

4/30/01	5/21/01	DC	KN	AMEND DHC 2360 112152280
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

- [NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
 [DD-Directional Drilling] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

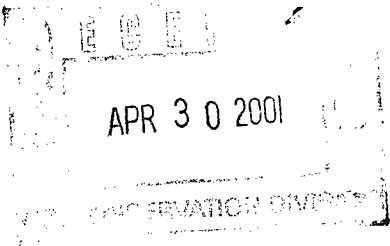
[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Directional Drilling
☐ NSL ☐ NSP ☐ DD ☐ SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
☒ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR



[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
 [B] ☒ Offset Operators, Leaseholders or Surface Owner
 [C] ☐ Application is One Which Requires Published Legal Notice
 [D] ☒ Notification and/or Concurrent Approval by BLM or SLO
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
 [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
 [F] ☐ Waivers are Attached

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, LI, ORRI) is common. I further verify that all applicable API Numbers are included. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity

<u>Gary Brink</u> Print or Type Name	<u>[Signature]</u> Signature	<u>Production Spt.</u> Title	<u>4/25/01</u> Date
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April 25, 2001

Ms. Lori Wrotenbery
NMOCD
2040 South Pacheco
Santa Fe, New Mexico 87505

RE: Administrative Approval to Downhole Commingle
Energen Resources Corporation
Jicarilla 117E 3A
1700' FNL, 800' FWL, Sec. 34, T26N, R3W, N.M.P.M.
Rio Arriba County, New Mexico
API # 30-039-25964

Dear Ms. Wrotenbery:

Energen Resources Corporation requests Administrative Approval to add the Tapacito Pictured Cliffs and downhole commingle it with the Blanco Mesa Verde/ NE Ojito Gallup-Dakota in the subject well. The Mesa Verde/ Gallup-Dakota was previously commingled in accordance with DHC-2360. Open hole log results show potential in the Pictured Cliffs Formation similar to offset producing wells. Since the Pictured Cliffs is marginal in this area, it is felt that commingling is the most economical way to produce the Pictured Cliffs reserves in this proration unit.

To comply with New Mexico Oil Conservation Rules, Energen Resources Corporation, is submitting the following data for your approval of the proposed commingling:

1. For C107A – Application for Downhole Commingle
2. C102 – Location plat showing each spacing unit and dedicated acreage
3. Production type curves for both the Pictured Cliffs, Mesa Verde, Gallup - Dakota
4. Offset operator plat
5. Well location plat
6. Proposed allocation method
7. Supporting pressure Data

In accordance with New Mexico Oil Conservation Division Rule 303C, all offset operators are being notified of this application by certified mail. As an offset operator, if you have no objection to this application, you do not have to respond to this notification.

If additional information is needed, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary W. Brink", written over a horizontal line.

Gary W. Brink
Production Superintendent

GWB/vd

cc: NMOCD – Aztec, BLM – Albuquerque, Offset Operators

DISTRICT I

1625 N. French Dr., Hobbs, NM 88240

DISTRICT II

811 S. First St., Artesia, NM 88210-2835

DISTRICT III

1000 Rio Brazos Rd, Aztec, NM 87410-1693

DISTRICT IV

2040 S. Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 875054-6429

Form C-107-A

Revised March 17, 1999

APPROVAL PROCESS:

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

ENERGEN RESOURCES CORPORATION
Operator2198 Bloomfield Highway, Farmington, NM 87401
Address

Jicarilla 117E

3A

E

34

26N

3W

Rio Arriba

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 162928 Property Code 21928 API NO. 30-039-25964

Federal ☒ State ☐ (and/or) Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Tapacito PC 85920	Blanco MV 72319	NE Ojito GL-DK 48025
2. Top and Bottom of Pay Section (Perforations)	4070-4110'	6210-6336'	7345 - 8109'
3. Type of production (Oil or Gas)	Gas	Gas	Oil
4. Method of Production (Flowing or Artificial Lift)	Flowing	Flowing	Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a. (Current) Not Completed b. (Original) 1110 Est.	a. 467 Calc. b. 1008 Calc.	a. 467 Calc. b. 1146 Calc.
6. Oil Gravity (° API) or Gas BTU Content)	1200 BTU Est.	1220 BTU	47 Degrees API
7. Producing or Shut-In?	Not Completed	Producing	Producing
Production Marginal? (yes or no)	Yes	Yes	Yes
* If Shut-In, give date and oil/gas/water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: Rates:	Date: Rates:	Date: Rates:
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: Rates: Not Completed	Date: 4/08/01 Rates: .7/54/.2	Date: 4/08/01 Rates: .8/6/0
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Oil: See % Gas: Attached %	Oil: % Gas: %	Oil: % Gas: %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.
10. Are all working, overriding, and royalty interests identical in all commingled zones? ☒ Yes ☐ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ☐ Yes ☐ No
Have all offset operators been given written notice of the proposed downhole commingling? ☒ Yes ☐ No
11. Will cross-flow occur? ☐ Yes ☒ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ☐ Yes ☐ No (If No, attach explanation)
12. Are all produced fluids from all commingled zones compatible with each other? ☒ Yes ☐ No
13. Will the value of production be decreased by commingling? ☐ Yes ☒ No (If Yes, attach explanation)
14. If this well in on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. ☒ Yes ☐ No
15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). _____
16. ATTACHMENTS:
 * C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
 * Production curve for each zone for at least one year. (If not available, attach explanation.)
 * For zones with no production history, estimated production rates and supporting data.
 * Data to support allocation method or formula.
 * Notification list of all offset operators.
 * Notification list of working, overriding, and royalty interests for uncommon interest cases.
 * Any additional statements, data, or documents required to support commingling.

