

**WALSH**

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping7415 East Main
Farmington, New Mexico 87402
(505) 327-4892 • Fax: (505) 327-9834

**Ms. Lori Wrotenbery
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 8705**

5/16/01

Re: Non-Standard Dakota Locations

Dear Ms. Wrotenbery,

On March 25, 2001 Nelson Consulting, acting as an agent for Williams Production Company sent you paper work requesting administrative approval for constructing their BLM approved Mesaverde locations into dual Mesaverde/Dakota locations with the Dakota being non-standard.

Since this request was sent in, Walsh Engineering has been retained by Williams to help them coordinate the application process as well provide engineering services for their drilling and completion operations. Walsh Engineering has reviewed the paper work that was sent to you and feel that for clarity reasons, Williams Production should re-submit the requests with more detail as to why each location is non-standard in the Dakota.

Please find enclosed the administrative application and associated documents detailing the specifics for each location.

I hope that this helps to clear up some key points. If you have any questions or concerns, please contact me anytime.

Sincerely,

John C. Thompson
Engineer

115537151

5/24/01	6/13/01	MS	KV	NSL
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ABOVE THIS LINE FOR DIVISION USE ONLY

115537151

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

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

MAY 24 2001

Check One Only for [B] or [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 further verify that all applicable API Numbers are included. 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.

John C. Thompson
Print or Type Name

Signature

Title

Engineer/Agent

Date

5/16/01

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(505) 327-4892 • Fax: (505) 327-9834

Ms. Lori Wrotenbery
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 8705

April 14, 2001

Re: Request for Administrative approval for Non-Standard Dakota Location
Rosa Unit 30B (Sec 12/T31N/R6W, 20' fsl & 2360' fwl, Rio Arriba County, New Mexico)

30-039-26601

Dear Ms. Wrotenbery,

Williams Production Company is requesting an administrative approval to construct the Rosa 30B as a dual Mesaverde/Dakota with the Dakota being non-standard. Williams has already been issued an APD for drilling a standard infill Mesaverde well by the BLM.

Williams intends to make the well a dual well thereby capturing the reserves from the Dakota with a single well bore. Originally, the surface location was picked by considering drainage from the offset Mesaverde wells and topography/archeology constraints. In this case, Williams picked their surface location in an attempt to minimize Mesaverde drainage interference with offset wells.

Therefore, the reasons for requesting administrative approval for a non-standard location are:

1. The current location was picked to minimize the drainage interference with the Rosa 30, Rosa 30A and Rosa 149A (see attached map showing drainage patterns).
2. By itself, the Dakota (in this area) is at best very marginal economically and a dual completion helps capture additional reserves from the Dakota that otherwise would not be able to be economically developed.
3. Utilizing a single well bore for a dual completion would also negate the need for additional disturbance of another well, ie. well pad, road, pipeline ROW, etc.

As the Unit Operator of the Rosa Unit, Williams Production is the *only* offset operator, thereby this proposed non-standard location would not affect any other operators.

Please find attached a drilling plat with topographical map showing location, drainage map and a portion of the unit map showing where the well is located within the unit.

If you have any questions or concerns, please feel free to contact me anytime.

Sincerely,

John C. Thompson
Engineer

c:wp/nsdk130b

District I
PO Box 1980, Hobbs, NM 88241-1980

District II
PO Drawer DD, Artesia, NM 88211-0719

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number		*Pool Code 72319 / 71599	*Pool Name Blanco Mesaverde / Basin Dakota
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 308
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6486'

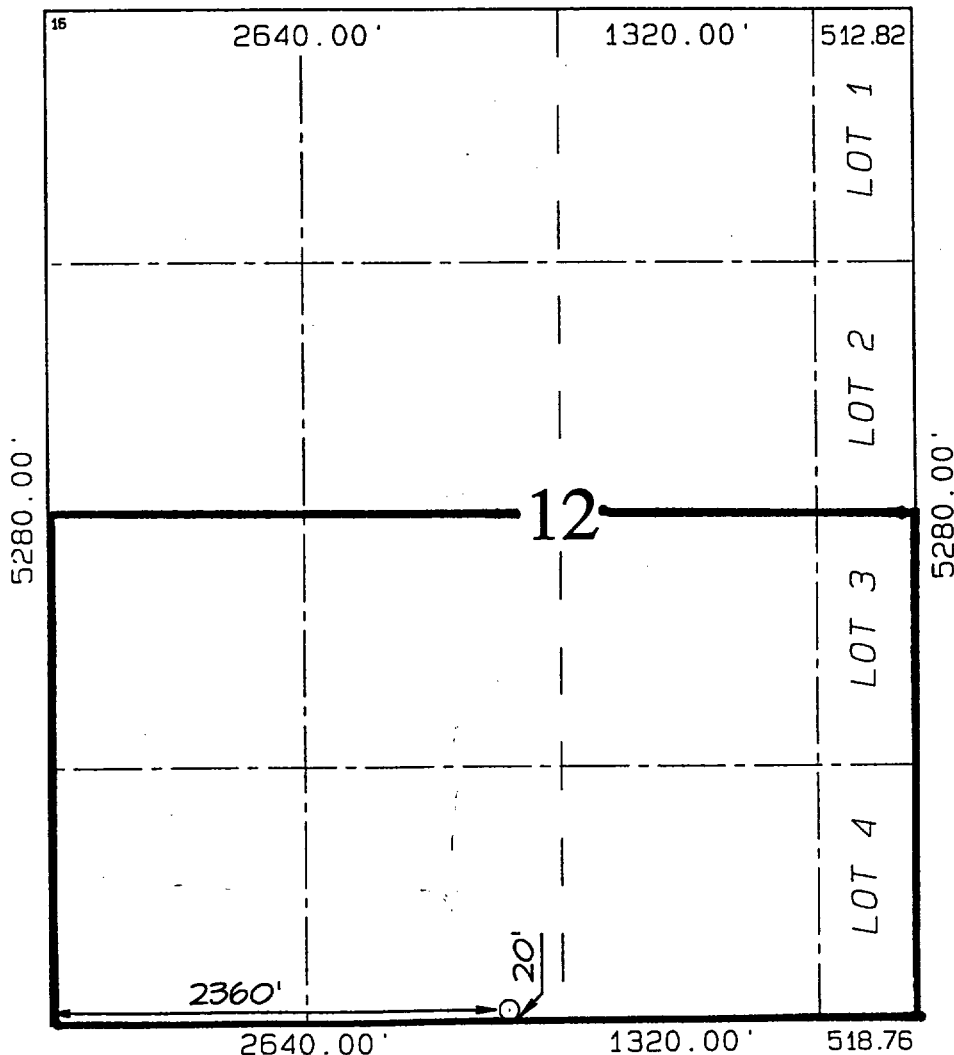
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	12	31N	6W		20	SOUTH	2360	WEST	RIO ARriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 271.25-S/2		¹³ Joint or Infill I		¹⁴ Consolidation Code U		¹⁵ Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



¹⁷ OPERATOR CERTIFICATION

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

Steve Nelson
Signature
Steve Nelson
Printed Name
Agent, Nelson Consulting
Title
April 2, 2001
Date

