NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

August 13, 1997

Enron Oil & Gas Company
P.O. Box 2267
Midland, Texas 79702

Attention: Mr. Randall S. Cate

Re: Production Allocation
James Ranch Unit Well No. 71
Division Order Nos. R-10304, R-10558

Dear Mr. Cate:

Pursuant to the production data submitted June 26, 1997 on the James Ranch Unit Well No. 71, the allocation of production from the well is hereby established as follows:

| Pool | Oil % | Gas % |
|---|---|---|
| SE Quahada Ridge-Delaware Pool | 90% | 84% |
| Los Medanos-Bone Spring Pool | 6% | 13% |
| South Los Medanos-Wolfcamp Pool | 4% | 3% |

Such production allocation is effective March 1, 1997. If you should have any questions, please contact Mr. David Catanach at (505) 827-8184.

Sincerely,

William J. LeMay
Director

WJL/DRC

xc: OCD-Artesia
Case Files-11181, 11424

**ENRON**
**Oil & Gas Company**

P. O. Box 2267 Midland, Texas 79702 (915) 686-3600



June 24, 1997

NMOCD
2040 S. Pacheco
Santa Fe, NM 87505-6429

Attn.: Mr. David Catanach

Re: Enron Oil & Gas Company
James Ranch Unit No. 71
Downhole Commingling
Allocation of Production

Dear Mr. Catanach,

Pursuant to Order No. R-10558, Enron Oil & Gas requests that the Division approve the submitted allocation formula effective March 1, 1997. The following summarizes the well chronology:

| | |
|---|---|
| 11/94 | Completed as commingled Bone Spring/Wolfcamp producer (attached Order No. R-10304) |
| 11/96 | Completed Delaware pay; required pumping |
| 3/97 | Commingled all three pays on pump |
| 6/21/97 | Pumping 93 BOPD, 251 MCFD, 39 BWPD |

Also attached is the results of a measured FBHP taken 11/12/96 on the Bone Spring/Wolfcamp. FBHP was 2,599 psig. The well was not yet on pump. A recent NABLA Dynamometer and fluid level evaluation determined a pump intake pressure of 739 psig at 10,891'. The well is essentially "pumped off".

If you have any questions or additional data requirements please call the undersigned at telephone number (915) 686-3698.

Sincerely,

ENRON OIL & GAS COMPANY

Randall S. Cate
Project Reservoir Engineer

RSC/krp

Attachments

cc: Mr. Tim Gum
NMOCD - Artesia, NM

m:\cate\kp129rsc.doc

DISTRICT 1
P. O. Box 1980, Hobbs, NM 88241-1980

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

# OIL CONSERVATION DIVISION

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

## APPLICATION FOR DOWNHOLE COMMINGLING

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

APPROVAL PROCESS:
X Administrative ___ Hearing

EXISTING WELLBORE
X YES ___ NO

**Enron Oil & Gas Company** — Operator
**P. O. Box 2267, Midland, TX 79702** — Address

| **James Ranch Unit** | **No. 71** | **A-36-22-30** | **Eddy** |
|---|---|---|---|
| Lease | Well No. | Unit Ltr. - Sec - Twp - Rge | County |

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 07377 Property Code 004060 API NO. 30-015-25807-1 Federal ___ , State X , (and/or) Fee ___

