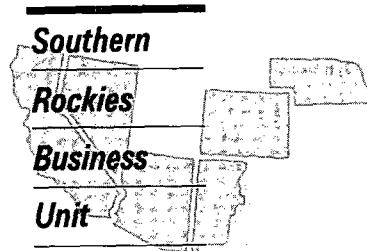


DHC 9-25-95



RECEIVED

SEP 5 1995

OIL CONSERVATION DIV.
SANTA FE

August 30, 1995

Mr. William J. LeMay, Director
New Mexico Oil Conservation Division
2040 S. Pacheco Street
P. O. Box 6429
Santa Fe, NM 87505

Application for Exception to Rule 303-C-Downhole Commingling
Atlantic LS 1 Well
1650' FNL & 990' FEL, Unit H Section 25-T31N-R10W
Blanco Mesaverde and Blanco Pictured Cliffs Pools
San Juan County, New Mexico

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Mesaverde and Blanco Pictured Cliffs Pools in the Atlantic LS 1 referenced above. The Atlantic LS 1 was originally a dual completion in the Mesaverde and Pictured Cliffs formations. This well has a marginal Pictured Cliffs zone which was being produced with the aid of compression earlier this year. Production rates could not support compression and the compressor was subsequently removed. The Pictured Cliffs is currently shut-in. We plan to complete the well with both the Mesaverde and Pictured Cliffs formations being downhole commingled in the wellbore. The two zones, both enhanced by compression, are expected to produce at a total commingled rate of about 535 MCFD with less than 1 BOPD. The ownership (WI, RI, ORI) of these pools is identical in this wellbore. Downhole commingling will offer an economical method of production while protecting against reservoir damage, waste of reserves and violation of correlative rights. Offset operators to this well will receive a copy of this application by certified mail.

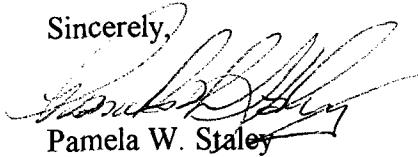
The allocation method that we plan to use for this commingled well is as follows. Since these formations were producing at stabilized rates on compression earlier this year, we have a good historical representation of the production by formation. Based on stabilized production on compressor from earlier this year, we recommend that the allocation for gas production be 84% from the Mesaverde formation and 16% from the Pictured Cliffs formation. There is no condensate production from the Pictured Cliffs formation in this well. Therefore, all liquid production should be allocated to the Mesaverde. The actual commercial value of the commingled production will not be less than the sum of the values of the production from each of the common sources of supply.

Attached to aid in your review are plats showing the location of the well and offset wells in the same formations, a historical production plot and a C-102 for each formation. This spacing unit is on a

federal lease (NM-013688) and a copy of the application will be sent to the BLM requesting their consent.

Should you have questions concerning this matter, please contact me at (303) 830-5344.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Pamela W. Staley', is written over the typed name.

Pamela W. Staley

Enclosures

cc: Mike Kutas
Patty Haefele

Frank Chavez, Supervisor
NMOCD District III
1000 Rio Brazos Road
Aztec, NM 87410

Duane Spencer
Bureau of Land Management
1235 La Plata Hwy
Farmington, NM 87401

Application for Exception to Rule 303: SEGREGATION OF PRODUCTION FROM POOLS

Requirements

- (1) Name and address of the operator:

Amoco Production Company
P.O. Box 800
Denver, CO 80201

- (2) Lease name, well number, well location, name of the pools to be commingled:

Lease Name: Atlantic LS 1

Well Location: 1650' FNL & 990' FEL
Unit H Section 25-T31N-R10W
San Juan County, New Mexico

Pools Commingled: Blanco Mesaverde
Blanco Pictured Cliffs Pools

- (3) A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.

Attached

- (4) A current (within 30 days) 24-hour productivity test on Division Form C-116 showing the amount of oil, gas and water produced from each zone.

The Mesaverde produced an average stabilized rate of 450 MCFD and less than 1 BCPD. The Pictured Cliffs zone produced at an average rate of about 85 MCFD and 0 BCPD. Recent production information is attached.

- (5) A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes.

Pictured Cliffs Completion:	Historical production curve attached.
Mesaverde Completion:	Historical production curve attached.

- (6) Estimated bottom hole pressure for each zone. A current (within 30 days) measured bottom hole pressure for each zone capable of flowing.

Bottom hole pressures were estimated from 72-hour packer leakage tests where shut-in pressures in the Pictured Cliffs and Mesaverde formations were allowed to stabilize. Estimated bottom hole pressure in the Pictured Cliffs and the Mesaverde formations using a gas gradient of 0.08 PSI/FT was calculated to be

520 PSI and 634 PSI respectively. These pressure differences are appropriate for commingling and should not result in crossflow.

- (7) A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the wellbore.

The fluids have no abnormal components that would prohibit commingling or promote the creation of emulsions or scale. These two formations have been successfully downhole commingled in this area with no apparent incompatibility in the commingled fluids. The API gravity of the condensate from the Mesaverde is 51.4 degrees.

- (8) A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams:

Since the BTU content of the produced fluids are very similar, we would expect the commingled production to have the same value as the sum of the individual streams.

