SALVAGE VALUE (\$1000)..... 0.0

WORKING INT. B/PAYOUT% WORKING INT. A/PAYOUT% INCOME TAX% UNIT OF PRODUCTION DEPRECIATION	48.0	ANNUAL COST INFLATION% ANNUAL PRICE INFLATION% NEG INC TAX OFFSET BY OTHER I	0.0
GAS PRODUCTION FROM SJ 30-5 ULAND OWNER ROYALTY	12.5 8.3 5 418.3	OVERRIDING ROYALTY  OPERATING COSTS (\$/MO)  OPERATING COSTS (% OF PROD).  TANGIBLE \$ (% OF DRILLING \$)	0.0 500.0 0.0 34.5

INITIAL MONTH	MCF/D	% DECLINE	TO MCF/D	ENDING MONTH
11 15 19 23 27 31 35 39 43 47 51 55 59 63 67 71	246.0 198.0 176.0 162.0 152.0 144.0 138.0 127.0 122.0 119.0 115.0 110.0 107.0	47.9 29.8 22.0 17.4 15.0 12.5 10.9 11.4 7.2 9.7 5.1 7.8 8.0 5.5 6.3	198.0 176.0 162.0 152.0 144.0 138.0 132.0 127.0 127.0 119.0 115.0 110.0 107.0 105.0 40.0	15 19 23 27 31 35 39 43 47 51 55 59 63 67 71 250
250	40.0	100.0	0.0	251

	PRICE	AVG	ANNUAL	ROYALTY	REVENUE AFTER
YEAR	\$/ MCF	MCF/D	MCF	MCF	ROYALTY \$1000
1983	3.62	40	14580.	1822.	46.
1984	3.62	183	66719.	8340.	211.
1985	3.62	146	53224.	6653.	169.
1986	3.62	128	46647.	5831.	148.
1987	3.62	116	42382.	5298.	134.
1988	3.62	108	39329.	4916.	125.
1989	3.62	101	36838.	4605.	117.
1990	3.62	95	34530.	4316.	109.
1991	3.62	89	32367.	4046.	103.
1992	3.62	83	30339.	3792.	96.
1993	3.62	7 <b>8</b>	28438.	3555.	90.
1994	3.62	73	26656.	3332.	84.
1995	3.62	68	24986.	3123.	79.
1996	3.62	64	23421.	2928.	74.
1997 -	3.62	60	21954.	2744.	70.
1998	3.62	56	20578.	2572.	65.
1999	3.62	53	19289.	2411.	61.
2000	3.62	50	18081.	2260.	57.

2001 2002	3.62 3.62	46 43	16948. 15886.	2118. 1986.	54. 50.	
2003	3.62	34	12475. 625661.	1559. 78206.	40. 1982.	
	,					

,	WORKING I	NT. B/PA NT. A/PA X PRODUCTION	TUOY	70 1	00.0 00.0 48.0	ANNUAL ANNUAL NEG INC	PRICE I	NFLATIO		0.0 0.0 INCOME
+	DISCOUNT **RATE** *** % ** 34.1 25.8 15.0	BEFORE '	\$1000 *	LUE**** ****** FTER TA 0 117	* ***I	OUNTED PR NVESTMENT RE TAX 0.00	RATIO* AFTER T	*** 'AX RATE	OF RETU	
YEAR	INCOME *\$1000 **NET* *****	**PROJEC*  *****  CAPI-  *TAL*	r expen	SES IN AD.V. SEV. TAXES	\$1000* ***** PROD. COSTS	****CASH ****** BEFORE *TAXES	**CUM BEFORE	****	IN \$10 ***** INCOME TAXES	00**** ***** AFTER TAXES
1983 1984 1985 1986 1987 1988 1990 1991 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003	169 148 134 125 117 109 103 96 90 84 79 74 70 65 61 57 50 40	418 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 15 12 11 10 99 87 77 76 65 55 54 44 44 3	18 14 12 11 10 10 9 9 8 7 7 7 6 6 5 5 5 4 4 3	1666666666666655	- 377 188 149 129 117 108 101 94 88 82 77 71 67 62 58 54 50 46 43 40 31		- 236 172 136 119 107 99 92 86 81 75 70 65 61 57 53 49 46 42 39 36 28	-113 85 57 48 41 33 41 31 22 22 21 18 14	

TOTAL 1982 418 144 165 120 1279 0 1278 614 665

PAYOUT DURING MONTH 4 OF YEAR 4

## NORTHWEST PIPELINE CORPORATION GAS RESERVES DEPARTMENT ECONOMIC STUDY COMMERCIALITY OF SJ 30-5 UNIT #77 DK

TUE MARCH 11, 1986 12:32:31 PM

WORKING INT. B/PAYOUT%	100.0	ANNUAL COST INFLATION% 0.0
WORKING INT. A/PAYOUT%	100.0	ANNUAL PRICE INFLATION% 0.0
INCOME TAX	48.0	NEG INC TAX OFFSET BY OTHER INCOME
UNIT OF PRODUCTION DEPRECIATI	ON	

GAS PRODUCTION FROM SJ 30-5	JNIT #77 I	OK .	
LAND OWNER ROYALTY%	12.5	OVERRIDING ROYALTY	0.0
AD VALOREM AND SEV TAXES%	0.0	OPERATING COSTS (\$/MO)	500.0
MONTH OF CAPITAL EXPENSE		OPERATING COSTS (% OF PROD).	0.0
DRILLING COSTS (\$1000)		TANGIBLE \$ (% OF DRILLING \$)	39.0
SALVAGE VALUE (\$1000)	0.0		

INITIAL MONTH	MCF/D	% DECLINE	TO MCF/D	ENDING MONTH
19	780.0	89.2	371.0	23
23	371.0	61.5	270.0	27
27	270.0	44.4	222.0	31
31	222.0	34.3	193.0	35
35	193.0	28.0	173.0	39
39	173.0	22.4	159.0	43
43	159.0	21.0	147.0	47
47	147.0	17.3	138.0	51
51	138.0	16.4	130.0	55
55	130.0	15.3	123.0	59
59	123.0	11.7	118.0	63
63	118.0	12.2	113.0	67
67	113.0	12.7	108.0	71
71	108.0	8.1	105.0	75
75	105.0	11.0	101.0	79
79	101.0	8.6	98.0	83
83	98.0	8.9	95.0	87
87	95.0	9.2	92.0	91
91	92.0	6.4	90.0	95
95	90.0	6.4	57.0	178
178	57.0	6.3	37.0	258
258	37.0	100.0	0.0	259

YEAR	PRICE \$/ MCF	AVG MCF/D	ANNUAL MCF	ROYALTY MCF	REVENUE AFTER ROYALTY \$1000
1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992	2.66 2.66 2.66 2.66 2.66 2.66 2.66 2.66	261 236 162 131 114 102 93 86 81 76 71 66	0. 95151. 86379. 59066. 47987. 41511. 37161. 33852. 31549. 29533. 27646. 25879.	0. 11894. 10797. 7383. 5998. 5189. 4645. 4232. 3944. 3692. 3456. 3235. 3028.	0. 221. 201. 137. 112. 97. 86. 79. 73. 69. 64. 60.
				_	

1994 1995 1996 1997 1998 1999 2000 2001 TOTAL	2.66 2.66 2.66 2.66 2.66 2.66 2.66	62 58 54 51 48 45 42 39	22677. 21228. 19888. 18640. 17470. 16374. 15346. 14383. 685939.	2835. 2654. 2486. 2330. 2184. 2047. 1918. 1798. 85740.	53. 49. 46. 43. 41. 38. 36. 33.
---	--	--	---	--	--

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WORKING I INCOME TA	NT. B/PAYOU' NT. A/PAYOU' X PRODUCTION DI	Γ%	100.0 100.0 48.0 N	ANNUAL ANNUAL NEG INC	PRICE I	NFLATIO	N%	0.0 0.0 INCOME
DISCOUNT **RATE** *** % ** 38.0 27.0 15.0	****PRESEN' ***** \$100 BEFORE TAX 0. 271.	OO ****** AFTER T	** *** <sub>]</sub> AX BEFC O.	COUNTED PRENT O.00	RATIO* AFTER T	AX RATE		JRN B.T. JRN A.T.
INCOME *\$1000 **NET* YEAR *****	**PROJECT EX ***** *** CAPI- *** *TAL* DEN	*** AD.V. *** SEV.	***** PROD.	****CASH ****** BEFORE *TAXES	**CUM BEFORE	****	IN \$10 ***** INCOME TAXES	000**** ***** AFTER TAXES
1981 0 1982 221 1983 201 1984 137 1985 112 1986 97 1987 87 1988 79 1988 79 1989 73 1990 69 1991 64 1992 60	424 0 0 0 0 0 0 0	0 0 23 0 21 0 14 0 12 0 10 0 9 0 8 0 8 0 7 0 7 0	0 36 66 66 66 66 66	-424 218 195 131 106 91 80 73 67 63 58		259 196 174 117 94 81 72 65 60 56 52	-124 94 84 56 45 39 34 31 29 27 25	300 125 111 75 60 52 46 42 39 36 34 31