¹⁸ SURVEYOR CERTIFICATION

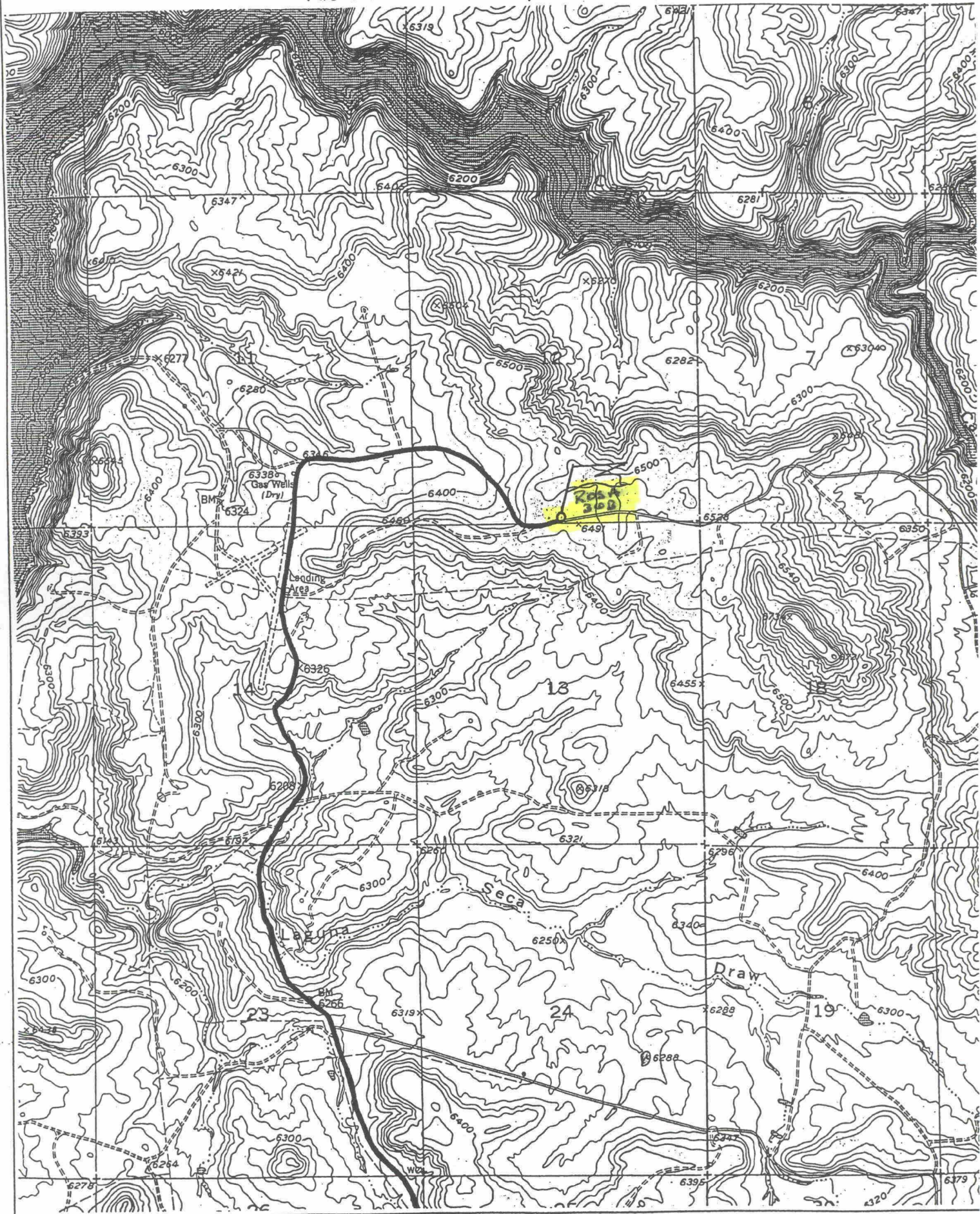
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

OCTOBER 23, 2000
Date of Survey
Signature and Seal of Professional Surveyor

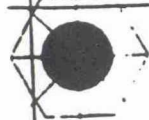
Certificate 6857

WILLIAMS PRODUCTION COMPANY ROSA UNIT #30B

20' FSL & 2360' FWL, SECTION 12, T31N, R6W, N.M.P.M.
RIO ARriba COUNTY, NEW MEXICO



VPX2K1

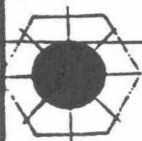


164

WPX2K1ROSA 149B

217

36



149A

149

ROSA 171A

226

10

12

225

30A

ROSA
30B

30

154

227

ROSA 22A

12

220



67

212

66M

13

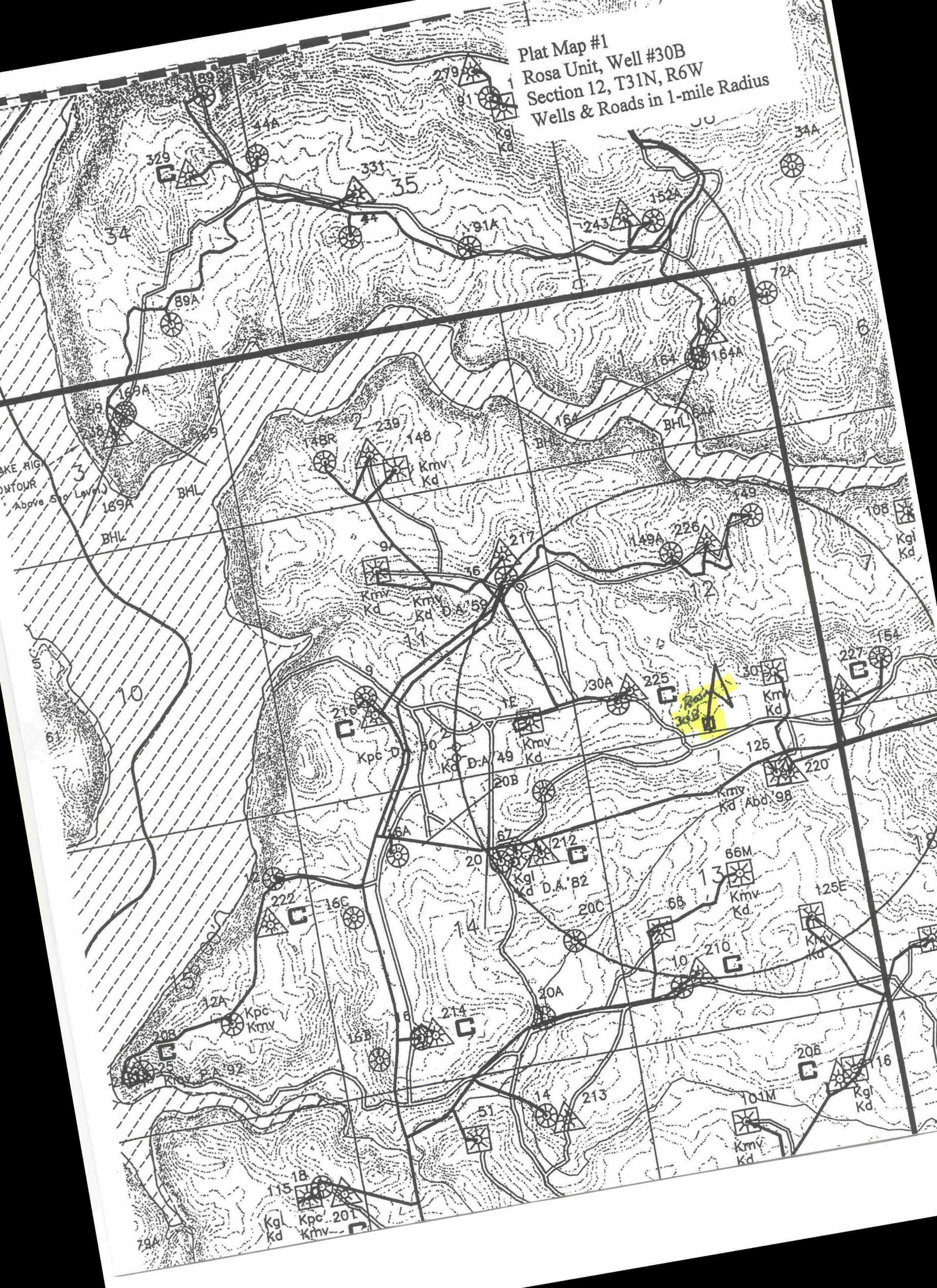
WPX2K1



66

125E

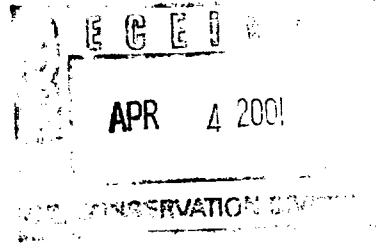
Plat Map #1
Rosa Unit, Well #30B
Section 12, T31N, R6W
Wells & Roads in 1-mile Radius



109635743

NSL

4/24/01



March 25, 2001

Ms. Lori Wrotenbery
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Re: Non-Standard Location for the Rosa Unit 30B, 20' FSL, 2360' FWL, (30-039-26601)
Section 12, T31N, R6W, NMPN, Rio Arriba County, NM, Dakota Formation.

Dear Ms. Wrotenbery:

According to rule 104.c(2)(a) Williams Production Company hereby requests an Administrative Approval for a non-standard location in the Basin Dakota pool for the referenced well. The proposed well would be a dual formation Mesa Verde pool (standard location) and a non-standard Dakota pool. The proposed spacing unit is the south half of Section 12 T31N, R6W, which is 271.25 acres, but due to topography is outside the boundaries of the Dakota pool, but within the boundary of the infill Mesa Verde pool. The reasons for the request is topographical (the terrain would require larger cuts and fills), and the poor economics of a stand alone Dakota well.

The Bureau of Land Management-Farmington Field Office issued a APD to us on 2-14-01 a APD application for a stand alone Mesa Verde pool well. If this is a feasible request for OCD to consider, then a Sundry Notice would be filed with BLM. Presently, BLM will not issue a Sundry Notice until an Administrative Approval has been granted.

As the Unit Operator of the Rosa Unit, Williams Production is the only offset operator. Attached is a plat indicating the well location and proposed spacing unit.

Thank you for your consideration and approval of this application. If you have any questions, please do not hesitate to call me at (505) 327-6331.