- (9) A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula:

The allocation method that we plan to use for this commingled well is as follows. Since these formations were producing at stabilized rates on compression earlier this year, we have a good historical representation of the production by formation. Based on stabilized production on compressor from earlier this year, we recommend that the allocation for gas production be 84% from the Mesaverde formation and 16% from the Pictured Cliffs formation. There is no condensate production from the Pictured Cliffs formation in this well. Therefore, all liquid production should be allocated to the Mesaverde. The actual commercial value of the commingled production will not be less than the sum of the values of the production from each of the common sources of supply.

- (10) A statement that all offset operators and, in the case of a well on federal land, the United States Bureau of Land Management, have been notified in writing of the proposed commingling.

BLM will receive a copy of this application by certified mail. The offsetting operators listed on the attached sheet will receive a copy of this application by certified mail.

992,796.80 FT. E
107° 51' 39" W

107° 48' 42" W
1,007,203.20 FT. E

992,792.75 FT. E
107° 51' 39" W

107° 48' 42" W
1,007,207.25 FT. E

36° 50' 52" N 13,383,882.67 FT. N 107° 50' 36° 50' 52" N 13,383,882.67 FT. N

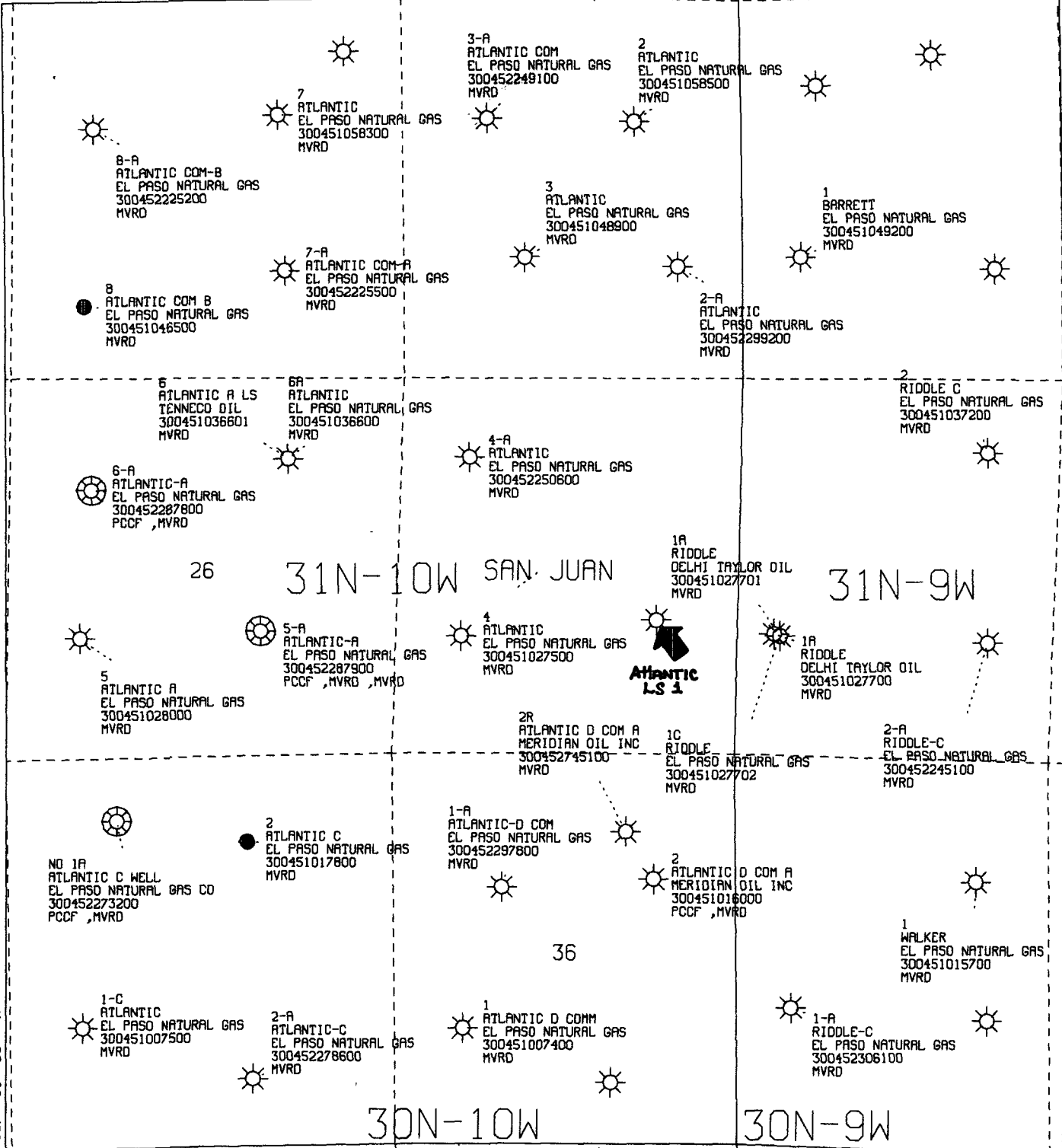
All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.



