

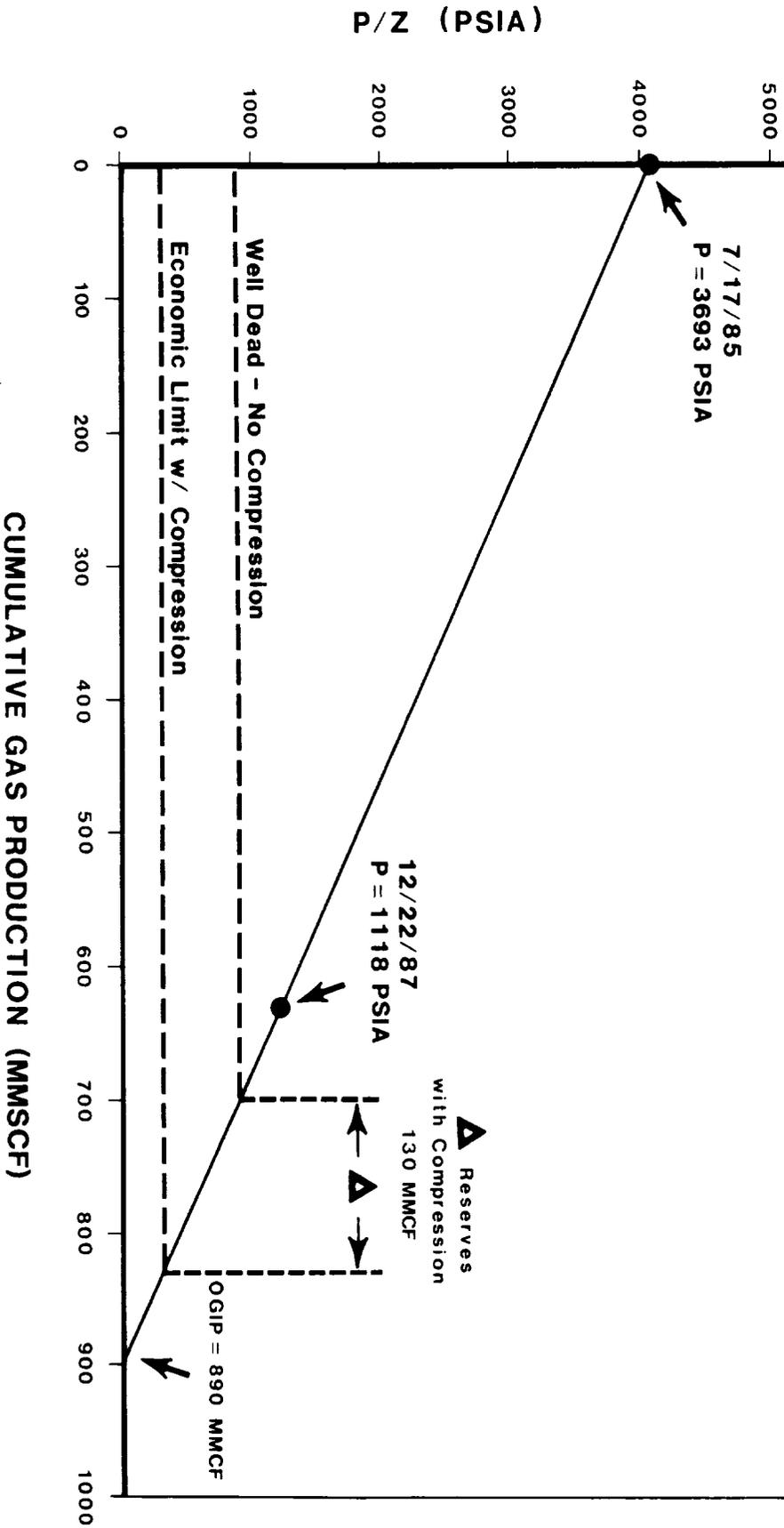
MONTHLY PRODUCTION TABULATION  
HAPPY VALLEY FED. COM. #1  
SHEEP DRAW STRAWN NORTHEAST POOL

<u>Month &amp; Year</u>	<u>Gas MCF</u>	<u>Condensate Bbls</u>	<u>Water Bbls</u>	<u>Cumulative Gas MCF</u>
8/87	163,932	1,403	0	163,932
9/87	153,445	2,095	25	317,377
10/87	162,848	824	12	480,225
11/87	115,683	203	14	595,908
12/87	57,702	0	50	653,610
1/88	12,286	0	40	665,896
2/88	6,639	0	41	672,535

Source: All data (except 8/87) from "Monthly Statistical Report", Vol. III, Southeast New Mexico, compiled and edited by New Mexico Oil Conservation Commission. August, 1987 from Exxon Records. (No record in above reference.)

**EXXON CORPORATION**  
**NMOCD Case No. 9387**  
**Exhibit No. 3**  
**Hearing Date: 5-25-88**

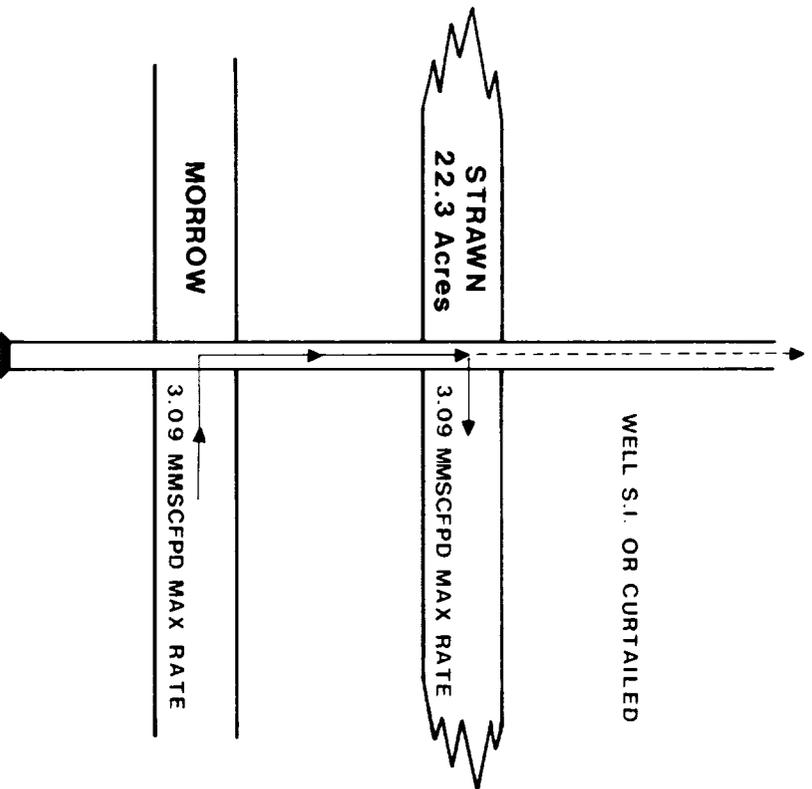
**P/Z vs CUMULATIVE PRODUCTION  
Happy Valley Fed. Com. # 1 (Strawn)**