Sincerely,

Steve Nelson
President, Nelson Consulting

CC: BLM-FFO
NMOCD, Aztec, NM

District I
PO Box 1980, Hobbs, NM 88241-1980

District II
PO Drawer DD, Artesia, NM 88211-0719

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

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Form C-102
Revised February 21, 1994
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Submit to Appropriate District Office
State Lease - 4 Copies
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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code	Pool Name
		72319 / 71599	Blanco Mesaverde / Basin Dakota
Property Code	Property Name		Well Number
17033	ROSA UNIT		30B
GRID No.	Operator Name		Elevation
120782	WILLIAMS PRODUCTION COMPANY		6486'

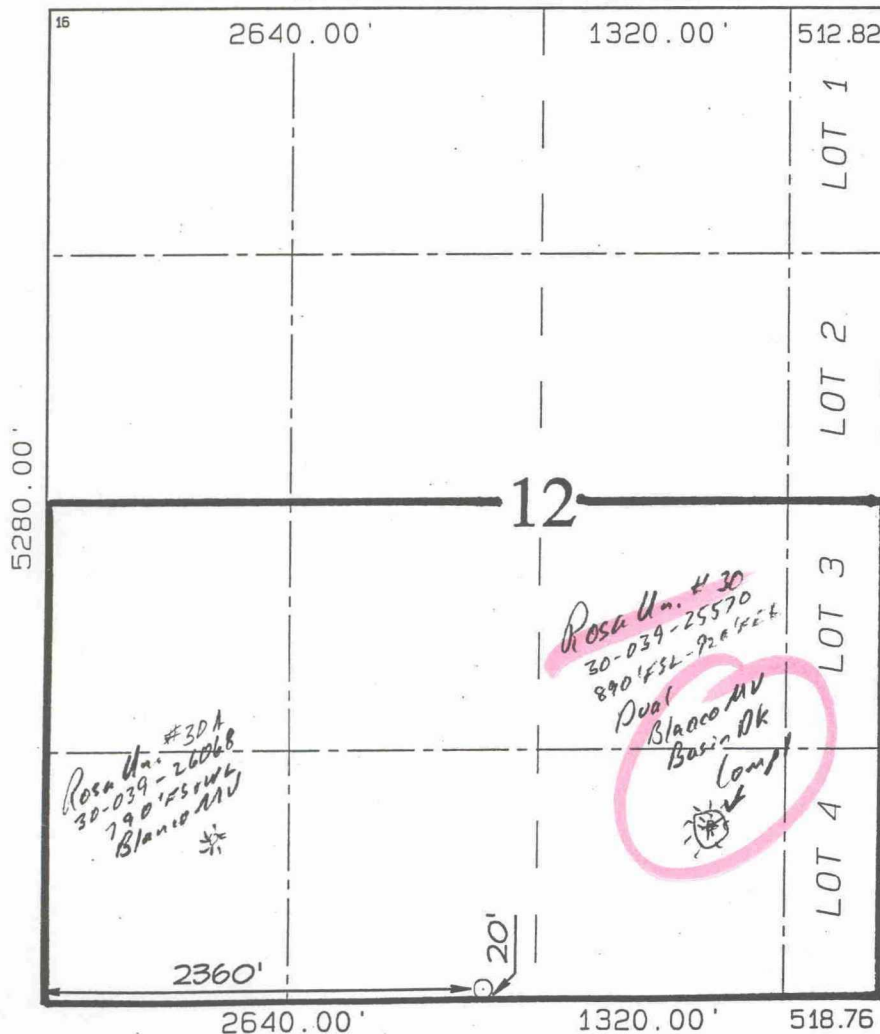
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	12	31N	6W		20	SOUTH	2360	WEST	RIO ARriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			
271.25-S/2		I		U					

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

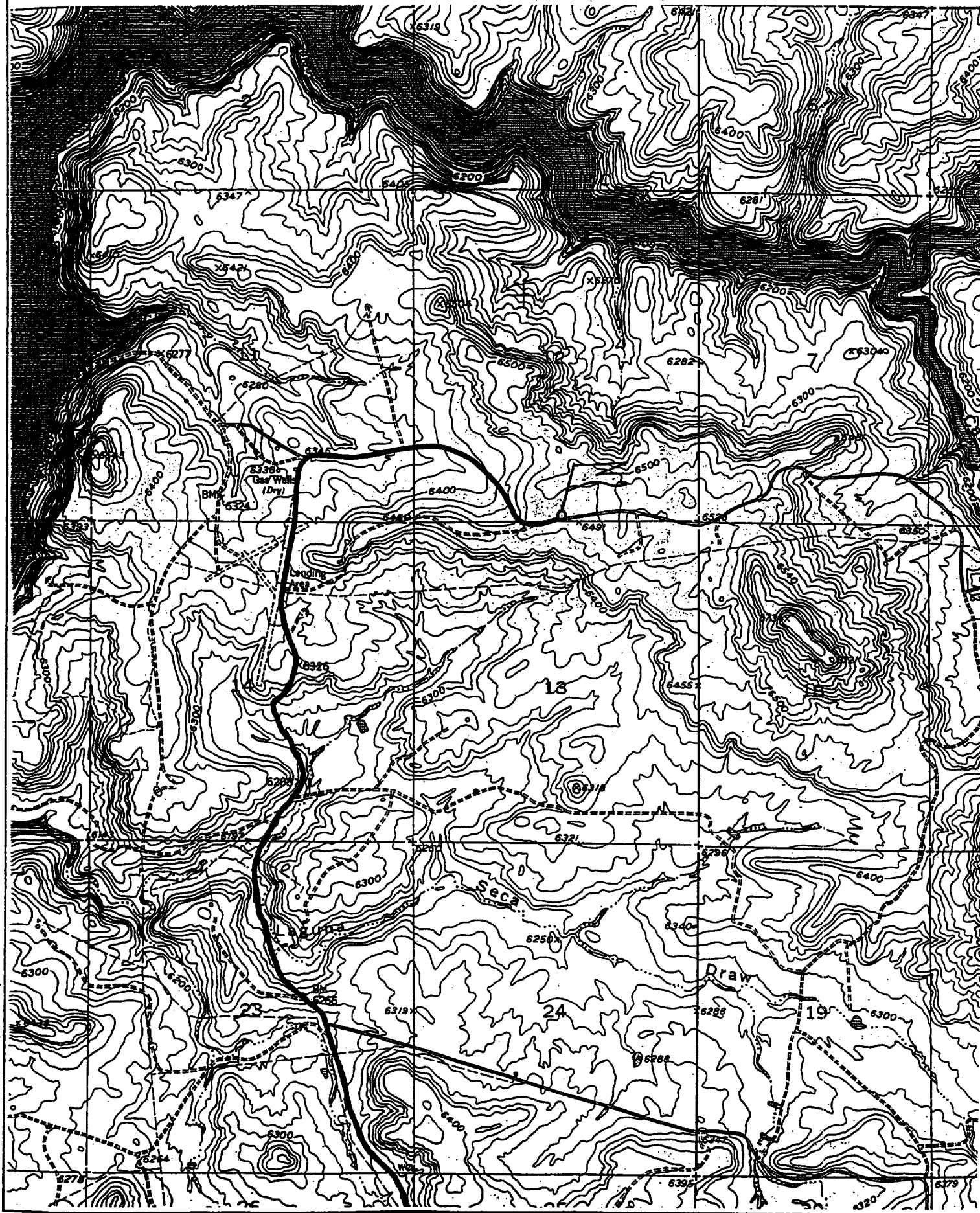


¹⁷ OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Signature
Steve Nelson
Printed Name
Agent, Nelson Consulting
Title
April 2, 2001
Date
¹⁸ SURVEYOR CERTIFICATION
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 belief.
OCTOBER 23, 2000
Date of Survey
Signature and Seal of Registered Surveyor

Certificate 6857

20' FSL & 2360' FWL, SECTION 12, T31N, R6W, N.M.P.M.
RIO ARRIBA COUNTY, NEW MEXICO



Stogner, Michael

From: Hayden, Steven
Sent: Thursday, April 19, 2001 7:59 AM
To: Stogner, Michael
Subject: FW: Williams NSLs

From: Hayden, Steven
Sent: Thursday, April 19, 2001 7:56 AM
To: Stogner, Michael
Subject: Williams NSLs

Mike,

I got several copies of NSL requests yesterday from Steve Nelson consulting for Williams to get some Dakota NSLs in the Rosa Unit. This is much like the BP/Amoco form letters with the added bonus that Mr. Nelson apparently doesn't know the difference between a standard location and pool boundaries. It must be very easy to make it as a consultant these days...