0 0

Ö

TOTAL 1597 424 165 0 117 1055 0 1055

**8** 

27 1055

**8** 

507 549

PAYOUT DURING MONTH 1 OF YEAR 4

#### NORTHWEST PIPELINE CORPORATION GAS RESERVES DEPARTMENT ECONOMIC STUDY COMMERCIALITY OF SJ 30-5 UNIT #80 DK

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WORKING INT. B/PAYOUT% WORKING INT. A/PAYOUT% INCOME TAX% UNIT OF PRODUCTION DEPRECIATION	48.0	ANNUAL COST INFLATION% ANNUAL PRICE INFLATION% NEG INC TAX OFFSET BY OTHER	0.0
GAS PRODUCTION FROM SJ 30-5 ULAND OWNER ROYALTY% AD VALOREM AND SEV TAXES%	12.5	OVERRIDING ROYALTY  OPERATING COSTS (\$/MO)	

MONTH OF CAPITAL EXPENSE.... 2 OPERATING COSTS (\$/MO).... 500.0 OPERATING COSTS (\$/MO)... 500.0 OPERATIN

INITIAL	MCF/D	%	TO	ENDING
MONTH		DECLINE	MCF/D	MONTH
10 14 18 22 42 46 50 54 58 62 66 70	344.0 265.0 205.0 195.0 180.0 174.0 168.0 164.0 159.0 152.0 149.0	54.3 53.7 13.9 4.7 9.7 10.0 7.0 8.9 5.6 7.5 5.8	265.0 205.0 195.0 180.0 174.0 168.0 164.0 159.0 156.0 149.0 146.0	14 18 22 42 46 50 54 58 62 66 70
74	146.0	6.0	143.0	78
78	143.0	5.9	60.0	249
249	60.0	100.0	0.0	250

PRICE AVG ANNUAL ROYALTY REVENUE AFTER YEAR \$/ MCF MCF/D MCF MCF ROYALTY \$1000 1983 3.62 81 29470. 3684.
1984 3.62 220 80220. 10027.
1985 3.62 188 68848. 8606.
1986 3.62 178 65114. 8139.
1987 3.62 163 59616. 7452.
1988 3.62 152 55485. 6936.
1989 3.62 143 52113. 6514.
1990 3.62 134 49025. 6128.
1991 3.62 126 46127. 5766.
1992 3.62 119 43399. 5425.
1993 3.62 112 40833. 5104.
1994 3.62 105 38419. 4802.
1995 3.62 99 36147. 4518.
1996 3.62 93 34010. 4251.
1997 3.62 88 31999. 4000.
1998 3.62 82 30107. 3763.
1999- 3.62 78 28327. 3541.
2000 3.62 73 26652. 3331.
2001 3.62 69 25076. 3135.
2002 3.62 65 23593. 2949. 93. 254. 218. 206. 189. 176. 165. 155. 146. 129. 122. 114. 108. 101. 95. 90. 84. 79.

75.

 2003
 3.62
 46
 16775.
 2097.
 53.

 TOTAL......
 881349.
 110165.
 2792.

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WORKING INT. B/PAYOUT% 100.0 ANNUAL COST INFLATION% 0.0 WORKING INT. A/PAYOUT% 100.0 ANNUAL PRICE INFLATION% 0.0 INCOME TAX										
*:	ISCOUNT *RATE** ** % ** 52.1 37.6 15.0	***** BEFORE	\$1000 *	LUE**** ***** FTER TA  0 268	* ***I X BEFO	OUNTED PF NVESTMENT PRE TAX 0.00	RATIO* AFTER T	FAX RATE	OF RETU	
4	INCOME *\$1000 **NET*	**PROJEC ***** CAPI- *TAL*	T EXPEN **** ***** DEPR.	SES IN AD.V. SEV. TAXES	\$1000* ***** PROD. COSTS	****CASH ****** BEFORE *TAXES	**CUM BEFORE	****	IN \$10 ***** INCOME TAXES	00**** **** AFTER TAXES
1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003	93 254 218 206 189 176 165 155 146 137 129 122 115 108 101 95 90 84 79 75 53	379 0 0 0 0 0 0 0 0 0 0 0	5 15 13 12 11 10 10 99 88 77 66 66 55 55 43 	8 21 18 17 16 15 14 13 12 11 10 10 98 8 7 7 7 6 4	- 26666666666666665	295 227 194 183 167 155 145 120 113 106 99 93 87 81 76 71 67 63 44		138 212 181 171 156 145 136 127 119 112 105 98 81 76 71 62 58 41	- 66 102 87 82 75 65 61 57 42 39 34 32 30 28	
TOTAL	2792	379	162	232	120	2060	0	2060	989	1071

PAYOUT DURING MONTH 5 OF YEAR 3

#### EXHIBIT "B"

SAN JUAN 30-5 UNIT RIO ARRIBA COUNTY, NEW MEXICO

GEOLOGIC REPORT
DAKOTA PRODUCING INTERVAL

NINTH AND TENTH EXPANSIONS OF THE DAKOTA PARTICIPATING AREA AND PROPOSED INITIAL DAKOTA "B" PARTICIPATING AREA

Prepared by Carolyn Firth

NORTHWEST PIPELINE CORPORATION

APPROVED BY:

Kenneth J./Stracke

Director

Production Division

# EXHIBIT "B" SAN JUAN 30-5 UNIT RIO ARRIBA COUNTY, NEW MEXICO GEOLOGIC REPORT DAKOTA PRODUCING INTERVAL

NINTH AND TENTH EXPANSIONS OF THE DAKOTA PARTICIPATING AREA AND PROPOSED INITIAL DAKOTA "B" PARTICIPATING AREA

#### GENERAL INFORMATION

The San Juan 30-5 Unit is located near the east edge of the productive area of the San Juan Basin. The unit includes 20,092.24 acres in Township 30 North, Range 5 West. All or parts of sections 1, 2, 3, 4, and 12 (2,329.56 acres) have been eliminated from the unit.

Within the unit area, the "Dakota Producing Interval" has been tested in 47 wells, resulting in 5 noncommercial wells, 2 plugged and abandoned wells, 31 commercial wells, 6 wells pending commerciality determination, and 3 wells awaiting pipeline connection. Seventeen of the 47 wells participate in the Dakota Participating Area, and 2 wells (Schalk 57-1 and 57-1E) participate in the Dakota "A" Participating Area.

The "Dakota Producing Interval" consists of the Graneros Shale, the Dakota Sandstone, and the Upper Morrison Formation. This interval has been defined and the lithology and stratigraphy have been discussed in geologic reports for adjacent units. Within the San Juan 30-5 Unit, the productive sands of the "Dakota Producing Interval" are restricted to the upper (marine) and middle (fluvial) Dakota Sands.

Included in this report as Exhibit "C" are three maps and a cross-section (Figures 1-4). Figure 1 is a Dakota structure map contoured on the top of the Graneros Shale using mean sea level as the datum plane and a contour interval of 20 feet. The major structural features include an anticlinal nose plunging northward through the east half of the unit, which is bordered on the west by a north-to-northeast plunging syncline. Regional strike is approximately N65°W, and regional dip is approximately 50 feet per mile (0.5°) to the northeast.

Figure 2 is an isopachous map of the net productive upper Dakota Sandstone as determined from radioactive and electric logs of wells drilled within the unit and the surrounding area. Sand bodies generally trend northwest-southeast. Net sand thickness decreases to zero in the southern part of the unit.

Of the 17 wells included in the Dakota Participating Area, 11 are completed in the upper sandstone only. The best areas for Dakota production generally correspond to areas with good upper sand development. With one exception (the No. 27 well, completed in 1959 with a small sand-oil frac) all of the non-commercial wells are located in areas with little or no net upper sand. This correlation of well productivity with net upper sand thickness demonstrates the validity of the parameters used to define "net" sand, and suggests that the middle Dakota interval contributes only minor amounts of gas.

San Juan Expansion October 1985 Page Two

Figure 3 is a map showing the net thickness (by well) of the perforated sands within the middle Dakota interval. No thicknesses are indicated for wells that were completed only in the upper sand.

Figure 4 is a stratigraphic cross-section showing the southern pinchout of the productive upper Dakota Sandstone. This cross-section will be discussed in greater detail later in this report.

Exhibit "D" (Table 1) is a tabulation of the Dakota gas production for all wells within the Unit boundary. Monthly gas production for the 12-month period ending August 31, 1985 is shown, as well as cumulative production. The San Juan 30-5 Unit has produced 7,419,977 Mcf of gas from the Dakota Producing Interval as of September 1, 1985.

#### NINTH EXPANSION OF THE DAKOTA PARTICIPATING AREA

Effective Date:

April 1, 1983

Proposed Acreage:

Township 30 North, Range 5 West, N.M.P.M. Section 6,

N/2 (320 acres)

The Ninth Expansion of the Dakota Participating Area is based on interpretation of the well logs, initial test results, and production history of the San Juan 30-5 Unit well No. 80. From this data, it is inferred that the proposed acreage is capable of producing unitized substances in commercial quantities from the Dakota Producing Interval. The well is described as follows:

The San Juan 30-5 Unit well No. 80 is located 800 feet from the North line and 800 feet from the East line, Section 6, Township 30 North, Range 5 West, N.M.P.M., Rio Arriba County, New Mexico. This well was spudded on January 15, 1983. The Dakota Formation was completed on March 21, 1983. The Dakota Formation was perforated with 21 holes at the following depths:

```
7884',7886',7888',7890',7892',7894',7896',
7898',7900',7902',7904',7931',7933',7935',
7937',7939',7941',7943',7945',7947',7949'
```

These perforations were treated with 121,400 gallons of pad water followed by 60,000 pounds of 40/60 sand. The well was tested on April 8, 1983 using a positive choke in a three-hour test. The well was tested at a 2429 Mcf/d flow rate with a calculated AOF of 2518 Mcf/d. The ISIP was measured at 2695 psig.

