El Paso
Exploration Company

P. O. BOX 4289
FARMINGTON, NEW MEXICO 87499-4289

PHONE: 505-325-2841

September 7, 1984

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

Subject: Warren #4
Unit H, Sec. 14, T28N, R9W
San Juan County, New Mexico

Dear Mr. Ramey:

El Paso Natural Gas Company requests administrative approval to downhole commingle the production from its Warren #4 gas well located in Unit H, Section 14, T-28-N, R-9-W, San Juan County, New Mexico. This well is producing from the Aztec Pictured Cliffs Pool as well as the Blanco Mesa Verde Pool. El Paso Natural Gas Company owns 100% working interest in both producing intervals, and believes downhole commingling to be the most efficient method of producing this well.

The most recent packer leakage test indicates communication between the Pictured Cliffs and Mesa Verde formations. It is intended to pull the packer and tubing, and downhole commingle and produce the well through one string of tubing. As a result of communication between producing formations, the current production rates and bottom hole pressures for the Aztec Pictured Cliffs and Blanco Mesa Verde formations must be estimated from the 1982 and 1983 production histories and 1982 deliverability test data.

The attached production decline curves show both formations have established a steady rate of decline. Fluctuation in the Pictured Cliffs formation prior to the packer failure appears to be the result of line pressure changes. It is estimated that the Aztec Pictured Cliffs formation will produce at an average rate of 155 Mcf/d after commingling. It is estimated that the Blanco Mesa Verde formation will produce at an average rate of 76 Mcf/d after commingling. Neither zone produces more than a trace of water, so no formation damage should occur as a result of downhole commingling. Prior to 1981, the Blanco Mesa Verde produced a small amount of condensate, but since that time, production has

ceased. The minimum combined producing rate after commingling should be 231 Mcf/d of gas.

The 1983 deliverability test for the Aztec Pictured Cliffs formation shows a shut-in pressure of 303 psia and a calculated bottom hole pressure of 322.3 psia. The Blanco Mesa Verde formation shows a 1982 deliverability test shut-in pressure of 388 psia, with a calculated bottom hole pressure of 434.3 psia. The ratio of bottom hole pressures is 1.35/1.00. Due to the pressure differential between the two formations, it is not expected that any migration of gas or liquids will occur.

It is proposed that the future production be allocated based on remaining reserves. The remaining gas reserves of the Pictured Cliffs formation is estimated at 503,500 MCF, while the remaining gas reserves of the Mesa Verde formation is estimated at 871,405 MCF. This results in a total reserve estimate of 1374 MMcfg. Based on this data, 37% of the produced gas would be attributed to the Aztec Pictured Cliffs Pool, and 63% to the Blanco Mesa Verde Pool. All condensate production would be attributed to the Blanco Mesa Verde Pool.

All offset acreage is owned by El Paso Natural Gas Company, hence, no notices or consents are required prior to the proposed commingle to the other owners.

A well location plat, offset ownership plat, production decline curves, and productivity test are attached.

