NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

December 8, 1997

Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705-4500
Attention: Jerry Hoover

Administrative Order TX-277

Dear Mr. Hoover:

Reference is made to your request for an exception to the tubing setting requirements as contained in Division Rule 107 (j) for the below-named wells.

Pursuant to the authority granted me by Rule 107 (d) (4), you are hereby authorized to make tubingless completions in the following wells:

Well Name, Number and Location:

FC Decker Primo Com No. 2, API No. 30-045-27480, Section 19, Township 32 North, Range 10 West, NMPM, San Juan County, New Mexico.

Hamilton Federal No. 3R, API No. 30-045-28636, Section 30, Township 32 North, Range 10 West, NMPM, San Juan County, New Mexico.

FC Waller Com No. 1, API No. 30-045-28501, Section 14, Township 32 North, Range 11 West, NMPM, San Juan County, New Mexico.

FC Federal No. 3, API No. 30-045-27545, Section 13, Township 32 North, Range 11 West, NMPM, San Juan County, New Mexico.

FC Federal No. 1, API No. 30-045-27544, Section 30, Township 32 North, Range 10 West, NMPM, San Juan County, New Mexico.

FC Federal No. 2, API No. 30-045-27630, Section 12, Township 32 North, Range 11 West, NMPM, San Juan County, New Mexico.

The Division reserves the right to rescind this authority in the event that waste appears to be resulting therefrom.

Sincerely,

William J. LeMay
Director

WJL/RJ/kv

cc: Oil Conservation Division - Aztec

pVEV 2005731081

conoco

12-5-97/OK w/ Aztec.

December 2, 1997

Mr. Roy Johnson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Applications for Tubingless Exception to Rule 107
for 6 Basin Fruitland Coal Wells in San Juan County

Dear Mr. Johnson:

The attached applications for tubingless exceptions to Rule 107 are for 6 high rate flowing Fruitland Coal wells in San Juan County. In an effort to maximize current producing rates as well as ultimate recoveries from these wells Conoco is proposing that they be operated as discussed in the attached applications as long as they continue to produce in a flowing regime keeping the wellbores unloaded of all produced fluids.

A meeting was scheduled with Mr. Ernie Busch on November 19, 1997 to discuss these proposed exceptions. We presented each of these wells, their history, our proposed operational plan, and the data attached to these applications to him at that time. We also answered all questions that he had concerning potential corrosion or waste. At the conclusion of our meeting, Mr. Busch seemed satisfied with our justification for these exceptions and said that he would support your approval of them.

Very truly yours,

Jerry W. Hoover
Sr. Conservation Coordinator

cc: Mr. Ernie Busch, Aztec District OCD Office

December 2, 1997

Mr. Roy Johnson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Application for Tubingless Exception to Rule 107
for the FC Decker Primo Com No. 2 Basin Fruitland Coal Well
API #30-045-27480, 2050' FNL & 1330' FEL, Sec. 19
Township 32N, Range 10W, San Juan County

Dear Mr. Johnson:

In order to maintain efficient producing rates and maximize recovery from this well an exception to Rule 107, requiring this well to be produced with tubing, is requested. Producing with tubing causes an additional 50-55 psi of bottom hole flowing pressure across a reservoir that has already declined to less than 220 psi. Removing tubing and installing compressors should maintain rates high enough to keep the water production unloaded for several more years before tubing and pumps will ultimately need to be installed.

To maximize ultimate recovery, it is critical to maximize the current producing rate by the most economic method while production can still benefit from tax credits. Producing without tubing will not only significantly reduce the BHFP and maintain higher producing rates, but will require less well work to keep the wellbore cleaned out and reduce operating costs to the benefit of all interest owners.

The attached well history and wellbore schematic shows that a 5-1/2" liner has been installed across this originally open hole completion. Before running the liner, the well was re-cavitated and cleaned out. Producing without tubing in this recently remediated wellbore will result in a more efficient use of remaining reservoir pressure and will not in any way cause waste.

The fluids being produced by this well are not corrosive to the liner and casing and no signs of corrosion have been observed on any pipe recovered from the well or surface equipment. There are several technical reasons involving the Fruitland Coal reservoir and the producing mechanisms that seem to explain why corrosion does not occur in these wells.

By the very nature of the coal any gas (including any CO_2) in the reservoir is absorbed into the coal and is not in a free state that can, through contact with formation water, form corrosive acids in the reservoir. Since production occurs through a fracture dominated system, gas in the mattrix remains absorbed at a higher pressure in the coal mattrix until desorption occurs very

close to the wellbore into the fractures and is produced quickly through the much lower pressured fractures into the wellbore. A production plot is also attached showing the production history of the well.

This well is flowing at a high enough rate to keep the wellbore unloaded from any produced water. Therefore, in a high rate flow regime any contact of CO_2 with water is brief and insignificant in the formation of any potentially corrosive acid. The casing in this well is additionally protected from corrosion by cathodic protection.

All of the information and history of this well as discussed in this application was presented in a personal meeting with Mr. Ernie Busch of the Aztec Distric Office on November 19, 1997. Mr. Busch verbally agreed that based on this information and the attachments to this application that an exception to Rule 107 should be granted for this well.

If there are any further questions concerning this application, please contact either Mr. Busch or me at (915) 686-6548.

Very truly yours,

Jerry W. Hoover
Sr. Conservation Coordinator

cc: Mr. Ernie Busch, Aztec District OCD Office

FC DECKER PRIMO COM 2 (GMH 6/9/97)

FC DECKER PRIMO COM 2 (GMH 6/9/97)			
API Code	300452748000	Field Code	676394530
TD	2848.0 ftKB	Basin	SAN JUAN BASIN
PBTD	2848.0 ftKB	Basin Code	580
State	New Mexico	Permit	29-Sep-89
County	SAN JUAN	Spud	25-Aug-90
District	San Juan O.U.	Finish Drl	27-Aug-90
Permit No.	Coal	Completion	11-Apr-91
TD Measured	2848 ftKB	Abandon	
Reservoir	Fruitland Coal		
Field	CEDAR HILL FRT COAL		

Location			
Meridian	NM	Top Latitude	36.97221
Twnship	32N	Top Longitude	107.9187
Range	10W	Top NS Distance	2025.0 ft N
Section	19	Top EW Distance	1330.0 ft E
Quarter	SE SW NE	Bottom Latitude	0
		Bottom Longitude	0
		Btm NS Distance	0.0 ft
		Btm EW Distance	0.0 ft

Elevations			
KB	6086.0 ft	Cas Flng	0.0 ft
Grd	6074.0 ft	Tub Head	0.0 ft
KB-Grd	12.0 ft		

Bore Hole Data

Depth (ftKB)	Size (in)
244.0	12.2500
2470.0	8.7500
2848.0	6.2500

Casing String - Surface Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
9.6300 in Casing	235.0	5	8.9200	36.00	J-55	ST&C	

Casing String - Intermediate Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
7.0000 in Casing	2470.0	62	6.3700	23.00	N-80	LT&C	

Casing Cement

Casing String	Top (ftKB)	Amount (sx)	Comments
Surface Casing	0.0	150	Cement circ
Intermediate Casing	0.0	475	TOC unknown. Cement circ

Stimulations & Treatments

Date	Type	Zone	Int	Fluid	Comments
11-Mar-91	Open Hole Cavitation	Fruitland Coal	2470.0 - 2848.0	Mist	

Completions & Workovers

Date	Reason for Workover	Summary
14-Aug-96	Remove Tubing	Remove Tubing - POOH & LD 4 1/2" tbg. Did not re-run any tbg.

Formation/Horizon Tops

Top (ftKB)	Formation
1560.0	Farmington
2110.0	Kirtland
2440.0	Fruitland
2858.0	Pictured Cliffs

Logs Run

Date	Type	Int	Company	Comments
11-Apr-91	None	0.0 - 2848.0		No log file in Midland

