

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210

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

## OIL CONSERVATION DIVISION

2040 Pacheco St.  
Santa Fe, NM 87505

WELL API NO.	30-025-09227
Indicate Type of Lease	STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
State Oil & Gas Lease No.	B-3776
Lease Name or Unit Agreement Name	Mexico "E" Com (Formerly Hobbs "L" No. 1)
Well No.	4
Pool name or Wildcat	Jalmat (T-Y-7R)

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
Type of Well: OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER	
Name of Operator Doyle Hartman	
Address of Operator 500 N. Main St., Midland, TX 79701	
Well Location Unit Letter <u>P</u> : <u>660'</u> Feet From The <u>South</u> Line and <u>660'</u> Feet From The <u>East</u> Line Section <u>2</u> Township <u>23S</u> Range <u>36E</u> NMPM Lea County	
Elevation (Show whether DF, RKB, RT, GR, etc.) 3445' DF	

11

Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

### NOTICE OF INTENTION TO:

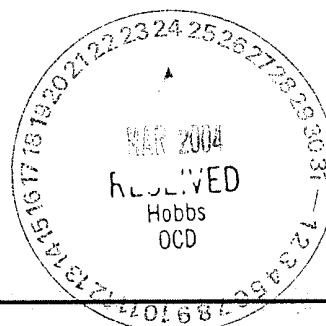
PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐  
OTHER: ☐

### SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐  
Casing & Cement Repair ☒  
OTHER: Recomplete to Jalmat (Y-7R) ☒

12 Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

For details of completed wellbore repair and reserve enhancement operations, and review of upper long-string cementing and bond log results, please refer to pages 2 of 6 thru 6 of 6 attached hereto, and made a part hereof.



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

SIGNATURE Steve Hartman TITLE Engineer DATE 03/22/2004

TYPE OR PRINT NAME Steve Hartman

TELEPHONE NO. (432) 684-4011

(This space for State Use)

APPROVED BY

TITLE

PETROLEUM ENGINEER

DATE

JUN 25 2004

CONDITIONS OF APPROVAL, IF ANY:

2A Langlie Mattix SR. & W-GB

**Details of Completed Wellbore Repair and Reserve Enhancement Operations**

Moved in well service unit, on 11-11-02. Pulled rods and tubing. Ran 179.64' bottom-hole drilling and cleanout assembly. Hooked up air unit. Experienced difficulty achieving circulation due to excessive water production. Pulled bottom-hole drilling and cleanout assembly.

Ran and set 5 1/2" Model "C" packer at 3034'. Loaded casing-tubing annulus with 49 bbls of water. Pumped down casing-tubing annulus, at 4 BPM, at 110 psi. Pulled 5 1/2" Model "C" packer.

Ran 5 1/2" Model "C" RBP and 5 1/2" Model "C" packer. Set 5 1/2" Model "C" RBP at 3034'. Pressure tested 5 1/2" Model "C" RBP and 5 1/2" O.D. casing. Pulled 2 7/8" O.D. work string. Covered 5 1/2" Model "C" RBP, with 4 sx of sand.

Installed Halliburton 5 1/2" cementing head. Squeeze cemented and repaired casing hole, at 495' to 527', with 2100 cu. ft. (1600 sx) of cement slurry, consisting of 800 sx of API Class "C" cement containing 2.5% CaCl<sub>2</sub>, 5lb/sx Gilsonite, and 0.25 lb/sx Flocele, followed by 800 sx of API Class "C" cement containing 3% CaCl<sub>2</sub>, 5lb/sx Gilsonite, and 0.25 lb/sx Flocele. Pumped cement at an average pump rate of 11 BPM, and average pump pressure of 800 psi. Dropped plug. Displaced cement with 7.25 bbls of water. Final pump rate = 0.9 BPM, at 308 psi.

Ran 179.64' bottom-hole drilling assembly. Drilled cement from 295' to 490'. Shut down for remainder of day, for cement to reach full hardness. Drilled hard cement from 490' to 510'. Fell out of cement at 510'. Circulated hole clean.

Lowered work string to 2987'. Cleaned out 17' of fill. Pulled and laid down bottom-hole drilling assembly.

Ran 4 7/8" bit and 5 1/2" casing scraper to 590'. Pulled bit and casing scraper.

Cleaned off 5 1/2" Model "C" RBP. Pumped air and unloaded water from wellbore, to blowdown tank. Recovered 5 1/2" Model "C" RBP.

Ran 4 7/8" bit. Tagged fill at 3700'. Hooked up air units. Established circulation with foam. Cleaned out wellbore to 3780'. Blew hole dry. Pulled 4 7/8" bit.

Ran and landed bottom of 2 3/8" O.D. tubing at 3711' RKB (111 jts @ 33.2'/jt + 1.1'SN + 18'MA - 3'AGL + 10'KBC = 3711.3). Ran 2" x 1 1/4" x 14' RHAC insert pump and 3/4" API Class "KD" rod string. Commenced pump testing well on 11-17-02. Pump tested well until 1-6-03, with no appreciable reduction in excessive water production, or increase in gas production.

Page 3 of 6  
NMOCD Form C-103 dated March 22, 2004  
Doyle Hartman  
Mexico "E" Com No. 4  
(Formerly Hobbs "L" No. 1)  
P-2-23S-36E  
API No. 30-025-09227

Pulled rods and tubing. Set cementing retainer. Loaded 5 1/2" O.D. casing with water. Squeezed off water production utilizing 2640 cu. ft. (2000 sx) of cement slurry, consisting of 500 sx of API Class "C" cement containing 2.5% CaCl<sub>2</sub>, followed by 1500 sx of API Class "C" cement containing 2.5% CaCl<sub>2</sub>, 5 lb/sx Gilsonite, 0.25 lb/sx Flocele. Final pump rate = 2.0 BPM, at 1778 psi. Pulled 2 7/8" work string.

