



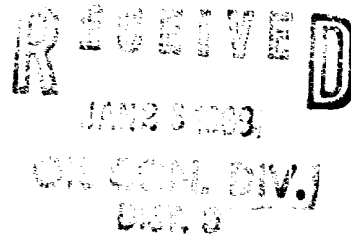
dugan production corp.

December 16, 1988

New Mexico Oil Conservation Division
310 Old Santa Fe Trail, Room 206
Santa Fe, NM 87503

Attention: William LeMay

Re: Request for administrative approval to downhole commingle
Basin Dakota Gas Pool and
Angel Peak Gallup Associated Oil Pool
Dugan Production Corp's
Mc Adams No. 4
Federal Lease No. SF-081087
Unit N, Section 34, T27N, R10W, NMPM
San Juan County, New Mexico



Dear Mr. LeMay:

We are writing to request administrative approval for the downhole commingling of production from the Basin Dakota Gas Pool and the Angel Peak Gallup Associated Oil Pool in the subject well.

The McAdams No. 4 well was drilled in July of 1958 and dually completed in the Angel Peak Gallup Associated Oil Pool and the Basin Dakota Gas Pool, which was permitted by Order DC #654. The Gallup formation was perforated in the 6236'-6248.5' interval and stimulated with 700 bbls of oil with 17,000 lbs of sand. The Dakota formation was perforated in the intervals of 6914'-6950' and 6974'-6994' and stimulated with 740 bbls of oil with 25,000 lbs. of sand (see Attachment No. 1).

The Basin Dakota Formation in the area is generally depleted and currently is only capable of marginal production. As can be seen by Table No. 1, the average production of the offsets for 1987 was 55 MCFD. The highest averages are those of infill wells which do not have the long production histories of the original wells. The McAdams No. 2 which is located in Unit P Section 34, T27N, R10W and is on the same lease as the subject well, has a life-time Basin Dakota cumulative as of January 1, 1988 of 1,161,265 MCF of gas and 15,312 bbls of condensate. The McAdams No. 3, located in Unit H, Section 34, T27N, R10W which is also on the same lease as the McAdams No. 4, has a life-time Basin Dakota cumulative as of January 1, 1988 of

Letter to NMOCD

Re: DHC DPC's McAdams #4

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744,909 MCF of gas and 9281 bbls of condensate. Cumulative production for the Basin Dakota zone in the McAdams No. 4 as of October 1, 1988 is 1,030,928 MCF of gas, 10868 bbls of condensate and 1093 bbls of water. The 1988 production for the McAdams No. 4 has averaged 46.9 MCF of gas per day with no condensate produced and negligible water production. The Dakota zone is produced into a high pressure system operated by El Paso Natural Gas (EPNG).

The Gallup zone is currently also only capable of marginal production and has been shut-in since 1971. The cumulative production for the McAdams No. 4 from the Angel Peak Gallup Associated Oil Pool as of August 1, 1988 is 25219 bbls of oil, 3,273,449 MCF of gas and 422 bbls of water. The Gallup was connected to a low pressure system operated by EPNG. The Gallup zone was disconnected by EPNG on April 11, 1973 due to non-productivity.

The ownership of the two pools involved is common in both the working interest and the royalty interest since lease No. SF-081087 is held and is comprised of all of Section 34, T27N, R10W. The production unit for the Gallup is 320 acres which covers the W/2 Section 34, T27N, R10W and is a joint unit with the McAdams No. 1 (F, 34, T27N, R10W) which is completed only in the Gallup. The Dakota production unit is also the W/2 Section 34, T27N, R10W.

A northwest offset, the McAdams No. 3 (H, 34-T27N-R10W) was downhole commingled in 1976 by Order DHC #5313, in the Angel Peak Gallup Associated Oil Pool and the Basin Dakota Gas Pool. An east offset, the McAdams No. 2 (P, 34-T27N-R10W) was also downhole commingled in the Angel Peak Gallup and Basin Dakota zones by Order R-6824 on November 24, 1981. Commingled production from these two wells appears to be compatible and to date there has been no evidence that the mixing of the fluids have resulted in the formation of precipitates which would be damaging to either zone. It is a common practice to downhole commingle production from the Gallup and Dakota formations and we are not aware of any fluid sensitivity of either formation in the Angel Peak Gallup Associated Oil Pool or the Basin Dakota Gas Pool in this area. Both formations are routinely stimulated using water so we would not expect either zone to be subject to damage from water or other produced liquids.