Steve

Sorry, I forgot to give you the well numbers:

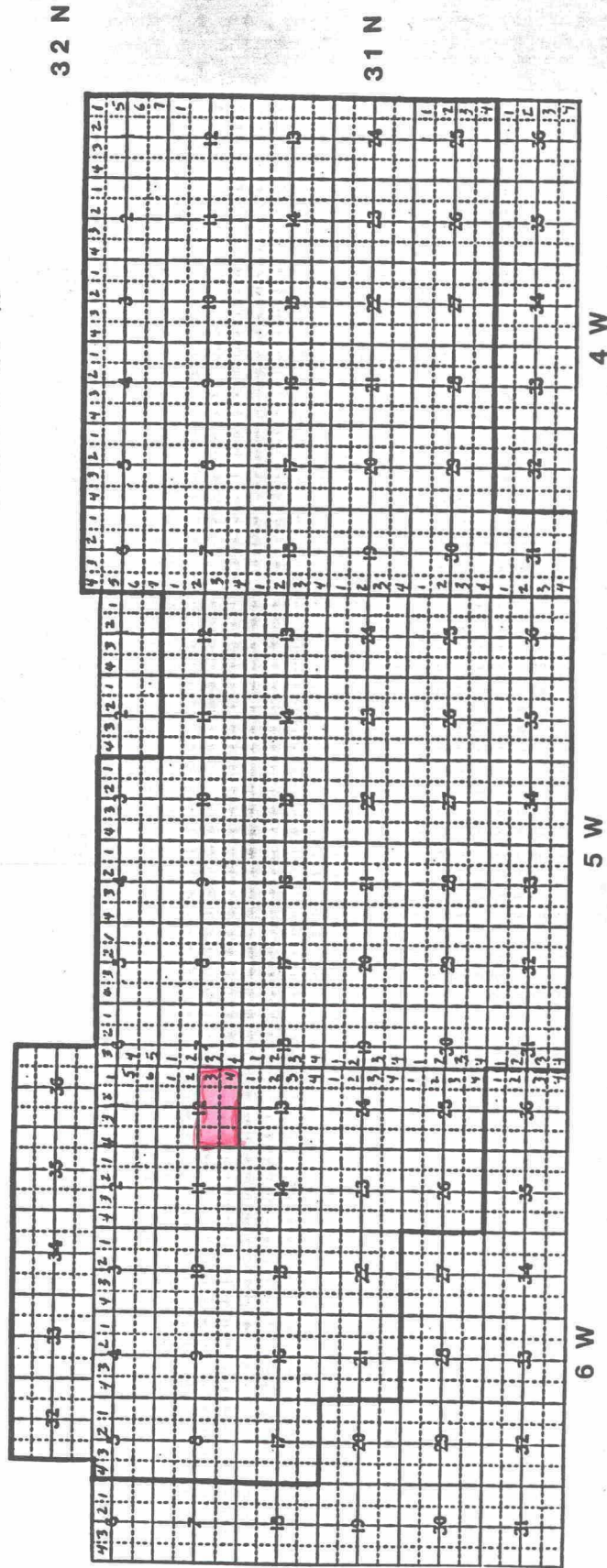
RU #8B
#24B
#30B
#31B
#44B
#149B
#165B

ROSA

RIO ARRIBA & SAN JUAN COUNTIES
NEW MEXICO

No. I-Sec. No. 587

EFFECTIVE 6-24-48





NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

May 7, 2001

Lori Wrotenbery
Director
Oil Conservation Division

Steve Nelson
c/o Williams Production Company
One Williams Center
P. O. Box 3102
Tulsa, Oklahoma 74101

Re: Six administrative applications filed with the New Mexico Oil Conservation Division ("Division") for exceptions to the well location requirements provided within the "Special Rules and Regulations for the Basin-Dakota Pool," as promulgated by Division Order No. R-10987, as amended, by Division Orders No. R-10987-B and R-10987-B (1), requesting authorization to drill the following six wells at unorthodox gas well locations within the Basin-Dakota Pool: (i) Rosa Unit Well No. 149-B (API No. 30-039-26599) to be drilled 1440' FNL & 335' FWL (Unit E) of Section 12, T-31-N, R-6-W; (ii) Rosa Unit Well No. 165-B (API No. 30-039-26557) to be drilled 1465' FNL & 225' FWL (Unit E) of Section 25, T-31-N, R-6-W; (iii) Rosa Unit Well No. 31-B (API No. 30-039-26579) to be drilled 570' FNL & 515' FWL (Unit D) of Section 17, T-31-N, R-5-W; (iv) Rosa Unit Well No. 44-B (API No. 30-039-26685) to be drilled 660' FNL & 2535' FWL (Unit C) of Section 35, T-32-N, R-6-W; (v) Rosa Unit Well No. 8-B (API No. 30-039-26632) to be drilled 2010' FNL & 2170' FWL (Unit F) of Section 26, T-31-N, R-6-W; and (vi) Rosa Unit Well No. 30-B (API No. 30-039-26601) to be drilled 20' FSL & 2360' FWL (Unit N) of Section 12, T-31-N, R-6-W: all in Rio Arriba County, New Mexico.

Dear Mr. Nelson:

I have reviewed the above-described applications and discussed the merits of each with the technical staff of the Division's Aztec district office. These applications are hereby found to be inadequate, unjustified, and unwarranted. Please be further advised that:

- (1) with the inception of Division Order No. R-10987-B, issued in Case No. 12290 and dated June 30, 2000, as amended by Division Order No. R-10987-B (1), dated August 10, 2000, most operators have been given an additional 28.10 acres on the surface within a single quarter section to locate Dakota gas wells at a location considered to be standard;
- (2) review of the Division's records indicate that the deeper Dakota interval appears to have been an afterthought in each well, all of which had approved APD's ("Application for Permit to Drill") to the shallower Mesaverde interval at locations considered to be standard for the Blanco-Mesaverde Pool (which pool has the most relaxed set back requirements of any producing horizon in the State of New Mexico); and

Williams Production Company

May 7, 2001

Page 2

- (3) in instances where a single wellbore is to be utilized in more than one producing horizon, the operator is expected to drill that well at a location considered to be standard for all intended zones and not just one of the intended formations with the expectation that this is reason enough for approval.

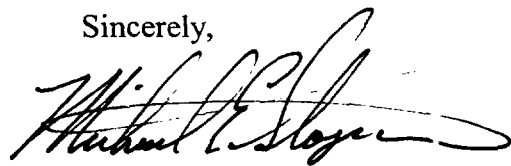
The rules governing the Basin-Dakota Pool were established and modified over time in order to assure orderly development and to maximize recovery of gas reserves in this pool. Not only was the Division involved in creating and establishing operating procedures for this pool, many industry personnel representing various producers spent a tremendous amount of time determining the optimal method and procedures for all to operate in order to prudently develop this prolific reservoir in a manner that does not cause waste nor violate correlative rights.

Pool rules are serious matters for the purpose of orderly development of New Mexico's valuable oil and gas resources. It is very easy to get into a mode of thinking that considers these rules as minor inconveniences and applications for exceptions as "open and shut" issues. Given the poor quality of these applications I detect that that might be occurring at Williams Production Company. As I understand from Mr. Frank Chaves, Supervisor of the Division Aztec district office, this is not the relationship that they are used to experiencing with your company.

These six applications are hereby **denied** and are being returned to you at this time.

Should Williams Production Company wish to pursue these applications, a hearing in Santa Fe before a duly appointed examiner will be required.

Sincerely,



Michael E. Stogner
Chief Hearing Officer/Engineer

cc: New Mexico Oil Conservation Division - Aztec
U. S. Bureau of Land Management - Farmington
Kathy Valdes, NMOCD – Santa Fe
Ms. Lori Wrotenbery, Director - NMOCD, Santa Fe



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON

Governor

Jennifer A. Salisbury

Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

May 22, 2001

Williams Production Company
One Williams Center
P. O. Box 3102, MS 37-4
Tulsa, Oklahoma 74101

Re: *Six administrative applications filed with the New Mexico Oil Conservation Division ("Division") for exceptions to the well location requirements provided within the "Special Rules and Regulations for the Basin-Dakota Pool," as promulgated by Division Order No. R-10987, as amended, by Division Orders No. R-10987-B and R-10987-B (I), requesting authorization to drill the following six wells at unorthodox gas well locations within the Basin-Dakota Pool: (i) Rosa Unit Well No. 149-B (API No. 30-039-26599) to be drilled 1440' FNL & 335' FWL (Unit E) of Section 12, T-31-N, R-6-W; (ii) Rosa Unit Well No. 165-B (API No. 30-039-26557) to be drilled 1465' FNL & 225' FWL (Unit E) of Section 25, T-31-N, R-6-W; (iii) Rosa Unit Well No. 31-B (API No. 30-039-26579) to be drilled 570' FNL & 515' FWL (Unit D) of Section 17, T-31-N, R-5-W; (iv) Rosa Unit Well No. 44-B (API No. 30-039-26685) to be drilled 660' FNL & 2535' FWL (Unit C) of Section 35, T-32-N, R-6-W; (v) Rosa Unit Well No. 8-B (API No. 30-039-26632) to be drilled 2010' FNL & 2170' FWL (Unit F) of Section 26, T-31-N, R-6-W; and (vi) Rosa Unit Well No. 30-B (API No. 30-039-26601) to be drilled 20' FSL & 2360' FWL (Unit N) of Section 12, T-31-N, R-6-W: all in Rio Arriba County, New Mexico.*

To whom it may concern:

Williams Production Company filed these six administrative applications with no return address for the responsible individual. I am therefore forwarding/returning the attached material to the only address for Williams Production Company on record.

Sincerely,

Michael E. Stogner
Chief Hearing Officer/Engineer

cc: New Mexico Oil Conservation Division - Aztec

Stogner, Michael

From: Hayden, Steven
Sent: Tuesday, June 05, 2001 10:09 AM
To: Stogner, Michael
Cc: Ezeanyim, Richard
Subject: Williams Rosa Unit Dakota NSL apps.