Ran bottom-hole drilling assembly. Hooked up reverse unit. Drilled retainer and cement. Fell out of cement at 3735'. Cleaned out wellbore to 3790'. Drilled 4 7/8" hole to 3802'.

Rigged up Schlumberger. Logged well with CNL-DSI-GR-CCL log and VDCBL-GR-CCL log. Found good bonding from surface to 510', with bottom of cement, on outside of 5 1/2" O.D. long string, at 822'.

Ran 4 3/4" button bit. Drilled 4 3/4" hole to 3860'. Ran 137.69' string-mill assembly. Rotated 4 3/4" O.D. string-mill assembly from 3761' to 3860'. Pulled string-mill assembly.

Set 4 1/2" O.D., 11.6 lb/ft, J-55, FJ liner, from 3069' to 3860'. Ran and set 5 1/2" Model "C" Packer at 2923'. Squeeze cemented 4 1/2" O.D. flush-joint liner into place utilizing 2250 cu. ft. (1700 sx) of cement slurry consisting of 400 sx of API Class "C" cement containing 2.5% CaCl<sub>2</sub>, 3 lb/sx Gilsonite, 0.25 lb/sx Flocele, followed by 1200 sx of API Class "C" cement containing 2.5% CaCl<sub>2</sub>, 3 lb/sx Gilsonite, 0.25 lb/sx Flocele, followed by 100 sx of API Class "C" cement containing 1.5% CaCl<sub>2</sub>. Pumped cement at a average pump rate of 12 BPM and average pump pressure of 3900 psi. Final displacement rate was 0.2 BPM, at 3930 psi.

Ran large-bore and small-bore bottom-hole drilling assemblies. Tagged cement at 2932'. Drilled hard cement to 3850'.

Ran 4 1/2" casing scraper, to 3850'. Circulated hole clean. Unloaded water from wellbore, to blowdown tank. Pulled 4 1/2" casing scraper.

Select-fire perforated Y-7R gas interval with (27) 0.38" x 17" holes, with one shot each at:

3134	3179	3230	3250	3427	3496
3141	3189	3232	3253	3437	3508
3153	3215	3239	3303	3466	
3161	3218	3242	3305	3489	
3166	3222	3246	3418	3493	

Page 4 of 6  
 NMOCD Form C-103 dated March 22, 2004  
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 Mexico "E" Com No. 4  
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 P-2-23S-36E  
 API No. 30-025-09227

Acidized perms, as follows, with 5600 gal of 15% MCA acid:

<u>Interval</u>	<u>Acid Volume (gal)</u>	<u>Ball Sealers</u>	<u>Treating Rate (BPM)</u>	<u>Max Treating Pressure (psi)</u>	<u>Ballout</u>
3134-3253 (17 holes)	3700	24	4.5	1784	No
3303-3508 (10 holes)	1900	15	3.5	2980	Yes
3134-3508 (27 holes)	5600	39	---	---	---

Ran and landed 2 3/8" O.D. tubing at 3711' RKB (111 jts @ 33.2'/jt + 1.1'SN + 18'MA - 3'AGL + 10'KBC = 3711.3'). Ran 3/4" API Class "KD" rod string and 2" x 1 1/4" x 14' RHAC insert pump. Commenced pumping and cleaning up well, at 7:00 P.M., CST, 1-21-03.

On 2-1-03, tested 13 MCFPD + 2 BWPD. FCP = 17 psi.

Moved in well service unit, on 7-28-03. Pulled rods and pump. Pulled 2 3/8" O.D. tubing. Ran 3 1/2" O.D., 9.3 lb/ft, N-80 frac string and 5 1/2" PLS frac packer. Set 5 1/2" PLS frac packer at 3046'.

Rigged up Halliburton. Performed CO<sub>2</sub> foam frac down 3 1/2" frac tubing with 194,203 gal of gelled water and CO<sub>2</sub> (53.6% CO<sub>2</sub>) and 400,000 lb of frac sand (10% 20/40, 15% 10/20, 75% 8/16). ATR = 38.9 BPM. ATP = 3913 psig.

ISIP =	1800 psi
5-min SIP =	1434 psi
10-min SIP =	1201 psi
15-min SIP =	1100 psi

Left well shut in for 85 minutes before opening well to blowdown tank. Cleaned up well to blowdown tank for 18.5 hours.

Pulled and laid down 3 1/2" O.D. frac string. Ran 2 3/8" O.D. production string. Tagged frac sand at 3684'. Hooked up air unit. Cleaned out frac sand to 3850'. Due to a continuing influx of sand, cleaned out frac sand for two (2) additional days.

Page 5 of 6  
NMOCD Form C-103 dated March 22, 2004  
Doyle Hartman  
Mexico "E" Com No. 4  
(Formerly Hobbs "L" No. 1)  
P-2-23S-36E  
API No. 30-025-09227

Raised and landed bottom of 2 3/8" O.D. tubing at 3680' (110 jts @ 33.22'/jt + 1.1'SN + 18'MA - 3'AGL + 10'KBC = 3680.3'). Ran 2" x 1 1/4" x 14' RHAC insert pump and 3/4" API Class "KD" rod string. Started pumping and cleaning up well, at 1:30 P.M., CDT, 8-1-03.