Sincerely,

Scott H. Lindsay

Scott H. Lindsay
Production Engineer

SHL:te

Enc. 4

NEW MEXICO
OIL CONSERVATION COMMISSION

Form C-128

WELL LOCATION AND/OR GAS PRORATION PLAT

DATE FEBRUARY 21, 1957

OPERATOR EL PASO NATURAL GAS COMPANY LEASE WARREN SF 077123

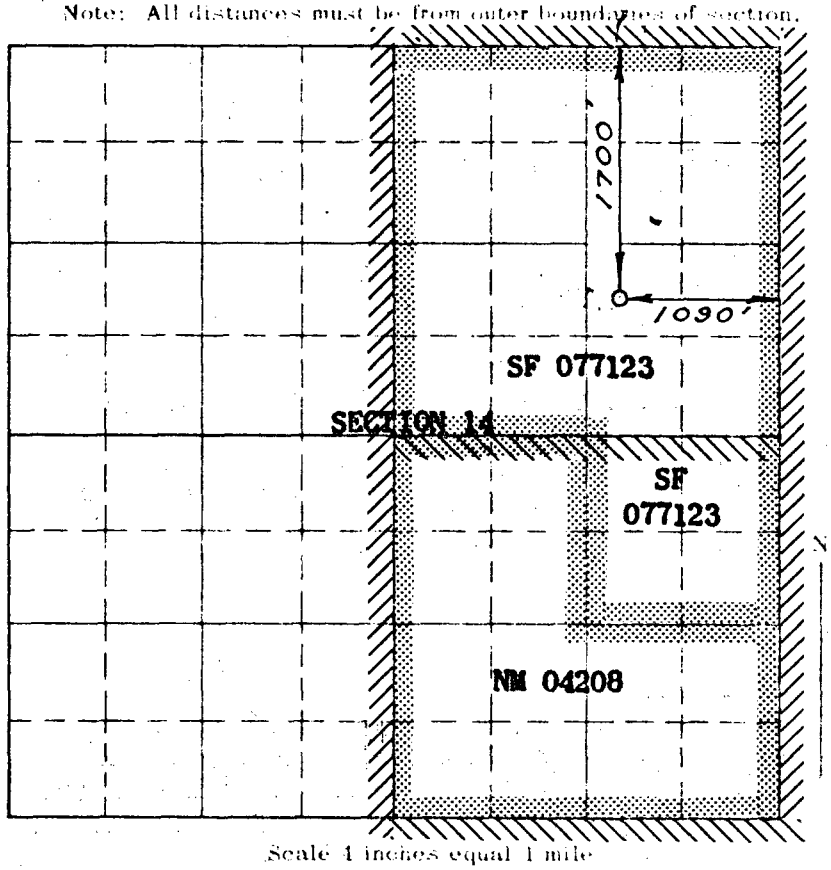
WELL NO. 4 (PM) SECTION 14 TOWNSHIP 28 N RANGE 9 W NMPM

LOCATED 1700 FEET FROM NORTH LINE 1090 FEET FROM EAST LINE

SAN JUAN COUNTY, NEW MEXICO G.L. ELEVATION 6081

NAME OF PRODUCING FORMATION P.C. & M.V. POOL ~~WILDCAT~~ Aztec P.C. Ext. BLANCO M.V. DEDICATED ACREAGE 320 AC. M.V. 160 AC. P.C. (1919 PLAT)

Note: All distances must be from outer boundaries of section.



Scale 1 inches equal 1 mile

RECEIVED
MAR 8 1957
U. S. GEOLOGICAL SURVEY
FARMINGTON, NEW MEXICO

NOTE

This section of form is to be used for gas wells only

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

Date Surveyed FEBRUARY 7, 1957

E. O. Walker

Registered Professional Engineer and/or Land Surveyor

(Seal)

1. Is this well a Dual Comp.
   Yes X No
2. If the answer to Question 1 is yes, are there any other dually completed wells within the dedicated acreage.
   Yes No X

Name F. W. Boyd

Position Petroleum Engineer

Representing El Paso Natural Gas

Address Box 997 - Farmington, N.M.

