DATE IN	SUSPENSE	ENGINEER	LOGGED	TYPE
6/25/97	7/15/97	DC	MW	DHC

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

1636

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling
❑ NSL ❑ NSP ❑ DD ❑ SD

RECEIVED
JUN 25 1997
OIL CONSERVATION DIVISION

Check One Only for [B] and [C]

[B] Commingling - Storage - Measurement
☒ DHC ❑ CTB ❑ PLC ❑ PC ❑ OLS ❑ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
❑ WFX ❑ PMX ❑ SWD ❑ IPI ❑ EOR ❑ PPR

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ❑ Does Not Apply

[A] ❑ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ❑ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ❑ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ❑ Waivers are Attached

[3] **INFORMATION / DATA SUBMITTED IS COMPLETE** - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

Peggy Bradfield	Peggy Bradfield	Regulatory/Compliance Administrator	6/24/97
Print or Type Name	Signature	Title	Date

BURLINGTON RESOURCES

SAN JUAN DIVISION

June 24, 1997

SENT FEDERAL EXPRESS

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

Re: Cain #11E
810'FSL, 1825'FEL, Section 15, T-28-N, R-10-W
30-045-23972

Dear Mr. LeMay:

This is a request for administrative approval for downhole commingling the Chacra and Dakota in the subject 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 curves for Chacra and Dakota;
4. Notification list of offset operators;
5. Shut in wellhead pressure and calculated down hole pressure of surrounding wells;
6. Nine-section plats for the Chacra and Dakota.

Working, overriding and royalty interests are identical in the commingled zones.

We will consult with the Supervisor of the Aztec District Office of the New Mexico Oil Conservation Division to establish an allocation formula.

Please let me know if you require additional data.

Sincerely,

Peggy Bradfield
Regulatory/Compliance Administrator
xc: Bureau of Land Management - hand delivered

3535 East 30th St., 87402-8801, P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700, Fax 505-326-9833

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

APPLICATION FOR DOWNHOLE COMMINGLING

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

APPROVAL PROCESS :
_X_ Administrative ___Hearing

EXISTING WELLBORE
_X__ YES ___ NO

BURLINGTON RESOURCES OIL & GAS COMPANY — PO Box 4289, Farmington, NM 87499
Operator — Address

CAIN — 11E — O, Sec. 15, T28N, R10W — San Juan
Lease — Well No. — Unit Ltr. - Sec - Twp - Rge — County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. __14538_____ Property Code _____18487_____ API NO. 30-045-23972 Federal ___X___ , 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	Otero Chacra - 82329		Basin Dakota - 71599
2. Top and Bottom of Pay Section (Perforations)	3032' - 3140'		6424'-6604'
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. 470 Psia @ 3086' (Original) b. 1105 Psia	a. b.	a. 432 Psia @ 6514' b. 989 Psia
6. Oil Gravity (°API) or Gas BTU Content	1148		1260
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: Rates:	Date: Rates:	Date: Rates:
* If Producing, give data and oil/gas/water water of recent test (within 60 days)	Date: 6/15/97 Rates: 71 MCFD	Date: Rates:	Date: 6/15/97 Rates: 135 MCFD
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Oil: Gas: supplied upon completion	Oil: Gas:	Oil: Gas: supplies 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? _X__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? _X__Yes ___No

11. Will cross-flow occur? ____ Yes _X_ 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? __X_ Yes ___ No

13. Will the value of production be decreased by commingling? ___ Yes _X__ 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. _X__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 Kevin L. Midkiff TITLE Operations Enginner DATE 06-23-97

TYPE OR PRINT NAME _Kevin L. Midkiff_____ TELEPHONE NO. (505__) 326-9700_____

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-102
Revised 10-1-78

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
SOUTHLAND ROYALTY COMPANY	Cain	11-E

Unit Letter	Section	Township	Range	County
O	15	28N	10W	San Juan

Actual Footage Location of Well:
810 feet from the South line and 1825 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
5935	Dakota - Gallup	Basin - Undesignated	320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

