

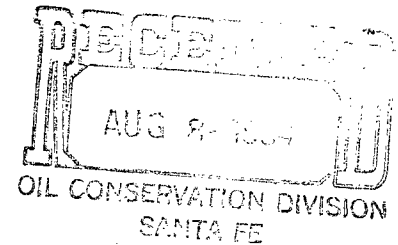


**Amoco Production Company**

Post Office Box 68  
Hobbs, New Mexico 88240

L. R. Smith  
District Manager

August 1, 1984



File: LRS-1649-WF

Re: Application to Wellbore Commingle  
State "HR" Well No. 1  
Bone Springs and Wolfcamp Oil Pools  
Lea County, New Mexico

State of New Mexico  
Energy and Minerals Department  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, NM 87501

Approval is hereby requested to downhole commingle the State "HR" No. 1 in accordance with NMOCD Rule 303-C.

This well is located 330' FNL x 1980' FWL, Section 36, T-18-S, R-34-E, Lea County, New Mexico. Originally, the well was PxA'd after reaching TD on 12-27-79. It was reentered 11-6-80 and completed in the Airstrip Wolfcamp. The Wolfcamp was temporarily abandoned in 1-84, and the well was completed in the Airstrip Upper Bone Springs. The well is currently on artificial lift and is producing from the Bone Springs. Attached is an ownership map showing the subject well and offset operator.

In support of our request, we submit the following facts:

1. The latest 24 hour productivity tests are as follows:

|              | Date   | BOPD | BWPD | MCFD | Perforations    |
|--------------|--------|------|------|------|-----------------|
| Bone Springs | 7-84   | 16   | 2    | 22   | 9,049'-9,312'   |
| Wolfcamp     | *12-83 | 10   | 0    | 23   | 10,612'-10,812' |

\* Production based on monthly well test. Most recent C-116 (attached) is dated 10-83.

2. Neither zone produces more water than the combined oil limit as determined in Rule 303, Paragraph C, Section 1-a(1) and a(3).

3. An analysis was run on the offset State "FU" No. 1 Upper Bone Springs and on the State "HR" No. 1 Wolfcamp waters when application was made to downhole commingle the State "FU" No. 1 well. The results of the water analysis found the two waters were compatible. Since the State "FU" No. 1 has been downhole commingled in the Upper Bone Springs and Wolfcamp for five months with no apparent compatibility problems, we do not foresee any problems occurring in the subject well.
4. Both zones will be artificially lifted. The estimated bottomhole pressures are as follows:

Upper Bone Springs:

(9,044' - 9,312')

Sonologged: 6/84 = 251'

Pump: Set at 9330'

May, 1984 Production: 20 BOPD x 5 BWPD x 26 MCFD  
89% oil x 11% water

Casing Pressure: 172 psi

Oil Gravity: 38.5° API

$$\begin{array}{rcl} & 141.5 & \\ \text{SG} = \frac{131.5 + 38.5}{141.5} & = .832 \text{ SG} \times .433 \text{ psi/ft} & = .360 \text{ psi/ft} \\ 251' \times .89 & = 233' \text{ oil} \times .360 \text{ psi/ft} & = 80.3 \text{ psi} \\ 251' \times .20 & = 28' \text{ water} \times .433 \text{ psi/ft} & = 12.1 \text{ psi} \\ (9330' - 251') \times .01 & \text{ psi/ft gas} & = 90.8 \text{ psi} \\ \text{Casing pressure} & & = 172.0 \text{ psi} \\ & & \underline{\underline{355.2 \text{ psi}}} \end{array}$$

Wolfcamp

(10,622' - 10,812')

Sonologged: 12/13/83 = 1,147' (one month prior to shut-in)

Pump: Set at 10,815'

December, 1983 Production: 10 BOPD x 0 BWPD x 23 MCFD  
100% oil

Casing Pressure: 52 psi

Oil Gravity: 39°

$$\begin{array}{rcl} & 141.5 & \\ \text{SG} = \frac{131.5 + 39}{141.5} & = .830 \text{ SG} \times .433 \text{ psi/ft} & = .359 \text{ psi/ft} \\ 1,147' \text{ oil} \times .359 & \text{ psi/ft} & = 411.8 \text{ psi} \\ (10,815' - 1,147') \times .01 & \text{ psi/ft gas} & = 96.7 \text{ psi} \\ \text{Casing Pressure} & & = 52.0 \text{ psi} \\ & & \underline{\underline{560.5 \text{ psi}}} \end{array}$$

Conclusion: Upper Bone Springs BHP = 355.2 psi  
Wolfcamp BHP = 560.5 psi

The lower pressured zone is not less than 50% of the higher pressured zone.