The McAdams No. 3 which has been commingled since 1976 has allocation factors as follows:

	<u>Oil</u>	<u>Gas</u>
Gallup	80%	20%
Dakota	20%	80%

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The McAdams No. 2 which has been commingled since 1981 also has the following allocation factors:

	<u>Oil</u>	<u>Gas</u>
Gallup	80%	20%
Dakota	20%	80%

The total value of the crude produced should not be reduced by commingling the Gallup and the Dakota zones in the McAdams No. 4. Nor should the commingling jeopardize the efficiency of present or future secondary recovery operations in either of the zones to be commingled. The proposed commingling is necessary to permit the Basin Dakota zone to continue to be produced which will not otherwise be economically producible. By using the gas from the Dakota to assist in lifting fluids from the Gallup, we are optimistic that the Gallup will be able to again produce. With the low volumes of gas currently being produced and considering the current gas market, work to repair a recently developed tubing or packer leak will add an economical burden which may force the premature abandonment of both zones in the well before recoverable reserves are completely depleted and will result in the waste of hydrocarbons.

We do not believe that cross-flow will occur from commingling these zones. The bottomhole pressure has been calculated to be 241 psia in the Dakota and 361 psia in the Gallup. Because the Dakota has produced continually since the well was completed, we used its current shut-in wellhead pressure. To calculate the Gallup reservoir pressure, we used a shut-in wellhead pressure taken during the packer leakage test in June 1971 which was approximately the last date of production from the Gallup. We feel that these pressures are indicative of the maximum bottomhole pressures which could currently exist. It should be noted that the bottomhole pressures in both zones are very close to abandonment pressures.

Attached are copies of the letter sent to all offset operators and the Bureau of Land Management notifying them of this proposed commingling. The BLM was notified because of the Federal acreage involved. Attachment No. 2 is a listing of all offsetting leases and operators. Attachment No. 3 is a plat of the area showing the acreage dedicated to the well and the offsetting leases.

Letter to NMOCD

Re: DHC DPC's McAdams #4

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In summary, Dugan Production is requesting administrative approval for the downhole commingling of production from the Basin Dakota Gas Pool and the Angel Peak Gallup Associated Oil Pool in the McAdams No. 4 well located in Section 34, T27N, R10W, San Juan County, New Mexico.

Should you have any questions concerning this request, please contact me or John Roe of this office.

Sincerely,

A handwritten signature in dark ink, appearing to read "Barbara L. Williams", with a long, sweeping horizontal flourish extending to the right.