On the basis of this well, the N/2 of Section 6 (320 acres) is recommended as the Ninth Expansion of the Dakota Participating Area.

San Juan Expansion October 1985 Page Three

#### TENTH EXPANSION OF THE DAKOTA PARTICIPATING AREA

Effective Date:

June 1, 1983

Proposed Acreage:

Township 30 North, Range 5 West, N.M.P.M. Section 26.

N/2 (320 acres)

The Tenth Expansion of the Dakota Participating Area is based on initial test results and production history of the San Juan 30-5 Unit well No. 93. From this data, it is inferred that the proposed acreage is capable of producing unitized substances in commercial quantities from the Dakota Producing Interval. The well is described as follows:

The San Juan 30-5 Unit well No. 93 is located 790 feet from the North line and 890 feet from the East line, Section 26, Township 30 North, Range 5 West, N.M.P.M., Rio Arriba County, New Mexico. This well was spudded on April 19, 1983. The Dakota Formation was completed on May 26, 1983. The Dakota Formation was perforated with 16 holes at the following depths:

8411',8412',8413',8414',8415',8416',8417',8418',8419',8420',8421',8422',8423',8447',8448',8449'

These perforations were treated with 156,000 gallons of pad water followed by 40,000 pounds of 40/60 sand and 32,860 pounds of 20/40 sand. The well was tested on June 28, 1983 using a positive choke in a three-hour test. A flow rate of 1065 Mcf/d was measured with a calculated AOF of 1082 Mcf/d. The 1S1P was measured at 2734 psig.

On the basis of this well, the N/2 of Section 26 (320 acres) is recommended as the Tenth Expansion of the Dakota Participating Area.

#### INITIAL DAKOTA "B" PARTICIPATING AREA

Effective Date:

October 23, 1981

Proposed Acreage:

Township 30 North, Range 5 West, N.M.P.M.

Lots 1, 2, 3, 4, and W/2 E/2 of Section 36 (220.76 acres)

The Initial Dakota "B" Participating Area is based on log interpretation, initial test results, and production history of the San Juan 30-5 Unit well No. 77. From this data, it is inferred that the proposed acreage is capable of producing unitized substances in commercial quantities from the Dakota Producing Interval.

The No. 77 well is completed only in the upper Dakota Sandstone. Referring to the isopach map (Exhibit C, Figure 2), the zero line of the upper Dakota Sandstone trends generally east-west across sections 25 through 30 (Township 30 North, Range 5 West). The No. 77 well, located more than a mile south of

San Juan Expansion October 1985 Page Four

the zero sand line, is surrounded to the west and north by three noncommercial wells (Nos. 82, 91, and 85). This fact, plus the occurrence of five feet of net upper Dakota sand in the No. 77 well, suggests that the well is producing from a separate pool. Therefore, a separate participating area is recommended for the proposed acreage.

The cross-section (Exhibit C, Figure 4) shows the southern pinchout of the productive upper Dakota Sandstone. The correlation lines of the cross-section are drawn on net sand, the cutoffs being 35 ohms resistivity, 6 percent porosity, and 60 API units.

The No. 77 well is described as follows:

The San Juan 30-5 Unit well No. 77 is located 1640 feet from the North line and 870 feet from the East line, Section 36, Township 30 North, Range 5 West, N.M.P.M., Rio Arriba County, New Mexico. This well was spudded on May 14, 1981. The Dakota Formation was completed on October 23, 1981. This formation was perforated with 17 holes between the following depths:

8618' to 8634'

These perforations were treated with 20,000 gallons of pad water followed by 40,000 pounds of 40/60 sand and 20,000 pounds of 20/40 sand in fracturing fluid. This well was initially tested on October 23, 1981 using a positive choke in a three-hour test. The SITP was 2791 psig with a flowing tubing pressure of 143 psig producing at a rate of 1927 Mcf/d. The calculated AOF was 2019 Mcf/d.

On the basis of the above well and the surrounding geology, Lots 1, 2, 3, 4, and W/2 E/2 of Section 36 (220.76 acres) are recommended as the Initial Dakota "B" Participating Area.

EXHIBIT "D"

TABLE NO. 1 SAN JUAN 30-5 UNIT: DAKOTA GAS PRODUCTION RIO ARRIBA COUNTY, NEW MEXICO

GAS VOLUMES IN MCF @ 14.73 PSIA & 60 DEG. F

CUMULATIVE PRODUCTION TO 9/1/85	140869 132904 106448	102119 209670 107264 645865	189655 189655 112257 205513 421647	195441 630605 50407 181135 214402	329423 407002 207440 77098 91880	4,87,653 2,85912 3,48223 110833 123515	1043   1 66258 16073 80401 45791 100727 69945	40062 46959 19248 102997 65462 261142
AUG 85	0000	0000	00000	0000	00000	1117	183 183 0 0 3347 2804	1742 4170 0 0
JUL 85	0000		3780 3780 0	0 0 8875 0	398 398 0 0 4799 855		928 0 0 0 0 0 0	265 0 0 14383 0 0 0
JUN 85	0000	349 758	30 67	2175 1527 0 3023	581 0 0 8059	1089 0 966 802	316 1443 0 258 220 220	9 8 7210 0 800 0
MAY 85	7.000	ソちらゃ	50 12 4036 2483 5306 14113	4ののらて	3342 2960 4171 6998	6916 817 9895 159 1585	1197 1197 1000 164 4555 1964 3262	1697 2024 3485 1400 3297 623
APR 85	2800 17128 12967	4532 2742 7309	20002 4739 2837 8137 20099	5774 4660 14160 35610 5883	11106 4652 5913 5267	14968 14968 12210 18395 5118 2658	3258 1660 1243 9806 9809 7493 3132	4014 4004 0 15113 7734 24541
MAR 85	3880 42 104	4902 3794 9376	7290 5018 3645 4047 16206	7391 5561 2611 424 6958	12010 5663 6104 8383	20424 555 13752 18580 6738 3488	3500 2463 2162 7893 307 3676 3861 6226	1393 3554 0 0 5331 37
FEB 85	31	7 84 87	22235	87 19 34 11	9842 6337 6964 9279	21555 817 14949 0 5150 3616	4019 1298 1475 0 0 10506 4166	3912 2972 0 0 10396 88
JAN 85	58	486 <i>f</i> 6368 0	10244 4574 4574 9361 23251	300 978 502 581	19969 19969 12692 8865	4093 27944 725 20567 20567 13203 5474	6421 2548 1617 1617 0 0 9697 2670	6580 4575 0 6109 12873
DEC 84	000	185 895 895	<u> </u>	0000	0 0 0 0 11343	87	2339 2339 0 0 0 0 0	1552 5377 0 13687 21650 28
NOV 84	2436 9162 6220	1257 668 4148	698 1263 308 935 1721	1757 1410 0 18518	1748 621 867 13587	10319 1767 658 1487 0 0 0	2754 2002 2518 2518 5018 0 2955	5081 6360 6360 14210 3381 16036
OCT 84	498 681 384	90 283	22 22 22 24 34 35 35 35	669 570 878	900 903 603 171	1310	7520 2538 967 4215 0 1396	734 831 1557 1954
SEP 84	1636 0 0	4382 0 0	0 360 0 705 682	00000		16249 0 1160 87 7283 8904	507 0 198 0 2355 4134	8000 8029 8029 19663 5234
I.D. DATE	4/82 11/83 9/83	7/81 7/77 10/83	2/74 8/81 9/81 9/81	11/81 10/74 10/84 10/83	9/81 6/81 7/77 6/81 10/84	7/84 6/81 5/60 6/81 4/84 5/84	4/82 4/82 8/84 11/83 3/84 4/84	7/84 8/84 5/85 5/85 10/84 6/82
LOCATION	30N 30N 30N	30N 30N 30N	N N N N N 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	30N 30N 30N 30N	300NN 300N 300N	00000000000000000000000000000000000000	23L 30N 5W 25D 30N 5W 25L 30N 5W 26A 30N 5W 27B 30N 5W 27L 30N 5W 27L 30N 5W	NNNNNN 30000000000000000000000000000000
UNIT WELL NO.	- 62°C	C 47 80	~0000	# # *	V & C & & &	0 80 <u>+</u> − 10 0 −	* *	7970-975 : # # # * * *

7419977

TOTAL

\*NON-COMMERCIAL \*\*COMMERCIALITY NOT YET DETERMINED



## STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION



1935 - 1985

April 2, 1986

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501 (505) 827-5800

Northwest Pipeline Corporation P. O. Box 8900 Salt Lake City, Utah 84108-0900

Attention: Darrell L. Gillan

Re: San Juan 30-5 Unit #14-08-001-346 Rio Arriba County, New Mexico

Application for Approval of the Ninth Expanded Participating Area; Dakota Formation Effective April 1, 1983

Application for Approval of the Tenth Expanded Participating Area; Dakota Formation Effective June 1, 1983

Application for Approval of the Initial Dakota "B" Participating Area; Dakota Formation Effective October 23, 1981

#### Gentlemen:

The above-referenced submittal has been approved by the New Mexico Oil Conservation Division effective this date. Such approval is contingent upon like approval by the New Mexico Commissioner of Public Lands and the Bureau of Land Management.

