

BURLINGTON RESOURCES

SAN JUAN DIVISION

October 11, 1996

Mr. William LeMay
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

RECEIVED
OCT 15 1996

OIL CON. DIV.
DIST. 3

Re: Helms Federal #1 ^K
1800'FSL, 1695'FWL Section 22, T-30-N, R-10-W, San Juan County, NM
API #30-045-09330

Dear Mr. LeMay:

This is a request for administrative approval for downhole commingling the Blanco Mesa Verde and Basin Dakota pools in the subject well. This is currently a dual Mesa Verde/Dakota well.

To comply with the New Mexico Oil Conservation Division rules, Burlington Resources Oil & Gas Company is submitting the following for your approval of this commingling:

1. Form C107A - Application for Downhole Commingling;
2. C-102 plat for each zone showing its spacing unit and acreage dedication;
3. Production curve for both the Dakota and Mesa Verde for at least one year;
4. Notification list of offset operators;
5. Shut in wellhead pressure and calculated down hole pressure;
6. Nine-section plats for the Mesa Verde and Dakota.

The ownership for both the Mesa Verde and Dakota are common in this well. No notification to interest owners is required.

The allocation formula is included, showing 42% from the Mesa Verde and and 58% from the Dakota formation.

Please let me know if you require additional data.

Sincerely,



Peggy Bradfield
Regulatory/Compliance Administrator

encs.

DISTRICT I

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

Form C-107-A

New 3-12-96

APPROVAL PROCESS :

☒ Administrative
☐ Hearing

APPLICATION FOR DOWNHOLE COMMINGLING

EXISTING WELLBORE

☒ YES ☐ NO

Burlington Resources Oil & Gas Company

PO Box 4289, Farmington, NM 87499

Operator

Address

Helms Federal

1

K-22-30N-10W

San Juan

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7108 API NO. 30-045-09330 Federal ☒ , State ☐ , (and/or) Fee ☒The following facts are submitted
in support of downhole
commingling:Upper
ZoneIntermediate
ZoneLower
Zone

1. Pool Name and Pool Code	Blanco Mesaverde - 72319		Basin Dakota - 71599
2. Top and Bottom of Pay Section (Perforations)	4508-5238'		7207-7417'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure	(Current) a. 628 psi (calc) (see attachment)	a.	a. 1653 psi (calc) (see attachment)
Oil Zones - Artificial Lift: Estimated Current			
Gas & Oil - Flowing: Measured Current	(Original) b. 1005 psi (calc) (see attachment)	b.	b. 2335 psi (calc) (see attachment)
All Gas Zones: Estimated or Measured Original			
6. Oil Gravity (°API) or Gas BTU Content	BTU 1191		BTU 1035
7. Producing or Shut-In?	producing		producing
Production Marginal? (yes or no)	yes		yes

Well Location and Acreage Dedication

NOVEMBER 2, 1964

Section A

FEDERAL HELMS

Operator 1 SOUTHERN UNION GAS COMPANY 10333
 Well No. Unit Letter K Section 22 Township 30 NORTH Range 10 WEST N.M.P.M.
 Located 1800 Feet From SOUTH Line. 1695 Feet From 323.84 Line
 County SAN JUAN DAKOTA & MESAVENDE 251 Dedic. BASIN DAKOTA & BLANCO MESAVENDE
 Name of Producing Formation Pool

1. Is the X operator the only owner in the dedicated acreage outlined on the plat below?
 Yes No
2. If the answer to question one is "no", have the interests of all the owners been consolidated by communitization agreement or otherwise? Yes No . If answer is "yes", Type of Consolidation
3. If the answer to question two is "no", list all the owners and their respective interests below:

OwnerLand Description

Section B.

This is to certify that the information in Section A above is true and complete to the best of my knowledge and belief.