AMOCO PRODUCTION COMPANY
PLAT MAP
Atlantic LS #1
Mesaverde

SCALE 1 IN. = 2,000 FT. MAY 27, 1995

11--RUN=95147004051

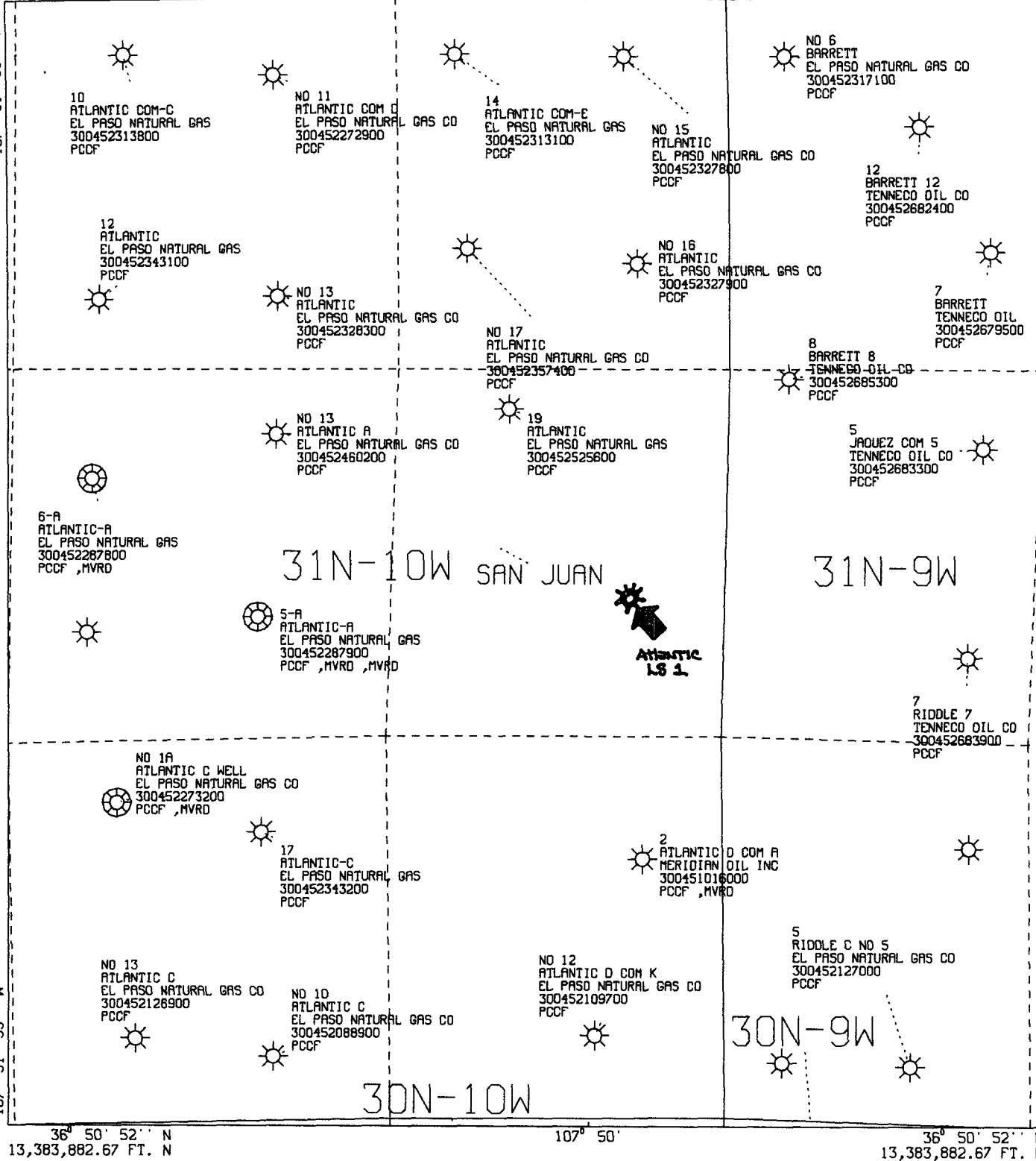


992,796.80' FT. E
107° 51' 39" W

107° 48' 42" W E
1,007,203.20 FT. E

992,792.75' FT. E
107° 51' 39" W

107° 48' 42" W E
1,007,207.25 FT. E



All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.



AMOCO PRODUCTION COMPANY
PLAT MAP
Atlantic LS #1
Pictured Cliffs

SCALE 1 IN. = 2,000 FT. MAY 27, 1995



State of New Mexico
Energy, Minerals & Natural Resources Department



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

1980, Hobbs, NM 88241-1980

District II

PO Drawer DD, Artesia, NM 88211-0719

District III

1000 Rio Huerfano Rd., Aztec, NM 87410

District IV

PO Box 2088, Santa Fe, NM 87504-2088

OIL CONSERVATION DIVISION

PO Box 2088
Santa Fe, NM 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

APL Number 3004510348		Pool Code 72359		Pool Name Blanco Pictured Cliffs	
Property Code 000278		Property Name Atlantic LS			Well Number 1
OGRID No. 000778		Operator Name Amoco Production Company			Elevation 6482'

10 Surface Location

UL or lot no. H	Section 25	Township 31N	Range 10W	Lot Idn H	Feet from the 1650	North/South line North	Feet from the 990	East/West line East	County San Juan
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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
---------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

Dedicated Acres 137.4	Joint or Infill	Consolidation Code	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