Barbara L. Williams
Engineer

BW\dhc\mcadams.4

APPLICATION FOR DOWNHOLE COMMINGLING

Attachment No. 1

McAdams #4
990' FSL & 1650' FWL
Sec. 34, T27N, R10W
San Juan County, NM

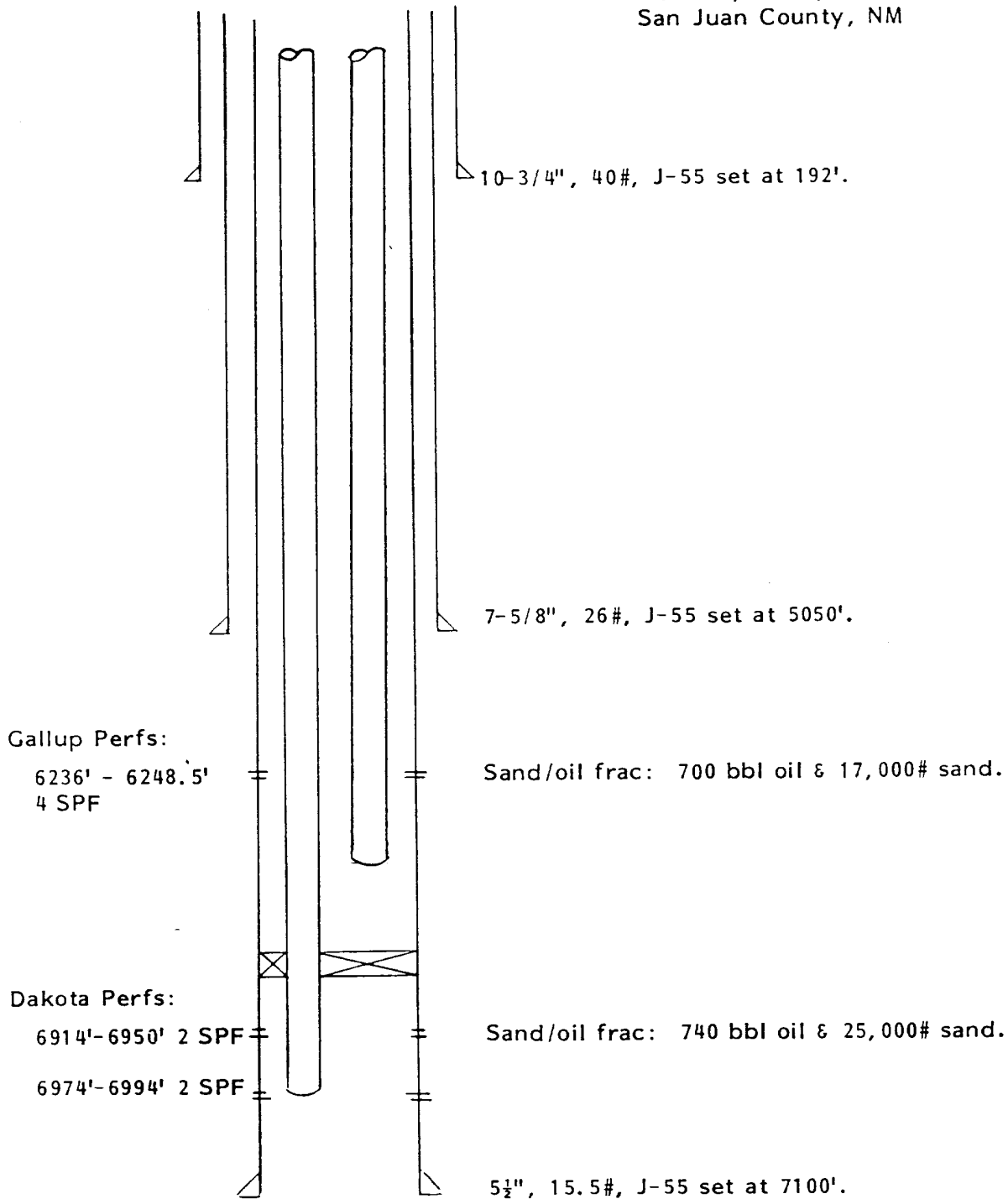


TABLE NO. 1
Downhole Correlating Application
Immediate Offsets

		BASIN DAKOTA COMPLETION						ANGEL PEAK GALLUP COMPLETION					
Company & Lease	Location	Cumulative 1-1-88			1987 Production			Cumulative 1-1-88			1987 Production		
		Gas - MCF	Oil-Bbl		MCF-Gas	Oil-Bbl		Gas-MCF	Oil-Bbls		Gas-MCF	Oil-Bbls	1987 Avg. MCFD/BOPD
AWOCO Jack Frost B 1	P-27-27-10	1,401,311	19,036		3,821	7	10	86,312	3,224	Last Production 6/1973			
	M-27-27-10	407,637	7,583		37,593	510	103	88,573	1,129		11,858	148	32/0.4
MERIDIAN Huerfano Unit													
	C-3-26-10	521,990	8,386		3,081	0	8	1,990,496	17,779		2,764	0	7.6/0
	J-33-27-10	1,223,745	29,503		15,258	702	42	6,994,800	47,092		157,717	1283	432/3.5
	A-33-27-10	83,804	5,004		29,190	592	80	Not Completed in Gallup					
	H-3-26-10	137,834	2,299		48,424	467	133	Not Completed in Gallup					

DUGAN PRODUCTION													
McAdams													
1	F-34-27-10	Not Completed in Basin Dakota											
2	P-34-27-10	1,161,265	15,312		15,145	108	41	4,467,274	30,997	Last Production 5/1985			
3	H-34-27-10	744,709	9,281		7,279	18	20	1,150,873	55,507		1,802	73	4.9/0.2