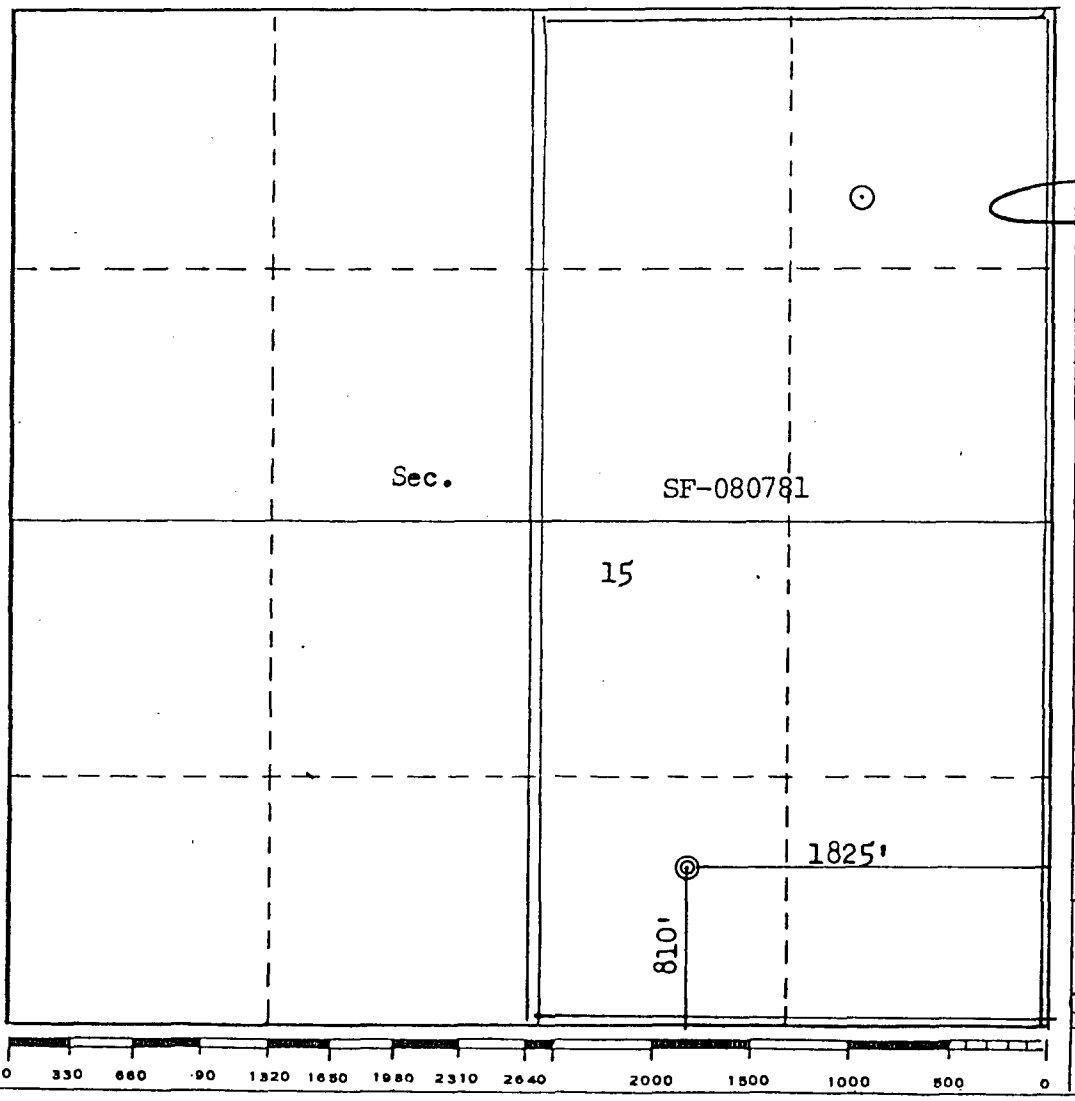
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.

Name: L. O. Van Ryan

Position: District Production Manager

Company: Southland Royalty Company

Date: November 6, 1979

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: October 26, 1979

Registered Professional Engineer and/or Land Surveyor

Fred B. Kerr Jr.

Certificate No. 3950

REGISTERED LAND SURVEYOR
FRED B. KERR, JR.