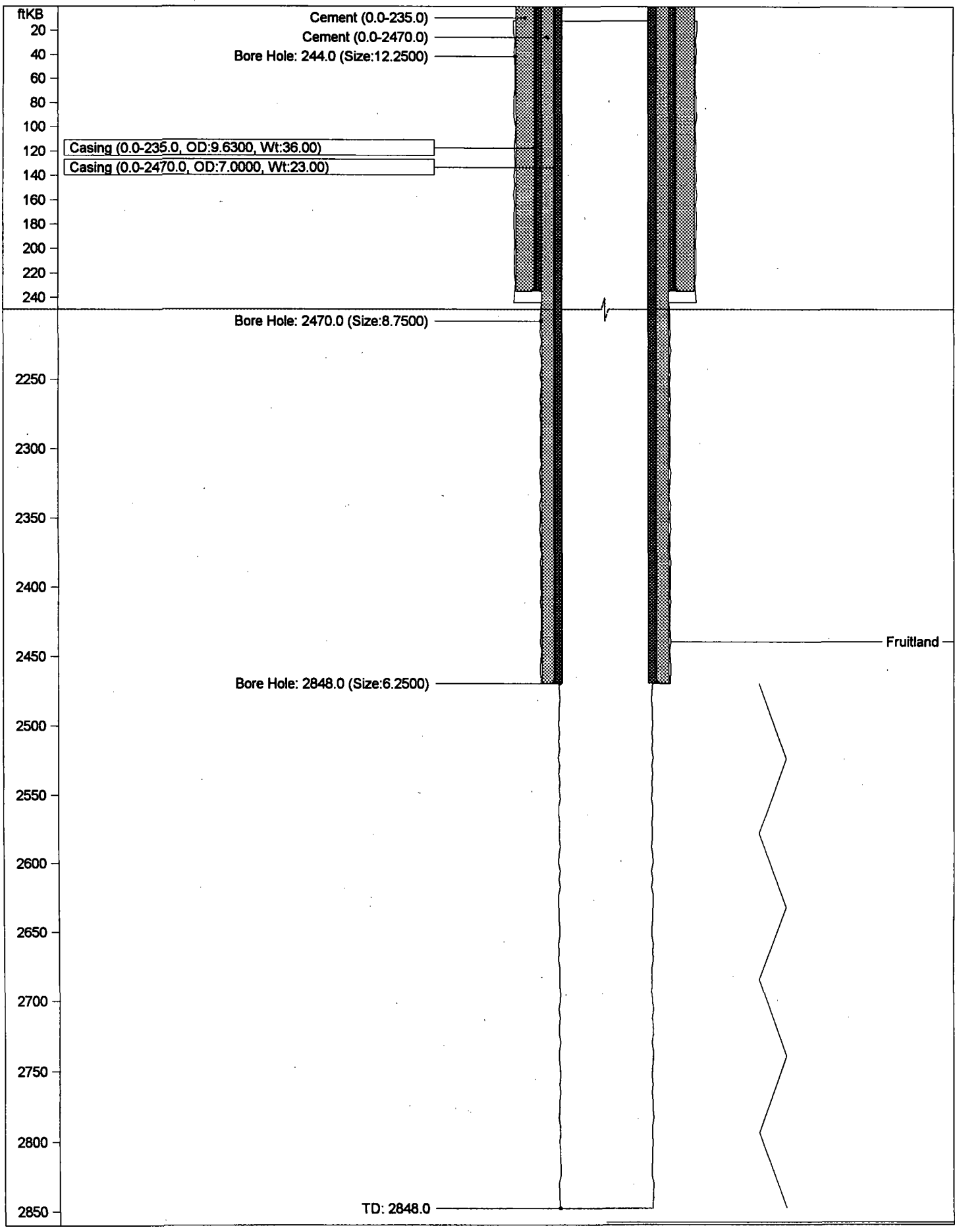
Drilling Notes

Date	Note
11-Mar-91	Drill 6 1/4" hole w/ mist

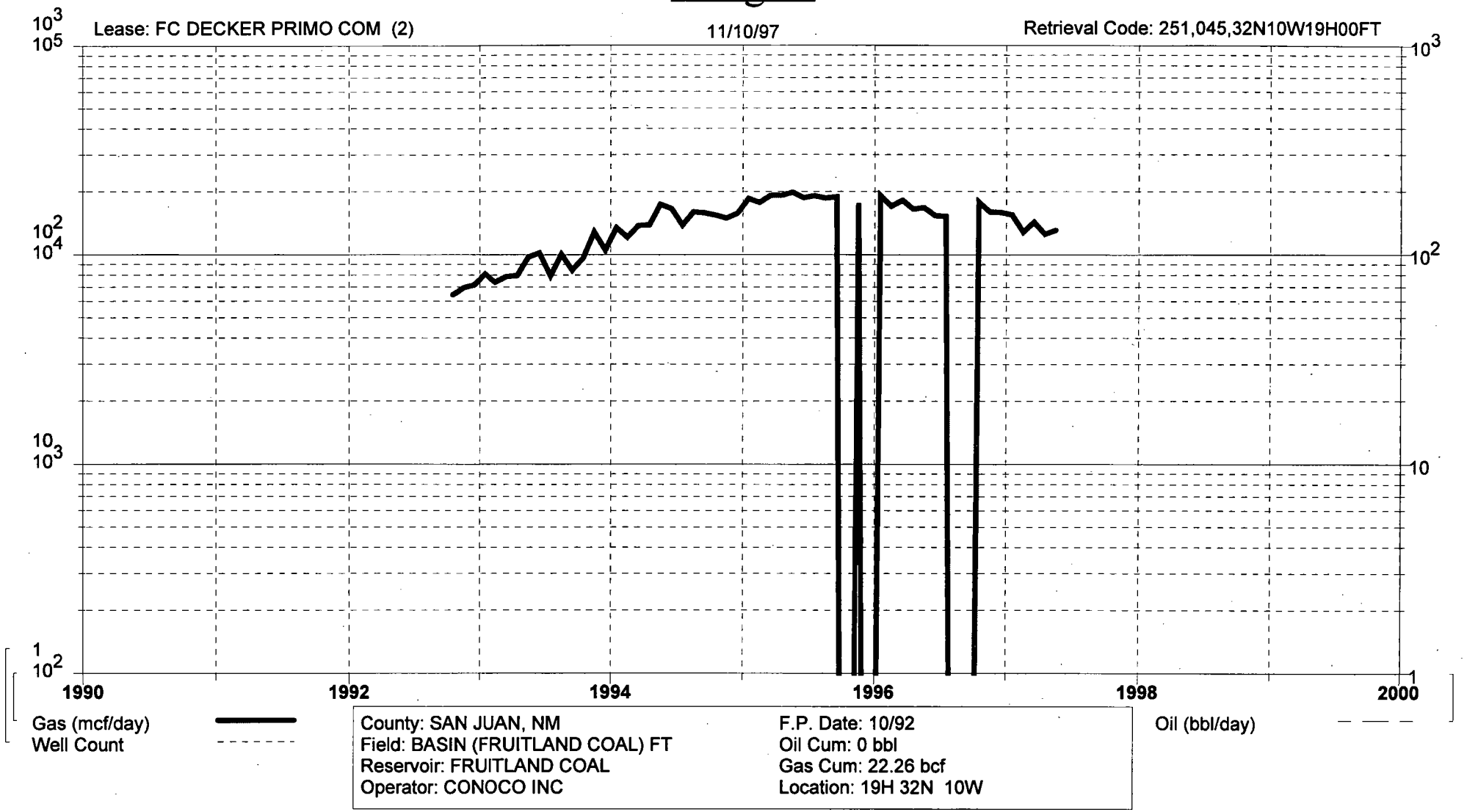
General Notes

Date	Note
	Initial Potential: F 1764 MCFGPD on 2 in ck; 2440 BWPD; FTP 515

FC DECKER PRIMO COM 2 (GMH 6/9/97)



Dwights


Lease: FC DECKER PRIMO COM (2)
11/10/97
Retrieval Code: 251,045,32N10W19H00FT
10^3
10^5
10^2
10^4
10^3
10^3
1
10^2
10^3
10^2
10
1
1990
1992
1994
1996
1998
2000
Gas (mcf/day)
Well Count
Oil (bbl/day)
County: SAN JUAN, NM
Field: BASIN (FRUITLAND COAL) FT
Reservoir: FRUITLAND COAL
Operator: CONOCO INC
F.P. Date: 10/92
Oil Cum: 0 bbl
Gas Cum: 22.26 bcf
Location: 19H 32N 10W

December 2, 1997

Mr. Roy Johnson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Application for Tubingless Exception to Rule 107
for the Hamilton Fed. No. 3R Basin Fruitland Coal Well
API #30-045-28636, 1175' FSL & 1020' FWL, Sec. 30
Township 32N, Range 10W, San Juan County

Dear Mr. Johnson:

In order to maintain efficient producing rates and maximize recovery from this well an exception to Rule 107, requiring this well to be produced with tubing, is requested. Producing with tubing causes an additional 50-55 psi of bottom hole flowing pressure across a reservoir that has already declined to less than 220 psi. Removing tubing and installing compressors should maintain rates high enough to keep the water production unloaded for several more years before tubing and pumps will ultimately need to be installed.

To maximize ultimate recovery, it is critical to maximize the current producing rate by the most economic method while production can still benefit from tax credits. Producing without tubing will not only significantly reduce the BHFP and maintain higher producing rates, but will require less well work to keep the wellbore cleaned out and reduce operating costs to the benefit of all interest owners.

The attached well history and wellbore schematic shows that a 5-1/2" liner has been installed across this originally open hole completion. Before running the liner, the well was re-cavitated and cleaned out. Producing without tubing in this recently remediated wellbore will result in a more efficient use of remaining reservoir pressure and will not in any way cause waste.

The fluids being produced by this well are not corrosive to the liner and casing and no signs of corrosion have been observed on any pipe recovered from the well or surface equipment. There are several technical reasons involving the Fruitland Coal reservoir and the producing mechanisms that seem to explain why corrosion does not occur in these wells.

By the very nature of the coal any gas (including any CO_2) in the reservoir is absorbed into the coal and is not in a free state that can, through contact with formation water, form corrosive acids in the reservoir. Since production occurs through a fracture dominated system, gas in the mattrix remains absorbed at a higher pressure in the coal mattrix until desorption occurs very

close to the wellbore into the fractures and is produced quickly through the much lower pressured fractures into the wellbore. A production plot is also attached showing the production history of the well.

This well is flowing at a high enough rate to keep the wellbore unloaded from any produced water. Therefore, in a high rate flow regime any contact of CO_2 with water is brief and insignificant in the formation of any potentially corrosive acid. The casing in this well is additionally protected from corrosion by cathodic protection.

All of the information and history of this well as discussed in this application was presented in a personal meeting with Mr. Ernie Busch of the Aztec Distric Office on November 19, 1997. Mr. Busch verbally agreed that based on this information and the attachments to this application that an exception to Rule 107 should be granted for this well.

If there are any further questions concerning this application, please contact either Mr. Busch or me at (915) 686-6548.

Very truly yours,

Jerry W. Hoover
Sr. Conservation Coordinator

cc: Mr. Ernie Busch, Aztec District OCD Office

HAMILTON FED 3R (GOP 9/11/97)

HAMILTON FED 3R (GOP 9/11/97)			
API Code	300452863600	Field Code	676383454
TD	2920.0 ftKB	Basin	SAN JUAN BASIN
PBTD	2920.0 ftKB	Basin Code	580
State	New Mexico	Permit	30-Sep-91
County	SAN JUAN	Spud	30-Nov-91
District	San Juan O.U.	Finish Drl	03-Dec-91
Permit No.	Coal	Completion	21-Dec-91
TD Measured	2920 ftKB	Abandon	
Reservoir	Fruitland Coal		
Field	CEDAR HILL FRT		

Location			
Meridian	NM	Top Latitude	36.95215
Twnship	32N	Top Longitude	107.9288
Range	10W	Top NS Distance	1175.0 ft S
Section	30	Top EW Distance	1020.0 ft W
Quarter	NE SW SW	Bottom Latitude	0
		Bottom Longitude	0
		Btm NS Distance	0.0 ft
		Btm EW Distance	0.0 ft

Elevations			
KB	6117.0 ft	Cas Flng	0.0 ft
Grd	6103.0 ft	Tub Head	0.0 ft
KB-Grd	14.0 ft		

Bore Hole Data

Depth (ftKB)	Size (in)
200.0	12.2500
2508.0	8.7500
2920.0	6.2500
2920.0	11.0000

Casing String - Surface Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
9.6300 in Casing	192.0	4	8.9200	36.00	K-55	8rd ST&C	

Casing String - Intermediate Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
7.0000 in Casing	2508.0	60	6.4600	20.00	K-55	ST&C	

Casing String - Production Liner

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
5.5000 in Liner	2919.0	11	4.9500	15.50	J-55	FL-4S	Flush Jt. Atlas Bradford Casing

Casing Cement

Casing String	Top (ftKB)	Amount (sx)	Comments
Surface Casing	0.0	180	130 sx primary, 50 sx dn backside, cement @ surface.
Intermediate Casing	0.0	425	TOC unknown. Cement circ

Fish - WL Pump Thru Plug

Date	Item	Int (ftKB)	OD (in)	Comment
17-Apr-97	WL Pump Thru Plug	2919.0 - 2920.0	2.4000	Lost prior to RU Cavitation Rig

Perforations

Date	Int	Shots (/ft)	Comments
16-Sep-97	2760.0 - 2776.0	4.0	64-.41" EHD
16-Sep-97	2870.0 - 2890.0	4.0	80- .41" EHD
16-Sep-97	2640.0 - 2684.0	4.0	176-.41" EHD

Stimulations & Treatments

Date	Type	Zone	Int	Fluid	Comments
10-Dec-91	Open Hole Cavitation	Fruitland Coal	2508.0 - 2920.0	Mist	
17-Apr-97	Open Hole Cavitation	Fruitland Coal	2508.0 - 2920.0	Mist	Tag fill @ 2663' & CO to 2920'. Under-ream open hole to 11" from 2514-2920. Under-reamer clogged w/ scale. Perform Cavitation.

HAMILTON FED 3R (GOP 9/11/97)

Completions & Workovers

Date	Reason for Workover	Summary
17-Apr-97	Re-Cavitation	Re-Cavitation - POOH & LD 2 7/8" tbg. Lost WL pump thru plug prior to RU Cavitation rig. RIH w/ 6 1/4" bit & tag @ 2663', CO to 2909', pushing plug down hole. CO to 2920'. RIH w/ 11" under-reamer and UR to 2920', UR clogged w/ scale.
11-Sep-97	CO & Run Liner	CO & Run Liner - Tag PBTD @ 2902', 18' fill. CO to 2920' w/ 6 1/4" bit. RIH w/ bit, bit sub & x-over on 9 jts 5 1/2" FJ csg to 2920 and set top of liner @ 2434'. Perf liner from 2640-2890 (OA) w/ 320 holes.

