

TEXACO INC.

PETROLEUM PRODUCTS



January 16, 1970

MAIN OFFICE 000

'70 JAN 20 AM 8 11

DRAWER 728

HOBBS, NEW MEXICO 88240

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

Re: Wellbore Commingling
New Mexico "Q" State No. 4
Vacuum Abo, North and Vacuum
Wolfcamp Pools
Lea County, New Mexico

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

TEXACO Inc. respectfully requests administrative approval to wellbore commingle oil and gas production from the Vacuum Abo, North and Vacuum Wolfcamp Pools which are multiply completed in TEXACO's New Mexico "Q" State Well No. 4. The well is located in Unit P, Section 25, T-17-S, R-34-E, Lea County, New Mexico. At the present time, the well is a triple completion in the two subject pools along with the Vacuum Upper Pennsylvanian Pool.

During a workover on the Abo zone in July, 1967, additional pay was being opened and a perforation at 8,430 feet inadvertently communicated the Abo and Wolfcamp casing strings. A string of 2-1/16" tubing and packer was run in the 2-7/8" Wolfcamp casing string to resegment the two zones with Wolfcamp production flowing through the 2-1/16" tubing. In March, 1968, the Wolfcamp zone ceased to flow and attempts to place the zone on rod pump were unsuccessful due to a restriction in the 2-1/16" tubing at approximately 5,700'.

The subject well qualifies for wellbore commingling under the provisions of Order R-3845 in that both zones are classified as oil zones and produce oil and water volumes within the prescribed limits. The fluids are compatible as evidenced by four years of surface commingling. Total value of the crude will not be reduced by wellbore commingling. Further, all mineral ownership is common and secondary recovery operations will not be jeopardized. Commingled production will be artificially lifted up the Wolfcamp string with gas being vented through the Abo string.

DHC - 25
Due Feb 9

New Mexico Oil Conservation Commission

- 2 -

January 16, 1970

Attached is a well data sheet, production decline curve for both zones, Form C-116, and a copy of a recent bottom hole pressure on the flowing Abo zone, which is the only zone capable of flowing.

A list of offset operators is also attached, each of whom is receiving a copy of this letter.

Yours very truly,



W. E. Morgan
District Superintendent

BRH-cr

Attachments

cc: NMOCC-Hobbs

VSP

DATA SHEET FOR WELLBORE COMMINGLING

Operator: TEXACO INC.

Address: P. O. Box 728 - Hobbs, New Mexico 88240

Lease and Well No: New Mexico "Q" State No. 4

Location: Unit P ; 500 Feet from the South Line and
760 Feet from East Line of Section 25 ;
Township 17-S , Range 34-E ; Lea County.

Multiple Completion Order No. MC-1420

WELL DATA

| | <u>Upper Pool</u> | <u>Lower Pool</u> |
|--------------------------------|-------------------------------|------------------------------|
| Name of Pool | <u>Vacuum Abo, North</u> | <u>Vacuum Wolfcamp</u> |
| Producing Method | <u>Flow</u> | <u>SI (See cover letter)</u> |
| BHP | <u>2775 psi (Bomb 1-8-70)</u> | <u>1850 psi (Est.)</u> |
| Type Crude | <u>Intermediate Sweet</u> | <u>Intermediate Sweet</u> |
| Gravity | <u>39.8°</u> | <u>38.7°</u> |
| GOR Limit | <u>2000:1</u> | <u>2000:1</u> |
| Completion Interval | <u>8420'-9251'</u> | <u>9550'-10,005'</u> |
| Current Test Date | <u>January 10, 1970</u> | <u>Sept. 6, 1967</u> |
| Oil | <u>9</u> | <u>46</u> |
| Water | <u>0</u> | <u>46</u> |
| GOR | <u>4444</u> | <u>1006</u> |
| Selling Price of Crude-\$/BBL. | <u>\$3.34</u> | <u>\$3.32</u> |
| Daily Income - \$/Day | <u>\$30.06</u> | <u>\$152.72</u> |

COMMINGLED DATA:

Gravity of Commingled Crude 39.0°
Selling Price of Commingled Crude - \$/BBL. \$3.34
Daily Income - \$/Day \$183.70

Net (Gain) (~~Loss~~) From Wellbore Commingling - \$/Day 0.92
based on current producing rates.

NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS

C-116
Revised 1-1-65

| Operator | | Pool | | County | | Lea | | | | | | | | | |
|--|----------|---|----|--------------------|--------------|--|-------------|------------------|----------------------|-------------------|-------------|-----------|-----------------------------|-----------|------------|
| TEXACO Inc. | | Vacuum Abo, North & Vacuum Wolfcamp | | Lea | | | | | | | | | | | |
| Address | | P. O. Box 728 - Hobbs, New Mexico 88240 | | TYPE OF TEST - (X) | | Completion <input type="checkbox"/> Scheduled <input type="checkbox"/> Special <input checked="" type="checkbox"/> | | | | | | | | | |
| LEASE NAME | WELL NO. | LOCATION | | | DATE OF TEST | CHOKE SIZE | TBG. PRESS. | DAILY ALLOW-ABLE | LENGTH OF TEST HOURS | PROD. DURING TEST | | | GAS - OIL RATIO CU.FT./BBL. | | |
| | | U | S | T | | | | | | R | WATER BBLs. | GRAV. OIL | | OIL BBLs. | GAS M.C.F. |
| New Mexico "Q" State (Vacuum Abo, North) | 4 | P | 25 | 17S | 34E | 1-10-70 | F 32/64 | 110 | 12 | 24 | 0 | 39.8 | 9 | 40 | 4444 |
| | 4 | P | 25 | 17S | 34E | 9-6-67 | Swab | Swab | 0 Shut-In | 24 | 46 | 38.7 | 46 | 46.3 | 1006 |
| NOTE: THESE ARE TESTS PRIOR TO DOWNHOLE COMMINGLING. | | | | | | | | | | | | | | | |

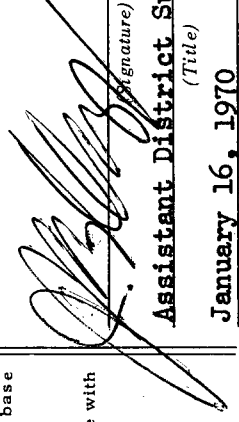
I hereby certify that the above information is true and complete to the best of my knowledge and belief.

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 Commission.

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 Commission in accordance with Rule 301 and appropriate pool rules.


Assistant District Superintendent
(Title)
January 16, 1970
(Date)



COLEMAN PETROLEUM ENGINEERING COMPANY

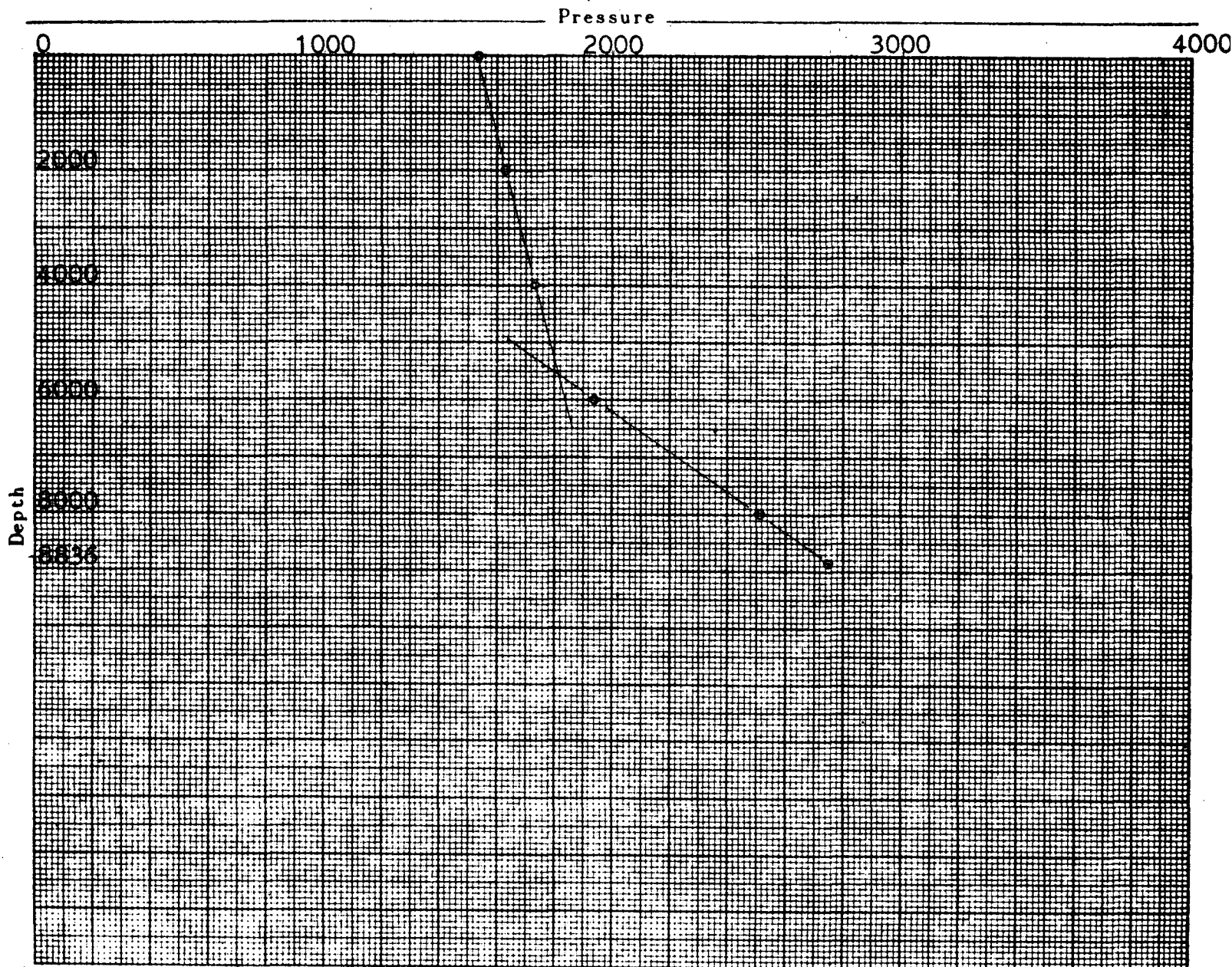
PHONE EXPRESS 3-3813
611 GRIMES
P. O. BOX 1829
HOBBS, NEW MEXICO

