

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

WARREN LS #2

2173

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-Quallified 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

DEC 21 1998

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

I 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, RI, 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.

Notes: Statement must be completed by an individual with supervisory capacity.

PAMELA W. STALEY
Print or Type Name

Signature

REGULATORY AFFAIRS ENGR.



Amoco Production Company

Amoco Building
1670 Broadway
Post Office Box 800
Denver, Colorado 80201-0800
(303) 830-4040

December 16, 1998

Ms. Lori Wrotenbery, Director
New Mexico Oil Conservation Division
2040 S. Pacheco Street
P. O. Box 6429
Santa Fe, NM 87505

DEC 21 1998

Application for Exception to Rule 303-A- Downhole Commingling
Warren L.S. #2
Unit K Section 12-T28N-R9W
Blanco Pictured Cliffs and Blanco Mesaverde Pools
San Juan County, New Mexico

Enclosed please find an administrative application form (C-107-A) and attachments for downhole commingling for the captioned well. By copy of this application by certified mail, return receipt requested, Amoco is notifying all offset operators in the formations captioned above as well as all affected interest owners if the ownership of those formations is not common. The Division Director may approve the proposed downhole commingling in the absence of a valid objection from any offset operator or any interest owner in those instances where ownership is not common in the zones to be commingled within 20 days after the receipt of the application if, in her opinion, waste will not result thereby, and correlative rights will not be violated.

Should you have questions regarding this application, do not hesitate to call me at (303) 830-5344.

Sincerely,

Pamela W. Staley

Enclosures

cc: Dean Tinsley
Gail Jefferson
Wellfile
Proration File

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

OFFSET OPERATORS
Warren L.S. #2

Burlington Resources Oil and Gas Co.
P.O. Box 4289
Farmington, NM 87499

Production Allocation Recommendation
Warren L.S. #2

Production is proposed to be allocated based actual production from the Mesaverde and previous production capability of the Pictured Cliffs.

DISTRICT I
P.O. Box 1980, Hobbs NM 88241-1980

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107-A
New 3-12-96

OIL CONSERVATION DIVISION

APPROVAL PROCESS:

DISTRICT II
811 South First St., Artesia, NM 88210-2835

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429

Administrative Hearing

DISTRICT III
1000 Rio Brazos Rd. Aztec, NM 87410-1693

APPLICATION FOR DOWNHOLE COMMINGLING

EXISTING WELLBORE
X YES NO

Amoco Production Company

PO Box 800 Denver, CO 80201

Operator
WARREN LS

#2

Address
K12-28N-09W

San Juan

Lease

Well No.

Unit Ltr. - Sec Twp - Rge

County

OGRID NO. 000778 Property Code 001212 API NO. 300450756800 Federal x State (and/or) Fee

Spacing Unit Lease Types: (check 1 or more)

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Blanco Pictured Cliffs 72359		Blanco Mesaverde 72319
2. Top and Bottom of Pay Section (Perforations)	2162'-2222'		4368'-4600'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	a. (Current) 275 psi b. (Original) 936 psi	a. b.	a. 567 psi b. 1154 psi
6. Oil Gravity (° API) or Gas BTU Content	1157 btu		1329.6 btu
7. Producing or Shut-In?	Shut In		Producing
Production Marginal? (yes or no)	Yes		No
• If Shut-In, give data 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: est 35 mcf / 0 bopd	Date: Rates:	Date: Rates:
• If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: Rates: 11/98 138 mcf / 1 bopd
8. Fixed Percentage Allocation Formula - % for each zone	Oil: 0 % Gas 21 %	Oil: % Gas %	Oil: 100 % Gas 79 %

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 is 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 SF-077123

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S).

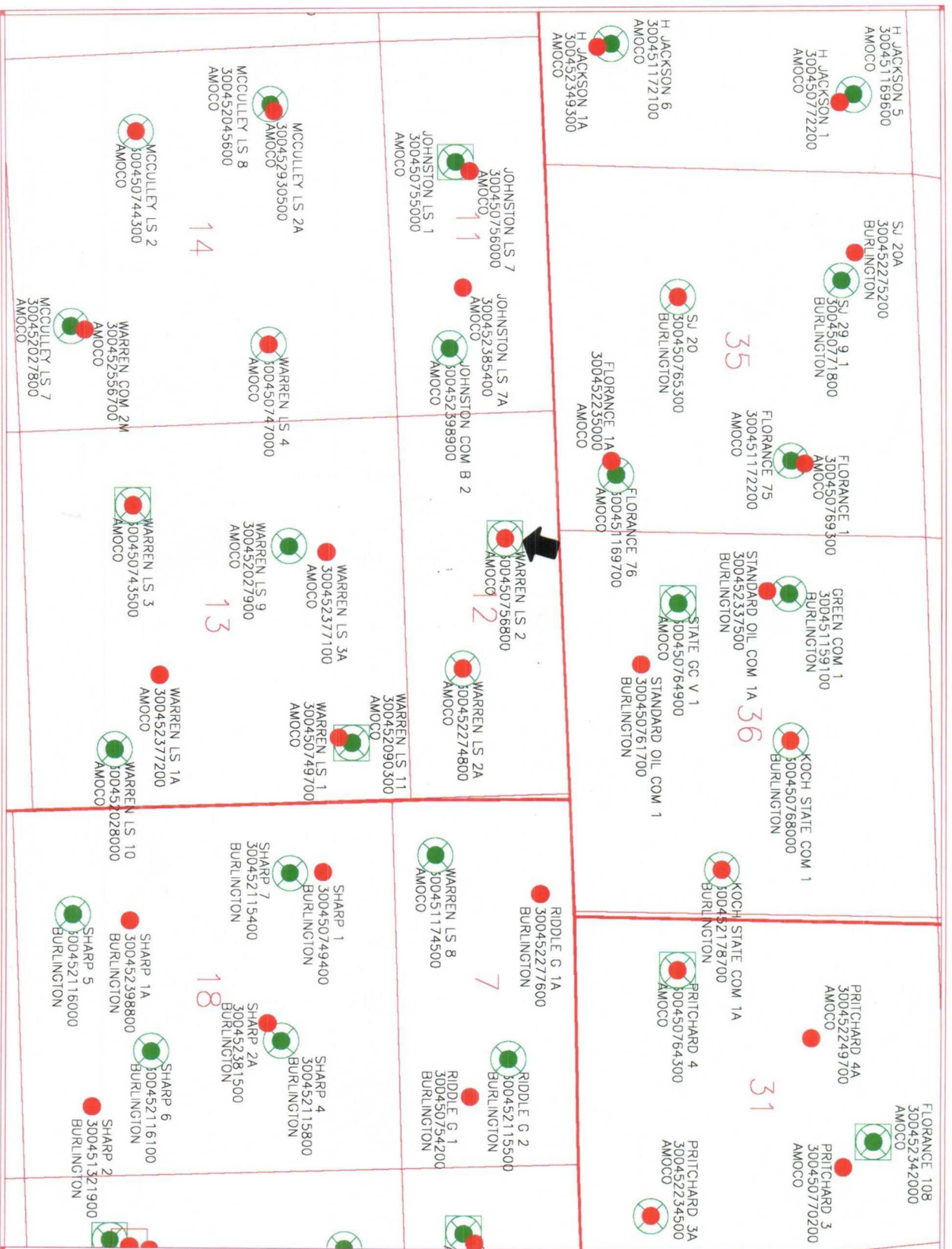
16. ATTACHMENTS:

- * 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 Pamela W. Staley TITLE Regulatory Affairs Engineer DATE 12/15/98

TYPE OR PRINT NAME Pamela W. Staley TELEPHONE NO. (303) 830-5344



AMOCO PRODUCTION COMPANY

LEGEND

● ACTIVE MESAVERDE WELLS

■ INACTIVE MESAVERDE WELLS

● ACTIVE PICTURE CLIFF WELLS

■ INACTIVE PICTURE CLIFF WELLS

WARREN LS #2 COMMINGLE PACKAGE
PICTURE CLIFFS/MESAVERDE NINE SECTION P
K12-28N-09W

4C

Scale 1/4"=100'

11/19/98

WarrenLS 2

DK	0.08	PC	0.04
MV	0.07	FT	0.04
		CK	0.04

WELL NAME: WARREN LS #2FORMATION: MVSURFACE PRESS: 253PERFS TOP: 4368BOTTOM: 4600

$$(4368 + 4600) / 2 = 4484 \text{ Mid Perf}$$

$$4484 \times 0.07 = 314$$

$$313.88 + 253 = 567 \text{ Bottom Hole Pressure}$$

Initial Bottom Hole Pressure 1154WELL NAME: WARREN LS #2FORMATION: PC INACTIVEInitial Bottom Hole Pressure 936

$$\text{Bottom Hole Pressure: } (253 + 296) / 2 \approx 275 \text{ est. from offsets}$$

WELL NAME: WARREN LS #2AFORMATION: PCSURFACE PRESS: 166PERFS TOP: 2155BOTTOM: 2214

TOP BOTTOM

$$(2155 + 2214) / 2 = 2185 \text{ Mid Perf}$$

$$2184.5 \times 0.04 = 87$$

$$87.38 + 166 = 253 \text{ Bottom Hole Pressure}$$

WELL NAME: JOHNSTON COM B #2FORMATION: PCSURFACE PRESS: 206PERFS TOP: 2230BOTTOM: 2280

TOP BOTTOM

$$(2230 + 2280) / 2 = 2255 \text{ Mid Perf}$$

$$2255 \times 0.04 = 90$$

$$90.2 + 206 = 296 \text{ Bottom Hole Pressure}$$

$$\text{WARREN LS 2A/JOHNSTON COM B 2 MCF} (30088 + 19646) / 2 \approx 24867 \text{ est.}$$

FM	BBL	%	GAS	%
PC	0	0%	24867	21%
MV	6	100%	95630	79%

Why MV = 95,630?

- Global Compression Project has increased MV production to approximately 130 mcf/d average.
- MV Pay-add, which is oncurrent with the DHC, is expected to add approximately 132 mcf/d to prod.
- DHC is expected to bring back approximately 68 mcf/d of PC production.