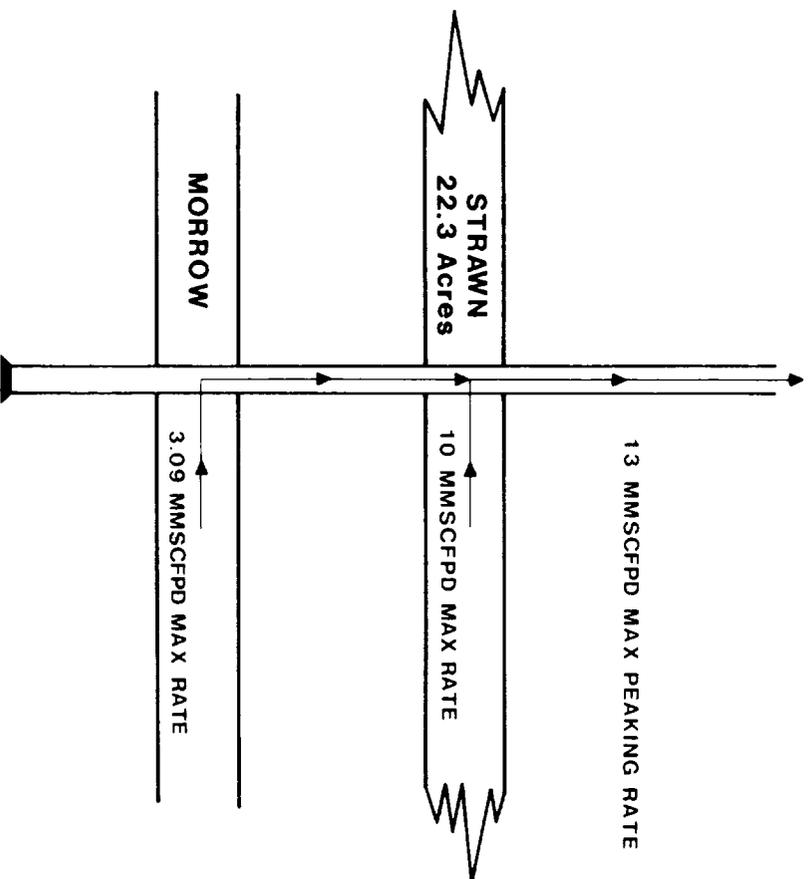
**EXXON CORPORATION  
NMOCD Case No. 9387  
Exhibit No. 7  
Hearing Date: 5-25-88**

**OPERATING SCHEMATIC**  
**Happy Valley Fed. Com. # 1**

**RECHARGING OPERATIONS**

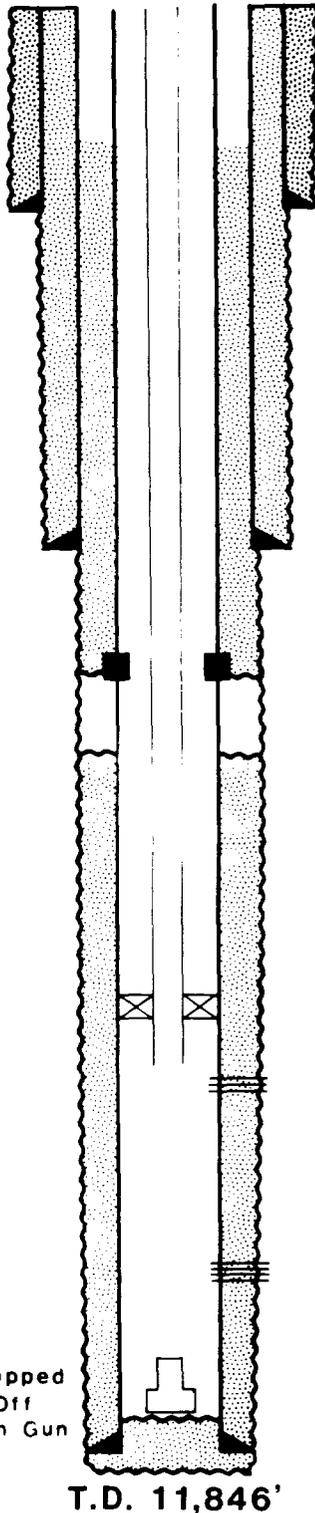


**PEAKING OPERATIONS**



# WELLBORE SKETCH

## Happy Valley Fed. Com. #1



TOC: CALCULATED @ 600' FOR 5" CSG

13 3/8" @ 1647'  
CIRC. CMT AND USED 1" TBC  
TO CMT BACK TO SURFACE  
2000 SX CLC

9 5/8" 40# @ 2695', CALC. BURST STRENGTH: 3950 PSIG  
CIRC. CMT TO SURFACE  
775 SX CLC

DV TOOL @ 5316'

10213'  
BAKER MODEL FAB-1 PERMANENT PACKER

STRAWN PERFS  
10294' - 10338'

PROPOSED MORROW PERFS  
11628' - 11666'

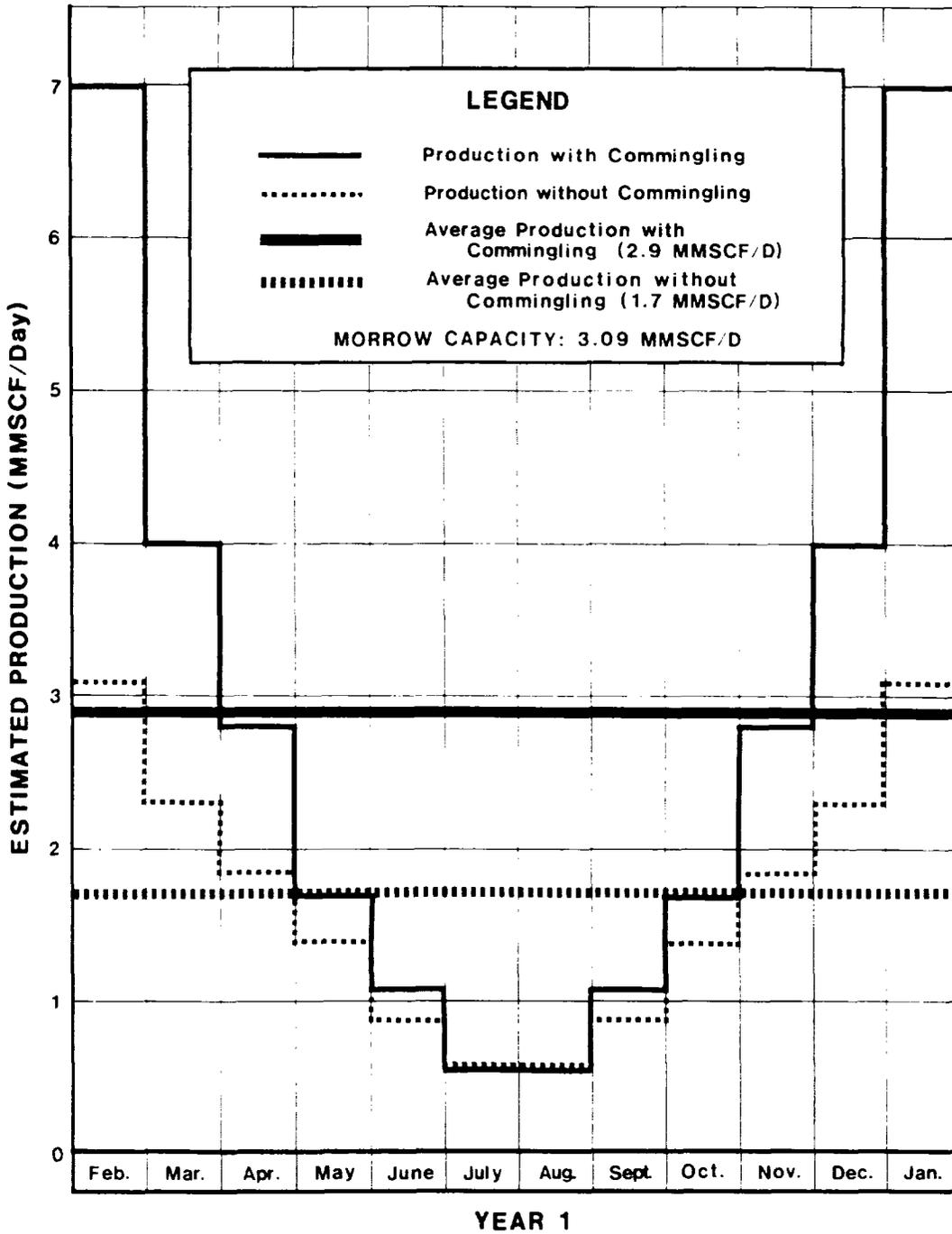
P.B.D. @ 11,800'  
5" 20.8# P-110 @ 11,838'  
CALC. BURST STRENGTH: 13,630 PSIG