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

SIGNATURE

TITLE Prod. Superintendent

DATE 4/25/01

TYPE OR PRINT NAME Gary W. Brink

TELEPHONE NO(505) 325-6800

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994

Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

* API Number 30-039-25964		* Pool Code 85920/72319/48025	* Pool Name Tapacito PC/Blanco MV/NE Ojito GL-DK
* Property Code 21943	* Property Name JICARILLA 117E		* Well Number 3A
* OGRID No. 162928	* Operator Name Energen Resources Corp.		* Elevation 7475

¹⁰ Surface Location

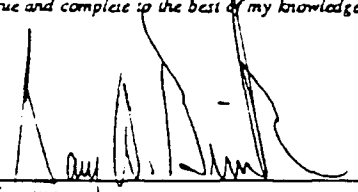

UL or lot no. E	Section 34	Township 26N	Range 3W	Lot/Idn	Feet from the 1700	North/South line NORTH	Feet from the 800	East/West line WEST	County RIO ARriba
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot/Idn	Feet from the	North/South line	Feet from the	East/West line	County
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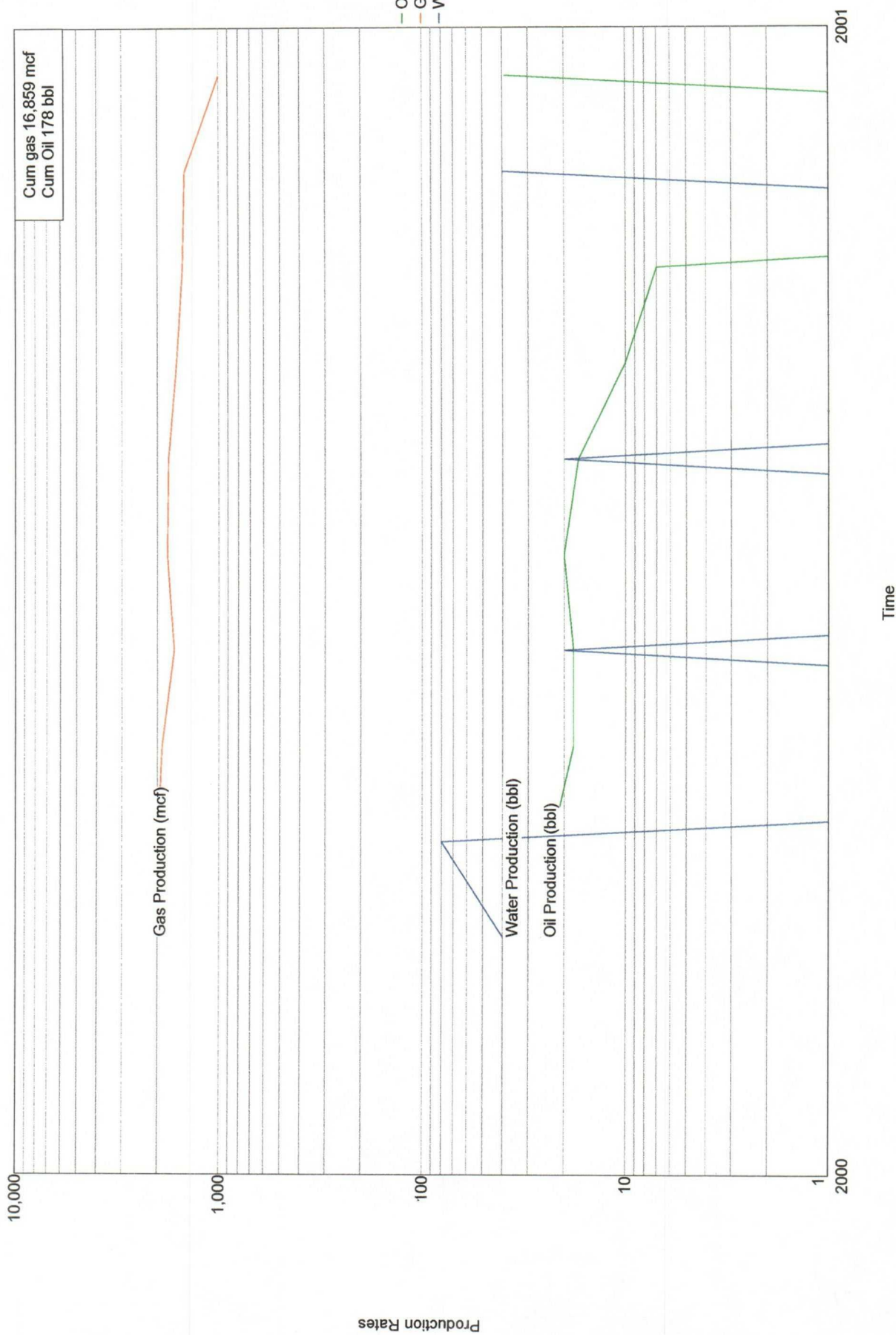
¹² Dedicated Acres 320/160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

5280.0'	5280.0'		¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  Signature Gary W. Brink Printed Name Production Superintendent Title Date	
	5280.0'		¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 6-10-98 Date of Survey Signature and Seal of Professional Surveyor:  Certificate Number	
	5280.0'			

