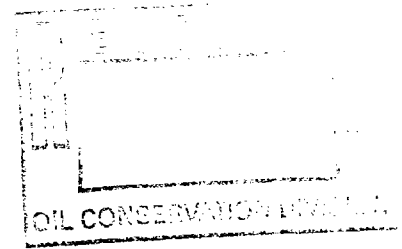


Midland Division  
Exploration Production

Conoco Inc.  
10 Desta Drive, Suite 100W  
Midland, TX 79705-4500  
(915) 686-5400

September 5, 1995



Mr. Michael Stogner  
Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87504

**Re: Application to Amend Drilling Plan for a  
High Angle/Horizontal Directional Drilling  
Pilot Project for the FC Fed Com No. 8 Well  
Sec. 18, T-32N, R-11W, NMPM, as Previously  
Approved by Order No. R-10071**

Dear Mr. Stogner:

By Division Order No. R-10071, issued February 28, 1994, Conoco Inc. was authorized to initiate a high angle/horizontal directional drilling pilot project in the Basin Fruitland Coal Gas Pool within an existing standard gas spacing unit in the W/2 of Section 18, Township 32 North, Range 11 West, San Juan County, New Mexico.

The approved drilling plan called for a replacement well, the No. 8R, to be drilled just 85 feet to the Southwest of the existing well, the FC Fed Com No. 8. Both of these wells are shown on the attached map, EXHIBIT A, which also shows the spacing unit, the 790 foot setbacks, and the offset operators.

The replacement well, No. 8R, was proposed for a surface location at 1870 FSL and 1445 FWL. It was to be drilled vertically to 2585 feet, kicked off at a 12°/100 foot build angle, and laterally extended at a 90 degree angle upon encountering the top of the middle seam of the Fruitland Coal Formation. The entire wellbore, including the productive lateral section, were to be totally contained within the required 790 foot setback from the outer boundary of the spacing unit.

The implementation of this project has been delayed pending evaluation of the results of another similar horizontal drilling project. In the interim, advances in slimhole horizontal drilling technology make it more practical to achieve the same horizontal objective through a horizontal sidetrack of the existing well. Drilling horizontally from a sidetracked wellbore, with a smaller diameter wellbore than originally proposed, is expected to yield the same production increase as anticipated for the originally planned new well at a considerable cost savings.

Therefore, it now being proposed that the approved drilling plan be revised to allow (a) the horizontal lateral to be initiated from a sidetrack of the existing well, the FC Fed Com 8, located only 85 feet from the proposed new well and (b) the hole size to be reduced to a 4-3/4" open hole completion. As shown in EXHIBIT A, the entire wellbore will still be within the same approved drilling window, will follow a similar horizontal extension, and will have the same bottom hole target as that approved in Order No. 10071.

The revised drilling plan for this proposed sidetrack/horizontal project is included as EXHIBITS B, C, and D. EXHIBIT B is the traditional well plan outline while EXHIBIT C is a Section View of the horizontal sidetrack. As shown by EXHIBIT C, it is proposed to kickoff at 2869 feet with a 4-3/4" hole, building angle at 30°/100 feet until beginning the lateral extension in the top of the middle seam of the Fruitland Coal at a 90 degree angle.

EXHIBIT D shows both a horizontal plan and a vertical section of the horizontal lateral. Comparing this new vertical section, with the higher rate of build, to the one in the original plan shows that this actually gives the potential of drilling a lateral that would be 350 feet longer within the same drilling window.

All offsetting operators, as identified on EXHIBIT A, have been notified by copy of this application and by certified mail of this proposed amendment. Copies of the certified mail receipts are attached as EXHIBIT E.

I am enclosing a copy of Order No. R-10071 for your convenience. If I can provide you with any additional information that will assist you in evaluating this requested amendment, please contact me at (915) 686-6548.