Dropped  
Off  
Vann Gun

T.D. 11,846'

EXXON CORPORATION  
NMOCD Case No. 9387  
Exhibit No. 6  
Hearing Date: 5-25-88

**ANNUAL PRODUCTION CAPABILITY  
Happy Valley Fed. Com. #1 (Morrow)**



**EXXON CORPORATION**  
**NMOCD Case No. 9387**  
**Exhibit No. 7**  
**Hearing Date: 5-25-88**

## MORROW EQUITY CONSIDERATIONS

$$\left( \frac{\text{PRODUCING RATE}}{\text{GAS IN PLACE}} \right) = \frac{0.703 \times 10^{-3} Kh (Pe^2 - Pwf^2)}{\mu T_F Z \ln (.606 Re/Rw)} = \frac{1.5074 \pi Re^2 \phi h (1-Sw) Pe}{T_F Z}$$

$$= \frac{Kh}{\phi h} \left[ \frac{(Pe^2 - Pwf^2) (.477)}{Re^2 \pi \ln (.606 Re/Rw)} \right] = \frac{Kh}{\phi h} (C_1)$$

Where  $C_1$  is constant.

A. HAPPY VALLEY FED. COM. B #1 MORROW ZONE:

$$C_1 \frac{Kh}{\phi h} = C_1 \frac{92.5 \text{ md-ft}}{1.94 \text{ porosity-ft}} = C_1 (47.91)$$

B. HAPPY VALLEY FED. COM. #1, MORROW ZONE, NON COMINGLED:

$$C_1 \frac{Kh}{\phi h} = C_1 \frac{53.2 \text{ md-ft}}{1.91 \text{ porosity-ft}} = C_1 (27.85)$$

- $\frac{\text{Happy Valley B \#1}}{\text{Happy Valley \#1}} = \left( \frac{C_1}{C_1} \right) \left( \frac{47.91}{27.85} \right) = 1.72$

- **PROGNOSIS: HAPPY VALLEY FED. COM. #1 WILL MORE EFFECTIVELY CAPTURE ITS SHARE OF RESERVES AND PREVENT DRAINAGE IF ALLOWED TO PRODUCE AT AN AVERAGE RATE OF 1.7 TIMES EXPECTED NON-COMINGLED RATE.**

**EXXON CORPORATION**  
**NMOCD Case No. 9387**  
**Exhibit No. 8**  
**Hearing Date: 5-25-88**

PRODUCTION ALLOCATION FORMULA

HAPPY VALLEY FED. COM. #1

<u>Gas Allocation</u>	<i>W. H. H.</i> <u>Est. Reserves</u>	<u>%</u>
*Happy Valley Morrow Pool:	3100 MMSCF	96
**Sheep Draw Strawn Northeast Pool:	130 MMSCF	4
Total Gas:	3230 MMSCF	100

\*3090 MMSCF estimated initial potential declined at 30% to economic limit.  
\*\*Estimated reserves from P/Z plot.

<u>Condensate Allocation</u>	<u>%</u>	
Happy Valley Morrow Pool:	0	(Morrow produces no liquids)
Sheep Draw Strawn Northeast Pool:	100	(Strawn has cumed 6.7 Bbl/MMSCF)
Total Condensate:	100	

**EXXON CORPORATION**  
**NMOCD Case No. 9387**  
**Exhibit No. 9**  
**Hearing Date: 5-25-88**



**NEW-TEX  
LAB**

PHONE 505/393-3661

P. O. BOX 1161

611 W. SNYDER

HOBBS, NEW MEXICO 88240

**ANALYSIS CERTIFICATE**

CLIENT: DUKE SERVICES INC  
 ADDRESS: 1306 W BROADWAY  
 CITY, STATE: HOBBS NM 88240

ANALYSIS NUMBER: 7565  
 DATE OF RUN: 07/15/85  
 DATE SECURED: 07/14/85

SAMPLE IDENT:  
 SAMPLING PRESS:

EXXON CO USA - HAPPY VALLEY FED COMM #1  
 SAMPLING TEMP:

STRAWN

\*\*\*\*\* GAS ANALYSIS \*\*\*\*\*

	MOLE PERCENT	GAL/ MCF
NITROGEN	0.314	
CARBON DIOXIDE	0.461	
METHANE	90.285	
ETHANE	5.789	1.544
PROPANE	1.785	0.490
ISO-BUTANE	0.402	0.131
NORMAL BUTANE	0.443	0.139
ISO-PENTANE	0.201	0.074
NORMAL PENTANE	0.109	0.039
HEXANES	0.211	0.087
TOTAL	100.000	2.504

PROPANE GPM: 0.49      BUTANES GPM: 0.27  
 ETHANE GPM: 1.54      PENTANES PLUS GPM: 0.20

SPECIFIC GRAV (CALC): 0.6287  
 MOLE WEIGHT: 18.21

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
		14.696	1090
14.650	1087	1106	
14.730	1093	1112	
14.735	1093	1112	

Exxon Corporation  
 NMOCD Case No. 9387  
 Exhibit No. 10A  
 Hearing Date: 5/25/88

DEANE SIMPSON





PHONE 505/393-3581

P. O. BOX 1181

611 W. SNYDER

HOBBS, NEW MEXICO 88240

ANALYSIS CERTIFICATE

CLIENT: EXXON CO USA
ADDRESS: 1730 W BROADWAY
CITY, STATE: ANDREWS, TX 79714

ANALYSIS NUMBER: 9983
DATE OF RUN: 02 25 86
DATE SECURED: 02 24 86

SAMPLE IDENT: HAPPY VALLEY FEDEAL COM "B" #1
SAMPLING PRESS: SAMPLING TEMP:

MORROW

REMARKS: H2S - None Detected

\*\*\*\*\* GAS ANALYSIS \*\*\*\*\*

Table with 3 columns: Component Name, MOLE PERCENT, GAL/MCF. Rows include Nitrogen, Carbon Dioxide, Methane, Ethane, Propane, Iso-butane, Normal Butane, and a TOTAL row.