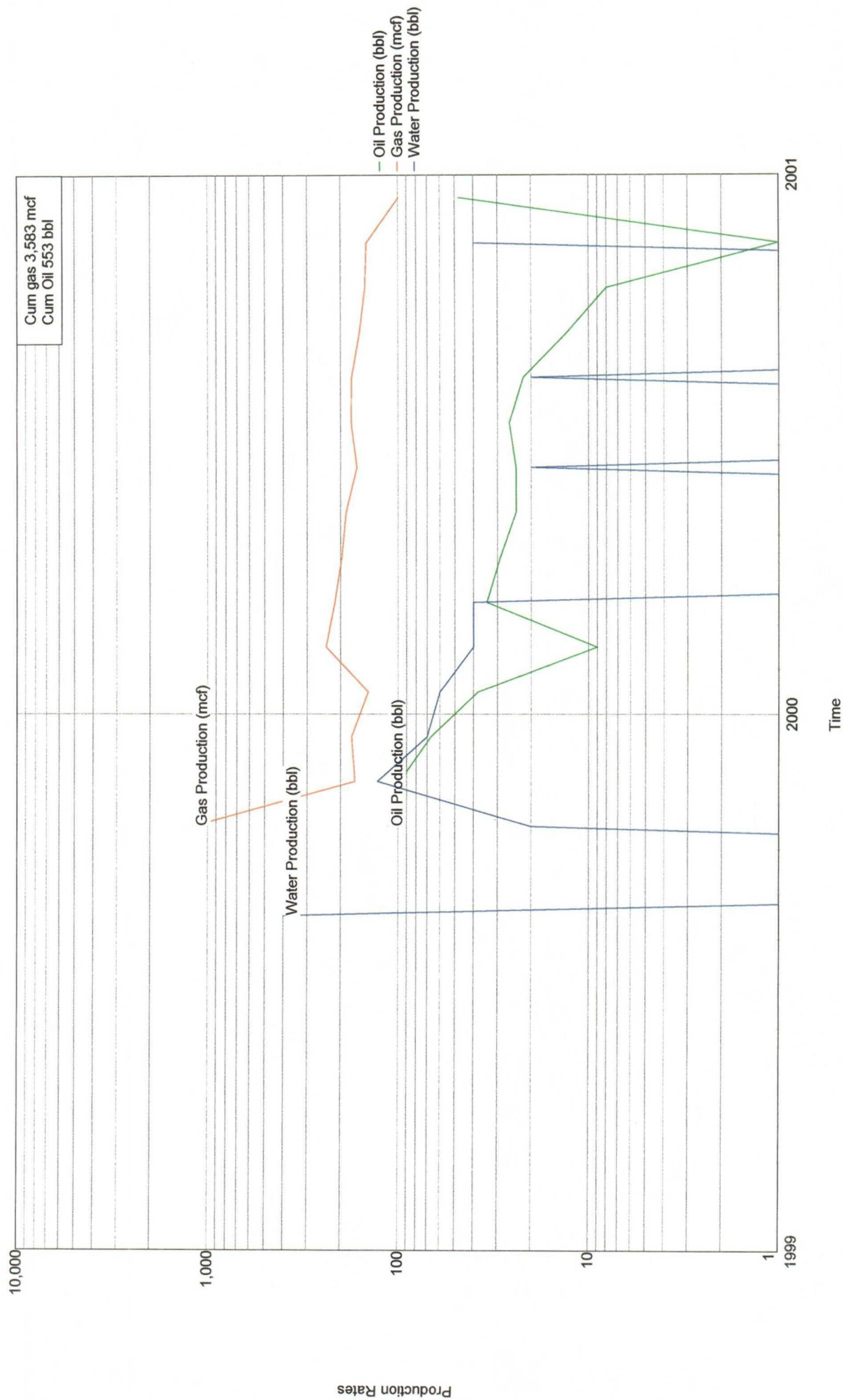
Lease Name: JICARILLA 117 E
 County, State: RIO ARBA, NM
 Operator: TAURUS EXPLORATION USA INCORPORATED
 Field: BLANCO
 Reservoir: MESAVERDE
 Location: 34 26N 3W NE SW NW

Jicarilla 117E 3A



Lease Name: JICARILLA 117 E
 County, State: RIO ARBA, NM
 Operator: TAURUS EXPLORATION USA INCORPORATED
 Field: OJITO NORTHEAST
 Reservoir: GALLUP DAKOTA
 Location: 34 26N 3W NE SW NW