Cleaned up gas stream through orifice tester, from 8-1-03 until 9-1-03, until CO<sub>2</sub> content met Sid Richardson's standards.

On 10-20-03, tested 118 MCFPD + 2 BWPD. FCP = 1 psig. LP = 17 psig.

Total wellbore repair and reserve enhancement cost = \$526,230.

Page 6 of 6  
NMOCD Form C-103 dated March 22, 2004  
Doyle Hartman  
Mexico "E" Com No. 4  
(Formerly Hobbs "L" No. 1)  
P-2-23S-36E  
API No. 30-025-09227

**Mexico "E" Com No. 4**  
**Upper Long-String**  
**Cementing and Bond Log Results**

A review of the VDCBL cement bond log that was run in the Mexico "E" Com No. 4 well, on 1-13-03, after the Mexico "E" Com No. 4 was squeezed down the 5 1/2" O.D. casing, on 11-13-02, with 1600 sx of cement, documents the placement of cement, on the outside of the 5 1/2" O.D. casing, from surface to 820'. After waiting on cement overnight, cement was then drilled from 330' to 490', before shutting down for the remainder of day, for cement to reach maximum hardness. Hard cement was then drilled from 490' to 510'. Fell out of cement at 510'.

By finding the bottom of the hard cement, at 510', when coupled with (1) a previously confirmed casing leak location, between 495' and 527', and (2) a shift in the VDCBL cement bond log amplitude signal, at 510', documents that the cement slurry exit point, for the 1600-sx squeeze job, was at approximately 510', with the single casing hole, at 510', being thoroughly squeezed, with 1600 sx of cement.

The 1-13-03 VDCBL cement bond log found the top of the original long-string cement job at 2715'.

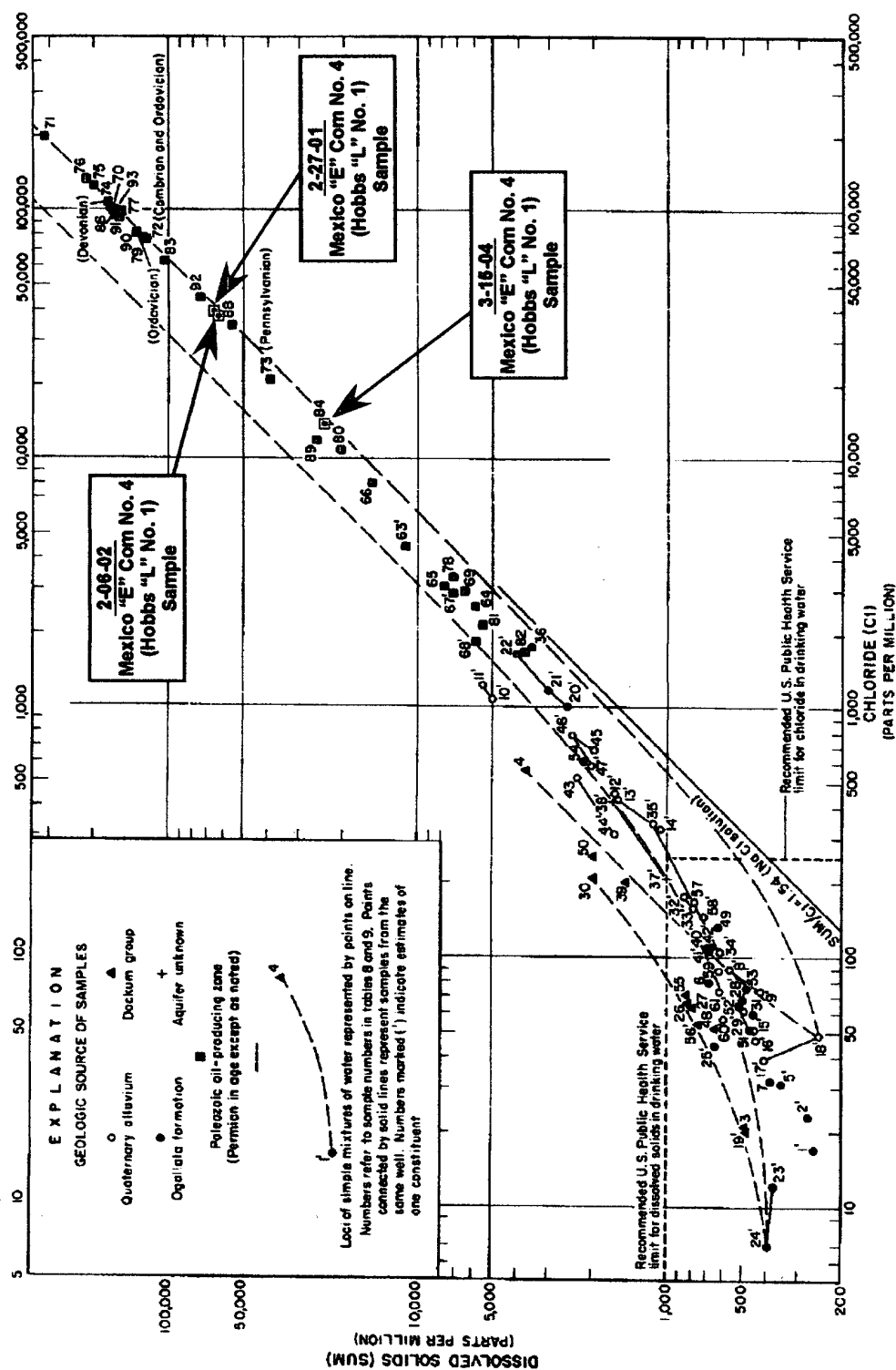


Figure 28

RELATION OF DISSOLVED SOLIDS TO CHLORIDE IN SAMPLES OF GROUND WATER  
FROM SOUTHERN LEA COUNTY, N. MEX.

