

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

MANGUM

5E

Unit A, Sec. 29, T29N, R11W

San Juan County

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7282 API NO30-045-23672 Federal , State (and/or) Fee X

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Otero Chacra - 82329		Dakota - 71599
2. Top and Bottom of Pay Section (Perforations)	2541' - 2645'		5999' - 6123'
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. 263 Psia @ 2593' (Original) b. 723 Psia @ 2593'		a. 286 Psia @ 6061' b. 1209 Psia @ 6061'
6. Oil Gravity (°API) or Gas BTU Content	1152		1231
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. * If Producing, give data and oil/gas/water water of recent test (within 60 days)	Date: Rates: Date: 6/13/97 Rates: 69 MCFD	Date: Rates: Date: Rates:	Date: Rates: Date: 6/13/97 Rates: 152 MCFD
8. Fixed Percentage Allocation Formula - % for each zone (total of %'s to equal 100%)	Oil: Gas: supplied upon completion	Oil: Gas: % %	Oil: Gas: 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-flow 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

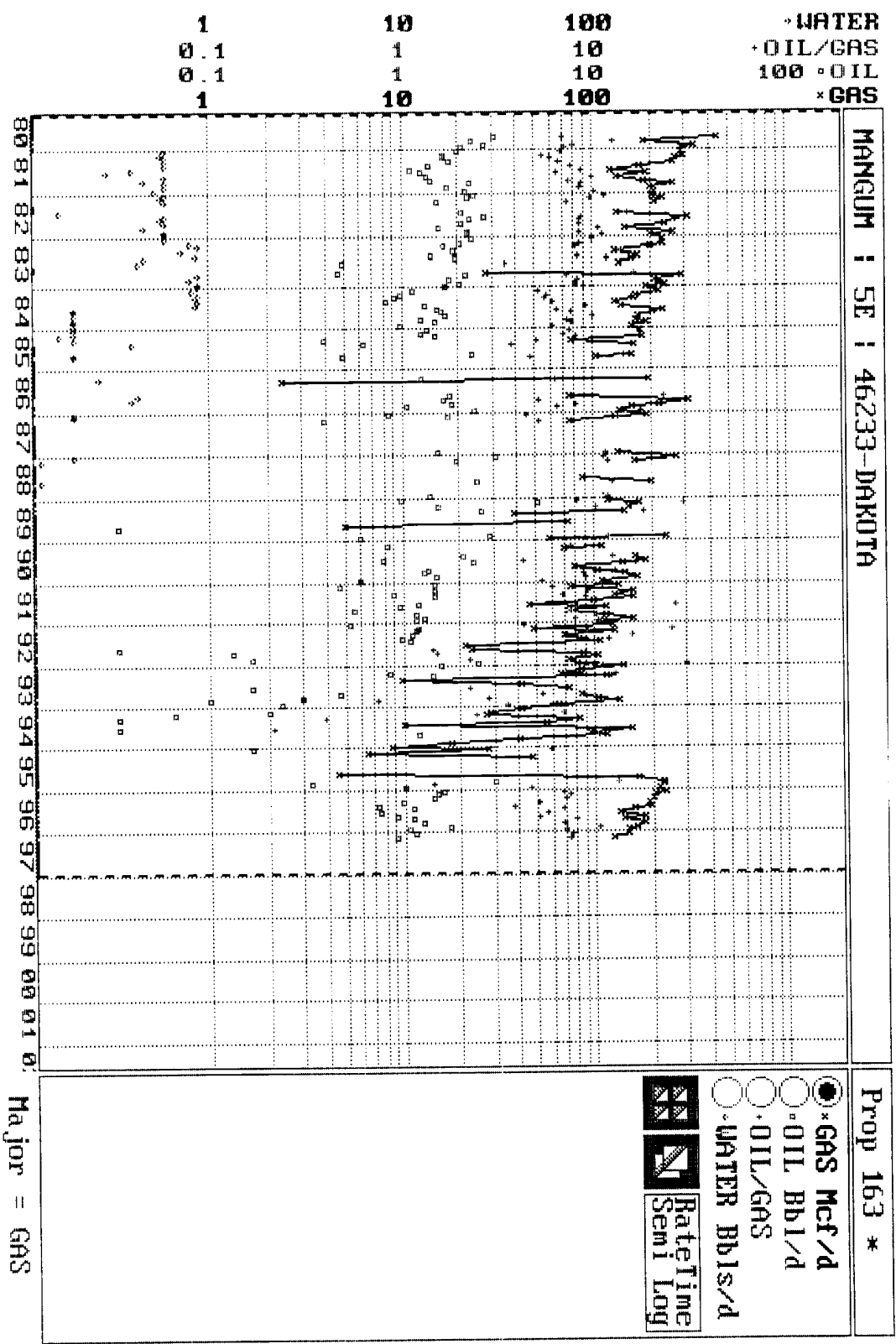
15. NMOC Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). _____