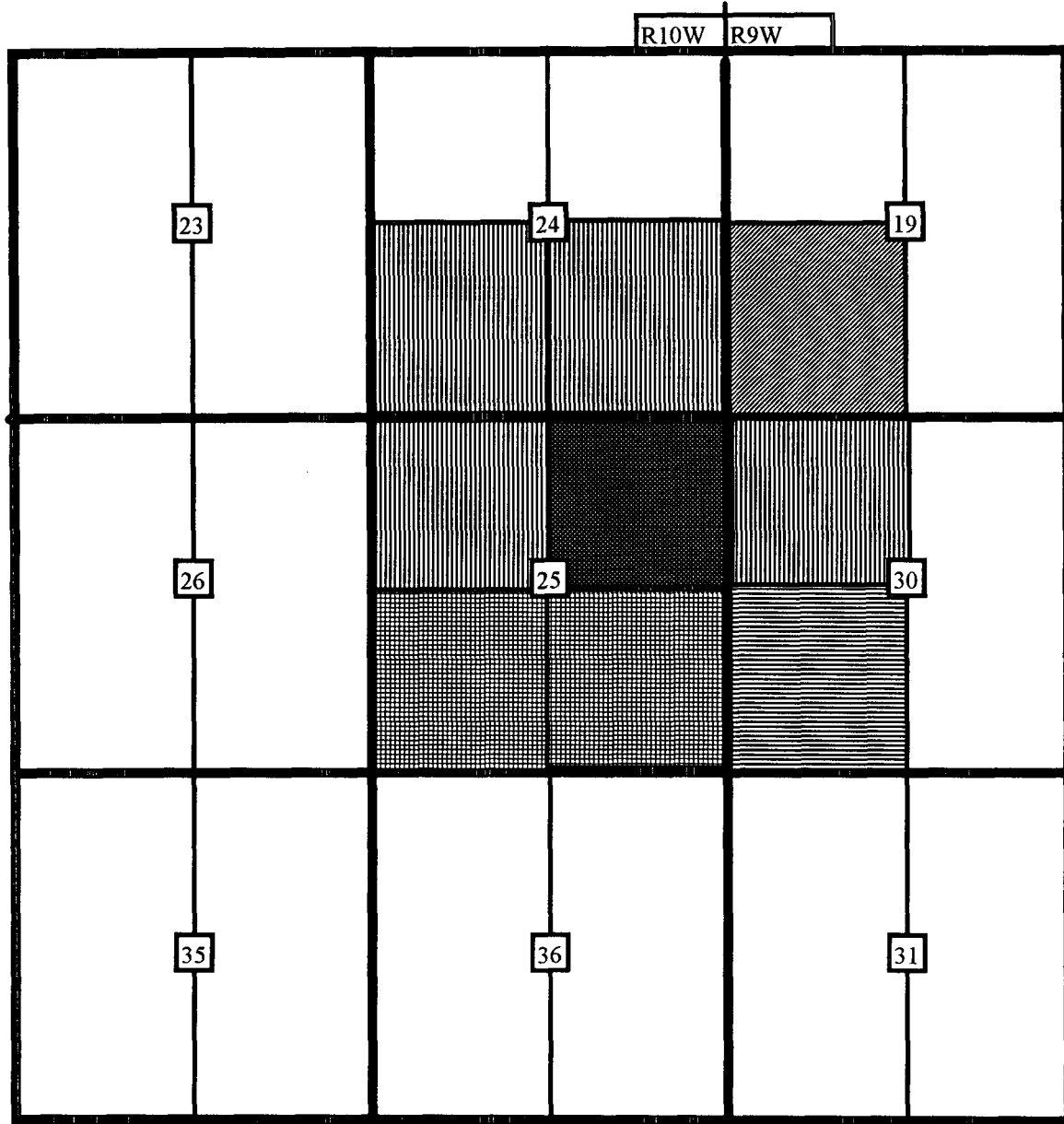
16						1650' FNL	790' FEL	17 OPERATOR CERTIFICATION	
	I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief								
	Original on file								
	Signature Patty Haeefe Patty Haeefe Printed Name Business Associate Title March 16, 1995 Date								
17						1650' FNL	790' FEL	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.								
	Feb. 13, 1973 Date of Survey								
	Signature and Seal of Professional Surveyor: Survey plat on file Certificate Number								






LIST OF ADDRESSES FOR OFFSET OPERATORS
Atlantic LS 1

- 1** Meridian Oil, Inc.
P.O. Box 4289
Farmington, NM 87499
- 2** Barrett Resources Corporation
1125 17th Street Suite 2400
Denver, CO, 80202-2044
- 3** Conoco, Inc.
10 Desta Drive West
Midland, Texas 79705
- 4** Vastar Resources, Inc.
P.O. Box 201690
Houston, Texas, 77816-1690

