

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

**ILLEGIBLE**

December 7, 1965

C  
O  
P  
Y  
Monsanto Company  
Hydrocarbons Division  
101 North Marienfeld  
Midland, Texas 79704

Attention: Mr. A. W. Wood

Administrative Order PIC-24

Gentlemen:

Reference is made to your application dated October 21, 1965, wherein you request authority to commingle the gas production from the Morrow and Strawn zones in your Dagger Draw Well No. 1 located in Section 6, Township 20 South, Range 25 East, Eddy County, New Mexico. The Morrow zone has 640 acre spacing, and the Strawn zone has 320 acre spacing; therefore, exception to Rule 309-A pertaining to commingling between the leases with diversified ownership also applies in this request. It is our understanding that the gas production from each pool will pass through a heater and a high pressure oil-gas separator, after which it will be metered prior to being commingled in a dehydrator; that the Morrow liquids will be passed through a low pressure separator and stored separately from the Strawn liquids which will be subject to one stage separation only.

Pursuant to the authority granted me under the provisions of Rule 303 (b) and 309-B of the Commission Rules and Regulations, you are hereby authorized to commingle the gas production from the aforesaid pools and ownership areas in the above-described manner. Provided, however, that the installation shall be installed and operated in accordance with the Commission's commingling manual.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP:DSN:sg

cc: Oil Conservation Commission (with enclosure) - Artesia  
Oil & Gas Engineering Committee - Hobbs

# Monsanto

C O M P A N Y

HYDROCARBONS DIVISION

101 North Marienfeld  
Midland, Texas 79704  
(915) MUtual 3-3306

October 21, 1965

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico

Attention Mr. D. S. Nutter

Gentlemen:

We are applying for administrative approval to commingle the gas production from the Morrow and Strawn zones in Monsanto's Dagger Draw Well #1 located in Section 6, T-20S, R-25E, Eddy County, New Mexico. The Morrow zone has 640 acre spacing, and the Strawn zone has 320 acre spacing; therefore, Rule 309-B (Exception to Rule 309-A) pertaining to commingling between leases with diversified ownership applies to this request. Exception to Rule 303 governing commingling between pools or zones also applies to this request.

The information requested in rules 303 and 309-B for administrative approval to commingle production is submitted as follows:

1. A plat is enclosed showing the location of the Dagger Draw #1 and the spacing of the Morrow and Strawn zones from which the well is producing. This is the only well on the lease.
2. Volume and gravity data of each gas to be commingled. (See Multi-Point Back Pressure Test for Gas Wells - Form C-122.)

|                              | <u>Morrow</u> | <u>Strawn</u> |
|------------------------------|---------------|---------------|
| Gravity of separator gas     | .6556         | .671          |
| Gas-liquid hydrocarbon ratio | 195 MCF/bbl   | 0             |
| Absolute potential           | 3900 MCFPD    | 1950 MCFPD    |

3. Value of the Gas - The gas is contracted to Natural Gas Pipeline Company of America at 16¢/MCF, subject to adjustment for heating values below 1000 BTU/cf. The heating values of the Morrow and Strawn gas are 1111 BTU/cf and 1141 BTU/cf respectively; therefore, the value of the commingled gas would also be 16¢/MCF.

October 21, 1965

4. Schematic Diagram of the Proposed Production Equipment Installation - The gas from each zone will be produced into individual heaters and high pressure oil-gas separators. The gas from each high pressure separator will be measured by orifice meters and then commingled before entering the glycol dehydrator. The commingled gas goes from the dehydrator into the gathering line. The small amount of gas from the low pressure separator will be used for heater fuel, or vented. This gas will not be at high enough pressure to go into the gathering line.

Liquid hydrocarbon production from the Morrow and Strawn zones will not be commingled in order to comply with rules 303 and 309-A. We do not expect enough liquid from the Strawn gas to justify a low pressure separator for this zone.

5. Permission to commingle gas from the Morrow and Strawn zones in the Dagger Draw Well #1 has been requested from the Regional Supervisor of the United States Geological Survey (copy of letter attached).
6. A list of working interest, royalty, and overriding royalty owners is enclosed. These parties and Natural Gas Pipeline Company of America (purchaser of the gas) have been advised of our request to commingle the Morrow and Strawn gas of the Dagger Draw #1 by copy of this letter.