| The following facts are submitted in support of downhole commingling: | Upper Zone | Intermediate Zone | Lower Zone |
|---|---|---|---|
| 1. Pool Name and Pool Code | S.E. Quahada Ridge Delaware (50443) | Los Medanos (Bone Spring)(40295) | South Los Medanos Wolfcamp (96336) |
| 2. Top and Bottom of Pay Section (Perforations) | 7,566-7,574 | 10,880-10,938 | 11,091-11,124 |
| 3. Type of production (Oil or Gas) | Oil | Oil | Oil |
| 4. Method of Production (Flowing or Artificial Lift) | Pump | Pump | Pump |
| 5. Bottomhole Pressure<br>Oil Zones - Artificial Lift: Estimated Current<br>Gas & Oil - Flowing: Measured Current<br>All Gas Zones: Estimated Or Measured Original | (Current) a. 480 psig | a. 713 psig | a. 785 psig |
| | (Original) b. | b. | b. |
| 6. Oil Gravity (°API) or Gas BTU Content | 41.0 | 47.8 | 47.8 |
| 7. Producing or Shut-In? | Producing | Producing | Producing |
| Production Marginal? (yes or no) | No | Yes | Yes |
| * If Shut-In, give data and oil/gas/ water rates of last production<br>Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data | Date:<br>Rates: | Date:<br>Rates: | Date:<br>Rates: |
| * If Producing, give date and oil/gas/ water rates of recent test (within 60 days) | Date: 2/19/97<br>Rates: 86 BO, 175 MCF, 26 BW | Date: 11/7/96 (Commingled)<br>Rates: 6 BO, 27 MCF, 1 BW | Date: 11/7/96 (Commingled)<br>Rates: 4 BO, 7 MCF, 0 BW |
| 8. Fixed Percentage Allocation Formula - % for each zone | Oil: 90% Gas: 84% | Oil: 6% Gas: 13% | Oil: 4% Gas: 3% |

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? X 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? X Yes ___ No

11. Will cross-flow occur? ___ Yes X 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? X Yes ___ No

13. Will the value of production be decreased by commingling? ___ Yes X 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. X Yes ___ No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). R-10558 (covers this well)

16. ATTACHMENTS:
* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
* Production curve for each zone for at least one year. (If not available, attach explanation.)
* For zones with no production history, estimated production rates and supporting data.
* Data to support allocation method or formula.
* Notification list of all offset operators.
* Notification list of working, overriding, and royalty interests for uncommon interest cases.
* Any additional statements, data, or documents required to support commingling.

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

SIGNATURE _____ TITLE **Project Reservoir Engineer** DATE **6/24/97**

TYPE OR PRINT NAME **Randall S. Cate** TELEPHONE NO. ( 915 ) 686-3698

JAMES RANCH UNIT I 71-BS I LOS MEDANOS
OIL GAUGE
Prop 104
OIL /d
GAS /d
GAS/OIL
WATER /d
RateTime
Semi Log
Major = OIL
OIL
GAS
GAS/OIL
WATER
94 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3
95 96 97 98 99

# Nabla Corporation

2064 Market Street Midland, TX 79703
(915) 697-2228 voice (915) 697 - 0192 fax

## Determination of Pump Intake Pressure from Fluid Level and Modified Gilbert S - Curve

Well Name : ENRON; JAMES RANCH NO. 71 Date : 06-03-1997
Analysis Number : 5V7-6-3-2

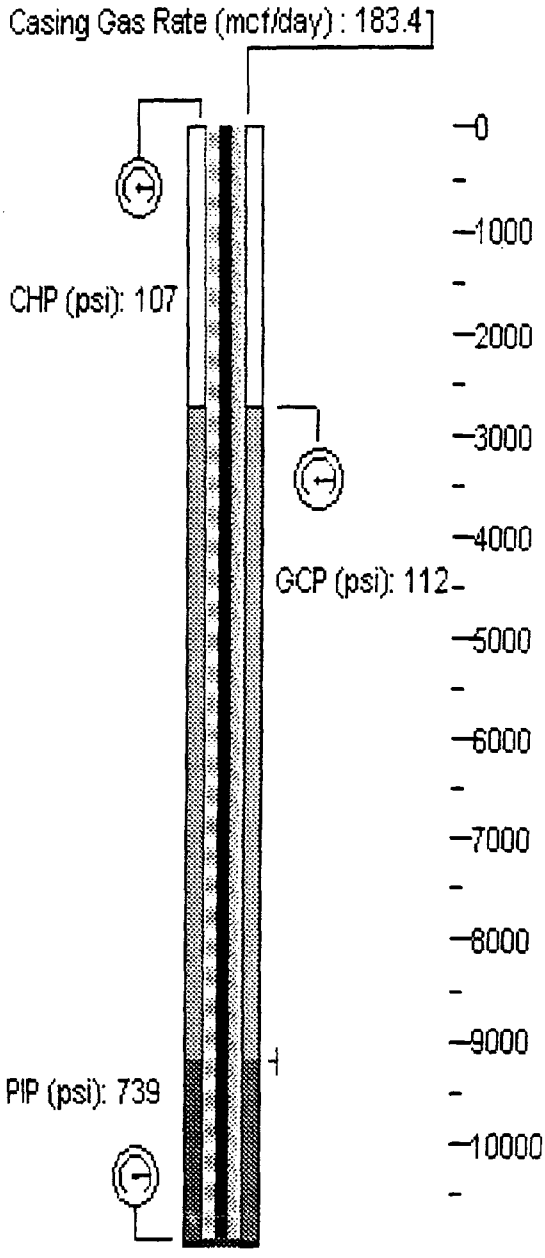
Pump Intake Pressure (psi) : 739 Fluid Level from Surface (ft) : 2718
Pump Submergence (ft) : 8263 Dead Fluid Pump Submrg. (ft) : 1777