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 Kevin L. Midkiff TITLE Operations Engineer DATE 06-23-97TYPE OR PRINT NAME Kevin L. Midkiff TELEPHONE NO. (505) 326-9700



WELL LOCATION AND ACREAGE DEDICATION PLAT

Supersedes Form
Effective 1-1-65

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

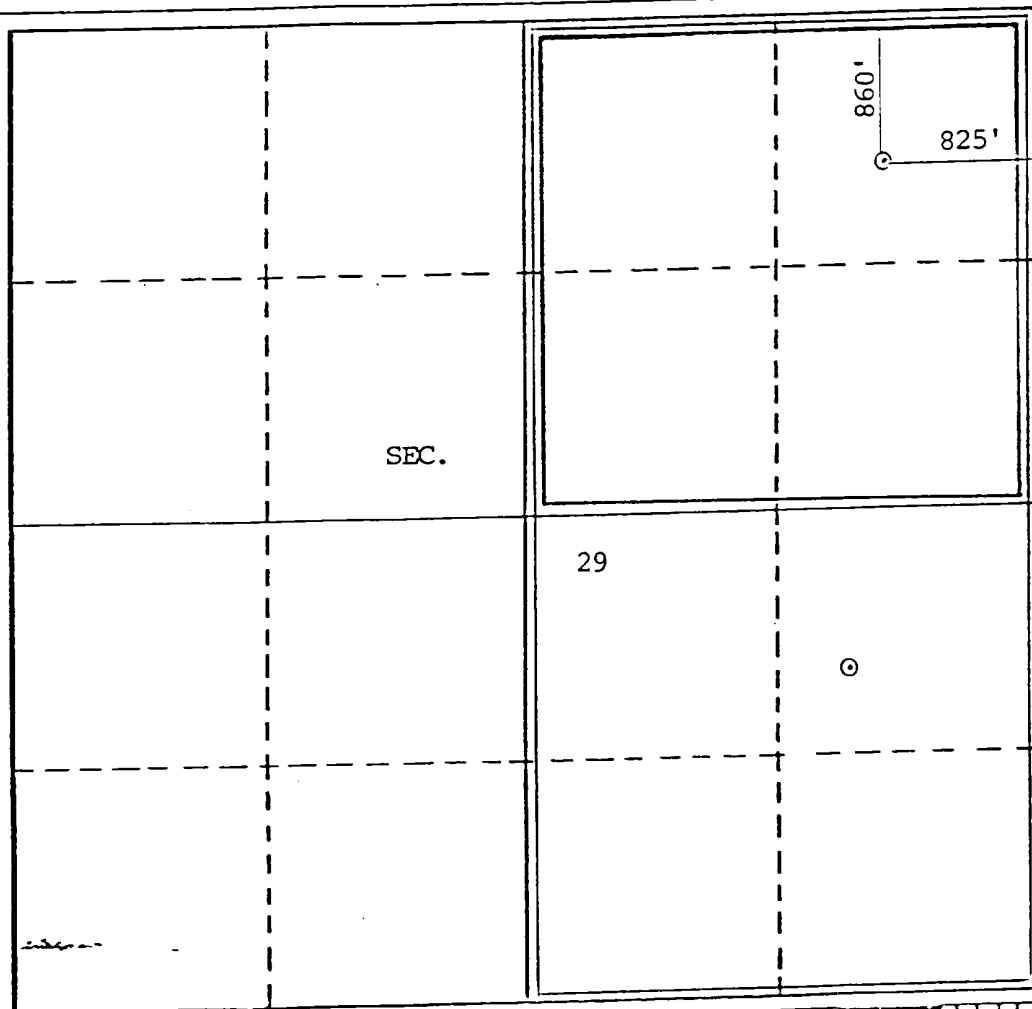
Southland Royalty Company			Lease Mangum		Well No. #5E
Unit Letter A	Section 29	Township 29N	Range 11W	County San Juan	
Actual Footage Location of Well:					
860' feet from the North line and		825' feet from the East line			
Ground Level Elev: 5399'	Producing Formation Dakota-Chaco		Pool Basin - Undesignated <i>Other</i>		Dedicated Acreage 320 4/100 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hashure 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 ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been 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.