SOUTHERN UNION PRODUCTION COMPANY

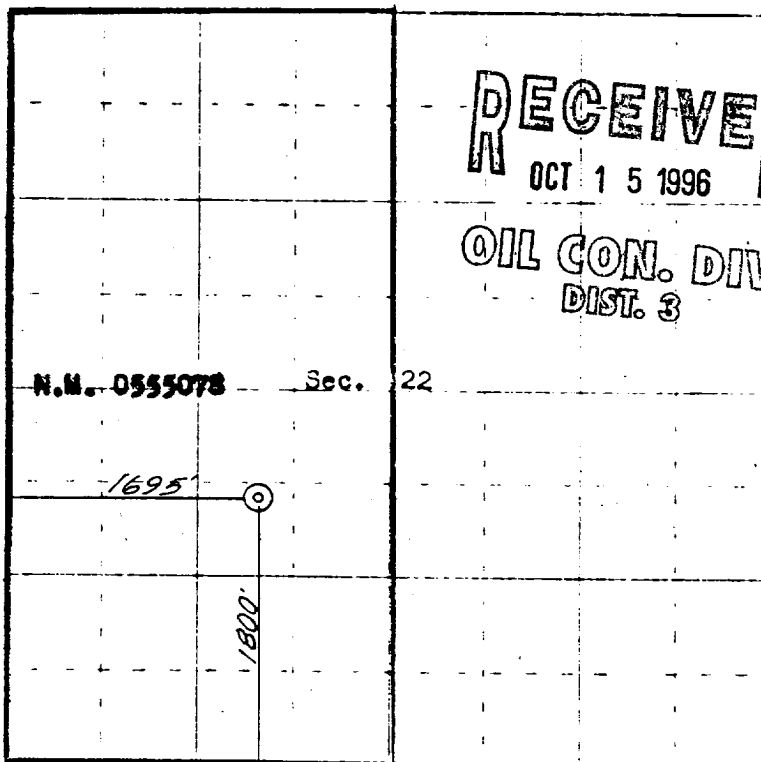
Gilbert D. Nolan, Jr. (Operator)
 GILBERT D. NOLAN, JR.

P. O. Box 808 (address)

FARMINGTON,

NEW MEXICO

Note: All distances must be from outer boundaries of section.



0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

Scale 4 inches equal 1 mile

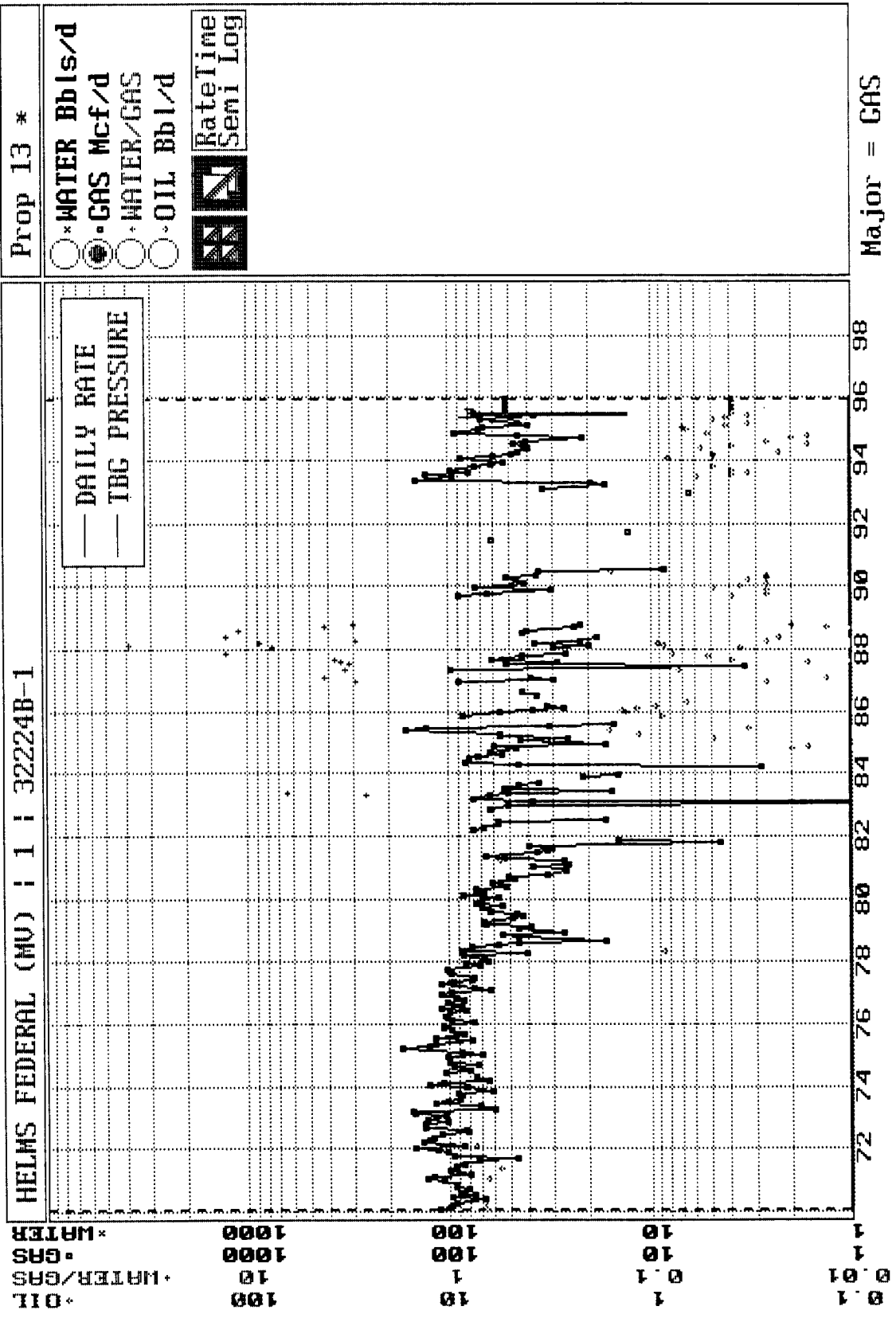
This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