PROPANE GPM: 0.12 BUTANES GPM: 0.03
ETHANE GPM: 0.62 PENTANES PLUS GPM: 0.00

SPECIFIC GRAV (CALC): 0.5312
MOLE WEIGHT: 16.63

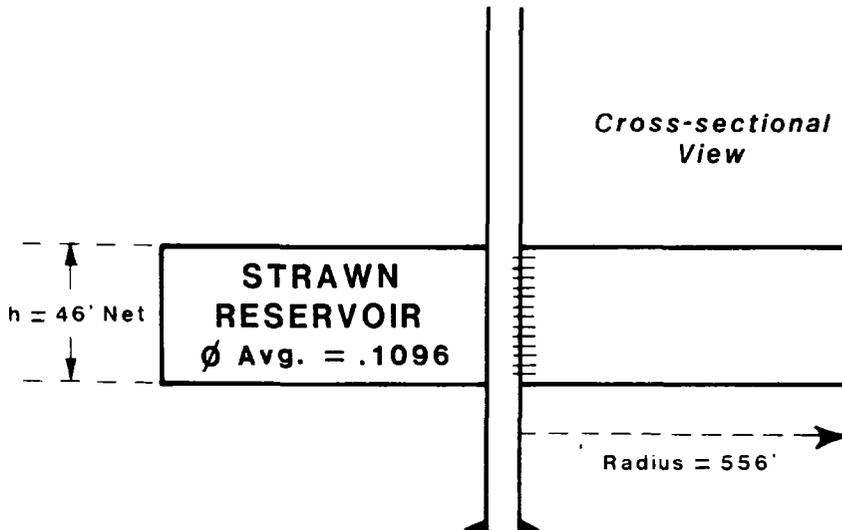
Table with 4 columns: HHV-BTU/CU FT, PRESSURE (PSIA), WET, DRY. Rows show values for pressures 14.696, 14.650, 14.730, and 14.735.

Exxon Corporation
NMOCD Case No. 9387
Exhibit No. 106
Hearing Date: 5/25/88

ILLEGIBLE

DEANE SIMPSON

**SIZE OF STRAWN RESERVOIR**  
**Happy Valley Fed. Com. # 1**



$$1. \text{ *OGIP} = 890 \text{ MMSCF} = \frac{1.5074 Ah\phi (1-S_w) P_i}{Z_i TF}$$

Where:  $TF = 176$  °F = 636 °R  
 $P_i = 3693$  PSIA .  $S_w = 0.18$   
 $Z_i = 0.9057$  .  $\phi = .1096$

**A = 22.3 ACRES**

2. Assuming a Disc Shaped Reservoir:  
 $A = 22.3 \text{ Acres} = 22.3 \times 43,560 \text{ Ft}^2 = \pi R^2$

**R = 556 FT. RADIUS**

\*OGIP Equation from:

"Applied Petroleum Reservoir Engineering,"  
 B.C. Craft and M.F. Hawkins, Prentice-Hall  
 Inc., 19th Printing, 1959. Pages 24 & 26.

**EXXON CORPORATION**  
**NMOCD Case No. 9387**  
**Exhibit No. 11**  
**Hearing Date: 5-25-88**

Hydrocarbon Storage Guidelines  
70-6-4, et seq., NMSA  
Happy Valley Fed. Comm. No. 1

- Strawn Reservoir in this well is incapable of producing oil in paying quantities.
- Strawn Reservoir was gas productive but is substantially depleted. Recovery of remaining gas reserves will not be diminished by proposed storage operations.
- There are no known commercial deposits of potash over the Strawn Reservoir.
- The proposed storage operations in the Strawn will not injure surface or underground water resources.
- No other wells used for injection, storage, or withdrawal exist in the Strawn reservoir proposed for storage operations.
- No appropriation of property is proposed.

Exxon Corporation  
NMOCD Case No. 9387  
Exhibit No. 12  
Hearing Date: 5/25/88

## PROJECT SUMMARY

Objective: To downhole commingle the Sheep Draw Strawn Northeast Pool with the Happy Valley Morrow Pool, and to use the Strawn Reservoir for intermittent hydrocarbon storage.

### Reasons:

1. The Sheep Draw Strawn Northeast Pool is essentially depleted. Commingling will eventually place the Strawn on compression with the Morrow, and increase ultimate Strawn recovery by 130 MMSCF.
2. The high peaking capacity will allow this well to better meet swing demands by the purchaser and make gas more readily available to the domestic, commercial, and industrial consumers.
3. The project promotes the building of reserves (summer) for orderly withdrawal in periods of peak demand (winter).
4. More gas will be sold during peak demand when prices are higher. This will result in a higher average sales price.
5. Happy Valley Fed. Com. #1 would be better protected from drainage by Happy Valley Fed. Com. B #1 (the offset Morrow well to the South).
6. The added peaking capability will allow this well to produce at an average annual rate that is close to Morrow capacity.

**EXXON CORPORATION**  
**NMOCD Case No. 9387**  
**Exhibit No. 13**  
**Hearing Date: 5-25-88**

**EXXON** COMPANY, U.S.A.

POST OFFICE BOX 1600 • MIDLAND, TEXAS 79702-1600

PRODUCTION DEPARTMENT  
SOUTHWESTERN DIVISION

May 2, 1988

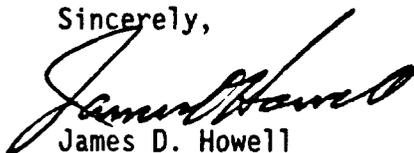
Request for Downhole Commingling  
and Hydrocarbon Storage Authority  
Happy Valley Fed. Comm. No. 1  
N/2 Sec. 28, T-22-S, R-26-E  
Eddy County, New Mexico

New Mexico Oil Conservation Division  
P. O. Box 2088  
Santa Fe, NM 87501

Attention: Mr. Michael E. Stogner

Exxon Corporation requests an exception to Rule 303-A of the Division Rules and Regulations to permit downhole commingling of Happy Valley (Morrow) production with the Happy Valley (Strawn) in the captioned wellbore. In addition, we request approval to use the small Strawn reservoir for hydrocarbon storage pursuant to Section 70-6-1 et seq. of the New Mexico Statutes, Annotated and exemption from the reporting requirements of Rule 1131. By copy of this letter all offset operators and the Bureau of Land Management have been notified of this application. Please set this application for hearing on May 25, 1988.