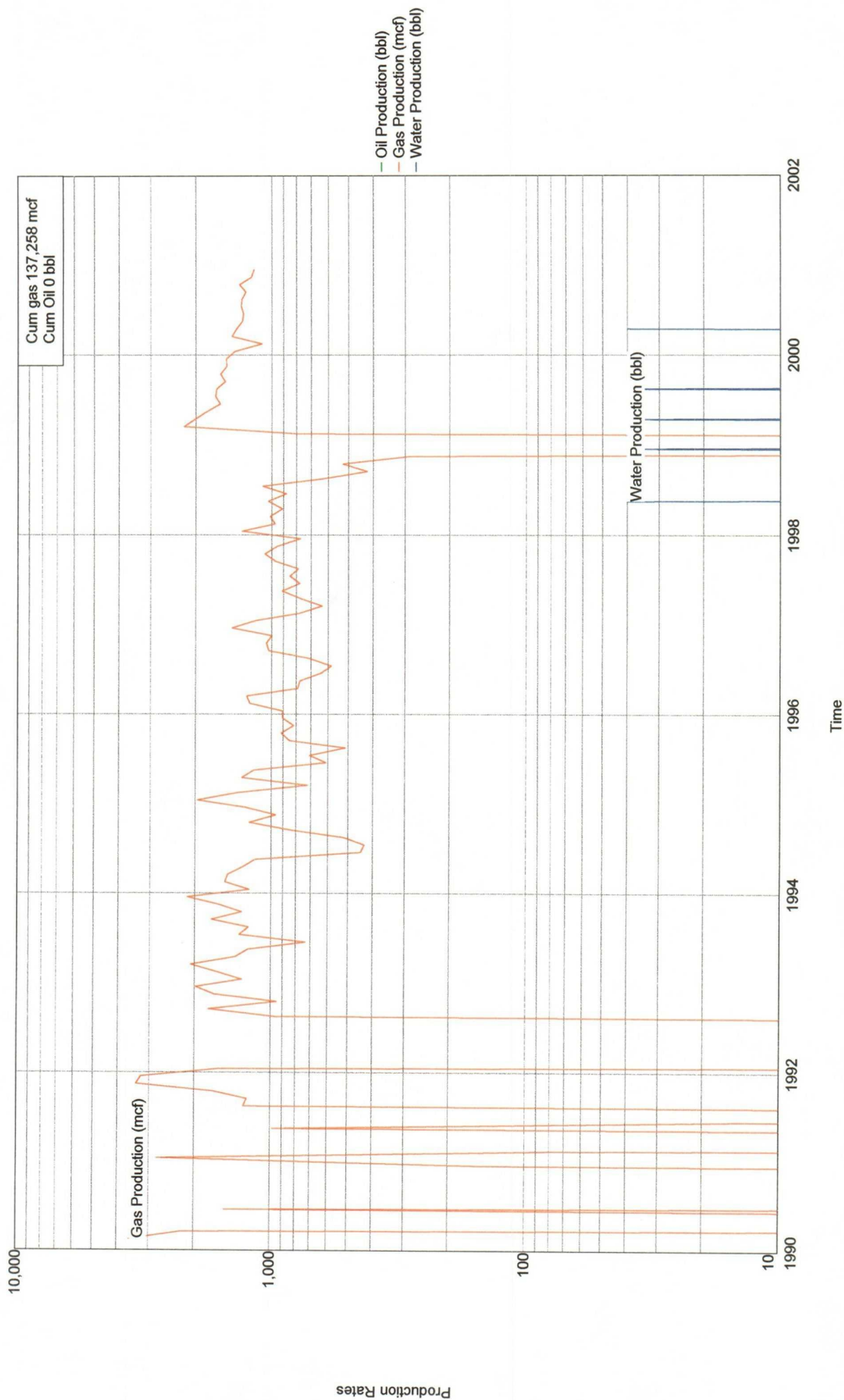
Jicarilla 117E 3A



Lease Name: JICARILLA 117 E
 County, State: RIO ARBA, NM
 Operator: TAURUS EXPLORATION USA INCORPORATED
 Field: TAPACITO
 Reservoir: PICTURED CLIFFS
 Location: 33 26N 3W SW NE NW