Formation/Horizon Tops

Top (ftKB)	Formation
850.0	San Jose
1450.0	Ojo Alamo
1650.0	Farmington
2500.0	Fruitland
2950.0	Pictured Cliffs

Logs Run

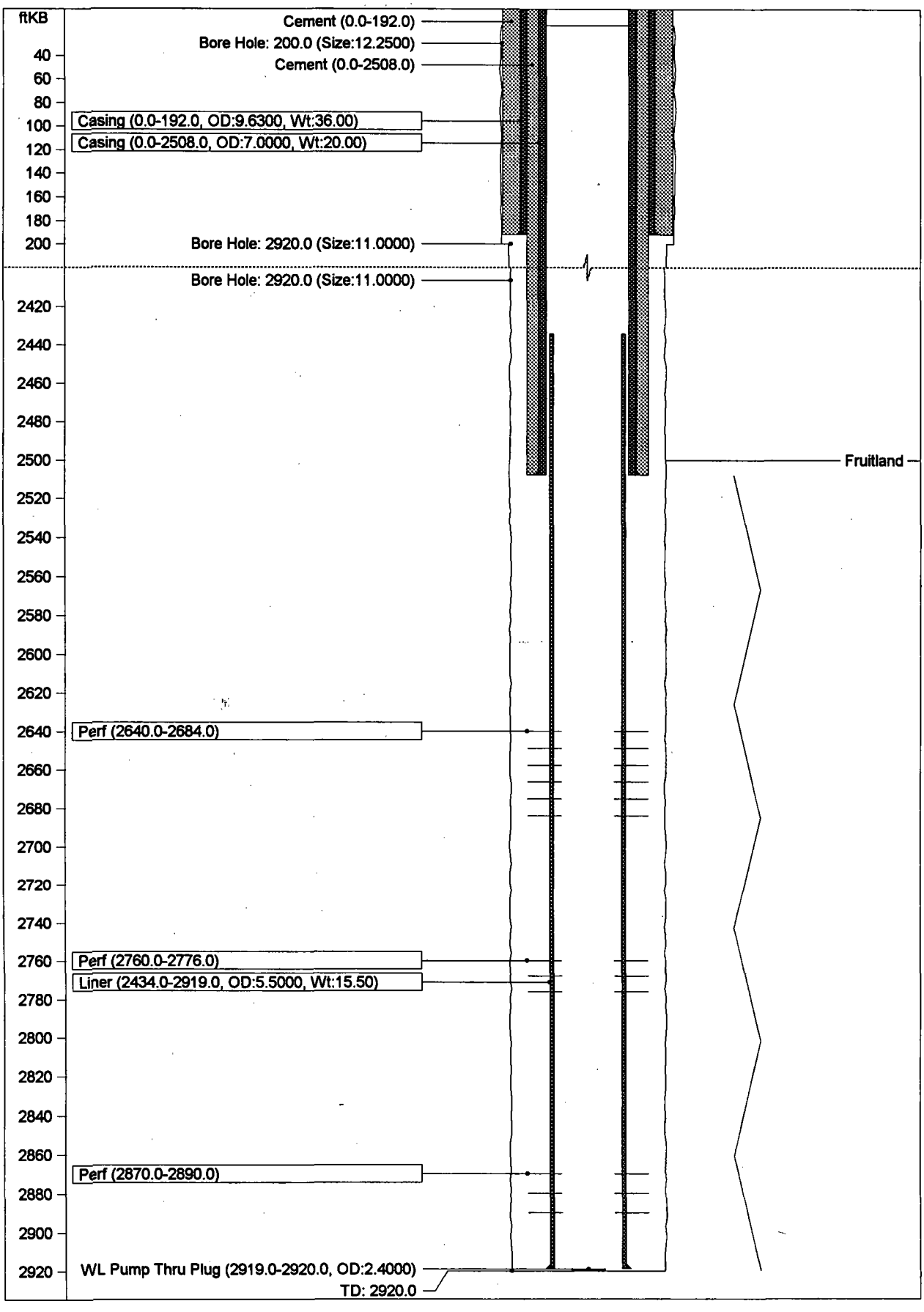
Date	Type	Int	Company	Comments
20-Sep-96	GR-TEMP-SPIN	2300.0 - 2887.0	Halliburton	

General Notes

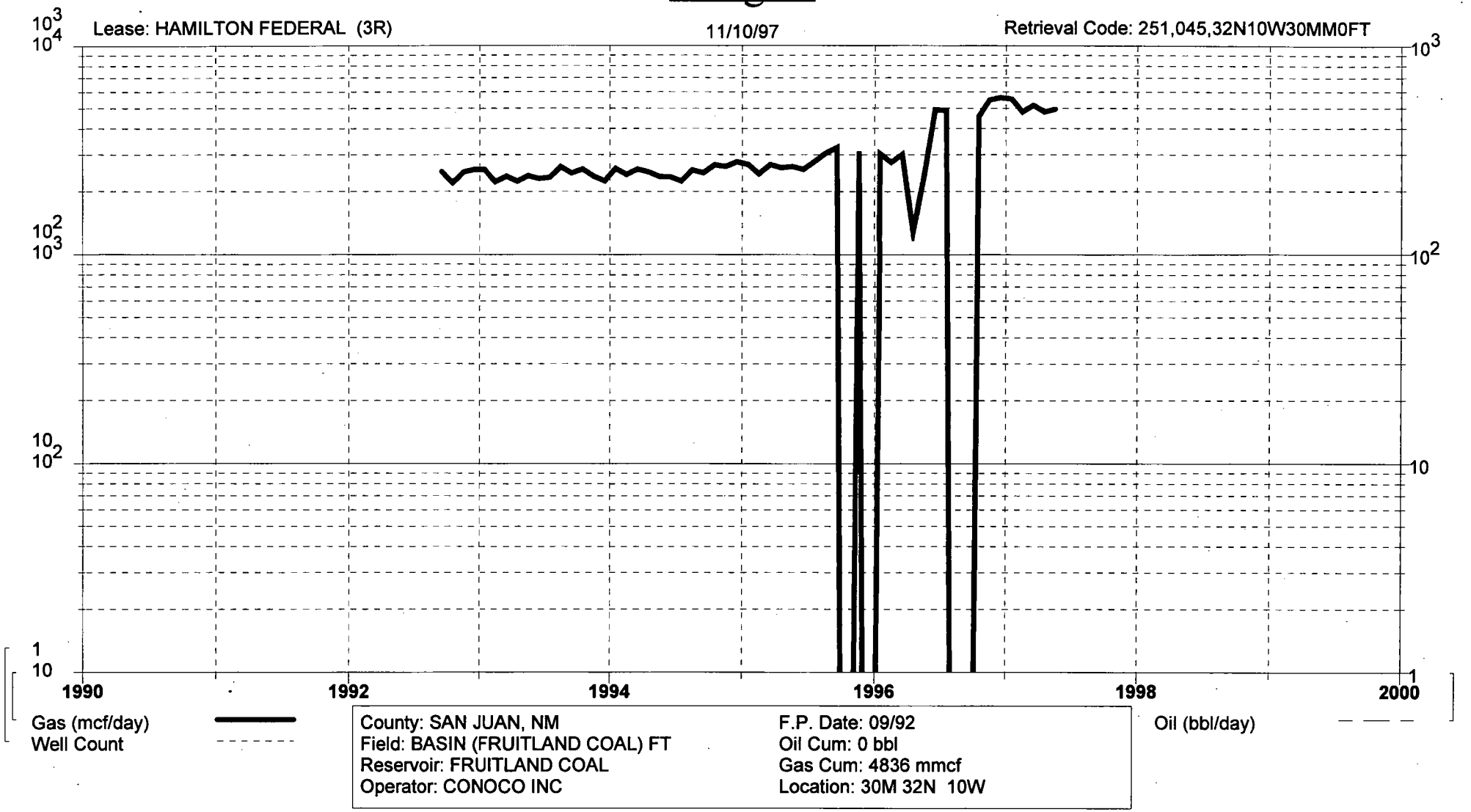
Date	Note
21-Dec-91	Initial Potential: F 5190 MCFGPD on 3/4 ck; SICP 343

HAMILTON FED 3R (GOP 9/11/97)

10/29/97



Dwights


Lease: HAMILTON FEDERAL (3R)
11/10/97
Retrieval Code: 251,045,32N10W30MM0FT
10^3
10^4
10^2
10^3
10^2
10^2
10
1
10
1990
1992
1994
1996
1998
2000
Gas (mcf/day)
Well Count
Oil (bbl/day)
County: SAN JUAN, NM
Field: BASIN (FRUITLAND COAL) FT
Reservoir: FRUITLAND COAL
Operator: CONOCO INC
F.P. Date: 09/92
Oil Cum: 0 bbl
Gas Cum: 4836 mmcf
Location: 30M 32N 10W

December 2, 1997

Mr. Roy Johnson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Application for Tubingless Exception to Rule 107
for the FC Waller Com No. 1 Basin Fruitland Coal Well
API #30-045-28501, 790' FNL & 1430' FEL, Sec. 14
Township 32N, Range 11W, San Juan County

Dear Mr. Johnson:

In order to maintain efficient producing rates and maximize recovery from this well an exception to Rule 107, requiring this well to be produced with tubing, is requested. Producing with tubing causes an additional 50-55 psi of bottom hole flowing pressure across a reservoir that has already declined to less than 220 psi. Removing tubing and installing compressors should maintain rates high enough to keep the water production unloaded for several more years before tubing and pumps will ultimately need to be installed.

To maximize ultimate recovery, it is critical to maximize the current producing rate by the most economic method while production can still benefit from tax credits. Producing without tubing will not only significantly reduce the BHFP and maintain higher producing rates, but will require less well work to keep the wellbore cleaned out and reduce operating costs to the benefit of all interest owners.

The attached well history and wellbore schematic shows that a 5-1/2" liner has been installed across this originally open hole completion. Before running the liner, the well was re-cavitated and cleaned out. Producing without tubing in this recently remediated wellbore will result in a more efficient use of remaining reservoir pressure and will not in any way cause waste.

The fluids being produced by this well are not corrosive to the liner and casing and no signs of corrosion have been observed on any pipe recovered from the well or surface equipment. There are several technical reasons involving the Fruitland Coal reservoir and the producing mechanisms that seem to explain why corrosion does not occur in these wells.

By the very nature of the coal any gas (including any CO_2) in the reservoir is absorbed into the coal and is not in a free state that can, through contact with formation water, form corrosive acids in the reservoir. Since production occurs through a fracture dominated system, gas in the mattrix remains absorbed at a higher pressure in the coal mattrix until desorption occurs very

close to the wellbore into the fractures and is produced quickly through the much lower pressured fractures into the wellbore. A production plot is also attached showing the production history of the well.

This well is flowing at a high enough rate to keep the wellbore unloaded from any produced water. Therefore, in a high rate flow regime any contact of CO_2 with water is brief and insignificant in the formation of any potentially corrosive acid. The casing in this well is additionally protected from corrosion by cathodic protection.

All of the information and history of this well as discussed in this application was presented in a personal meeting with Mr. Ernie Busch of the Aztec Distric Office on November 19, 1997. Mr. Busch verbally agreed that based on this information and the attachments to this application that an exception to Rule 107 should be granted for this well.

If there are any further questions concerning this application, please contact either Mr. Busch or me at (915) 686-6548.