WELL LOCATION AND ACREAGE DEDICATION PLAT

Effective 1-1-65

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

Operator	Lease	Well No.
Southland Royalty Company	Cain	#11E

Unit Letter	Section	Township	Range	County
O	15	28N	10W	San Juan

Actual Footage Location of Well: 810' feet from the South line and 1825 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
5935'	Chacra	Undesignated	320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

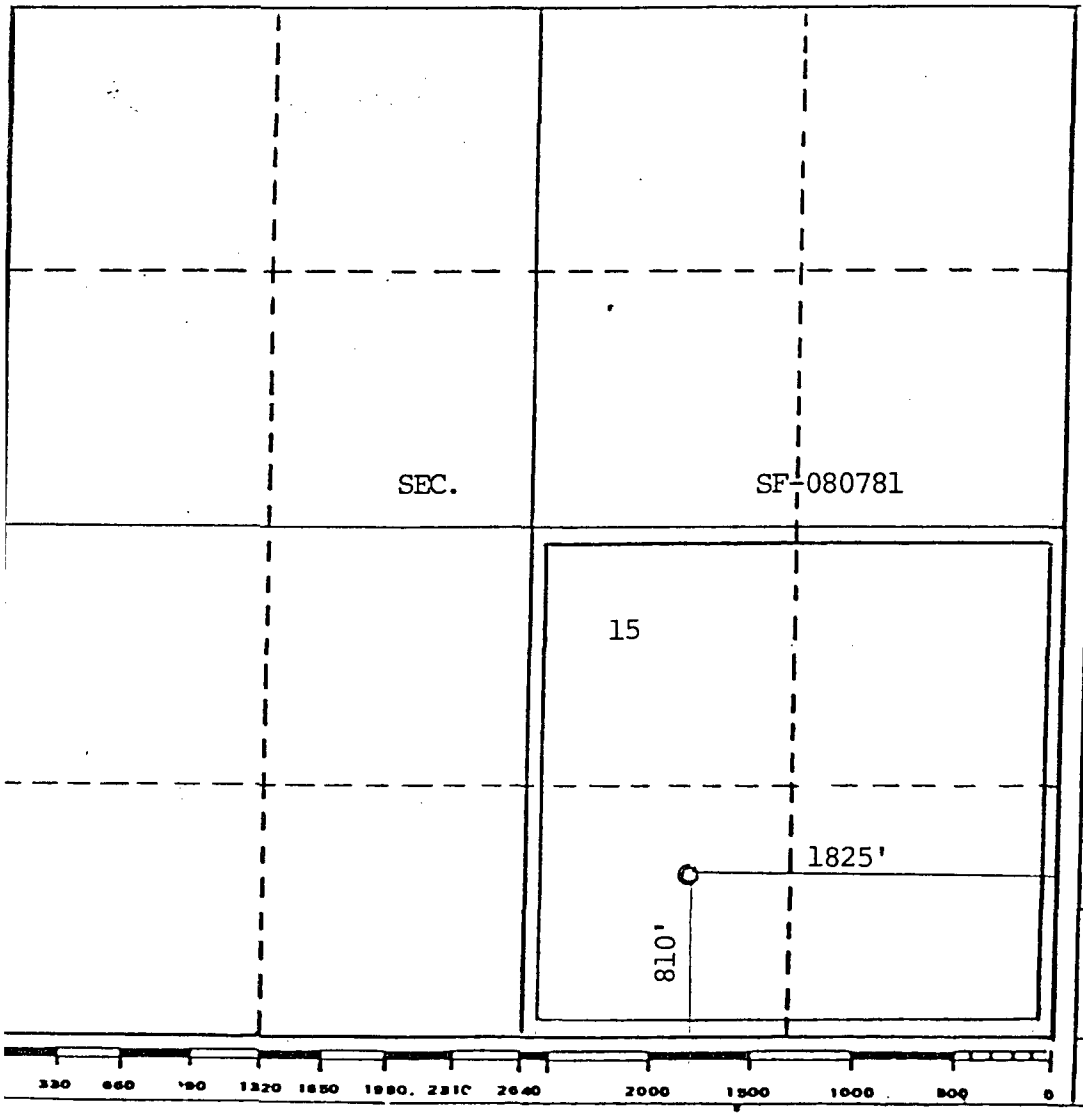
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.

