AMERADA HESS CORPORATION

P. O. DRAWER "D"
MONUMENT, NEW MEXICO 88265

May 25, 1983

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

RE: Jicarilla Apache "A" #4, Sec. 26, T25N, R5W
Jicarilla Apache "F" #1, Sec. 17, T25N, R5W
Jicarilla Apache "F" #3, Sec. 18, T25N, R5W

Request to downhole commingle the S. Blanco Pictured Cliffs and Otero Chacra Gas zones

Dear Sir:

Amerada Hess Corporation is requesting approval for an exception to Rule 303-C to permit the downhole commingling of the Pictured Cliffs and Chacra gas zones in the wellbores of the Jicarilla Apache "A" #4, Jicarilla Apache "F" #1 and the Jicarilla Apache "F" #3, Permission to dually complete these wells was authorized by administrative orders R-890, MC-1789 and DC-716, respectively.

To aid in the removal of formation fluids from the Pictured Cliffs zone, 3/4" siphon strings are in place in the J. Apache "F" #1 and the "F" #3. These wells are blown down periodically in order to keep the casing side producing. As a result, production increases for a short period of time then decreases as wellbore fluids inhibit the flow of gas. The Pictured Cliffs in the J. Apache "A" #4 produces without a siphon string but the commingled pressures of both zones will more effectively lift fluids from the Chacra zone. Upon receiving approval to downhole commingle, the 3/4" siphon strings will be removed from these wells and they will be produced through a common string of production tubing set open-ended in the Chacra perforations.

Annual packer leakage tests were conducted on these wells in April of this year and the shut-in pressure data obtained from them was used to calculate bottom hole pressures. Calculations showed the formation pressures between zones to be as follows:

J. Apache "A" #4	P.C.	467 psia @ 3936'
	CH.	521 psia @ 3936'
J. Apache "F" #1	P.C.	409 psia @ 3647'
	CH.	342 psia @ 3647'
J. Apache "F" #3	P.C.	381 psia @ 3616'
	CH.	363 psia @ 3616'

Pressures were recorded after a five day buildup for the Pictured Cliffs and after a three day buildup for the Chacra. These surface pressures were then corrected to sand face pressures at common datums. It is evident that there will be no problems with crossflow between zones.

In 1977, Amerada Hess Corporation's Jicarilla Apache "A" #8 and the Jicarilla Apache "F" #12 were downhole commingled in the Pictured Cliffs and Chacra gas zones by administrative order R-5578. To date, there have been no indications of fluid incompatibility between the zones and therefore expect no problems of this nature when the J. Apache "A" #4 and the J. Apache Nos. 1 and 3 are downhole commingled.

The ownership of the zones to be commingled is common with respect to working interest, royalty and overriding royalty.

Presently, Amerada Hess is receiving $0.8070/MCF for the gas from the three subject wells, so, therefore, the value of the commingled production will not be less than the sum of the values of the individual streams.

Attached with this proposal are computations showing the production allocation to each zone in the three wells. Decline curves were used to get annual decline rates and these were used with an algebraic derivation to calculate allocation percentages. These percentages are:

J. Apache "A" #4	P.C.	45%
	CH.	55%

J. Apache "F" #1	P.C.	26%
	CH.	74%
J. Apache "F" #3	P.C.	34%
	CH.	66%

All offset operators as well as the Bureau of Land Management in Farmington, New Mexico, have been notified of this proposal by receipt of this recommendation. If you have any questions concerning this matter, please contact me.

Respectfully,

D.W. Holmes

D.W. Holmes
Petroleum Engineer

AMERADA HESS CORPORATION
Drawer "D"
Monument, New Mexico 88265

Phone: (505) 393-2883

Encl.

XC: Division Director (5)
District Office
Offset Operators
Bureau of Land Management (6)

DWH/car

OFFSET OPERATORS

AMOCO Production Company
501 Airport Drive
Farmington, New Mexico 87401

CONOCO, Inc.
501 Airport Drive
Farmington, New Mexico 87401

Energy Reserves Group, Inc.
P.O. Box 977
Farmington, New Mexico 87499

El Paso Natural Gas Company
P.O. Box 990
Farmington, New Mexico 87499

Getty Oil Company
P.O. Box 501
Farmington, New Mexico 87499

Union Texas Petroleum Corporation
P.O. Box 808
Farmington, New Mexico 87499

Western Oil and Minerals, LTD
3001 Northridge Drive
Farmington, New Mexico 87401

JICARILLA APACHE "A" #4

Allocation of Production to Each Zone

Decline Rate Computations:

Pictured Cliffs
Zone

qi = 1850 MCF/mo.
q = 1600 MCF/mo.
t = 4 years

$$a_n = \frac{\ln 1850/1600}{4}$$

$$a_{n_{(P.C.)}} = 0.03630/yr.$$

Chacra
Zone

qi = 2500 MCF/mo.
q = 1800 MCF/mo.
t = 4 years

$$a_n = \frac{\ln 2500/1800}{4}$$

$$a_{n_{(CH)}} = 0.08213/yr.$$

Pictured Cliffs/Chacra
Combined

qi = 4350/MCF mo.
q = 3400 MCF/mo.
t = 4 years

$$a_n = \frac{\ln 4350/3400}{4}$$

$$a_{n_{(COMB)}} = 0.06160/yr.$$

Actual Allocation:

X = Pictured Cliffs Allocation
X-1 = Chacra Allocation

$$0.06160 = (X)(0.03630) + (1-X)(0.08213)$$
$$0.06160 = (X)(0.03630) + (0.08213) - (X)(0.08213)$$
$$-0.02053 = (X)(-0.04583)$$

X = 0.44796
1-X = 0.55204

Therefore:

Pictured Cliffs Production Allocation = 45%
Chacra Production Allocation = 55%

Jicarilla Apache "F" #1

Allocation of Production to Each Zone

Decline Rate Computations:

Pictured Cliffs Zone

qi = 540 MCF/mo.
q = 500 MCF/mo.
t = 4 years

$$a_{n_{(PC)}} = \frac{\ln 540/500}{4}$$

$$a_{n_{(PC)}} = 0.01924/yr.$$

Chacra Zone

qi = 1600 MCF/mo.
q = 1400 MCF/mo.
t = 4 years

$$a_{n_{(CH)}} = \frac{\ln 1600/1400}{4}$$

$$a_{n_{(CH)}} = 0.03338/yr.$$

Pictured Cliffs/Chacra Combined

qi = 2140 MCF/mo.
q = 1900 MCF/mo.
t = 4 years

$$a_{n_{(COMB)}} = \frac{\ln 2140/1900}{4}$$

$$a_{n_{(COMB)}} = 0.02974/yr.$$

Actual Allocation:

X = Pictured Cliffs Allocation
1-X = Chacra Allocation

$$0.02974 = (X)(0.01924) + (1-X)(0.03338)$$
$$0.02974 = (X)(0.01924) + (0.03338) - (X)(0.03338)$$
$$-0.00364 = (X)(-0.01414)$$

X = 0.25743
1-X = 0.74257

Therefore:

Pictured Cliffs Production Allocation = 26%
Chacra Production Allocation = 74%

Jicarilla Apache "F" #3
Allocation of Production to Each Zone

Decline Rate Computations:

Pictured Cliffs
Zone

qi = 1300 MCF/mo.
q = 970 MCF/mo.
t = 4 years

$$a_n = \frac{\ln 1300/970}{4}$$

$$a_{n(PC)} = 0.07321/yr$$

Chacra
Zone

qi = 2600 MCF/mo.
q = 1750 MCF/mo.
t = 4 years

$$a_n = \frac{\ln 2600/1750}{4}$$

$$a_{n(CH)} = 0.09897/yr.$$

Pictured Cliffs/Chacra
Combined

qi = 3900 MCF/mo.
q = 2720 MCF/mo.
t = 4 years

$$a_n = \frac{\ln 3900/2720}{4}$$

$$a_{n(COMB)} = 0.09009/yr.$$

Actual Allocation:

X = Pictured Cliffs Allocation
1-X = Chacra Allocation

$$0.09009 = (X)(0.07321) + (1-X)(0.09897)$$
$$0.09009 = (X)(0.07321) + (0.09897) - (X)(0.09897)$$
$$-0.00888 = (X)(-0.02576)$$

X = 0.34472
1-X = 0.65528

Therefore:

Pictured Cliffs Production Allocation = 34%
Chacra Production Allocation = 66%

Equations Used:

Decline Rates

$$a_n = \frac{qi/q}{t}$$

a_n = nomical decline, per yr.
qi = initial flow rate, MCF/mo.
q = later flow rate, MCF/mo.
t = time between rates, yrs.

Allocation

$$a_{n\,(COMB)} = (X)(a_{n\,(PC)}) + (1-X)(a_{n\,(CH)})$$

$a_{n\,(COMB)}$ = combined decline rates
$a_{n\,(PC)}$ = Pictured Cliffs decline rate
$a_{n\,(CH)}$ = Chacra decline rate

CALCULATION OF STATIC BOTTOM-HOLE PRESSURES

Equation to be Used:

$$Psfs = Pwhs \times e^{C/\bar{z}}$$

Where: $C = \frac{(\gamma g)(TVD)}{53.34\ \bar{T}}$

Psfs = Static sandface pressure, psia
Pwhs = Static wellhead pressure, psia
e = 2.7183
γg = Gas gravity
TVD = True vertical depth, feet
$\bar{T}$ = Average temperature, °R
$\bar{z}$ = Average compressibility factor

Assumptions:

Patm = 12.2 psia
Temp. Grad. = 0.028 °F/ft.
Avg. Surf. Temp. = 60 °F

Jicarilla Apache "A" #4

Pictured Cliffs Zone:

P.C. $\gamma_g = 0.679$
Pwhs = 422 psia from pkr. leak. test
TVD = 3064'

$\bar{T} = (60 + 86)/2 = 73\ ^{\circ}F = 533\ ^{\circ}R$

$C = \dfrac{(0.679)(3064)}{53.34\ (533)} = 0.073$

Ppc = 670 psia
Tpc = 383 °R

Tr = 533/383 = 1.39

Assume: Psfs = 470 psia $\qquad \bar{p} = (470 + 422)/2 = 446$ psia

Pr = 446/670 = 0.67 $\quad \therefore \bar{z} = 0.912$

$Psfs = (422)\ e^{.073/.912} = 457$ psia

Assume: $\bar{p} = (457 + 422)/2 = 440$ psia

Pr = 440/670 = 0.66 $\quad \therefore \bar{z} = 0.913$

$Psfs = (422)e^{.073/.913} = 457$ psia

Psfs = 457 psia for Pictured Cliffs zone

Chacra Zone:

CH $\gamma_g = 0.664$
Pwhs = 472 psia from pkr. leak. test
TVD = 3936'

$\bar{T} = (60 + 110)/2 = 85\ ^{\circ}F = 545\ ^{\circ}R$

$C = \dfrac{(0.664)(3936)}{53.34\ (545)} = 0.090$

Ppc = 670 psia
Tpc = 379 °R

Tr = 545/379 = 1.44

J. Apache "A" #4 - Cont.

Assume: Psfs = 510 psia $\quad \bar{p} = (510 + 472)/2 = 491$ psia

$Pr = 491/670 = 0.73 \quad \therefore \bar{z} = 0.915$

$Psfs = (472)\, e^{.090/.915} = 521$ psia

Assume: $\bar{p} = (521 + 472)/2 = 497$ psia

$Pr = 497/670 = 0.74 \quad \therefore \bar{z} = 0.914$

$Psfs = (472)\, e^{.090/.914} = 521$ psia

Psfs = 521 psia for Chacra Zone

To correct P.C. press. to common datum of 3936':

$T = (86 + 110)/2 = 98\ ^{o}F = 558\ ^{o}R$

Ppc = 670 psia
Tpc = 383 ^{o}R $\quad Tr = 558/383 = 1.46$

$$C = \frac{(0.679)(872)}{53.34\ (558)} = 0.020$$

Assume: Psfs = 480 psia $\quad \bar{p} = (480 + 457)/2 = 469$ psia

$Pr = 469/670 = 0.70 \quad \therefore \bar{z} = 0.925$

$Psfs = (457)\, e^{.02/.925} = 467$ psia

Assume: $\bar{p} = (467 + 457)/2 = 462$ psia

$Pr = 462/670 = 0.69 \quad \therefore \bar{z} = 0.926$

$Psfs = (457)\, e^{.02/.926} = 467$ psia

Psfs = 467 psia for P.C. zone at common datum of 3936'

Pictured Cliffs SBHP at 3936' = 467 psia

Chacra SBHP at 3936' = 521 psia

Therefore:

No crossflow between zones will take place since the low pressure zone (467 psia) is greater than 50% of the high pressure zone (261 psia).