(Graph from Ground-Water Report No. 6  
"Geology and Ground-Water Conditions in Southern Lea County, New Mexico"  
by Alexander Nicholson, Jr. and Alfred Clebsch, Jr  
USGS)

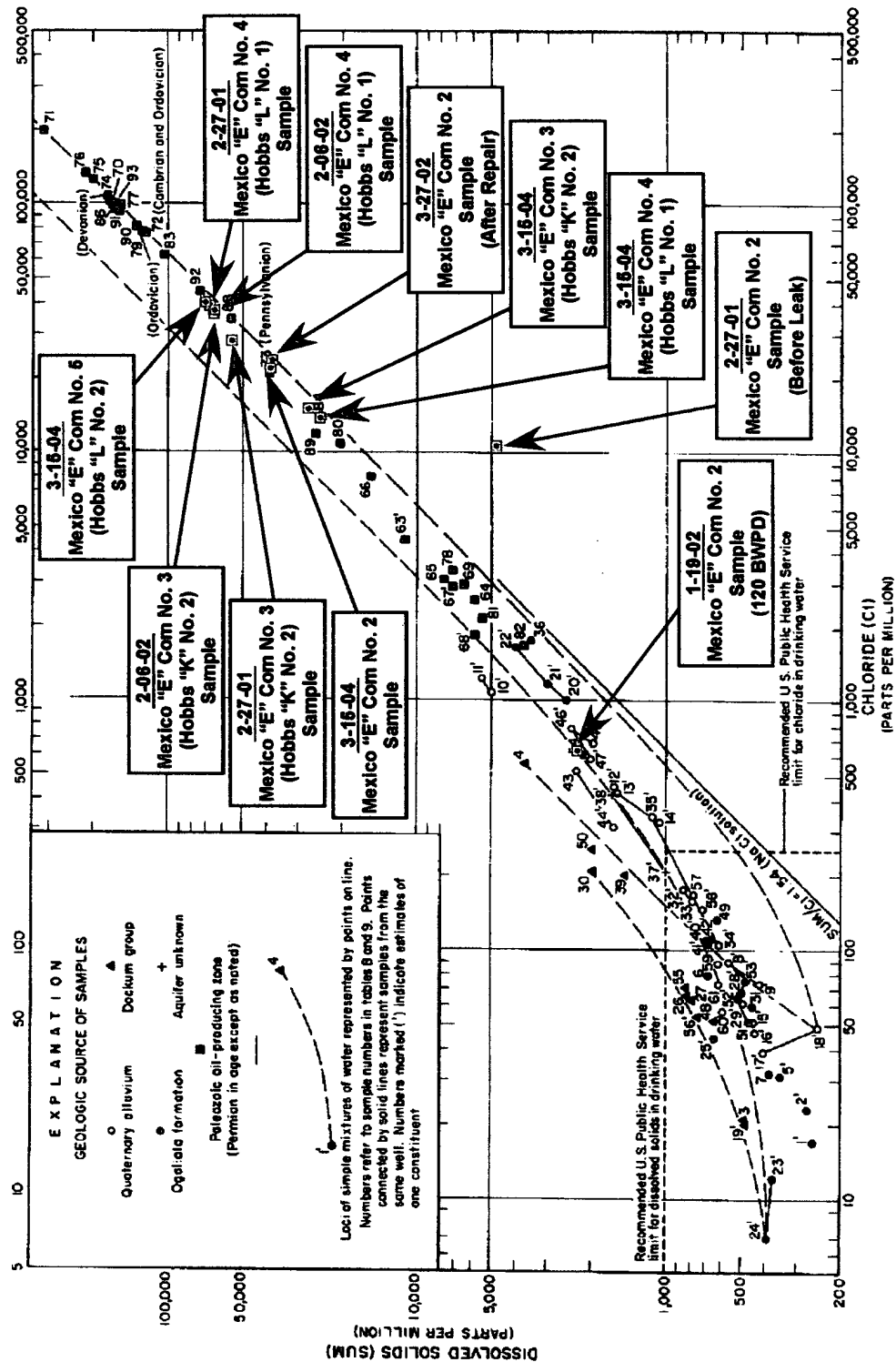


Figure 28

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P. O. Box 1468 (915) 943-3234 or (915) 563-1040  
Monahans, Texas 79756

MARTIN WATER LABORATORIES, INC.

709 W. Indiana (915) 683-4521  
Midland, Texas 79701

# RESULT OF WATER ANALYSES

TO: Mr. Steve Hartman LABORATORY NO. 201-195  
P.O. Box 10426 SAMPLE RECEIVED 2/27/01  
Midland, Texas 79702 RESULTS REPORTED 3/7/01

## API WATER ANALYSIS REPORT FORM

Company Doyle Hartman Oil Operators		Sample No.		Date Sampled	
Field Langlie-Mattix	Legal Description		County or Parish Lea		State NM
Lease or Unit Hobbs "L"	Well #1	Depth	Formation Seven Rivers/ Queen		Water, B/D
Type of Water (Produced, Supply, etc.) Produced		Sampling Point			Sampled By

### DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	19,969	868.2
Calcium, Ca	500	25.0
Magnesium, Mg	3,487	287.0
Barium, Ba		