Sincerely,

  
James D. Howell

JDH:jr  
Attachments  
Certified Mail - w/attachments

c: Mr. James Bruce - Santa Fe, NM  
Offset Operators  
District II - NMOCD, Artesia, NM  
Bureau of Land Management, Carlsbad, NM  
2 copies to addressee

Exxon Corporation  
NMOCD Case No. 9387  
Exhibit No. 14  
Hearing Date: 5/25/88

Attachment 1

Happy Valley Fed. Comm. #1  
Downhole Commingling - Data Required

To obtain approval for downhole commingling, we have enclosed the following data pursuant to Rule 303 (C) (2) (a through j):

1. Exxon's name and address:

Exxon Corporation  
P. O. Box 1600  
Midland, TX 79702

2. Lease name, well number, well location, and name of pools to be commingled:

Happy Valley Fed. Comm. #1, Unit G, Section 28, T-22-S, R-26-E, Eddy County, New Mexico. Pools to be commingled: Happy Valley (Morrow) and Happy Valley (Strawn).

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

Attached.

4. A 24-hour productivity test on Division Form C-116 showing the amount of oil, gas, and water produced from each zone:

The Strawn Form C-122 is attached. Since completion, the well has produced 523,000 mcf through 2/88 and is now essentially depleted. The Morrow has not been perforated.

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:

A plot of P/z vs. cumulative production for the Strawn indicates no remaining reserves unless compression is installed. Compression would add approximately 130,000,000 scf from the Strawn. All additional reserves should be attributed to the Morrow.

6. A current bottom hole pressure for each zone capable of flowing:

The measured BHP in the Strawn in the Strawn on December 22, 1987 was 1118 psia.

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

See attached hydrocarbon analyses from the Strawn in the Happy Valley Fed. Com. #1 and the Morrow in the Happy Valley Fed. Com. "B" #1. Exxon

does not anticipate any problem with formation damage from commingling the formation waters; neither completion produces significant amounts of liquids.

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:

The gas from both zones would be under the same gas contract. Value is based on btu content, therefore; the value of the commingled production will not be less than the values 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 a formula:

Production should be allocated as follows, based upon the ratio of remaining gas reserves:

Happy Valley (Strawn) 0.13 BCF - 4%  
Happy Valley (Morrow) 3.1 BCF - 96%

All liquids should be attributed to the Strawn; the Morrow produces no liquids.

10. A statement that all offset operators and, in case of a well on Federal land, the United States Geological Survey, has been notified in writing of the proposed commingling:

All offset operators (list attached) and the BLM in Carlsbad have been notified by copy of this application.

Offset Operators  
Happy Valley Federal Com. #1  
N/2 Sec. 28, T23S, R26E,  
Eddy County, NM

Amoco Production Company  
P. O. Box 3092  
Houston, TX 77253  
Attn: Proration Section

Arco Oil & Gas Company  
P. O. Box 1610  
Midland, TX 79702

Chevron U.S.A., Inc.  
15 Smith Road  
Midland, TX 79705

Cities Service Oil & Gas Corporation  
P. O. Box 300  
Tulsa, OK 74102

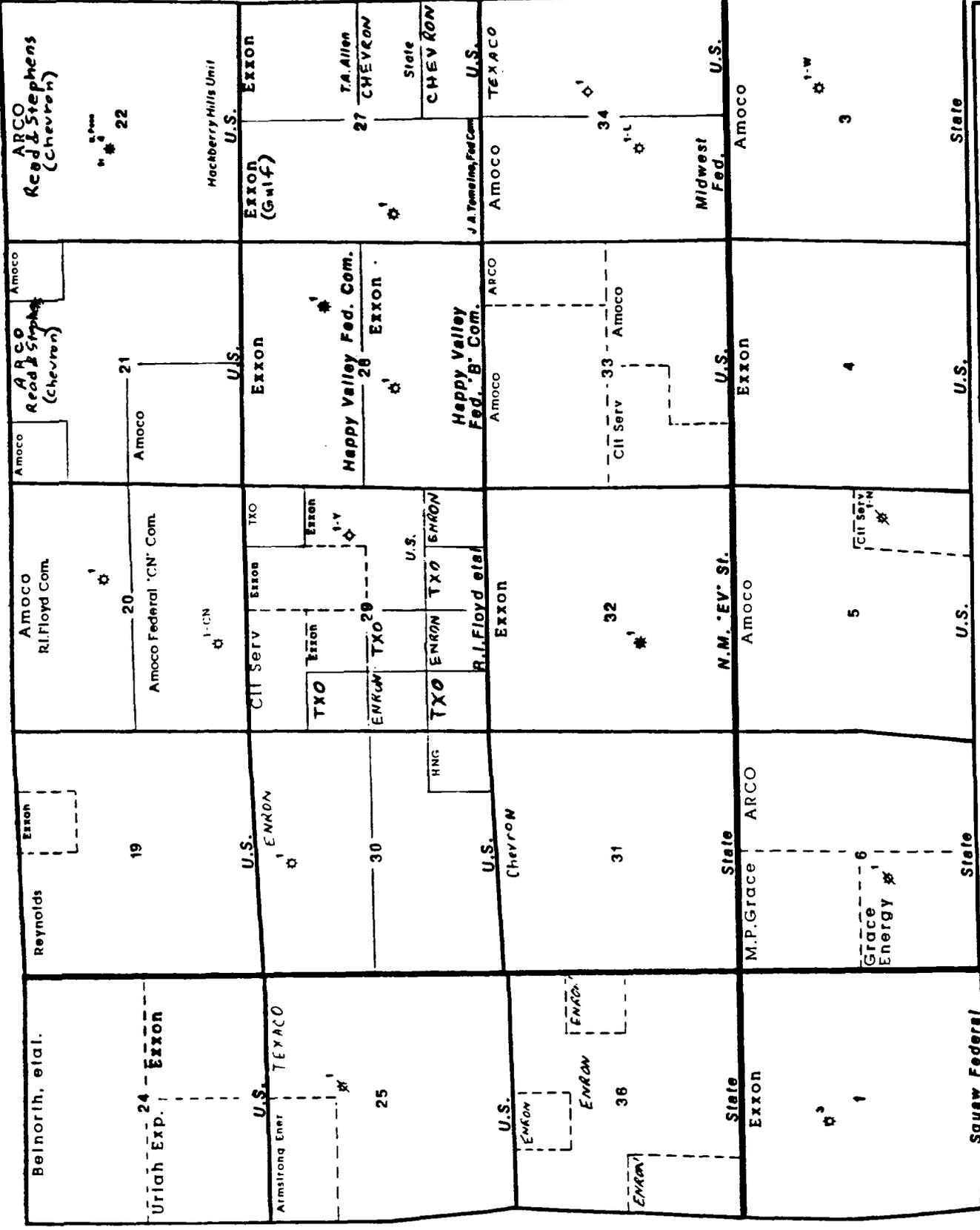
Enron Oil & Gas Company (HNG)  
508 W. Wall St., Ste 900  
Midland, TX 79701

Read & Stevens, Inc.  
P. O. Box 1518  
314 Security National Bank Bldg.  
Roswell, NM 88201

TXO Production Corporation  
900 Wilco Bldg.  
415 W. Wall St.  
Midland, TX 79701

T 22 S

T 23 S



**EXXON COMPANY, USA**  
 SOUTH WESTERN PRODUCTION DIVISION  
 Operations Group  
 Midland, Texas

**HAPPY VALLEY / SHEEP DRAW**

225 R25&26E, T23S R25&26E Eddy New Mexico  
 LOCATION COUNTY STATE  
 Scale: 1" = 2000'  
 Date: September 1984  
 Surveyor: J. R. Bartel /INA