Very truly yours,

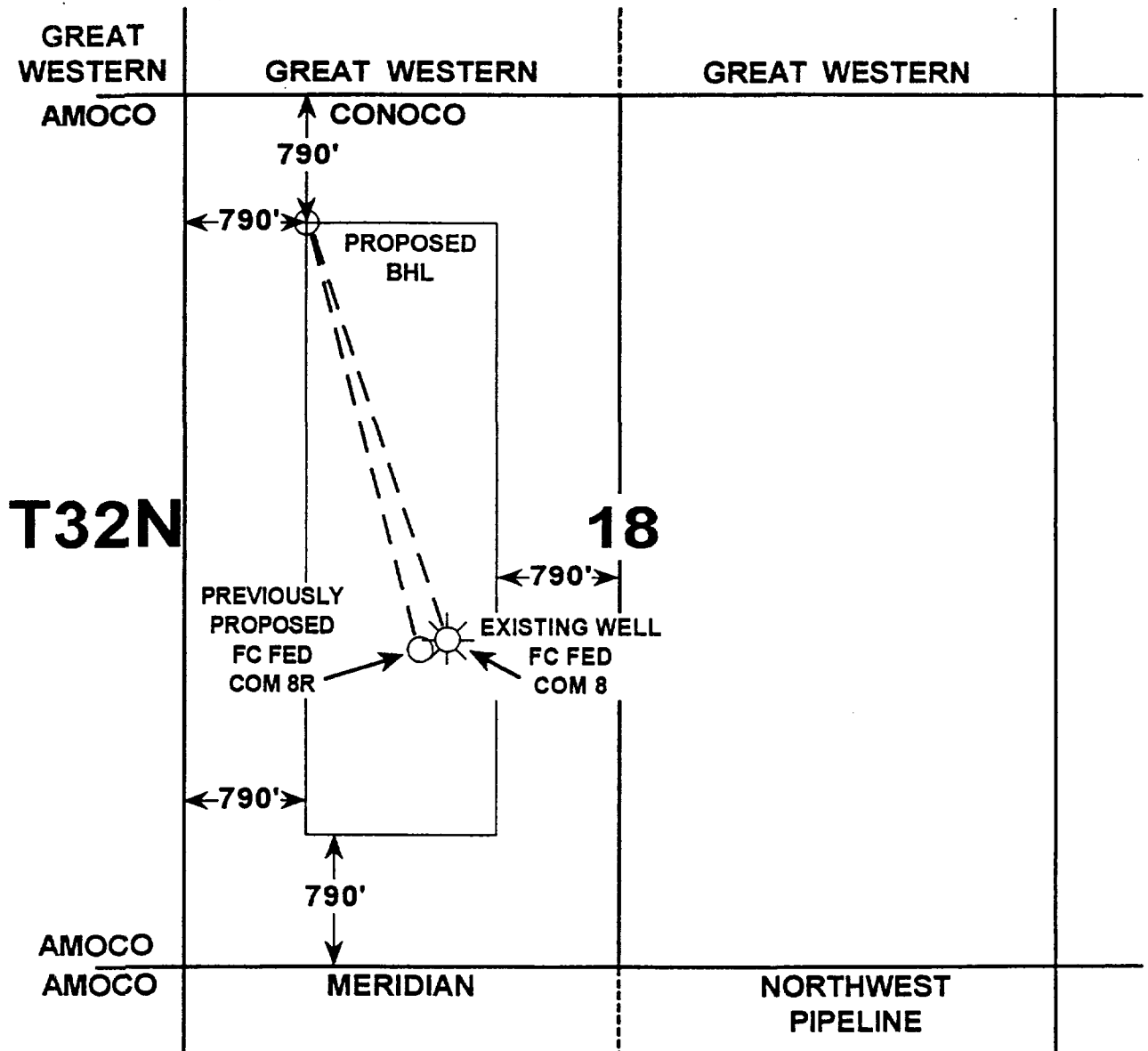
A handwritten signature in cursive script, reading "Jerry W. Hoover".

Jerry W. Hoover  
Sr. Conservation Coordinator

# CONOCO, INC.

## PROPOSED HORIZONTAL FRUITLAND COAL WELL (SIDETRACK & LATERAL)

### F.C. FEDERAL COM 8



**R11W**

SAN JUAN CO., N.M.