Very truly yours,

Jerry W. Hoover
Sr. Conservation Coordinator

cc: Mr. Ernie Busch, Aztec District OCD Office

FC WALLER COM 1 (GOP 8/25/97)

FC WALLER COM 1 (GOP 8/25/97)			
API Code	300452850100	Field Code	676394377
TD	3232.0 ftKB	Basin	SAN JUAN BASIN
PBTD	3232.0 ftKB	Basin Code	580
State	New Mexico	Permit	27-Dec-90
County	SAN JUAN	Spud	29-Jan-91
District	San Juan O.U.	Finish Drl	25-Feb-91
Permit No.	Coal	Completion	13-Mar-91
TD Measured	3232 ftKB	Abandon	
Reservoir	Fruitland Coal		
Field	BASIN FRT COAL		

Location			
Meridian	NM	Top Latitude	37.02261
Twnship	32N	Top Longitude	108.0069
Range	11W	Top NS Distance	790.0 ft N
Section	14	Top EW Distance	1430.0 ft E
Quarter	SE NW NE	Bottom Latitude	0
		Bottom Longitude	0
		Btm NS Distance	0.0 ft
		Btm EW Distance	0.0 ft

Elevations			
KB	6511.0 ft	Cas Flng	0.0 ft
Grd	6499.0 ft	Tub Head	0.0 ft
KB-Grd	12.0 ft		

Bore Hole Data

Depth (ftKB)	Size (in)
233.0	12.2500
2885.0	8.7500
3232.0	6.2500
3232.0	9.0000

Casing String - Surface Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
9.6300 in Casing	233.0	5	8.9200	36.00	J-55	ST&C	

Casing String - Intermediate Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
7.0000 in Casing	2885.0	61	6.3700	23.00	N-80	LT&C	

Casing String - Production Liner

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
5.5000 in Casing	3231.0	10	4.9500	15.50		FL-4S	Baker SLP-R Liner Hanger on top of flush joint casing. 6 1/4" bit, bit sub, x-over on bottom.

Casing Cement

Casing String	Top (ftKB)	Amount (sx)	Comments
Surface Casing	0.0	150	Cement circ
Intermediate Casing	0.0	525	TOC unknown. Cement circ

Perforations

Date	Int	Shots (/ft)	Comments
28-Aug-97	3003.0 - 3007.0	4.0	
28-Aug-97	3086.0 - 3140.0	4.0	
28-Aug-97	3198.0 - 3212.0	4.0	Perforate liner from 2953 to 3212 in four guns runs as indicated.
28-Aug-97	2953.0 - 2959.0	4.0	

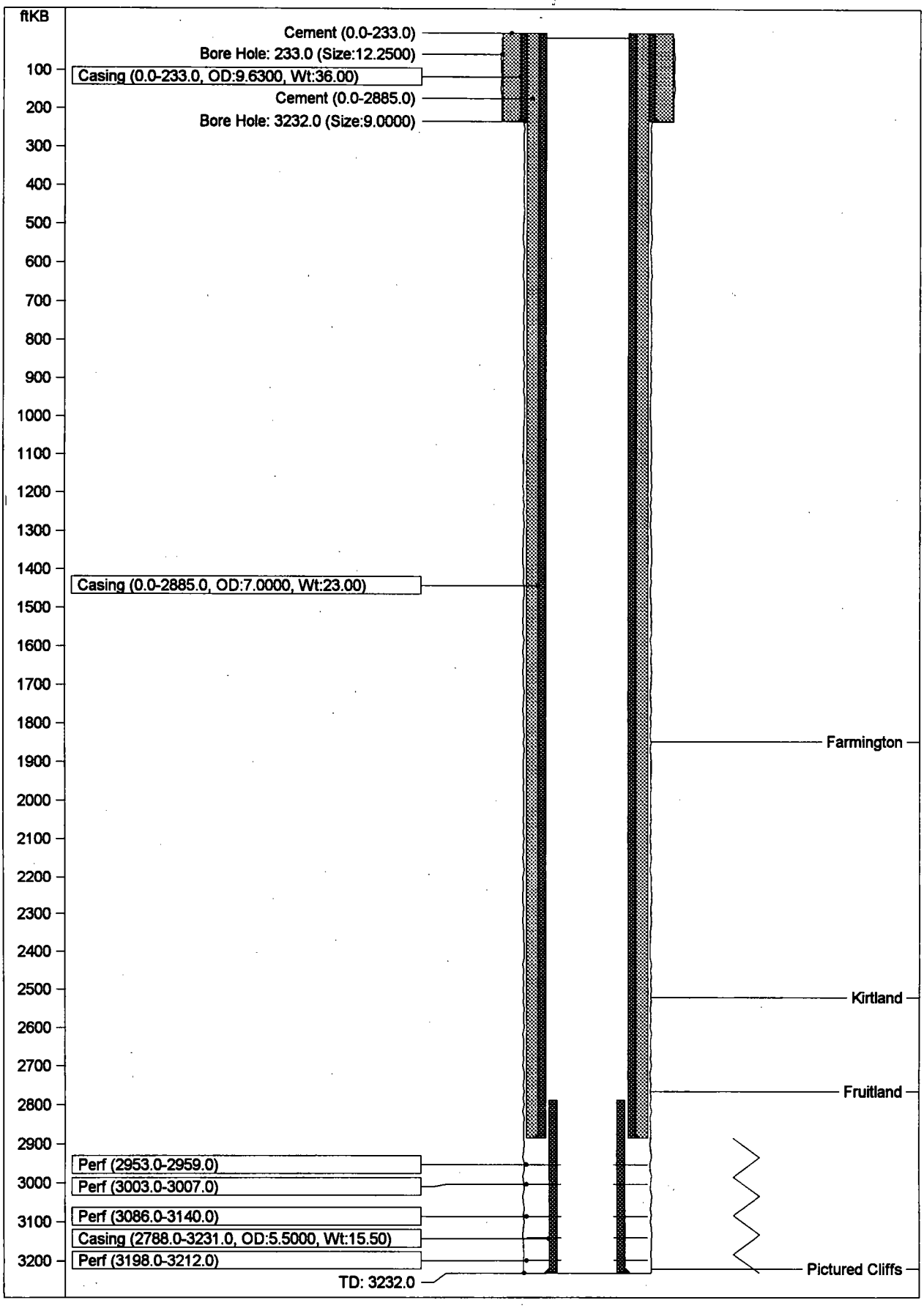
Stimulations & Treatments

Date	Type	Zone	Int	Fluid	Comments
27-Feb-91	Open Hole Cavitation	Fruitland Coal	2885.0 - 3232.0	Mist	
14-Mar-96	Open Hole Cavitation	Fruitland Coal	2885.0 - 3232.0	Mist	Remove tbg & liner, under-ream OH to 9", perform cavitation

Completions & Workovers

Date	Reason for Workover	Summary
06-Mar-91	Initial Completion	Initial Completion - Originally completed well w/ 5 1/2" liner from 2812-3231.
14-Mar-96	Re-Cavitation	Re-Cavitation - LD 90 jts of 3 1/2" tbg. Spear liner & LD same. CO fill from 3216-32. Under-ream OH to 9". Install new tbg head & well head. Did not run tbg in well.

FC WALLER COM 1 (GOP 8/25/97) **10/29/97**



FC WALLER COM 1 (GOP 8/25/97)

Completions & Workovers (con't)

Date	Reason for Workover	Summary
24-Aug-97	Run Liner	Run Liner - Set Inflatable BP, NU BOP and blooey tee, retrieve BP. TIH w/ 6-1/4" bit and tag fill, CO w/ gas. Run liner from ???? - ????. Change out 11" x 7-1/16" 3000# Csg Spool. Perforate liner. Set plug in tubing hanger, ND BOP, and NU WH.

Formation/Horizon Tops

Top (ftKB)	Formation
1846.0	Farmington
2521.0	Kirtland
2766.0	Fruitland
3221.0	Pictured Cliffs

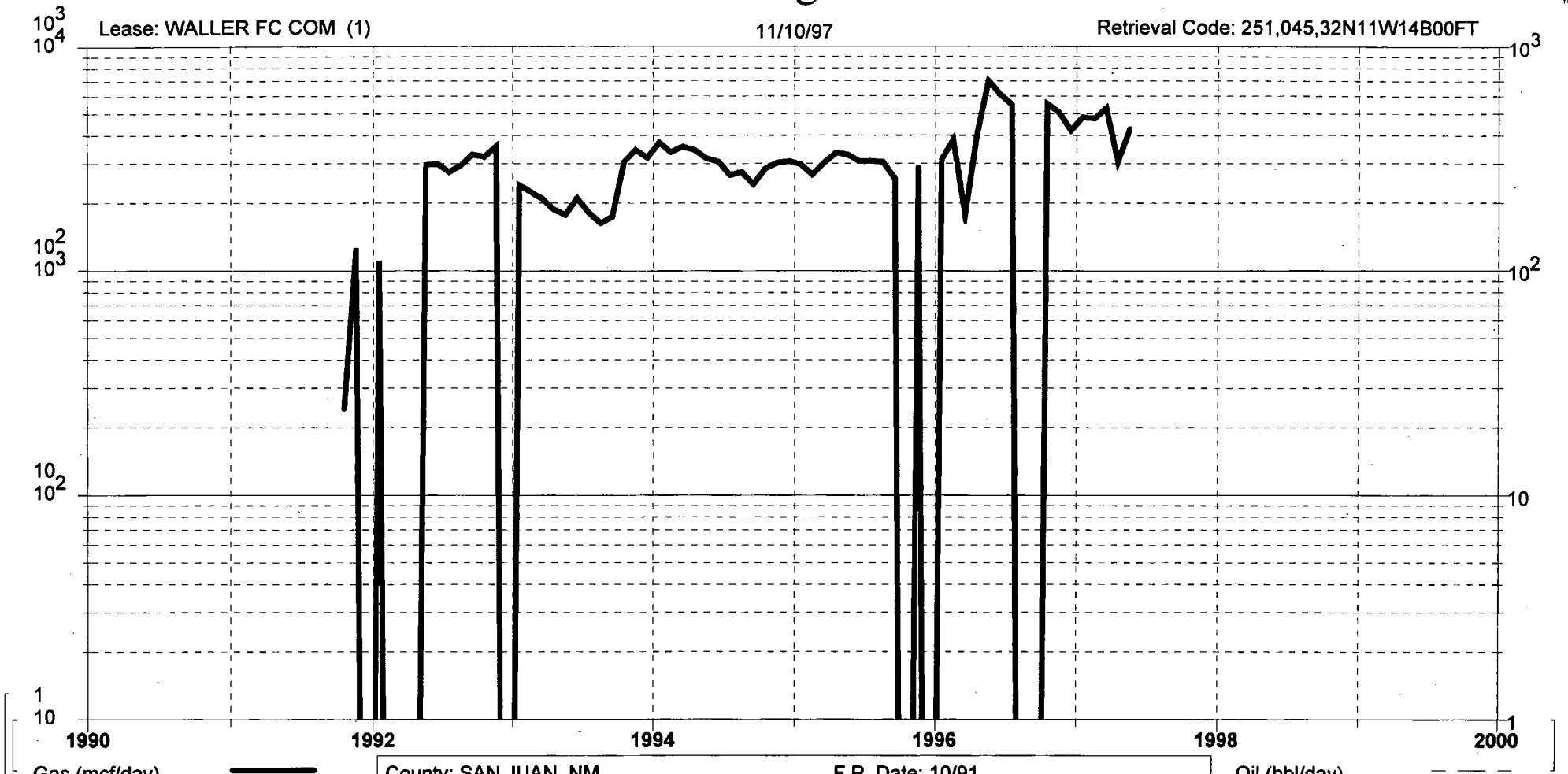
Logs Run

Date	Type	Int	Company	Comments
07-Jun-96	GR-TEMP-SPIN	2800.0 - 3094.0	Halliburton	

General Notes

Date	Note
13-Mar-91	Initial Potential: F 1516 MCFGPD; no oil; 102 BWPD

Dwights


Lease: WALLER FC COM (1)
11/10/97
Retrieval Code: 251,045,32N11W14B00FT
10^3
10^4
10^2
10^3
10^2
10
1
10
1990
1992
1994
1996
1998
2000
Gas (mcf/day)
Well Count
Oil (bbl/day)
County: SAN JUAN, NM
Field: BASIN (FRUITLAND COAL) FT
Reservoir: FRUITLAND COAL
Operator: CONOCO INC
F.P. Date: 10/91
Oil Cum: 0 bbl
Gas Cum: 5679 mmcf
Location: 14B 32N 11W

December 2, 1997

Mr. Roy Johnson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Application for Tubingless Exception to Rule 107
for the FC Federal No. 3 Basin Fruitland Coal Well
API #30-045-27545, 820' FNL & 1620' FEL, Sec. 13,
Township 32N, Range 11W, San Juan County

Dear Mr. Johnson:

In order to maintain efficient producing rates and maximize recovery from this well an exception to Rule 107, requiring this well to be produced with tubing, is requested. Producing with tubing causes an additional 50-55 psi of bottom hole flowing pressure across a reservoir that has already declined to less than 220 psi. Removing tubing and installing compressors should maintain rates high enough to keep the water production unloaded for several more years before tubing and pumps will ultimately need to be installed.