### OTHER PROPERTIES

pH	7.18
Specific Gravity, 60/60 F.	1.0462
Resistivity (ohm-meters) @ 77° F.	0.124
Total Hardness, as CaCO <sub>3</sub>	15,600

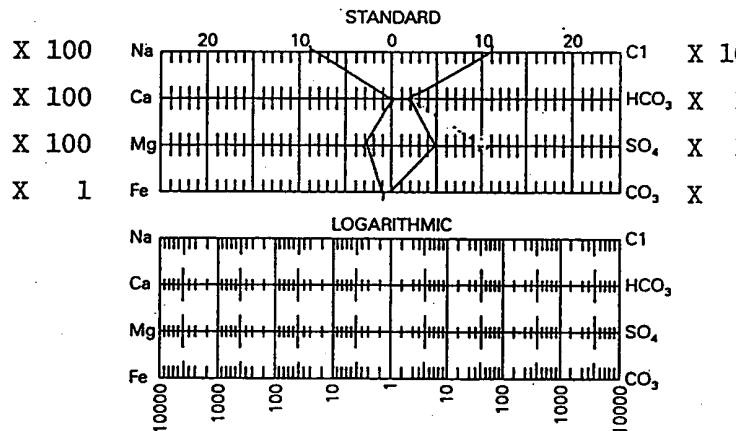
### ANIONS

Chloride, Cl	39,060	1,102
Sulfate, So <sub>4</sub>	2,765	57.5
Carbonate, Co <sub>3</sub>	0	0.0
Bicarbonate, HCO <sub>3</sub>	1,293	21.2

Total Dissolved Solids (calc.) 67,075

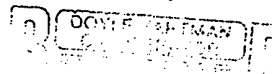
Iron, Fe (total) 32.7 1.3  
Sulfide, as H<sub>2</sub>S 106

### WATER PATTERNS - me/l



REMARKS & RECOMMENDATIONS: When we compare this water with our records, we find it could be approximately one-half Seven Rivers and one-half Queen.

Waylan C. Martin, M.A.



MAR 12 2001

P.O. Box 1468 Phone 943-3234 or 563-1040  
Monahans, Texas 79756

## RESULT OF WATER ANALYSES

709 W. Indiana Phone 683-4521  
Midland, Texas 79701

TO: Mr. Don Mashburn  
P.O. Box 10426, Midland, TX 79702

LABORATORY NO. 202-28  
SAMPLE RECEIVED 2/7/02  
RESULTS REPORTED 2/8/02

## API WATER ANALYSIS REPORT FORM

Company Doyle Hartman Oil Operators		Sample No.		Date Sampled 2/6/02	
Field Langlie-Mattix	Legal Description Sec 2 T-23S&R-36E		County or Parish Lea		State NM
Lease or Unit Hobbs "L"	Well #1	Depth	Formation Seven Rivers/Queen	Water, B/D	
Type of Water (Produced, Supply, etc.) Produced		Sampling Point		Sampled By	

## DISSOLVED SOLIDS

## CATIONS

	mg/l	me/l
Sodium, Na (calc.)	18,799	817.3
Calcium, Ca	500	25.0
Magnesium, Mg	3,244	267.0
Barium, Ba		

## ANIONS

	mg/l	me/l
Chloride, Cl	36,930	1,041.4
Sulfate, SO <sub>4</sub>	2,360	49.1
Carbonate, CO <sub>3</sub>	0	0.0
Bicarbonate, HCO <sub>3</sub>	1,147	18.8

Total Dissolved Solids (calc.)

62,979

Iron, Fe (total)

11.6

0.4

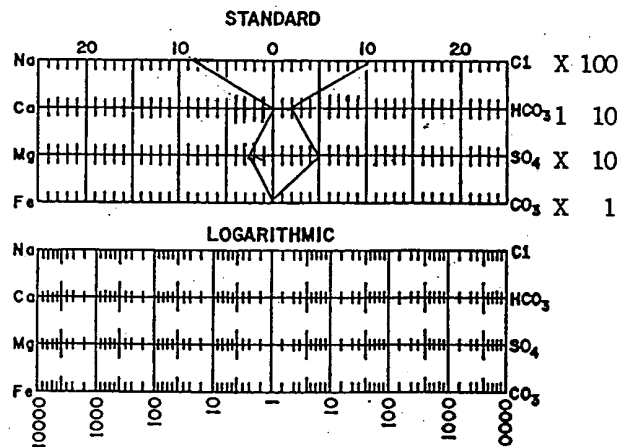
Sulfide, as H<sub>2</sub>S

159

## OTHER PROPERTIES

pH 6.82  
Specific Gravity, 60/60 F. 1.0426  
Resistivity (ohm-meters) 77° F. 0.130  
Total Hardness, as CaCO<sub>3</sub> 14,600

## WATER PATTERNS — me/l



## REMARKS &amp; RECOMMENDATIONS:

These results reveal no significant change in the water from this well as compared to that received 2/27/01 reported on laboratory #201-195.

Waylan C. Martin, M.A.

FAX: Doyle Hartman @ Dallas (214-520-1434)

FEB 11 2002

P. O. Box 1468 (915) 943-3234 or (915) 563-1040  
Monahans, Texas 79756

MARTIN WATER LABORATORIES, INC.