August 1, 1984  
File: LRS-1649-WF  
Page 3

---

5. The commercial value of the commingled production will be approximately the same as the total value of the segregated production. Production data from the two zones are as follows:

|                  | <u>State "HR" No. 1</u> |               |               |
|------------------|-------------------------|---------------|---------------|
|                  | Bone Springs            | Wolfcamp      | Commingled    |
| Daily Production | 16                      | 10            | 26            |
| Gravity          | 38.7°                   | 38.3°         | 38.5°         |
| Value/BBL        | 29.96                   | 29.95         | 29.96         |
| Total Value      | <u>479.36</u>           | <u>299.50</u> | <u>778.86</u> |

6. Recommended oil and gas allotments are as follows:

|     | Wolfcamp | Bone Springs |
|-----|----------|--------------|
| Oil | 38%      | 62%          |
| Gas | 51%      | 49%          |

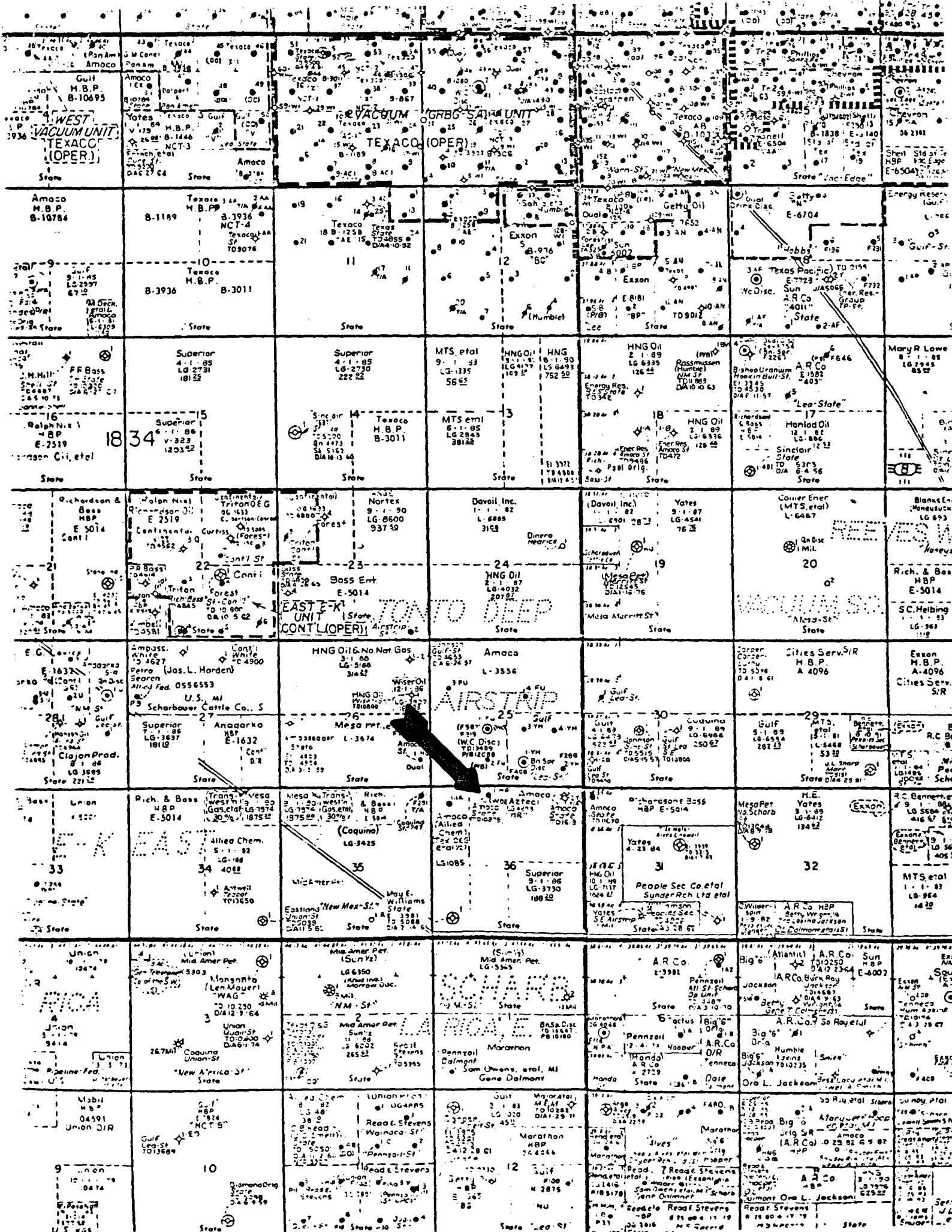
If additional information is required, contact Gary Clark at (505) 393-1781.