R. E. Fielder

Name
Robert E. Fielder

Position
District Engineer

Company
Southland Royalty Company

Date
July 25, 1980

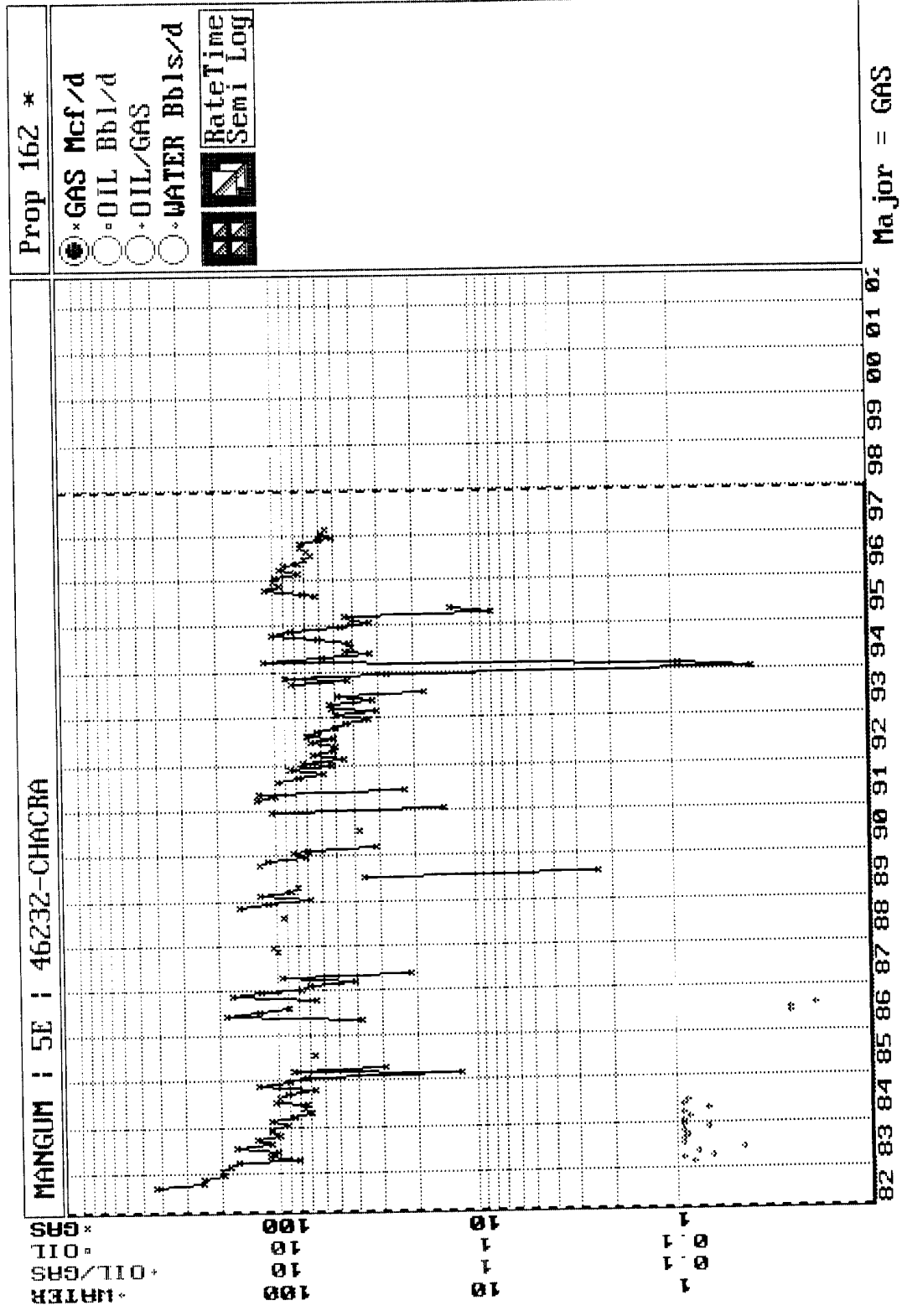
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
August 7, 1979