Mike,
I have reviewed the Williams applications for NSLs submitted by Walsh Engineering and have brief comments on each one:

RU #44B, This location is a clear cut topographic necessity. It is the only place in the west half of Section 35 that is even accessible.

RU #149B, Based on the listed reasons of topography and drainage pattern fit for the Mesaverde, this location is reasonable.

RU #30B, The location is reasonable as a fit for the elliptical drainage pattern of the surrounding Mesaverde wells within the available usable topography.

RU # 8B, This seems to be a good fit for the existing and projected elliptical drainage pattern of adjoining Mesaverde wells.

RU #165B, Considering the presence of the canyon bottom/arroyo to the immediate east of this location, this is the best fit possible for the well with respect to the projected elliptical drainage pattern for the Mesaverde here.

RU #31B, This is a reasonable fit for the elliptical drainage pattern here in the Mesaverde, but I would question whether the pattern could not have been as well matched with a location south and a little east along the road shown on the topo sheet included in the application. I am sending a separate air photo that shows this location and surrounding area.



Steve Hayden
NM OCD District III
1000 Rio Brazos Rd.
Aztec, NM 87410

shayden@state.nm.us
(505) 334-6178 Ext. 14
Fax: (505) 334-6170

CMD :
OG5SECT

ONGARD
INQUIRE LAND BY SECTION

05/07/01 09:34:29
OGOMES -TP2C
PAGE NO: 1

Sec : 12 Twp : 31N Rng : 06W Section Type : NORMAL

D 40.00	C 40.00	B 40.00	1 15.56
Federal owned U	Federal owned U	Federal owned U	Federal owned U
E 40.00	F 40.00	G 40.00	2 15.61
Federal owned U A	Federal owned U A	Federal owned U A A	Federal owned U

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06
PF07 BKWD	PF08 FWD	PF09 PRINT	PF10 SDIV	PF11	PF12

CMD :
OG5SECTONGARD
INQUIRE LAND BY SECTION05/07/01 09:34:34
OGOMES -TP2C
PAGE NO: 2

Sec : 12 Twp : 31N Rng : 06W Section Type : NORMAL

L 40.00 Federal owned U	K 40.00 Federal owned U	J 40.00 Federal owned U	3 15.65 Federal owned U
M 40.00 Federal owned U A A	N 40.00 Federal owned U A	O 40.00 Federal owned U A	4 15.70 Federal owned U

PF01 HELP
PF07 BKWDPF02
PF08 FWDPF03 EXIT
PF09 PRINTPF04 GoTo
PF10 SDIVPF05
PF11PF06
PF12271.35
84.79%

CMD : ONGARD 05/07/01 09:36:01
OG6C101 C101-APPLICATION FOR PERMIT TO DRILL OGOMES -TP2C

OGRID Idn : 120782 API Well No: 30 39 26601 APD Status(A/C/P): A
Opr Name, Addr: WILLIAMS PRODUCTION COMPANY, LLC Aprvl/Cncl Date : 02-14-2001
PO BOX 58900
SALT LAKE CITY,UT 84158-0900

Prop Idn: 17033 ROSA UNIT Well No: 30 B

	U/L	Sec	Township	Range	Lot	Idn	North/South	East/West
	---	---	-----	-----	-----	-----	-----	-----
Surface Locn :	N	12	31N	06W			FTG 20 F S	FTG 2360 F W
OCD U/L :	N		API County :	39				

Work typ(N/E/D/P/A) : N Well typ(O/G/M/I/S/W/C): G Cable/Rotary (C/R) : F
Lease typ(F/S/P/N/J/U/I): F Ground Level Elevation : 6486

State Lease No: Multiple Comp (S/M/C) : S
Prpsd Depth : 6253 Prpsd Frmtn : BLANCO MESAVERDE

E0009: Enter data to modify record

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06 CONFIRM
PF07	PF08	PF09 PRINT	PF10 C102	PF11 HISTORY	PF12

CMD :
OG6IWCM

ONGARD
INQUIRE WELL COMPLETIONS

05/07/01 09:36:53
OGOMES -TP2C

API Well No : 30 39 25570 Eff Date : 08-17-1996 WC Status : A
Pool Idn : 72319 BLANCO-MESAVERDE (PRORATED GAS)
OGRID Idn : 120782 WILLIAMS PRODUCTION COMPANY, LLC
Prop Idn : 17033 ROSA UNIT

Well No : 030
GL Elevation: 6490

	U/L	Sec	Township	Range	North/South	East/West	Prop/Act (P/A)
	---	---	-----	-----	-----	-----	-----
B.H. Locn : O	12	31N	06W	FTG	890 F S	FTG 920 F E	P

Lot Identifier:
Dedicated Acre: 271.35
Lease Type : F
Type of consolidation (Comm, Unit, Forced Pooling - C/U/F/O) : U

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06
PF07	PF08	PF09	PF10 NEXT-WC	PF11 HISTORY	PF12 NXTREC

CMD :
OG6ACRE

ONGARD
C102-DEDICATE ACREAGE

05/07/01 09:36:59
OGOMES -TP2C
Page No : 1

API Well No : 30 39 25570 Eff Date : 04-08-1996
Pool Idn : 72319 BLANCO-MESAVERDE (PRORATED GAS)
Prop Idn : 17033 ROSA UNIT
Spacing Unit : 48414 OCD Order :
Sect/Twp/Rng : Acreage : 271.35
Dedicated Land:

Well No : 030
Simultaneous Dedication:
Revised C102? (Y/N) :

S	Base	U/L	Sec	Twp	Rng	Acreage	L/W	Ownership	Lot	Idn
		J	12	31N	06W	40.00	N	FD		
		K	12	31N	06W	40.00	N	FD		
		L	12	31N	06W	40.00	N	FD		
		M	12	31N	06W	40.00	N	FD		
		N	12	31N	06W	40.00	N	FD		
		O	12	31N	06W	40.00	N	FD		
	I	3	12	31N	06W	15.65	N	FD		
	P	4	12	31N	06W	15.70	N	FD		

E0005: Enter data to modify or PF keys to scroll

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM
PF07 BKWD PF08 FWD PF09 PF10 LAND PF11 NXTSEC PF12 RECONF

CMD : ONGARD 05/07/01 09:37:09
 OG6IPRD INQUIRE PRODUCTION BY POOL/WELL OGOMES -TP2C
 Page No: 1

OGRID Identifier : 120782 WILLIAMS PRODUCTION COMPANY, LLC
 Pool Identifier : 72319 BLANCO-MESAVERDE (PRORATED GAS)
 API Well No : 30 39 25570 Report Period - From : 01 2000 To : 04 2001

API Well No	Property Name	Prod. Days		Production Volumes			Well Stat
		MM/YY	Prod	Gas	Oil	Water	
30 39 25570	ROSA UNIT	01 00	31	3307		40	F
30 39 25570	ROSA UNIT	02 00	29	2902		20	F
30 39 25570	ROSA UNIT	03 00	27	2810		20	F
30 39 25570	ROSA UNIT	04 00	30	3093			F
30 39 25570	ROSA UNIT	05 00	31	2786			F
30 39 25570	ROSA UNIT	06 00	30	2011			F
30 39 25570	ROSA UNIT	07 00	31	2632		20	F

Reporting Period Total (Gas, Oil) :

M0025: Enter PF keys to scroll

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM
 PF07 BKWD PF08 FWD PF09 PF10 NXTPOOL PF11 NXTOGD PF12

CMD : ONGARD 05/07/01 09:37:11
 OG6IPRD INQUIRE PRODUCTION BY POOL/WELL OGOMES -TP2C

Page No: 2

OGRID Identifier : 120782 WILLIAMS PRODUCTION COMPANY, LLC

Pool Identifier : 72319 BLANCO-MESAVERDE (PRORATED GAS)

API Well No : 30 39 25570 Report Period - From : 01 2000 To : 04 2001

API Well No	Property Name	Prod. Days MM/YY Prod	Production Volumes Gas Oil Water	Well Stat
30 39 25570	ROSA UNIT	08 00 31	2829	F
30 39 25570	ROSA UNIT	09 00 30	2494	F
30 39 25570	ROSA UNIT	10 00 24	2797	20 F
30 39 25570	ROSA UNIT	11 00 11	2242	F
30 39 25570	ROSA UNIT	12 00 12	2502	40 F
30 39 25570	ROSA UNIT	01 01 14	3071	F
30 39 25570	ROSA UNIT	02 01 12	2243	20 F

Reporting Period Total (Gas, Oil) : 37719 180

E0049: User may continue scrolling.