Commingling of gas from the Morrow and Strawn zones in our Dagger Draw #1 is being requested so that only one dehydrator and gathering line will be required for gas sales. We will have to run approximately 3400' of gathering line from our Dagger Draw #1 to Section 12, T-20S, R-24E, to connect into the pipeline of Natural Gas Pipeline Company of America.

Gas sales will be allocated to each zone according to the Allocation Formula in your Manual for the Installation and Operation of Commingling Facilities.

Approval for commingling the gas from the Morrow and Strawn zones in our Dagger Draw Well #1 will be greatly appreciated.

Yours very truly,



A. W. WOOD  
District Production  
Superintendent

AWW:PDH:lp  
Encl.

DAGGER DRAW - Section 6

WORKING INTEREST OWNERS

Cities Service Oil Company  
Bartlesville, Oklahoma

Tom L. Ingram  
1000 South Kentucky  
Roswell, New Mexico

Eugene E. Nearburg  
Box 19598  
Dallas, Texas

Frank W. Podpechan  
1200 Wilco Building  
Midland, Texas

Merl C. Kelce  
c/o Frank W. Podpechan  
1200 Wilco Bldg.  
Midland, Texas

Monsanto Company

ROYALTY OWNERS

The Superior Oil Company  
Box 1521  
Houston, Texas

Yates Brothers  
309 Carper Bldg.  
Artesia, New Mexico

S. P. Johnson, Jr.  
P. O. Box 1713  
Roswell, New Mexico

U. S. Department of Interior  
Geological Survey  
P. O. Drawer 1875  
Roswell, New Mexico

OVERRIDING ROYALTY OWNERS

Edgar A. G. Bright  
316 Audubon Street  
New Orleans, Louisiana

Jo Anna Willis Light  
1409 W. Orchard Lane  
Carlsbad, New Mexico

Robert L. Monaghan  
Box 3275  
Midland, Texas

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

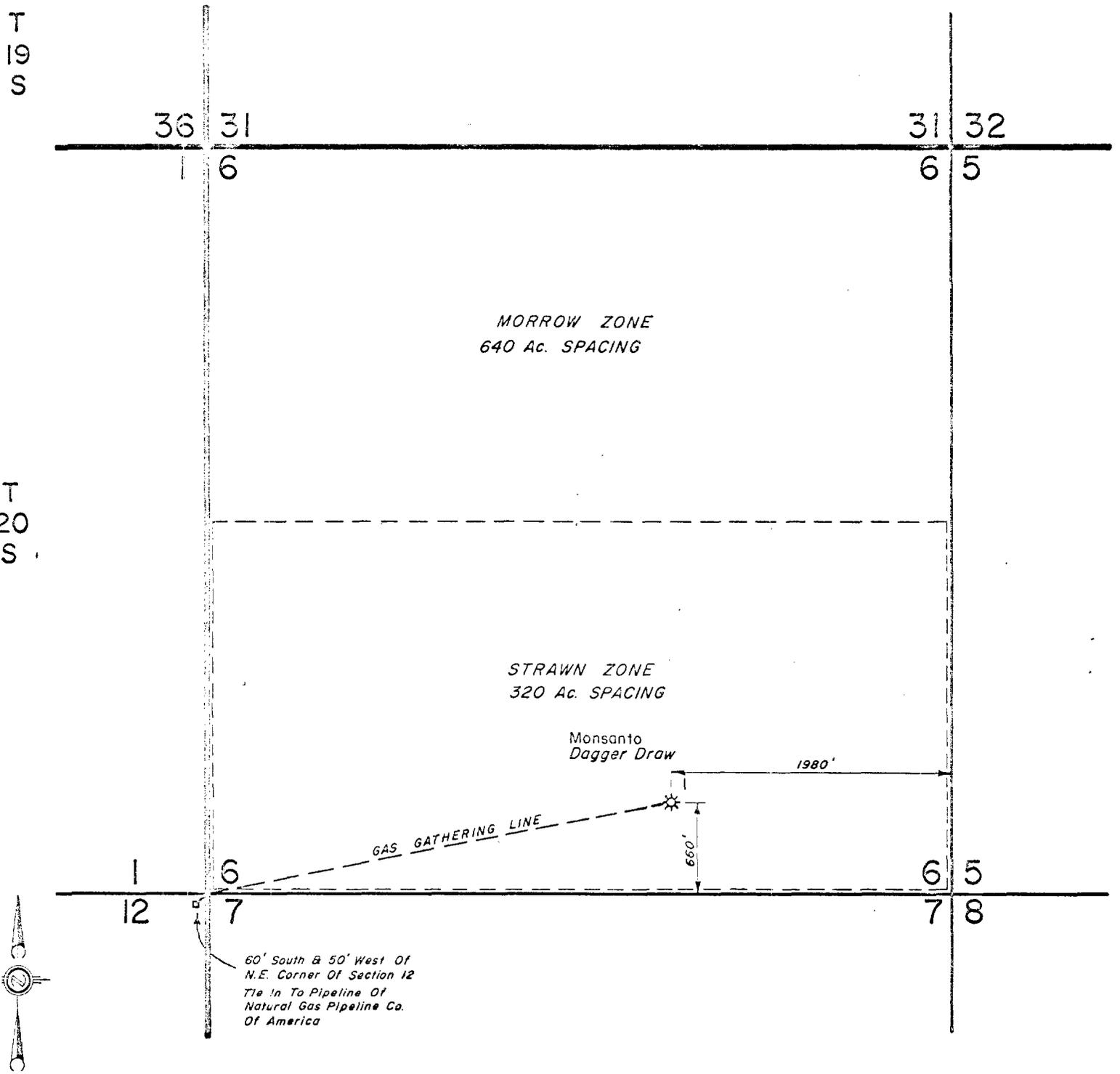
Bonnie M. Morrison  
3 Park Road  
Roswell, New Mexico