Registered Professional Engineer
and/or Land Surveyor

FRED B. KERR

Certificate No.
3950

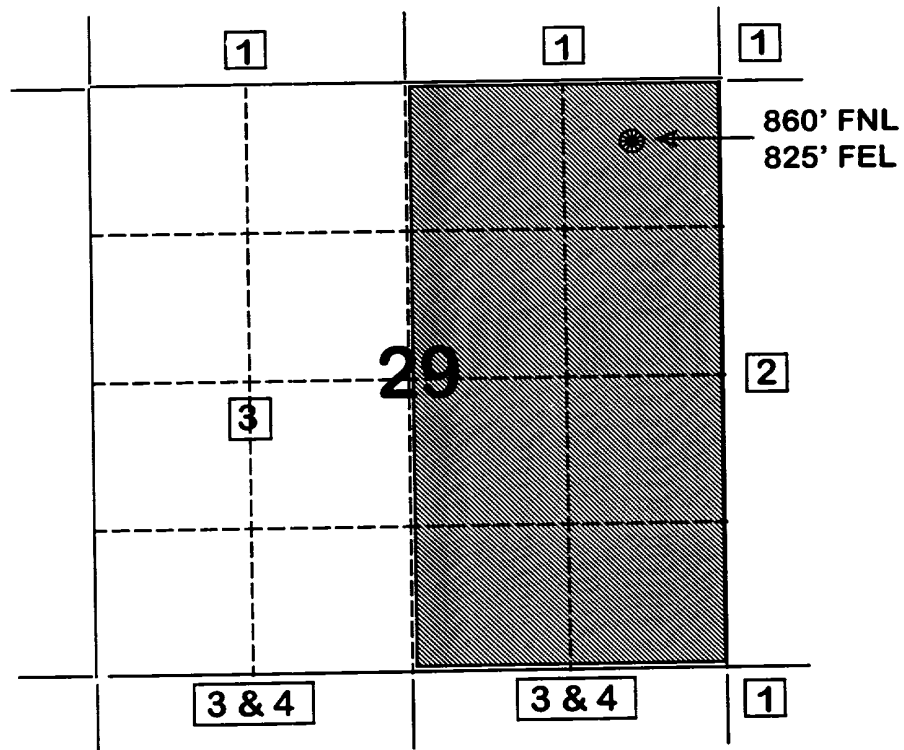


BURLINGTON RESOURCES OIL AND GAS COMPANY

**Mangum #5E
OFFSET OPERATOR \ OWNER PLAT**

Chacra (NE/4)/Dakota (E/2) Formations Commingle Well

Township 29 North, Range 11 West



- 1) Burlington Resources Oil and Gas Company
- 2) Amoco Production Company
Attn: Bruce Zimney
P.O. Box 800
Denver, CO 80201
- 3) Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705
- 4) David H. Arrington Oil & Gas Inc.
P.O. Box 2071
Midland, TX 79702

MANGUM 5E
Bottom Hole Pressures
Flowing and Static BHP
Cullender and Smith Method
Version 1.0 3/13/94

Chacra		Dakota	
<u>CH-Current</u>		<u>DK-Current</u>	
GAS GRAVITY	0.665	GAS GRAVITY	0.73
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.51	%N2	0.4
%CO2	0.19	%CO2	1.26
%H2S	0	%H2S	0
DIAMETER (IN)	5.5	DIAMETER (IN)	1.9
DEPTH (FT)	2593	DEPTH (FT)	6061
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	106	BOTTOMHOLE TEMPERATURE (DEG F)	170
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	248	SURFACE PRESSURE (PSIA)	246
BOTTOMHOLE PRESSURE (PSIA)	263.9	BOTTOMHOLE PRESSURE (PSIA)	286.1
<u>CH-Original</u>		<u>DK-Original</u>	
GAS GRAVITY	0.665	GAS GRAVITY	0.73
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.51	%N2	0.4
%CO2	0.19	%CO2	1.26
%H2S	0	%H2S	0
DIAMETER (IN)	5.5	DIAMETER (IN)	1.9
DEPTH (FT)	2593	DEPTH (FT)	6061
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	106	BOTTOMHOLE TEMPERATURE (DEG F)	170
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	676	SURFACE PRESSURE (PSIA)	1017
BOTTOMHOLE PRESSURE (PSIA)	723.0	BOTTOMHOLE PRESSURE (PSIA)	1209.0