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM
 PF07 BKWD PF08 FWD PF09 PF10 NXTPOOL PF11 NXTOGD PF12

CMD :
OG6IWCM

ONGARD
INQUIRE WELL COMPLETIONS

05/07/01 09:36:26
OGOMES -TP2C

API Well No : 30 39 25570 Eff Date : 08-17-1996 WC Status : A
Pool Idn : 71599 BASIN DAKOTA (PRORATED GAS)
OGRID Idn : 120782 WILLIAMS PRODUCTION COMPANY, LLC
Prop Idn : 17033 ROSA UNIT

Well No : 030
GL Elevation: 6490

	U/L	Sec	Township	Range	North/South	East/West	Prop/Act (P/A)
	---	---	-----	-----	-----	-----	-----
B.H. Locn : 0	12	31N	06W	FTG	890 F S	FTG 920 F E	P

Lot Identifier:
Dedicated Acre: 271.35
Lease Type : F
Type of consolidation (Comm, Unit, Forced Pooling - C/U/F/O) : U

M0025: Enter PF keys to scroll

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06
PF07	PF08	PF09	PF10 NEXT-WC	PF11 HISTORY	PF12 NXTREC

CMD : ONGARD 05/07/01 09:36:31
 OG6ACRE C102-DEDICATE ACREAGE OGOMES -TP2C
 Page No : 1

API Well No : 30 39 25570 Eff Date : 04-08-1996
 Pool Idn : 71599 BASIN DAKOTA (PRORATED GAS)
 Prop Idn : 17033 ROSA UNIT Well No : 030
 Spacing Unit : 48413 OCD Order : Simultaneous Dedication:
 Sect/Twp/Rng : Acreage : 271.35 Revised C102? (Y/N) :
 Dedicated Land:

S	Base	U/L	Sec	Twp	Rng	Acreage	L/W	Ownership	Lot	Idn
		J	12	31N	06W	40.00	N	FD		
		K	12	31N	06W	40.00	N	FD		
		L	12	31N	06W	40.00	N	FD		
		M	12	31N	06W	40.00	N	FD		
		N	12	31N	06W	40.00	N	FD		
		O	12	31N	06W	40.00	N	FD		
	I	3	12	31N	06W	15.65	N	FD		
	P	4	12	31N	06W	15.70	N	FD		

E0005: Enter data to modify or PF keys to scroll

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM
 PF07 BKWD PF08 FWD PF09 PF10 LAND PF11 NXTSEC PF12 RECONF

CMD : ONGARD 05/07/01 09:36:42
 OG6IPRD INQUIRE PRODUCTION BY POOL/WELL OGOMES -TP2C
 Page No: 1

OGRID Identifier : 120782 WILLIAMS PRODUCTION COMPANY, LLC
 Pool Identifier : 71599 BASIN DAKOTA (PRORATED GAS)
 API Well No : 30 39 25570 Report Period - From : 01 2000 To : 04 2001

API Well No	Property Name	Prod. Days		Production Volumes			Well Stat
		MM/YY	Prod	Gas	Oil	Water	
30 39 25570	ROSA UNIT	01 00	31	10585		121	F
30 39 25570	ROSA UNIT	02 00	29	9294		61	F
30 39 25570	ROSA UNIT	03 00	29	9652		61	F
30 39 25570	ROSA UNIT	04 00	28	9295			F
30 39 25570	ROSA UNIT	05 00	28	8306			F
30 39 25570	ROSA UNIT	06 00	30	10000			F
30 39 25570	ROSA UNIT	07 00	31	9113		61	F

Reporting Period Total (Gas, Oil) :

M0025: Enter PF keys to scroll

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM
 PF07 BKWD PF08 FWD PF09 PF10 NXTPOOL PF11 NXTOGD PF12

CMD : ONGARD 05/07/01 09:36:45
 OG6IPRD INQUIRE PRODUCTION BY POOL/WELL OGOMES -TP2C
 Page No: 2

OGRID Identifier : 120782 WILLIAMS PRODUCTION COMPANY, LLC
 Pool Identifier : 71599 BASIN DAKOTA (PRORATED GAS)
 API Well No : 30 39 25570 Report Period - From : 01 2000 To : 04 2001

API Well No	Property Name	Prodn. Days MM/YY Prod	Production Volumes Gas Oil Water	Well Stat
30 39 25570	ROSA UNIT	08 00 31	8576	F
30 39 25570	ROSA UNIT	09 00 30	6853	F
30 39 25570	ROSA UNIT	10 00 17	6859 61	F
30 39 25570	ROSA UNIT	11 00 30	5386	F
30 39 25570	ROSA UNIT	12 00 31	5102 120	F
30 39 25570	ROSA UNIT	01 01 31	6338	F
30 39 25570	ROSA UNIT	02 01 22	6601 60	F

Reporting Period Total (Gas, Oil) : 111960 545

E0049: User may continue scrolling.

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM
 PF07 BKWD PF08 FWD PF09 PF10 NXTPOOL PF11 NXTOGD PF12

CMD :
OG6IWCM

ONGARD
INQUIRE WELL COMPLETIONS

05/07/01 09:43:09
OGOMES -TP2C

API Well No : 30 39 26068 Eff Date : 09-24-1999 WC Status : A
Pool Idn : 72319 BLANCO-MESAVERDE (PRORATED GAS)
OGRID Idn : 120782 WILLIAMS PRODUCTION COMPANY, LLC
Prop Idn : 17033 ROSA UNIT

Well No : 030A
GL Elevation: 6388

	U/L	Sec	Township	Range	North/South	East/West	Prop/Act (P/A)
	---	---	-----	-----		-----	-----
B.H. Locn : M	12	31N	06W	FTG	790 F S	FTG 790 F W	P

Lot Identifier:
Dedicated Acre: 271.35
Lease Type : F
Type of consolidation (Comm, Unit, Forced Pooling - C/U/F/O) : U

M0025: Enter PF keys to scroll

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06
PF07	PF08	PF09	PF10 NEXT-WC	PF11 HISTORY	PF12 NXTREC

CMD : ONGARD 05/07/01 09:35:08
 OG6ACRE C102-DEDICATE ACREAGE OGOMES -TP2C
 Page No : 1

API Well No : 30 39 26068 Eff Date : 04-08-1996
 Pool Idn : 72319 BLANCO-MESAVERDE (PRORATED GAS)
 Prop Idn : 17033 ROSA UNIT Well No : 030A
 Spacing Unit : 48414 OCD Order : Simultaneous Dedication:
 Sect/Twp/Rng : Acreage : 271.35 Revised C102? (Y/N) :
 Dedicated Land:

S	Base	U/L	Sec	Twp	Rng	Acreage	L/W	Ownership	Lot	Idn
		J	12	31N	06W	40.00	N	FD		
		K	12	31N	06W	40.00	N	FD		
		L	12	31N	06W	40.00	N	FD		
		M	12	31N	06W	40.00	N	FD		
		N	12	31N	06W	40.00	N	FD		
		O	12	31N	06W	40.00	N	FD		
	I	3	12	31N	06W	15.65	N	FD		
	P	4	12	31N	06W	15.70	N	FD		

E0005: Enter data to modify or PF keys to scroll

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM
 PF07 BKWD PF08 FWD PF09 PF10 LAND PF11 NXTSEC PF12 RECONF

CMD : ONGARD 05/07/01 09:35:19
 OG6IPRD INQUIRE PRODUCTION BY POOL/WELL OGOMES -TP2C
 Page No: 1

OGRID Identifier : 120782 WILLIAMS PRODUCTION COMPANY, LLC
 Pool Identifier : 72319 BLANCO-MESAVERDE (PRORATED GAS)
 API Well No : 30 39 26068 Report Period - From : 01 2000 To : 04 2001

API Well No	Property Name	Prod. Days MM/YY Prod	Production Volumes Gas Oil Water	Well Stat
30 39 26068	ROSA UNIT	01 00 31	19525	80 F
30 39 26068	ROSA UNIT	02 00 29	15946	F
30 39 26068	ROSA UNIT	03 00 31	13936	80 F
30 39 26068	ROSA UNIT	04 00 30	9973	F
30 39 26068	ROSA UNIT	05 00 22	6557	80 F
30 39 26068	ROSA UNIT	06 00 30	9937	F
30 39 26068	ROSA UNIT	07 00 31	8258	F

Reporting Period Total (Gas, Oil) :

M0025: Enter PF keys to scroll

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM
 PF07 BKWD PF08 FWD PF09 PF10 NXTPOOL PF11 NXTOGD PF12

CMD : ONGARD 05/07/01 09:35:22
 OG6IPRD INQUIRE PRODUCTION BY POOL/WELL OGOMES -TP2C
 Page No: 2

OGRID Identifier : 120782 WILLIAMS PRODUCTION COMPANY, LLC
 Pool Identifier : 72319 BLANCO-MESAVERDE (PRORATED GAS)
 API Well No : 30 39 26068 Report Period - From : 01 2000 To : 04 2001

API Well No	Property Name	Prodn. Days MM/YY Prod	Production Volumes Gas Oil Water	Well Stat
30 39 26068	ROSA UNIT	08 00 31	6761	F
30 39 26068	ROSA UNIT	09 00 30	5758	F
30 39 26068	ROSA UNIT	10 00 31	6258	F
30 39 26068	ROSA UNIT	11 00 24	5597	F
30 39 26068	ROSA UNIT	12 00 23	5500	80 F
30 39 26068	ROSA UNIT	01 01 21	6758	F
30 39 26068	ROSA UNIT	02 01 18	5141	F

Reporting Period Total (Gas, Oil) : 125905 320

E0049: User may continue scrolling.

