dugan production corp.

August 23, 1984

Mr. Joe Ramey
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

Re: Request for Administrative Authorization
Downhole Commingling of Bisti Lower Gallup
and Basin Dakota Pools
Dugan Production Corp.'s WAC #1 Well
Unit D, Section 17, T24N, R9W, NMPM
San Juan Co., New Mexico

Sir:

We are writing to request administrative approval to downhole commingle the production of our WAC #1 Well. The subject pools are the Bisti Lower Gallup and the Basin Dakota.

The WAC #1 was spudded April 17, 1984 and 4½" casing was cemented at 6425' RKB. The Gallup formation was perforated 4827'-5474' with a total of 43 holes and fraced with 72,000 gal. of slick water and 77,500 lb. of 20/40 sand. The Dakota formation was perforated 6339'-6358' with a total of 12 holes and fraced with 27,000 gal. gelled water and 27,000 lbs. of 20/40 sand.

Based upon our experience with wells in this general area and upon open hole log analysis, we anticipate that this well to be a marginal producer. Swab tests of the Gallup and Dakota resulted in a combined production rate of 30 BOPD, 10 BLWPD and 110 Mcf/day. Actual commingled production is expected to initially average 10 BOPD, 2-3 BWPD and 21 Mcf/day and will require rod pumping to produce.

Referring to the attached production map it can be seen that the subject well is indeed located in an area of marginal productivity. The nearest substantial Gallup producer is approximately ½ mile to the east -- southeast while the nearest well producing strictly from the Dakota is 1¼ mile to the southwest. However, there are several wells in the immediate vicinity of the WAC #1 that have been authorized to commingle the subject pools downhole. These wells are fairly recent completions with little production history.

Analysis of the open hole logs in the perforated Gallup interval indicated 43 ft. of pay with an average porosity of 6.6% exists. A volumetric analysis using this information yielded an ultimate recovery figure that is unrealistically high for this area. Therefore, we based our reserves estimates on a predicted decline rate of 40%/year for the first two years and a 9%/year decline thereafter. These figures were determined using production histories of six wells in this area.

The ultimate recovery from the Gallup was estimated at 13,200 BO. An overall GOR of 2500 was used, based upon our experience in the area, to determine gas reserves of 33 MMcf. Our analysis of openhole logs in the Dakota formation of the WAC #1 indicated 12 ft. of pay with an average porosity of 8.6% exists within the perforated interval. Reserve calculations are based on production histories of offsetting wells. A decline of 40%/year for 2½ years and a 7% decline thereafter is predicted. At an initial rate of 530 Mcf/mo. the ultimate recovery is calculated at 187 MMcf. Condensate recovery of 2300 barrels was estimated utilizing an overall average of 12 BC/MMcf.

Following is a tabulation of the estimated recovery from each pool and the percentage each zone bears to the total:

	Gallup	Dakota	Total
Gas	33 MMcf (15%)	187 MMcf (85%)	220 MMcf
Oil	13,200 bbls (85%)	2300 bbls (15%)	15,500 bbls

Dugan Production would like to use the above percentages, based on ultimate recoveries, to allocate production between the subject horizons. These allocation factors are consistent with previously authorized allocation factors of seven downhole commingled wells in the area (See Table 1).

The ownership of each of the subject pools is common since Dugan Production Corp. holds 100% of Federal lease NM 36473. This lease covers the western ½ of Section 17. The 80 acre Gallup production unit comprises the N/2 NW/4 of Section 17 and the 320 acre Dakota production unit covers the W/2 of Section 17. We have enclosed a sketch depicting the offsetting lease ownership (Figure No. 2) Please note that of the ten offsetting 160 acre tracts, Dugan Production has the leasehold interest for seven representing 70% of the offset acreage.

Formation pressures have not been measured in the WAC #1 but based upon our experience in the seven other commingled wells in this area the pressure guidelines of Rule 303.C. will not be violated and cross flow between the subject horizons is not expected occur. The Gallup and Dakota formations are not fluid sensitive, in fact, both zones were stimulated using a water based treating fluid. The produced fluids are compatible in the wellbore.

Being that the well is a marginal producer, neither zone will independently justify dual production equipment. Therefore, without an authorization to commingle within the wellbore, the Dakota formation will likely not be produced, resulting in the loss of production and revenues.

In summary, the production from the Bisti Lower Gallup and Basin Dakota pools in Dugan Production Corp.'s WAC #1 is anticipated to be marginal and thus we request that Dugan Production Corp. be allowed to downhole commingle production from this well. It is our belief that such authorization will result in an increased hydrocarbon recovery from this lease and that correlative rights will not be violated.

By copy of this letter we have notified the Aztec office of the NMOCD and the Bureau of Land Management of our application to downhole commingle the WAC #1 Well. The offset operators have also been notified of this application by separate letter, copies of which we have enclosed.