Organize Data ScreenGraph Economics Report Plot Utility Quit
 Editing: MANGUM | 5E | 46232-1 Property No.: 162
 Table(T): TEST/M,P,H,T,Z,C,A,O,D,1,2,3,B,U,S Rec: 1/5/1048
 Item: 2/3/33 Name: DATE Type: Date Len: 8/27/203

CHACRA

--DATE--	---CUM GAS-- Mcf	M SIWHP Psi
10/15/82	20656	676.0
03/31/83	50652	570.0
04/03/84	89777	572.0
07/08/93	256884	562.0
04/16/97	333080	248.0

F1=Help F3=PrvProp F5=PrvTbl F7=InsRcd F9=Utils Alt+TableLtr=Change Table
 F2=Jump F4=NxtProp F6=NxtTbl F8=DelRcd F10=Exit Shift+<- ->=Fast Tbl R & L

Organize Data ScreenGraph Economics Report Plot Utility Quit
 Editing: MANGUM | 5E | 46233-1 Property No.: 163
 Table(T): TEST/M,P,H,T,Z,C,A,O,D,1,2,3,B,U,S Rec: 1/11/1048
 Item: 2/3/33 Name: DATE Type: Date Len: 8/27/203

DAKOTA

--DATE--	---CUM GAS-- Mcf	M SIWHP Psi
06/28/80	0	1017.0
10/23/80	19063	803.0
09/23/81	97621	740.0
10/23/82	171393	673.0
03/31/83	205639	636.0
09/10/85	344995	637.0
08/17/88	416900	606.0
08/07/90	474080	572.0
03/29/92	541502	526.0
07/06/93	581665	536.0
04/16/97	712110	246.0

F1=Help F3=PrvProp F5=PrvTbl F7=InsRcd F9=Utils Alt+TableLtr=Change Table
 F2=Jump F4=NxtProp F6=NxtTbl F8=DelRcd F10=Exit Shift+<- ->=Fast Tbl R & L

FDG055M4 S004

WELL PRODUCTION 8/8'S VOLUME

06/17/97 15:27:36

START OF DATA

DP NO: 46232_

CHACRA

DATE: 970615 (YYMMDD FORMAT)

MANGUM

5E

SCROLL FORWARD BY DATE: _

S	E	DATE	HOURS	-OIL PRODN-	-GAS PRODN-	-WATER PRODN-		
L	PRODUCED	ON	(BOPD	BOPM)	(MCFD	MCFM)	(BWPD	BWPM)
-	06/15/97	24.0	0.00	0.00	62	960	0.00	0.00
-	06/14/97	24.0	0.00	0.00	69	898	0.00	0.00
-	06/13/97	24.0	0.00	0.00	69	829	0.00	0.00
-	06/12/97	24.0	0.00	0.00	69	760	0.00	0.00
-	06/11/97	24.0	0.00	0.00	69	691	0.00	0.00
-	06/10/97	24.0	0.00	0.00	67	622	0.00	0.00
-	06/09/97	24.0	0.00	0.00	67	555	0.00	0.00
-	06/08/97	24.0	0.00	0.00	61	488	0.00	0.00
-	06/07/97	24.0	0.00	0.00	61	427	0.00	0.00
-	06/06/97	24.0	0.00	0.00	61	366	0.00	0.00
-	06/05/97	24.0	0.00	0.00	61	305	0.00	0.00

ENTER I UNDER SEL FOR MAINTENANCE

PF6=NRI PF10=BROWSE MENU PF11=INQ/UPDATE MENU
 PF12=MAIN MENU ENTER=BACKWARDS PF24=HELP
 B MY JOB LU #6

FDG055M4 S004

WELL PRODUCTION 8/8'S VOLUME

06/17/97 15:27:43

START OF DATA

DP NO: 46233_

DAKOTA

DATE: 970615 (YYMMDD FORMAT)

