

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 87505-6429Form C-107-A
New 3-12-96

APPROVAL PROCESS :

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Burlington Resources Oil & Gas Company

PO Box 4289, Farmington, NM 87499

Operator	Address		
Helms Federal	1A	C 22-30-10	
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. 30-045-22169 Federal ☒ State ☐ (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	Blanco Pictured Cliffs - 72359		Blanco Mesaverde - 72319
2. Top and Bottom of Pay Section (Perforations)	2976-2997'		4621-5300'
3. Type of production (Oil or Gas)	gas		gas
4. Method of Production (Flowing or Artificial Lift)	flowing		flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	(Current) a. 438 psi (see attachment) (Original) b. 631 psi (see attachment)	a. b.	a. 461 psi (see attachment) b. 958 psi (see attachment)
6. Oil Gravity (°API) or Gas BTU Content	BTU 1161		BTU 1222
7. Producing or Shut-In?	producing		producing
Production Marginal? (yes or no)	yes		yes
* If Shut-In and oil/gas/water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.	Date: n/a Rates:	Date: Rates:	Date: n/a Rates:
* If Producing, give data and oil/gas/water of recent test (within 60 days)	Date: 12-96 Rates: 31 mcf/d; 0 bopd	Date: Rates:	Date: 12-96 Rates: 57 mcf/d; 0.3 bopd
8. Fixed Percentage Allocation Formula - % for each zone (total of %'s to equal 100%)	Oil: % Gas: % will be supplied upon completion	Oil: % Gas: %	Oil: % Gas: % will be supplied upon completion

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? ☒ 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? ☒ Yes ☐ No11. Will cross-flow occur? ☒ Yes ☐ 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? ☒ Yes ☐ No13. Will the value of production be decreased by commingling? ☐ Yes ☒ 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. ☒ Yes ☐ No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). _____

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 Mary Ellen Lutey TITLE Production Engineer DATE 2/17/97TYPE OR PRINT NAME Mary Ellen Lutey TELEPHONE NO. (505) 326-9700

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACERAGE DEDICATION PLAT**

All distances must be from the outer boundaries of the Section.

Operator SOUTHERN UNION PRODUCTION CO.			Lease HELMS FEDERAL		Well No. 1-A
Unit Letter C	Section 22	Township 30 NORTH	Range 10 WEST	County SAN JUAN	
Actual Footage Location of Well: 790 feet from the NORTH line and 1850 feet from the WEST line					
Ground Level Elev. 6339	Producing Formation MESAVERDE		Pool BLANCO	Dedicated Acreage 323.84 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

() Yes (X) No If answer is "yes" type of consolidation _____

If answer is "no" list the owners and tract descriptions which have actually consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced pooling, or otherwise) or until a non standard unit, eliminating such interests, has been approved by the Commission.

CERTIFICATION

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

Original Signed

Rudy D. Motto

Name

Rudy D. Motto

Position

Area Superintendent

Company

Southern Union Production

Date

August 18, 1976

I hereby certify that the location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