John B. Carter, Jr.  
2426 Bank of the Southwest Bldg.  
Houston, Texas

SPACING PATTERNS  
MORROW & STRAWN ZONES

R - 24 - E

R - 25 - E



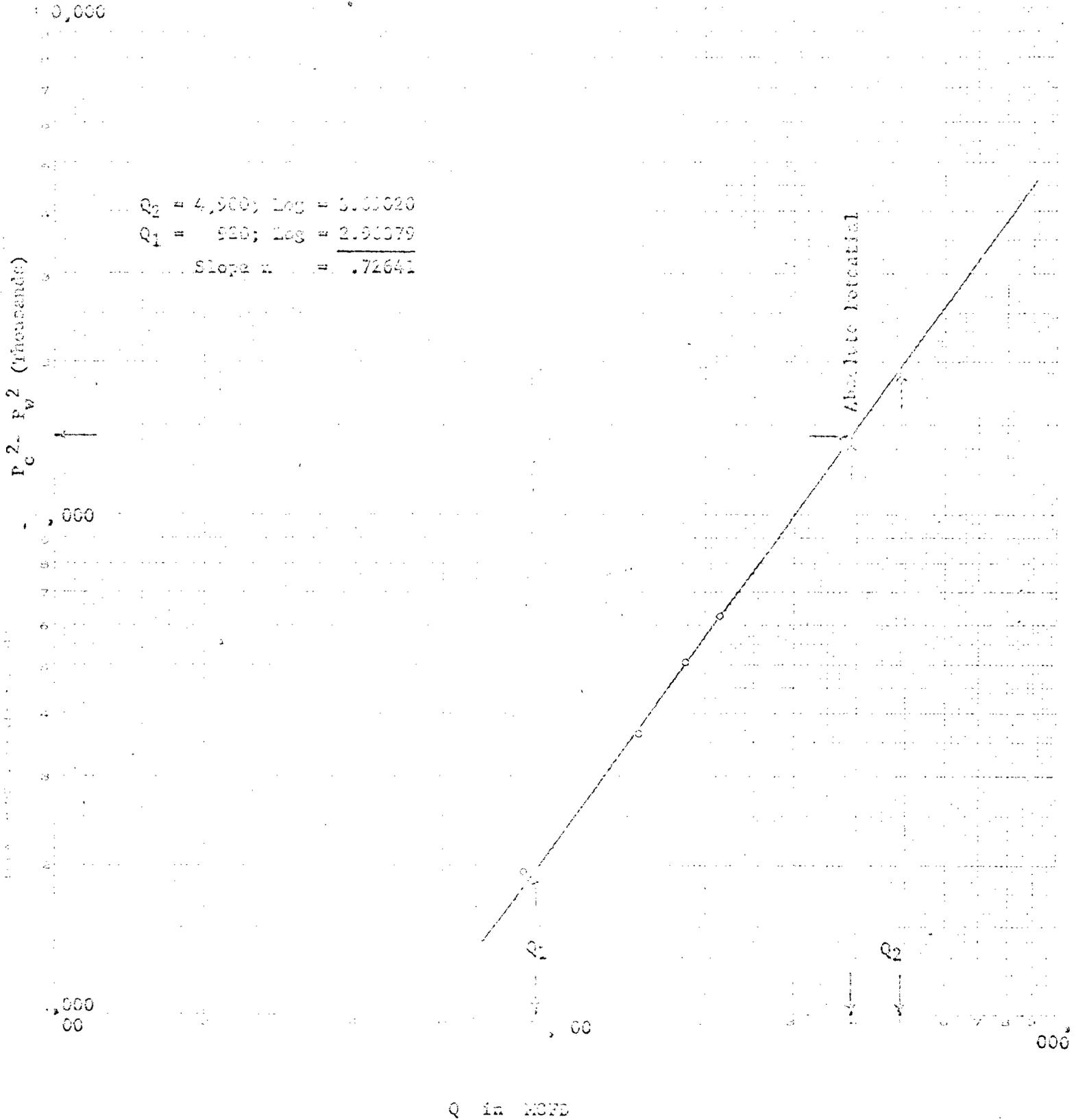
DAGGER DRAW AREA  
Eddy County, New Mexico