R 26 E

R 25 E

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 7/17/85	
Company EXXON CO. U.S.A.			Correction NONE		
Pool			Formation STRAWN		Unit
Completion Date 7/13/85		Total Depth 11,846		Plug Back TD 11,800	Elevation 3358
Farm or Lease Name HAPPY VALLEY FED. COM					
Coq. Size 5	Wt. 20.8	d 4.156	Set At 11,838	Perforations: From 10,294 To 10,338	
Thg. Size 2 7/8	Wt. 6.5	d 2.441	Set At 10,213	Perforations: From OPEN To END	
Type Well - Single - Brindenshead - G.C. or G.O. Multiple SINGLE				Packer Set At 10,213	
Producing Thru Tbg.		Reservoir Temp. °F 176 @ 10,213		Mean Annual Temp. °F 60	
L 10,213		H 10,213		Baro. Press. - P <sub>g</sub> 13.2	
C <sub>g</sub> .6287		% CO <sub>2</sub> .461		% N <sub>2</sub> .314	
Prover		Meter Run 4.026		Taps Flg.	

NO.	FLOW DATA			TUBING DATA			CASING DATA		Duration of Flow	
	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F		Press. p.s.i.g.
SI							3680			
1.	4.026 X 2.500			500	5.5	98	3640	98		1 hr.
2.	4.026 X 2.500			510	17	93	3589	83		1 hr.
3.	4.026 X 2.500			525	41	80	3474	87		1 hr.
4.	4.026 X 2.500			530	78	73	3285	87		1 hr.
5.										

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>sp</sub>	Rate of Flow O. Mcd
2	32.64	94.31	523.2	.9697	1.261	1.041	3918
3	32.64	148.55	538.2	.9813	1.261	1.046	6276
4	32.64	205.84	543.2	.9877	1.261	1.049	8778
5							

NO.	R	Temp. °R	T <sub>g</sub>	Z	Gas Liquid Hydrocarbon Ratio		Rate of Flow O. Mcd
					88.188	Mcf/bbl.	
1	.76	558	1.52	.927	A.P.I. Gravity of Liquid Hydrocarbons 53.5 @ 60		
2	.78	553	1.50	.922	Specific Gravity Separator Gas .629		XXXXXXXXXX
3	.80	540	1.47	.914	Specific Gravity Flowing Fluid XXXXX		G-MIX. 663
4	.81	533	1.45	.909	Critical Pressure 670 P.S.I.A.		670 P.S.I.A.
5					Critical Temperature 368 °R		378 °R

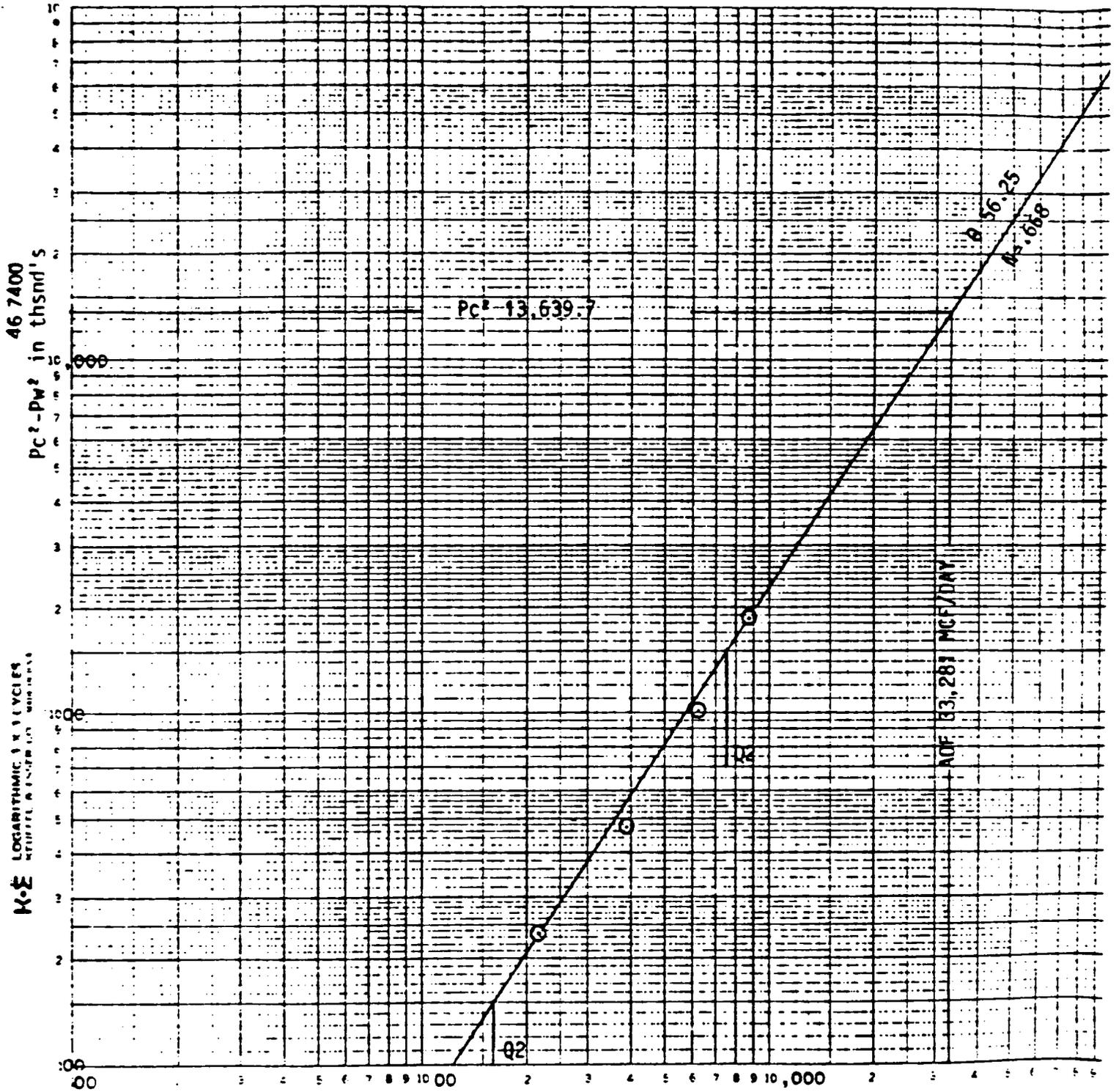
P <sub>c</sub> 3693.2		P <sub>c</sub> <sup>2</sup> 13,639.7		(1) $\frac{P_c^2}{R^2 - R_w^2} = 7.3533$		(2) $\left[ \frac{R^2}{R^2 - R_w^2} \right]^n = 3.7915$	
NO.	P <sub>1</sub> <sup>2</sup>	P <sub>w</sub>	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	AOF = O $\left[ \frac{R^2}{R^2 - R_w^2} \right]^n = 33.281$		
1		3661.3	13405.1	234.6			
2		3628.8	13168.2	471.5			
3		3554.1	12631.6	1008.9			
4		3432.9	11784.8	1854.9			
5							