13 August, 1976

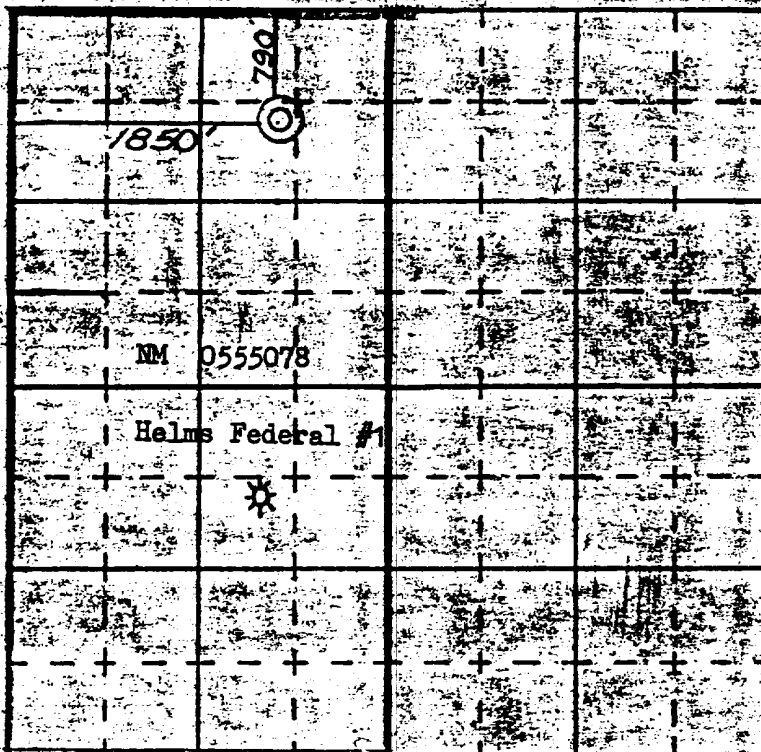
Date Surveyed

James P. Lease
Registered Professional Engineer
and/or Land Surveyor

James P. Lease

1163

Certificate No.



**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACERAGE DEDICATION PLAT**

All distances must be from the outer boundaries of the Section

Operator SOUTHERN UNION PRODUCTION CO.		Lease HELMS FEDERAL		Well No. 1-A
Unit Letter C	Section 22	Township 30 NORTH	Range 10 WEST	County SAN JUAN
Actual Footage Location of Well: 790 feet from the NORTH line and 1850 feet from the WEST line				
Ground Level Elev. 6339	Producing Formation PICTURED CLIFFS	Pool AZTEC BLANCO	Dedicated Acreage: 160 Acre	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

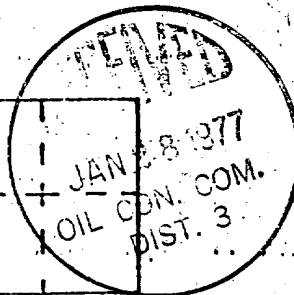
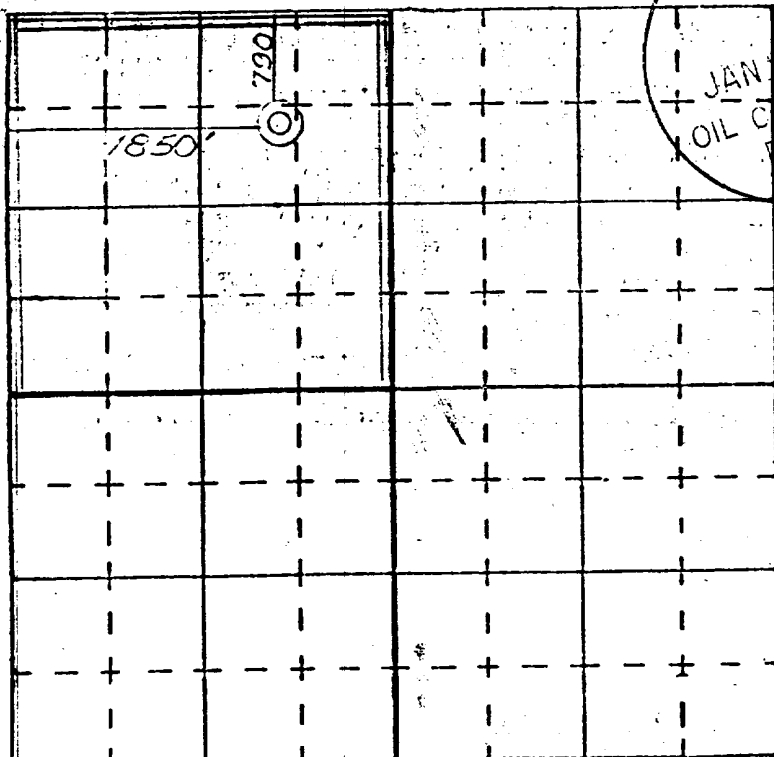
() Yes (X) No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually consolidated. (Use reverse side of this Form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non standard unit, eliminating such interests, has been approved by the Commission.