Name: Curtis C. Parsons

Position: District Engineer

Company: Southland Royalty Company

Date: June 3, 1980

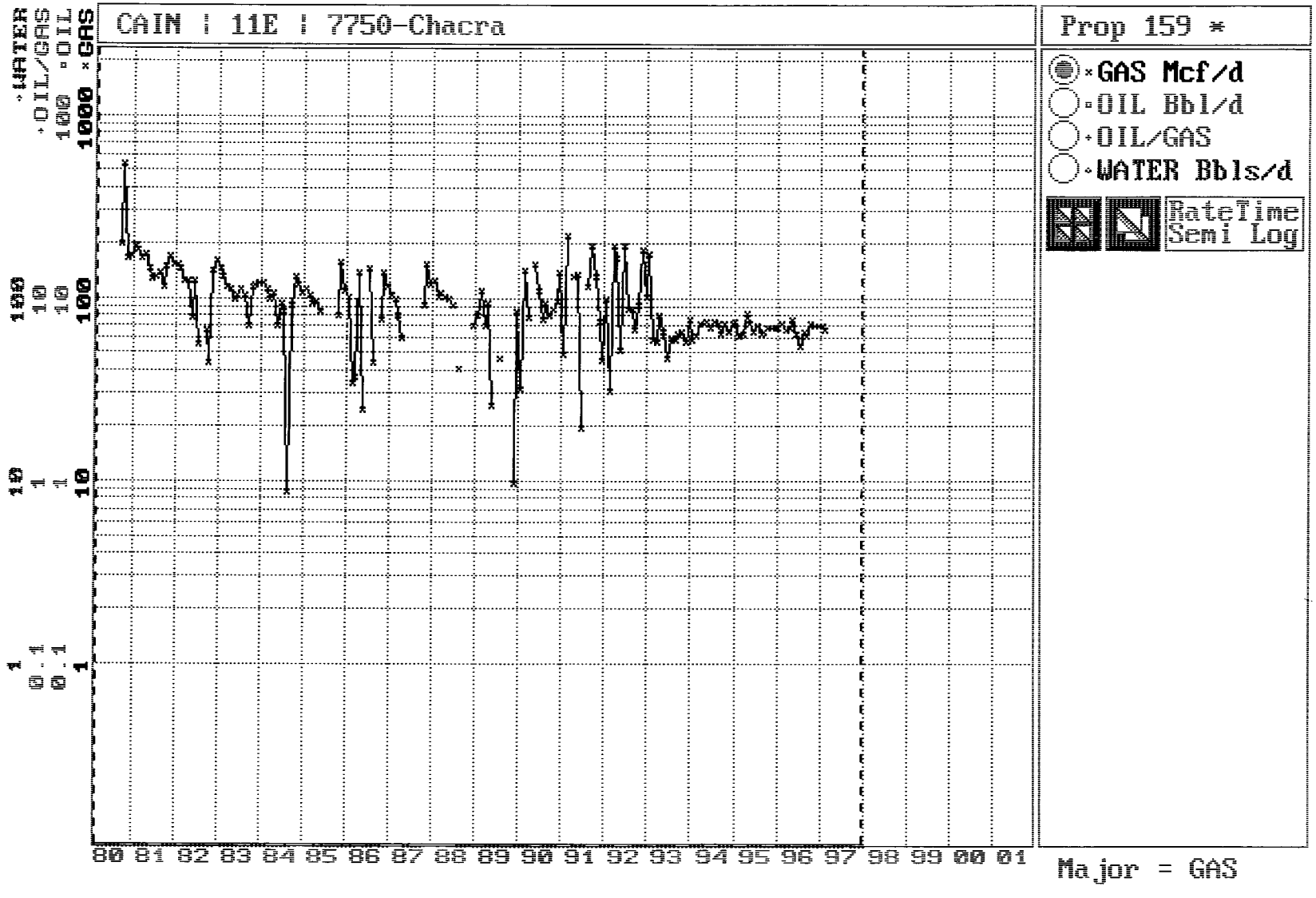
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: October 16, 1979

Registered Professional Engineer and/or Land Surveyor

Fred B. Kerr, Jr.

Certificate No. 3950


CAIN | 11E | 7750-Chacra
Prop 159 *
GAS Mcf/d
OIL Bbl/d
OIL/GAS
WATER Bbls/d
RateTime
Semi Log
WATER
OIL/GAS
OIL
GAS
1000
100
10
1
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21
Major = GAS