To maximize ultimate recovery, it is critical to maximize the current producing rate by the most economic method while production can still benefit from tax credits. Producing without tubing will not only significantly reduce the BHFP and maintain higher producing rates, but will require less well work to keep the wellbore cleaned out and reduce operating costs to the benefit of all interest owners.

The attached well history and wellbore schematic shows that a 5-1/2" liner has been installed across this originally open hole completion. Before running the liner, the well was re-cavitated and cleaned out. Producing without tubing in this recently remediated wellbore will result in a more efficient use of remaining reservoir pressure and will not in any way cause waste.

The fluids being produced by this well are not corrosive to the liner and casing and no signs of corrosion have been observed on any pipe recovered from the well or surface equipment. There are several technical reasons involving the Fruitland Coal reservoir and the producing mechanisms that seem to explain why corrosion does not occur in these wells.

By the very nature of the coal any gas (including any CO_2) in the reservoir is absorbed into the coal and is not in a free state that can, through contact with formation water, form corrosive acids in the reservoir. Since production occurs through a fracture dominated system, gas in the mattrix remains absorbed at a higher pressure in the coal mattrix until desorption occurs very

close to the wellbore into the fractures and is produced quickly through the much lower pressured fractures into the wellbore. A production plot is also attached showing the production history of the well.

This well is flowing at a high enough rate to keep the wellbore unloaded from any produced water. Therefore, in a high rate flow regime any contact of CO_2 with water is brief and insignificant in the formation of any potentially corrosive acid. The casing in this well is additionally protected from corrosion by cathodic protection.

All of the information and history of this well as discussed in this application was presented in a personal meeting with Mr. Ernie Busch of the Aztec Distric Office on November 19, 1997. Mr. Busch verbally agreed that based on this information and the attachments to this application that an exception to Rule 107 should be granted for this well.

If there are any further questions concerning this application, please contact either Mr. Busch or me at (915) 686-6548.

Very truly yours,

Jerry W. Hoover
Sr. Conservation Coordinator

cc: Mr. Ernie Busch, Aztec District OCD Office

FC FEDERAL 3 (GOP 9/8/97))

FC FEDERAL 3 (GOP 9/8/97))			
API Code	300452754500	Field Code	676394377
TD	3000.0 ftKB	Basin	SAN JUAN BASIN
PBTD	3000.0 ftKB	Basin Code	580
State	New Mexico	Permit	05-Sep-89
County	SAN JUAN	Spud	16-Aug-90
District	San Juan O.U.	Finish Drl	18-Aug-90
Permit No.	Coal	Completion	12-Feb-91
TD Measured	3000 ftKB	Abandon	
Reservoir	Fruitland Coal		
Field	BASIN FRT COAL		

Location			
Meridian	NM	Top Latitude	37.02254
Twnship	32N	Top Longitude	107.9892
Range	11W	Top NS Distance	820.0 ft N
Section	13	Top EW Distance	1670.0 ft E
Quarter	SE NW NE	Bottom Latitude	0
		Bottom Longitude	0
		Btm NS Distance	0.0 ft
		Btm EW Distance	0.0 ft

1620

Elevations			
KB	6298.0 ft	Cas Flng	0.0 ft
Grd	6286.0 ft	Tub Head	0.0 ft
KB-Grd	12.0 ft		

Bore Hole Data

Depth (ftKB)	Size (in)
243.0	12.2500
2675.0	8.7500
3000.0	6.2500
3000.0	9.5000
3000.0	11.0000

Casing String - Surface Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
9.6300 in Casing	234.0	5	8.9200	36.00	J-55	ST&C	

Casing String - Intermediate Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
7.0000 in Casing	2675.0	66	6.3700	23.00	N-80	LT&C	

Casing String - Production Liner

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
5.5000 in Casing	3000.0	10	4.9500	15.50	J-55	FL-4S	Baker SLP-R Liner hanger on top

Casing Cement

Casing String	Top (ftKB)	Amount (sx)	Comments
Surface Casing	0.0	200	Cement circ
Intermediate Casing	0.0	500	Cement circ

Perforations

Date	Int	Shots (/ft)	Comments
11-Sep-97	2750.0 - 2980.0	4.0	680- .41" EHD @ 2750-2840, 2880-2950, 2970-80.

Stimulations & Treatments

Date	Type	Zone	Int	Fluid	Comments
10-Feb-91	Open Hole Cavitation	Fruitland Coal	2675.0 - 3000.0	Mist	
28-Jan-96	Open Hole Cavitation	Fruitland Coal	2675.0 - 3000.0	Mist	Under-ream OH to 9 1/2", perform cavitation
26-Sep-96	Open Hole Cavitation	Fruitland Coal	2675.0 - 3000.0	Mist	Under-ream OH to 11", perform cavitation

Completions & Workovers

Date	Reason for Workover	Summary
10-Feb-91	Initial Completion	Initial Completion - Set 5 1/2" perfed liner 2602-3000 & completed well with 2 7/8" tbg after OH cavitation.
28-Jan-96	CO Fill & Remove Liner	CO Fill & Remove Liner - LD 4 1/2" tbg, chg out tbg hd. CO fill from 5 1/2" liner & test well. POOH w/ 5 1/2" liner. CO fill from 2900-2995. Under-ream OH to 9 1/2". Perform OH cavitation. Did not run tbg.

FC FEDERAL 3 (GOP 9/8/97))

Completions & Workovers (con't)

Date	Reason for Workover	Summary
26-Sep-96	Re-Cavitation	Re-Cavitation - Tag fill @ 2923' & CO to 3000'. Under-ream OH to 11", perform OH cavitation, did not run tbg.
08-Sep-97	CO & Run Liner	CO & Run Liner - Tag PBTD @ 2950', 50' of fill. CO to 3002' w/ 6 1/4" bit & mist. TIH w/ bit, bit sub, x-over, 10 jts 5 1/2" FJ csg w/ Baker SLP-R liner hanger. Set liner 2543-3000'. Perf w/ 4 spf 2750-2980 (OA) w/ 680 holes.

Formation/Horizon Tops

Top (ftKB)	Formation
1663.0	Farmington
2583.0	Fruitland coal
3018.0	Pictured Cliffs