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. **2 (PM)** SECTION **12** TOWNSHIP **28 N** RANGE **9 W** 1460'

LOCATED **1460** FEET FROM **SOUTH** LINE **1750** FEET FROM **WEST** LINE

SAN JUAN COUNTY, NEW MEXICO **Aztec** SURFACE ELEVATION **5774**
WILSON P.C. **269.88 AC. MV.**
P.C. & M.V. **BLANCO M.V.** **201.44 AC. PC.**
(1919 PLAT)

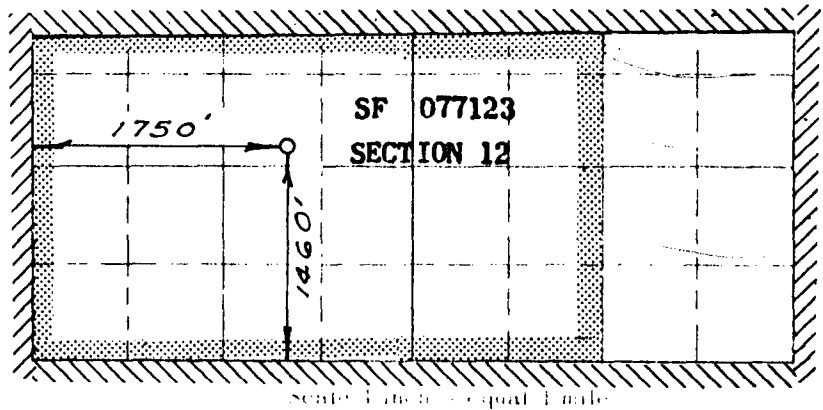
Note: All distances must be from outer boundaries of section.

Correct Dedication to:

Mesa Verde - Lots 1, 2, 3, & 4, S/2 S/2 (all) Sec 12

Pictured Cliffs - Lots 3 & 4, S/2 SW/4 (SW/4) Sec 12

RECEIVED
MAR 1 1957
U.S. GEOLOGICAL
SURVEY
FARMINGTON, N.M.



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 6, 1957**

E. O. Walker
Registered Professional Engineer and/or Land Surveyor

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 **Original Signed EWELL N. WALSH**

Position **Petroleum Engineer**

Representing **El Paso Natural Gas**

Address **Box 997 - Farmington, N.M.**

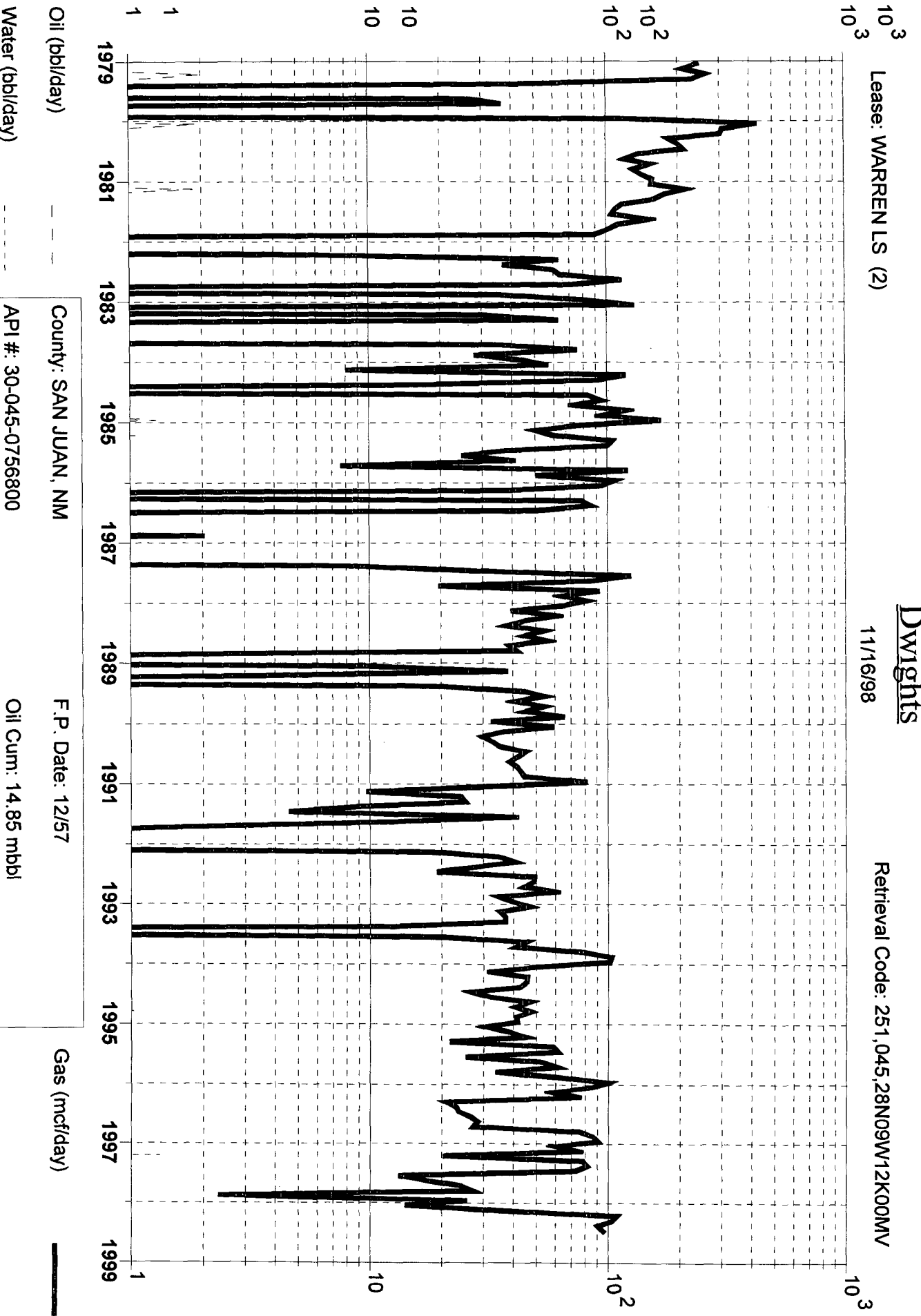
NOTE: THIS PLAT IS RE-ISSUED TO SHOW CORRECTED

Dwights

Lease: WARREN LS (2)

11/16/98

Retrieval Code: 251,045,28N09W12K00MV



Oil (bbl/day)

Water (bbl/day)

County: SAN JUAN, NM

API #: 30-045-0756800

Reservoir: MESAVERDE

Operator: AMOCO PRODUCTION CO

F.P. Date: 12/57

Oil Cum: 14.85 mbbl

Gas Cum: 2800 mncf

Location: 12K 28N 9W

WELLNAME	API	METER	RECDATE	AVG_LINE_P	AVG_TUBING_P	AVG_CASING	GASVOL
WARREN LS 002-MV	300450756800	71933	5/1/98	218.6	225.6		88
WARREN LS 002-MV	300450756800	71933	5/2/98	204.7	204.9		108
WARREN LS 002-MV	300450756800	71933	5/3/98	195.7	190.9		128
WARREN LS 002-MV	300450756800	71933	5/4/98	194.6	190.3		119
WARREN LS 002-MV	300450756800	71933	5/5/98	201	204.8		85
WARREN LS 002-MV	300450756800	71933	5/6/98	208.6	206.5		104
WARREN LS 002-MV	300450756800	71933	5/7/98	206.9	203.9		93
WARREN LS 002-MV	300450756800	71933	5/8/98	203.8	199.7		108
WARREN LS 002-MV	300450756800	71933	5/9/98	198.7	193.8		112
WARREN LS 002-MV	300450756800	71933	5/10/98	199	194.1		109
WARREN LS 002-MV	300450756800	71933	5/11/98	198.5	193.9		109
WARREN LS 002-MV	300450756800	71933	5/12/98	205.7	201.4		89
WARREN LS 002-MV	300450756800	71933	5/13/98	214.4	217		78
WARREN LS 002-MV	300450756800	71933	5/14/98	207.8	204.4		101
WARREN LS 002-MV	300450756800	71933	5/15/98	201.5	195.8		111
WARREN LS 002-MV	300450756800	71933	5/16/98	203.9	198.2		104
WARREN LS 002-MV	300450756800	71933	5/17/98	208.6	229.6		41
WARREN LS 002-MV	300450756800	71933	5/18/98	234.3	252.6		24
WARREN LS 002-MV	300450756800	71933	5/19/98	227.9	277.7		0
WARREN LS 002-MV	300450756800	71933	5/20/98	244	282.7		0
WARREN LS 002-MV	300450756800	71933	5/21/98	234.9	285.4		0
WARREN LS 002-MV	300450756800	71933	5/22/98	234.4	253.2		82
WARREN LS 002-MV	300450756800	71933	5/23/98	233.7	227.9		91
WARREN LS 002-MV	300450756800	71933	5/24/98	225.1	219.1		99
WARREN LS 002-MV	300450756800	71933	5/25/98	222.3	219.6		88
WARREN LS 002-MV	300450756800	71933	5/26/98	231.6	227.5		83
WARREN LS 002-MV	300450756800	71933	5/27/98	229.5	224		81
WARREN LS 002-MV	300450756800	71933	5/28/98	232	234.2		67
WARREN LS 002-MV	300450756800	71933	5/29/98	225.9	224.8		84
WARREN LS 002-MV	300450756800	71933	5/30/98	231.1	227.5		75
WARREN LS 002-MV	300450756800	71933	5/31/98	225.7	221		89
WARREN LS 002-MV	300450756800	71933	6/1/98	223.2	222.6		84
WARREN LS 002-MV	300450756800	71933	6/2/98	226.9	225.2		76
WARREN LS 002-MV	300450756800	71933	6/3/98	219.9	214.7		91
WARREN LS 002-MV	300450756800	71933	6/4/98	228.7	226.8		66
WARREN LS 002-MV	300450756800	71933	6/5/98	223.2	216.5		87
WARREN LS 002-MV	300450756800	71933	6/6/98	219.6	213		94
WARREN LS 002-MV	300450756800	71933	6/7/98	215.5	208.9		98
WARREN LS 002-MV	300450756800	71933	6/8/98	216.8	209.8		90
WARREN LS 002-MV	300450756800	71933	6/9/98	217.5	211		91
WARREN LS 002-MV	300450756800	71933	6/10/98	220.5	215.7		83
WARREN LS 002-MV	300450756800	71933	6/11/98	226.4	224.1		69
WARREN LS 002-MV	300450756800	71933	6/12/98	207.7	204.4		102
WARREN LS 002-MV	300450756800	71933	6/13/98	220.1	218.3		75
WARREN LS 002-MV	300450756800	71933	6/14/98	215.1	208.4		94
WARREN LS 002-MV	300450756800	71933	6/15/98	219.3	216.1		84
WARREN LS 002-MV	300450756800	71933	6/16/98	223.7	217.9		73
WARREN LS 002-MV	300450756800	71933	6/17/98	221.2	214.6		90
WARREN LS 002-MV	300450756800	71933	6/18/98	215.8	208.6		93
WARREN LS 002-MV	300450756800	71933	6/19/98	217	209.9		86
WARREN LS 002-MV	300450756800	71933	6/20/98	220.6	213.8		83
WARREN LS 002-MV	300450756800	71933	6/21/98	220.5	213.6		85
WARREN LS 002-MV	300450756800	71933	6/22/98	218.5	211.3		87
WARREN LS 002-MV	300450756800	71933	6/23/98	218.7	211.1		87
WARREN LS 002-MV	300450756800	71933	6/24/98	216	209.5		90
WARREN LS 002-MV	300450756800	71933	6/25/98	215.8	209.5		85
WARREN LS 002-MV	300450756800	71933	6/26/98	210.7	206.5		104
WARREN LS 002-MV	300450756800	71933	6/27/98	200.1	194.2		109
WARREN LS 002-MV	300450756800	71933	6/28/98	204.8	202.1		98
WARREN LS 002-MV	300450756800	71933	6/29/98	195.8	191.8		114
WARREN LS 002-MV	300450756800	71933	6/30/98	193.4	191.9		118
WARREN LS 002-MV	300450756800	71933	7/1/98	203.2	202.6		83
WARREN LS 002-MV	300450756800	71933	7/2/98	221.3	217.8		67
WARREN LS 002-MV	300450756800	71933	7/3/98	218	212.6		85
WARREN LS 002-MV	300450756800	71933	7/4/98	214.1	209.3		85