Absolute Open Flow 33.281 Mcd @ 15.025    Angle of Slope @ 56.25    Slope, n .668

Remarks: 10 bbls OF CONDENSATE PRODUCED DURING TEST

Approved By Division	Conducted By: DUKE SERVICES, INC.	Calculated By: R. RESTON	Checked By:
----------------------	--------------------------------------	-----------------------------	-------------

COMPANY: EXXON COMPANY U S A  
 LEASE: HAPPY VALLEY FED. LMM. #1  
 COUNTY: EDDY  
 DATE: 7/17/85



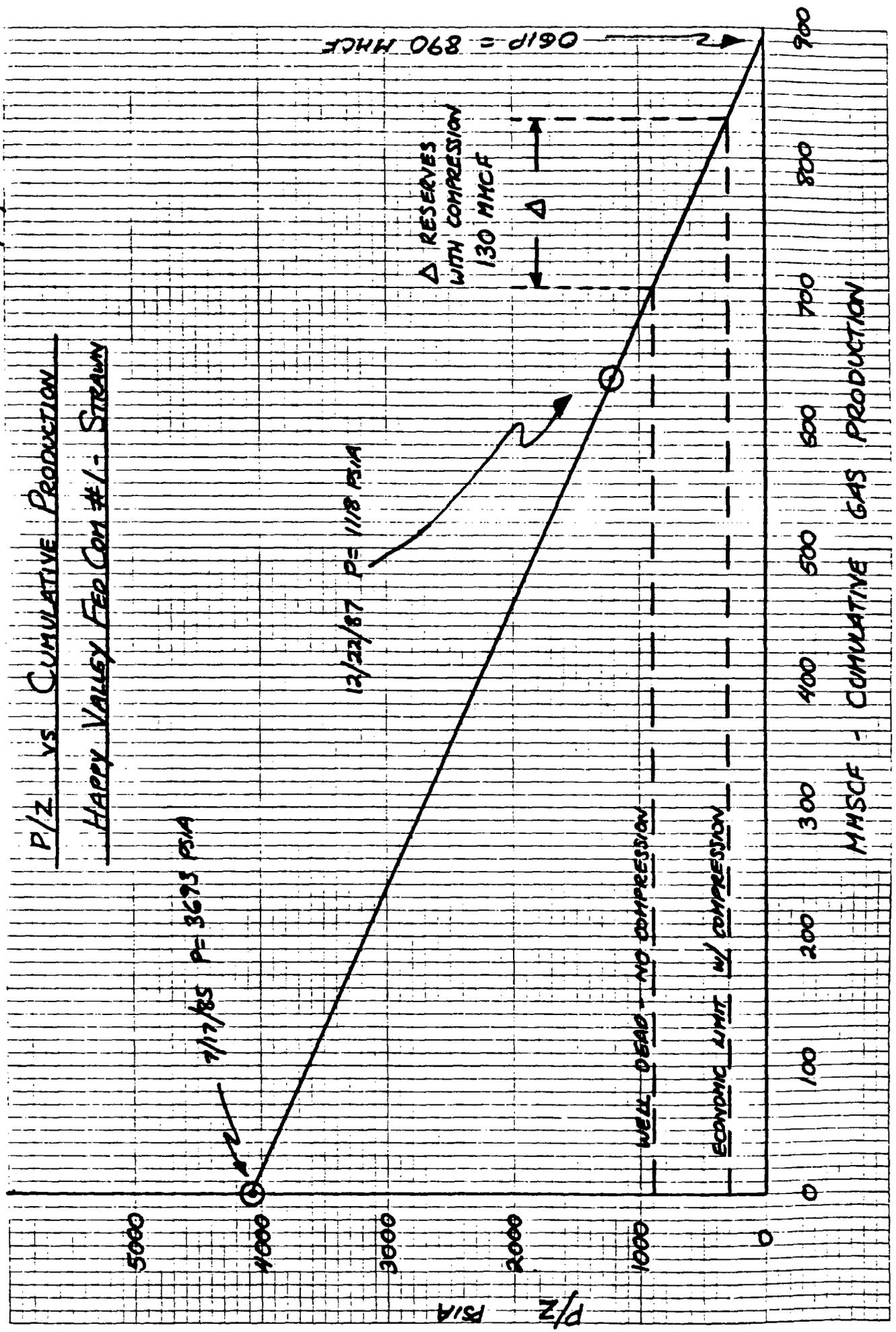
Q=MCF/DAY

$Q_1 = 7,500 = \text{LOG } 3.875061$   
 $Q_2 = 1,611 = \text{LOG } 3.207061$   
 $N = .668000$

$CAOF = 8778 \frac{(13,639.7)}{1854.9} = 33,281 \text{ MCF/D}$

LJS 4/22/88

P/Z vs CUMULATIVE PRODUCTION  
HAPPY VALLEY FER CON #1 - STRAWN





JUN 24  
FILE

PHONE 505/393-3581 • P. O. BOX 1181 • 811 W. SNYDER • HOBBS, NEW MEXICO 88240

**ANALYSIS CERTIFICATE**

CLIENT: EXXON CO USA ANALYSIS NUMBER: 8983  
ADDRESS: 1700 W BROADWAY DATE OF RUN: 02 25 86  
CITY, STATE: ANDREWS, TX 79714 DATE SECURED: 02 24 86

SAMPLE IDENT: HAPPY VALLEY FEDEAL COM "B" #1 MORROW  
SAMPLING PRESS: SAMPLING TEMP:

REMARKS: H<sub>2</sub>S - None Detected

\*\*\*\*\* GAS ANALYSIS \*\*\*\*\*

	MOLE PERCENT	GAL/MCF
NITROGEN	0.159	
CARBON DIOXIDE	1.080	
METHANE	95.987	
ETHANE	2.321	0.619
PROPANE	0.349	0.096
ISO-BUTANE	0.042	0.014
NORMAL BUTANE	0.062	0.019
TOTAL	100.000	0.746

PROPANE GRM: 0.10 BUTANES GRM: 0.03  
ETHANE GRM: 0.62 PENTANES PLUS GRM: 0.00

SPECIFIC GRAV (CALC): 2.5312  
MOLE WEIGHT: 16.93

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
	14.696	1005	1023
	14.650	1002	1019
	14.730	1007	1025
	14.735	1007	1025

**ILLEGIBLE**

DEANE SIMPSON

DEANE SIMPSON

*Deane Simpson*



**NEW-TEX  
LAB**

PHONE 505/393-3661

P. O. BOX 1161

611 W. SNYDER

HOBBS, NEW MEXICO 88240

**ANALYSIS CERTIFICATE**

CLIENT: DUKE SERVICES INC ANALYSIS NUMBER: 7565  
 ADDRESS: 1306 W BROADWAY DATE OF RUN: 07/15/85  
 CITY, STATE: HOBBS NM 88240 DATE SECURED: 07/14/85

