

EXHIBIT "B"  
SAN JUAN 29-7 UNIT  
RIO ARRIBA COUNTY, NEW MEXICO  
GEOLOGIC REPORT  
DAKOTA PRODUCING INTERVAL  
PROPOSED THIRD EXPANSION  
OF THE DAKOTA PARTICIPATING AREA

EL PASO NATURAL GAS COMPANY

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INTRODUCTION

The San Juan 29-7 Unit is located in the northeast quadrant of the San Juan Basin and is composed of 22,500.14 surface acres. The unit boundaries are contained within Township 29 North and Range 7 West.

Within the San Juan 29-7 Unit the "Dakota Producing Interval" has been tested by seven wells, all of which are interpreted to be capable of producing unitized substances in commercial quantities. The "Dakota Producing Interval" as defined by the New Mexico Oil Conservation Commission in Rule 25, Order No. R-1670-C, is "...from the base of the Greenhorn limestone to a point 400 feet below the base of the said formation and consisting of the Graneros formation, the Dakota formation, and the productive upper portion of the Morrison formation."

Included as a part of this report are two maps entitled Exhibit "C". Exhibit "C", Figure No. 1 shows the subsurface structure of the "Dakota Producing Interval" as reflected by using the base of the Greenhorn limestone as the mapping horizon and mean sea level as the datum plane. The present structural control indicates a gentle northeast, or basinward, dip. However, the accumulation of hydrocarbons in this unit, as well as the San Juan Basin in general, is primarily stratigraphically rather than structurally controlled. Exhibit "C", Figure No. 2 is an isopachous map showing the number of feet of net reservoir sandstone which is interpreted to be present within the "Dakota Producing Interval." A detailed discussion of the lithology and stratigraphy of the Dakota interval in the general area of the San Juan 29-7 Unit may be found in geologic reports which have been previously submitted for Dakota Participating area expansions in the San Juan 29-6 Unit, San Juan 28-6 Unit, and the San Juan 28-7 Unit.

Additionally, Exhibits "E" and "F" are included. Exhibit "E" illustrates the correlation of the "Dakota Producing Interval" in the proposed area to be expanded with the "Dakota Producing Interval" in surrounding areas. Exhibit "F" is a Dakota well map of the Basin Dakota field.

Also included with this report as Exhibit "D", Table No. 1 is a tabulation of the San Juan 29-7 Unit Dakota gas production. This tabulation shows by well the absolute open flow potential, date of first delivery into the pipeline, cumulative production to January 1, 1977, production by months for 1977 through August 1977, 1977 annual production to September 1, 1977 and cumulative production to September 1, 1977. The San Juan 29-7 Unit has produced a cumulative total of 1,538,779 Mcf of gas from the "Dakota Producing Interval" as of September 1, 1977.

PROPOSED THIRD EXPANSION  
OF THE DAKOTA PARTICIPATING AREA

Effective Date: September 1, 1977

The proposed Third Expansion of the Dakota Participating Area is based upon the completions of the San Juan 29-7 Unit No. 109, 110 and 112 wells by El Paso Natural Gas Company, the unit operator. These wells are located, respectively, 1190 feet from the north line and 790 feet from the east line, Section 30; 1840 feet from the north line and 1830 feet from the east line, Section 31; 1150 feet from the south line and 800 feet from the west line, Section 29, all in T-29-N, R-7-W, Rio Arriba County, New Mexico.

On September 26, 1977 the San Juan 29-7 Unit No. 109 well, on after frac gauge for sizing equipment only, flowed at the rate of 1445 Mcf/D. Shut-in pressures were 2552 psia casing and 2552 psia tubing.

On September 26, 1977 the San Juan Unit No. 110 well, on after frac gauge for sizing equipment only, flowed at the rate of 1841 Mcf/D. Shut-in pressures were 2557 psia casing and 1542 psia tubing.

On September 29, 1977 the San Juan Unit No. 112 well, on after frac gauge for sizing equipment only, flowed at the rate of 215 Mcf/D. Shut-in pressures were 2587 psia casing and 1477 psia tubing.

Proposed Expanded Acreage

Township 29 North, Range 7 West

Section 29: W/2	Section 31: All
Section 30: All	Section 32: W/2

The subject wells produce from the sandstone development within the Graneros shale and from the Dakota "A" and "B" zones, all of which correlate with the producing zones in adjacent areas. The proposed expanded acreage is inferred to be capable of producing unitized substances in commercial quantities from the abovementioned sand zones. Exhibit "C", Figure No. 2 shows the net reservoir sand which is interpreted to be present under the acreage proposed for admission to the Dakota Participating Area by the Third Expansion.

EXHIBIT "D"  
TABLE NO. 1  
SAN JUAN 29-7 DK  
RIO ARriba COUNTY, NEW MEXICO

VOLUMES IN MCF AT 15,025 PSIA AND 60 DEGREES F.

WELL NAME AND NO.	AOP MCF/D	DATE OF FIRST DELIVERY	1977 MONTHLY PRODUCTION												1977 PROD	00-1-77 CUM PROD
			1-1-77 CUM PROD	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.					
S. J. 29-7 UNIT #109	1445*		0	0	0	0	0	0	0	0	0	0	0	0	0	0
S. J. 29-7 UNIT #112	215*		0	0	0	0	0	0	0	0	0	0	0	0	0	0
SJ 29-7 UNIT #100	8456	67/06/29	302951	967	5624	2660	1540	2151	1380	2465	2322	17109	320060	17109	320060	0
SJ 29-7 UNIT #101	4049	68/03/07	277393	1413	2034	2184	1410	1888	1568	1400	1587	13486	290879	13486	290879	0
SJ 29-7 UNIT #106	4805	73/09/21	385115	6788	5881	4849	4207	6347	5803	3486	5947	42908	428023	42908	428023	0
SJ 29-7 UNIT # 105	3633	73/12/22	436704	9008	7941	7943	5340	7387	9097	8176	8221	63113	499817	63113	499817	0
S. J. 27-9 UNIT #110	1841*	77/10/27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS			1402163	18176	19482	17636	12497	17773	17448	15527	18077	136616	1538779	136616	1538779	0

\*After frac stage