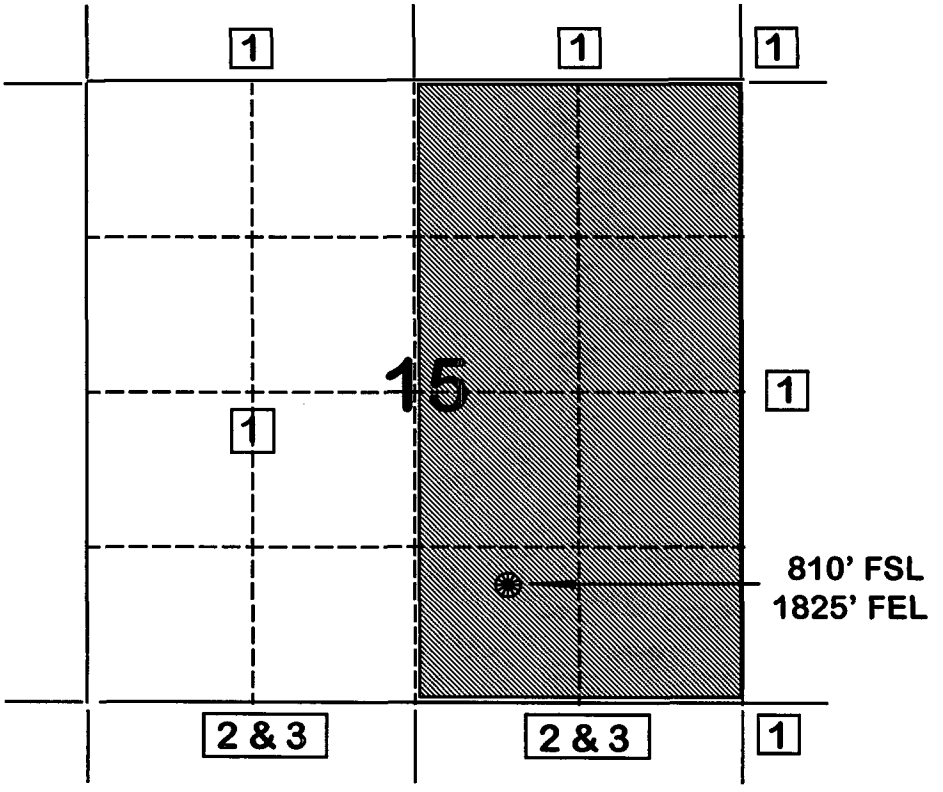
CAIN ! 11E ! 7749-Dakota
Prop 150 *
GAS Mcf/d
OIL Bbl/d
OIL/GAS
WATER Bbls/d
Rate Time Semi Log
WATER
OIL/GAS
OIL
GAS
1000
100
10
1
100
10
1
0.1
1000
100
10
1
0.1
Major = GAS

BURLINGTON RESOURCES OIL AND GAS COMPANY

Cain #11E
OFFSET OPERATOR \ OWNER PLAT

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

Township 28 North, Range 10 West



1) Burlington Resources Oil and Gas Company
2) Amoco Production Company
   Attn: Bruce Zimney
   P.O. Box 800
   Denver, CO 80201
3) Universal Resources
   1331 17th Street, Suite 300
   Denver, CO 80202

Organize Data ScreenGraph Economics Report Plot Utility Quit
Editing: CAIN | 11E | 7749-Dakota Property No.: 158
Table(T): TEST/M,P,H,T,Z,C,A,O,D,1,2,3,B,U,S Rec: 1/9/1018
Item: 2/3/33 Name: DATE Type: Date Len: 8/27/203

--DATE--	---CUM_GAS--	M SIWHP
	Mcf	Psi
05/07/80	0	836.0
11/08/80	24666	749.0
09/24/81	167806	574.0
05/25/82	265553	429.0
09/08/83	382438	577.0
12/05/85	549725	527.0
08/17/88	658285	397.0
10/02/90	734544	434.0
05/05/93	824889	370.0

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

Organize Data ScreenGraph Economics Report Plot Utility Quit
Editing: CAIN | 11E | 7750-Chacra Property No.: 159
Table(T): TEST/M,P,H,T,Z,C,A,O,D,1,2,3,B,U,S Rec: 1/5/1018
Item: 2/3/33 Name: DATE Type: Date Len: 8/27/203

--DATE--	---CUM_GAS--	M SIWHP
	Mcf	Psi
05/07/80	0	1013.0
09/24/81	74532	673.0
05/24/82	107954	660.0
09/08/83	152986	647.0
05/05/93	433872	435.0

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 11:43:20
START OF DATA
DP NO: 7749_ DAKOTA DATE: 970615 (YYMMDD FORMAT)
CAIN 11E SCROLL FORWARD BY DATE: _
S