AMOCO PRODUCTION COMPANY OFFSET OPERATOR PLAT

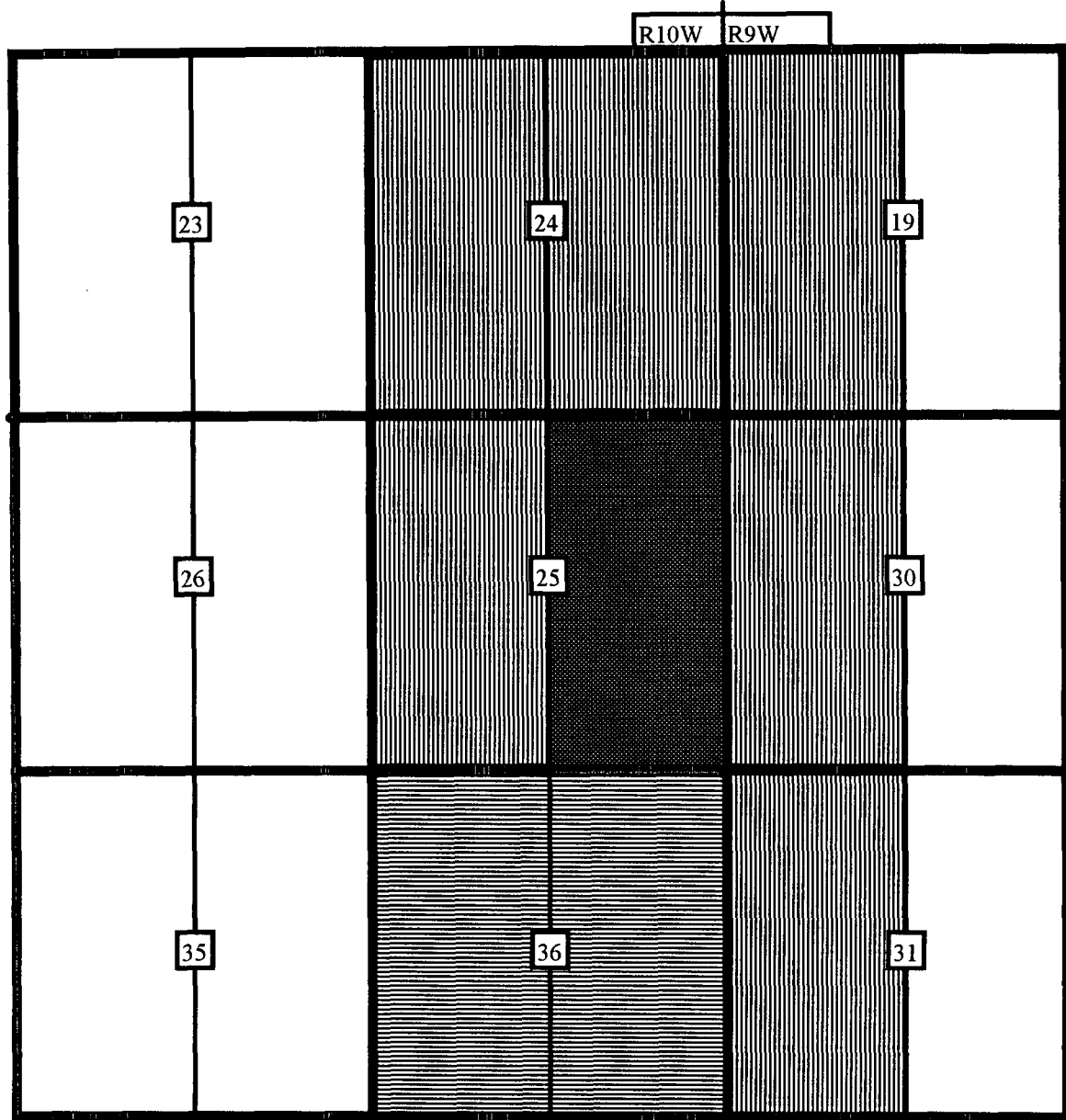
**ATLANTIC LS 1
SECTION 25 T31N-R10W
990'FEL & 1650'FNL
PICTURED CLIFFS FORMATION**






-  **SPACING UNIT TO BE DOWNHOLE COMMINGLED**
-  **AMOCO PRODUCTION COMPANY**
-  **MERIDIAN OIL INC.**
-  **BARRETT RESOURCES, INC.**
-  **25%AMOCO, 25% CONOCO, 50% VASTAR RESOURCES**

AMOCO PRODUCTION COMPANY OFFSET OPERATOR PLAT

**ATLANTIC LS 1
SECTION 25 T31N-R10W
990'FEL & 1650'FNL
MESAVERDE FORMATION**



-  **SPACING UNIT TO BE DOWNHOLE COMMINGLED**
-  **AMOCO PRODUCTION COMPANY**
-  **MERIDIAN OIL INC.**

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

Operator EL PASO NATURAL GAS COMPANY		Lease ATLANTIC		Well No. 1
Unit Letter H	Section 25	Township 31-N	Range 10-W	County SAN JUAN
Actual Footage Location of Well: 1650 feet from the NORTH line and 990 feet from the EAST line				
Ground Level Elev. 6530	Producing Formation MESA VERDE	Pool BLANCO MESA VERDE	Dedicated Acreage: 297.40 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission. **NOTE: CORRECTED ACREAGE PER DEPENDENT RESURVEY.**