Attachment No. 2

DOWNHOLE COMMINGLING APPLICATION

OFFSET OPERATORS AND LEASES

McADAMS No. 4

SW/4 Section 34, T27N, R10W
San Juan County, New Mexico

T-27-N, R-10W

Sec. 27: All
Amoco Production Company
SF-077951-A

Sec. 26: W/2
Amoco Production Company
SF-077951

Sec. 35: NW/4, N/2 SW/4
El Paso Natural Gas Company
SF-077950

Sec. 35: S/2 SW/4
El Paso Natural Gas Co.
SF-079917

Sec. 34: W/2
Dugan Production Corp.
SF-081087

Sec. 34: E/2 NE/4
Dugan Production Corp.
SF-081087

Sec. 28: All
Amoco Production Co.
SF-077941-A

Sec. 33: NW/4
El Paso Natural Gas Co.
SF-078233

Sec. 33: NE/4
El Paso Natural Gas Co.
SF-077950

Sec. 33: S/2 SE/4
El Paso Natural Gas Co.
SF-078354

Sec. 33: SW/4 & N/2 SE/4
El Paso Natural Gas Co.
NM-02516

T-26-N, R-10-W

Sec. 3: E/2
El Paso Natural Gas Co.
SF-078267-A

Sec. 3: W/2
El Paso Natural Gas Co.
SF-078267

Sec. 2: NW/4
El Paso Natural Gas Co.
E-921-7, B-8801-29, B-11356-18

Sec. 4: N/2
El Paso Natural Gas Co.
NM-0396

Sec. 4: S/2
El Paso Natural Gas Co.
NM-01366

Sec. 2: SW/4
El Paso Natural Gas Co.
B-9320, B-10805, B-8801-29

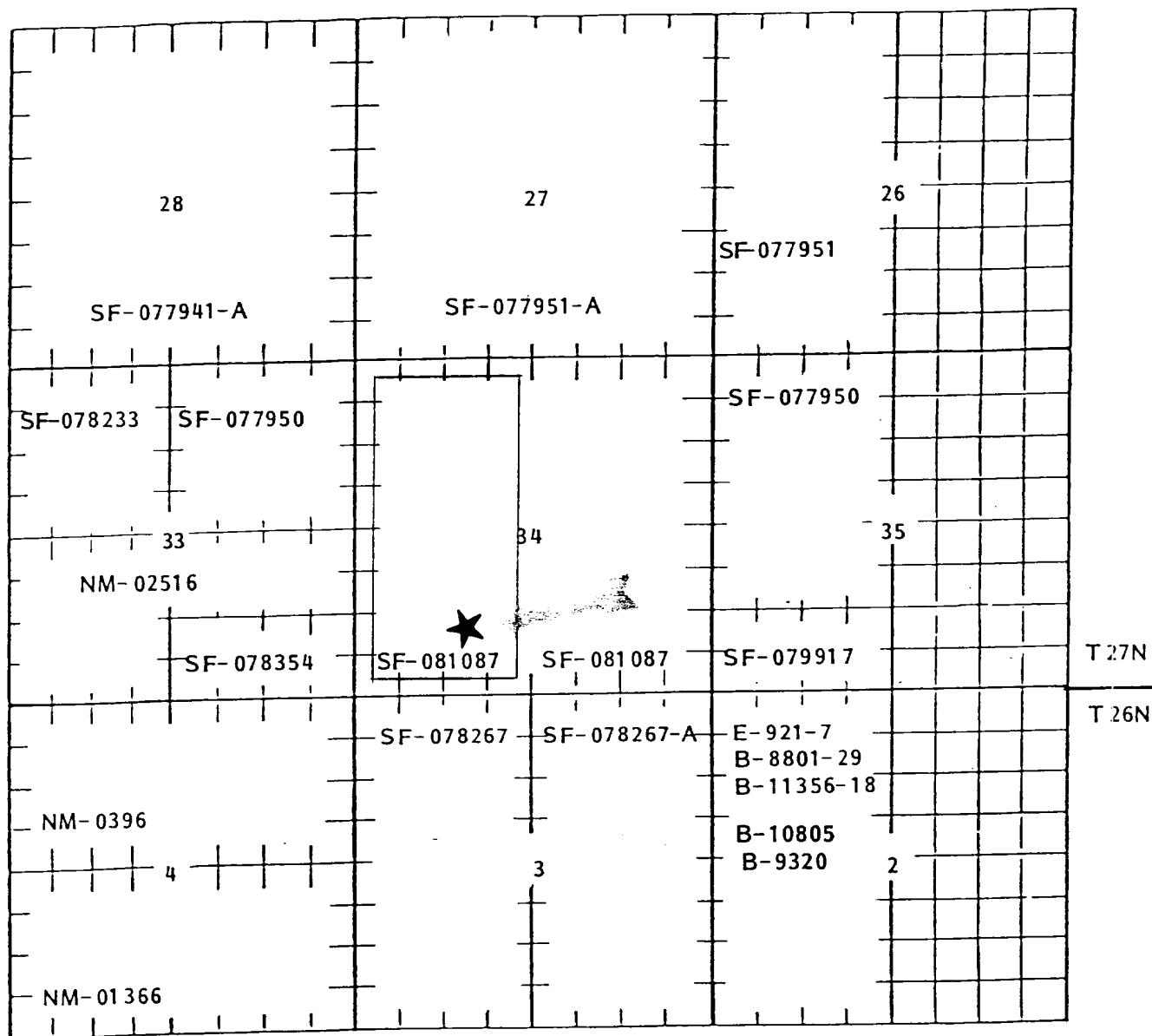
TOWNSHIP 27N, 26N RANGE 10W COUNTY San Juan STATE New Mexico