Jicarilla Apache "F" #1

Pictured Cliffs Zone:

P.C. $\gamma_g = 0.683$
Pwhs = 372 psia from pkr. leak. test
TVD = 2757'

$\bar{T} = (60 + 77)/2 = 69\ ^{\circ}F = 529\ ^{\circ}R$

$$C = \frac{(0.683)(2757)}{53.34\ (529)} = 0.067$$

Ppc = 669 psia
Tpc = 385 °R

Tr = 529/385 = 1.37

Assume: Psfs = 400 psia $\qquad \bar{p} = (400 + 372)/2 = 386$ psia

Pr = 386/669 = 0.58 $\qquad \therefore \bar{z} = 0.924$

$$Psfs = (372)\ e^{.067/.924} = 400 \text{ psia}$$

Psfs = 400 psia for Pictured Cliffs Zone

Chacra Zone:

CH $\gamma_g = 0.672$
Pwhs = 312 psia from pkr. leak. test
TVD = 3647'

$\bar{T} = (60 + 102)/2 = 81\ ^{\circ}F = 541\ ^{\circ}R$

$$C = \frac{(0.672)(3647)}{53.34\ (541)} = 0.085$$

Ppc = 669 psia
Tpc = 380 °R

J. Apache "F" #1 - Cont.

$Tr = 541/380 = 1.42$

Assume: $Psfs = 345$ psia $\qquad \bar{p} = (345 + 312)/2 = 329$ psia

$Pr = 329/669 = 0.49 \qquad \therefore \bar{z} = 0.940$

$$Psfs = (312)\, e^{.085/.940} = 342 \text{ psia}$$

Psfs = 342 psia for Chacra Zone

To correct P.C. press. to common datum of 3647':

$\bar{T} = (77 + 102)/2 = 90\ ^{o}F = 550\ ^{o}R$

$Ppc = 669$ psia
$Tpc = 385\ ^{o}R$

$Tr = 550/385 = 1.43$

$$C = \frac{(0.683)(890)}{53.34\ (550)} = 0.021$$

Assume: $Psfs = 410$ psia $\qquad \bar{p}\ (410 + 400)/2 = 405$ psia

$Pr = 405/669 = 0.61 \qquad \therefore \bar{z} = 0.930$

$$Psfs = (400)\, e^{.021/.930} = 409 \text{ psia}$$

Psfs = 409 psia for P.C. zone at common datum of 3647'

Pictured Cliffs SBHP at 3647' = 409 psia

Chacra SBHP at 3647' = 342 psia

Therefore:

No crossflow between zones will take place since the low pressure zone (342 psia) is greater than 50% of the high pressure zone (205 psia).

Jicarilla Apache "F" #3

Pictured Cliffs Zone:

P.C. $\gamma_g = 0.685$
Pwhs = 347 psia from pkr. leak. test
TVD = 2770'

$\bar{T} = (60 + 78)/2 = 69\ ^{\circ}F = 529\ ^{\circ}R$

$C = \frac{(0.685)(2770)}{53.34\ (529)} = 0.067$

Ppc = 669 psia
Tpc = 385 $^{\circ}R$

Tr = 529/385 = 1.37

Assume: Psfs = 375 psia $\qquad \bar{p}\ (375 + 347)/2 = 361$ psia

Pr = 361/669 = 0.54 $\qquad \therefore \bar{z} = 0.927$

$Psfs = (347)\ e^{.067/.927} = 373$ psia

Psfs = 373 psia for Pictured Cliffs Zone

Chacra Zone:

CH $\gamma_g = 0.675$
Pwhs = 332 psia from pkr. leak. test
TVD = 3616'

$\bar{T} = (60 + 101)/2 = 81\ ^{\circ}F = 541\ ^{\circ}R$

$C = \frac{(0.675)(3616)}{53.34\ (541)} = 0.085$

Ppc = 669 psia
Tpc = 380 $^{\circ}R$ $\qquad$ Tr = 541/380 = 1.42

Assume: Psfs = 355 psia $\qquad \bar{p} = (355 + 332)/2 = 344$ psia

Pr = 344/669 = 0.51 $\qquad \therefore \bar{z} = 0.940$

$Psfs = (332)\ e^{.085/.940} = 363$ psia

J. Apache "F" #3 - Cont.

Assume: $\bar{p} = (363 + 332)/2 = 348$ psia

$Pr = 348/669 = 0.52 \qquad \therefore \bar{z} = 0.939$

$Psfs = (332)\, e^{.085/.939} = 363$ psia

Psfs = 363 psia for Chacra Zone

To correct P.C. press. to common datum of 3616':

$\bar{T} = (78 + 101)/2 = 90\ ^{\circ}F = 550\ ^{\circ}R$

Ppc = 669 psia
Tpc = 385 °R

$Tr = 550/385 = 1.43$

$c = \dfrac{(0.685)(846)}{53.34\ (550)} = 0.020$

Assume: Psfs = 383 psia $\qquad \bar{p} = (383 + 373)/2 = 378$ psia

$Pr = 378/669 = 0.57 \qquad \therefore \bar{z} = 0.933$

$Psfs = (373)\, e^{.020/.933} = 381$ psia

Psfs = 381 psia for P.C. zone at common datum of 3616'

Pictured Cliffs SBHP at 3616' = 381 psia
Chacra SBHP at 3616' = 363 psia

Therefore:

No crossflow between zones will take place since the low pressure zone (363 psia) is greater than 50% of the high pressure zone (191 psia).