Sincerely

ROY E. JOHNSON,

Senior Petroleum Geologist

REJ/dr

cc: Commissioner of Public Lands - Santa Fe Bureau of Land Management - Albuquerque

OCD District Office - Aztec

### State of New Mexico







## Commissioner of Public Lands February 21, 1986

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148
Express Mail Delivery Use:
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

Northwest Pipeline Corporation P. O. Box 8900 Salt Lake City Utah 84108-0900

Re: San Juan 30-5 Unit
Rio Arriba County, New Mexico
Notice of Completion of
Additional Wells
Dakota Formation

ATTENTION: Mr. Darrell L. Gillen

Gentlemen:

This office is in receipt of your letter of November 22, 1986, wherein Northwest Pipeline Corporation as unit operator of the San Juan 30-5 Unit, has determined that the Unit Well Nos. 75, 76, and 78 are capable of producing unitized substances in paying quantities from the Dakota Formation.

The Commissioner of Public Lands concurs with your determination and has this date approved your Notice of Completion of Additional Wells in the Dakota Formation. Inasmuch as these wells were completed in the existing Dakota Participating Area, no revision is necessary. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

FLOYD O. PRANDO, Director Oil and Gas Division AC 505/827-5744

JB/FOP/pm encls.

cc:

OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico Attn: Fluids Branch
BLM-Roswell, New Mexico Attn: Mr. Armando Lopez



LAND DEPARTMENT

110-86

P O BOX 8900 SALT LAKE CITY, UTAH 84108-0900 801-584-6669 801-584-7215

3

February 3, 1986

Assistant District Manager, Minerals Bureau of Land Management Western National Bank Building 505 Marquette NW, Suite 815 Albuquerque, NM 87102

State of New Mexico Commissioner of Public Lands Attn: Mr. Ray D. Graham Post Office Box 1148 Santa Fe, NM 87501

State of New Mexico Oil Conservation Division Attn: Mr. Richard L. Stamets Post Office Box 2088 Santa Fe, NM 87501

Re: San Juan 30-5 Unit #14-08-001-436

San Juan County, New Mexico

NOTICE OF COMPLETION OF NON-COMMERCIAL WELLS

DAKOTA FORMATION

#### Gentlemen:

The Notice of Completion of Non-Commercial Wells, which was filed August 26, 1985 for the San Juan 30-5 #85 and #91 wells has been approved by the regulatory agencies as follows:

Bureau of Land Management Commissioner of Public Lands 12/09/85 01/08/86

Copies of this letter are being sent to the Working Interest Owners shown on the attached sheet.

February 3, 1986 Page -2-

Sincerely,

NORTHWEST PIPELINE CORPORATION

Danel Striller

Darrell L. Gillen Land Coordinator

DLG:js

Attachments

cc: Working Interest Owners
 K. J. Stracke
 W. O. Curtis K. Nielsen

#### SAN JUAN 30-5 WORKING INTEREST OWNERS

Amoco Production Company Western Division, Production Manager 1670 Broadway Amoco Building Denver, CO 80202

Phillips Oil Company Attention: Bruce A. Bowman 8055 E. Tufts Avenue Parkway Denver, CO 80237

Meridan Oil Land Department P. O. Box 4289 Farmington, NM 87499

Arapahoe Drilling Company Larry H. Williams 200 Lomas, NW - Suite 440 P. O. Box 26687 Albuquerque, NM 87102

Lt. Col. Langdon Dewey Harrison, Trustee for Mrs. Omega E. Quinn 7517 Tamarron Place, N.E. Albuquerque, NM 87109

Texaco, Inc.
Mgr., Petroleum Engineering
P. O. Box 2100
Denver, CO 80201

0043t



LAND DEPARTMENT

110-86

P O BOX 8900 SALT LAKE CITY, UTAH 84108-0900 801-584-6669 801-584-7215

February 3, 1986

Assistant District Manager, Minerals Bureau of Land Management Western National Bank Building 505 Marquette NW, Suite 815 Albuquerque, NM 87102

State of New Mexico Commissioner of Public Lands Attn: Mr. Ray D. Graham Post Office Box 1148 Santa Fe, NM 87501

State of New Mexico
Oil Conservation Division
Attn: Mr. Richard L. Stamets
Post Office Box 2088
Santa Fe, NM 87501

Re: San Juan 30-5 Unit #14-08-001-346

Rio Arriba County, New Mexico

NOTICE OF COMPLETION OF ADDITIONAL WELLS

DAKOTA FORMATION

#### Gentlemen:

The Notice of Completion of Additional Wells, which was filed November 22, 1985 for the San Juan 30-5 #75, #76 and #78 wells have been approved by the Bureau of Land Management on 12/26/85.

Copies of this letter are being sent to the Working Interest Owners shown on the attached sheet.

February 3, 1986 Page -2-

Sincerely,

NORTHWEST PIPELINE CORPORATION

Darrell L. Gillen Land Coordinator

DLG:js

**Attachments** 

cc: Working Interest Owners

K. J. StrackeW. O. CurtisK. Nielsen

#### SAN JUAN 30-5 WORKING INTEREST OWNERS

Amoco Production Company Western Division, Production Manager 1670 Broadway Amoco Building Denver, CO 80202

Phillips Oil Company Attention: Bruce A. Bowman 8055 E. Tufts Avenue Parkway Denver, CO 80237

Meridan Oil Land Department P. O. Box 4289 Farmington, NM 87499

Arapahoe Drilling Company Larry H. Williams 200 Lomas, NW - Suite 440 P. O. Box 26687 Albuquerque, NM 87102

Lt. Col. Langdon Dewey Harrison, Trustee for Mrs. Omega E. Quinn 7517 Tamarron Place, N.E. Albuquerque, NM 87109

Texaco, Inc.
Mgr., Petroleum Engineering
P. O. Box 2100
Denver, CO 80201

0043t

### State of New Mexico







### Commissioner of Public Lands

January 8, 1986

P.O. BOX 1148 310 Old Santa Fe Trail Santa Fe, New Mexico 87501

Northwest Pipeline Corporation P. O. Box 8900 Salt Lake City, Utah 84108-0900

San Juan 30-5 Unit # 14-08-001-436

Notice of Completion of Non-Commercial

Well Dakota Formation

ATTENTION: Mr. Darrell L. Gillen

Gentlemen:

This office is in receipt of your Notice of Completion of Non-Commercial Wells for the San Juan 30-5 Unit Area. Such notice advises that the Unit Well Nos. 85 and 91 are not capable of producing unitized substances in paying quantities from the Dakota Formation.

The Commissioner of Public Lands concurs with your determination and has this date approved your application.

Enclosed is an approved copy for your files.

Very truly yours,

JIM BACA

COMMISSIONER OF PUBLIC LANDS

RAY D. GRAHAM, Director

Oil and Gas Division

AC 505/827-5744

JB/RDG/pm encls.

cc:

OCD-Santa Fe, New Mexico

BLM-Albuquerque, New Mexico Attn: Fluids Branch BLM-Roswell, New Mexico Attn: Mr. Armando Lopez



LAND DEPARTMENT

353-85

P O BOX 8900 SALT LAKE CITY, UTAH 84108-0900 801-584-6669 801-584-7215

December 4, 1985

Assistant District Manager, Minerals Bureau of Land Management Western National Bank Building 505 Marquette NW, Suite 815 Albuquerque, NM 87102

State of New Mexico Commissioner of Public Lands Attn: Mr. Ray D. Graham P. O. Box 1148 Santa Fe, NM 87501

State of New Mexico
Oil Conservation Division
Attn: Richard L. Stamets
P. O. Box 2088
Santa Fe, NM 87501

Re: San Juan 30-5 Unit #14-08-001-346
Rio Arriba County, New Mexico
Application for Approval for Extension of
Time to Drill Intervening Drilling Block
Wells

#### Gentlemen:

Northwest Pipeline Corporation, as Unit Operator, completed the 1985 Drilling Program as filed. The drilling of well #61 MV, T30N, R5W, Sec. 15: E/2 created one (1) intervening drilling block; Sec. 14: W/2.

Because of the decline in the gas market, wells are not being connected as they are completed but are connected when it is cost effective and when there is a market for the gas.

Therefore, Northwest requests that an extension of time be given to drill the intervening drilling block well. We ask that the extension of time given be that time which would be prudent and cost effective; determined from an evaluation of the gas market, instead of one year from the effective date of the expansion of the participating area.

Assistant Area Oil and Gas Supervisor Commissioner of Public Lands Oil Conservation Commission San Juan 30-5 Unit December 4, 1985 Page -2-

Copies of this letter are being sent to the Working Interest Owners shown on the attached sheet.