Mogaverta

Pictured Cliffs



CERTIFICATION

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

Original Signed by
James N. Bonaventura

Name
James N. Bonaventura
Position
Production Superintendent
Company
Southern Union Production Co.
Date
January 17, 1977

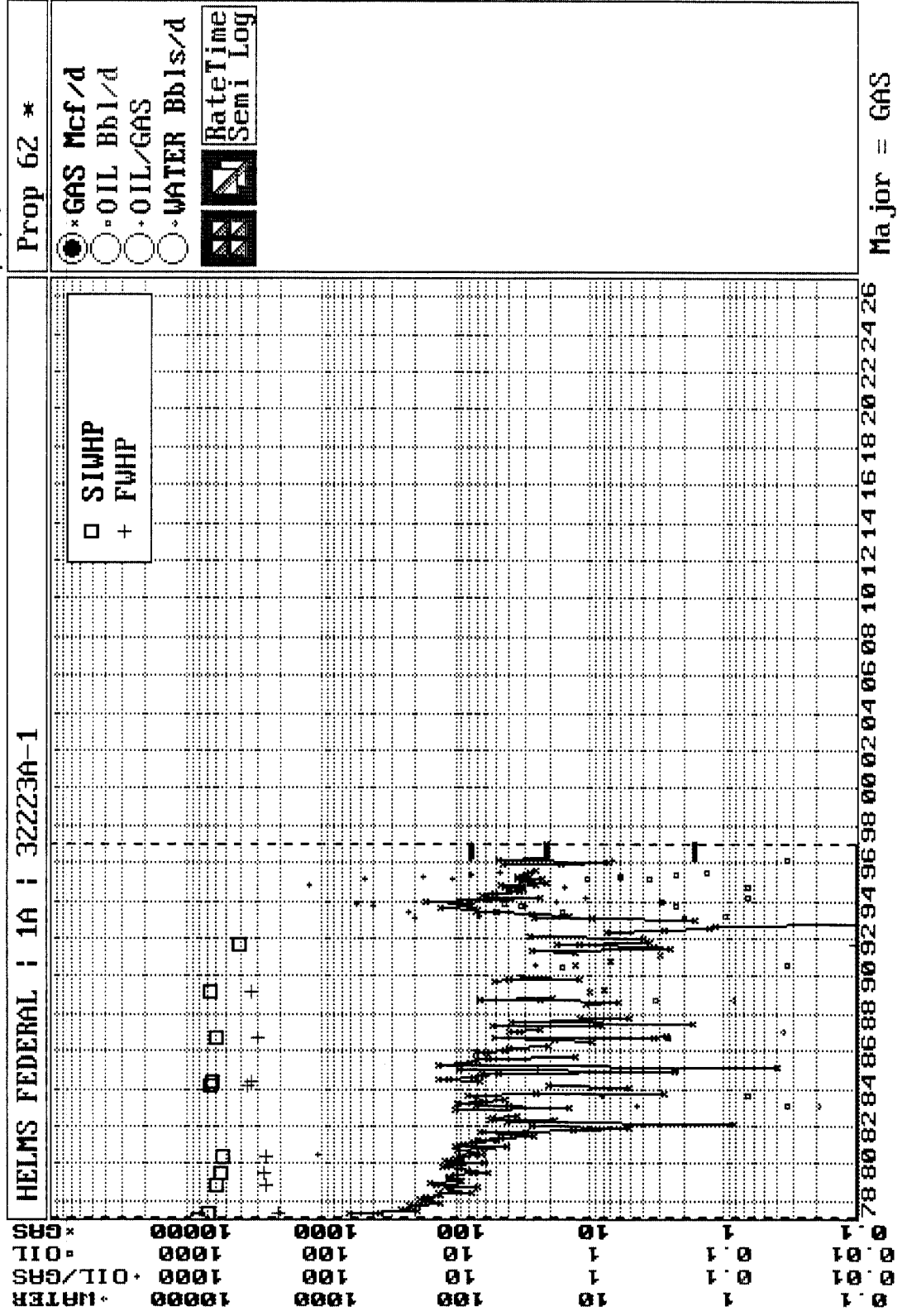
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of knowledge and belief.

