DETERMINATION OF ALLOCATION PERCENTAGES

The decline rates and reserve estimates for the Mesaverde are indicated below:

	<u>Decline Percentage</u>	<u>Remaining Reserves</u>
Mesaverde	12%	812 MMCF
Dakota	6%	101 MMCF

GAS-OIL RATIO TESTS

Operator		Pool		County										
Tenneco Oil Company		Basin Dakot		San Juan										
Address		TYPE OF TEST - (X)		SCHEDULED		Completion		Spent						
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT/BBL	
		U	S	T						R	WATER BBL'S	GRAV. OIL		OIL BBL'S
Florence	39	B	35	30	8	8/13/84	F none	330		24	-0-	-0-	31	-0-

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 Division.

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 0.63.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Well original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 331 and appropriate pool rules.

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

B. B. Miller

Bob Miller (Signature)
Agent

August 14, 1984 (Date)

GAS-OIL RATIO TESTS

Tenneco Oil Company		Pool	Blanco Mesa Verde		County		San Juan							
Box 3249, Englewood, CO 80155		TYPE OF TEST - (X)		Scheduled ☐	Completion ☐	Specimen ☒								
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.FT./BB	
		U	S	T						R	WATER BBLs.	GRAV. OIL BBLs.		OIL BBLs.
Florance	39	B	35	30	8	8/13/84	F none	410	-0-	24	-0-	-0-	244	-0-

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 allowable when authorized by the Division.

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 0.63.

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 Division in accordance with Rule 321 and appropriate pool rules.

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


Bob Miller (Signature)
AgentAugust 14, 1984
(Title)

FLORENCE 39
MESAVERDE
8 DAY SI PERIOD

DATE: 08/14/84
FILE: FLO39MV
PROJ: 0

G A S W E L L P R E S S U R E S

MEASURED DEPTH, FEET	4807.	FLOW STREAM ID, INCHES	0.
TRUE VERTICAL DEPTH, FEET	4807.	FLOW STREAM OD, INCHES	1.995
GAS GRAVITY	0.620	CRITICAL TEMPERATURE	365.
BOTTOM HOLE TEMPERATURE	150.	CRITICAL PRESSURE	668.
NITROGEN, MOL %	0.	CONDENSATE GRAVITY, DEG API	50.0
CARBON DIOXIDE, MOL %	0.	WATER GRAVITY	1.000
HYDROGEN SULFIDE, MOL %	0.	PIPE ROUGHNESS, INCHES	0.00060

GAS RATE	WH TEMP	WELLHEAD	BOTTOMHOLE	P/Z	CONDENSATE	WATER
M/D-----	DEG F--	PSIG-----	PSIG-----	PSIG-----	STB/MMCF--	BW/MMCF--
0.	70.	425.	471.♦	AT	4524. FEET (MEAS)	FLUID LEVEL
			593.♦	AT	4807. FEET (MEAS)	(WTR)

♦ COMPUTED VALUE

Surface pressure = 425 psig

Fluid level = 4524'

Pressure at datum of 4807' = 593 psig

FLORENCE 39
DAKOTA
8 DAY SI PERIOD

DATE: 08/14/84
FILE: FLO39
PROJ: 0

G A S W E L L P R E S S U R E S

MEASURED DEPTH, FEET	4807.	FLOW STREAM ID, INCHES	0.
TRUE VERTICAL DEPTH, FEET	4807.	FLOW STREAM OD, INCHES	1.995
GAS GRAVITY	0.620	CRITICAL TEMPERATURE	365.
BOTTOM HOLE TEMPERATURE	190.	CRITICAL PRESSURE	668.
NITROGEN, MOL %	0.	CONDENSATE GRAVITY, DEG API	50.0
CARBON DIOXIDE, MOL %	0.	WATER GRAVITY	1.000
HYDROGEN SULFIDE, MOL %	0.	PIPE ROUGHNESS, INCHES	0.00060

GAS RATE M/D-----	WH TEMP DEG F--	WELLHEAD PSIG-----	BOTTOMHOLE PSIG-----	P/Z PSIG-----	CONDENSATE STB/MMCF--	WATER BW/MMCF--
0.	70.	600.	666.♦	703.	0.	0.