WELLNAME	API	METER	RECDATE	AVG LINE	PAVG TUBING P	AVG CASING	GASVOL
WARREN LS 002-MV	300450756800	71933	7/5/98	215.1	210.4		83
WARREN LS 002-MV	300450756800	71933	7/6/98	209.1	208.2		98
WARREN LS 002-MV	300450756800	71933	7/7/98	212.1	206.7		81
WARREN LS 002-MV	300450756800	71933	7/8/98	218.4	214		75
WARREN LS 002-MV	300450756800	71933	7/9/98	218.4	212.3		84
WARREN LS 002-MV	300450756800	71933	7/10/98	208	205.4		92
WARREN LS 002-MV	300450756800	71933	7/11/98	221.2	215.8		75
WARREN LS 002-MV	300450756800	71933	7/12/98	211.3	205.8		96
WARREN LS 002-MV	300450756800	71933	7/13/98	205.1	206.6		95
WARREN LS 002-MV	300450756800	71933	7/14/98	189.1	187.2		116
WARREN LS 002-MV	300450756800	71933	7/15/98	169.5	170.8		153
WARREN LS 002-MV	300450756800	71933	7/16/98	161.7	201.6		59
WARREN LS 002-MV	300450756800	71933	7/17/98	229.2	224.4		65
WARREN LS 002-MV	300450756800	71933	7/18/98	215.1	211.3		89
WARREN LS 002-MV	300450756800	71933	7/19/98	207.1	203		97
WARREN LS 002-MV	300450756800	71933	7/20/98	206.9	203.4		90
WARREN LS 002-MV	300450756800	71933	7/21/98	211.9	208.6		79
WARREN LS 002-MV	300450756800	71933	7/22/98	205.9	208		95
WARREN LS 002-MV	300450756800	71933	7/23/98	206	212.3		72
WARREN LS 002-MV	300450756800	71933	7/24/98	195.7	193.9		117
WARREN LS 002-MV	300450756800	71933	7/25/98	191.6	189.9		105
WARREN LS 002-MV	300450756800	71933	7/26/98	186.7	183.7		115
WARREN LS 002-MV	300450756800	71933	7/27/98	186	184.5		118
WARREN LS 002-MV	300450756800	71933	7/28/98	184.8	181.3		116
WARREN LS 002-MV	300450756800	71933	7/29/98	188.6	185.6		104
WARREN LS 002-MV	300450756800	71933	7/30/98	188.5	185.3		111
WARREN LS 002-MV	300450756800	71933	7/31/98	189.3	185.6		103
WARREN LS 002-MV	300450756800	71933	8/1/98	192.2	188.9		100
WARREN LS 002-MV	300450756800	71933	8/2/98	186.6	183.9		110
WARREN LS 002-MV	300450756800	71933	8/3/98	184.1	180.8		108
WARREN LS 002-MV	300450756800	71933	8/4/98	172.5	172.1		124
WARREN LS 002-MV	300450756800	71933	8/5/98	191.3	192.3		75
WARREN LS 002-MV	300450756800	71933	8/6/98	214.5	225.2		53
WARREN LS 002-MV	300450756800	71933	8/7/98	195.1	191.3		107
WARREN LS 002-MV	300450756800	71933	8/8/98	188.5	211.5		57
WARREN LS 002-MV	300450756800	71933	8/9/98	207.1	220.6		84
WARREN LS 002-MV	300450756800	71933	8/10/98	189.2	194.2		93
WARREN LS 002-MV	300450756800	71933	8/11/98	217.5	212.5		67
WARREN LS 002-MV	300450756800	71933	8/12/98	217.7	213		71
WARREN LS 002-MV	300450756800	71933	8/13/98	216	210.9		72
WARREN LS 002-MV	300450756800	71933	8/14/98	219.4	215.4		64
WARREN LS 002-MV	300450756800	71933	8/15/98	220.3	215.2		68
WARREN LS 002-MV	300450756800	71933	8/16/98	218	213		74
WARREN LS 002-MV	300450756800	71933	8/17/98	222.4	217.8		58
WARREN LS 002-MV	300450756800	71933	8/18/98	224.4	220.3		66
WARREN LS 002-MV	300450756800	71933	8/19/98	227.5	223.2		55
WARREN LS 002-MV	300450756800	71933	8/20/98	227.8	227.4		57
WARREN LS 002-MV	300450756800	71933	8/21/98	224.7	220.9		65
WARREN LS 002-MV	300450756800	71933	8/22/98	223.2	222.8		70
WARREN LS 002-MV	300450756800	71933	8/23/98	220.1	215.5		76
WARREN LS 002-MV	300450756800	71933	8/24/98	221.3	217		66
WARREN LS 002-MV	300450756800	71933	8/25/98	222.3	227.5		52
WARREN LS 002-MV	300450756800	71933	8/26/98	228.5	226		56
WARREN LS 002-MV	300450756800	71933	8/27/98	230.1	224.6		62
WARREN LS 002-MV	300450756800	71933	8/28/98	227.1	221.8		69
WARREN LS 002-MV	300450756800	71933	8/29/98	222.3	217.9		71
WARREN LS 002-MV	300450756800	71933	8/30/98	221.2	216.2		74
WARREN LS 002-MV	300450756800	71933	8/31/98	224.4	219.5		62
WARREN LS 002-MV	300450756800	71933	9/1/98	230.3	233.6		34
WARREN LS 002-MV	300450756800	71933	9/2/98	233.8	230.2		55
WARREN LS 002-MV	300450756800	71933	9/3/98	234.5	229.9		61
WARREN LS 002-MV	300450756800	71933	9/4/98	226.9	221.9		66
WARREN LS 002-MV	300450756800	71933	9/5/98	225.6	220.6		70
WARREN LS 002-MV	300450756800	71933	9/6/98	220.8	215.9		76
WARREN LS 002-MV	300450756800	71933	9/7/98	221.3	216.1		75