13 August, 1976
Date Surveyed

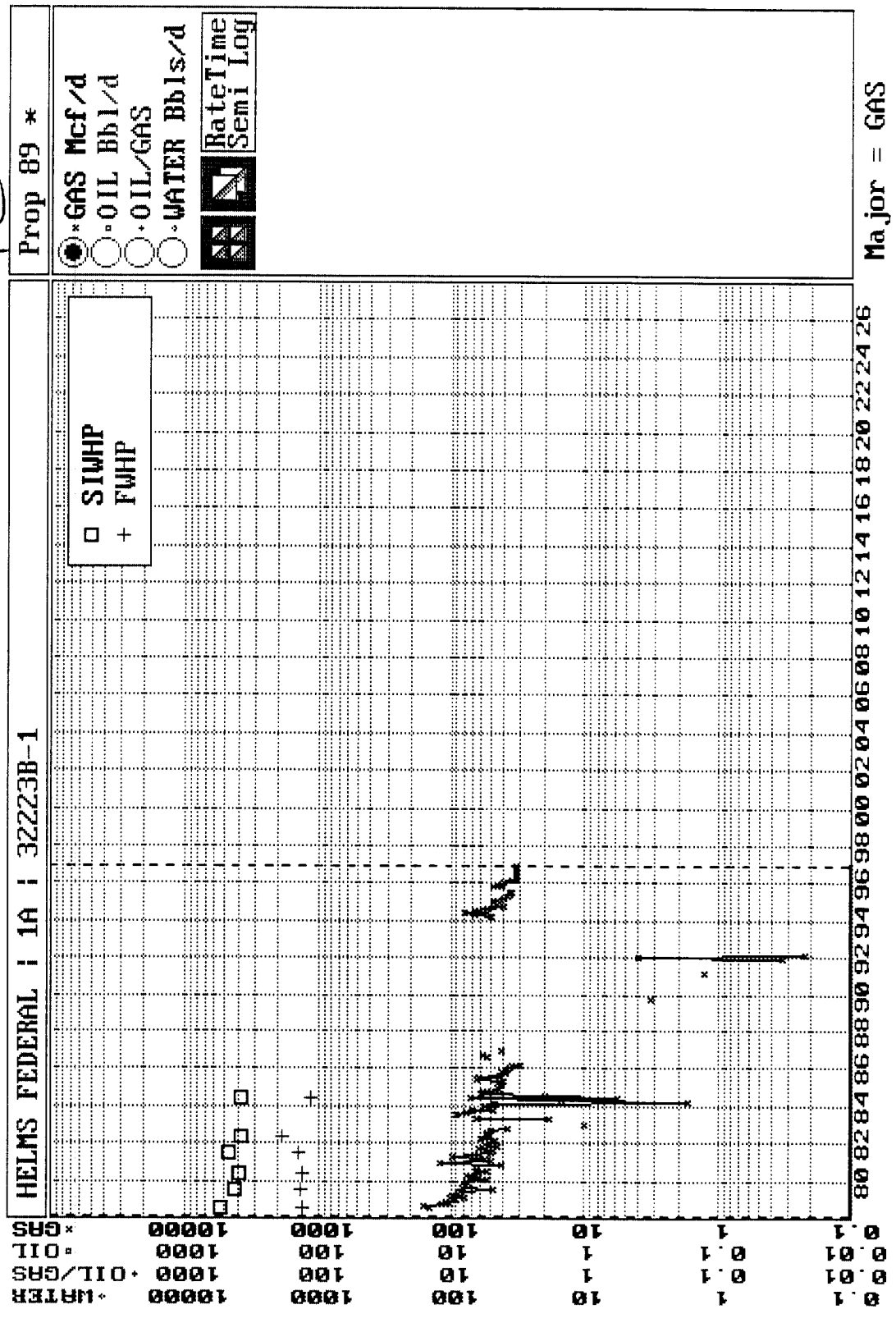
James P. Leese
Registered Professional Engineer
and/or Land Surveyor
James P. Leese