SCALE: 1" = 1000'

COMPANY AMERICAN COMPANY  
 NAME WATER PUMP 1.5. 1-T  
 LOCATION 62-100-250  
 COUNTY INDY  
 DATE 9-7-54

**ILLEGIBLE**

CORRECTED COPY



NEW MEXICO OIL CONSERVATION COMMISSION

**ILLEGIBLE**

CONDENSED COPY

Form O-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool                      Wellhead                      Formation                      Section                      County                      State                     

Initial                      Annual                      Special                      Date of Test 9-5-64

Company Moncanto Company Lease                      Dangler Draw                      Well No. 1-C

Unit 0 Sec. 3 Twp.                      Rge.                      Purchaser None

Casing 4 1/2 Wt. 21.6 I.D. 4.600 Set at 9000 Perf. 6000 To 6000

Tubing 2 Wt. 4.7 I.D. 1.975 Set at 9100 Perf. Below To Packer

Gas Pay: From 6000 To 2700 L 0000 xG .871 -GL 5000 Bar.Press. 10.2

Producing Thru: Casing 1 Tubing                      Type Well 3. 3. Dual

Date of Completion: 9-22-64 Packer 6700 Reservoir Temp.                     

OBSERVED DATA

Tested Through (Prover) (Orifice) (Meter) Type Taps Flange

| No. | Flow Data            |                        |             | Tubing Data          |           | Casing Data |           | Duration of Flow Hr. |             |
|-----|----------------------|------------------------|-------------|----------------------|-----------|-------------|-----------|----------------------|-------------|
|     | (Prover) (Line) Size | (Choke) (Orifice) Size | Press. psig | Diff. h <sub>w</sub> | Temp. °F. | Press. psig | Temp. °F. |                      | Press. psig |
| 1.  | 3"                   | 2.355                  | 208         | 25                   | 74        | 6000        | 74        | 6000                 | 1.00        |
| 2.  | 3"                   | 2.355                  | 209         | 25                   | 74        | Packer      | 74        | 6000                 | 1.00        |
| 3.  | 3"                   | 2.355                  | 207         | 25                   | 74        | Packer      | 74        | 6000                 | 1.00        |
| 4.  | 3"                   | 2.355                  | 212         | 25                   | 75        | Packer      | 74        | 6000                 | 1.00        |
| 5.  |                      |                        |             |                      |           |             |           |                      |             |

FLOW CALCULATIONS

| No. | Coefficient (24-Hour) | $\sqrt{h_w Q^2}$ | Pressure psia | Flow Temp. Factor F <sub>0</sub> | Gravity Factor F <sub>g</sub> | Compress. Factor F <sub>0v</sub> | Rate of Flow Q-MCFPD @ 15.025 psia |
|-----|-----------------------|------------------|---------------|----------------------------------|-------------------------------|----------------------------------|------------------------------------|
| 1.  | 9.741                 | 70.304           | 270.2         | 1.000                            | 1.000                         | 1.000                            | 345                                |
| 2.  | 9.701                 | 69.777           | 270.2         | 1.000                            | 1.000                         | 1.000                            | 345                                |
| 3.  | 9.701                 | 69.777           | 270.2         | 1.000                            | 1.000                         | 1.000                            | 345                                |
| 4.  | 9.701                 | 69.777           | 270.2         | 1.000                            | 1.000                         | 1.000                            | 345                                |
| 5.  |                       |                  |               |                                  |                               |                                  |                                    |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio                      cf/50l.