**EXHIBIT A**

# PROPOSED WELL PLAN OUTLINE

WELL NAME: **FC FED COM 8 SIDETRACK**  
 LOCATION: **1870' FSL & 1525' FWL, SEC 18, T32N, R11W, SAN JUAN CO., N.M.**

EST. KB = +6627'

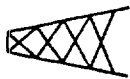
TVD IN 1000'	MD	FORMATION TOPS & TYPE	DRILLING PROBLEMS	TYPE OF FORMATION EVALUATION	HOLE SIZE	CASING SIZE DEPTH	FRAC GRAD	FORMATION PRESSURE GRADIENT	MUD WT TYPE	DAYS
0						8-5/8" 24# WC-50 CURRENTLY SET @ 23' WITH CMT TO SURFACE		NORMAL		
1		SAN JOSE SANDS @ 900' (+ 5727')						8.4 - 9.5#		
2		OIAM @ 1570' (+ 5057')								
3		FRLD @ 2630' (+ 3997') TOP FLD MIDDLE SEAM TARGET @ 3060' TVD	KOP @ 2869' BUILD RATE @ 30 DEGA/007 EOB @ 3169' MD/3060' TVD	MUDLOGGERS ON @ 2869'	4-3/4"	TD @ 5699' MD/3060' TVD OPEN - HOLE COMPLETION		BHP = 600 PSI	9 PPG - FW POLYMER TO DRILL BUILD SECTION TO 3169' MD	10
4			HOLD 90 DEG TO TD @ 5699' MD (3060' TVD) FROM 3169' MD			5-1/2" 17# I-70 CURRENTLY SET @ 3230' WITH CMT TO SURFACE			AIR DRILL LATERAL	
5										
6										
7										
8										

DATE: AUGUST 1995

PREPARED: BILLY GOODWIN

EXHIBIT B

1870' FSL & 1525' FWL



790' FNL (4490' FSL) & 790' FWL

FC FED COM 8  
HORIZONTAL SIDETRACK  
SECTION VIEW

8 5/8 @ 233'

KICK-OFF POINT  
@ 2869'

BUILD ANGLE @ 30 DEG/100 FT

4-3/4" LATERAL @ 90.0 DEGREES

END OF BUILD  
@ 3060' (3165' M.D.)

5 1/2 @ 3250'

TOP OF FRUITLAND  
FORMATION @ 2630'  
TOP OF MIDDLE SEAM  
@ 3060'

BOTTOM OF MIDDLE  
SEAM @ 3106'

TOP FC @ 2632'

TOP MS @ 3062'

BOTTOM MS @ 3108'

TOTAL DEPTH  
@ 3060' (5699' M.D.)

NOT TO SCALE

PL1118

# CONOCO, INC.

Structure : FC FED COM NO.8

Field :

Location : SAN JUAN COUNTY, UTAH

----- WELL PROFILE DATA -----							
Point	MD	Inc	Dlt	TVD	North	East	Dep/100
Top of well	0	0.00	344.33	0	0	0	0.00
KOP	2869	0.00	344.33	2869	0	0	0.00
End of Build	3169	90.00	344.33	3060	184	-82	30.00
Target	5699	90.00	344.33	3060	2820	-735	0.00