1463
Certificate No.

22



PC

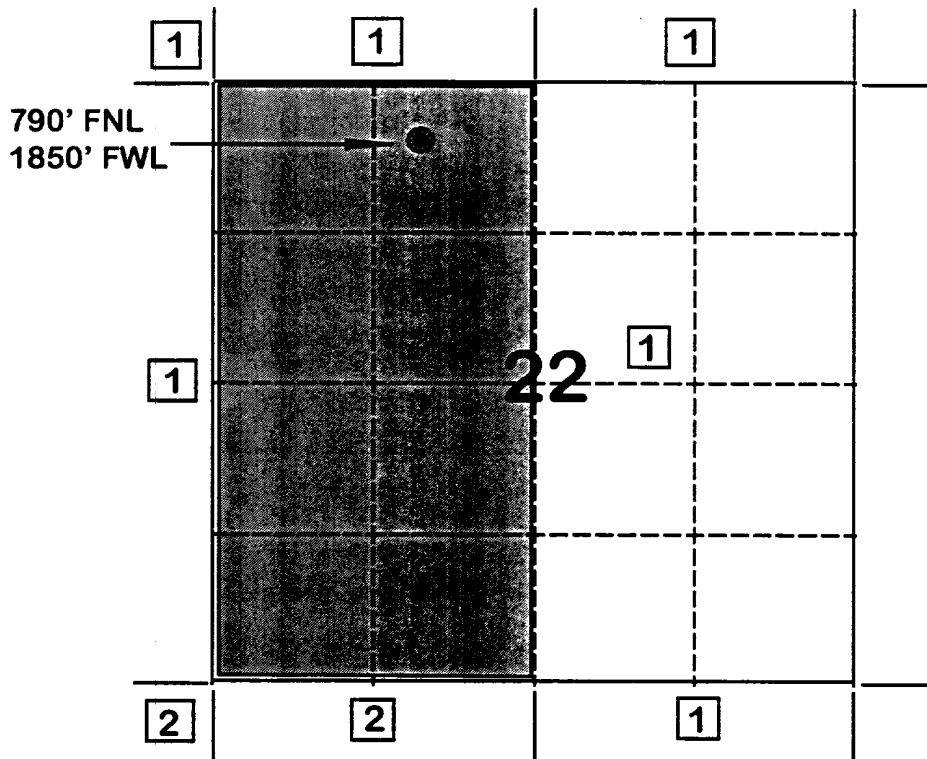


BURLINGTON RESOURCES OIL AND GAS COMPANY

**Helms Federal #1A
OFFSET OPERATOR \ OWNER PLAT**

Mesaverde (W/2)/Pictured Cliffs (NW/4) 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
Attn: Bruce Zimney
P.O. Box 800
Denver, CO 80201

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

VERSION 10.3/13/94

GAS GRAVITY	0.7
COND. OR MISC. (C/M)	C
%N2	0.45
%CO2	0.7
%H2S	0
DIAMETER (IN)	2.06
DEPTH (FT)	5426
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	403
BOTTOMHOLE PRESSURE (PSIA)	461.4

HELMS FEDERAL #1A MESAVERDE - (CURRENT)

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

VERSION 10.3/13/94

GAS GRAVITY	0.7
COND. OR MISC. (C/M)	C
%N2	0.45
%CO2	0.7
%H2S	0
DIAMETER (IN)	2.06
DEPTH (FT)	5426
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	828
BOTTOMHOLE PRESSURE (PSIA)	958.3

HELMS FEDERAL #1A MESAVERDE - (ORIGINAL)

Organize Data ScreenGraph Economics Report Plot Utility Quit
 Browsing: HELMS FEDERAL | 1A | 32223A-1 Property No.: 62
 Table(T): TEST/M,P,H,E,T,Z,C,A,O,D,N,1,2,3,B,U,S Rec: 1/10/1231
 Item: 2/3/33 Name: DATE Type: Date Len: 8/27/203

--DATE--	---CUM GAS--	M.SIWHP
	Mcf	Psi
01/05/77	0	828.0
04/21/77	11075	706.0
10/17/78	110481	612.0
07/16/79	139553	565.0
05/07/80	170400	538.0
02/13/84	228045	665.0
06/05/84	234103	653.0
08/21/86	270877	610.0
03/15/89	282132	673.0
09/17/91	297185	403.0

F1=Help F3=PrvPro F5=PrvTbl F7=Calcu F9=Utils Alt+TableLtr=Change Table
 F2=Jump F4=NxtPro F6=NxtTbl F8=Print F10=Exit Shift+<- ->=Fast Tbl R & L