**<<<<< Casing Rates and Gradients >>>>>**

Dead Liquid Gradient (psi/ft) : .353 Liquid/Gas Gradient (psi/ft) : .076
Dead Fluid Level (ft) : 9204
Estimated Casing Gas Rate (mcf/day) : 183.4

**<<<<< Other Documentary Data >>>>>**

Pump Depth (ft) : 10981
Casinghead Pressure (psi) : 107 Gas Column Pressure (psi) : 112
Casing Prss. Buildup (psi) : 2.231 Pressure Buildup Time (min) : 1.



JARREL SERVICES, INC.
Box 1230
Hobbs, New Mexico 88240

<<Flowing Gradient Survey>>

Date: 11/12/96 @ 3:25 pm

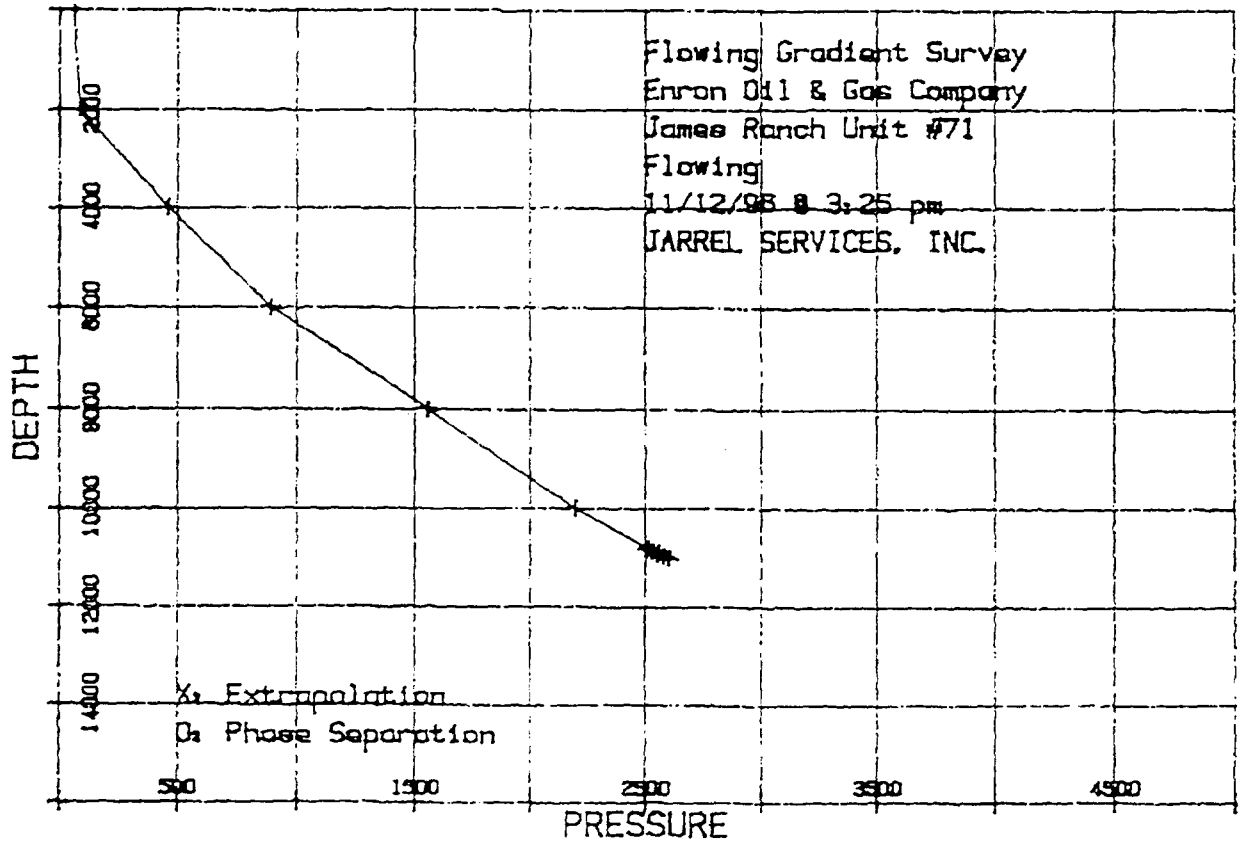
COMPANY: Enron Oil & Gas Company
LEASE: James Ranch Unit
FIELD: Los Medanis
COUNTY: Eddy
STATUS: Flowing
PERFORATIONS FROM: 10880 ft
DEPTH: 11002 ft