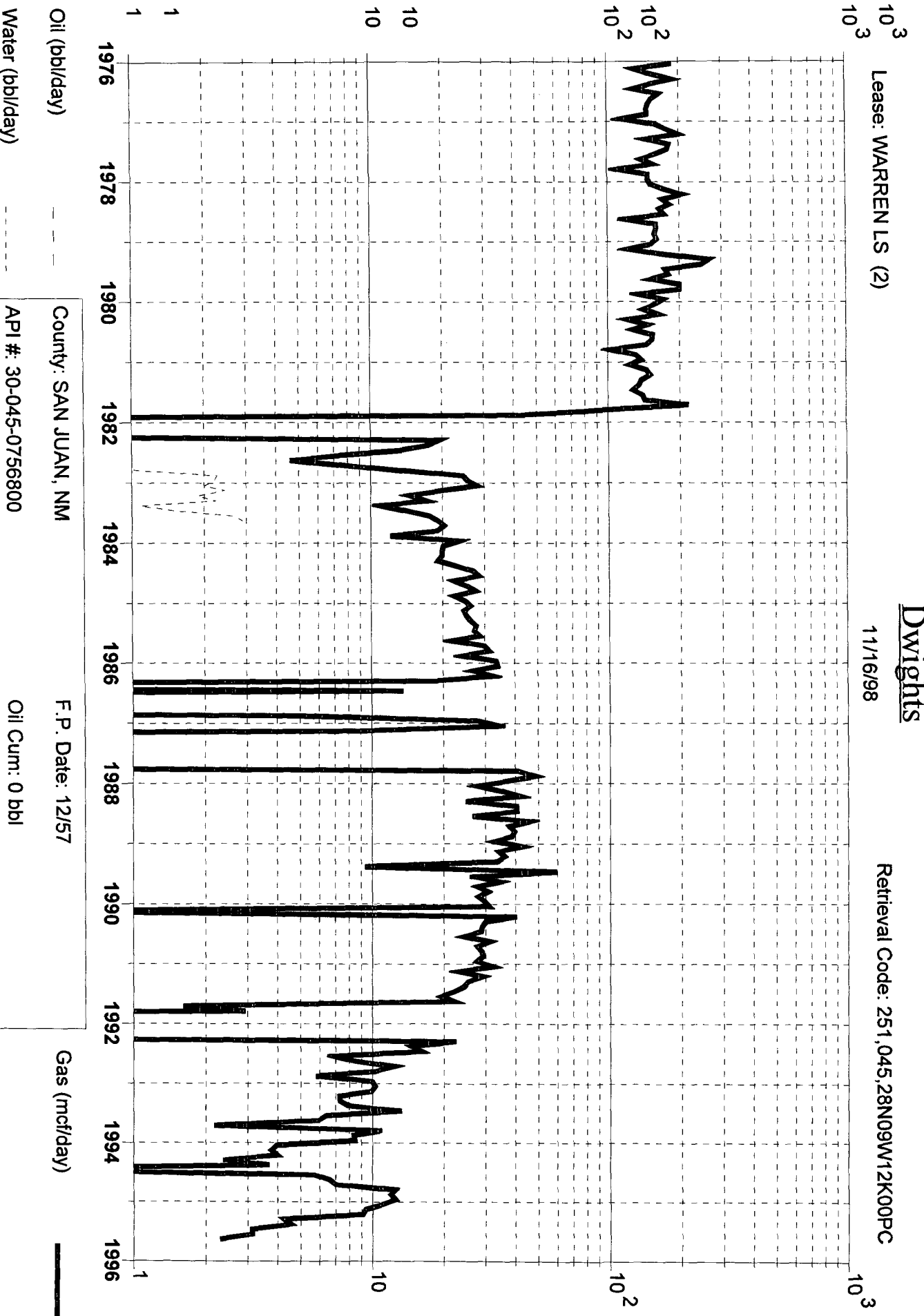
WELLNAME	API	METER	RECDATE	AVG LINE P	AVG TUBING P	AVG CASING	GASVOL
WARREN LS 002-MV	300450756800	71933	9/8/98	222.3	218.6		63
WARREN LS 002-MV	300450756800	71933	9/9/98	222.6	217.8		75
WARREN LS 002-MV	300450756800	71933	9/10/98	211.5	209.4		87
WARREN LS 002-MV	300450756800	71933	9/11/98	218.1	220.2		63
WARREN LS 002-MV	300450756800	71933	9/12/98	228	222.8		60
WARREN LS 002-MV	300450756800	71933	9/13/98	225.4	220.3		70
WARREN LS 002-MV	300450756800	71933	9/14/98	220.1	215.4		75
WARREN LS 002-MV	300450756800	71933	9/15/98	223.5	218.6		63
WARREN LS 002-MV	300450756800	71933	9/16/98	223.1	217.5		73
WARREN LS 002-MV	300450756800	71933	9/17/98	222.3	216.9		74
WARREN LS 002-MV	300450756800	71933	9/18/98	222.4	217.4		66
WARREN LS 002-MV	300450756800	71933	9/19/98	226.3	221		66
WARREN LS 002-MV	300450756800	71933	9/20/98	222.6	216.9		71
WARREN LS 002-MV	300450756800	71933	9/21/98	223.9	218.2		68
WARREN LS 002-MV	300450756800	71933	9/22/98	224.2	218.7		66
WARREN LS 002-MV	300450756800	71933	9/23/98	191.5	193.8		121
WARREN LS 002-MV	300450756800	71933	9/24/98	168.2	167.3		147
WARREN LS 002-MV	300450756800	71933	9/25/98	165.6	162.8		141
WARREN LS 002-MV	300450756800	71933	9/26/98	161.9	161.3		133
WARREN LS 002-MV	300450756800	71933	9/27/98	164.7	171.4		104
WARREN LS 002-MV	300450756800	71933	9/28/98	154	154.1		150
WARREN LS 002-MV	300450756800	71933	9/29/98	152.9	151.8		140
WARREN LS 002-MV	300450756800	71933	9/30/98	150.5	150.1		140
WARREN LS 002-MV	300450756800	71933	10/1/98	150.8	148.3		130
WARREN LS 002-MV	300450756800	71933	10/2/98	142.7	146.1		157
WARREN LS 002-MV	300450756800	71933	10/3/98	126	125.9		117
WARREN LS 002-MV	300450756800	71933	10/4/98	123.5	129.4		145
WARREN LS 002-MV	300450756800	71933	10/5/98	124.2	129.5		140
WARREN LS 002-MV	300450756800	71933	10/6/98	134.9	134.8		131
WARREN LS 002-MV	300450756800	71933	10/7/98	139.7	144.4		115
WARREN LS 002-MV	300450756800	71933	10/8/98	156	154.4		139
WARREN LS 002-MV	300450756800	71933	10/9/98	150.6	151.6		118
WARREN LS 002-MV	300450756800	71933	10/10/98	150.3	150.5		131
WARREN LS 002-MV	300450756800	71933	10/11/98	147.5	146		130
WARREN LS 002-MV	300450756800	71933	10/12/98	144	195.5		30
WARREN LS 002-MV	300450756800	71933	10/13/98	222.8	225.9		20
WARREN LS 002-MV	300450756800	71933	10/14/98	240.8	235.6		10
WARREN LS 002-MV	300450756800	71933	10/15/98	248.9	240.6		10
WARREN LS 002-MV	300450756800	71933	10/16/98	214.5	218.4		80
WARREN LS 002-MV	300450756800	71933	10/17/98	183.6	183.6		120
WARREN LS 002-MV	300450756800	71933	10/18/98	175.9	171.8		123
WARREN LS 002-MV	300450756800	71933	10/19/98	169.9	179.7		112
WARREN LS 002-MV	300450756800	71933	10/20/98	144.5	148.3		125
WARREN LS 002-MV	300450756800	71933	10/21/98	136.4	137.4		157
WARREN LS 002-MV	300450756800	71933	10/22/98	135.1	137.4		136
WARREN LS 002-MV	300450756800	71933	10/23/98	134.9	136.7		136
WARREN LS 002-MV	300450756800	71933	10/24/98	134.1	133.8		136
WARREN LS 002-MV	300450756800	71933	10/25/98	131.9	133.4		136
WARREN LS 002-MV	300450756800	71933	10/26/98	129.6	130.9		132
WARREN LS 002-MV	300450756800	71933	10/27/98	131.5	132.5		132
WARREN LS 002-MV	300450756800	71933	10/28/98	134.9	135.9		127
WARREN LS 002-MV	300450756800	71933	10/29/98	138.3	137.3		137
WARREN LS 002-MV	300450756800	71933	10/30/98	139.7	138.7		134
WARREN LS 002-MV	300450756800	71933	10/31/98	137.7	138.7		121
WARREN LS 002-MV	300450756800	71933	11/1/98	135	136		137
WARREN LS 002-MV	300450756800	71933	11/2/98	137.7	139.4		125
WARREN LS 002-MV	300450756800	71933	11/3/98	127.6	132.7		118
WARREN LS 002-MV	300450756800	71933	11/4/98	130.2	131.2		142
WARREN LS 002-MV	300450756800	71933	11/5/98	128.4	130.1		126
WARREN LS 002-MV	300450756800	71933	11/6/98	137.3	143.4		117
WARREN LS 002-MV	300450756800	71933	11/7/98	129.8	131.7		133
WARREN LS 002-MV	300450756800	71933	11/8/98	123.8	126.1		125
WARREN LS 002-MV	300450756800	71933	11/9/98	127	128		122
WARREN LS 002-MV	300450756800	71933	11/10/98	145.1	159.7		92
WARREN LS 002-MV	300450756800	71933	11/11/98	139.8	138.9		144

Dwights

Lease: WARREN LS (2)

11/16/98

Retrieval Code: 251,045,28N09W12K00PC



County: SAN JUAN, NM

F.P. Date: 12/57

Gas (mcf/day)

API #: 30-045-0756800

Oil Cum: 0 bbl

Reservoir: PICTURED CLIFFS

Gas Cum: 1685 mcf

Operator: AMOCO PRODUCTION CO

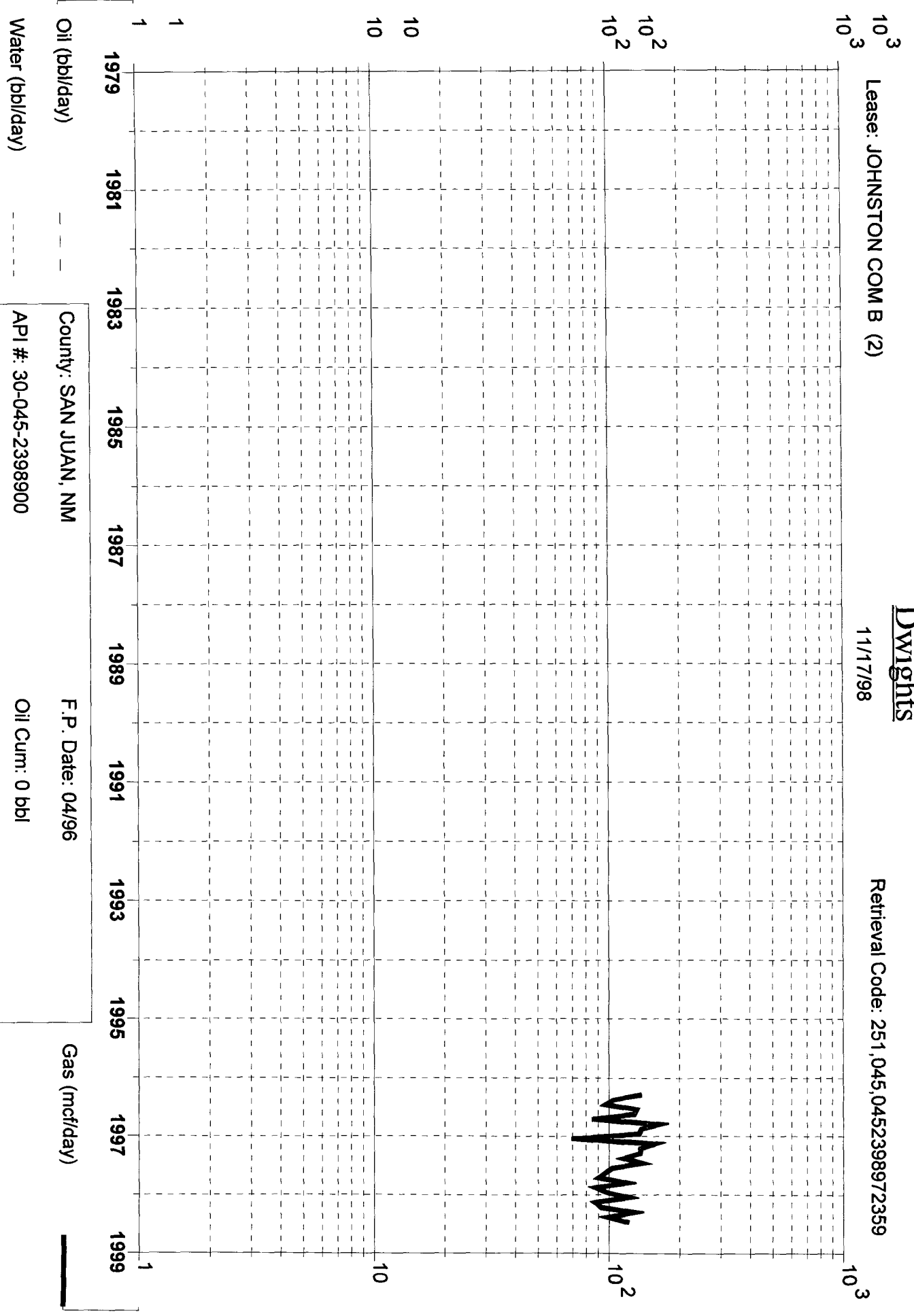
Location: 12K 28N 9W

Dwights

Lease: JOHNSTON COM B (2)

11/17/98

Retrieval Code: 251,045,0452398972359



Oil (bbl/day)

County: SAN JUAN, NM

F.P. Date: 04/96

Gas (mcf/day)

Water (bbl/day)