Sincerely,

NORTHWEST PIPELINE CORPORATION

Darrell L. Gillen Land Coordinator

DLG:js

cc: K. J. Stracke

W. O. Curtis

P. C. Thompson

Davell & Giller

Assistant Area Oil and Gas Supervisor Commissioner of Public Lands Oil Conservation Commission San Juan 30-5 Unit December 4, 1985 Page -3~

APPROVED:		Date
	Assistant Area Oil and Gas Supervisor Minerals Management Service Subject to like approval by the Commissioner of Public Lands and the Oil Conservation Commission	
APPROVED:	Commissioner of Public Lands Subject to like approval by the Minerals Management Service and the Oil Conservation Commission	Date
APPROVED:	Oil Conservation Commission Subject to like approval by the Minerals Management Service and the Commissioner of Public Lands	Date

#### SAN JUAN 30-5 WORKING INTEREST OWNERS

Amoco Production Company Western Division, Production Manager 1670 Broadway Amoco Building Denver, CO 80202

Phillips Oil Company Attention: Bruce A. Bowman 8055 E. Tufts Avenue Parkway Denver, CO 80237

Meridan Oil Land Department P. O. Box 4289 Farmington, NM 87499

Arapahoe Drilling Company Larry H. Williams 200 Lomas, NW - Suite 440 P. O. Box 26687 Albuguerque, NM 87102

Lt. Col. Langdon Dewey Harrison, Trustee for Mrs. Omega E. Quinn 7517 Tamarron Place, N.E. Albuquerque, NM 87109

Texaco, Inc.
Mgr., Petroleum Engineering
P. O. Box 2100
Denver, CO 80201

0043t

## NORTHWEST PIPELINE CORPORATION ONE OF THE WILLIAMS COMPANIES

LAND DEPARTMENT

865-85

P O BOX 8900 SALT LAKE CITY, UTAH 84108-0900 801-584-6669 801-584-7215

November 22, 1985

417

Assistant Area Oil and Gas Supervisor Bureau of Land Management Western National Bank Building 505 Marquette NW, Suite 815 Albuquerque, NM 87102

State of New Mexico Commissioner of Public Lands Attn: Mr. Ray D. Graham P. O. Box 1148 Santa Fe, NM 87501

State of New Mexico Oil Conservation Commission Attn: Mr. Richard L. Stamets P. O. Box 2088 Santa Fe, NM 87501

Re: San Juan 30-5 Unit #14-08-001-346
Rio Arriba County, New Mexico
NOTICE OF COMPLETION OF
ADDITIONAL WELL
Dakota Formation

Gentlemen:

Pursuant to the provisions of Section 11(a) of the San Juan 30-5 Unit Agreement, Northwest Pipeline, as Unit Operator, has determined that the following described wells are capable of producing unitized substances in paying quantities from the Dakota Formation.

The well data is as follows:

The San Juan 30-5 Unit #75 well is located 1620 feet from the South line and 1100 feet from the West line of Section 21, Township 30 North, Range 5 West, N.M.P.M., Rio Arriba County, New Mexico. This well was spudded on October 14, 1983. The Dakota formation was completed on November 10, 1983, having a plug back depth of 7980'. It was perforated with a total of 26 holes at the following depths:

Bureau of Land Management Commissioner of Public Lands Oil Conservation Commission November 22, 1985 Page -2-

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7868', 7869', 7870', 7871', 7872', 7873', 7874', 7875', 7876', 7877', 7878', 7879', 7880', 7891', 7892', 7893', 7894', 7895', 7896', 7897', 7898', 7899', 7900', 7901', 7914' and 7915'.
```

These perforations were treated and the formation was sand water fractured using 2504 bbls of treated fluid followed by 60,000 pounds of 40/60 sand and 10,000 pounds of 20/40 sand. On December 7, 1983 the Dakota formation was tested for three hours using a positive choke. During this test the well produced 623 Mcf of gas with a light mist. The flowing tubing pressure was 309 psig. The SITP and the SICP were both 2680 psig. The calculated AOF was 4612 Mcfd.

The San Juan 30-5 Unit #76 well is located 860 feet from the South line and 890 feet from the East line, Section 15, Township 30 North, Range 5 West, N.M.P.M., Rio Arriba County, New Mexico. This well was spudded on January 27, 1983. The Dakota formation was completed on May 13, 1983. The Dakota formation was perforated with 29 holes at the following depths:

```
7792', 7793', 7794', 7795', 7796', 7797', 7798', 7799', 7800', 7801', 7802', 7803', 7804', 7805', 7806', 7807', 7808', 7809', 7810', 7811', 7812', 7837', 7838', 7839', 7840', 7841', 7842', 7843', 7844'.
```

These perforations were treated with 139,784 gallons pad water followed by 59,725 pounds of 40/60 sand. The well was tested on May 31, 1983 using a positive choke in a three hour test. The well was tested at a 2638 MCFD flow rate with a calculated AOF of 2791 MCFD. The ISIP was measured at 2852 psig.

The San Juan 30-5 Unit #78 well is located 1700 feet from the South line and 1010 feet from the West line, Section 7, Township 30 North, Range 5 West, N.M.P.M., Rio Arriba County, New Mexico. This well was spudded on February 10, 1983. The Dakota formation was completed on April 10, 1983. The Dakota formation was perforated with 21 holes at the following depths:

```
7580', 7581', 7582', 7383', 7584', 7585', 7586', 7587', 7588', 7589', 7590', 7591', 7592', 7593', 7594', 7595', 7596', 7597', 7598', 7599', 7600'.
```

These perforations were treated with 120,120 gallons pad water followed by 50,000 pounds of 40/60 sand and 10,000 pounds of 20/40 sand. The well was tested on April 28, 1983 using a positive choke in a three hour test. A flow rate of 2084 MCFD was measured with a calculated AOF of 2172 MCFD. The ISIP was measured at 2641 psig.

Bureau of Land Management Commissioner of Public Lands Oil Conservation Commission November 22, 1985 Page -3-

Since these wells were drilled within the existing Dakota Participating Area, the Participating Area is not enlarged by virtue of these commercial wells and the percentages of participation remain the same.

If these determinations meet with your approval, please so indicate such approval in the space provided and return an approved copy for our files. Copies of this letter are being sent to the Working Interest Owners shown on the attached sheet.

Sincerely,

NORTHWEST PIPELINE CORPORATION

Danell L Giller
Darrell L. Gillen
Land Coordinator

DLG:js

cc: Working Interest Owners

K. J. Stracke W. O. Curtis D. Betenson C. N. Potter

APPROVED		DATE
	Area Oil and Gas Supervisor	
	Bureau of Land Management	
	Subject to like approval by the	
	Commissioner of Public Lands	
	and the Oil Conservation Commission	
APPROVED	Commissioner of Public Lands	DATE
	Subject to like approval by	
	the Area Oil and Gas Supervisor	
	and the Oil Conservation Commission	
APPROVED	Soi Collin	DATE 11-25-85
, , , , , , , , , , , , , , , , , , ,	011 Conservation Commission	

Subject to like approval by the Area Oil and Gas Supervisor and the Commissioner of Public Lands

Bureau of Land Management Commissioner of Public Lands Oil Conservation Commission November 22, 1985 Page -4-

The foregoing is for the approval of Notice of Completion of Additional Wells 30-5 Unit Well Nos. 75, 76 and 78 Dakota.

### SAN JUAN 30-5 (DK) WORKING INTEREST OWNERS

Amoco Production Company Attention: J. C. Burnside 1670 Broadway - Suite 1914 Amoco Building Denver, CO 80202

Phillips Petroleum Company Attention: T. C. Doughty 8055 E. Tufts Avenue Parkway Denver, CO 80237

Meridian Oil Production, Inc. Land Department P. O. Box 4289 Farmington, NM 87499-4289

Texaco Inc.
Attn: Mr. John A. Ramsey
Division Attorney
P. O. Box 2100
Denver, CO 80201

Larry H. Williams Arapahoe Drilling Company 200 Lomas, NW - Suite 440 Albuquerque, NM 87102

Lt. Col. Langdon Dewey Harrison Trustee for Mrs. Omega E. Quinn 7517 Tamarron Place, N.E. Albuquerque, NM 87109



## STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

1935 - 1985

September 10, 1985

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501 (505) 827-5800

Northwest Pipeline Corporation

P. O. Box 8900

Salt Lake City, Utah 87108-0900

Attention: Darrell L. Gillen

e: San Juan 30-5 Upit #14-08-001-436

Rio tha County, New Mexico

NOTICE OF COMPLETION OF NON-COMMERCIAL WELLS

DAKOTA FORMATION

#### Gentlemen:

The above-referenced submittal has been approved by the New Mexico Oil Conservation Division effective this date. Such approval is contingent upon like approval by the New Mexico Commissioner of Public Lands and the Bureau of Land Management.

Sincerely

ROY E. DOHNSON,

Senior ♥etroleum Geologist

REJ/dr

cc: Commissioner of Public Lands - Santa Fe Bureau of Land Management - Albuquerque

OCD District Office - Aztec

## NORTHWEST PIPELINE CORPORATION ONE OF THE WILLIAMS COMPANIES

LAND DEPARTMENT

597-85

P.O. BOX 8900 SALT LAKE CITY, UTAH 84108-0900 801-584-6669 801-584-7215

August 26, 1985

Assistant District Manager, Minerals Bureau of Land Management Western National Bank Building 505 Marquette NW, Suite 815 Albuquerque, NM 87102

State of New Mexico Commissioner of Public Lands Attn: Mr. Ray D. Graham Post Office Box 1148 Santa Fe, NM 87501

State of New Mexico
Oil Conservation Division
Attn: Mr. Richard L. Stamets
Post Office Box 2088
Santa Fe, NM 87501

Re: San Juan 30-5 Unit #14-08-001-436
Rio Arriba County, New Mexico
NOTICE OF COMPLETION OF NON-COMMERCIAL WELLS
DAKOTA FORMATION

#### Gentlemen:

Pursuant to the provisions of Section 11(b) of the San Juan 30-5 Unit Agreement, Northwest Pipeline Corporation, as Unit Operator, has determined that the following described wells are not capable of producing unitized substances in paying quantities from the Dakota Formation.

The San Juan 30-5 Unit #85 well is located 790 feet from the South line and 850 feet from the West line of section 36, Township 30 North, Range 5 West, N.M.P.M., Rio Arriba County, New Mexico. This well was spudded on August 12, 1983. The Dakota Formation was completed on September 4, 1983 with a plug back depth of 8828'. It was perforated with a total of 24 holes at the following depths:

8752', 8753', 8754', 8755', 8756', 8757', 8758', 8759', 8760', 8761', 8762', 8788', 8789', 8790', 8791', 8792', 8793', 8794', 8795', 8796', 8797', 8798', 8799', 8800'

Assistant District Manager Commissioner of Public Lands Oil Conservation Division August 26, 1985 Page -2-

These perforations were treated and the formation was sand water fractured using 3114 bbls of treated fluid followed by 50,000 pounds of 40/60 sand and 10,000 pounds of 20/40 sand. On September 29, 1983 the Dakota Formation was tested using a positive choke. During this three hour test the rate of flow was 982 Mcfd with a relatively heavy mist of water. The flowing tubing pressure was 66 psig. The SITP was 2260 psig and the SICP was 2272 psig. The calculated AOF was 1022 Mcfd.

The San Juan 30-5 Unit #91 well is located 1950 feet from the South line and 835 feet from the West line of section 25, Township 30 North, RAnge 5 West, N.M.P.M., Rio Arriba County, New Mexico. This well was spudded on September 13, 1983. The Dakota Formation was completed on October 1, 1983 and perforated with 23 holes at the following depths:

```
7943', 7944', 7945', 7946', 7947', 7948', 7949', 7950', 7951', 7952', 7953', 7954', 7955', 7956', 7980', 7981', 7982', 7983', 7984', 7985', 7986', 7987', 7988'
```

These perforations were treated and the formation was sand water fractured using 3218 bbls of treated fluid followed by 60,000 pounds of 40/60 sand and 10,000 pounds of 20/40 sand. On October 27, 1983 the Dakota Formation was tested using a positive choke. During this three hour test the rate of flow was 1136 Mcfd with a light mist of water. Both the SITP and the SICP were 2660 psig. The flowing tubing pressure was 79 psig. The calculated AOF for the Dakota Formation was 1155 Mcfd.

If these determinations meet with your approval, please so indicate such approval in the space provided and return an approved copy for our files. Copies of this letter are being sent to the working interest owners shown on the attached sheet.

Sincerely,

NORTHWEST PIPELINE CORPORATION

Danell Lbyllen

Darrell L. Gillen Land Coordinator

DLG:js

Attachment

cc: Working Interest Owners K. J. Stracke

W. O. Curtis

Assistant District Manager Commissioner of Public Lands Oil Conservation Commission August 26, 1985 Page -3-

APPROVED		DATE	
	Assistant District Manager, Minerals Bureau of Land Management Subject to like approval by the Commissioner of Public Lands and the Oil Conservation Division		
APPROVED	Commissioner of Public Lands Subject to like approval by the Area Oil and Gas Supervisor and the Oil Conservation Division	DATE	
APPROVED	011 Conservation Division Subject to like approval by the Area Oil and Gas Supervisor and	DATE 9-9-8	<del>-</del>

the Commissioner of Public Lands

### SAN JUAN 30-5 WORKING INTEREST OWNERS

Amoco Production Company Western Division, Production Manager 1670 Broadway Amoco Building Denver, CD 80202

Phillips Oil Company Attention: Bruce A. Bowman 8055 E. Tufts Avenue Parkway Denver, CO 80237

Meridan Oil Land Department P. O. Box 4289 Farmington, NM 87499

Arapahoe Drilling Company Larry H. Williams 200 Lomas, NW - Suite 440 P. O. Box 26687 Albuquerque, NM 87102

Lt. Col. Langdon Dewey Harrison, Trustee for Mrs. Omega E. Quinn 7517 Tamarron Place, N.E. Albuquerque, NM 87109

Texaco, Inc.
Mgr., Petroleum Engineering
P. O. Box 2100
Denver, CO 80201

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THIS PROJECT DOES NOT PAYOUT

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# STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION



1935 - 1985

POST OFFICE BCX 2088
STATE LAND OFFICE BUILDING
SANTA FE. NEW MEXICO 87501
(505) 827-5800

May 6, 1985

Northwest Pipeline Corporation P.O. Box 1526 Salt Lake City, Utah 84110-1526

Attention: Darrell L. Gillan

Re: San Juan 30-5 Unit #14-08-001-436 San Juan and Rio Arriba Counties, New Mexico

APPLICATION OF APPROVAL OF THE SEVENTH EXPANDED PARTICIPATING AREA - Dakota Formation - Effective September 1, 1981

APPLICATION FOR APPROVAL OF THE EIGHTH EXPANDED PARTICIPATING AREA - Dakota Formation - Effective October 1, 1981

Dear Mr. Gillan:

The above referenced submittal has been approved by the New Mexico Oil Conservation Division effective this date. Such approval is contingent upon like approval by the New Mexico Commissioner of Public Lands and the Bureau of Land Management.

Sincerely,

ROY E. JOHNSON

Senior Petroleum Geologist

REJ/dp

cc: Commissioner of Public Lands - Santa Fe
 Bureau of Land Management - Albuquerque
 OCD District Office - Aztec

### NORTHWEST PIPELINE CORPORATION ONE OF THE WILLIAMS COMPANIES

LAND DEPARTMENT



P O BOX 1526 SALT LAKE CITY, UTAH 84110-1526 801-584-7215

April 18, 1985

135-85

Assistant Area Oil and Gas Supervisor Bureau of Land Management Western National Bank Building 505 Marquette NW, Suite 815 Albuquerque, New Mexico 87102

State of New Mexico Commissioner of Public Lands Attention: Mr. Ray D. Graham P. O. Box 1148 Santa Fe, New Mexico 87501

State of New Mexico
Oil Conservation Commission
Attention: Mr. Richard L. Stamets
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: San Juan 30-5 Unit #14-08-001-436 San Juan & Rio Arriba Counties, New Mexico

APPLICATION FOR APPROVAL OF THE SEVENTH EXPANDED PARTICIPATING AREA Dakota Formation Effective September 1, 1981

APPLICATION FOR APPROVAL OF THE EIGHTH EXPANDED PARTICIPATING AREA Dakota Formation Effective October 1, 1981

#### Gentlemen:

Pursuant to the provisions of Section 11(b) of the San Juan 30-5 Unit Agreement #14-08-001-436, approved November 7, 1952, NORTHWEST PIPELINE CORPORATION, as Unit Operator, hereby respectfully requests approval of the Seventh and Eighth Expanded Participating Areas for the Dakota Formation.

These proposed Revisions of the Participating Area for the Dakota Formation are predicated upon the determination by Northwest Pipeline Corporation, as Unit Operator, that the following San Juan 30-5 Unit Dakota Wells, which were completed outside the limits of the existing Dakota Participating Area, are capable of producing unitized substances in paying quantities from the Dakota Formation.

#### SEVENTH EXPANDED PARTICIPATING AREA - Effective September 1, 1981

Description of Lands

No. of Acres

Township 30 North, Range 5 West, N.M.P.M. Section 5: All

640.00

The well data is as follows:

The San Juan 30-5 Unit #79 well is located 1000 feet from the north line and 1720 feet from the east line, Section 5, Township 30 North, Range 5 West, N.M.P.M., Rio Arriba County, New Mexico. This well was spudded on April 20, 1981 and completed on September 3, 1981. The Dakota Formation was perforated with 19 holes between the following depths:

7932' and 8028'

These perforations were treated with 1500 gal HCl and fractured with 70,000 lbs. of 40/60 sand, 10,000 lbs. of 20/40 sand, and 20,000 gallons of pad water. This well has one tubing string. The well was shut-in with a SIPT of 2492 psig and SIPC of 2473 psig. On September 3, 1981 the well was tested, and after flowing for three hours through a 3/4 inch variable choke on the 2 3/8 inch tubing, the well gauged 2366 Mcf/D with a calculated AOF of 2549 Mcf/D.

#### EIGHTH EXPANDED PARTICIPATING AREA - Effective October 1, 1981

Description of Lands

No. of Acres

Township 30 North, Range 5 West, N.M.P.M.

640.00

Section 22: E/2 Section 23: W/2

The well data is as follows:

The San Juan 30-5 Unit #83 well is located 1480 feet from the south line and 950 feet from the west line, Section 23, Township 30 North, Range 5 West, N.M.P.M., Rio Arriba County, New Mexico. This well was spudded on May 6, 1981 and completed on October 13, 1981. The Dakota Formation was perforated with 12 holes between the following depths:

#### 8092' and 8184'

These perforations were treated with 20,000 gallons of pad water and fractured with 22,600 lbs. of 40/60 sand. This well has one tubing string. The well was shut-in with a SIPT of 2720 psig and SIPC of 2731 psig. On October 13, 1981 the well was tested, and after flowing for three hours through a 3/4 inch variable choke on the 2 3/8 inch tubing, the well gauged 3407 Mcf/D with a calculated AOF of 3804 Mcf/D.