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

VERSION 10.3/13/54

GAS GRAVITY	<u>0.66</u>
COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.21</u>
%CO2	<u>0.4</u>
%H2S	<u>0</u>
DIAMETER (IN)	<u>1.25</u>
DEPTH (FT)	<u>5426</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>110</u>
FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>384</u>
BOTTOMHOLE PRESSURE (PSIA)	438.2

HELMS FEDERAL #1A PICTURED CLIFFS - (CURRENT)

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

VERSION 10/3/94

GAS GRAVITY	0.66
COND. OR MISC. (C/M)	C
%N2	0.21
%CO2	0.4
%H2S	0
DIAMETER (IN)	1.25
DEPTH (FT)	5426
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	110
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	551
BOTTOMHOLE PRESSURE (PSIA)	631.4

HELMS FEDERAL #1A PICTURED CLIFFS - (ORIGINAL)

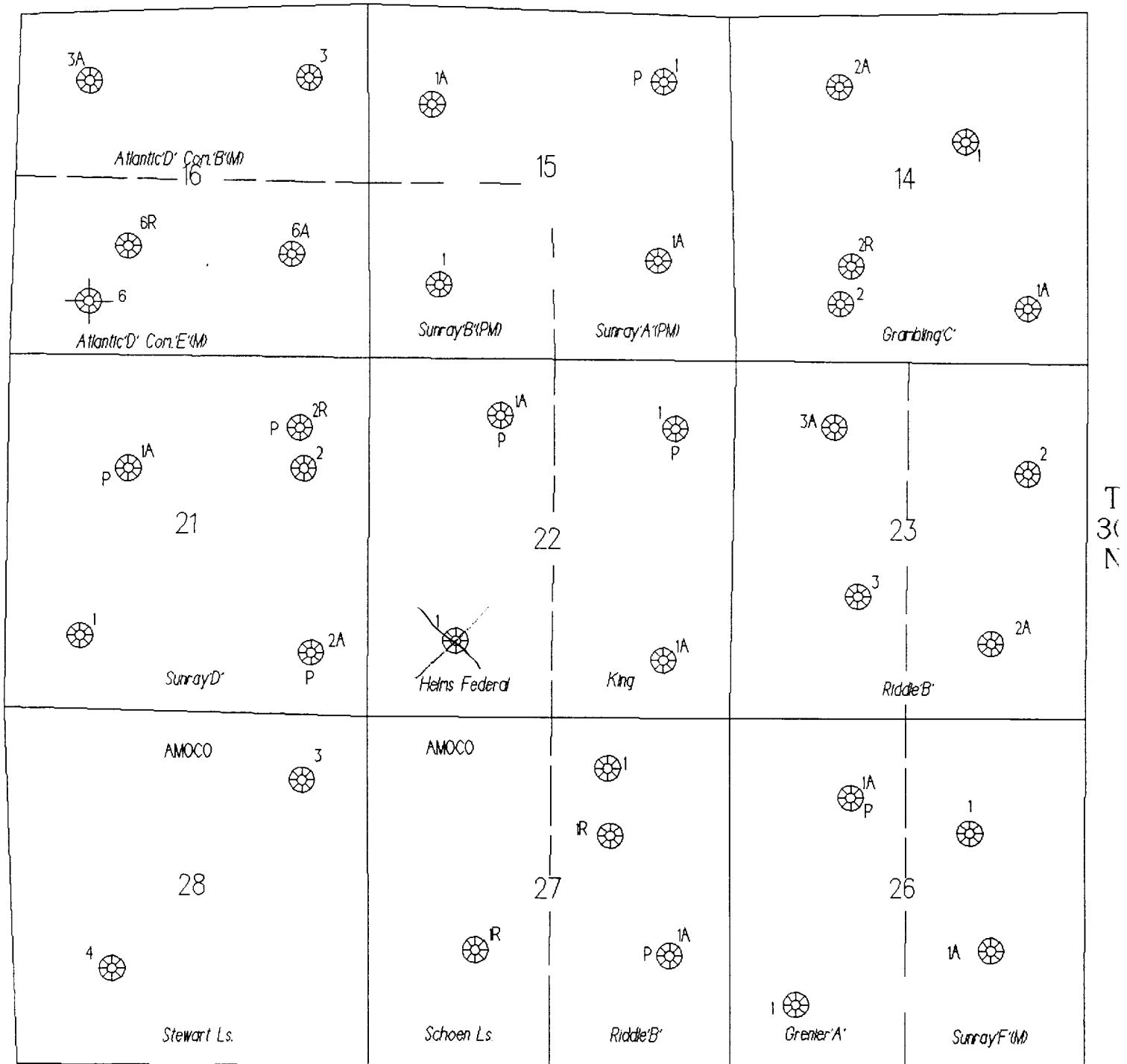
PC Quit

Organize Data ScreenGraph Economics Report Plot Utility
Browsing: HELMS FEDERAL | 1A | 32223B-1 Property No.: 89
Table(T): TEST/M,P,H,E,T,Z,C,A,O,D,N,1,2,3,B,U,S Rec: 1/6/1231
Item: 2/3/33 Name: DATE Type: Date Len: 8/27/203

--DATE--	---CUM GAS--	M SIWHP
	Mcf	Psi
07/05/78	4425	551.0
07/16/79	39815	421.0
05/07/80	61825	392.0
06/10/81	83991	472.0
05/13/82	101745	380.0
06/05/84	129833	384.0

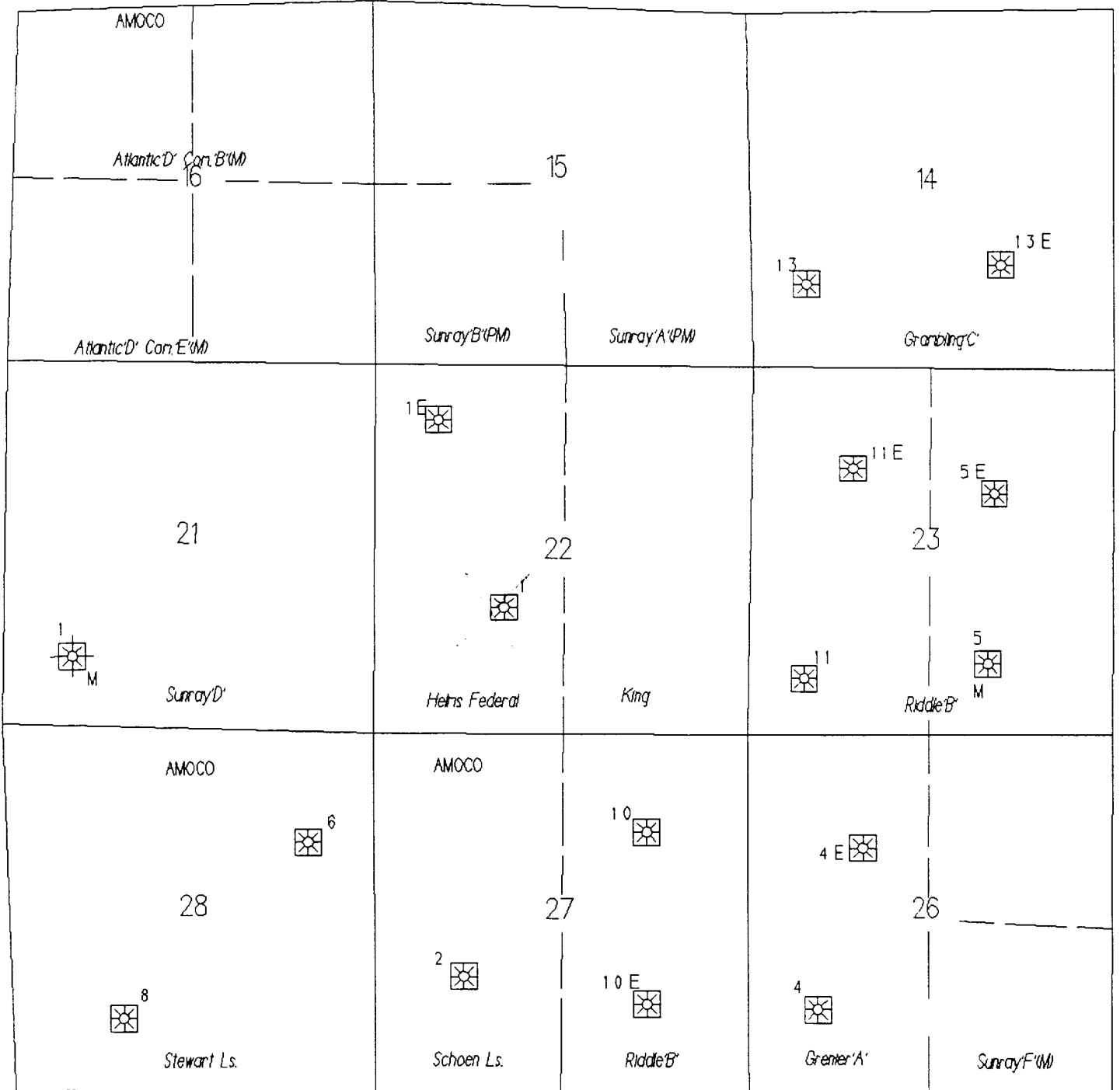
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F2=Jump F4=NxtPro F6=NxtTbl F8=Print F10=Exit Shift+<- ->=Fast Tbl R & L