MANGUM

5E

SCROLL FORWARD BY DATE: _

S	E	DATE	HOURS	-OIL PRODN-	-GAS PRODN-	-WATER PRODN-		
L	PRODUCED	ON	(BOPD	BOPM)	(MCFD	MCFM)	(BWPD	BWPM)
-	06/15/97	24.0	0.65	9.75	49	1133	0.00	0.00
-	06/14/97	24.0	0.65	9.10	99	1084	0.00	0.00
-	06/13/97	24.0	0.65	8.45	152	985	0.00	0.00
-	06/12/97	24.0	0.65	7.80	176	833	0.00	0.00
-	06/11/97	24.0	0.65	7.15	65	657	0.00	0.00
-	06/10/97	24.0	0.65	6.50	158	592	0.00	0.00
-	06/09/97	24.0	0.65	5.85	176	434	0.00	0.00
-	06/08/97	24.0	0.65	5.20	15	258	0.00	0.00
-	06/07/97	24.0	0.65	4.55	15	243	0.00	0.00
-	06/06/97	24.0	0.65	3.90	15	228	0.00	0.00
-	06/05/97	24.0	0.65	3.25	15	213	0.00	0.00

ENTER I UNDER SEL FOR MAINTENANCE

PF6=NRI PF10=BROWSE MENU PF11=INQ/UPDATE MENU
 PF12=MAIN MENU ENTER=BACKWARDS PF24=HELP
 B MY JOB LU #6

WELL ID	BA NAME	INT TYPE
46232	BILLIE JEAN FAVERINO	RI
46232	CHRISTMANN MINERAL CO	ORRI
46232	DONALD L & MYRNA J MANGUM JT	RI
46232	DOROTHY LEE PORTER	RI
46232	FAYON P WAFLE	RI
46232	GLENN FAVERINO	RI
46232	HERD PARTNERS LTD	ORRI
46232	IMOGENE ZAPORA	RI
46232	JACK D THORNTON	RI
46232	JACK MARKHAM	ORRI
46232	JOHN CHRISTOPHER FAVERINO	RI
46232	JOHN SADLER	RI
46232	KATHERINE BENNETT	RI
46232	KERR-MCGEE CORPORATION	ORRI
46232	LOUIS T FAVERINO	RI
46232	MARGARET SUE ALBITRE	RI
46232	MARQUERITE HUDDLESTON WALKER	RI
46232	MARTHA SADLER	RI
46232	MINERALS MANAGEMENT SERVICE	RI
46232	MRS BERCHAL RINGO	RI
46232	NORMAN PORTER	RI
46232	PATRICIA J ENOS	RI
46232	ROBERT FAVERINO	RI
46232	RUTH M MCLEMORE	RI
46232	STEPHEN WOODROW MCLEMORE	RI
46232	TED VERNON MCLEMORE	RI
46232	WALLACE DEAN AND MADALYNN LEMA	RI

MANGUM #5E
DP# 46233
RI, ORRI OWNERS

WELL ID	BA NAME	INT TYPE
46233	BILLIE JEAN FAVERINO	RI
46233	CHRISTMANN MINERAL CO	RI
46233	DONALD MANGUM	RI
46233	DOROTHY LEE PORTER	RI
46233	FAYON P WAFLE	RI
46233	GLENN FAVERINO	RI
46233	HERD PARTNERS LTD	RI
46233	IMOGENE ZAPORA	RI
46233	JACK D THORNTON	RI
46233	JACK MARKHAM	RI
46233	JOHN CHRISTOPHER FAVERINO	RI
46233	JOHN SADLER	RI
46233	KATHERINE BENNETT	RI
46233	KERR-MCGEE CORPORATION	ORRI
46233	LOUIS T FAVERINO	RI
46233	MARGARET SUE ALBITRE	RI
46233	MARQUERITE HUDDLESTON WALKER	RI
46233	MARTHA SADLER	RI
46233	MINERALS MANAGEMENT SERVICE	RI
46233	MRS BERCHAL RINGO	RI
46233	NORMAN PORTER	RI
46233	PATRICIA J ENOS	RI
46233	ROBERT E LAUTH	RI
46233	ROBERT FAVERINO	RI
46233	RUTH M MCLEMORE	RI
46233	STEPHEN WOODROW MCLEMORE	RI
46233	T C MORAN & CO	RI
46233	T H C COMPANY A PARTNERSHIP	RI
46233	TED VERNON MCLEMORE	RI
46233	WALLACE DEAN AND MADALYNN LEMA	RI