API #: 30-045-2398900

Oil Cum: 0 bbl

Reservoir: PICTURED CLIFFS

Gas Cum: 94.34 mmcf

Operator: AMOCO PRODUCTION CO

Location: 11P 28N 9W

WELLNAME	API	METER	RECDATE	AVG_LINE P	AVG_TUBING P	AVG_CASING	GASVOL
JOHNSTON COM B 002-PC	300452398900	97824	8/1/98	190.8	192.1	208.2	125
JOHNSTON COM B 002-PC	300452398900	97824	8/2/98	187.6	188.1	209.2	143
JOHNSTON COM B 002-PC	300452398900	97824	8/3/98	186.4	186.5	201	195
JOHNSTON COM B 002-PC	300452398900	97824	8/4/98	173.1	179.3	196.4	229
JOHNSTON COM B 002-PC	300452398900	97824	8/5/98	185	194	205.3	64
JOHNSTON COM B 002-PC	300452398900	97824	8/6/98	208.1	210.9	222.5	23
JOHNSTON COM B 002-PC	300452398900	97824	8/7/98	196.9	197.3	213.2	157
JOHNSTON COM B 002-PC	300452398900	97824	8/8/98	190.9	195.6	217.3	71
JOHNSTON COM B 002-PC	300452398900	97824	8/9/98	201.7	205.6	225.7	84
JOHNSTON COM B 002-PC	300452398900	97824	8/10/98	188.1	194.1	210.5	153
JOHNSTON COM B 002-PC	300452398900	97824	8/11/98	217	211.3	229.3	2
JOHNSTON COM B 002-PC	300452398900	97824	8/12/98	216.6	215.5	233.8	37
JOHNSTON COM B 002-PC	300452398900	97824	8/13/98	215.5	214.9	234.3	51
JOHNSTON COM B 002-PC	300452398900	97824	8/14/98	217.1	217	237.9	35
JOHNSTON COM B 002-PC	300452398900	97824	8/15/98	220.1	218.5	240.4	43
JOHNSTON COM B 002-PC	300452398900	97824	8/16/98	218.7	217.6	230.8	141
JOHNSTON COM B 002-PC	300452398900	97824	8/17/98	217.6	221.2	235.8	40
JOHNSTON COM B 002-PC	300452398900	97824	8/18/98	220.4	224.5	240.5	66
JOHNSTON COM B 002-PC	300452398900	97824	8/19/98	225	224.3	242.1	34
JOHNSTON COM B 002-PC	300452398900	97824	8/20/98	223.2	224.5	244.2	37
JOHNSTON COM B 002-PC	300452398900	97824	8/21/98	224.2	224.3	238.4	111
JOHNSTON COM B 002-PC	300452398900	97824	8/22/98	221	222.4	235.3	107
JOHNSTON COM B 002-PC	300452398900	97824	8/23/98	220.5	219.8	235.7	109
JOHNSTON COM B 002-PC	300452398900	97824	8/24/98	219.4	220.2	240.1	50
JOHNSTON COM B 002-PC	300452398900	97824	8/25/98	216	219.5	242.2	55
JOHNSTON COM B 002-PC	300452398900	97824	8/26/98	223.3	229.3	241.4	76
JOHNSTON COM B 002-PC	300452398900	97824	8/27/98	230.1	230.1	241.8	92
JOHNSTON COM B 002-PC	300452398900	97824	8/28/98	226.8	226.3	241.3	86
JOHNSTON COM B 002-PC	300452398900	97824	8/29/98	221.7	221.5	240.4	88
JOHNSTON COM B 002-PC	300452398900	97824	8/30/98	221.7	220.5	240.1	109
JOHNSTON COM B 002-PC	300452398900	97824	8/31/98	223.2	224	235.5	102
JOHNSTON COM B 002-PC	300452398900	97824	9/1/98	226.6	228	242.6	43
JOHNSTON COM B 002-PC	300452398900	97824	9/2/98	226.6	228	242.6	43
JOHNSTON COM B 002-PC	300452398900	97824	9/3/98	231.4	233.1	249.6	66
JOHNSTON COM B 002-PC	300452398900	97824	9/4/98	225.9	226	245.6	77
JOHNSTON COM B 002-PC	300452398900	97824	9/5/98	226.3	224.9	237.1	159
JOHNSTON COM B 002-PC	300452398900	97824	9/6/98	221	220.4	235.2	122
JOHNSTON COM B 002-PC	300452398900	97824	9/7/98	221.7	220.5	239.3	85
JOHNSTON COM B 002-PC	300452398900	97824	9/8/98	219.4	221.1	243.5	48
JOHNSTON COM B 002-PC	300452398900	97824	9/9/98	222.9	222.8	234.7	164
JOHNSTON COM B 002-PC	300452398900	97824	9/10/98	212.7	213.6	230.9	153
JOHNSTON COM B 002-PC	300452398900	97824	9/11/98	215	216.8	238.2	56
JOHNSTON COM B 002-PC	300452398900	97824	9/12/98	225	223.2	245.8	30
JOHNSTON COM B 002-PC	300452398900	97824	9/13/98	226.6	225.2	237.3	151
JOHNSTON COM B 002-PC	300452398900	97824	9/14/98	220.1	219.6	235.2	107
JOHNSTON COM B 002-PC	300452398900	97824	9/15/98	223.1	222.4	241.3	57
JOHNSTON COM B 002-PC	300452398900	97824	9/16/98	223.6	222.1	243.1	75
JOHNSTON COM B 002-PC	300452398900	97824	9/17/98	223.3	221.6	236.3	145
JOHNSTON COM B 002-PC	300452398900	97824	9/18/98	221.4	221.9	237.2	79
JOHNSTON COM B 002-PC	300452398900	97824	9/19/98	227.2	225.4	242.5	73
JOHNSTON COM B 002-PC	300452398900	97824	9/20/98	224	222.3	243	70
JOHNSTON COM B 002-PC	300452398900	97824	9/21/98	225.6	223.8	238.3	132
JOHNSTON COM B 002-PC	300452398900	97824	9/22/98	225.7	224.7	238.4	93
JOHNSTON COM B 002-PC	300452398900	97824	9/23/98	192.8	205.8	221.4	308
JOHNSTON COM B 002-PC	300452398900	97824	9/24/98	171.7	176	190.6	358
JOHNSTON COM B 002-PC	300452398900	97824	9/25/98	168.7	170.3	187.9	292
JOHNSTON COM B 002-PC	300452398900	97824	9/26/98	164.3	166.5	184.7	284
JOHNSTON COM B 002-PC	300452398900	97824	9/27/98	165	170.1	189.7	215
JOHNSTON COM B 002-PC	300452398900	97824	9/28/98	156	157.5	176	281
JOHNSTON COM B 002-PC	300452398900	97824	9/29/98	155.3	156.3	174.2	271

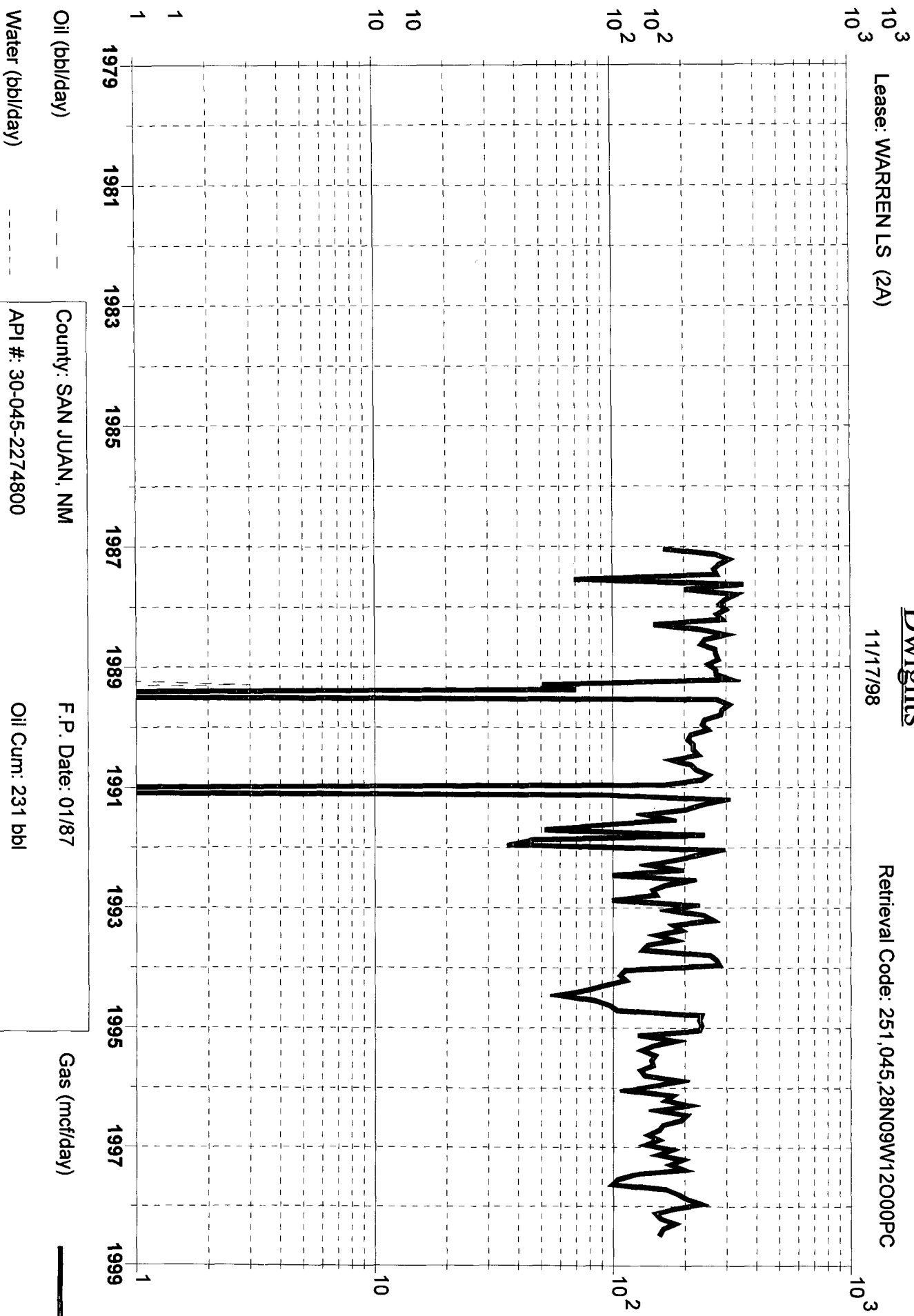
WELLNAME	API	METER	RECDATE	AVG_LINE	PAVG_TUBING P	PAVG_CASING	GASVOL
JOHNSTON COM B 002-PC	300452398900	97824	9/30/98	152.3	153.3	171.5	283
JOHNSTON COM B 002-PC	300452398900	97824	10/1/98	152.3	153.2	171.3	257
JOHNSTON COM B 002-PC	300452398900	97824	10/2/98	145.8	149.4	167.7	313
JOHNSTON COM B 002-PC	300452398900	97824	10/3/98	132.4	135	153.5	341
JOHNSTON COM B 002-PC	300452398900	97824	10/4/98	127.4	130.4	148.8	340
JOHNSTON COM B 002-PC	300452398900	97824	10/5/98	127.5	128.9	148.5	294
JOHNSTON COM B 002-PC	300452398900	97824	10/6/98	135.2	135.5	154.1	239
JOHNSTON COM B 002-PC	300452398900	97824	10/7/98	137.4	140.6	159.8	203
JOHNSTON COM B 002-PC	300452398900	97824	10/8/98	151.7	154	173	176
JOHNSTON COM B 002-PC	300452398900	97824	10/9/98	149.9	150.5	170.7	191
JOHNSTON COM B 002-PC	300452398900	97824	10/10/98	148.5	149.3	168.6	201
JOHNSTON COM B 002-PC	300452398900	97824	10/11/98	147.8	147.5	165.7	236
JOHNSTON COM B 002-PC	300452398900	97824	10/12/98	145.3	168	181.7	62
JOHNSTON COM B 002-PC	300452398900	97824	10/13/98	241.1	188.7	200.4	0
JOHNSTON COM B 002-PC	300452398900	97824	10/14/98	244.9	198.7	210	0
JOHNSTON COM B 002-PC	300452398900	97824	10/15/98	249.1	205.6	216.7	0
JOHNSTON COM B 002-PC	300452398900	97824	10/16/98	198.9	205.7	217.7	65
JOHNSTON COM B 002-PC	300452398900	97824	10/17/98	179.5	183.9	201.9	206
JOHNSTON COM B 002-PC	300452398900	97824	10/18/98	175.8	175	191.3	233
JOHNSTON COM B 002-PC	300452398900	97824	10/19/98	167.7	173.6	190.3	211
JOHNSTON COM B 002-PC	300452398900	97824	10/20/98	148	152.7	168.9	360
JOHNSTON COM B 002-PC	300452398900	97824	10/21/98	138.4	140.2	159.9	309
JOHNSTON COM B 002-PC	300452398900	97824	10/22/98	137.4	138.7	157.6	291
JOHNSTON COM B 002-PC	300452398900	97824	10/23/98	137.1	137.9	156.8	272
JOHNSTON COM B 002-PC	300452398900	97824	10/24/98	135.8	136.2	156.1	260
JOHNSTON COM B 002-PC	300452398900	97824	10/25/98	133.8	134.3	153.6	269
JOHNSTON COM B 002-PC	300452398900	97824	10/26/98	131.3	131.6	150.7	268
JOHNSTON COM B 002-PC	300452398900	97824	10/27/98	133	132.8	152.8	238
JOHNSTON COM B 002-PC	300452398900	97824	10/28/98	136.1	135.5	155.6	216
JOHNSTON COM B 002-PC	300452398900	97824	10/29/98	138.8	137.5	158.3	203
JOHNSTON COM B 002-PC	300452398900	97824	10/30/98	139.8	138.9	159.1	201
JOHNSTON COM B 002-PC	300452398900	97824	10/31/98	139.3	138.3	158.4	217
JOHNSTON COM B 002-PC	300452398900	97824	11/1/98	136.3	135.9	155.3	231
JOHNSTON COM B 002-PC	300452398900	97824	11/2/98	136.9	138.9	157.3	210
JOHNSTON COM B 002-PC	300452398900	97824	11/3/98	129.3	132.2	150.2	236
JOHNSTON COM B 002-PC	300452398900	97824	11/4/98	132.4	132.1	151.2	251
JOHNSTON COM B 002-PC	300452398900	97824	11/5/98	130.2	129.7	149.3	234
JOHNSTON COM B 002-PC	300452398900	97824	11/6/98	134.2	136.4	155.8	174
JOHNSTON COM B 002-PC	300452398900	97824	11/7/98	131.9	131.8	151	246
JOHNSTON COM B 002-PC	300452398900	97824	11/8/98	126.2	126.1	145.8	253
JOHNSTON COM B 002-PC	300452398900	97824	11/9/98	126.5	128.1	148.4	195
JOHNSTON COM B 002-PC	300452398900	97824	11/10/98	135	146.6	163	102
JOHNSTON COM B 002-PC	300452398900	97824	11/11/98	139	140.2	159	228
JOHNSTON COM B 002-PC	300452398900	97824	11/12/98	136.2	141.8	161.4	130
JOHNSTON COM B 002-PC	300452398900	97824	11/13/98	139.4	141.9	161.3	225
JOHNSTON COM B 002-PC	300452398900	97824	11/14/98	128.4	128.3	148.6	257