709 W. Indiana (915) 683-4521  
Midland, Texas 79701

# RESULT OF WATER ANALYSES

TO: Mr. Don Mashburn LABORATORY NO. 304-76  
P.O. Box 10426 SAMPLE RECEIVED 3-15-04  
Midland, TX 79702 RESULTS REPORTED 3-17-04

## API WATER ANALYSIS REPORT FORM

Company Doyle Hatman Oil Operators		Sample No.		Date Sampled	
Field		Legal Description		County or Parish Lea State NM	
Lease or Unit Hobbs L		Well #1		Depth	
Type of Water (Produced, Supply, etc.) Produced		Formation		Water, B/D	
Sampling Point		Sampled By			

### DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	6,874	298.9
Calcium, Ca	520	26.0
Magnesium, Mg	1,288	106.0
Barium, Ba		

### OTHER PROPERTIES

pH	6.81
Specific Gravity, 60/60 F.	1.0160
Resistivity (ohm-meters) @ 77° F.	0.300
	6,600

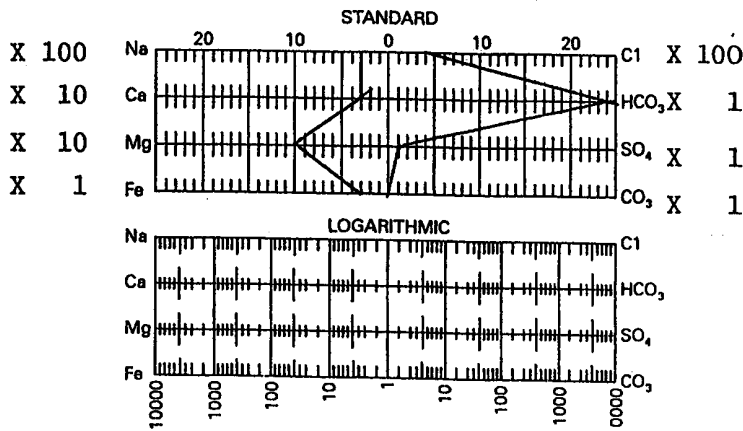
### ANIONS

Chloride, Cl	14,342	404.4
Sulfate, So <sub>4</sub>	59	1.2
Carbonate, Co <sub>3</sub>	0	0.0
Bicarbonate, HCO <sub>3</sub>	1,537	25.2

Total Dissolved Solids (calc.) 24,620

Iron, Fe (total) 84 3.4  
 Sulfide, as H<sub>2</sub>S 0

### WATER PATTERNS - me/l



REMARKS & RECOMMENDATIONS: Please contact us if we can be of any assistance in interpreting these results.

*Greg Ogden*  
 Greg Ogden, B.S.