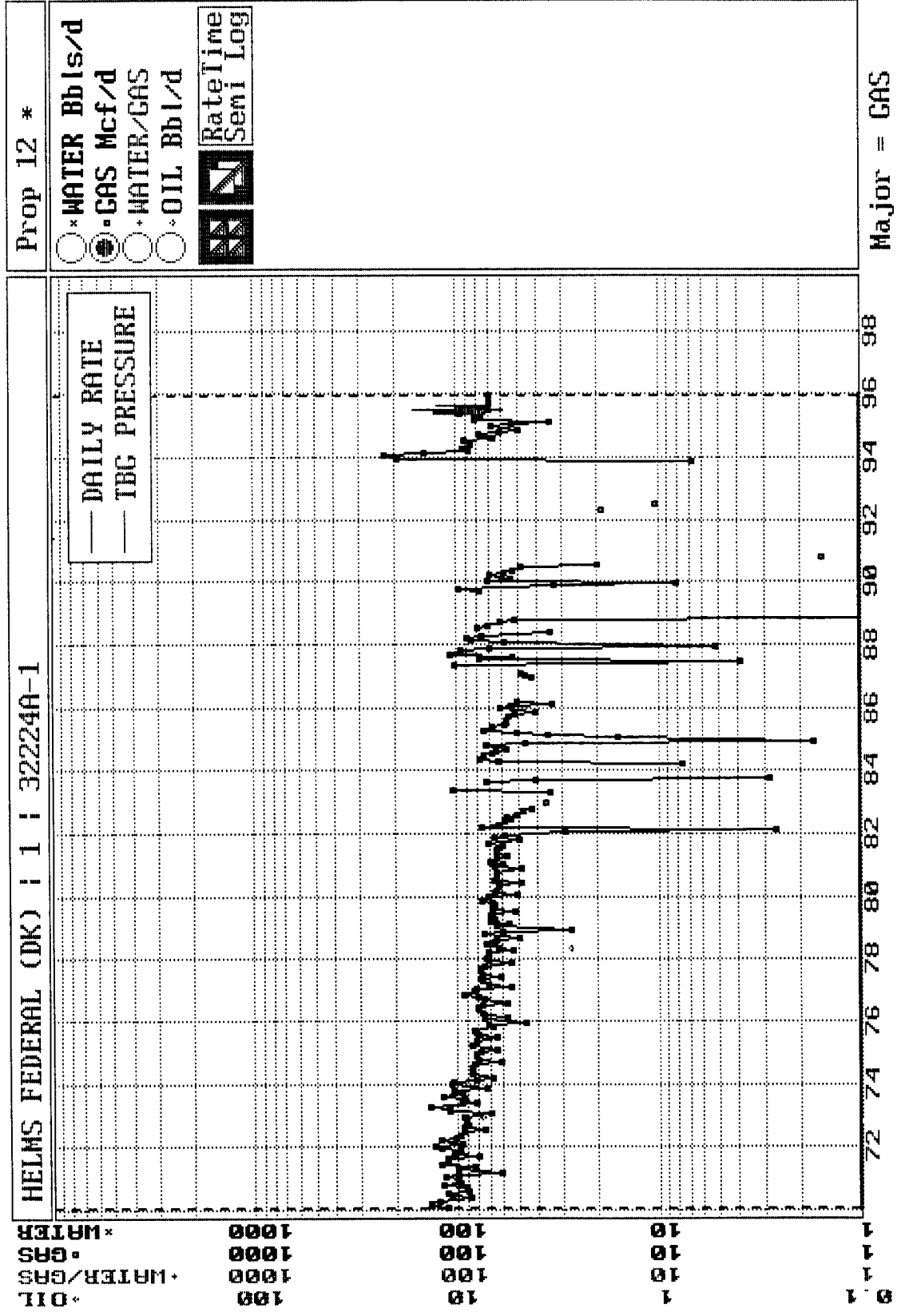
(Seal)