CERTIFICATION

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

Name
Original Signed **F. H. WOOD**

Position
Petroleum Engineer

Company
El Paso Natural Gas Company

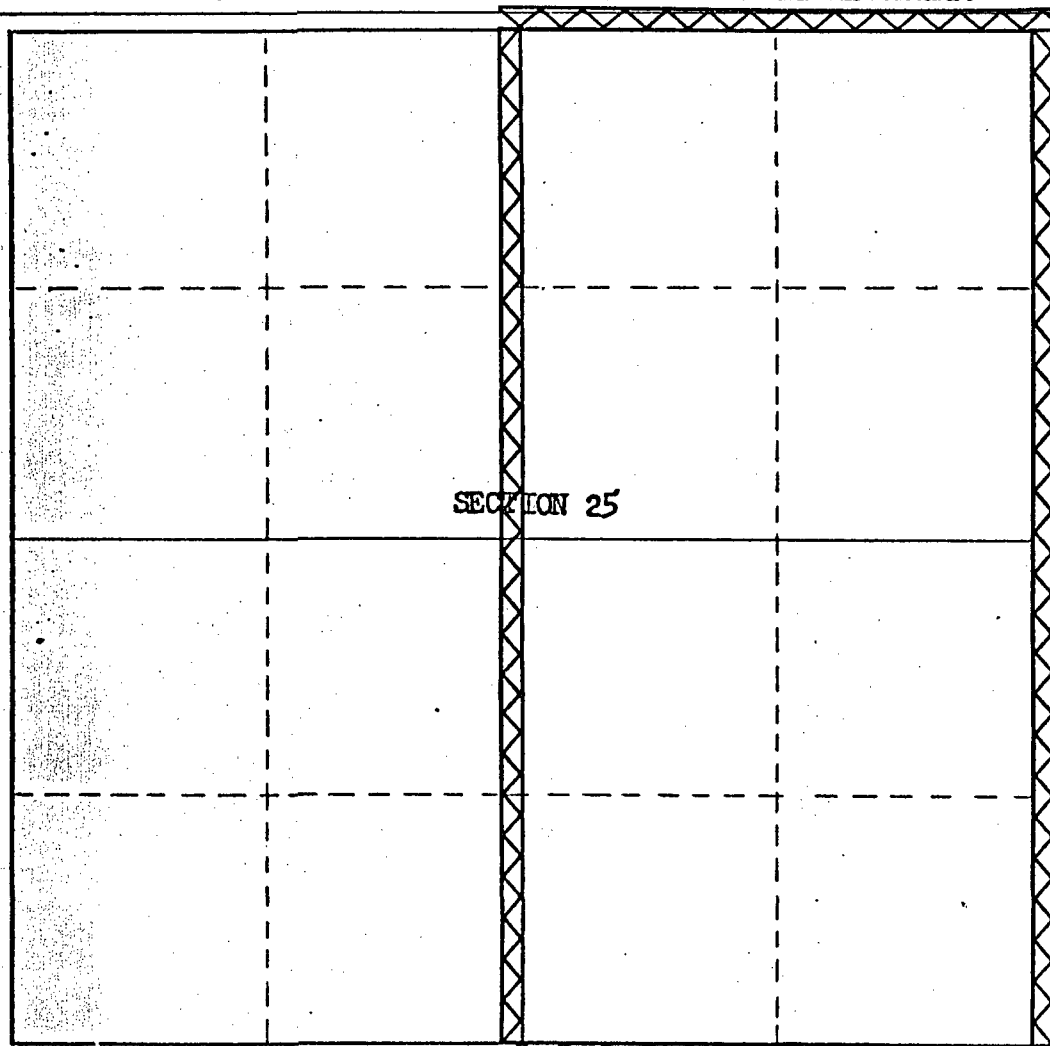
Date
February 13, 1973

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 knowledge and belief.

Date Surveyed
1952

Registered Professional Engineer and/or Land Surveyor

Certificate No.