SAMPLE IDENT: EXXON CO USA - HAPPY VALLEY FED COMM #1  
 SAMPLING PRESS: SAMPLING TEMP: STRAWN

\*\*\*\*\* GAS ANALYSIS \*\*\*\*\*

	MOLE PERCENT	GAL/ MCF
NITROGEN	0.314	
CARBON DIOXIDE	0.461	
METHANE	90.285	
ETHANE	5.789	1.544
PROPANE	1.785	0.490
ISO-BUTANE	0.402	0.131
NORMAL BUTANE	0.443	0.139
ISO-PENTANE	0.201	0.074
NORMAL PENTANE	0.109	0.039
HEXANES	0.211	0.087
TOTAL	100.000	2.504

PROPANE GPM: 0.49 BUTANES GPM: 0.27  
 ETHANE GPM: 1.54 PENTANES PLUS GPM: 0.20

SPECIFIC GRAV (CALC): 0.6287  
 MOLE WEIGHT: 18.21

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
	14.696	1090	1110
	14.650	1087	1106
	14.730	1093	1112
	14.735	1093	1112

DEANE SIMPSON



*Happy Valley Fed Comm #1*

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.  
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.  
1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery *(Extra charge)*

Article Addressed to:

4. Article Number: **369150**

Enron Oil & Gas Company (HNG)  
508 W. Wall St., Ste 900  
Midland, TX 79701

Type of Service:  
 Registered  Insured  
 Certified  COD  
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

Signature - Addressee

Signature - Agent  
*MARY PERSON*

Date of Delivery  
*5-5-88*

Form 3811, Mar. 1987 \* U.S.G.P.O. 1987-178-268 DOMESTIC RETURN RECEIPT

*Happy Valley Fed Comm #1*

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.  
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1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery *(Extra charge)*

Article Addressed to:

4. Article Number: **369152**

Read & Stevens, Inc.  
P. O. Box 1518  
314 Security Nat'l Bank Bldg.  
Roswell, NM 88201

Type of Service:  
 Registered  Insured  
 Certified  COD  
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

5. Signature - Addressee

6. Signature - Agent  
*G. J. J. J.*

7. Date of Delivery  
*5-6-88*

Form 3811, Mar. 1987 \* U.S.G.P.O. 1987-178-268 DOMESTIC RETURN RECEIPT

*Happy Valley Fed Comm #1*

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.  
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1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery *(Extra charge)*

Article Addressed to:

4. Article Number: **369158**

TXO Production Corporation  
900 Wilco Bldg.  
415 W. Wall St.  
Midland, TX 79701

Type of Service:  
 Registered  Insured  
 Certified  COD  
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

5. Signature - Addressee

6. Signature - Agent  
*[Signature]*

7. Date of Delivery  
*5-5*

Form 3811, Mar. 1987 \* U.S.G.P.O. 1987-178-268 DOMESTIC RETURN RECEIPT

Exxon Corporation  
NMOCD Case No. 9387  
Exhibit No. 15  
Hearing Date: 5/25/88

for Donahue Consulting & Hydrocarbon Storage Auth.  
Happy Valley Fed Com #1

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Contact postmaster for fees and check box(es) for additional service(s) requested.

Show to whom delivered, date, and addressee's address.  Restricted Delivery (Extra charge)

Article Addressed to:

4. Article Number **369156**

Type of Service:  
 Registered  
 Certified  
 Express Mail  
 Insured  
 COD

Always obtain signature of addressee or agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

New Mexico Oil Conservation  
 Division  
 P. O. Box 2088  
 Santa Fe, NM 87501

Signature - Addressee  
*A. D.*

Signature - Agent

Date of Delivery

MAY 1988

PS Form 3811, Mar. 1987 \* U.S.G.P. 100-743-0000 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Contact postmaster for fees and check box(es) for additional service(s) requested.

Show to whom delivered, date, and addressee's address.  Restricted Delivery (Extra charge)

Article Addressed to:

4. Article Number **369152**

Type of Service:  
 Registered  
 Certified  
 Express Mail  
 Insured  
 COD

Always obtain signature of addressee or agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

Bureau of Land Management  
 Box 1778  
 Carlsbad, NM 88200

Signature - Addressee

Signature - Agent  
*J. Hernandez*

Date of Delivery  
 T-68

PS Form 3811, Feb. 1986 DOMESTIC RETURN RECEIPT

Happy Valley Fed Com #1

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Contact postmaster for fees and check box(es) for additional service(s) requested.

Show to whom delivered, date, and addressee's address.  Restricted Delivery.

Article Addressed to:

4. Article Number **369153**

Type of Service:  
 Registered  
 Certified  
 Express Mail  
 Insured  
 COD

Always obtain signature of addressee or agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

New Mexico Oil Conservation  
 Division  
 811 South First Street  
 Artesia, NM

Signature - Addressee  
*[Signature]*

Signature - Agent

Date of Delivery  
 05-05-88

PS Form 3811, Feb. 1986 DOMESTIC RETURN RECEIPT

Exxon Corporation  
 NMOCD Case No. 9387  
 Exhibit No.  
 Hearing Date: 5/25/88

Happy Valley Fed. Comm. #1

PS Form 3811, Mar. 1987 \* U.S.G.P.O. 1987-178-268 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

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1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery (Extra charge)†

3. Article Addressed to:

Arco Oil & Gas Company  
P. O. Box 1610  
Midland, TX 79702

4. Article Number: **369157**

Type of Service:  
 Registered  Insured  
 Certified  COD  
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee: X

6. Signature - Agent: X *[Signature]*

7. Date of Delivery: 5-5-88

8. Addressee's Address (ONLY if requested and fee paid)

Happy Valley Fed. Comm. #1

PS Form 3811, Mar. 1987 \* U.S.G.P.O. 1987-178-268 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

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1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery (Extra charge)†

3. Article Addressed to:

Cities Service Oil & Gas Corp.  
P. O. Box 300  
Tulsa, OK 74102

4. Article Number: **369159**

Type of Service:  
 Registered  Insured  
 Certified  COD  
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee: X

6. Signature - Agent: X *[Signature]*

7. Date of Delivery: MAY 6 1988

8. Addressee's Address (ONLY if requested and fee paid)

Exxon Corporation  
NMOCD Case No. 9387  
Exhibit No.  
Hearing Date: 5/25/88

Happy Valley Comm. Fed. #1

PS Form 3811, Mar. 1987 \* U.S.G.P.O. 1987-178-268 DOMESTIC RETURN RECEIPT

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1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery (Extra charge)†

3. Article Addressed to:

oco Production Company  
O. Box 3092  
Joston, TX 77253

4. Article Number: **369154**

Type of Service:  
 Registered  Insured  
 Certified  COD  
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee: X

6. Signature - Agent: X *[Signature]*

7. Date of Delivery: MAY 9 1988

8. Addressee's Address (ONLY if requested and fee paid)

Request for Downhole Commingling  
Happy Valley Fed. Comm. No. 1 and Hydrocarbon Storage Authority

PS Form 3811, Mar. 1987 \* U.S.G.P.O. 1987-178-268 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

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1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery (Extra charge)†

3. Article Addressed to:

Chevron U.S.A., Inc.  
15 Smith Road  
Midland, TX 79705

4. Article Number: **369154**

Type of Service:  
 Registered  Insured  
 Certified  COD  
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee: X

6. Signature - Agent: X *[Signature]*

7. Date of Delivery: 5-5-88

8. Addressee's Address (ONLY if requested and fee paid)