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-116
Revised 10-1-78

GAS-OIL RATIO TESTS

Operator: AMERADA HESS CORPORATION
Pool: S. Blanco Pictured Cliffs
County: Rio Arriba
Address: Drawer "D", Monument, New Mexico 88265
TYPE OF TEST - (X): Scheduled [ ] Completion [ ] Special [X]

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
Jicarilla Apache "A"	4	P	26	25	5	5-21-83	F	--	180	--	24	0	--	0	53	---
Jicarilla Apache "F"	1	J	17	25	5	5-21-83	F	--	170	--	24	0	--	0	18	---
Jicarilla Apache "F"	3	D	18	25	5	5-21-83	F	--	200	--	24	0	--	0	37	---

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 0.60.

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 Division in accordance with Rule 301 and appropriate pool rules.

I hereby certify that the above informat is true and complete to the best of my kn ledge and belief.

D. W. Holmes
(Signature)
Petroleum Engineer
(Title)
May 24, 1983
(Date)

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-116
Revised 10-1-78

GAS - OIL RATIO TESTS

Operator: AMERADA HESS CORPORATION | Pool: Otero Chacra | County: Rio Arriba

Address: Drawer "D", Monument, New Mexico 88265 | TYPE OF TEST - (X) | Scheduled ☐ | Completion ☐ | Special ☒

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS - OIL RATIO CU.FT/BBL
Jicarilla Apache "A"	4	P	26	25	5	5-21-83	F	--	170	--	24	0	--	0	90	---
Jicarilla Apache "F"	1	J	17	25	5	5-21-83	F	--	180	--	24	0	--	0	35	---
Jicarilla Apache "F"	3	D	18	25	5	5-21-83	F	--	200	--	24	0	--	0	92	---

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.

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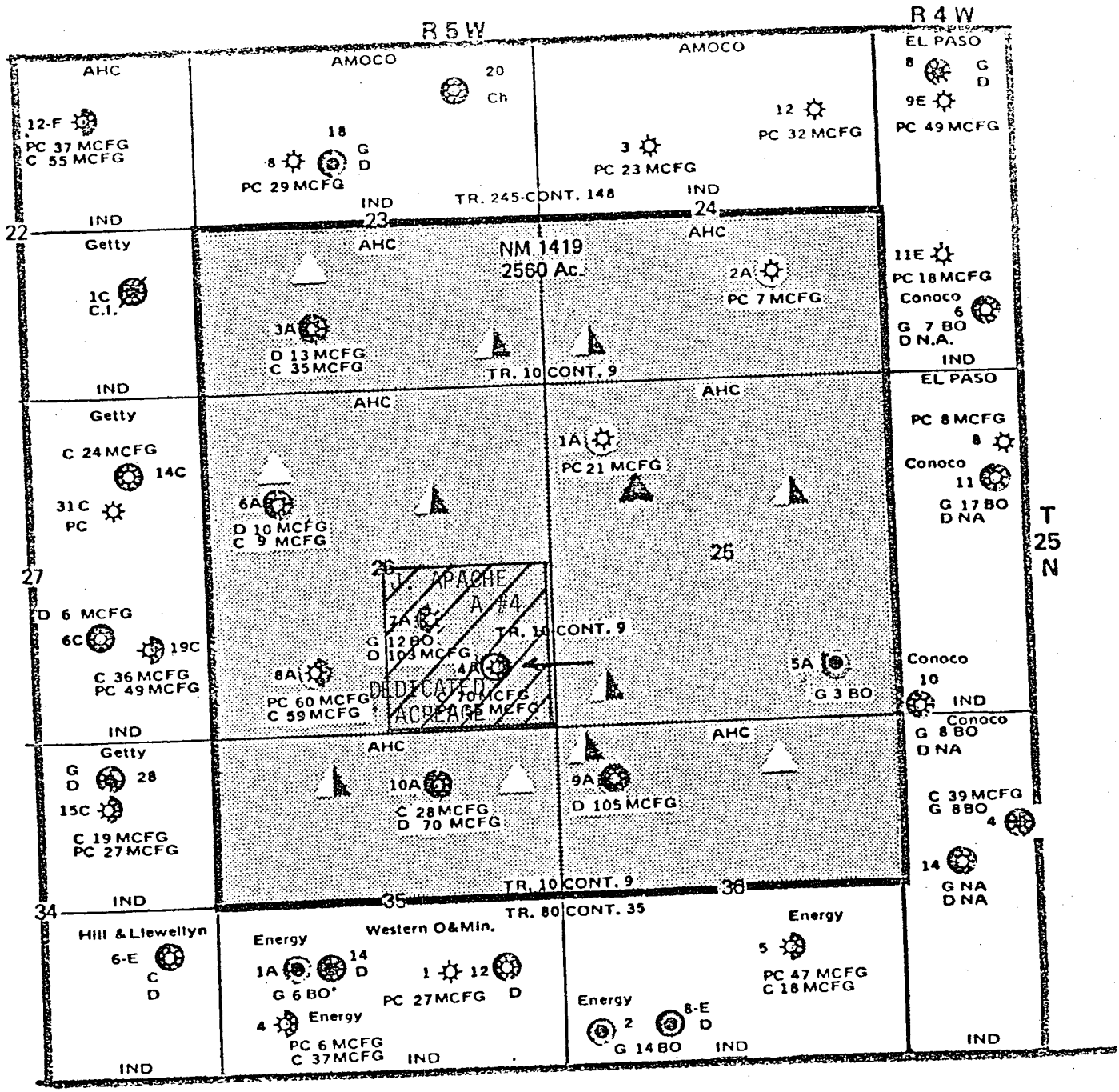
I hereby certify that the above informati
is true and complete to the best of my kno
ledge and belief.