*Z R Smith*

GCC/kih  
APERM1-LL

Attachments

cc: State of New Mexico  
Energy and Minerals Dept.  
Oil Conservation Division  
P. O. Box 1980  
Hobbs, NM 88240



## GAS-OIL RATIO TESTS

| Operator                 |  | Pool              |          | County |    |              |            |             |                 |                      |                   |           |           |                 |           |  |
|--------------------------|--|-------------------|----------|--------|----|--------------|------------|-------------|-----------------|----------------------|-------------------|-----------|-----------|-----------------|-----------|--|
| Amoco Production Company |  | Airstrip Wolfcamp |          | Lea    |    |              |            |             |                 |                      |                   |           |           |                 |           |  |
| LEASE NAME               |  | WELL NO.          | LOCATION |        |    | DATE OF TEST | CHOKE SIZE | TBG. PRESS. | DAILY ALLOWABLE | LENGTH OF TEST HOURS | PROD. DURING TEST |           |           | GAS - OIL RATIO |           |  |
|                          |  |                   | U        | S      | T  | R            |            |             |                 |                      | WATER BBLs.       | GRAV. OIL | OIL BBLs. | GAS M.C.F.      | CU.FT/BBL |  |
| State FU                 |  | 4                 | K        | 25     | 18 | .34          |            |             |                 |                      |                   |           |           |                 |           |  |
| State HQ                 |  | 1                 | P        | 26     | 18 | 34           |            |             |                 |                      |                   |           |           |                 |           |  |
| State HR                 |  | 1                 | C        | 36     | 18 | 34           |            |             | 15              | 24                   | 0                 |           | 9         | 28.4            | 3111      |  |
| State IA                 |  | 1                 | D        | 36     | 18 | 34           |            |             | 1               | 24                   | 0                 |           | .5        | .1              | --        |  |

Special ☐Completion ☐Scheduled ☒

TYPE OF TEST - (X)

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 301 and appropriate pool rules.

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

*Donita Cole*

(Signature)

Administrative Analyst

(Title)

11-4-83

GAS - OIL RATIO TESTS

| Operator                              |          | Pool                  |    | County                                                                         |              |            |             |                   |                      |                   |            |           |          |                           |
|---------------------------------------|----------|-----------------------|----|--------------------------------------------------------------------------------|--------------|------------|-------------|-------------------|----------------------|-------------------|------------|-----------|----------|---------------------------|
| AMOCO PRODUCTION COMPANY              |          | Airstrip Bone Springs |    | Lea                                                                            |              |            |             |                   |                      |                   |            |           |          |                           |
| Address                               |          | TYPE OF TEST - (X)    |    | SCHEDULED <input checked="" type="checkbox"/> SPECIAL <input type="checkbox"/> |              |            |             |                   |                      |                   |            |           |          |                           |
| P. O. Box 68, Hobbs, New Mexico 88240 |          |                       |    |                                                                                |              |            |             |                   |                      |                   |            |           |          |                           |
| LEASE NAME                            | WELL NO. | LOCATION              |    |                                                                                | DATE OF TEST | CHOKE SIZE | TEG. PRESS. | DAILY ALLOW. ABLE | LENGTH OF TEST HOURS | PROD. DURING TEST |            |           |          | GAS - OIL RATIO CU.FT/BBL |
|                                       |          | U                     | S  | T                                                                              |              |            |             |                   |                      | R                 | WATER BLS. | GRAV. OIL | OIL BLS. |                           |
| STATE "HR"                            | 1        | C                     | 36 | 18S                                                                            | 34E          | 7-21-84    | P           | 101               | 24                   | 2                 | 16         | 22        | 1375     |                           |

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.66.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 33 and appropriate pool rules.