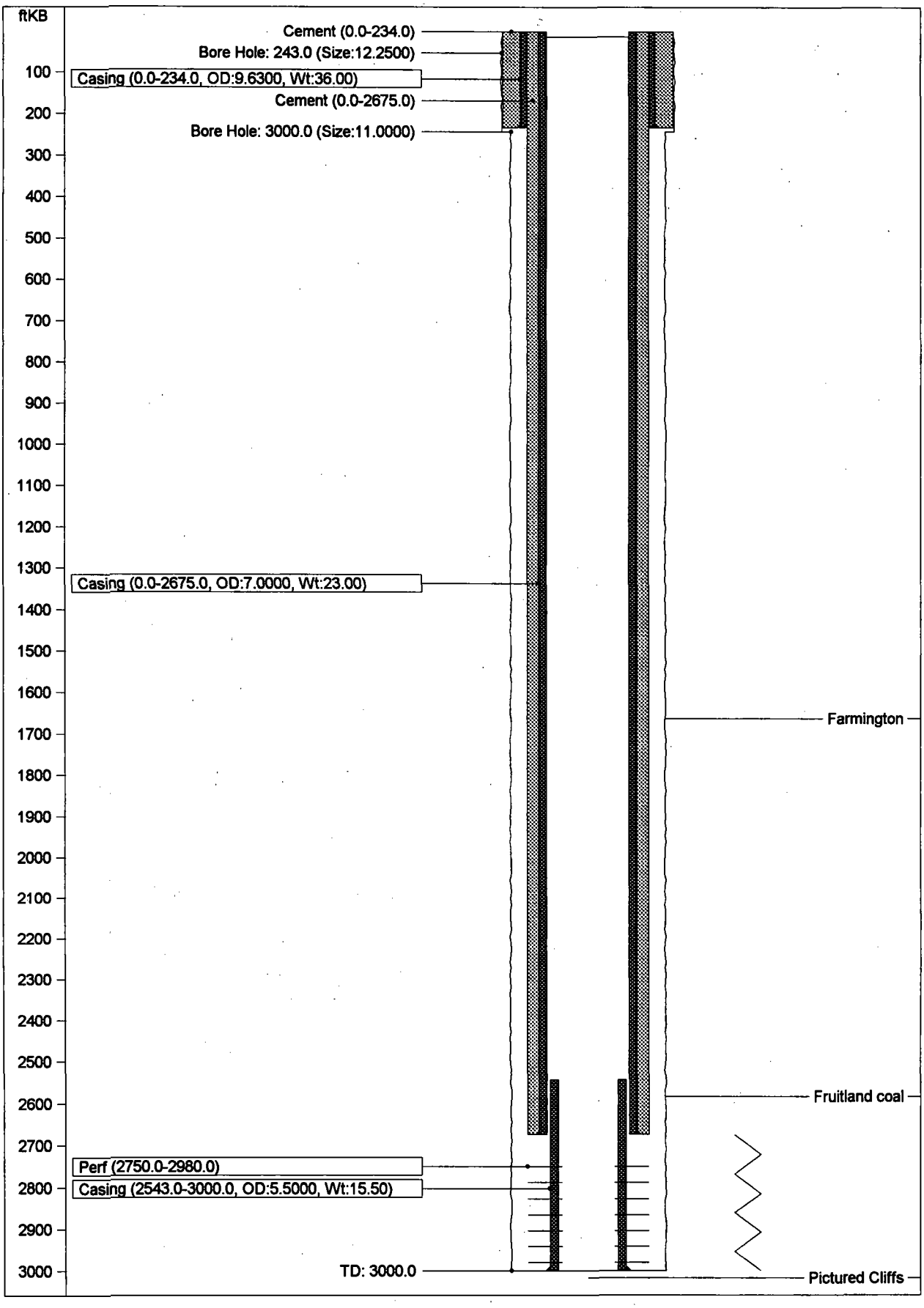
Logs Run

Date	Type	Int	Company	Comments
20-Feb-91	None	0.0 - 3000.0		

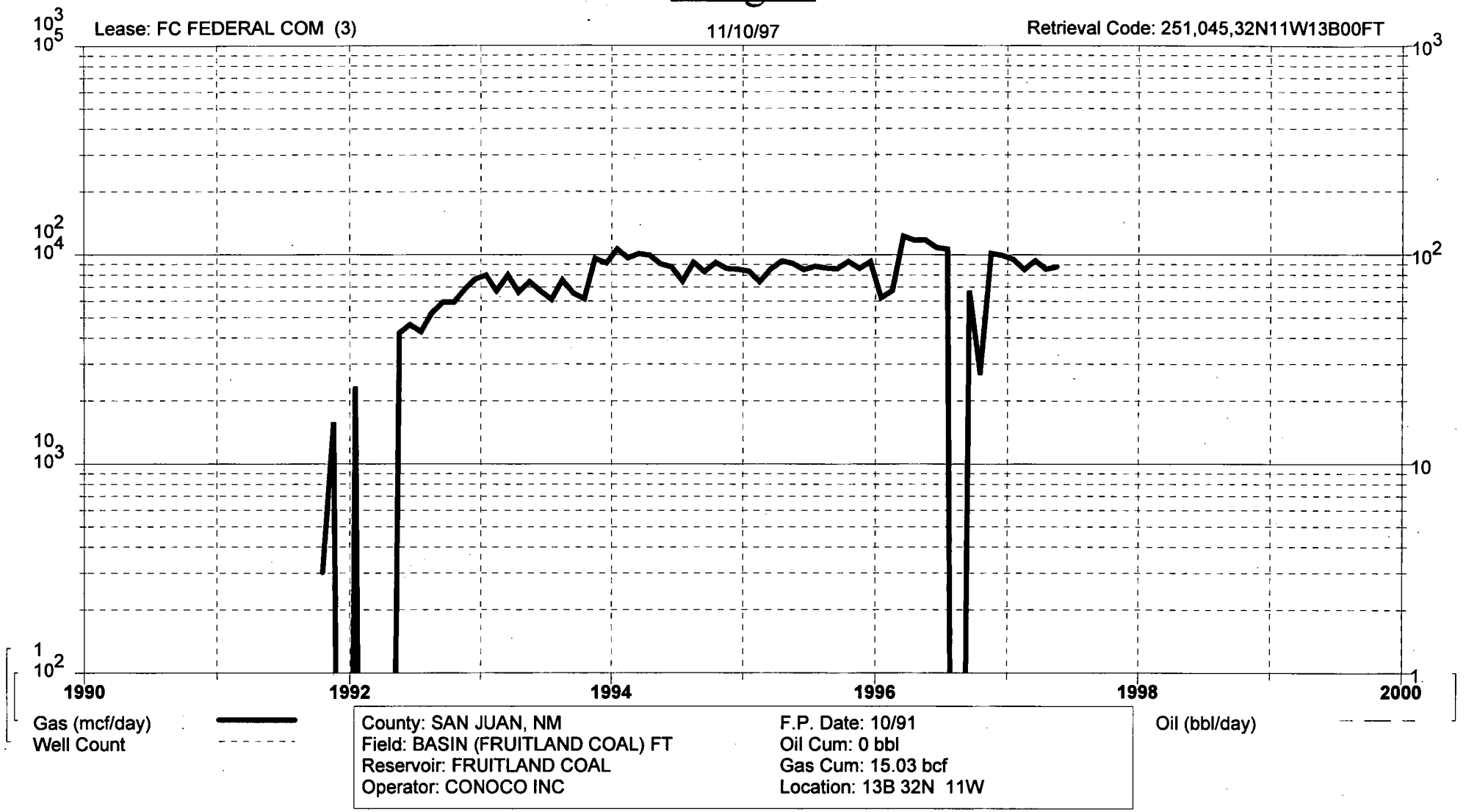
General Notes

Date	Note
12-Feb-91	Initial Potential: F 2073 MCFGPD on 3/4 ck; 652 BWPD; SICP 615
04-Jun-97	Latitude probably in error, it refers to 970 FNL as opposed to actual location of 820 FNL.

FC FEDERAL 3 (GOP 9/8/97)) **10/29/97**



Dwights



County: SAN JUAN, NM
Field: BASIN (FRUITLAND COAL) FT
Reservoir: FRUITLAND COAL
Operator: CONOCO INC

F.P. Date: 10/91
Oil Cum: 0 bbl
Gas Cum: 15.03 bcf
Location: 13B 32N 11W

December 2, 1997

Mr. Roy Johnson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Application for Tubingless Exception to Rule 107
for the FC Federal No. 1 Basin Fruitland Coal Well
API #30-045-27544, 1480' FNL & 1490' FEL, Sec. 30
Township 32N, Range 10W, San Juan County

Dear Mr. Johnson:

In order to maintain efficient producing rates and maximize recovery from this well an exception to Rule 107, requiring this well to be produced with tubing, is requested. Producing with tubing causes an additional 50-55 psi of bottom hole flowing pressure across a reservoir that has already declined to less than 220 psi. Removing tubing and installing compressors should maintain rates high enough to keep the water production unloaded for several more years before tubing and pumps will ultimately need to be installed.

To maximize ultimate recovery, it is critical to maximize the current producing rate by the most economic method while production can still benefit from tax credits. Producing without tubing will not only significantly reduce the BHFP and maintain higher producing rates, but will require less well work to keep the wellbore cleaned out and reduce operating costs to the benefit of all interest owners.

The attached well history and wellbore schematic shows that a 5-1/2" liner has been installed across this originally open hole completion. Before running the liner, the well was re-cavitated and cleaned out. Producing without tubing in this recently remediated wellbore will result in a more efficient use of remaining reservoir pressure and will not in any way cause waste.

The fluids being produced by this well are not corrosive to the liner and casing and no signs of corrosion have been observed on any pipe recovered from the well or surface equipment. There are several technical reasons involving the Fruitland Coal reservoir and the producing mechanisms that seem to explain why corrosion does not occur in these wells.

By the very nature of the coal any gas (including any CO_2) in the reservoir is absorbed into the coal and is not in a free state that can, through contact with formation water, form corrosive acids in the reservoir. Since production occurs through a fracture dominated system, gas in the mattrix remains absorbed at a higher pressure in the coal mattrix until desorption occurs very

close to the wellbore into the fractures and is produced quickly through the much lower pressured fractures into the wellbore. A production plot is also attached showing the production history of the well.

This well is flowing at a high enough rate to keep the wellbore unloaded from any produced water. Therefore, in a high rate flow regime any contact of CO_2 with water is brief and insignificant in the formation of any potentially corrosive acid. The casing in this well is additionally protected from corrosion by cathodic protection.

All of the information and history of this well as discussed in this application was presented in a personal meeting with Mr. Ernie Busch of the Aztec Distric Office on November 19, 1997. Mr. Busch verbally agreed that based on this information and the attachments to this application that an exception to Rule 107 should be granted for this well.

If there are any further questions concerning this application, please contact either Mr. Busch or me at (915) 686-6548.

Very truly yours,

Jerry W. Hoover
Sr. Conservation Coordinator

cc: Mr. Ernie Busch, Aztec District OCD Office

FC FEDERAL 1 (GOP 9/2/97)

FC FEDERAL 1 (GOP 9/2/97)			
API Code	300452754400	Field Code	676394530
TD	2874.0 ftKB	Basin	SAN JUAN BASIN
PBTD	2874.0 ftKB	Basin Code	580
State	New Mexico	Permit	05-Sep-89
County	SAN JUAN	Spud	30-Jul-90
District	San Juan O.U.	Finish Drl	23-Jan-91
Permit No.	Coal	Completion	07-Feb-91
TD Measured	2874 ftKB	Abandon	
Reservoir	Fruitland Coal		
Field	CEDAR HILL FRT COAL		

Location			
Meridian	NM	Top Latitude	36.95949
Twnship	32N	Top Longitude	107.9192
Range	10W	Top NS Distance	1480.0 ft N
Section	30	Top EW Distance	1490.0 ft E
Quarter	NE SW NE	Bottom Latitude	0
		Bottom Longitude	0
		Btm NS Distance	0.0 ft
		Btm EW Distance	0.0 ft

Elevations			
KB	6061.0 ft	Cas Flng	0.0 ft
Grd	6049.0 ft	Tub Head	0.0 ft
KB-Grd	12.0 ft		

Bore Hole Data

Depth (ftKB)	Size (in)
244.0	12.2500
2525.0	8.7500
2874.0	6.2500
2874.0	9.5000

Casing String - Surface Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
9.6300 in Casing	234.0	5	8.9200	36.00	J-55	ST&C	

Casing String - Intermediate Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
7.0000 in Casing	2525.0	63	6.3700	23.00	N-80	LT&C	

Casing String - Production Liner

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
5.5000 in Flush Jt Liner	2867.0	10	4.9500	15.50	J-55	FL-4S	

Casing Cement

Casing String	Top (ftKB)	Amount (sx)	Comments
Surface Casing	0.0	150	Cement circ
Intermediate Casing	0.0	500	TOC unknown. Cement circ

Fish - Inflatable Bridge Plug

Date	Item	Int (ftKB)	OD (in)	Comment
14-Mar-96	Inflatable Bridge Plug	2869.0 - 2874.0	6.5000	Report from TAB, production pulled one plug and lost the other, pushed to bottom. Length assumed

Perforations

Date	Int	Shots (/ft)	Comments
06-Sep-97	2560.0 - 2850.0	4.0	Perforate Fruitland Coal w/ 3-1/8" guns using 0.41" shots thru 5-1/2" 15.5# J-55 Flush Jt Liner w/ in 4 perforating runs with 4-SPF as follows: 2560-66, 2600-34, 2722,36,2832-50 for a total of 288 shots.

Stimulations & Treatments

Date	Type	Zone	Int	Fluid	Comments
25-Jan-91	Open Hole Cavitation	Fruitland Coal	2525.0 - 2874.0	Mist	
20-Feb-96	Open Hole Cavitation	Fruitland Coal	2525.0 - 2874.0	Mist	POOH w/ liner & under-reamed hole to 9 1/2".

FC FEDERAL 1 (GOP 9/2/97)

Completions & Workovers

Date	Reason for Workover	Summary
28-Jan-91	Initial Completion	Initial Completion - Well originally completed with 5 1/2" perforated liner in hole.
20-Feb-96	Re-Cavitation	Re-Cavitation - POOH & LD 2445' of 3 1/2' tbg. Spear liner & LD same. CO fill from 2770'-2874'. Under-ream OH to 9 1/2". Lost inflatable BP & pushed it to bottom. Did not run tbg in well.
02-Sep-97	CO & Run Liner	CO & Run Liner - CO fill to TD @ 2868', run 5-1/2" 15.5# J-55 Flush Jt liner w/ FL-4S threads, pressure test and perforate from 2560-2850', net interval: 72' w/ 4 SPF 0.41" holes, total - 288 holes. NU new 11" x 7-1/16" 3M tbg head w/ 2- 4" outlets, test to 3000#.