D. W. Holmes
(Signature)

Petroleum Engineer
(Title)

May 24, 1983
(Date)



LOCATION MAP

LEGEND

- AHC
- Pictured Cliffs
- Chacra
- Gallup
- Dakota/Graneros
- Dual Completion (Zones as color coded)
- Lease Outline
- Offsetting Wells Outline
- Proposed Wells

TYPE OF OWNERSHIP

Ind. - Jicarilla Apache
Fed. - Federal
St. - State

TULSA EXPLORATION REGION

JICARILLA APACHE "A"

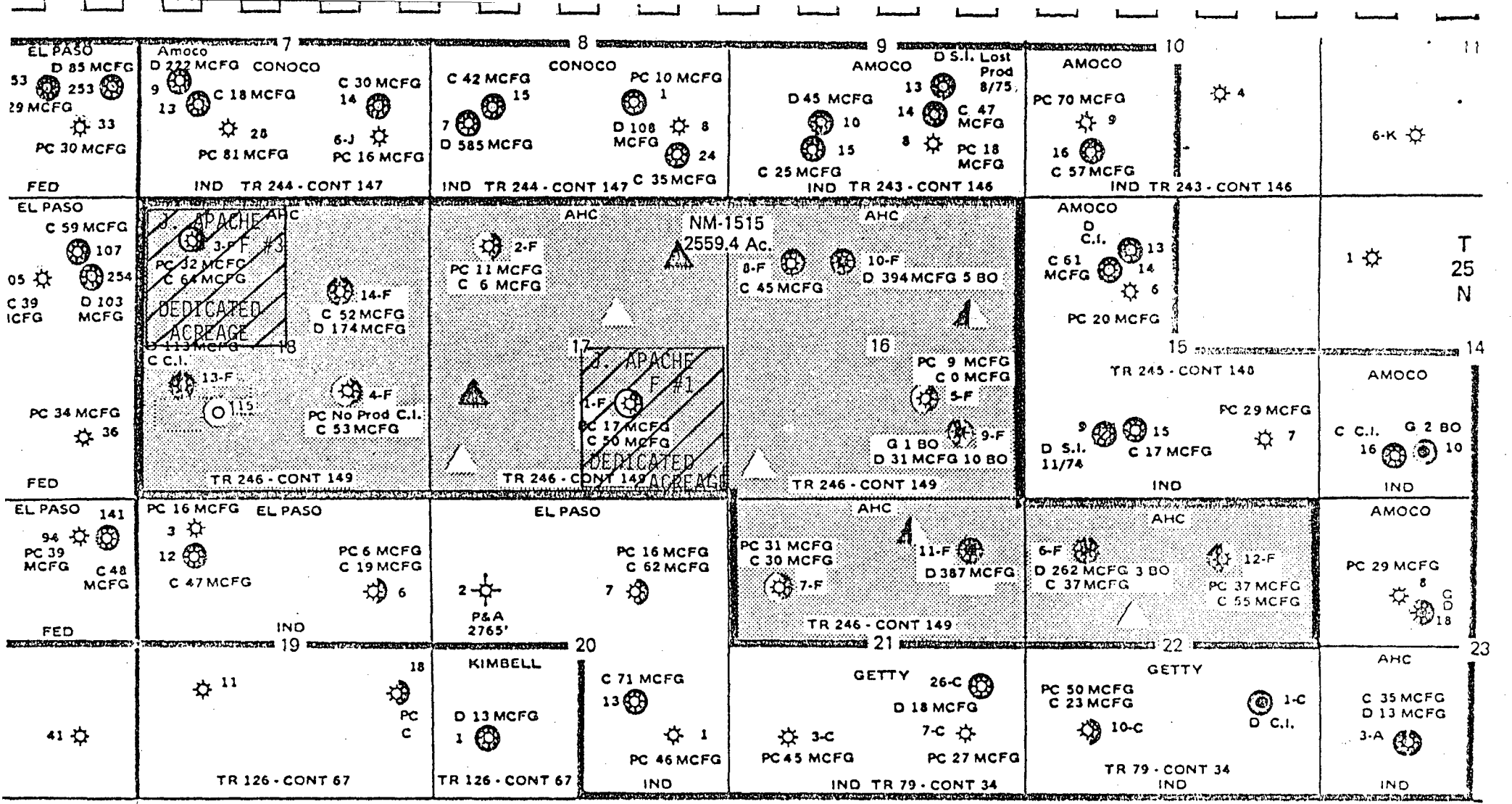
Rio Arriba County, New Mexico

AMERADA HESS

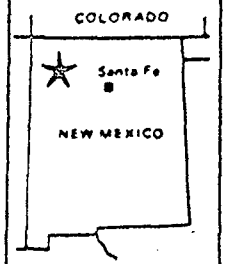
CONTRACT NO. 9 LEASE N M-1419

0 1/2 1

Volumes indicate average daily production for 1st half of 1981.



LOCATION MAP



LEGEND

- AHC
- Pictured Cliffs
- Chacra
- Gallup
- Dakota/Graneros
- Dual Completion (Zones as color coded)
- Lease Outline
- Offsetting wells Outline
- Proposed Wells

TYPE OF OWNERSHIP

Ind. - Jicarilla Apache
Fed. - Federal
St. - State

TULSA EXPLORATION REGION

JICARILLA APACHE "F"

Rio Arriba County, New Mexico

AMERADA HESS

CONTRACT NO. 149, LEASE NM-1515

0 1/2 1 Mile

Volumes indicate average daily production for 1st half of 1981.

PRODUCTION PLOT

ANEP-CODE-B

DATA CODES
OIL = ⓘ
GAS = ⧖
WTR = ✳

CUMULATIVES:
OIL MBBLS
GAS MMCF 574.4 602.2 629.9 654.4 671.7 675.2
WTR MBBLS 0.2 0.2 0.2 0.2 0.2 0.2

STATUS:
41 ON 1 /1 /83

100000
60000
30000
10000
6000
3000
1000
600
300
100

GAS MCF/MO

OIL BBL/MO

q_i = 2500 MCF/mo.

q_i = 1800 MCF/mo.

MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC

19 78 19 79 19 80 19 81 19 82 19 83 19 84 19 85

REGION: SOUTHWEST REGIO FIELD: OTERO FIELD POOL: /CHACRA/

LEASE: 00092 JICARILLA APACH WELL: A 41

PRODUCTION PLOT

AHEP-5085-B

DATA CODES
OIL = ⊙
GAS = ⧖
WTR = ✳

CUMULATIVES:
OIL MBBLS
GAS MMCF 592.0 613.5 634.6 654.5 669.8 682.9
WTR MBBLS 0.2 0.2 0.2 0.2 0.2 0.2

STATUS:
41 ON 1 /1 /83

100000
60000
30000
10000
6000
3000
1000
600
300
100

WTR BBL/MO
GAS MCF/MO
OIL BBL/MO

q_i = 1850 MCF/mo.

q = 1600 MCF/mo.

MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP DEC MAR JUN SEP

19 78 19 79 19 80 19 81 19 82 19 83 19 84 19 85

REGION: SOUTHWEST REGIO FIELD: OTERO FIELD POOL: /PICTURED CLIFFS/

LEASE: 00092 JICARILLA APACH WELL: A 43

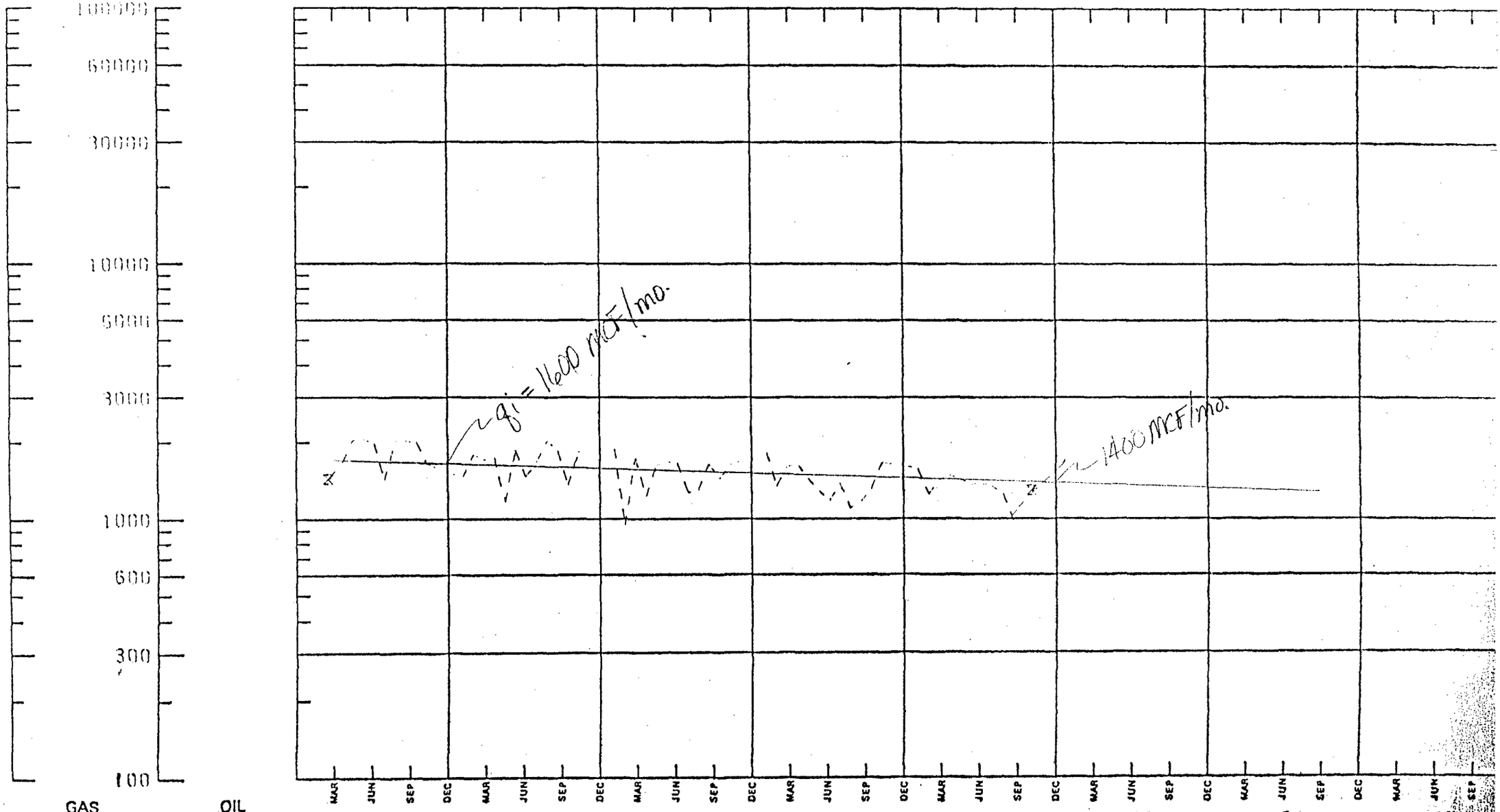
PRODUCTION PLOT

AMEP-5005-B

DATA CODES
OIL = ⏀
GAS = ⧖
WTR = ✳

CUMULATIVES:
OIL MBBLS
GAS MMCF 1224.8 1244.5 1263.7 1279.5 1294.5 1297.2
WTR MBBLS 0.2 0.2 0.2 0.2 0.2 0.2

STATUS:
41 ON 1 /1 /83



WTR BBL/MO
GAS MCF/MO
OIL BBL/MO

REGION: SOUTHWEST REGIO
FIELD: OTERO FIELD
POOL: /CHACRA/