Offset Type Curve

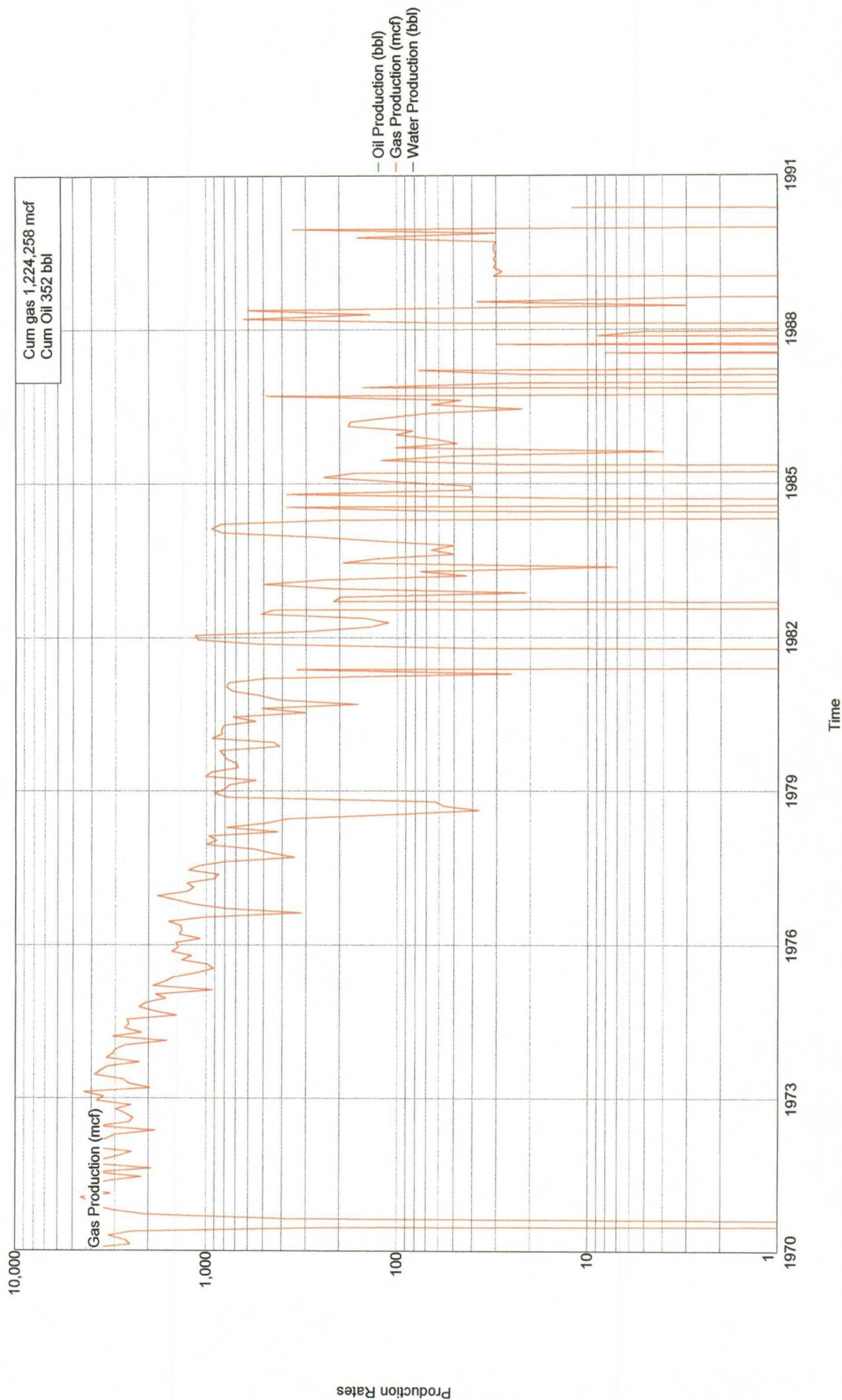
Jicarilla 117E 9A



Lease Name: JICARILLA 117 E
County, State: RIO ARBA, NM
Operator: BURLINGTON RESOURCES OIL & GAS COMPA
Field: TAPACITO
Reservoir: PICTURED CLIFFS
Location: 33 26N 3W NW SE SW