Date Surveyed October 20, 1964

Farmington, New Mexico

James P. Leese
 Registered Professional Engineer and/or Land Surveyor
 James P. Leese, N. Mex. Reg. No. 2162





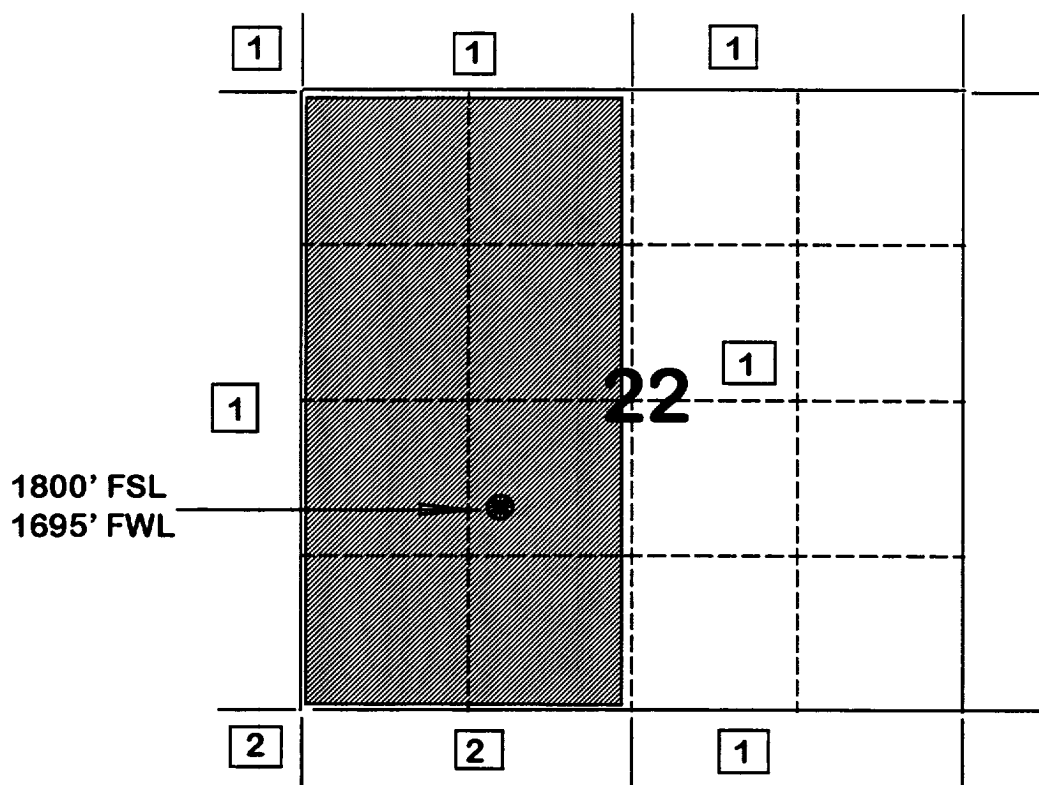
BURLINGTON RESOURCES OIL AND GAS COMPANY

HELMS FEDERAL #1

OFFSET OPERATOR \ OWNER PLAT

Mesaverde / Dakota Formations Commingle Well

Township 30 North, Range 10 West



- 1) Burlington Resources Oil and Gas Company Successor to Meridian Oil Inc.
- 2) Amoco Production Company
Bruce Zimney
P.O. Box 800
Denver, CO 80201