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06 CONFIRM
 PF07 BKWD PF08 FWD PF09 PF10 NXTPOOL PF11 NXTOGD PF12

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ROW/APD

FORM APPROVED
Budget Bureau No. 1004-0136
Expire: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. Type of Work

DRILL ☒DEEPEN ☐

1. Type of Well

Oil Well ☐Gas Well ☒Other ☐Single Well ☒Multiple Zone ☐

2. Name of Operator

Williams Production Company

3. Address and Telephone No.

P.O. Box 3102, MS 37-2, Tulsa, OK. 74101

4. Location of Well (Footages)

At Surface

20 FSL 2360' FWL, SESW

proposed prod. zone

5. Lease Designation and Serial No.
SF-078767

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement Designation

Rosa Unit

8. Well Name and No.

RU-#30E

9. API Well No.

30-039-26601

10. Field and Pool, or Exploratory Area

Blanco-Mesa Verde

11. Sec., T., R., M., or BLK.
and Survey or Area

N Section 12, T31N, R6W

4. Distance in Miles and Directions from Nearest Town or Post Office

Approximately 19.2 miles northeast of Navajo Dam Post Office (straight line)

12. County or Parish

Rio Arriba

13. State

NM

5. Distance from Proposed Location to Nearest

Property or Lease Line, Ft. 20'

16. No. of Acres in Lease

2518.04 acres

17. No. of Acres Assigned to This Well

271.35 acres, S/2

8. Distance from Proposed Location to Nearest Well Drilling, Completed, or Applied for, on this Lease, FT.

1320'

19. Proposed Depth

6253' KB

20. Rotary or Cable Tools

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLETION OF ATTACHED

22. General Remarks

April 1, 2001

This section is subject to

procedural review

PROPOSED CASING AND CEMENTING PROGRAM

END USE OF HOLE	SIZE & GRADE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	36# K-55	500'	255 sx-352 cu ft Type III Circ
8-3/4"	7"	20# K-55	3803'	415 sx-869 cu ft Type III Circ 200sx-274 cu ft Type III
6-1/4"	4-1/2"	10.5# K-55	3703'-6253'	80sx-116 cu ft 190sx-276 cu ft Class H + 50/50 poz+4%gel

Williams Production Co. proposes to drill a vertical well to develop the Blanco Mesa Verde Formation in the described location above, and in accordance with the attached Operation and Surface Use plans. The surface is under the jurisdiction of the Bureau of Land Management-Farmington Field Office. Independent Contract Archaeology has surveyed the proposed location for Cultural Resources, and the report has been submitted to BLM for review. Nelson Consulting has submitted an Environmental Assessment to BLM-FFO for review.

This proposed well would not require the construction of a new access road, but would be adjacent to an existing gas field road (see Pipeline & Well Plats #3 and #4). The proposed 1,320-foot long pipeline would tie into the Williams Gas Gathering System on the Rosa Unit #30. This proposed well gathering pipeline would follow the existing gas field road (see the attached Pipeline Plat Map #4).

14. If applicant does not have proposed well permit, If proposal to deepen, give present productive zone and proposed new productive zone.

Signed

Steve Nelson

Title Agent

COPIES: BLM-4, WELL FILE+1

Date December 11, 2000

(This space for Federal or State office use)

Form No.

Approval Date

Application approval does not warrant or certify that applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any

/s/ Jim Lovato

APPROVED BY

TITLE

Team Lead, Petroleum Management

DATE

FEB 14 2001

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

200 DEC 11 PM 3:37

☐ AMENDED REPORT

070 FARMINGTON, NM

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-039-26601		Pool Code 72319	Pool Name Blanco Mesaverde
Property Code 17033	Property Name ROSA UNIT		Well Number 30B
OGRID No. 120782	Operator Name WILLIAMS PRODUCTION COMPANY		Elevation 5486'

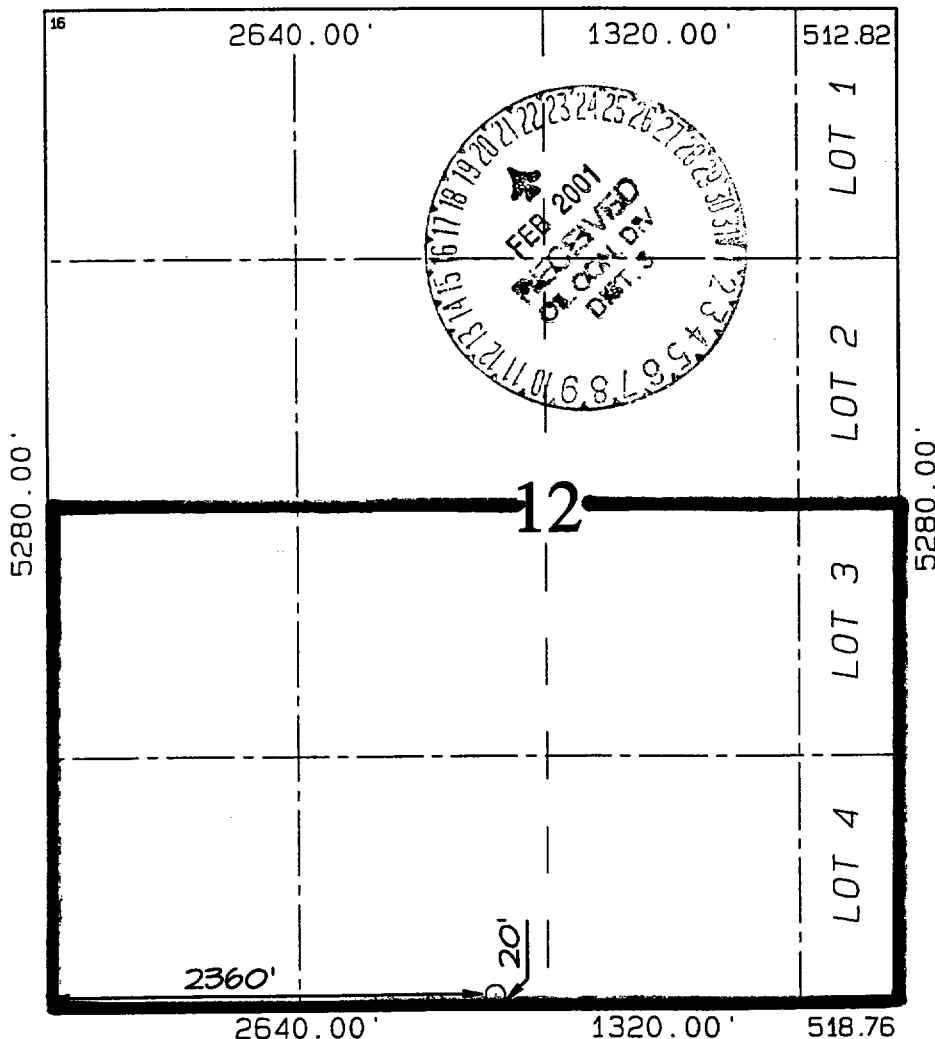
10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	12	31N	6W		20	SOUTH	2360	WEST	RIO ARriba

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 271.35 - S/2		Joint or Infill I		Consolidation Code U		Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



17 OPERATOR CERTIFICATION

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

Steve Nelson
Signature

Steve Nelson
Printed Name
Agent, Nelson Consulting
Title

December 11, 2000
Date

18 SURVEYOR CERTIFICATION

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 belief.