CONTACT: Bill Howard
WELL: #71
ZONE: Wolfcamp
STATE: New Mexico
OPERATOR: Harrah
TO: 11124 ft
TEMPERATURE: 167°F

TABULAR DATA

| DEPTH (ft) | PRESSURE (psi) | GRADIENT (psi/ft) | EXPLANATIONS |
|---|---|---|---|
| 0 | 59 | | |
| 2000 | 86 | 0.014 | |
| 4000 | 458 | 0.186 | |
| 6000 | 889 | 0.216 | |
| 8000 | 1554 | 0.333 | |
| 10000 | 2192 | 0.319 | |
| 10802 | 2506 | 0.392 | |
| 10852 | 2529 | 0.460 | |
| 10902 | 2553 | 0.480 | |
| 10952 | 2576 | 0.460 | |
| 11002 | 2599 | 0.460 | |

NOTE: Explanations are included to clarify calculated data points.



*ADMINISTRATIVE AMENDMENT OF DIVISION ORDER NO. R-10304*

Enron Oil & Gas Company
P.O. Box 2267
Midland, Texas 79702-2267

Attention: Ms. Kathy Nobs

*James Ranch Unit Well No. 71*
*Unit A, Section 36, Township 22 South, Range 30 East, NMPM,*
*Eddy County, New Mexico.*
*South Los Medanos-Wolfcamp and Los Medanos-Bone Spring Pools*

Dear Ms. Nobs:

Reference is made to your recent request to amend Division Order No. R-10304, which authorized downhole commingling of the referenced well, by modifying the allocation of production from the subject pools.

It appearing that reservoir damage or waste will not result from amending the allocation of production, and correlative rights will not be violated thereby, you are hereby authorized to allocate production from the commingled pools as described below.

In accordance with the provisions of Rule 303-C-4., total commingled oil production from the subject well shall not exceed 80 barrels per day, and total water production shall not exceed 160 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by Division Rules and Regulations or by the gas allowable for each respective prorated pool as printed in the Division's Southeast Gas Proration Schedule.

Assignment of allowable to the well and allocation of production from the well shall be on the following basis:

| | | |
|---|---|---|
| South Los Medanos-Wolfcamp Pool | Oil 36% | Gas 20% |
| Los Medanos-Bone Spring Pool | Oil 64% | Gas 80% |

FURTHER: This amendment is hereby made a part of Division Order No. R-10304 and all other provisions of such shall remain in full force and effect.

Pursuant to Rule 303-C-5, the commingling authority granted by the order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.

Approved at Santa Fe, New Mexico on this 18th day of August, 1995.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

WJL/BES

cc: Oil Conservation Division - Artesia
Case File No.11181