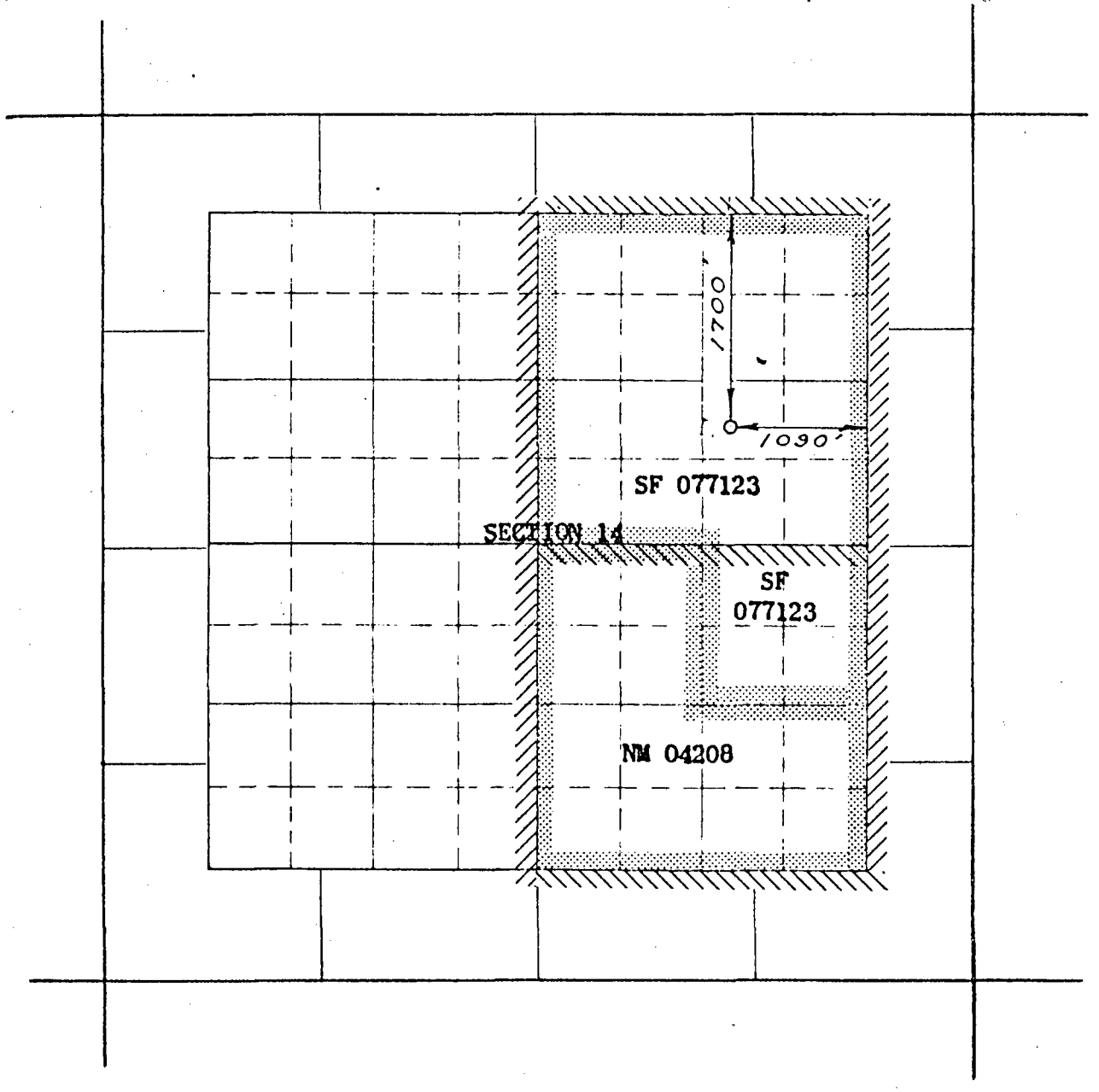
EL PASO NATURAL GAS COMPANY

Well Name Warren #4 (Pictured Cliffs/Mesaverde)

Footage---- 1700' FNL, 1090' FEL

APPLICATION FOR DOWNHOLE COMMINGLING

County San Juan State New Mexico Section 14 Township 28N Range 9W



REMARKS:

All offset acreage is owned by El Paso

EL PASO NATURAL GAS COMPANY

Well Name Warren #4 (Pictured Cliffs/Mesaverde)