LEASE: 00095 JICARILLA APACH
WELL: F # 11

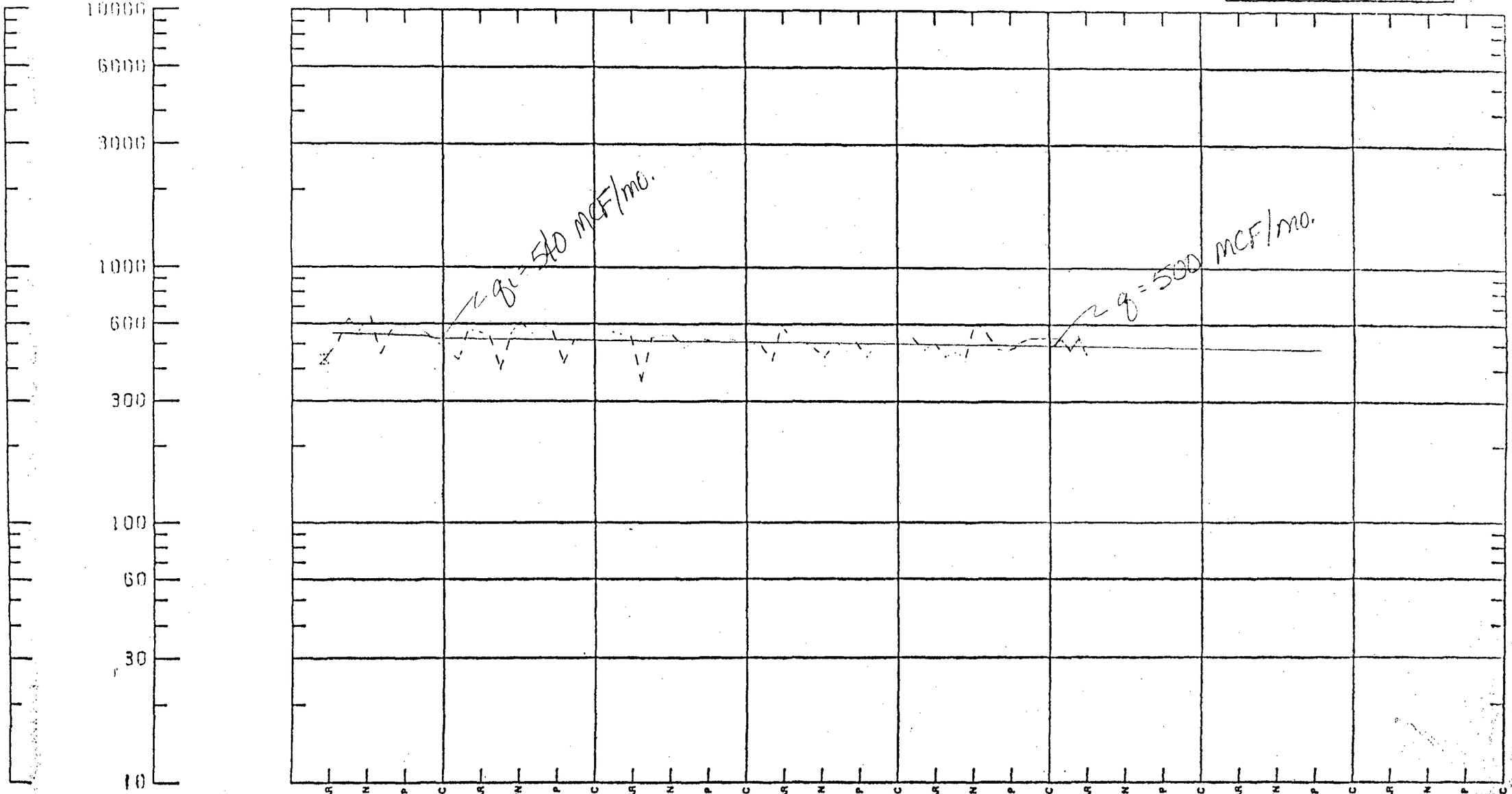
PRODUCTION PLOT

AHEP-5005-B

DATA CODES
OIL = ⏲
GAS = ⧖
WTR = ※

CUMULATIVES:
OIL MBBLS
GAS MMCF 223.5 229.8 235.9 241.8 247.7 248.8
WTR MBBLS 0.9 0.9 0.9 0.9 0.9 0.9

STATUS:
41 ON 6 /25/82



WTR BBL/MO
GAS MCF/MO
OIL BBL/MO

REGION: SOUTHWEST REGIO
FIELD: OTERO FIELD
POOL: /PICTURED CLIFFS/

LEASE: 00095 JICARILLA APACH
WELL: F#12

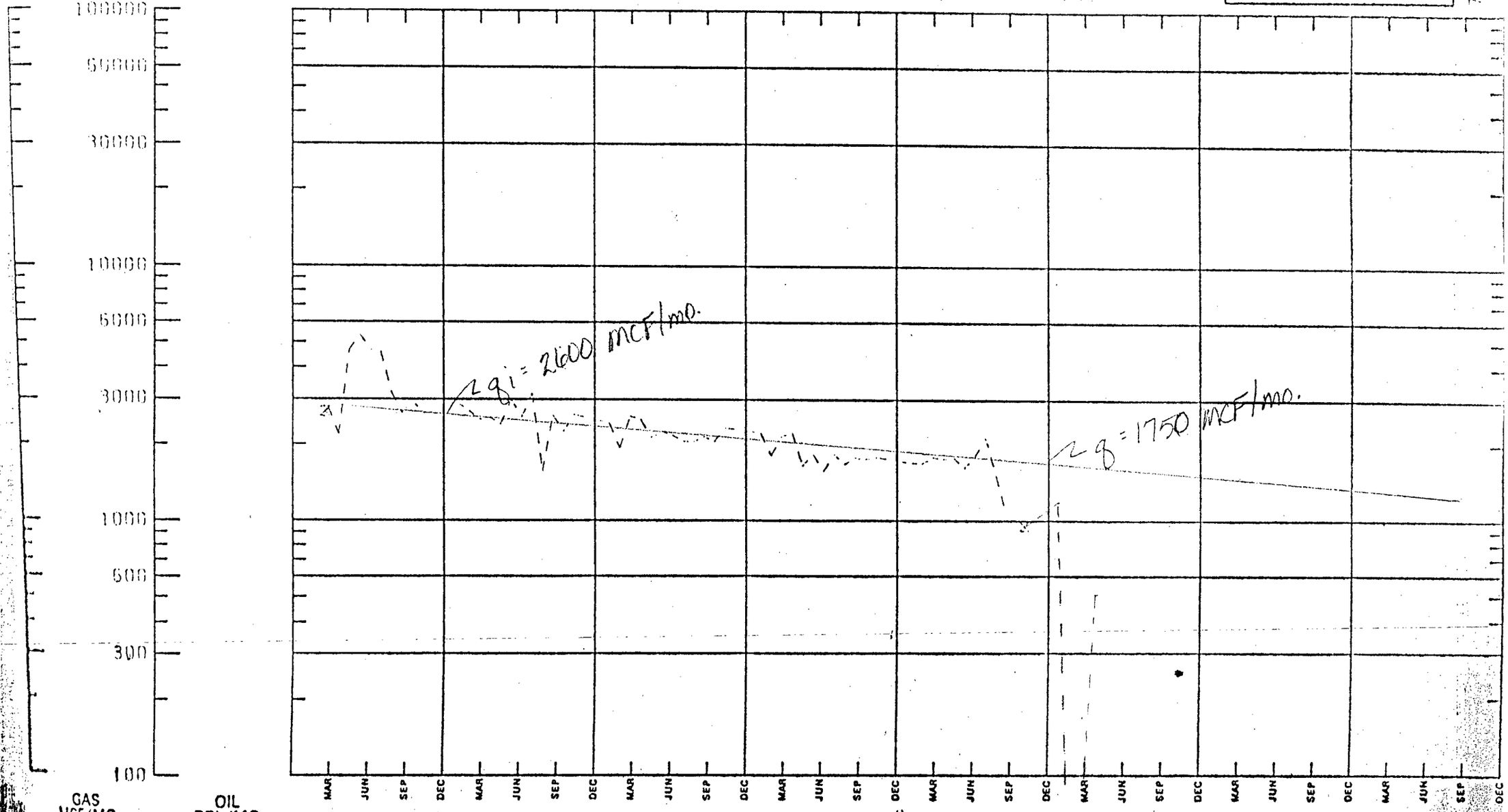
PRODUCTION PLOT

AHCP-5003-B

DATA CODES
OIL = ⏲
GAS = ⧖
WTR = ✳

CUMULATIVES:
OIL MBBLS