<--- West Scale 1 : 75.00



BOTTOM HOLE LOCATION  
790'FNL & 790' FWL



Horizontal Plan

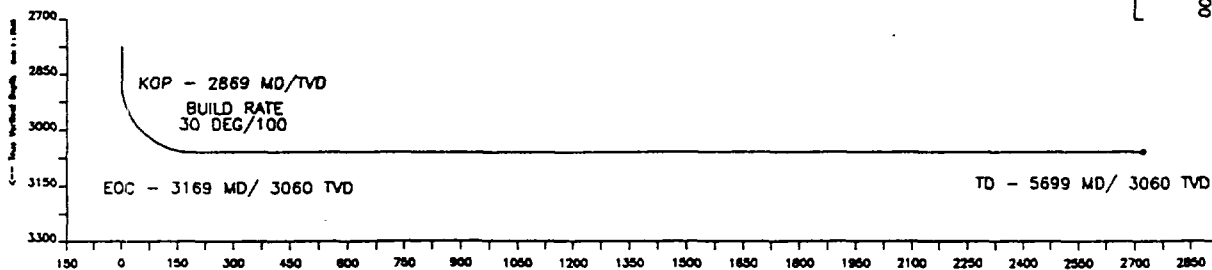
CLOSURE - 2721' @ 344.33 DEG AZIMUTH

<--- North

Scale 1 : 75.00

SURFACE LOCATION  
1870'FSL & 1525'FWL  
SEC 18-32N-11W  
SAN JUAN COUNTY, NEW MEXICO

Vertical Plan



Scale 1 : 75.00

Vertical Section on 344.33 azimuth with reference 0.00 N, 0.00 E from structure

EXHIBIT D

Z 740 462 347



**Receipt for  
Certified Mail**  
No Insurance Coverage Provided

Meridian Oil Inc.  
P.O. Box 4289  
Farmington, NM 87499

PS Form 3800, March 1993

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

Z 740 462 348



**Receipt for  
Certified Mail**  
No Insurance Coverage Provided

McKenzie Methane Co.  
& Quintana Petroleum  
P.O. Box 3331  
Houston, TX 77253

PS Form 3800, March 1993

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

Z 740 462 349



**Receipt for  
Certified Mail**  
No Insurance Coverage Provided

Northwest Pipeline  
& Williams Production  
P.O. Box 58900  
Salt Lake City, UT 8415

PS Form 3800, March 1993

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

Z 740 462 350



**Receipt for  
Certified Mail**  
No Insurance Coverage Provided

Southland Royalty Co.  
& Meridian Oil INC.  
P.O. Box 4289  
Farmington, NM 87499

PS Form 3800, March 1993

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

Z 740 462 351



**Receipt for  
Certified Mail**  
No Insurance Coverage Provided

Amoco Production Co.  
P.O. Box 800  
Denver, CO 80201

PS Form 3800, March 1993

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

Z 740 462 352



**Receipt for  
Certified Mail**  
No Insurance Coverage Provided

Emerald Gas Operating Co.  
501 West 1-44 Service Rd.  
#310  
Oklahoma City, OK 73118

PS Form 3800, March 1993

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

PS Form 3800, March 1993

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

Great Western Drilling  
P.O. Box 1659  
Midland, TX 79701



**Receipt for  
Certified Mail**  
No Insurance Coverage Pro

Z 740 462 353

EXHIBIT E

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 10917  
ORDER NO. R-10071

APPLICATION OF CONOCO, INC. FOR A HIGH ANGLE/HORIZONTAL  
DIRECTIONAL DRILLING PILOT PROJECT, SPECIAL OPERATING RULES  
THEREFOR AND AN UNORTHODOX PRODUCING INTERVAL, SAN JUAN  
COUNTY, NEW MEXICO

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on February 17, 1994, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 28th day of February, 1994 the Division Director, having considered the testimony, the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) At the time of the hearing this case was consolidated with Division Case Nos. 10915 and 10916 for purposes of testimony.

(3) The applicant, Conoco, Inc., seeks to initiate a high angle/horizontal directional drilling pilot project within an existing 312.40-acre standard gas spacing and proration unit in the Basin-Fruitland Coal Gas Pool comprising Lots 1 through 4 and the E/2 W/2 (W/2 equivalent) of Section 18, Township 32 North, Range 11 West, NMPM, San Juan County, New Mexico.

(4) The proposed pilot project is within the boundaries of the Basin-Fruitland Coal Gas Pool and as such is subject to the Special Rules and Regulations for said pool as promulgated by Division Order No. R-8768, as amended, which provides for 320-acre, more or less, standard gas spacing and proration units, requires that wells be located in



either the NE/4 or SW/4 of a governmental section and no closer than 790 feet from the outer boundary of the spacing unit nor closer than 130 feet from any quarter-quarter section line or subdivision inner boundary, and includes a provision for administrative approval of high angle/horizontal wellbores provided that the producing interval of said wellbore be confined to an area that conforms to the above-described setback requirements other than the 10-foot setback distance from the quarter-quarter section line or subdivision inner boundary rule.

(5) The applicant seeks approval of this application in order to determine if this type of wellbore and completion in the Basin-Fruitland Coal Gas Pool will result in the recovery of substantially greater amounts of hydrocarbons in an area of the pool that exhibits under-pressured and low permeability characteristics but has substantial thickness than would normally be recovered by a conventional well thereby improving ultimate recovery and preventing waste.

(6) The W/2 equivalent of said Section 18 is currently dedicated to the applicant's F. C. Federal Com Well No. 8 (API No. 30-045-27831) located at a standard coal gas well location 1870 feet from the South line and 1525 feet from the West line (Unit K) of said Section 18.