Formation/Horizon Tops

Top (ftKB)	Formation
1560.0	Farmington
2170.0	Kirtland
2460.0	Fruitland
2874.0	Pictured Cliffs

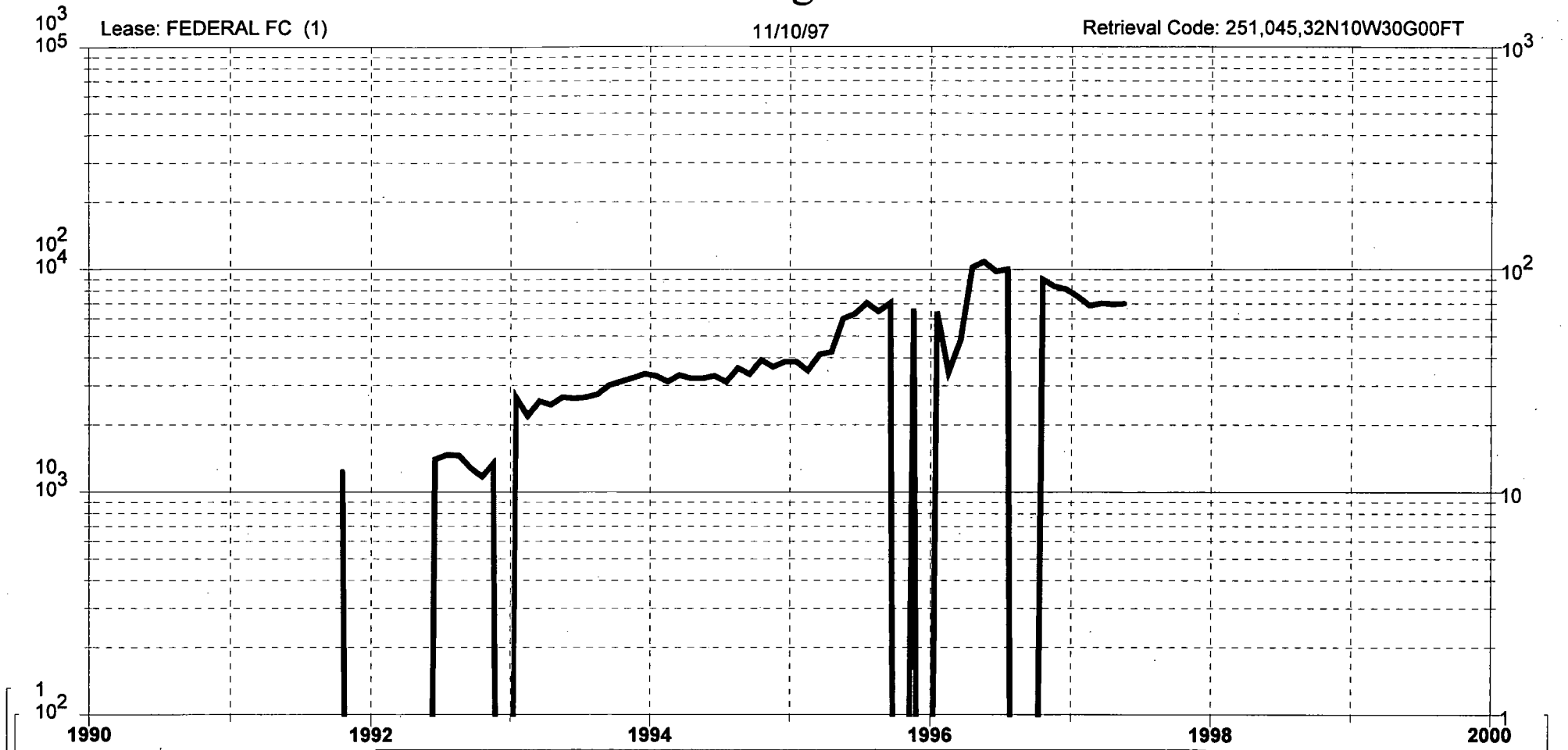
Logs Run

Date	Type	Int	Company	Comments
07-Feb-91	None	0.0 - 2874.0		

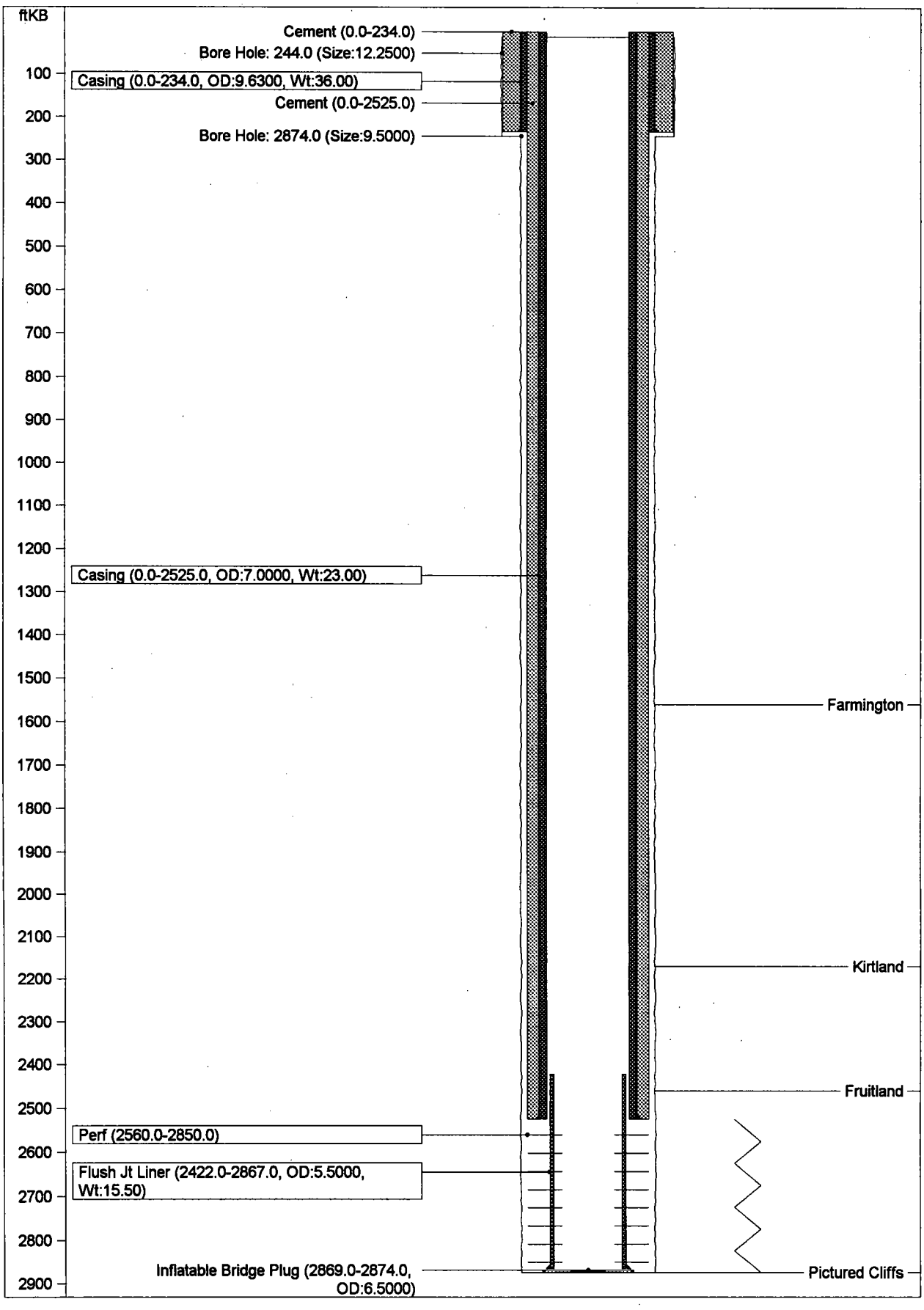
General Notes

Date	Note
07-Feb-91	Initial Potential: F 1290 MCFGPD on 3/4 ck; 87 BWPD; SICP 650

Dwights


Lease: FEDERAL FC (1)
11/10/97
Retrieval Code: 251,045,32N10W30G00FT
10^3
10^5
10^2
10^4
10^3
10^2
1
10^2
1990
1992
1994
1996
1998
2000
10^3
10^2
10
1
Gas (mcf/day)
Well Count
Oil (bbl/day)
County: SAN JUAN, NM
Field: CEDAR HILL (FRUITLAND BASAL COAL
Reservoir: FRUITLAND BASAL COAL
Operator: CONOCO INC
F.P. Date: 10/91
Oil Cum: 0 bbl
Gas Cum: 7753 mmcf
Location: 30G 32N 10W

FC FEDERAL 1 (GOP 9/2/97) **10/29/97**



December 2, 1997

Mr. Roy Johnson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Application for Tubingless Exception to Rule 107
for the FC Federal No. 2 Basin Fruitland Coal Well
API #30-045-27630, 1550' FSL & 1220' FWL, Sec. 12
Township 32N, Range 11W, San Juan County

Dear Mr. Johnson:

In order to maintain efficient producing rates and maximize recovery from this well an exception to Rule 107, requiring this well to be produced with tubing, is requested. Producing with tubing causes an additional 50-55 psi of bottom hole flowing pressure across a reservoir that has already declined to less than 220 psi. Removing tubing and installing compressors should maintain rates high enough to keep the water production unloaded for several more years before tubing and pumps will ultimately need to be installed.

To maximize ultimate recovery, it is critical to maximize the current producing rate by the most economic method while production can still benefit from tax credits. Producing without tubing will not only significantly reduce the BHFP and maintain higher producing rates, but will require less well work to keep the wellbore cleaned out and reduce operating costs to the benefit of all interest owners.

The attached well history and wellbore schematic shows that a 5-1/2" liner has been installed across this originally open hole completion. Before running the liner, the well was re-cavitated and cleaned out. Producing without tubing in this recently remediated wellbore will result in a more efficient use of remaining reservoir pressure and will not in any way cause waste.

The fluids being produced by this well are not corrosive to the liner and casing and no signs of corrosion have been observed on any pipe recovered from the well or surface equipment. There are several technical reasons involving the Fruitland Coal reservoir and the producing mechanisms that seem to explain why corrosion does not occur in these wells.

By the very nature of the coal any gas (including any CO_2) in the reservoir is absorbed into the coal and is not in a free state that can, through contact with formation water, form corrosive acids in the reservoir. Since production occurs through a fracture dominated system, gas in the mattrix remains absorbed at a higher pressure in the coal mattrix until desorption occurs very

close to the wellbore into the fractures and is produced quickly through the much lower pressured fractures into the wellbore. A production plot is also attached showing the production history of the well.

This well is flowing at a high enough rate to keep the wellbore unloaded from any produced water. Therefore, in a high rate flow regime any contact of CO_2 with water is brief and insignificant in the formation of any potentially corrosive acid. The casing in this well is additionally protected from corrosion by cathodic protection.

All of the information and history of this well as discussed in this application was presented in a personal meeting with Mr. Ernie Busch of the Aztec Distric Office on November 19, 1997. Mr. Busch verbally agreed that based on this information and the attachments to this application that an exception to Rule 107 should be granted for this well.

If there are any further questions concerning this application, please contact either Mr. Busch or me at (915) 686-6548.