GAS MMCF 2818.2 2848.7 2875.3 2897.8 2916.2 2918.2
WTR MBBLS 0.1 0.1 0.1 0.1 0.1 0.1

STATUS:
41R ON 1 /18/83



REGION: SOUTHWEST REGIO
FIELD: OTERO FIELD
POOL: /CHACRA/

LEASE: 00095 JICARILLA APACH
WELL: F # 31

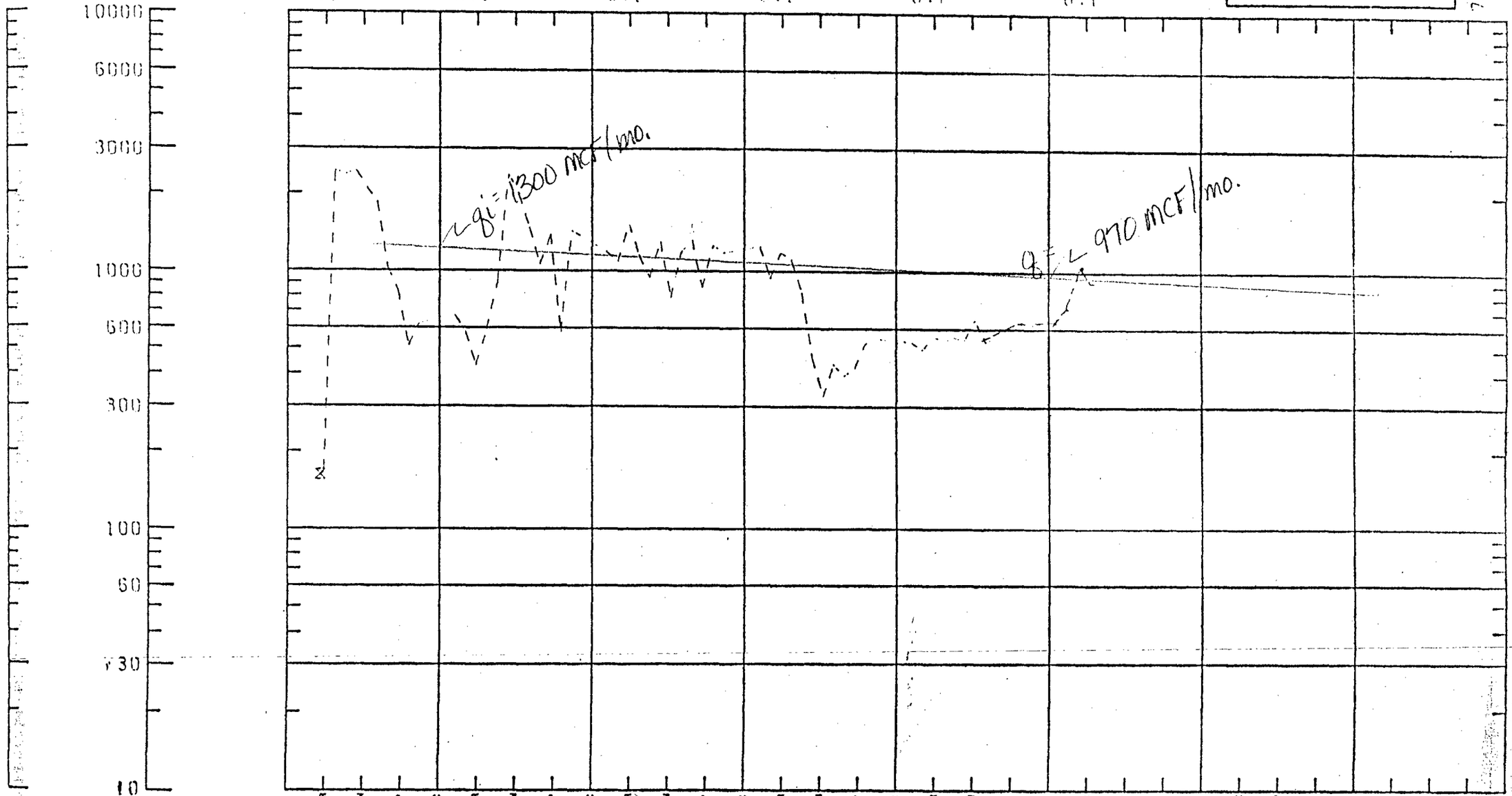
DATA CODES
GR = ⏲
GAS = ⧖
WTR = ✳

PRODUCTION PLOT

AHEP-5005-B

CUMULATIVES:
OIL MBBLS
GAS MMCF 366.0 398.9 413.1 422.2 429.1 436.4
WTR MBBLS 0.1 0.1 0.1 0.1 0.1 0.1

STATUS:
41 ON 10/21/82



GAS MCF/MO

OIL BBL/MO

REGION: SOUTHWEST REGIO

FIELD: OTERO FIELD

POOL: /PICTURED CLIFFS/

LEASE: 00095 JICARILLA APACH

WELL: F #32