Offset Type Curve

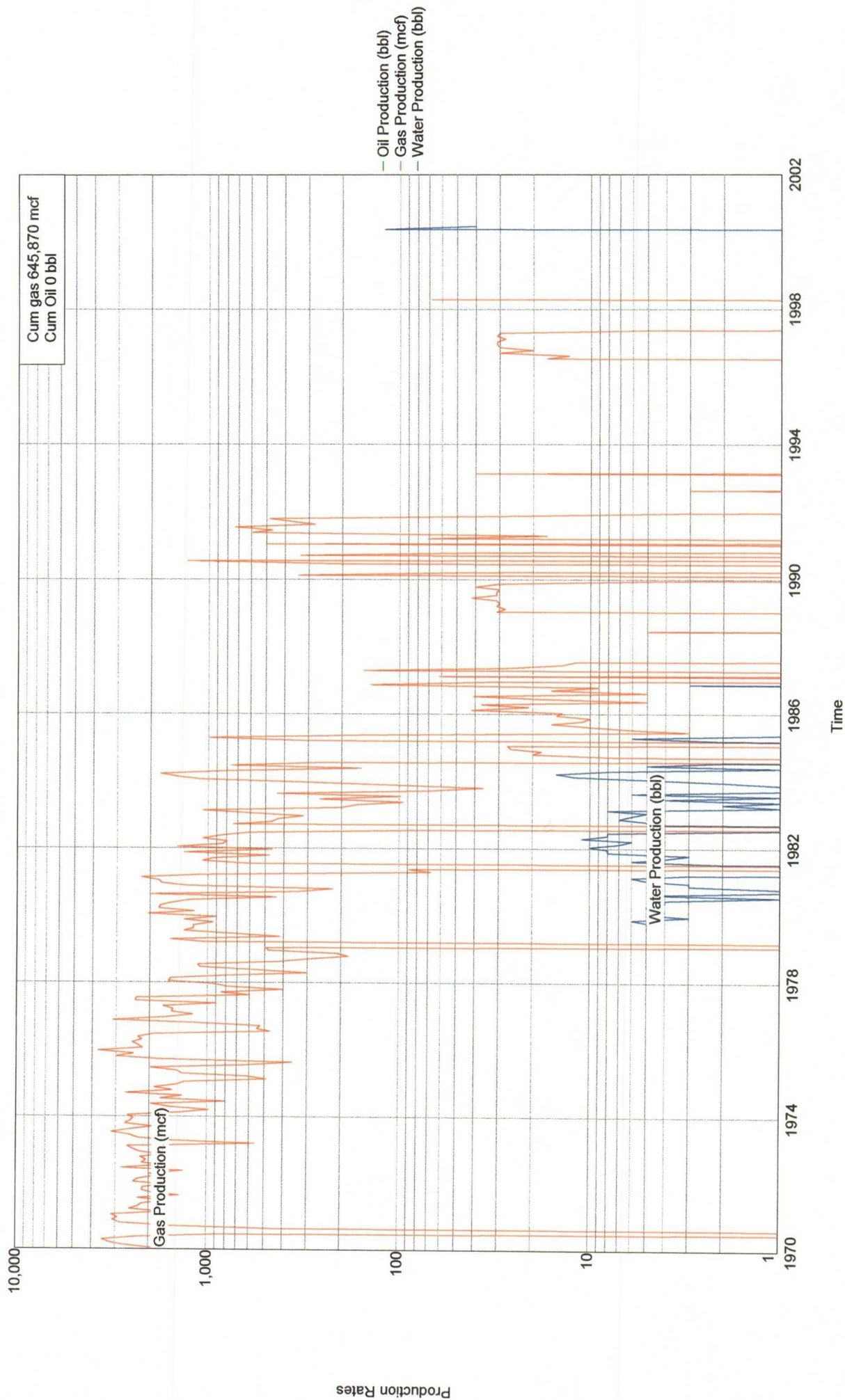
Jicarilla 117E 9A



Lease Name: JICARILLA 117 E
County, State: RIO ARBA, NM
Operator: TAURUS EXPLORATION USA INCORPORATED
Field: TAPACITO
Reservoir: PICTURED CLIFFS
Location: 34 26N 3W NW SE SW

Offset Type Curve

Jicarilla 117E 3



Energen Resources Corp.