REMARKS:

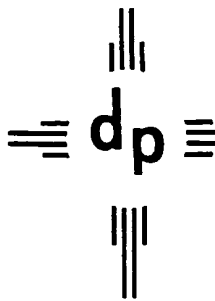
COMPANY

DUGAN PRODUCTION CORP.

R-10-W



Downhole Commingling Application
Dugan Production Corp.
McAdams No. 4
December 16, 1988
Attachment No. 3



dugan production corp.

December 16, 1988

Amoco Production Co.
2325 E. 30th St.
Farmington, NM 87401

Attention: R. J. Broussard

Re: Application for Downhole Commingling
DUGAN PRODUCTION CORP.
McAdams No. 4
SW/4 Sec. 34, T27N, R10W, NMPM
San Juan County, New Mexico

Dear Mr. Broussard,

Enclosed please find the following items with regard to the
above referenced matter:

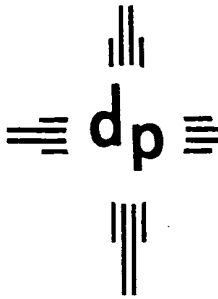
1. Application by Dugan Production Corp. for Downhole
Commingling of the McAdams No. 4 well in San Juan County,
New Mexico and
2. A copy of the cover letter to William Lemay, New
Mexico Oil Conservation Division.

Please contact me should you have any questions.

Sincerely,

Barbara L. Williams
Engineer

BLW/BW/dhc/amoco



dugan production corp.

December 16, 1988

Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401

Attention: Ron Fellows

Re: Application for Downhole Commingling
DUGAN PRODUCTION CORP.
McAdams No. 4
SW/4 Sec. 34, T27N, R10W, NMPM
San Juan County, New Mexico

Dear Mr. Fellows,

Enclosed please find the following items with regard to the above referenced matter:

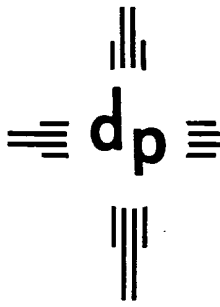
1. Application by Dugan Production Corp. for Downhole Commingling of the McAdams No. 4 well in San Juan County, New Mexico and
2. A copy of the cover letter to William Lemay, New Mexico Oil Conservation Division.

Please contact me should you have any questions.

Sincerely,

Barbara L. Williams
Engineer

BLW/BW/dhc/blm



dugan production corp.

December 16, 1988

Ft. Collins Consolidated Royalties, Inc.
P.O.Box 1363
Cheyenne, WY 82003

Re: Application for Downhole Commingling
DUGAN PRODUCTION CORP.
McAdams No. 4
SW/4 Sec. 34, T27N, R10W, NMPM
San Juan County, New Mexico

Dear sirs,

Enclosed please find the following items with regard to the above referenced matter:

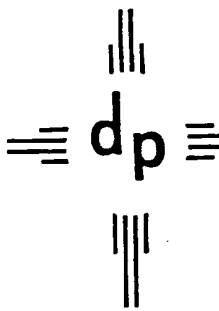
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Please contact me should you have any questions.

Sincerely,

Barbara L. Williams
Engineer

BLW/BW/dhc/ft-collin



dugan production corp.

December 16, 1988

El Paso Natural Gas
c/o Meridian Oil
P.O.Box 4289
Farmington, NM 87401

Re: Application for Downhole Commingling
DUGAN PRODUCTION CORP.
McAdams No. 4
SW/4 Sec. 34, T27N, R10W, NMPM
San Juan County, New Mexico

Dear Sirs:

Enclosed please find the following items with regard to the
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1. Application by Dugan Production Corp. for Downhole
Commingling of the McAdams No. 4 well in San Juan County,
New Mexico and
2. A copy of the cover letter to William Lemay,
Director, New Mexico Oil Conservation Division.

Please contact me should you have any questions.

Sincerely,

Barbara L. Williams
Engineer

BLW/BW/dhc/meridian