0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

Engr: zrar06

ATLANTIC LS 1 Operator- AMOCO PRODUCTION CO

300451034800MV H253110-001 MV APC_WI - 0.25000000

CumG_70 -	3538017
CumO_70 -	12649
CumGAS -	6381781
CumOIL -	22069

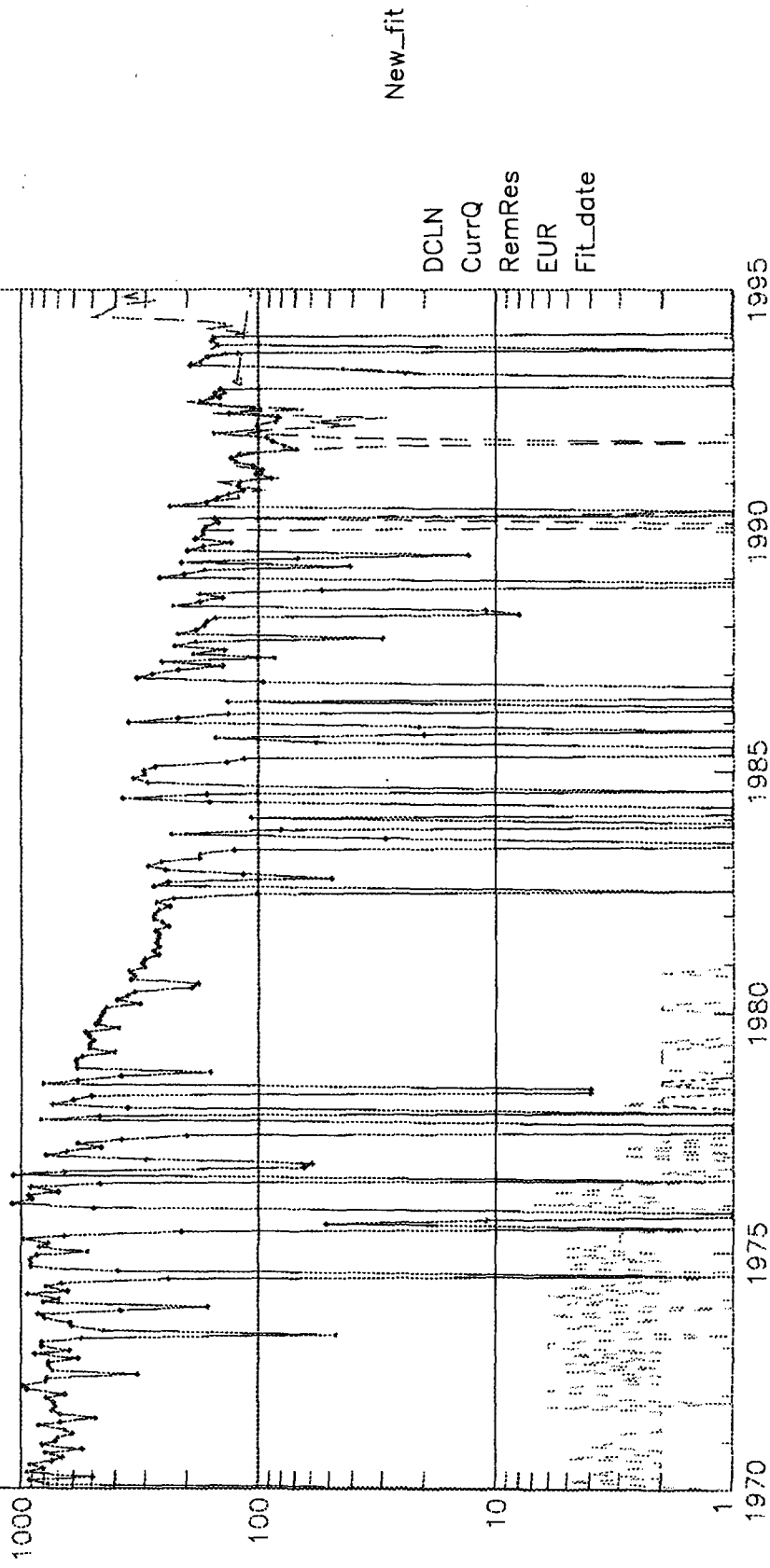


Chart1

Well: ATLANTIC LS 001-MV (97878401)