♦ COMPUTED VALUE

This is the Dakota bottom-hole pressure
corrected to a datum of 4807'
Pressure at datum of 4807' = 666 psig

FLORENCE 39
DAKOTA
8 DAY SI PERIOD

DATE: 08/14/84
FILE: FLD39
PROJ: 0

G A S W E L L P R E S S U R E S

MEASURED DEPTH, FEET	7020.	FLOW STREAM ID, INCHES	0.
TRUE VERTICAL DEPTH, FEET	7020.	FLOW STREAM OD, INCHES	1.995
GAS GRAVITY	0.620	CRITICAL TEMPERATURE	365.
BOTTOM HOLE TEMPERATURE	190.	CRITICAL PRESSURE	668.
NITROGEN, MOL %	0.	CONDENSATE GRAVITY, DEG API	50.0
CARBON DIOXIDE, MOL %	0.	WATER GRAVITY	1.000
HYDROGEN SULFIDE, MOL %	0.	PIPE ROUGHNESS, INCHES	0.00060

GAS RATE	WH TEMP	WELLHEAD	BOTTOMHOLE	P/Z	CONDENSATE	WATER
M/D-----	DEG F--	PSIG-----	PSIG-----	PSIG-----	STB/MMCF--	BM/MMCF--
0.	70.	600.	700.♦	740.	0.	0.

♦ COMPUTED VALUE

This computation indicates that the correct gas gravity for the Dakota is 0.62 since the calculated bottom-hole pressure matches the measured value of 700 psig.



SMITH ENERGY SERVICES

Division of Smith International, Inc.

2198 East Bloomfield Highway
Farmington, New Mexico 87401
Phone (505) 327-7281

August 9, 1984

Tenneco Oil Co.
Western Rocky Mtn. Div.
P.O. Box 3249
Englewood, Co. 80155

ATTN: Mark Owen

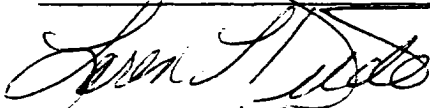
Dear Mr. Owen:

A compatibility study was conducted using the following formation water samples:

- | | |
|-----------------|----------------------|
| 1. Florance 39 | Dakota formation |
| 2. Florance 39A | Mesa Verde formation |

A small amount of reddish orange precipitate formed, but this is to be expected when oxygen is admitted to a water sample containing even a trace of iron. This precipitate should pose no problems in a closed system. No solid precipitates of any other type was noted and these samples should be considered to be compatible for mixing in any concentrations needed.

Sincerely,
SMITH ENERGY SERVICES



Loren L. Dieder
District Engineer

LLD/kr

enc: water analysis (2)

REPORT NUMBER : 1
DATE : 8/5/84

TO : Mr. and Mrs. J. J.
MULLIGAN, JR.

ATTENTION OF : MR. J. J.

FROM :
LOCATION :
DATE :
TIME :
WELL :
FILTERED :

DATE SAMPLED :
FIELD :
LEASE :
WELL ANALYST :
LABORATORY :

WATER ANALYSIS
=====

APPROXIMATE GRAVITY	1.000	OF :	1.00
CHLORIDE	319.775 mg/l	CHLORIDE	181.2-3 mg/l
SODIUM	244.888 mg/l	SODIUM	111.47 mg/l
SULFATE	2.220 mg/l	TOTAL IRON	2.718 mg/l
SILICA	2.220 mg/l	SILICA	272.220 mg/l
PHOSPHATE	2.220 mg/l		
TOTAL HARDNESS (as CaCO ₃)			620.482 mg/l
TOTAL DISSOLVED SOLIDS			1856.379 mg/l
RESISTIVITY	10.620 CM-METERS @		60.2 DISSOLVED SOLIDS PER LITER.

Sample Source :

Analytical Remarks :

REPORT NUMBER : 2
DATE : 6/6/84

COMPANY : TENNESSEE OIL CO.
ENGLEWOOD, CO.

ATTENTION OF : MARK OWEN

COUNTY :
FORMATION : YESA VERDE
WELL : FLORANCE

DATE SAMPLED :
FIELD :
LEASE : 39A
SES ANALYST : LOREN DIEDE

WATER ANALYSIS
=====

SPECIFIC GRAVITY	1.000	DM :	7.00
CHLORIDE :	599.775 mg/l	CALCIUM :	23.150 mg/l
BICARBONATE :	183.051 mg/l	MAGNESIUM :	24.247 mg/l
SULFATE :	0.000 mg/l	TOTAL IRON :	2.752 mg/l
SULFIDE :	0.000 mg/l	SODIUM :	578.859 mg/l
POTASSIUM :	0.000 mg/l		
TOTAL HARDNESS (as CaCO ₃) :			300.180 mg/l
TOTAL DISSOLVED SOLIDS :			1866.924 mg/l
RESISTIVITY :	10.600 OHM METERS @		60.0 DEGREES FAHRENHEIT.

Sample Source :

Analyst's Remarks :