BOTTOM HOLE PRESSURE RECORD

OPERATOR TEXACO, INC.
FIELD VACUUM FORMATION ABO
LEASE STATE Q WELL No. 4
COUNTY LEA STATE NEW MEXICO
DATE 1-8-70 TIME 9:30 AM
Status SHUT IN Test depth 8836'
Time S. 24.0 HRS Last test date INITIAL
Tub Pres. 1548 BHP last test -
Cas. Pres. TRIPLE BHP change -
Elev. 3990' GL** Fluid top 5657'
Datum (-4846')** Water top NONE
Temp. @ 1500F Run by WATSON
Cal. No. A2419N Chart No. 1

| Depth | Pressure | Gradient |
|-------------|----------|----------|
| 0 | 1548 | - |
| 2000 | 1642 | .047 |
| 4000 | 1745 | .052 |
| 6000 | 1950 | .103 |
| 8000 | 2524 | .287 |
| 8836(-4846) | 2765** | .288 |

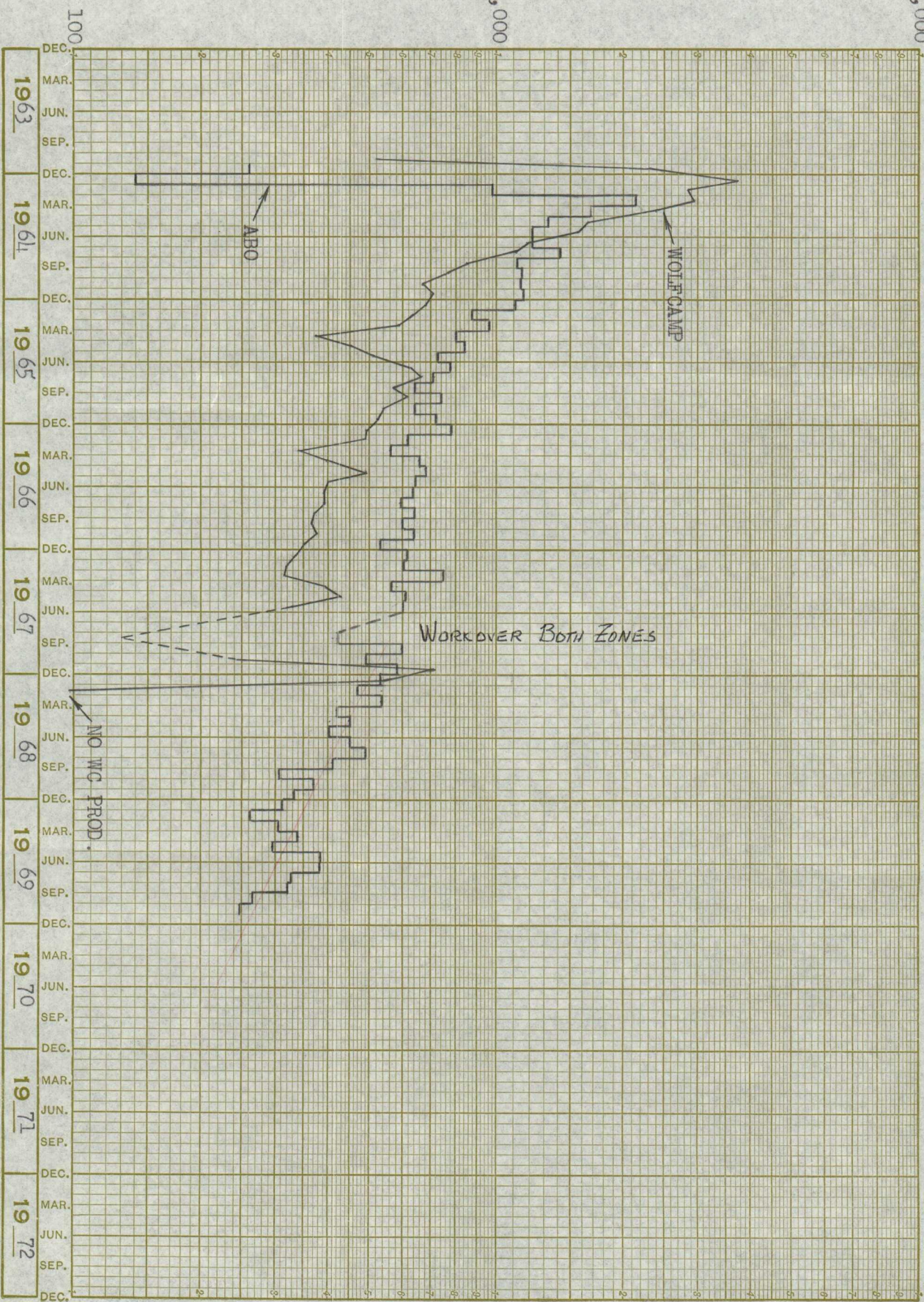
** MID POINT OF CASING PERFORATIONS



BARRELS/MONTH

1,000

10,000



TEXACO Inc.
PERFORMANCE CURVE
NEW MEXICO "Q" STATE NO. 4
VACUUM (NORTH ABO & WOLF CAMP) FIELD
LEA COUNTY, NEW MEXICO

TRIPLE COMPLETION INSTALLATION (TUBINGLESS)

NOTE: 2-7/8" casing strings cemented with 2500 sx. Trinity Lite Water cement. Pumped 1st 800 sx. down long string followed by 1700 sx. down all strings. This cement volume is approx. 200% of the theoretical volume of the annular space.

2-1/16" tbg. set at 9546'
2-7/8" csg. set at 10,176'

Top at 9148'
Name: NORTH ABO

Completion this Zone:
Oil

Bottom at 9251'.

Packer at 9546'

Top at 9951'
Name: WOLFCAMP

Completion this Zone:
Oil

Bottom at 10,005'.

Top at 10,069'

Name: PENNSYLVANIAN

Completion this Zone:
Oil

Bottom at 10,107'

North Abo (Oil)

Pennsylvanian (Oil)

16" & 13-3/8" csg. set at 385'. Top 100' is 16".
Cement circulated.

9-5/8" csg. set at 4799'.