In support of these applications, the following listed Exhibits are made a part thereof:

#### Exhibit "A"

Ownership maps reflecting the boundaries of the Unit and the Proposed Seventh and Eighth Expansions of the Participating Area of the Dakota Formation within the San Juan 30-5 Unit.

### Exhibit "B"

Geological Reports on the Seventh and Eighth Expansions of the Participating Area of the Dakota Formation within the San Juan 30-5 Unit.

### Exhibit "C"

Figure No. 1: San Juan 30-5 Dakota Structure Map Figure No. 2: San Juan 30-5 Dakota Isopach Map

#### Exhibit "D"

Table No. I: Schedule of San Juan 30-5 Unit Dakota Production

Attached are Schedules VII and VIII showing the Proposed Seventh and Eighth Expanded Participating Areas for the Dakota Formation in the San Juan 30-5 Unit Area. These Schedules describe the Participating Area, show the percentage of unitized substances allocated to each unitized tract, and the percentage of ownership in the tracts.

If the Seventh and Eighth Expanded Participating Areas of the Dakota Formation meet with your approval, please indicate such approval in the space provided on the attached sheet and return an approved copy for our files.

Copies of this letter and Schedules are being sent to the Working Interest Owners as shown on the attached sheet.

Very truly yours,

Danell Laillen
Darrell L. Gillan
Land Coordinator

DLG:js

Attachments

cc: Working Interest Owners

APPROVED		DATE
	Assistant Area Oil and Gas Supervisor Subject to like approval by the Commissioner of Public Lands and the Oil Conservation Commission	
APPROVED		DATE
	Commissioner of Public Lands	
	Subject to like approval by the	
	Assistant Area Oil and Gas Supervisor	
	and the Off Conservation Commission	
	1906	
APPROVED	1 ) in C Millison	DATE 5-6-85
	Oil Conservation Commission	
	Subject to like approval by the	
	Assistant Area Oil and Gas Supervisor	
	and the Commissioner of Public Lands	

The foregoing are approvals for the SEVENTH AND EIGHTH EXPANDED PARTICIPATING AREAS in the Dakota Formation in the San Juan 30-5 Unit.

SERIAL NUMBER	DESCRIPTION	NUMBER OF ACRES	DRILLING BLOCK OWNERSHIP	PERCENTAGE	PERCENTAGE COMMITTED	PRESENT ACTUAL PARTICIPATION
			TRACT 4			
SF-078739	T-30-N, R-5-W Sec. 21: E/2,	800.00	Royalty Working Interest	12.500000%	12.500000%	11.363636%
	SW/4		Phillips Petroleum Co.	84.500000%	84.500000%	
			ORRI	3.000000%	3.000000%	
			Total	100.00000%	100.00000%	
SF-078739	T-30-N, R-5-W Sec. 22: W/2		Royalty Working Interest	12.500000%	12.500000%	
			Phillips Petroleom Co.	85.000000%	85.000000%	
			ORRI	2.500000%	2.500000%	
			Total	100.000000%	100.000000%	
			TD107 5			
			TRACT 5			
SF-078740	T-30-N, R-5-W Sec. 20: E/2	320.00	Royalty Working Interest	12.500000%	12.500000%	4.545455%
			Phillips Petroleum Co.	82.500000%	82.500000%	
			ORRI	5.000000%	5.000000%	
			Total	100.000000%	100.000000%	
			TRACT 6			
SF-078994	T-30-N, R-5-W Sec. I5: SW/4,	760.00	Royalty Working Interest	. 12.500000%	12.500000%	10.795455 <b>%</b>
	SW/4NW/4		Phillips Petroleum Co.	82.500000%	82.500000%	
	Sec. 17: SW/4,		ORRI	5.000000%	5.000000%	
	S/2NW/4 Sec. 18: E/2		Total	100.000000%	100.000000%	
	Jec. 10. E/2					

SERIAL NUMBER	DESCRIPTION	NUMBER OF ACRES	DRILLING BLOCK OWNERSHIP	PERCENTAGE	PERCENTAGE COMMITTED	PRESENT ACTUAL PARTICIPATION
			TRACT 7			
SF-078997	T-30-N, R-5-W Sec. 6: S/2SE/4 SE/4SW/4 Sec. 7: N/2, NW/4SW/4, N/2 SE/4, SE/4SE/4 Sec. 8: NW/4, N/2SW/4 Sec. 9: A11 Sec. 10: A11 Sec. 15: E/2, E/ NW/4, NW/4NW/4		Royalty Working Interest Phillips Petroleum Co. ORRI Total	12.500000% 82.500000% 5.000000% 100.000000%	12.500000% 82.500000% 5.000000% 100.000000%	36.363636%
			TRACT 11			
SF-080066	T-30-N, R-5-W Sec. 5: All Sec. 6: N/2S/2, SW/4SW/4	840.00	Royalty Working Interest Phillips Petroleum Co. ORRI Total	12.500000% 82.500000% 5.000000% 100.000000%	12.500000% 82.500000% 5.000000% 100.000000%	11.931818%
			TRACT 17			
State of NM 347-41	T-30-N, R-5-W Sec. 16: NE/4	160.00	Royalty Working Interest Amoco Production Co. ORRI Total	12.500000% 87.500000% 00.000000% 100.000000%	12.500000% 87.500000% 00.000000% 100.000000%	2.212121 <b>%</b>
			TRACT 17-A			
State of NM 347-40	T-30-N, R-5-W Sec. 16: N/2 NW/4	80.00	Royalty Working Interest Getty Oil Co. ORRI Total	12.500000% 82.750000% 4.750000% 100.000000%	12.500000% 82.750000% 4.750000% 100.000000%	1.136364

SCHEDULE VII
SEVENTH EXPANDED PARTICIPATING AREA FOR THE DAKOTA FORMATION
SAN JUAN 30-5 UNIT AREA

SERIAL NUMBER	DESCRIPTION O	NUMBER OF ACRES	DRILLING BLOCK OWNERSHIP	PERCENTAGE	PERCENTAGE COMMITTED	PRESENT ACTUAL PARTICIPATION
			TRACT 17-D			
State of NM	T-30-N, R-5-W	80.00	Royalty	12.500000%	12.500000%	1.136364%
347-41	Sec. 16: S/2 NW/4		Working Interest Amoco Production Co.	82.500000%	82.500000%	
			ORRI Total	5.00000% 100.00000%	5 000000% 100.000000%	
			1004	100.0000	100.00000	
			TRACT 17-F			
State of NM	T-30-N, R-5-W	320.00	Royalty	12.500000%	12.500000%	4.545455%
347-39	Sec. 16: S/2		Working Interest Phillips Petroleum Co.	82.500000%	82.500000%	
			ORRI	00.00000%	00.000000%	
			Total	100.00000%	100.000000%	
			TRACT 18			
Fee	T-30-N, R-5-W	320.00	Royalty	12.500000%	12.500000%	4.545455%
	Sec. 8: E/2		Working Interest Amoco Production Co.	87.500000%	87.500000%	
			ORRI	00.00000%	00.00000%	
			Total	100.000000%	100.00000%	
			TRACT 19			
Fee	T-30-N, R-5-W	160.00	Royalty	12.500000%	12.500000%	2.212121%
	Sec. 7: S/2		Working Interest	0.1 C00000d	07 500000	
	SW/4, NE/4SW/4 SW/4SE/4		Amoco Production Co. ORRI	87.500000% 00.000000%	87.500000% 00.000000%	
	3#/ 43C/ 4		Total	100.000000%	100.00000%	
			TRACT 20			
Fee	<u>T-30-N, R-5-W</u> Sec. 17: NE/4	160.00	Royalty Working Interest	12.500000%	12.500000%	2.212121%
	Jec. 17. HL/4		Amoco Production Co.	87.500000%	87.500000%	
			ORRI	00.000000%	00.000000%	
			Total	100.00000%	100.000000%	

SCHEDULE VII
SEVENTH EXPANDED PARTICIPATING AREA FOR THE DAKOTA FORMATION
SAN JUAN 30-5 UNIT AREA

SERIAL NUMBER	DESCRIPTION	NUMBER OF ACRES	DRILLING BLOCK OWNERSHIP	PERCENTAGE	PERCENTAGE COMMITTED	PRESENT ACTUAL PARTICIPATION
			TRACT 21			
Fee	T-31-N, R-6-W Sec. 17: SE/4	160.00	Royalty Working Interest	12.500000%	12.500000%	2.212121%
			Amoco Production Co. ORRI Total	87.500000% 00.000000% 100.000000%	87.500000% 00.000000%	
			iotai	100.00000%	100.00000%	
			TRACT 22			
Fee	<u>T-30-N, R-5-W</u> Sec. 21: NW/4	160.00	Royalty Working Interest	12.500000%	12.500000%	2.272727%
			Amoco Production Co. ORRI	87.500000% 00.000000%	87.500000% 00.000000%	
			Total TRACT 25	100.00000%	100.00000%	
Fee	T-30-N, R-5-W	156.00	Royalty	12.500000%	12.500000%	2.215909%
	Sec. 8: S/2SW/ Sec. 17: N/2NW/4	4	Working Interest Amoco Production Co. Phillips Petroleum Co.	43.750000% 43.750000%	43.750000% 43.750000%	