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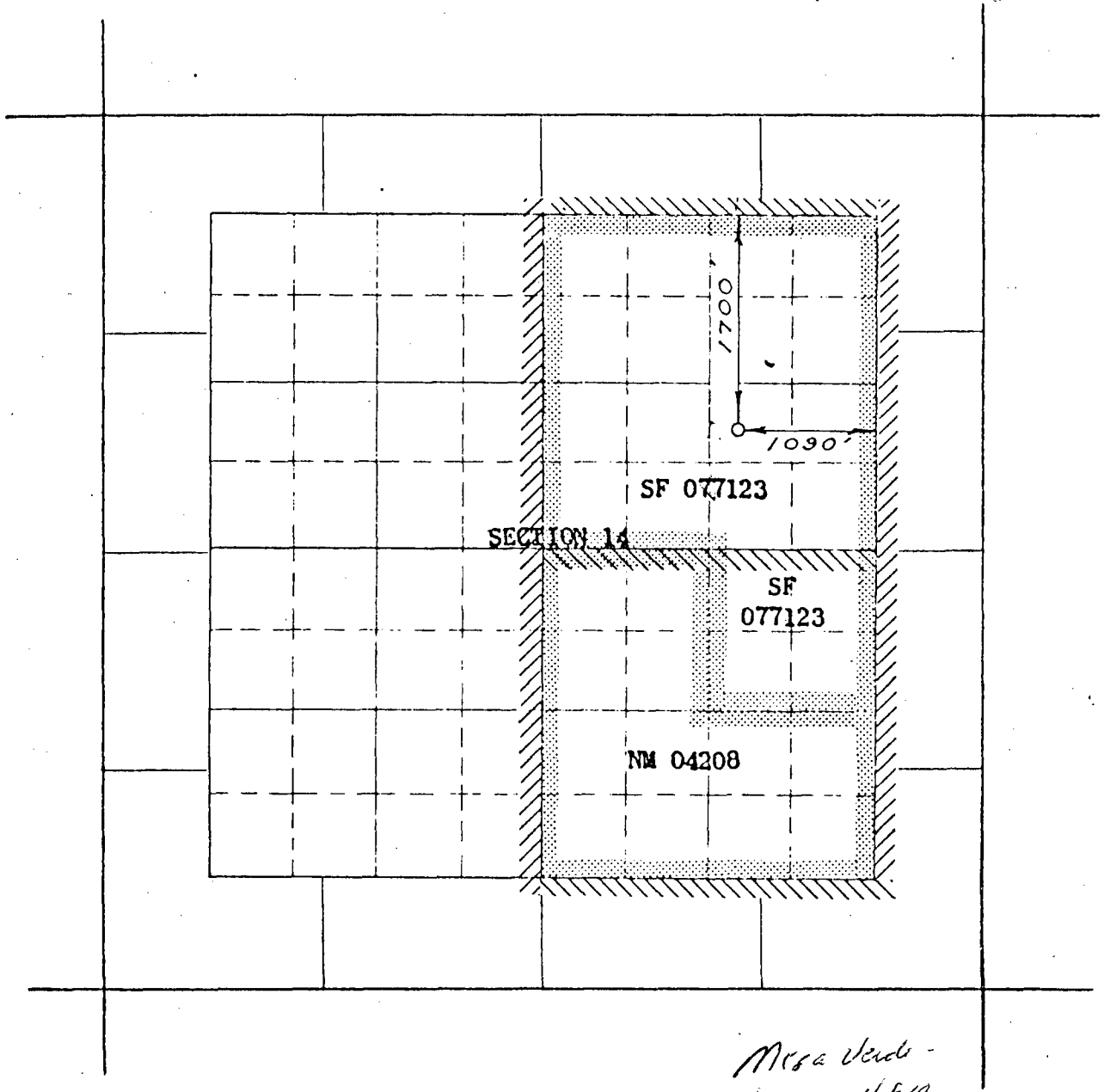

Mesa Verde -
4642 - 4810
D' - 490 Sept 12 1957
P.C.
3454-3490

REMARKS:

All offset acreage is owned by El Paso

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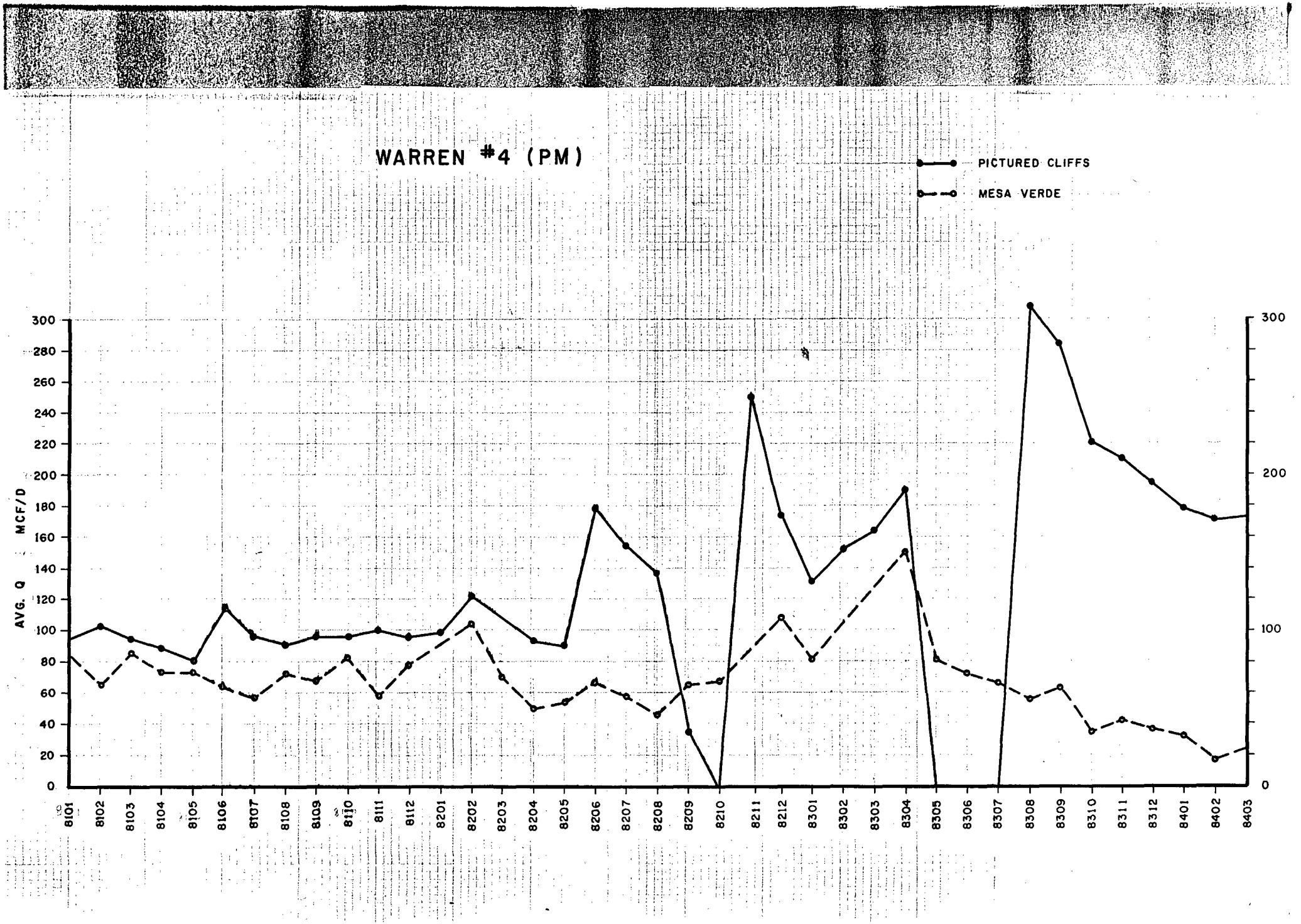
WARREN #4 (PM)
PICTURED CLIFFS
MESA VERDE
AVG. Q - MCF/D
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
8101
8102
8103
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NEW MEXICO OIL CONSERVATION COMMISSION

GAS – OIL RATIO TESTS

C-116
Revised 1-1-65

Operator	Pool	County
El Paso Natural Gas Company	Aztec Pictured Cliffs/Blanco Mesa Verde	San Juan

Address	TYPE OF TEST – (X)			
P.O. Box 4289, Farmington, NM 87499	Scheduled ☐	Completion ☐	Special ☒	

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS – OIL RATIO CU.FT./BBL.
Warren	4 (PC)	H	14	28	9	Average Production Rate 12 Months Prior to Packer Failure.					24	0		0	155	N/A
Warren	4 (MV)	H	14	28	9						24	0		0	76	N/A

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.

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

Scott H. Lindsay
(Signature)

Production Engineer
(Title)

8/31/84
(Date)

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 11, 1984

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

RECEIVED
SEP 13 1984
OIL CONSERVATION DIVISION

Gentlemen:

I have examined the application dated Sept. 10, 1984

for the El Paso Nat. Gas Co. Warren #4 H-14-28N-9W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank T. Chavez