2-7/8" csg. set at 11,468'

2-7/8" csg. set at 10,150'

PERFORATIONS:

8420', 8424', 8430', 8439', 8454',
8456', 8460', 9148', 9149', 9166',
9167', 9188', 9189', 9204', 9205',
9222', 9223', 9250', 9251'.

PERFORATIONS:

9627', 9630', 9637', 9640', 9646',
9650', 9659', 9664', 9732', 9734',
9951', 9952', 9960', 9961', 9990',
9991', 10,004', 10,005'.

PERFORATIONS:

10,069' - 10,107'

Total Depth at 12,285'
Cement plug set in open hole
from 12,285' to 11,468'.

TEXACO INC.

LEASE: State of New Mexico "Q" Well No. 4
FIELD: Vacuum (N. Abo, Wolfcamp & Pennsylvanian)
DATE: January 10, 1970

OFFSET OPERATORS
TEXACO INC.
NEW MEXICO "Q" STATE LEASE

Getty Oil Company
P. O. Box 1231
Midland, Texas 79701

Marathon Oil Company
P. O. Box 552
Midland, Texas 79701

Mobil Oil Company
P. O. Box 633
Midland, Texas 79701

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

February 10, 1970

Texaco Inc.

Drawer 728

Hobbs, New Mexico 88240

Attention: Mr. W.E. Morgan

Re: Administrative Order No. DHC-35

Gentlemen:

In order for the Hobbs District Office to be able to assign an allowable to your New Mexico "Q" State Well No. 4, after commencing commingled production you are requested to submit one production test per week for a period of one month to the Santa Fe and Hobbs Offices of the Oil Conservation Commission. At the end of the one-month test period allocation of production on a percentage basis will be determined and a revised copy of Administrative Order No. DHC-28 will be forwarded to your office

V t y

A L Porter, Jr.

Sec - Dir.