	(less 4 acres NW/4NW/4)		ORRI Total	00.00000%	00.000000%	
			TOAOT 25 A			
Fee	T-30-N, R-5-W Sec. 17: a	4.00	TRACT 25-A Royalty Working Interest	12.500000%	12.500000%	0.056818%
	tract of land 1200' long by		Amoco Production Co. Phillips Petroleum Co.	43.750000% 43.750000%	43.750000% 43.750000%	
	450' wide (4 acres, more or less, in NW/4)		ORRI Total	00.000000%	00.000000%	

#### RECAPITULATION

### Township 30 North, Range 5 West, N.M.P.M.

Section 6: S/2

Sections 5, 7, 8, 9, 10, 15, 16, 17, 21: All

Section 18, 20: E/2 Section 22: W/2

Total Number of Acres in Participating Area:

7,040.00

Total Number of Acres Committed in Participating Area:

7,040.00

SCHEDULE VIII EIGHTH EXPANDED PARTICIPATING AREA FOR THE DAKOTA FORMATION SAN JUAN 30-5 UNIT AREA

SERIAL NUMBER	DESCRIPTION	NUMBER OF ACRES	DRILLING BLOCK OWNERSHIP	PERCENTAGE	PERCENTAGE COMMITTED	PRESENT ACTUAL PARTICIPATION
			TRACT 3			
SF-078738	T-30-N, R-5-W Sec. 23: W/2	320.00	Royalty Working Interest Phillips Petroleum Co. ORRI Total	12.500000% 82.500000% 5.000000%	12.50000% 82.500000% 5.00000% 100.00000%	4.166667 <b>%</b>
					,	
			TRACT 4			
SF-078739	T-30-N, R-5-W Sec. 21: E/2,	1120.00	Working Interest	12.500000%	12.500000%	14.583333%
	SW/4		Phillips Petroleum Co. ORRI	84.500000%	84.500000%	
			Total	3.000000% 100.000000%	3.000000% 100.000000%	
SF-078739	T-30-N, R-5-W Sec. 22: All		Royalty Working Interest Phillips Petroleum Co. ORRI Total	12.500000% 85.000000% 2.500000%	12.500000% 85.000000% 2.500000%	
			TRACT 5			
SF-078740	<u>T-30-N, R-5-W</u> Sec. 20: E/2	320.00	Royalty Working Interest Phillips Petroleum Co. ORRI Total	12.500000% 82.500000% 5.000000% 100.000000%	12.500000% 82.500000% 5.000000% 100.000000%	4.166667 <b>%</b>
			TRACT 6			
SF-078994	T-30-N, R-5-W Sec. 15: SW/4, SW/4NW/4 Sec. 17: SW/4 S/2NW/4 Sec. 18: E/2	760.00	Royalty Working Interest Phillips Petroleum Co. ORRI Total	12.500000% 82.500000% 5.000000% 100.000000%	12.500000% 82.500000% 5.000000% 100.000000%	• 9.895833 <b>%</b>

Effective October 1, 1981

SERIAL NUMBER	DESCRIPTION	NUMBER OF ACRES	DRILLING BLOCK OWNERSHIP	PERCENTAGE	PERCENTAGE COMMITTED	PRESENT ACTUAL PARTICIPATION		
TRACT 7								
SF-078997	T-30-N, R-5-W Sec. 6: S/2SE/4 SE/4SW/4 Sec. 7: N/2, NW/4SW/4, N/2 SE/4, SE/4SE/4 Sec. 8: NW/4, N/2W/4 Sec. 9: A11 Sec. 10: A11 Sec. 15: E/2, NW/4, NW/4NW/4		Royalty Working Interest Phillips Petroleum Co. ORRI Total	12.500000% 82.500000% 5.000000% 100.000000%	12.50000% 82.500000% 5.000000% 100.000000%	33.33333%		
			TRACT 11					
SF-080066	T-30-N, R-5-W Sec. 5: All Sec. 6: N/2S/2, SW/4SW/4	840.00	Royalty Working Interest Phillips Petroleum Co. ORRI Total	12.500000% 82.500000% 5.000000%	12.500000% 82.500000% 5.000000%	10.937500 <b>%</b>		
TRACT 17								
State of NM 347-41	T-30-N, R-5-W Sec. 16: NE/4	160.00	Royalty Working Interest Amoco Production Co. ORRI Total  TRACT 17-A	12.500000% 87.500000% 00.000000% 100.000000%	12.500000% 87.500000% 00.00000% 100.000000%	2.083333%		
State of NM 347–40	<u>T-30-N, R-5-W</u> Sec. 16: N/2 NW/4	80.00	Royalty Working Interest Getty Oil Co. ORRI Total	12.500000% 82.750000% 4.750000% 100.000000%	12.500000% 82.750000% 4.750000% 100.000000%	1.041667%		

SERIAL NUMBER	DESCRIPTION	NUMBER OF ACRES	DRILLING BLOCK OWNERSHIP	PERCENTAGE	PERCENTAGE COMMITTED	PRESENT ACTUAL PARTICIPATION	
			TRACT 17-D				
State of	T-30-N, R-5-W Sec. 16: S/2	80.00	Royalty Working Interest	12.500000%	12.500000%	1,041667%	
347-41	NW/4		Amoco Production Co.	82.500000%	82.500000%		
			ORRI	5.000000%	5.000000%		
			Total	100.00000%	100.00000%		
			TRACT 17-F				
State of	T-30-N, R-5-W	320.00	Royalty	12.500000%	12.500000%	4.166667%	
NM	Sec. 16: S/2		Working Interest				
347-39			Phillips Petroleum Co.	82.500000%	82 500000 <b>%</b>		
			ORRI	5.000000%	5.000000%		
			Total	100.000000%	100.00000%		
TRACT 18							
Fee	T-30-N, R-5-W	320.00	Royalty	12.500000%	12.500000%	4, 166667%	
	Sec. 8: E/2		Working Interest				
			Amoco Production Co.	87.500000%	87.500000%		
			ORRI	00.00000%	00.00000%		
			Total	100.000000%	100.00000%		

SERIAL NUMBER	DESCRIPTION	NUMBER OF ACRES	<u>ORILLING BLOCK</u> <u>OWNERSHIP</u>	PERCENTAGE	PERCENTAGE COMMITTED	PRESENT ACTUAL PARTICIPATION		
			TRACT 19					
Fee	T-30-N, R-5-W Sec. 7: S/2 SW/4, NE/4SW/4 SW/4SE/4	160.00	Royalty Working Interest Amoco Production Co. ORRI Total	12.500000% 87.500000% 00.000000% 100.000000%	12.500000% 87.500000% 00.000000% 100.000000%	2.083333%		
	TRACT 20							
Fee	T-30-N, R-5-W Sec. 17: NE/4	160.00	Royalty Working Interest Amoco Production Co. ORRI Total	12.500000% 87.500000% 00.000000% 100.000000%	12.500000% 87.500000% 00.000000% 100.000000%	2.083333%		
TRACT_21								
Fee	<u>T-30-N, R-5-W</u> Sec. 17: SE/4	160.00	Royalty Working Interest Amoco Production Co. ORRI Total	12.500000% 87.500000% 00.000000% 100.000000%	12.500000% 87.500000% 00.000000% 100.000000%	2.083333%		
TRACT_22								
Fee	<u>T-30-N, R-</u> 5 <u>-W</u> Sec. 21: NW/4	160.00	Royalty Working Interest Amoco Production Co. ORRI Total	12.500000% 87.500000% 00.000000% 100.000000%	12.500000% 87.500000% 00.000000% 100.000000%	2.083333%		

SERIAL	NUMBER	DESCRIPTION	NUMBER OF ACRES	DRILLING BLOCK OWNERSHIP	PERCENTAGE	PERCENTAGE COMMITTED	PRESENT ACTUAL PARTICIPATION		
	TRACT 25								
Fee		T-30-N, R-5-W Sec. 8: \$/2\$W/4	156.00	Royalty Working Interest	12.500000%	12.500000%	2.031250%		
		Sec. 17: N/2		Amoco Production Co.	43.750000%	43.750000%			
		NW/4 (less 4		Phillips Petroleum Co.	43.750000%	43.750000%			
		acres out of		ORRI	00.000000%	00.000000%			
		NW/4NW/4)		Total	100.000000%	100.00000%			
TRACT 25-A									
Fee		<u>T-30-N, R-5-W</u> Sec. 17: a trac	4.00	Royalty Working Interest	12.500000%	12.500000%	0.052084%		
		of land 1200'		Amoco Production Co.	43.750000%	43.750000%			
		long by 450'		Phillips Petroleum Co.	43.750000%	43.750000%			
		wide (4 acres,		ORRI	00.00000%	00.00000%			
		more or less, in NW/4)		Total	100.000000%	100.000000%			

#### RECAPITULATION

#### Township 30 North, Range 5 West, N.M.P.M.

Section 6: S/2

Sections 5, 7, 8, 9, 10, 15, 16, 17, 21, 22: All

Sections 18, 20: E/2 Section 23: W/2

Total Number of Acres in Participating Area: 7,680.00
Total Number of Acres Committed in Participating Area: 7,680.00

### SAN JUAN 30-5 (DK) WORKING INTEREST OWNERS

Amoco Production Company Attention: J. C. Burnside 1670 Broadway - Suite 1914 Amoco Building Denver, CO 80202

Phillips Petroleum Company Attention: T. C. Doughty 8055 E. Tufts Avenue Parkway Denver, CO 80237

El Paso Exploration Company Attn: James R. Permenter P. O. Box 1492 El Paso, TX 79978

Texaco Inc.
Attention: Mr. T. L. Ditmore, Mgr., Petroleum Engineering P. O. Box 2100
Denver, CO 80201

Larry H. Williams Arapahoe Drilling Company 200 Lomas, NW - Suite 440 Albuquerque, NM 87102

Lt. Col. Langdon Dewey Harrison Trustee for Mrs. Omega E. Quinn 7517 Tamarron Place, N.E. Albuquerque, NM 87109