DOYLE HARTMAN  
 OIL OPERATOR  
 RECEIVED

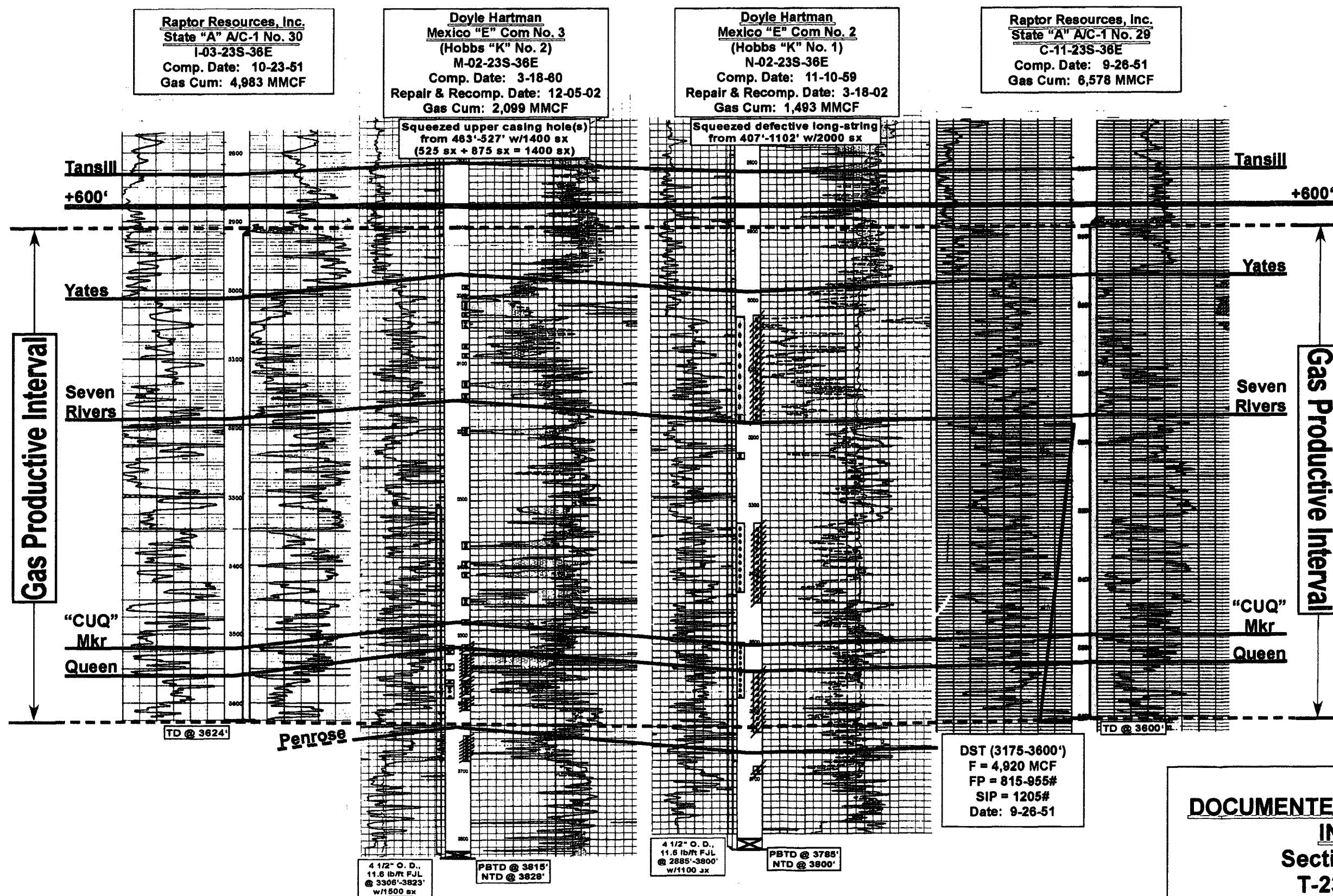
MAR 18 2004

FAX: Doyle Hartman (214-520-1434)

NORTH  
B

SOUTH  
B'