(7) The applicant proposes to replace its F. C. Federal Com Well No. 8 with a well to be drilled vertically from a standard surface coal gas well location 1840 feet from the South line and 1445 feet from the West line (Unit K) of said Section 18 to an approximate depth of 2585 feet and then kick-off in a northerly direction, build angle and continue drilling horizontally in the coal seam. Further, the applicant proposes to keep the horizontal displacement of said well's producing interval no closer than 790 feet from the outer boundary of the subject proration unit.

(8) The applicant proposes to utilize the above-described existing F. C. Federal Com Well No. 8 as an observation well in the Basin-Fruitland Coal Gas Pool should this matter be authorized.

(9) No offset operator and/or interest owner appeared at the hearing in opposition to the proposed horizontal directional drilling pilot project.

(10) The application as proposed exhibits sound engineering practices, promotes the conservation of gas underlying the unit, and serves to prevent waste and protect correlative rights. This application should therefore be approved provided however that:

- (a) no part of the horizontal wellbore should be located closer than 790 feet from the outer boundary of the project area;

- (b) the applicant be required to conduct a directional survey on the vertical portion of the wellbore prior to commencing directional drilling operations, and on the horizontal portion of the wellbore during or subsequent to completion of directional drilling operations in order that direction, extent and terminus of said wellbore may be determined to be in compliance with the terms of this order;
- (c) the applicant further be required to submit copies of said directional surveys to the Santa Fe and Aztec offices of the Division;
- (d) the applicant notify the supervisor of the Aztec District Office of the Division of the date and time of commencement of directional drilling operations and of the conductance of any directional surveys on the proposed well in order that these operations may be witnessed; and,
- (e) subsequent to the drilling and completing of the horizontal replacement well and if such well is determined to be a commercial producer, the applicant must not utilize the existing F. C. Federal Com Well No. 8 as a producing well in the Basin-Fruitland Coal Gas Pool.

**IT IS THEREFORE ORDERED THAT:**

(1) The application of Conoco, Inc. for a high angle/horizontal directional drilling pilot project within an existing standard 312.40-acre gas spacing and proration unit in the Basin-Fruitland Coal Gas Pool comprising Lots 1 through 4 and the E/2 W/2 (W/2 equivalent) of Section 18, Township 32 North, Range 11 West, NMPM, San Juan County, New Mexico, is hereby approved.

(2) The applicant is further authorized to drill vertically from a well to be located at a standard surface coal gas well location 1840 feet from the South line and 1445 feet from the West line (Unit K) of said Section 18 to an approximate depth of 2585 feet and then kick-off in a northerly direction, build angle and continue drilling horizontally in the coal seam.

**PROVIDED HOWEVER**, no portion of the horizontal displacement of said well's producing interval be closer than 790 feet from the outer boundary of the subject proration unit.

(3) The applicant shall conduct a directional survey on the vertical portion of the wellbore prior to commencing directional drilling operations, and on the horizontal portion of the wellbore during or subsequent to completion of directional drilling operations in order that direction, extent and terminus of said wellbore may be determined to be in compliance with the terms of this order.

(4) The applicant shall submit copies of said directional surveys to the Santa Fe and Aztec offices of the Division.

(5) The applicant shall notify the supervisor of the Aztec District Office of the Division of the date and time of commencement of directional drilling operations and of the conductance of any directional surveys on the proposed well in order that these operations may be witnessed.

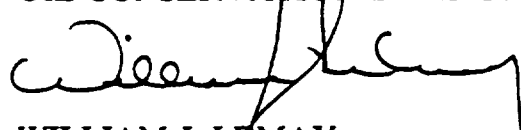
IT IS FURTHER ORDERED THAT:

(6) Subsequent to the drilling and successful completion of the horizontal well as a commercial producing gas well in the Basin-Fruitland Coal Gas Pool, the operator of the subject spacing unit will cease production from the F. C. Federal Com Well No. 8 (API No. 30-045-27831) located 1870 feet from the South line and 1525 feet from the West line (Unit K) of said Section 18 and utilize said Well No. 8 as an observation well only.

(7) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY  
Director

S E A L