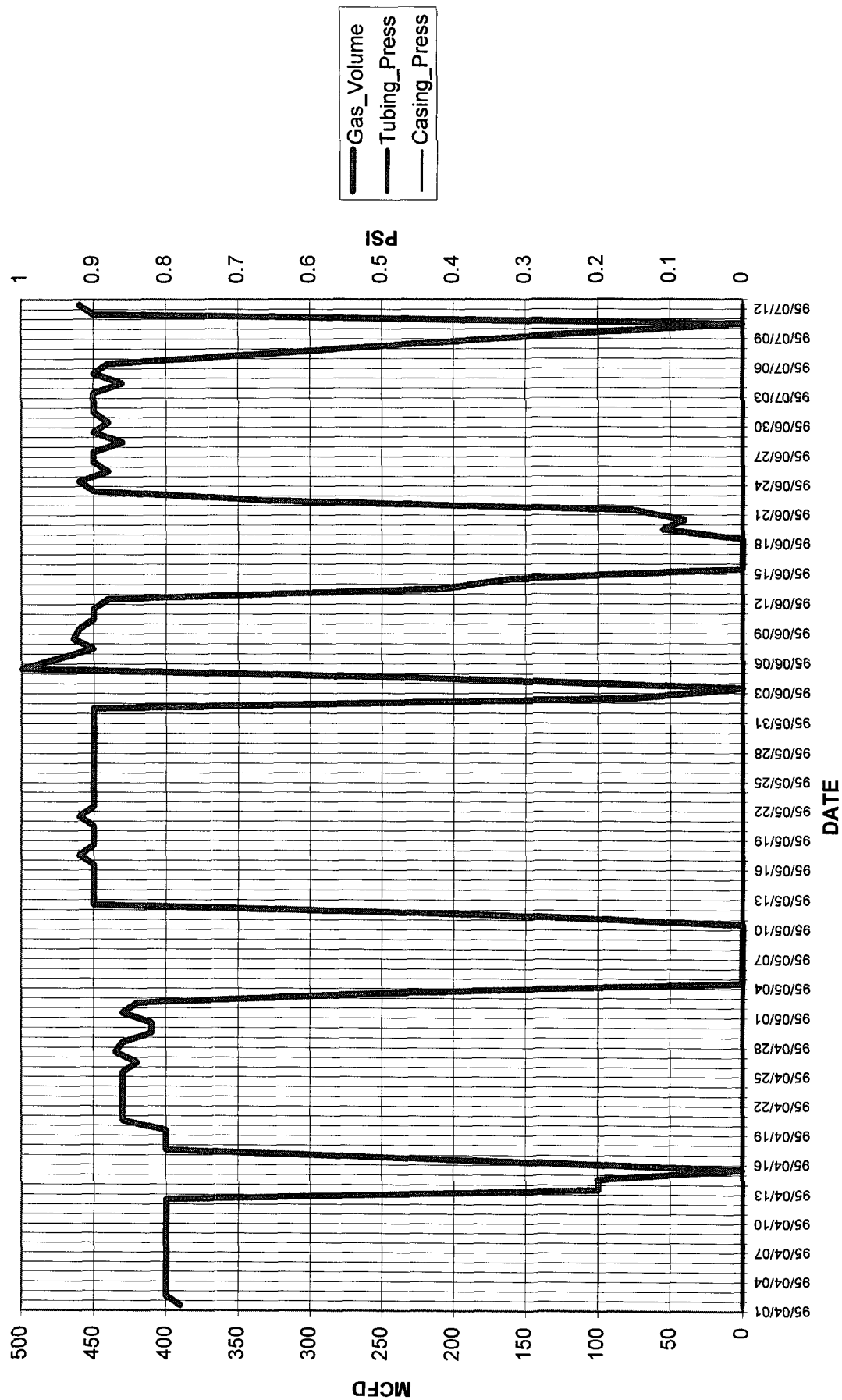
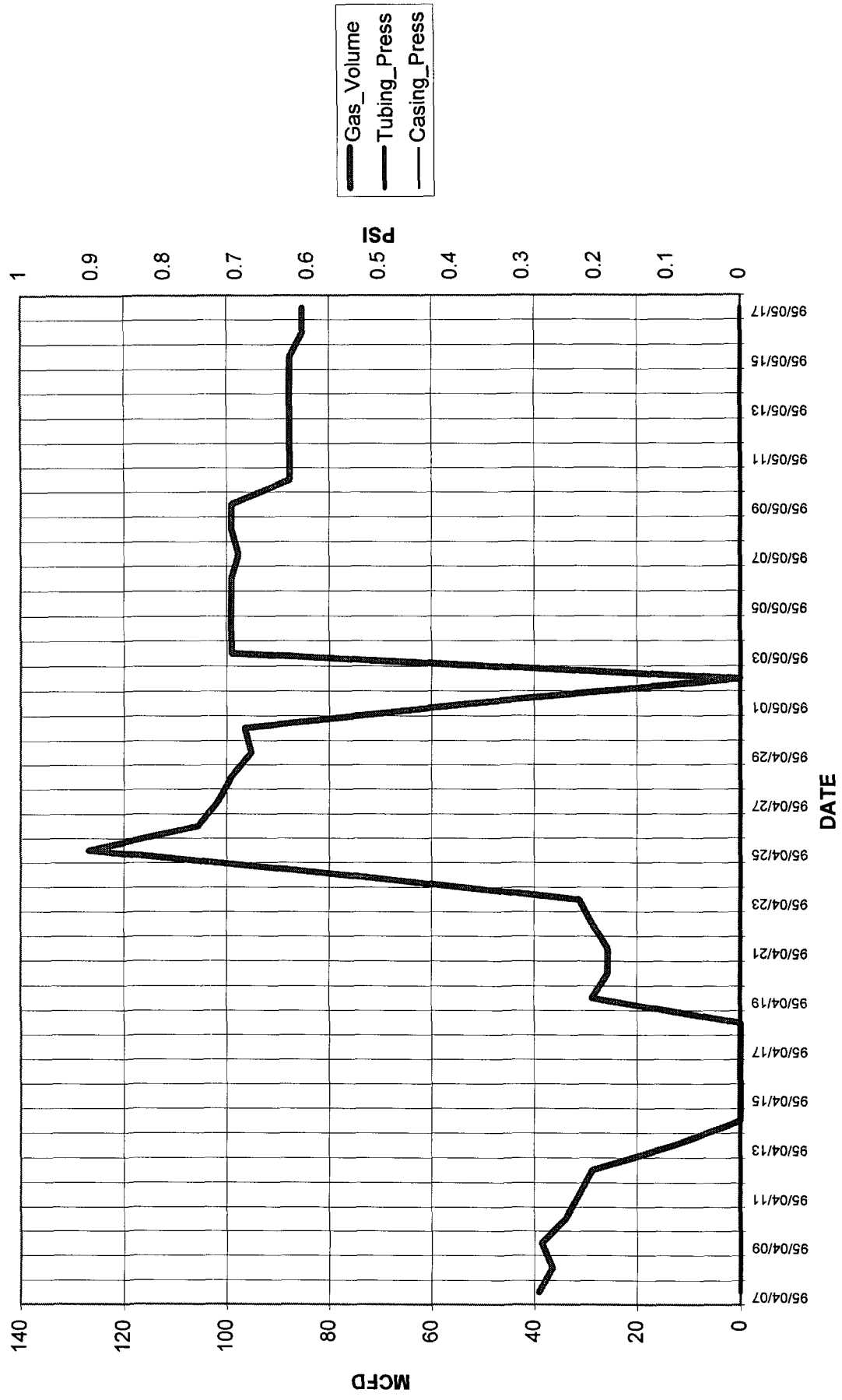


Chart1

Well: ATLANTIC LS 001-PC (97878402)



ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION
ATLANTIC LS 1

PC Perforations at 3312-3366' at 3339'

MV Perforations at 5108-5544' midperf at 5326'

6/95 Shut in pressures --- PC = 253 PSIG

MV = 208 PSIG

GRADIENT = 0.08 PSI/FT

PC BHP = 253 PSIG + 3339' X 0.08 PSIG
= 520 PSIG

MV BHP = 208 PSIG + 5326' X 0.08 PSIG
= 634 PSIG

520 PSIG / 634 = 82% WHICH MEETS THE >50% RULE



STATE OF NEW MEXICO

ENERGY, MINERALS and NATURAL RESOURCES DIVISION

OIL CONSERVATION DIVISION

AZTEC DISTRICT OFFICE

OIL CONSERVATION DIVISION
RECEIVED

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

'95 SEP 22 AM 8 52

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

Date: 9/21/95

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

RE: Proposed MC _____
Proposed NSL _____
Proposed WFX _____
Proposed NSP _____

Proposed DHC X _____
Proposed SWD _____
Proposed PMX _____
Proposed DD _____

Gentlemen:

I have examined the application received on 9/5/95
for the Amow Atlantic LS #1
OPERATOR LEASE & WELL NO.

14-25-31N-10W and my recommendations are as follows:
UL-S-T-R

Approve
Pressure calculated incorrectly

Yours truly,

S. J. G.