Very truly yours,

Jerry W. Hoover
Sr. Conservation Coordinator

cc: Mr. Ernie Busch, Aztec District OCD Office

FC FEDERAL 2 (GOP 9/23/97)

FC FEDERAL 2 (GOP 9/23/97)			
API Code	300452763000	Field Code	676394377
TD	3206.0 ftKB	Basin	SAN JUAN BASIN
PBTD	3206.0 ftKB	Basin Code	580
State	New Mexico	Permit	14-Sep-89
County	SAN JUAN	Spud	03-Aug-90
District	San Juan O.U.	Finish Drl	05-Aug-90
Permit No.	Coal	Completion	05-Mar-91
TD Measured	3206	Abandon	
Reservoir	Fruitland Coal		
Field	BASIN FRT COAL		

Location			
Meridian	NM	Top Latitude	37.02884
Twnship	32N	Top Longitude	107.9977
Range	11W	Top NS Distance	1500.0 ft S
Section	12	Top EW Distance	1220.0 ft W
Quarter	SE NW SW	Bottom Latitude	0
		Bottom Longitude	0
		Btm NS Distance	0.0 ft
		Btm EW Distance	0.0 ft

1550

Elevations			
KB	6526.0 ft	Cas Flng	0.0 ft
Grd	6514.0 ft	Tub Head	0.0 ft
KB-Grd	12.0 ft		

Bore Hole Data

Depth (ftKB)	Size (in)
244.0	12.2500
2900.0	7.8750
3206.0	6.2500
3206.0	9.5000

Casing String - Surface Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
9.6300 in Casing	234.0	5	8.9200	36.00	J-55	ST&C	

Casing String - Intermediate Casing

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
7.0000 in Casing	2900.0	72	6.3700	23.00	N-80	LT&C	

Casing String - Production Liner

Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments
5.5000 in Liner	2902.0	2	4.9500	15.50	J-55	LT&C	
5.5000 in Liner	3207.0	7	4.9500	15.50	J-55	FL-4S	

Casing Cement

Casing String	Top (ftKB)	Amount (sx)	Comments
Surface Casing	0.0	150	Cement circ
Intermediate Casing	0.0	550	TOC unknown. Cement circ.

Perforations

Date	Int	Shots (/ft)	Comments
23-Sep-97	2966.0 - 3144.0	4.0	Perforate Fruitland Coal w/ 0.41" Holes @ 4 SPF in 4-Runs as follows: 2966-76'(10', 40 Shots), 3010-3020' (10', 40 Shots), 3080-3144' (64', 256 Shots). TOTAL: 84', 336 Shots.

Stimulations & Treatments

Date	Type	Zone	Int	Fluid	Comments
15-Feb-91	Open Hole Cavitation	Fruitland Coal	2900.0 - 3206.0	Mist	
09-Feb-96	Open Hole Cavitation	Fruitland Coal	2900.0 - 3206.0	Mist	Pulled tbg & csg from well. CO fill from 3090-3206. Under-ream hole to 9.5". Perform cavitation

Completions & Workovers

Date	Reason for Workover	Summary
23-Feb-91	Initial Completion	Initial Completion - Install 5 1/2" perforated liner during initial completion.
09-Feb-96	Re-Cavitation	Re-Cavitation - POOH & LD 4 1/2", 9.5#, J-55 tbg. Run 5 1/2" csg spear, spear & remove liner. CO fill from 3090-3206. Under-ream OH to 9 1/2". Install new tbg head & wellhead. Did not run tbg.

FC FEDERAL 2 (GOP 9/23/97)

Completions & Workovers (con't)

Date	Reason for Workover	Summary
19-Sep-97	CO and run liner	CO and run liner - CO to TD @ 3208', Run 5-1/2" 15.5# Flush Jt Liner, perforate Fruitland Coal.

Formation/Horizon Tops

Top (ftKB)	Formation
1846.0	Farmington
2501.0	Kirtland
2806.0	Fruitland
3216.0	Pictured Cliffs

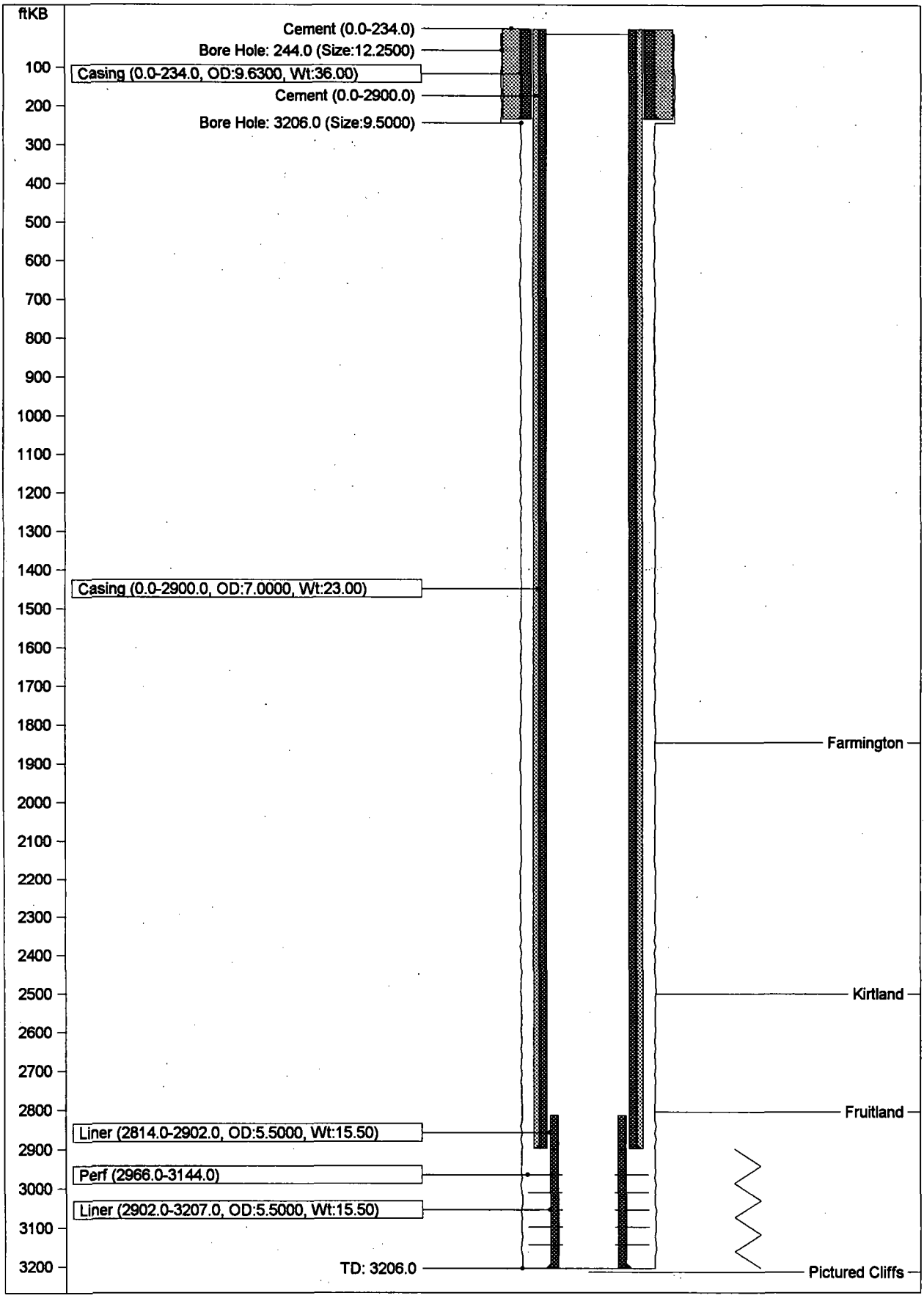
Logs Run

Date	Type	Int	Company	Comments
05-Mar-91	None	0.0 - 3207.0		

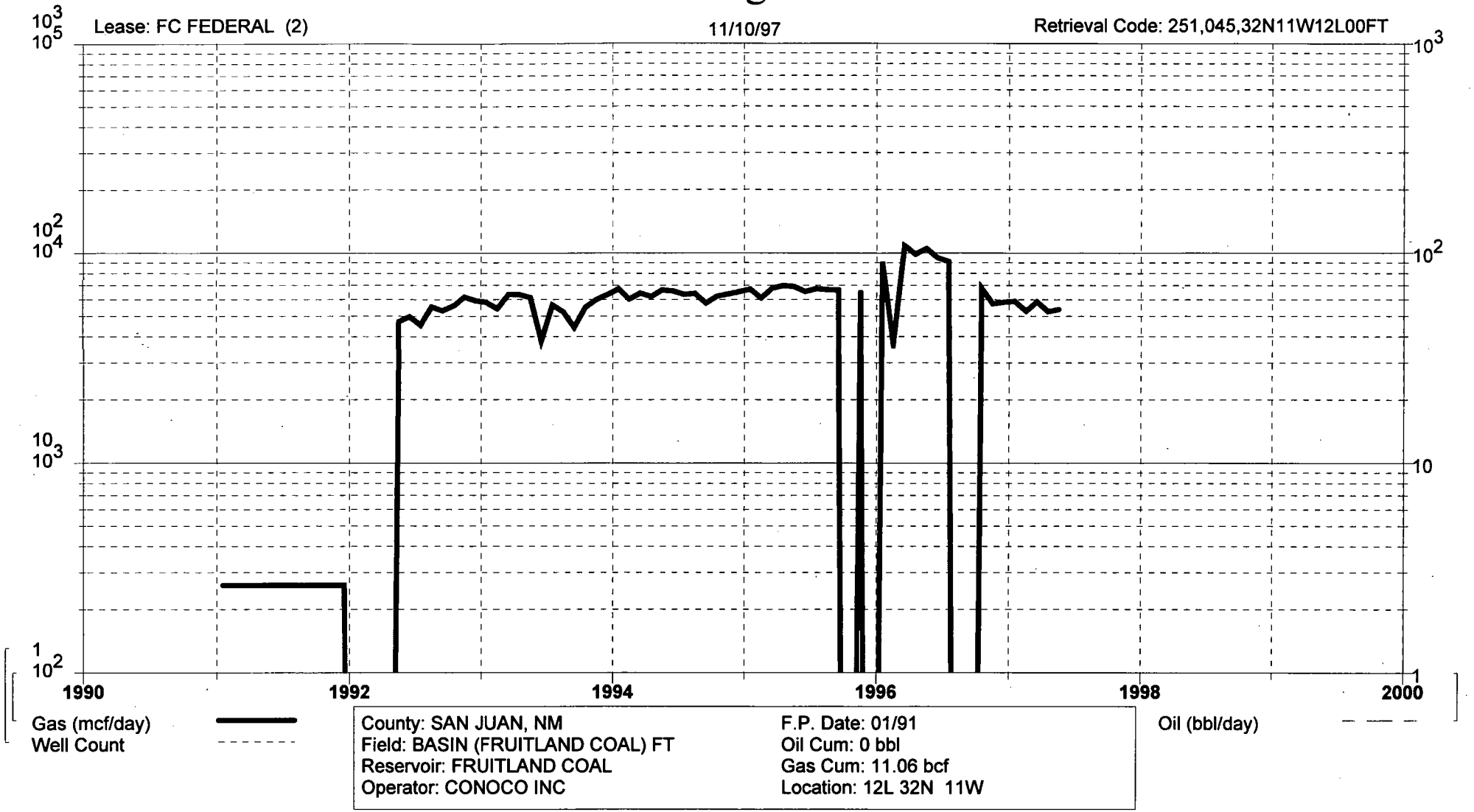
General Notes

Date	Note
05-Mar-91	Initial Potential: F 1624 MCFGPD; 577 BWPD; SICP 810

FC FEDERAL 2 (GOP 9/23/97) **10/29/97**



Dwights


Lease: FC FEDERAL (2)
11/10/97
Retrieval Code: 251,045,32N11W12L00FT
10^3
10^5
10^2
10^4
10^3
10^2
1
10^2
10^3
10^2
10
1
1990
1992
1994
1996
1998
2000
Gas (mcf/day)
Well Count
Oil (bbl/day)
County: SAN JUAN, NM
Field: BASIN (FRUITLAND COAL) FT
Reservoir: FRUITLAND COAL
Operator: CONOCO INC
F.P. Date: 01/91
Oil Cum: 0 bbl
Gas Cum: 11.06 bcf
Location: 12L 32N 11W