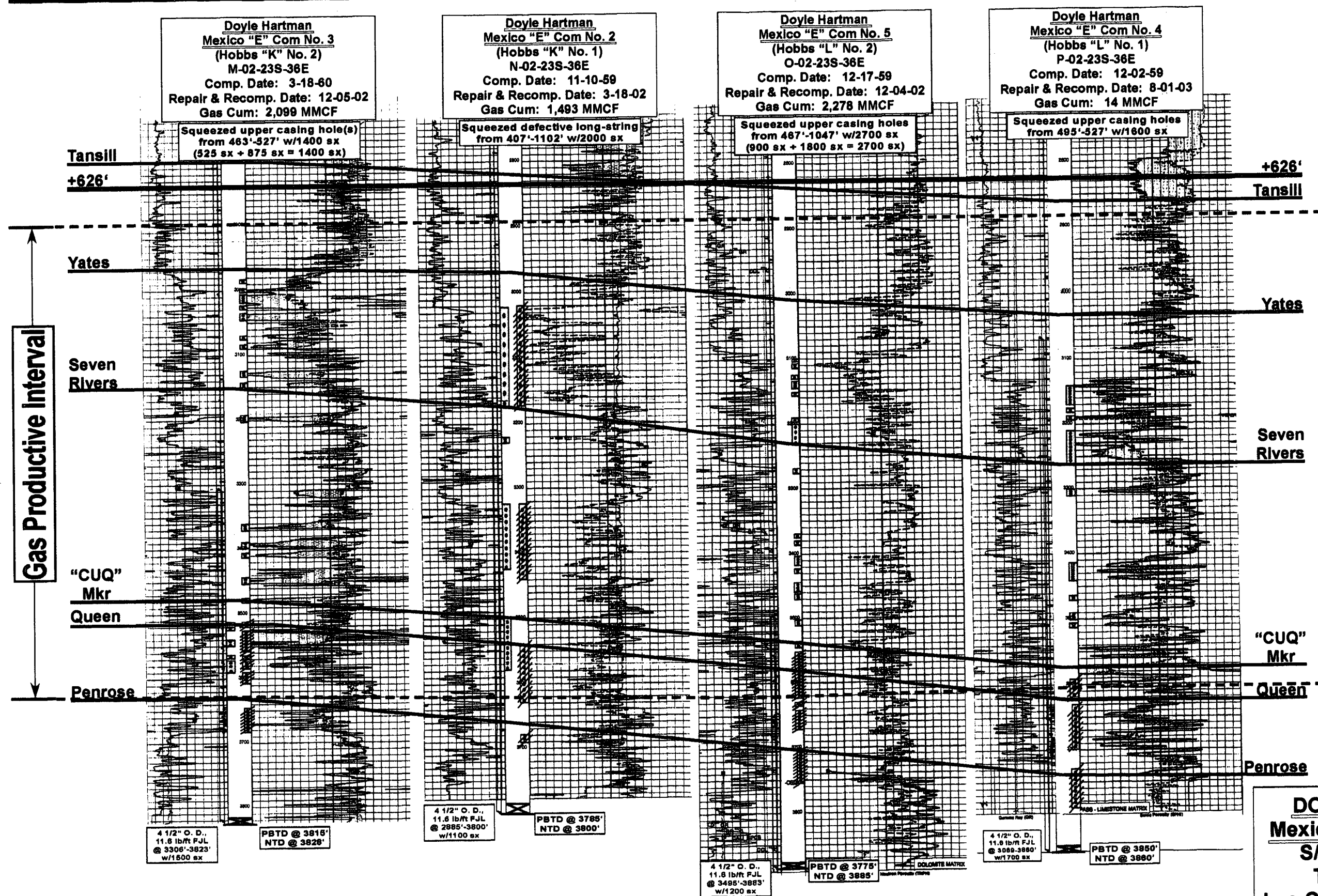
# Structural Cross-Section



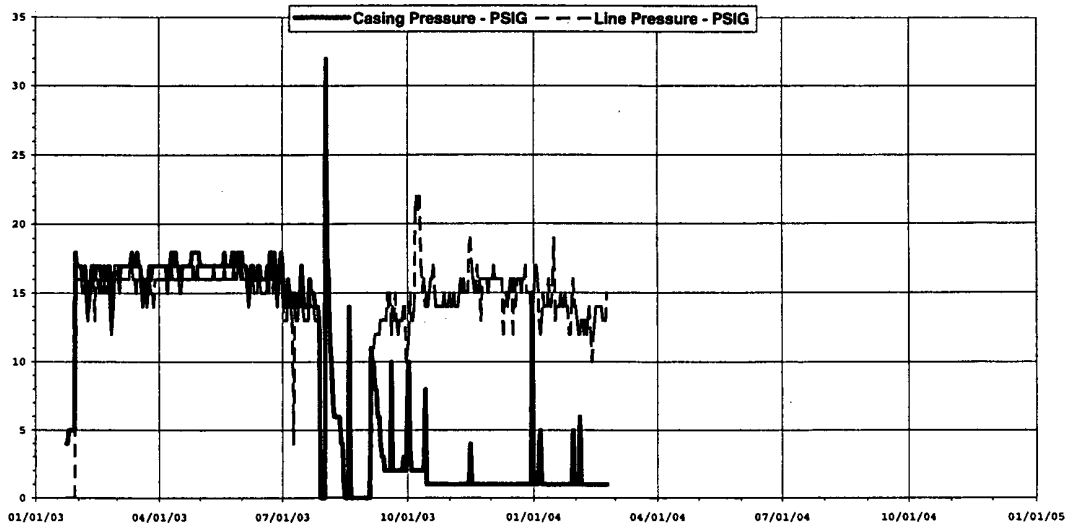
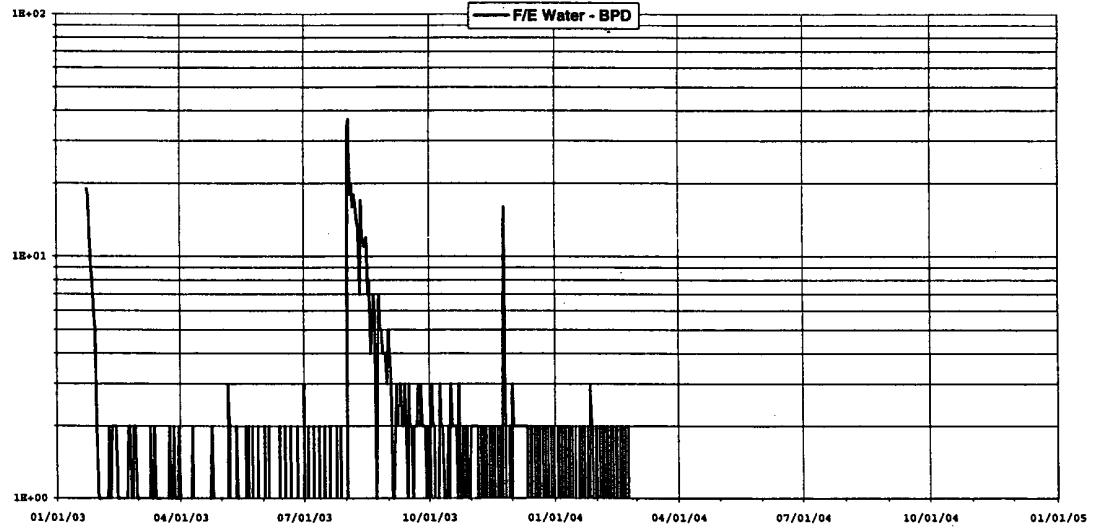
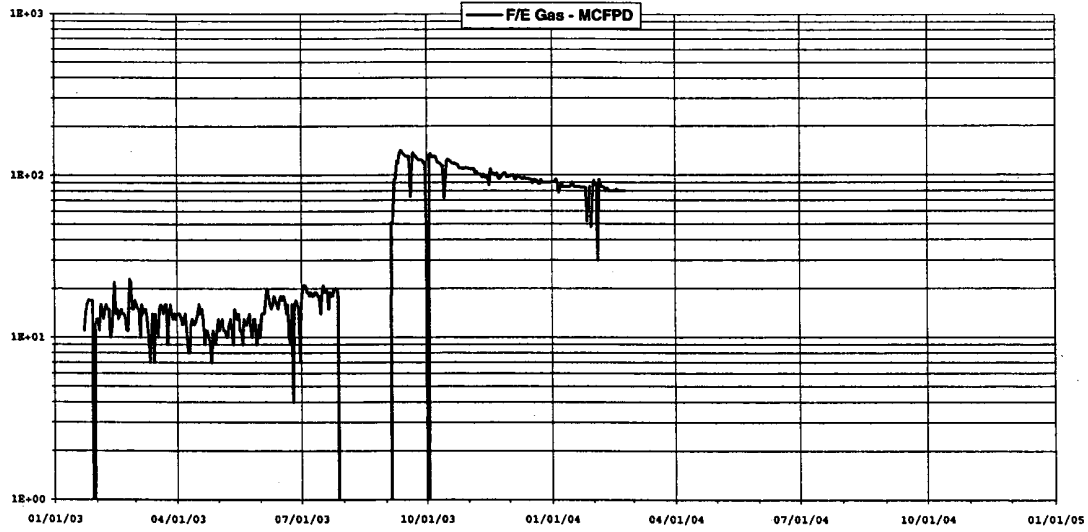
**DOCUMENTED GAS PRODUCTIVE  
INTERVAL**  
Sections 2, 3 & 11  
T-23-S, R-36-E  
Lea County, New Mexico

West  
C

## Structural Cross-Section

East  
C'

Hobbs L #1 (Mexico E Com #4)  
 Jalmat (T-Y-7R)  
 P-2-23S-36E  
 Doyle Hartman



02/24/04: 0.020 BCF 0.0 MBO 0.8 MBW

Hobbs L #1 (Mexico E Com #4)  
 Jalmat (T-Y-7R)  
 P-02-23S-36E  
 Doyle Hartman