E L	DATE PRODUCED	HOURS ON	-OIL PRODN- (BOPD	BOPM)	-GAS PRODN- (MCFD	MCFM)	-WATER PRODN- (BWPD	BWPM)
_	06/15/97	24.0	1.20	18.00	135	2236	0.00	0.00
_	06/14/97	24.0	1.20	16.80	135	2101	0.00	0.00
_	06/13/97	24.0	1.20	15.60	142	1966	0.00	0.00
_	06/12/97	24.0	1.20	14.40	142	1824	0.00	0.00
_	06/11/97	24.0	1.20	13.20	142	1682	0.00	0.00
_	06/10/97	24.0	1.20	12.00	154	1540	0.00	0.00
_	06/09/97	24.0	1.20	10.80	154	1386	0.00	0.00
_	06/08/97	24.0	1.20	9.60	154	1232	0.00	0.00
_	06/07/97	24.0	1.20	8.40	154	1078	0.00	0.00
_	06/06/97	24.0	1.20	7.20	154	924	0.00	0.00
_	06/05/97	24.0	1.20	6.00	154	770	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 11:43:30
START OF DATA
DP NO: 7750_ CHACRA DATE: 970615 (YYMMDD FORMAT)
CAIN 11E SCROLL FORWARD BY DATE: _
S

E L	DATE PRODUCED	HOURS ON	-OIL PRODN- (BOPD	BOPM)	-GAS PRODN- (MCFD	MCFM)	-WATER PRODN- (BWPD	BWPM)
_	06/15/97	24.0	0.00	0.00	71	1123	0.00	0.00
_	06/14/97	24.0	0.00	0.00	71	1052	0.00	0.00
_	06/13/97	24.0	0.00	0.00	71	981	0.00	0.00
_	06/12/97	24.0	0.00	0.00	71	910	0.00	0.00
_	06/11/97	24.0	0.00	0.00	71	839	0.00	0.00
_	06/10/97	24.0	0.00	0.00	84	768	0.00	0.00
_	06/09/97	24.0	0.00	0.00	84	684	0.00	0.00
_	06/08/97	24.0	0.00	0.00	84	600	0.00	0.00
_	06/07/97	24.0	0.00	0.00	84	516	0.00	0.00
_	06/06/97	24.0	0.00	0.00	72	432	0.00	0.00
_	06/05/97	24.0	0.00	0.00	72	360	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

Organize Data ScreenGraph Economics Report Plot Utility Quit
Editing: CAIN | 11E | 7749-1 DAKOTA Property No.: 158
Table(T): TEST/M,P,H,T,Z,C,A,O,D,1,2,3,B,U,S Rec: 1/10/1032
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	Mcf	Psi
05/07/80	0	836.0
11/08/80	24666	749.0
09/24/81	167806	574.0
05/25/82	265553	429.0
09/08/83	382438	577.0
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10/02/90	734544	434.0
05/05/93	824889	370.0

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

Organize Data ScreenGraph Economics Report Plot Utility Quit
Editing: CAIN | 11E | 7750-1 CHACRA Property No.: 159
Table(T): TEST/M,P,H,T,Z,C,A,O,D,1,2,3,B,U,S Rec: 1/6/1032
Item: 2/3/33 Name: DATE Type: Date Len: 8/27/203

--DATE--	---CUM_GAS--	M_SIWHP
	Mcf	Psi
05/07/80	0	1013.0
09/24/81	74532	673.0
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05/05/93	433872	435.0