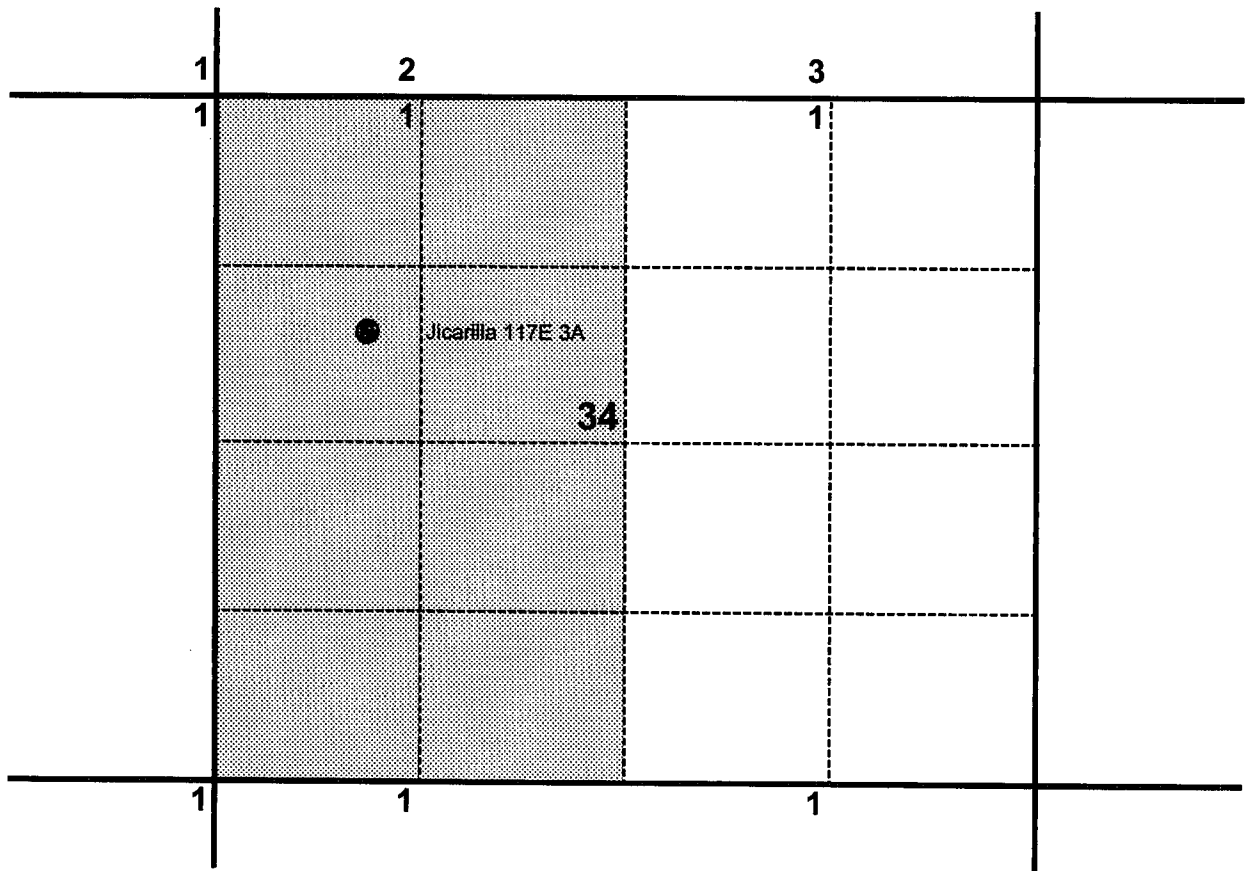
Jicarilla 117E 3A

Offset Operator / Ownership Plat

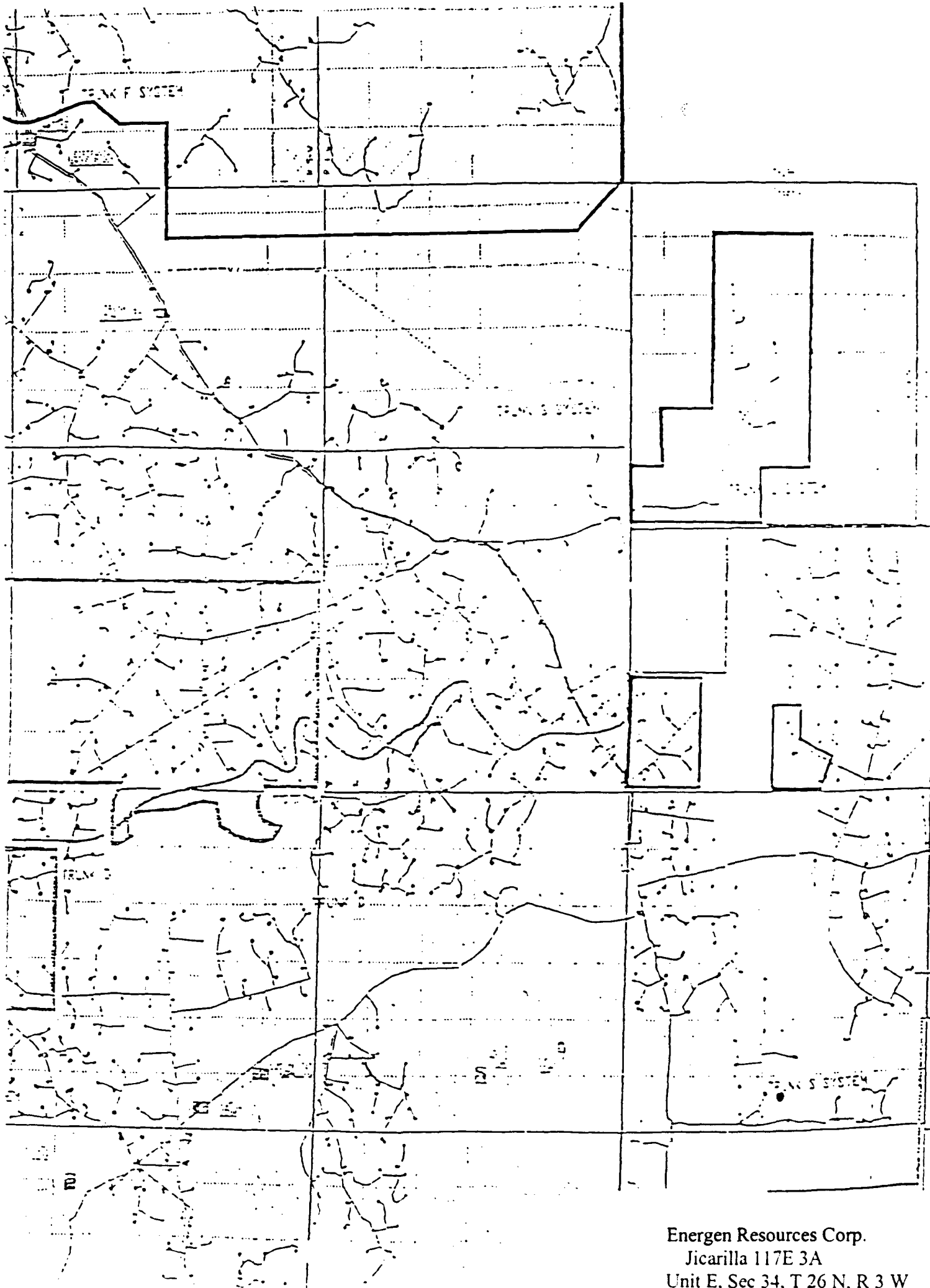
Tapicito PC/ Blanco MV/ NE Ojito GL-DK

Downhole Commingling

Township 26 N, Range 3 W



- 1) Energen Resources
- 2) Elm Ridge
P.O. Box 3936
Farmington, N.M. 87499
- 3) Dugan Production
P.O. Box 420
Farmington, N.M. 87401



Energen Resources Corp.
Jicarilla 117E 3A
Unit E, Sec 34, T 26 N, R 3 W
Well Location Map

Jicarilla 117E 3A

Proposed Allocation Method

In Accordance with DHC-2360 the allocation for the current wellbore configuration is Mesa Verde- 91% of the Gas and 44% Oil, Gallup-Dakota- 9% of the gas; 56% of the oil.

Currently the well is producing 60 MCFD and 1.5 BOPD as a commingled Blanco Mesa Verde/ NE Ojito Gallup-Dakota commingle. It is anticipated the pay add will add 60-80 MCFD to the total flowstream.

Following 60 days of stabilized production from pay add, use subtraction method as follows:

Total stream = X

MV/ GL-DK rate = 60 MCFD

MV/GL-DK Allocation = $60 / X$ as a percentage

Split Allocation for MV/GL-Dk per previous approved rates

PC allocation = $(X-60) / X$ as a percentage

Oil allocation = Same as current Allocation since no oil production is anticipated out of the PC

Rates will be reported to MNOCD- Aztec for final allocation percentage determination