OCTOBER 23, 2000

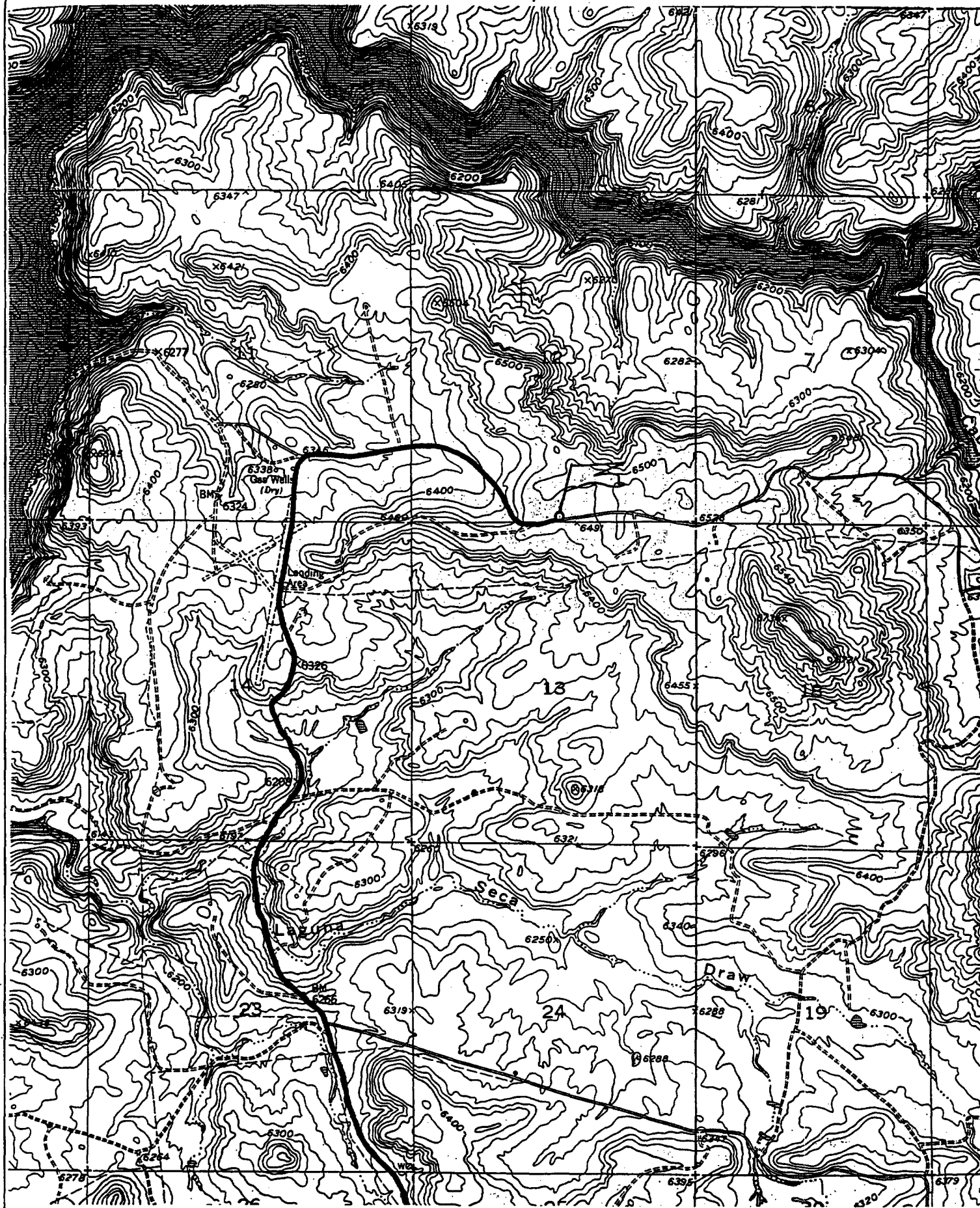
Date of Survey

Signature and Seal of

NEALE G. EDWARDS
NEW MEXICO
6857
Certificate Number 6857

WILLIAMS PRODUCTION COMPANY ROSA UNIT #30B

20' FSL & 2360' FWL, SECTION 12, T31N, R6W, N.M.P.M.
RIO ARRIBA COUNTY, NEW MEXICO



B. FLOAT EQUIPMENT:

1. **SURFACE CASING:** 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (3) joints of Surface Casing.
2. **INTERMEDIATE CASING:** 7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install one Turbulent centralizer on each of the bottom (3) joints and one standard centralizer every (4) joints to the surface casing. Total centralizers = (26) regular and (3) turbulent.
3. **PRODUCTION CASING:** 4-1/2" whirler type cement nose guide shoe with a latch collar on top of 20" bottom joint. Place marker joint above 5630'. Place one positive standoff turbolizer every other joint. Total turbolizers is 34.

C. CEMENTING:

1. **SURFACE:** Slurry: 255sx (352 cu.ft.) of "Type III" + 2% CaCl₂ + 1/4 # of cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5 #/gal.). The 125% excess should circulate cement to the surface. WOC 12 hours. Test csg to 1500psi.
2. **INTERMEDIATE:** Lead: 415sx (869 ft³) of "Type III" 65/35 poz + 8% gel + 1% CaCl₂ + 1/4 # cello-flake/sk (Yield = 2.09 ft³/sk, Weight = 12.1 #/gal.). Tail: 200sx (274 ft³) of class "Type III" + 1% CaCl₂ + 1/4 # cello-flake/sk. (Yield = 1.39 ft³/sk, Weight = 14.5#/gal.). The 100% excess in lead and tail should circulate cement to the surface. Total volume = 1143 ft³. WOC 12 hours. Run a temperature survey after 8 hours if cement is not circulated to the surface. Test csg. to 1500psi.
3. **PRODUCTION LINER:** Lead: 80sx (116 ft³) of Class-H + 50/50 poz + 4 % gel + 0.4% FL-52. (Yield = 1.45 cu.ft./sk, Weight = 13.2 #/gal.). Tail: 190sx (276 ft³) of Class-H + 50/50 poz + 4 % gel + 0.4% FL-5 + 1/4# celloflake/sk and 4% Phenoseal (Yield = 1.45 ft³/sk, Weight = 13.2 #/gal.). Displace cement at a minimum of 8 BPM. The 50% excess in lead and tail should cover liner top. Total volume 392 ft³. WOC 12 hours.

IV COMPLETION

A. CBL

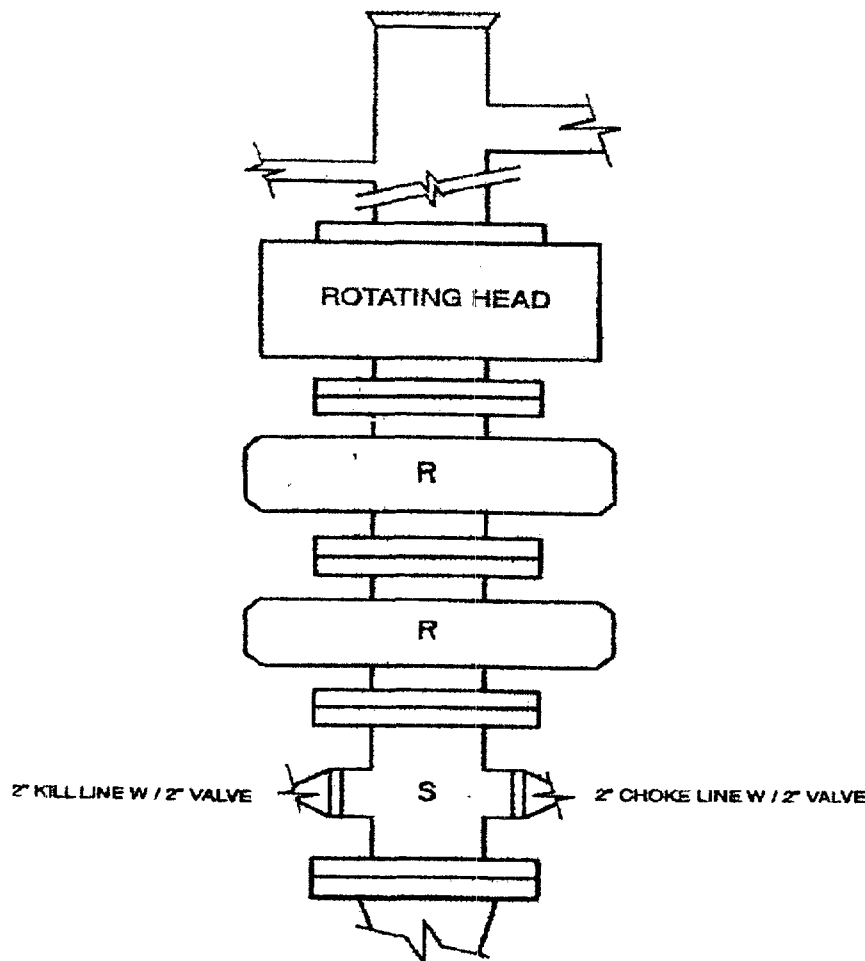
1. Run Cement Bond Log across all intervals to be perforated and find Top of Cement behind all casing strings.

B. PRESSURE TEST

1. Pressure test 7" & 4-1/2" casing to 3300# for 15 minutes.

C. STIMULATION

1. Stimulate with approximately 80,000# of 20/40 sand in slick water.
2. Isolate Point Lookout with a CIBP.
3. Perforate the Menefee/Cliff House as determined from the open hole logs.
4. Stimulate with approximately 80,000# of 20/40 sand in slick water.



2M – BOP ARRANGEMENT

2M SYSTEM:

- Annular preventer or double ram or two rams with one being blind and one being a pipe ram
- Kill line (2 inch minimum)
- 1 kill line valve (2 inch minimum)
- 1 choke line valve
- 2 chokes (refer to diagram)
- Upper kelly cock valve with handle available
- Safety valve and subs to fit all drill strings in use
- Pressure gauge on choke manifold
- 2 inch minimum choke line
- Fill-up line above uppermost preventer

Anticipated reservoir pressure is expected to be less than 1300 psi on all encountered zones.

All ram type preventers and related equipment will be hydraulically tested at nipple-up and after any use under pressure to 1500 psi. The pipe and blind rams will be activated and checked for operational readiness each trip. All checks of the BOP stack and equipment will be noted on the daily drilling report. The BOP equipment will include a kelly cock with handle, floor safety valve with changeovers for each tool joint in the string and choke manifold all rated to 2000 psi