Dwights

Lease: WARREN LS (2A)

11/17/98

Retrieval Code: 251,045,28N09W12O00PC



Oil (bbl/day)

Water (bbl/day)

County: SAN JUAN, NM

API #: 30-045-2274800

Reservoir: PICTURED CLIFFS

Operator: AMOCO PRODUCTION CO

F.P. Date: 01/87

Oil Cum: 231 bbl

Gas Cum: 788.8 mmcf

Location: 12O 28N 9W

Gas (mcf/day)

WELLNAME	API	METER	RECDATE	AVG_LINE P	AVG TUBING P	AVG CASING	GASVOL
WARREN LS 002A-PC	300452274800	95978	8/1/98	148.1	150.3	155.2	129
WARREN LS 002A-PC	300452274800	95978	8/2/98	145.6	146.4	155.2	146
WARREN LS 002A-PC	300452274800	95978	8/3/98	147.8	151.6	155	125
WARREN LS 002A-PC	300452274800	95978	8/4/98	147	148.4	154.3	152
WARREN LS 002A-PC	300452274800	95978	8/5/98	146.1	150.6	153.8	147
WARREN LS 002A-PC	300452274800	95978	8/6/98	147.6	160.7	159.1	75
WARREN LS 002A-PC	300452274800	95978	8/7/98	148.6	153.2	156.2	144
WARREN LS 002A-PC	300452274800	95978	8/8/98	145.1	158.2	158.3	85
WARREN LS 002A-PC	300452274800	95978	8/9/98	149.8	163	162.3	83
WARREN LS 002A-PC	300452274800	95978	8/10/98	145.9	152.9	155.4	160
WARREN LS 002A-PC	300452274800	95978	8/11/98	148.3	148.9	155.1	139
WARREN LS 002A-PC	300452274800	95978	8/12/98	150.6	152.9	157.3	96
WARREN LS 002A-PC	300452274800	95978	8/13/98	151.8	163.8	162.3	43
WARREN LS 002A-PC	300452274800	95978	8/14/98	144.7	171.9	167.2	0
WARREN LS 002A-PC	300452274800	95978	8/15/98	139.6	173.8	169.3	0
WARREN LS 002A-PC	300452274800	95978	8/16/98	135.1	175.1	170.6	0
WARREN LS 002A-PC	300452274800	95978	8/17/98	132.7	176.2	171.6	0
WARREN LS 002A-PC	300452274800	95978	8/18/98	130.4	177	172.4	0
WARREN LS 002A-PC	300452274800	95978	8/19/98	151.6	177.8	173.2	0
WARREN LS 002A-PC	300452274800	95978	8/20/98	144.1	178.5	173.8	0
WARREN LS 002A-PC	300452274800	95978	8/21/98	156.2	178.2	173.5	10
WARREN LS 002A-PC	300452274800	95978	8/22/98	158.3	170.9	170.1	100
WARREN LS 002A-PC	300452274800	95978	8/23/98	150.1	152.5	159.1	211
WARREN LS 002A-PC	300452274800	95978	8/24/98	148.9	151.1	156.6	183
WARREN LS 002A-PC	300452274800	95978	8/25/98	153.1	163	162.5	81
WARREN LS 002A-PC	300452274800	95978	8/26/98	150.8	153.2	158.3	181
WARREN LS 002A-PC	300452274800	95978	8/27/98	153	153.7	159.4	119
WARREN LS 002A-PC	300452274800	95978	8/28/98	154.2	157.3	162.6	86
WARREN LS 002A-PC	300452274800	95978	8/29/98	150.6	152.4	159.1	162
WARREN LS 002A-PC	300452274800	95978	8/30/98	147.9	151.1	157	171
WARREN LS 002A-PC	300452274800	95978	8/31/98	145.6	149.2	153.9	191
WARREN LS 002A-PC	300452274800	95978	9/1/98	147.4	148.6	154.5	155
WARREN LS 002A-PC	300452274800	95978	9/2/98	150.9	153.6	157.6	130
WARREN LS 002A-PC	300452274800	95978	9/3/98	148.7	149.5	156.7	143
WARREN LS 002A-PC	300452274800	95978	9/4/98	147.2	151.2	156.4	151
WARREN LS 002A-PC	300452274800	95978	9/5/98	148.3	149.1	155.8	141
WARREN LS 002A-PC	300452274800	95978	9/6/98	147.9	149.7	159	98
WARREN LS 002A-PC	300452274800	95978	9/7/98	147.5	147.9	158.4	139
WARREN LS 002A-PC	300452274800	95978	9/8/98	146.8	148.7	158.2	112
WARREN LS 002A-PC	300452274800	95978	9/9/98	148.4	148.8	158.6	132
WARREN LS 002A-PC	300452274800	95978	9/10/98	146.1	149.3	155.5	171
WARREN LS 002A-PC	300452274800	95978	9/11/98	145.9	146.6	154.6	159
WARREN LS 002A-PC	300452274800	95978	9/12/98	143.7	146	156.3	119
WARREN LS 002A-PC	300452274800	95978	9/13/98	145.2	150	157.4	157
WARREN LS 002A-PC	300452274800	95978	9/14/98	139.8	141.9	148.9	232
WARREN LS 002A-PC	300452274800	95978	9/15/98	138.3	140.4	147.1	227
WARREN LS 002A-PC	300452274800	95978	9/16/98	137.9	140	146.4	220
WARREN LS 002A-PC	300452274800	95978	9/17/98	138.8	140.8	146.6	209
WARREN LS 002A-PC	300452274800	95978	9/18/98	138.4	140.4	146.3	210
WARREN LS 002A-PC	300452274800	95978	9/19/98	136.9	138.9	145.3	218
WARREN LS 002A-PC	300452274800	95978	9/20/98	137.8	140.7	146.2	191
WARREN LS 002A-PC	300452274800	95978	9/21/98	135.7	137.8	144.4	223
WARREN LS 002A-PC	300452274800	95978	9/22/98	136.9	139	144.5	203
WARREN LS 002A-PC	300452274800	95978	9/23/98	140.1	141.9	148	162
WARREN LS 002A-PC	300452274800	95978	9/24/98	144	145.7	152.8	103
WARREN LS 002A-PC	300452274800	95978	9/25/98	147.1	147.2	154.9	112
WARREN LS 002A-PC	300452274800	95978	9/26/98	148.4	150.9	154.9	120
WARREN LS 002A-PC	300452274800	95978	9/27/98	145.7	146.2	152.9	142
WARREN LS 002A-PC	300452274800	95978	9/28/98	144.1	158.1	157.8	73
WARREN LS 002A-PC	300452274800	95978	9/29/98	151	162.4	160.7	85