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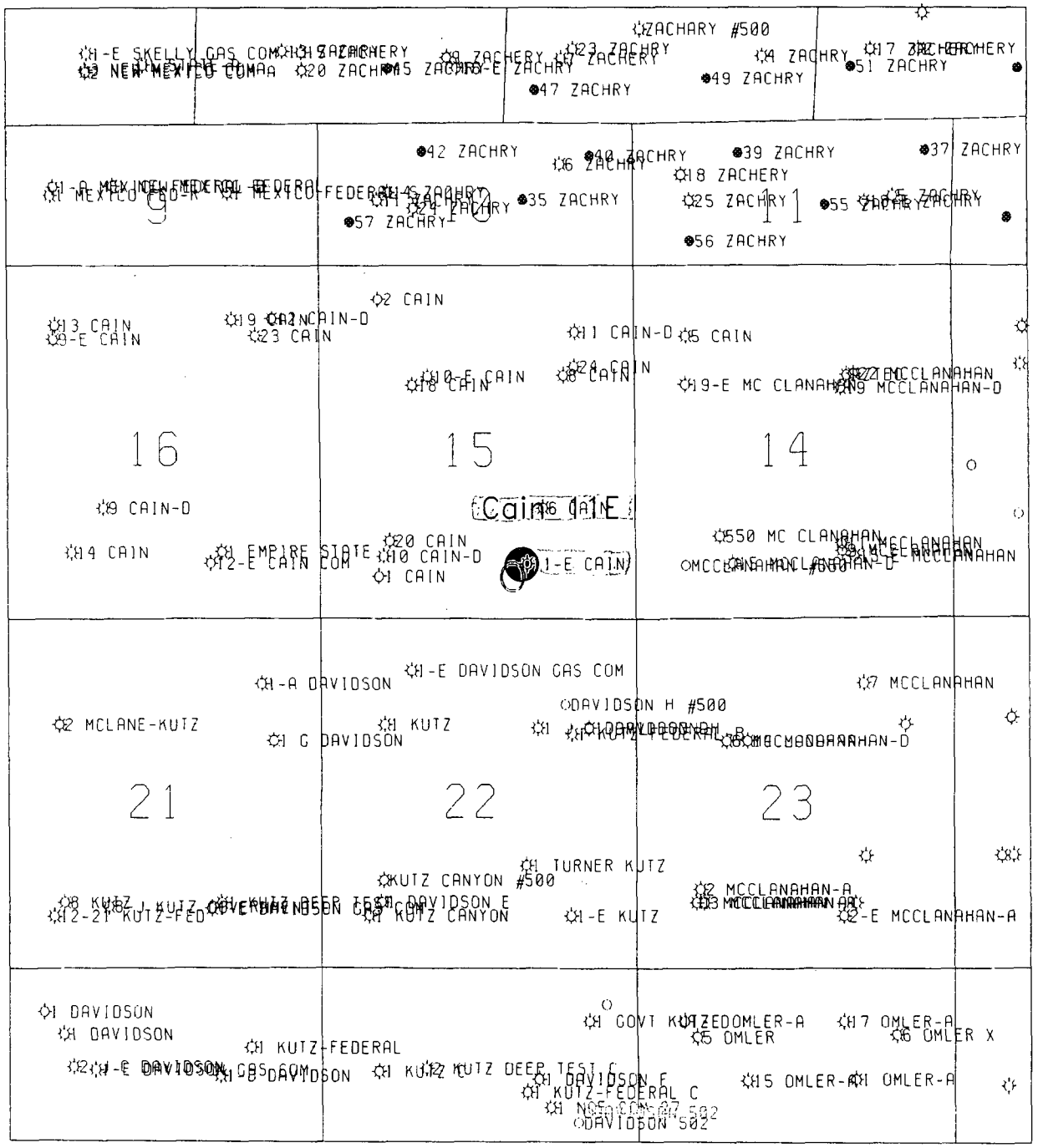
F2=Jump F4=NxtProp F6=NxtTbl F8=DelRcd F10=Exit Shift+<- ->=Fast Tbl R & L

Cain #11E
Bottom Hole Pressures
Flowing and Static BHP
Cullender and Smith Method
Version 1.0 3/13/94

Chacra		Dakota	
CH-Current		**DK-Current**	
GAS GRAVITY	0.674	GAS GRAVITY	0.674
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.83	%N2	0.83
%CO2	0.24	%CO2	0.24
%H2S	0	%H2S	0
DIAMETER (IN)	5.5	DIAMETER (IN)	1.9
DEPTH (FT)	3086	DEPTH (FT)	6514
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	102	BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	435	SURFACE PRESSURE (PSIA)	370
BOTTOMHOLE PRESSURE (PSIA)	470.3	BOTTOMHOLE PRESSURE (PSIA)	432.1
CH-Original		**DK-Original**	
GAS GRAVITY	0.674	GAS GRAVITY	0.674
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.83	%N2	0.83
%CO2	0.24	%CO2	0.24
%H2S	0	%H2S	0
DIAMETER (IN)	5.5	DIAMETER (IN)	1.9
DEPTH (FT)	3086	DEPTH (FT)	6514
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	102	BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1013	SURFACE PRESSURE (PSIA)	836
BOTTOMHOLE PRESSURE (PSIA)	1105.2	BOTTOMHOLE PRESSURE (PSIA)	988.7



Cain 11E

Sec 15 T28N R10W

Dakota / Chacra