Mesaverde Initial and Current Shut-In Bottom Hole Pressures

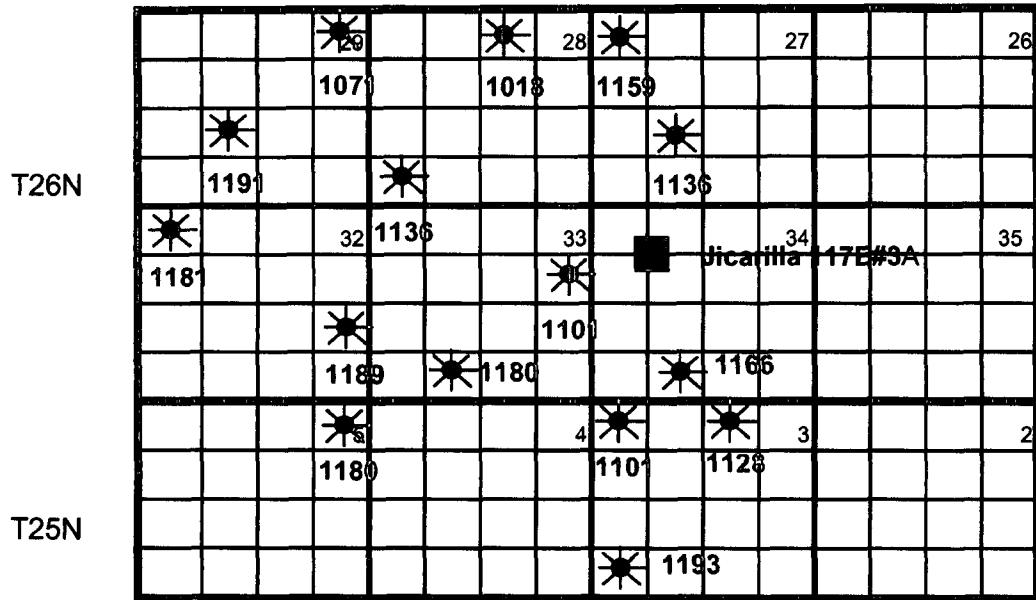
Well	Sec	TWN-RNGE	First Production Date	Initial BHP, psia	Current BHP, psia
Jic E#2	27K	26-3	5903	1404	592
Jic 117E#5A	28E	26-3	8211	1236	654
Jic 117 E#5	28M	26-3	5710	1155	336
Jic D#11	29A	26-3	7303	1416	775
Jic D#13	32A	26-3	7402	1404	466
Jic 117E#2	33H	26-3	5703	1130	464
Jic 117E#9	33K	26-3	7703	1437	637
Jic 117E#3	34N	25-3	5708	1177	383
McCroden#8A	3P	25-3	9001	1235	596
Florence#8A	5E	25-3	8305	1270	695
Florence Fed#8	5H	25-3	8004	1255	554

Pictured Cliffs Initial Shut-In Bottom Hole Pressure

Well	Sec	TWN-RNGE	First Production Date	Initial Shut-In BHP, psia
Tiger#3	27D	26-3	7203	1159
Jic E#2	27K	26-3	5903	1136
Jic 117E#7	28B	26-3	5712	1018
Jic 117E#5	28M	26-3	5710	1136
Jic D#11	29A	26-3	7303	1071
Jic D#2	29K	26-3	5603	1191
Jic D#1	32D	26-3	5601	1181
Jic D#3	32I	26-3	5702	1189
Jic E#2	33H	26-3	5703	1101
Jic 117E#1	33N	26-3	5702	1180
Jic 117E#3	34N	26-3	5705	1166
Ruddock#1	3B	25-3	5712	1128
Ruddock#2	3D	25-3	6404	1101
McCroden#1	3M	25-3	5612	1193
Florence Fed#2	5A	25-3	5704	1180

Initial Pictured Cliffs Shut-In Bottom Hole Pressure
(Area Near PC Payadd in Jicarilla 117E#3A)

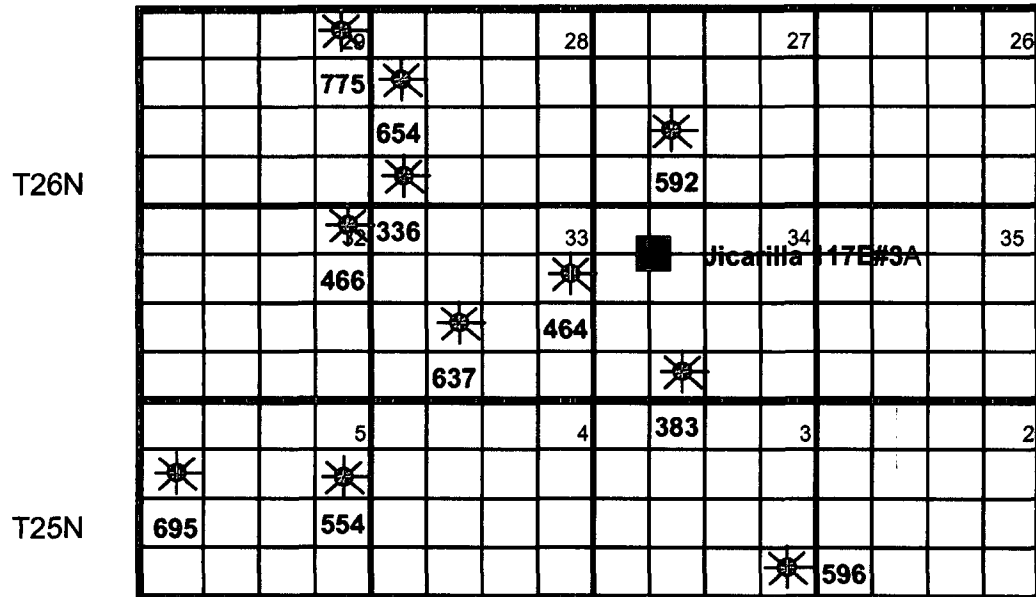
R3W



PC Well
 Initial BHP, psia

Current Mesaverde Shut-In Bottom Hole Pressure
(Area Near PC Payadd in Jicarilla 117E#3A)

R3W



 MV Well
Current BHP, psia