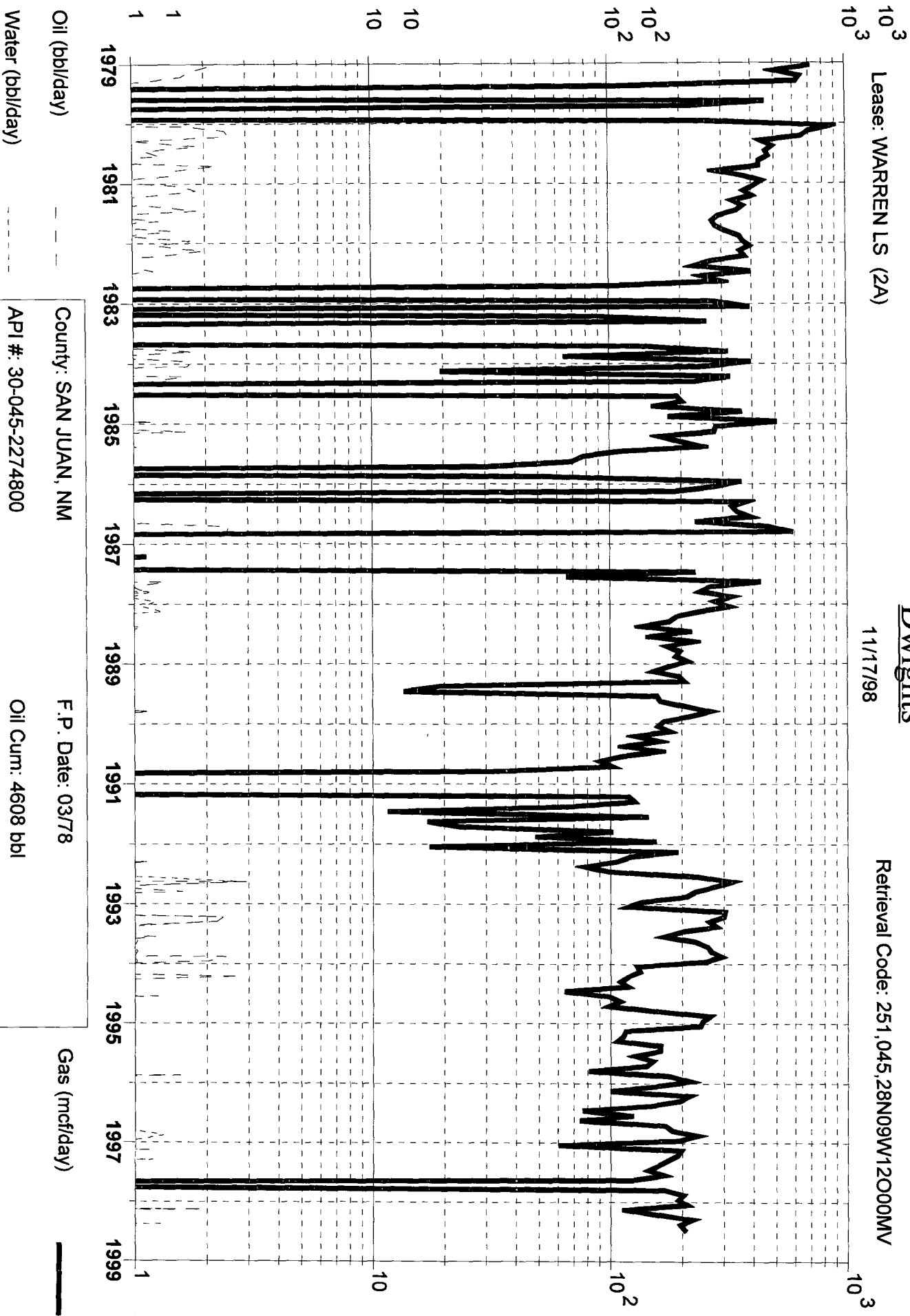
WELLNAME	API	METER	RECDATE	AVG LINE P	AVG TUBING P	AVG CASING	GASVOL
WARREN LS 002A-PC	300452274800	95978	9/30/98	145.7	148.8	153.6	156
WARREN LS 002A-PC	300452274800	95978	10/1/98	148.9	155	156.2	132
WARREN LS 002A-PC	300452274800	95978	10/2/98	145.1	144.4	152.6	155
WARREN LS 002A-PC	300452274800	95978	10/3/98	146.5	148.1	154.8	113
WARREN LS 002A-PC	300452274800	95978	10/4/98	145.4	144.6	154.8	137
WARREN LS 002A-PC	300452274800	95978	10/5/98	142.1	143.9	149.2	201
WARREN LS 002A-PC	300452274800	95978	10/6/98	144.6	143.6	150.8	151
WARREN LS 002A-PC	300452274800	95978	10/7/98	145.9	151.2	154.9	95
WARREN LS 002A-PC	300452274800	95978	10/8/98	148.9	154.3	156.6	130
WARREN LS 002A-PC	300452274800	95978	10/9/98	147.2	146.5	153	145
WARREN LS 002A-PC	300452274800	95978	10/10/98	149.7	155.1	158.4	73
WARREN LS 002A-PC	300452274800	95978	10/11/98	144.8	144.6	152.2	187
WARREN LS 002A-PC	300452274800	95978	10/12/98	140.8	158.1	156.3	83
WARREN LS 002A-PC	300452274800	95978	10/13/98	169.1	169.4	164.7	0
WARREN LS 002A-PC	300452274800	95978	10/14/98	167.2	171.9	167.4	0
WARREN LS 002A-PC	300452274800	95978	10/15/98	164	173.5	168.9	0
WARREN LS 002A-PC	300452274800	95978	10/16/98	164.7	174.4	169.7	0
WARREN LS 002A-PC	300452274800	95978	10/17/98	171.9	175.4	170.5	0
WARREN LS 002A-PC	300452274800	95978	10/18/98	170.1	176.2	171.3	0
WARREN LS 002A-PC	300452274800	95978	10/19/98	173.3	174.2	171.5	0
WARREN LS 002A-PC	300452274800	95978	10/20/98	176.3	177.2	172.5	0
WARREN LS 002A-PC	300452274800	95978	10/21/98	176.9	177.9	172.9	0
WARREN LS 002A-PC	300452274800	95978	10/22/98	166	178.5	173.5	0
WARREN LS 002A-PC	300452274800	95978	10/23/98	158.9	165.9	169.9	98
WARREN LS 002A-PC	300452274800	95978	10/24/98	155.3	156.4	164.2	114
WARREN LS 002A-PC	300452274800	95978	10/25/98	152.6	151.2	162.9	129
WARREN LS 002A-PC	300452274800	95978	10/26/98	148.1	149.3	157.9	173
WARREN LS 002A-PC	300452274800	95978	10/27/98	152.6	163.6	163.6	92
WARREN LS 002A-PC	300452274800	95978	10/28/98	148.9	147.7	158	161
WARREN LS 002A-PC	300452274800	95978	10/29/98	147.3	148.9	154	197
WARREN LS 002A-PC	300452274800	95978	10/30/98	147.6	155.9	158.4	113
WARREN LS 002A-PC	300452274800	95978	10/31/98	145.6	154.2	158.1	185
WARREN LS 002A-PC	300452274800	95978	11/1/98	139.8	141.2	149.1	242
WARREN LS 002A-PC	300452274800	95978	11/2/98	138.7	138.8	147.6	224
WARREN LS 002A-PC	300452274800	95978	11/3/98	138	142.7	147.6	203
WARREN LS 002A-PC	300452274800	95978	11/4/98	144	146.4	151.4	165
WARREN LS 002A-PC	300452274800	95978	11/5/98	144.7	145.8	152.7	143
WARREN LS 002A-PC	300452274800	95978	11/6/98	142.9	141.2	154	149
WARREN LS 002A-PC	300452274800	95978	11/7/98	140.4	141.7	148.1	220
WARREN LS 002A-PC	300452274800	95978	11/8/98	137.9	139.2	146.1	227
WARREN LS 002A-PC	300452274800	95978	11/9/98	133.7	156.6	154.5	76
WARREN LS 002A-PC	300452274800	95978	11/10/98	118.3	168.5	163.5	0
WARREN LS 002A-PC	300452274800	95978	11/11/98	112	137.2	153	275
WARREN LS 002A-PC	300452274800	95978	11/12/98	116	120.2	138.4	310
WARREN LS 002A-PC	300452274800	95978	11/13/98	131.9	141.1	145	169
WARREN LS 002A-PC	300452274800	95978	11/14/98	151.8	150.4	152.7	109

Dwights

Lease: WARREN LS (2A)

11/17/98

Retrieval Code: 251,045,28N09W12O00MV



Oil (bbl/day)

Water (bbl/day)

County: SAN JUAN, NM

F.P. Date: 03/78

Gas (mcf/day)