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	<u>0.62</u>
COND. OR MISC. (C/M)	<u>C</u>
%N ₂	<u>0.14</u>
%CO ₂	<u>2.04</u>
%H ₂ S	<u>0</u>
DIAMETER (IN)	<u>1.5</u>
DEPTH (FT)	<u>7010</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>200</u>
FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>1977</u>
BOTTOMHOLE PRESSURE (PSIA)	2334.8

HELMS FEDERAL #1 DAKOTA - (ORIGINAL)

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	<u>0.62</u>
COND. OR MISC. (C/M)	<u>C</u>
%N ₂	<u>0.14</u>
%CO ₂	<u>2.04</u>
%H ₂ S	<u>0</u>
DIAMETER (IN)	<u>1.5</u>
DEPTH (FT)	<u>7010</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>200</u>
FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>1406</u>
BOTTOMHOLE PRESSURE (PSIA)	1653.1

HELMS FEDERAL #1 DAKOTA - (CURRENT)

Organize Data ScreenGraph Economics Report Plot Utility Quit
 Browsing: HELMS FEDERAL (DK) | 1 | 32224A-1 Property No.: 12
 Table(T): TEST/M,P,H,E,T,Z,C,A,O,D,N,1,2,3,B,U,S Rec: 1/10/467
 Item: 12/32/33 Name: GAS_RATE Type: Numeric Len: 8/197/203 Dec: 0

GAS RATE	WTR RATE	WHT	M FWHP-	M FBHP-	M SIWHP	M SIBHP	C FWHP-	C FBHP-
██████████	██████████	████	██Psi██	██Psi██	██Psi██	██Psi██	██████████	██████████
«	0		0.0		1977.0	2329.0		»
«	0		446.0		861.0	1002.0		»
«	0		354.0		609.0	706.0		»
«	0		239.0		666.0	773.0		»
«	0		187.0		793.0	922.0		»
«	0		293.0		733.0	852.0		»
«	0		281.0		849.0	988.0		»
«	0		335.0		1001.0	1168.0		»
«	0		299.0		965.0	1125.0		»
«					1406.0			»

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 F2=Jump F4=NxtPro F6=NxtTbl F8=Print F10=Exit Shift+<- ->=Fast Tbl R & L

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.7
COND. OR MISC. (C/M)	C
%N2	0.3
%CO2	0.86
%H2S	0
DIAMETER (IN)	1.25
DEPTH (FT)	5187
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	873
BOTTOMHOLE PRESSURE (PSIA)	1004.9

HELMS FEDERAL #1 MESAVERDE - (ORIGINAL)

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.7
COND. OR MISC. (C/M)	C
%N2	0.3
%CO2	0.86
%H2S	0
DIAMETER (IN)	1.25
DEPTH (FT)	5187
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	550
BOTTOMHOLE PRESSURE (PSIA)	628.2