HELMS FEDERAL #1 SECTION 33, T30N, R10W BLANCO MESAVERDE



R-10-W

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



T
30
N

R-10-W

FARMINGTON 1996 MONTHLY PRODUCTION FOR 32223A
 HELMS FEDERAL 1A
 BLANCO MESAVERDE (PRORATED GAS FIELD) MESAVERDE ZONE

PHS030M

DAYS			OIL		GAS		GAS		GAS		GAS		GAS	
MO	T	S	ON	PC	PROD	GRV	PC	PROD	ON	BTU	PRESS	WATER	PROD	
1	2	F	31	02			01	225	31	1200	15.025			
2	2	F	29	02	1		01	1459	29	1200	15.025			
3	2	F	31	02	4		01	2061	31	1200	15.025			
4	2	F	30	02			01	1704	30	1200	15.025			
5	2	F	30	02	1		01	1747	30	1200	15.025			
6	2	F	27	02	2		01	1441	27	1200	15.025			
7	2	F	31	02	7		01	1389	31	1199	15.025			
8	2	F	31	02			01	1803	31	1199	15.025			
9	2	F	19	02			01	1120	19	1205	15.025			
10	2	F	28	02			01	1161	28	1205	15.025			
11	2	F	30	02			01	1460	30	1205	15.025			
12	2	F	31	02	10		01	1759	31	1205	15.025			

PF6 - RETURNS TO ANNUAL DISPLAY
 PF10 - HELP INFORMATION

PF3 - TRANSFER TO UPDATE
 PF9 - DISPLAY MONTHLY INJECTION
 PRS 02/05/97

00/00/00 00:00:00:0

B MY JOB

NUM LU #11

FARMINGTON 1996 MONTHLY PRODUCTION FOR 32223B
 HELMS FEDERAL 1A
 AZTEC PICTURED CLIFFS (GAS) FIELD PICTURED CLIFFS ZONE

PHS030M

DAYS			OIL		GAS		GAS		GAS		GAS		GAS	
MO	T	S	ON	PC	PROD	GRV	PC	PROD	ON	BTU	PRESS	WATER	PROD	
1	2	F					01	1232	31	1140	15.025			
2	2	F					01	1062	29	1140	15.025			
3	2	F					01	1111	31	1140	15.025			
4	2	F					01	1004	30	1140	15.025			
5	2	F					01	996	31	1140	15.025			
6	2	F					01	957	18	1140	15.025			
7	2	F					01	1048	31	1140	15.025			
8	2	F					01	1106	31	1140	15.025			
9	2	F					01	810	18	1140	15.025			
10	2	F					01	1067	31	1139	15.025			
11	2	F					01	987	30	1156	15.025			
12	2	F					01	975	31	1156	15.025			

PF6 - RETURNS TO ANNUAL DISPLAY
 PF10 - HELP INFORMATION

PF3 - TRANSFER TO UPDATE
 PF9 - DISPLAY MONTHLY INJECTION
 PRS 02/05/97

00/00/00 00:00:00:0

B MY JOB

NUM LU #11