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

  
(Signature)

Assist. Admin. Analyst

(Title)

7-30-84

# INDUSTRY PRODUCTION DATA RATE-TIME PLOTS

OIL

API NO: 300250000000

WELL: STATE HR

000001

GENID: 4W014653

FIELD: AIRSTRIP WOLF CAMP AND BONES PRINGS WC

008000224 RESERVOIR: WC

OPERATOR: AMOCO PRODUCTION CO

019922

COMP DATE: 80 12

STATE: NM 30

COUNTY: LEA

22,783

FIRST PROD

LAST PROD 83 12

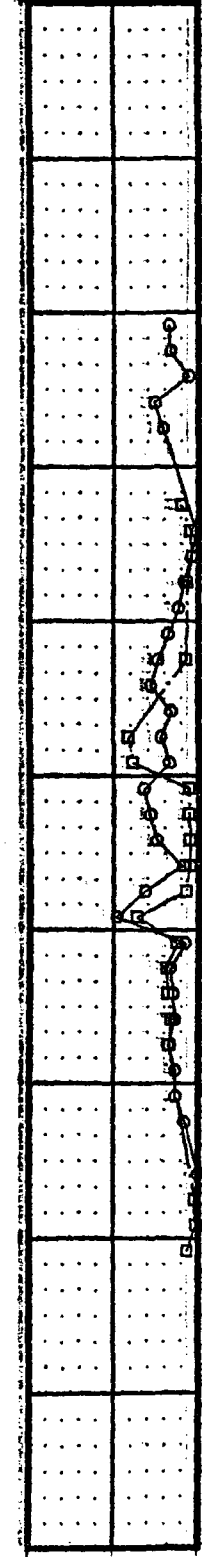
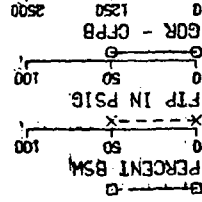
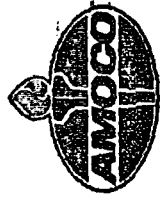
TOT. OIL CUM:

6,135

REQUESTOR: EDIE FOR SPERRY

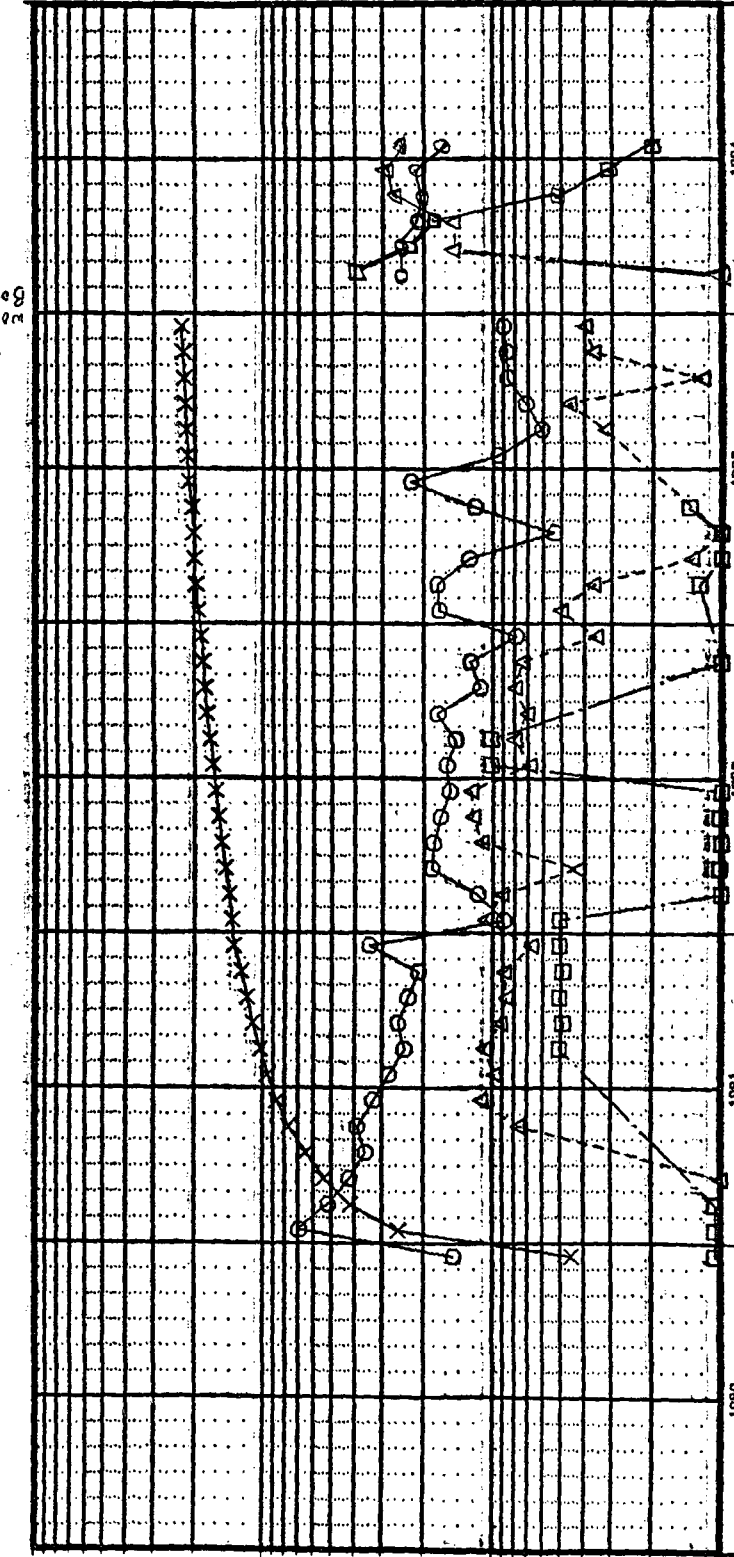
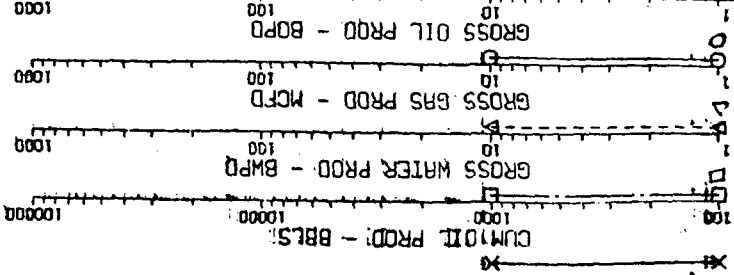
LOCATION: HOBBS

PERFS



Wolf Springs  
Bone Springs

MAJOR PRODUCT



1984-06-28

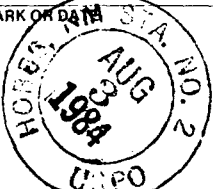
TIME

REPORT NUMBER 321

**P 267 164 440**  
**RECEIPT FOR CERTIFIED MAIL**  
 NO INSURANCE COVERAGE PROVIDED—  
 NOT FOR INTERNATIONAL MAIL  
 (See Reverse)

GCE

PS Form 3800, Apr. 1976

|                                                                                     |  |                          |  |
|-------------------------------------------------------------------------------------|--|--------------------------|--|
| SENT TO                                                                             |  | Gulf Oil Exploration     |  |
| STREET AND NO.                                                                      |  | 1923 N. Dal Paso Box 670 |  |
| P.O., STATE AND ZIP CODE                                                            |  | Hobbs, NM 88240          |  |
| POSTAGE                                                                             |  | \$ .20                   |  |
| CERTIFIED FEE                                                                       |  | .75 <sup>c</sup>         |  |
| SPECIAL DELIVERY                                                                    |  | c                        |  |
| RESTRICTED DELIVERY                                                                 |  | c                        |  |
| SHOW TO WHOM AND DATE DELIVERED                                                     |  | .60 <sup>c</sup>         |  |
| SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY                                         |  | c                        |  |
| SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY                            |  | c                        |  |
| SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY                 |  | c                        |  |
| TOTAL POSTAGE AND FEES                                                              |  | \$ 1.55                  |  |
| POSTMARK OR DATA                                                                    |  |                          |  |
|  |  |                          |  |