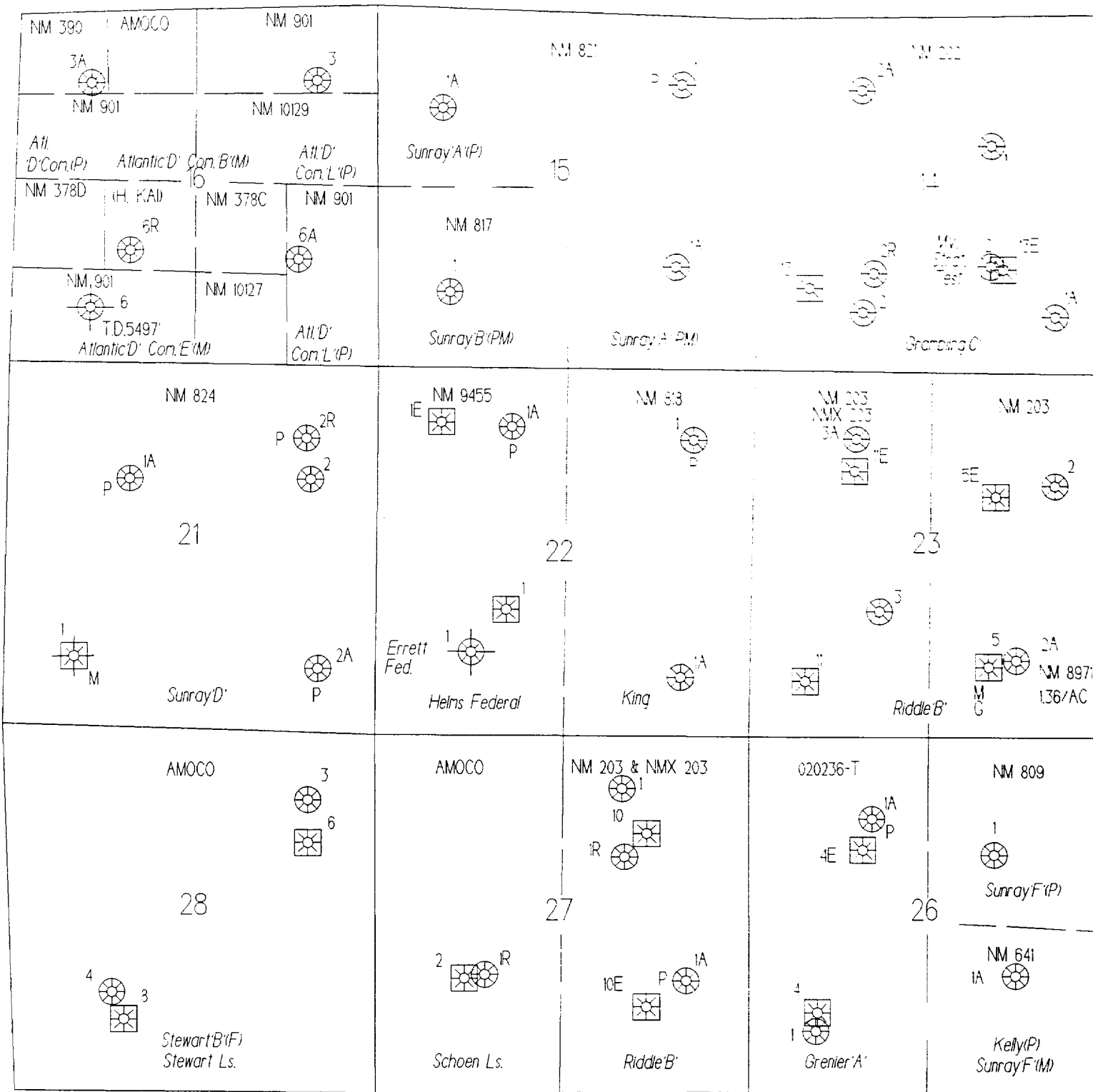
HELMS FEDERAL #1 MESAVERDE - (CURRENT)

Organize Data ScreenGraph Economics Report Plot Utility Quit
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 Item: 12/32/33 Name: GAS_RATE Type: Numeric Len: 8/197/203 Dec: 0

GAS RATE	WTR RATE	WHT	M FWHP-	M FBHP-	M SIWHP	M SIBHP	C FWHP-	C FBHP-	
			Psi	Psi	Psi	Psi			
«	0		0.0		873.0	976.0			»
«	0		446.0		566.0	629.0			»
«	0		242.0		485.0	539.0			»
«	0		197.0		464.0	515.0			»
«	0		228.0		453.0	503.0			»
«	0		215.0		413.0	458.0			»
«	0		262.0		444.0	493.0			»
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«	0		294.0		457.0	507.0			»
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«					550.0				»

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 F2=Jump F4=NxtPro F6=NxtTbl F8=Print F10=Exit Shift+<- ->=Fast Tbl R & L

HELMS FEDERAL #1 SECTION 22, T30N R10W BLANCO MESAVERDE BASIN, DAKOTA



PRODUCTION ALLOCATION FORMULA METHOD

Helms Federal #1
(Mesaverde/Dakota) Commingle
Unit K, 22-T30N-R10W
San Juan County, New Mexico

Allocation Formula Method:

Current Production from Mesaverde formation = 50 MCFD

Current Production from Dakota formation = 70 MCFD

$$\frac{[(MV \& DK) 120 \text{ MCFD} - (MV) 50 \text{ MCFD}]}{(MV \& DK) 120 \text{ MCFD}} = (DK) \% \quad \textbf{\underline{Dakota 58\%}}$$

$$\frac{[(MV \& DK) 120 \text{ MCFD} - (DK) 70 \text{ MCFD}]}{(MV \& DK) 120 \text{ MCFD}} = (MV) \% \quad \textbf{\underline{Mesaverde 42\%}}$$