Gravity of Liquid Hydrocarbons                      deg.

F<sub>0</sub> 0.855 (1-e<sup>-s</sup>)                     

Specific Gravity Separator Gas 0.71

Specific Gravity Flowing Fluid 0.71

P<sub>0</sub> 2100.0 P<sub>0</sub> 7.618.2

| No. | P <sub>w</sub> P <sub>t</sub> (psia) | P <sub>t</sub> <sup>2</sup> | F <sub>0</sub> Q | (F <sub>0</sub> Q) <sup>2</sup> | (F <sub>0</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> ) | P <sub>w</sub> <sup>2</sup> | P <sub>0</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> | Cal. P <sub>0</sub> | P <sub>w</sub> /P <sub>0</sub> |
|-----|--------------------------------------|-----------------------------|------------------|---------------------------------|--|-----------------------------|---|---------------------|--------------------------------|
| 1.  | 2100.0                               | 4410000                     | 345              | 119025                          | 119025   | 4410000                     | 0   | 2100.0              | 1.000                          |
| 2.  | 2100.0                               | 4410000                     | 345              | 119025                          | 119025   | 4410000                     | 0   | 2100.0              | 1.000                          |
| 3.  | 2100.0                               | 4410000                     | 345              | 119025                          | 119025   | 4410000                     | 0   | 2100.0              | 1.000                          |
| 4.  | 2100.0                               | 4410000                     | 345              | 119025                          | 119025   | 4410000                     | 0   | 2100.0              | 1.000                          |
| 5.  |                                      |                             |                  |                                 |  |                             |   |                     |                                |

Absolute Potential:                      MCFPD; n                     

COMPANY Moncanto Company

ADDRESS 201 East P. Avenue, Denver

AGENT and TITLE                     

WITNESSED                     

COMPANY Bob Morris Engineering Service, Inc.

REMARKS



# Monsanto

C O M P A N Y

HYDROCARBONS DIVISION

101 North Marienfeld  
Midland, Texas 79704  
(915) MUtual 3-3306

October 21, 1965

U. S. Department of Interior  
Geological Survey  
Drawer 1857  
Roswell, New Mexico 88201

Attention Mr. John A. Anderson

Gentlemen:

In reference to my letter of October 12, 1965, application is being re-submitted for permission to commingle only the gas from the Morrow and Strawn zones in our Dagger Draw Well #1 located in Section 6, T-20S, R-25E, Eddy County, New Mexico.

A schematic of the proposed production equipment is enclosed. Gas from each zone will be produced into individual heaters and high pressure oil-gas separators. The gas from each high pressure separator will be measured by orifice meters and then commingled before entering the glycol dehydrator. The commingled gas will go from the dehydrator into the gathering line. Sales gas will be allocated to each zone according to the orifice meter readings at the high pressure separators.

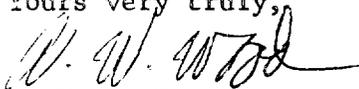
The small amount of gas from the low pressure separator will be used for heater fuel, or vented. This gas will not be at high enough pressure to go into the gathering line.

Liquid production from the Morrow and Strawn zones will not be commingled before marketing.

Commingling of gas from the Morrow and Strawn zones in our Dagger Draw #1 is being requested so that only one dehydrator and gathering line will be required for gas sales. We will have to run approximately 3400' of gathering line from our Dagger Draw #1 to Section 12, T-20S, R-24E, to connect into the pipeline of Natural Gas Company of America.

Your approval for commingling the gas from the Morrow and Strawn zones in our Dagger Draw #1 will be greatly appreciated.

Yours very truly,



A. W. WOOD

District Production  
Superintendent

AWW:PDH:lp

# SCHEMATIC OF PRODUCTION EQUIPMENT

MONSANTO #1-Dagger Draw  
Eddy County, New Mexico