API #: 30-045-2274800

Oil Cum: 4608 bbl

Reservoir: MESAVERDE

Gas Cum: 1607 mmcf

Operator: AMOCO PRODUCTION CO

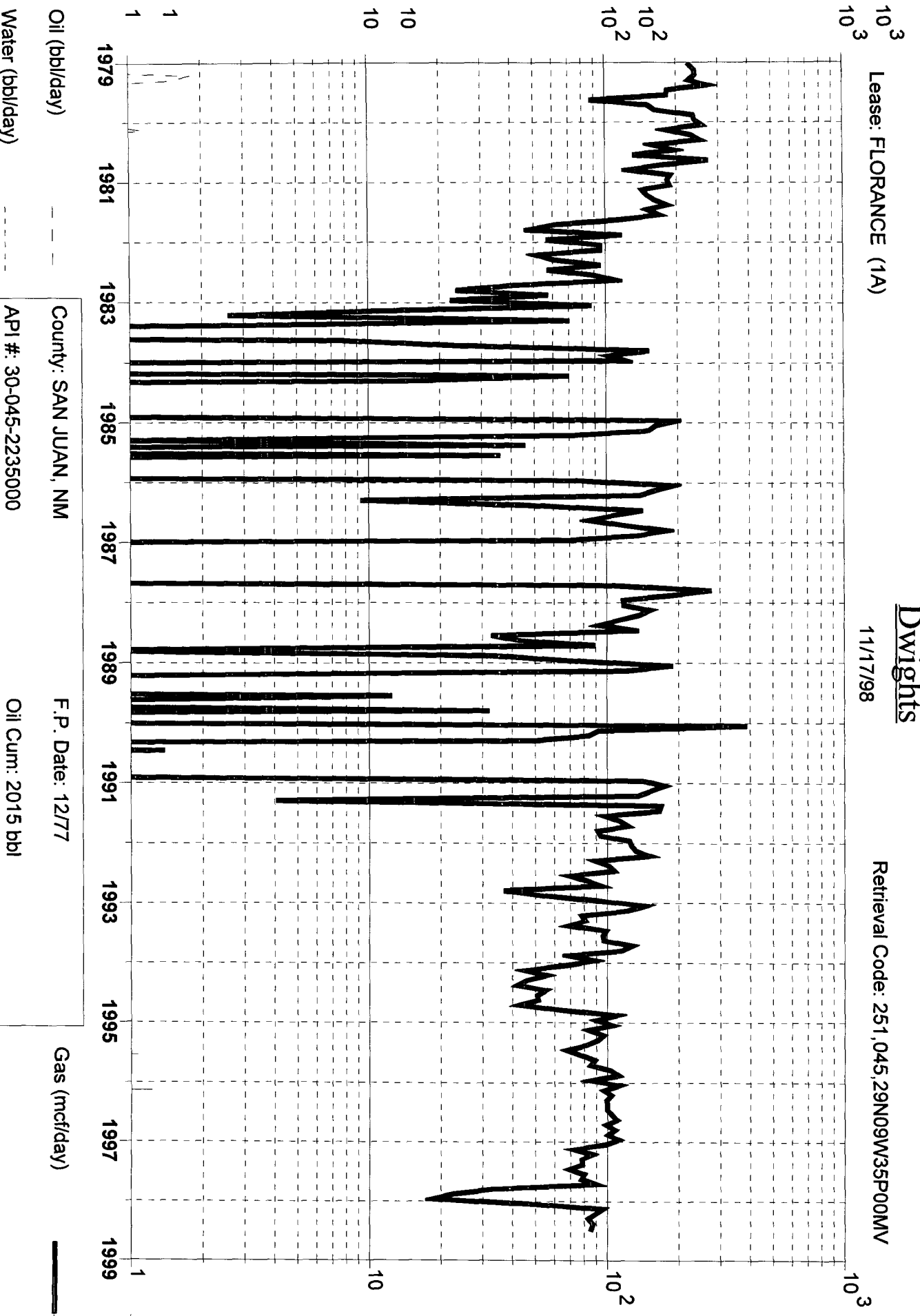
Location: 12O 28N 9W

Dwights

Lease: FLORANCE (1A)

11/17/98

Retrieval Code: 251,045,29N09W35P00MV



Oil (bbl/day)

Water (bbl/day)

County: SAN JUAN, NM

API #: 30-045-2235000

Reservoir: MESAVERDE

Operator: AMOCO PRODUCTION CO

F.P. Date: 12/77

Oil Cum: 2015 bbl

Gas Cum: 752.3 mmcf

Location: 35P 29N 9W

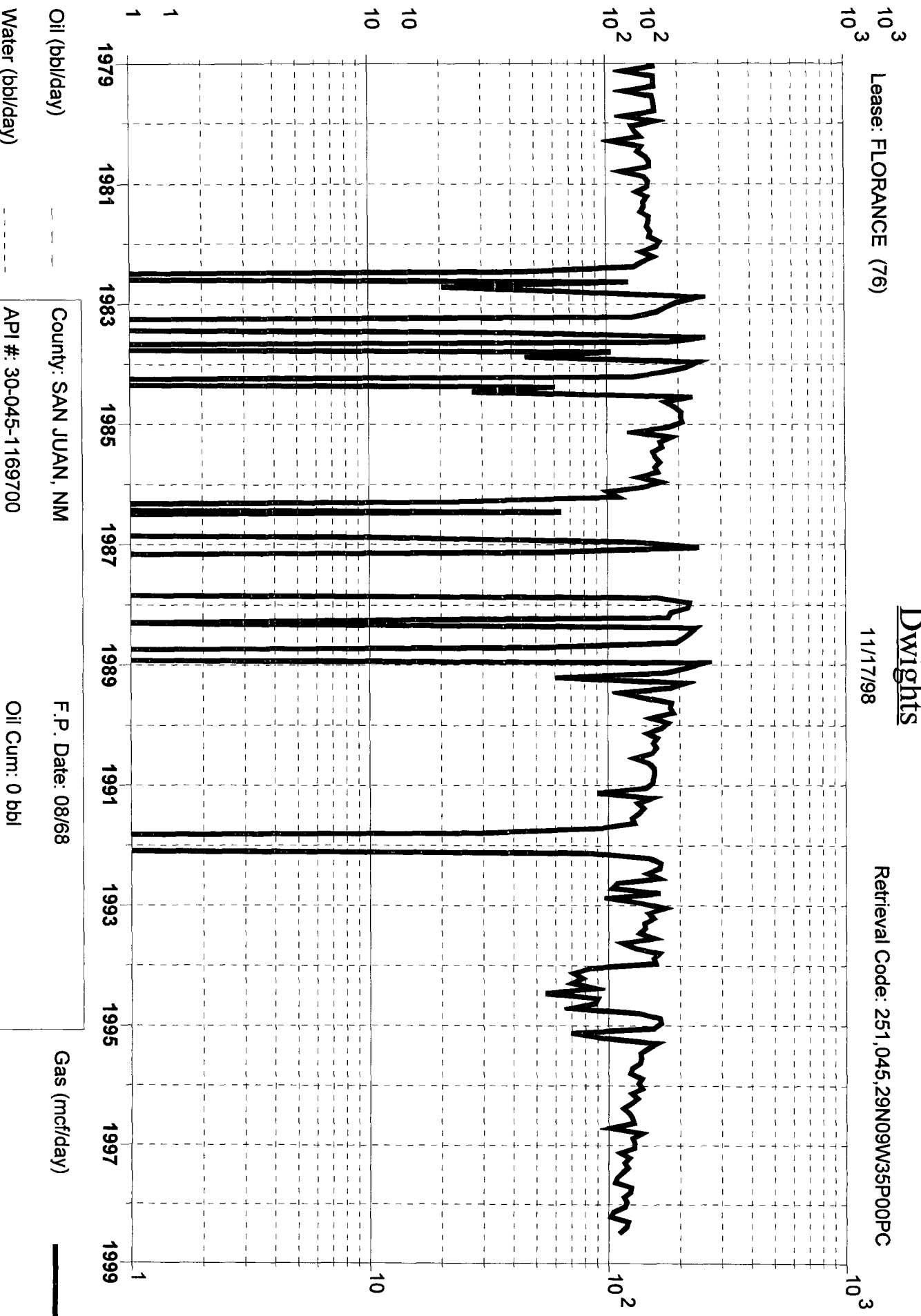
Gas (mcf/day)

Dwights

Lease: FLORANCE (76)

11/17/98

Retrieval Code: 251,045,29N09W35P00PC



Oil (bbl/day)

Water (bbl/day)

County: SAN JUAN, NM

API #: 30-045-1169700

Reservoir: PICTURED CLIFFS

Operator: AMOCO PRODUCTION CO

F.P. Date: 08/68

Oil Cum: 0 bbl

Gas Cum: 1427 mmcf

Location: 35P 29N 9W

SJOET Well Work Procedure

Warren LS #002 SAP:
Version: Final
Date: 11/13/98
Budget: Repair Well
Repair Type: Mill-Up Packer/Pay-Add/DH Commingle

Objectives:

1. TOOH with 1 1/4" tbg. set at 2235'
 2. Unseat and TOOH with 2 3/8" tubing
 3. Using a work string, mill out Baker Model D packer set at 2280'
 4. Isolate, perf., and frac Menefee pay
 6. Re-land tubing, creating a DHC PC/MV wellbore
 5. Return well to production; run plunger and alter criteria if necessary.
-

Pertinent Information:

Location:	Unit K, Section 12, T28N, R09W	Horizon:	PC/MV
County:	San Juan	API #:	30-045-07568
State:	New Mexico	Engr:	Dean Tinsley
Lease:	SF-077123		
Well Flac:	978590	Phone:	H--(303)426-5889
Lease Flac:	698454		W-(303)830-6141

Economic Information:

APC WI:	50.00%	PC/MV BWO:	130 MCFD
Estimated Cost:	\$150,000	PC/MV AWO:	330 MCFD
Payout:			
Max Cost -12 Mo. P.O.	\$		
PV15:	\$ M		
Max Cost PV15:	\$ M		

Note: Economics will be run on all projects that have a payout exceeding ONE year.

Formation Tops: (Estimated formation tops)

Nacimiento:	Menefee:	3722'
Ojo Alamo:	Point Lookout:	4368'
Kirtland Shale:	Mancos Shale:	
Fruitland:	Gallup:	
Pictured Cliffs: 2140'	Graneros:	
Lewis Shale:	Dakota:	
Cliff House:	Morrison:	

Bradenhead Test Information:

Test Date: 8/23/92 Csg. 176 Tbg: BH: 0

Time	BH	CSG	INT	CSG
5 min	0	176		
10 min	0	176		
15 min	0	176		

Comments: No Pressure or flow

1. Check anchors. MIRUSU.
2. Check and record tubing, casing, and bradenhead pressures.
3. Blow down wellhead, kill if necessary.
4. Nipple down wellhead, nipple up and pressure test BOP.
5. TOOH with 1 1/4" tubing set @ 2235'.
6. Unseat and TOOH with 2 3/8" tubing set @ 4554'. Model "G" seal assembly @ 2281'.
7. DO Baker Model "D" packer @ 2280' using air.
8. TOOH with work string.
9. TIH with composite BP to isolate PLO. Set @ +/-4300'.
10. RU DS Wireline Unit and Packoff.
11. Log the top of the Mesa Verde (4300'-3500') interval with CBL/GR/CCL to insure zonal isolation across MF and CH. Please fax logs to (303) 830-5388.
12. Perforate the following MF interval @ 120 deg. phasing using 3 1/8" HSC ported guns (12.5 GM, .34" EHD, 13.13 TTP, Select Fire). Correlate with Lane Wells' Radioactivity log dated 7/28/57:

4208, 4204, 4138, 4134, 4121, 4115, 4110, 4088, 4081, 4057, 4049, 4046,
4036, 4022, 4014, 3892, 3882, 3838, 3832, 3826
13. TIH with 3 1/2" frac string X packer to isolate PC. Pressure test BP. Set packer @ +/-3760'.
14. Break down and balloff perfs with 1.5 X's excess; 1.1 SG RCN balls.
15. TOOH with tbg x pkr.
16. Retrieve balls with WL junk basket. TIH w/ frac string x set packer @ +/-3760'.
17. Fracture Stimulate down tubing according to schedule 'A'.
18. Flow back immediately, untill well logs off.
19. TOH with frac string.
20. DO composite BP; c/o to PBTD.
21. TIH with 2 3/8" tubing and set @ +/-4460'.
22. Return commingled well to production; set plunger and alter criteria if necessary.

Amoco Production Company

ENGINEERING CHART

Sheet No. _____ Of _____

File _____

Appn _____

Date 11/13/98

By DT

SUBJECT WARREN IS #2