If you have any questions regarding this matter, please contact me or John Roe of this office.

Respectfully,

Steve Folk

Steve Folk
Geologist

SF:nw

enc.

cc: NMOCD, Aztec, NM
BLM, Farmington, NM

Table No. 1

Allocation Factors for Commingled Gallup-Dakota Wells

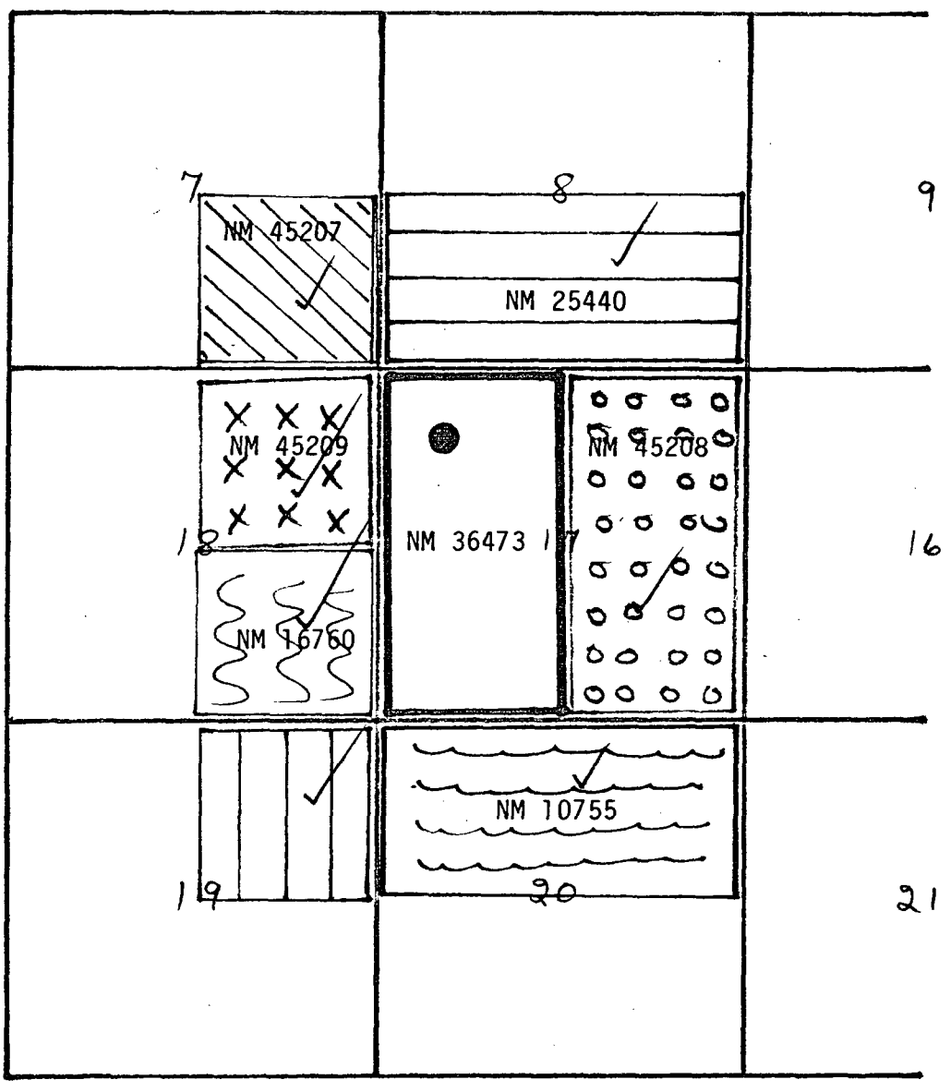
Operating by Dugan Production Corp.

Township 24 North, Range 9 and 10 West

San Juan County, New Mexico

		April Surprise #4 R-7210	Holly #1 R-7143	Merry May #1 R-6571	July Jubilee #1 R-6826	June Joy #2 R-6396	Big Eight #1E R-6825	MF #3 DHC-471
Oil								
	Gallup	85%	95%	85%	90%	80%	90%	85%
	Dakota	15%	5%	15%	10%	20%	10%	15%
Gas								
	Gallup	15%	80%	15%	10%	80%	13%	80%
	Dakota	85%	20%	85%	90%	20%	87%	20%

R-9-W



NOT DRAWN TO SCALE

Federal Lease NM 25440
Dugan Production Corp.

Federal Lease NM 45207
Dugan Production Corp.

Federal Lease NM 45209
Unicon Producing Co.
The Forum Bldg.
14001 E Iliff Ave., Suite 500
Aurora, CO 80014

Federal Lease NM 16760
Celsius Energy Co.
P O Box 11070
Salt Lake City, UT 84147

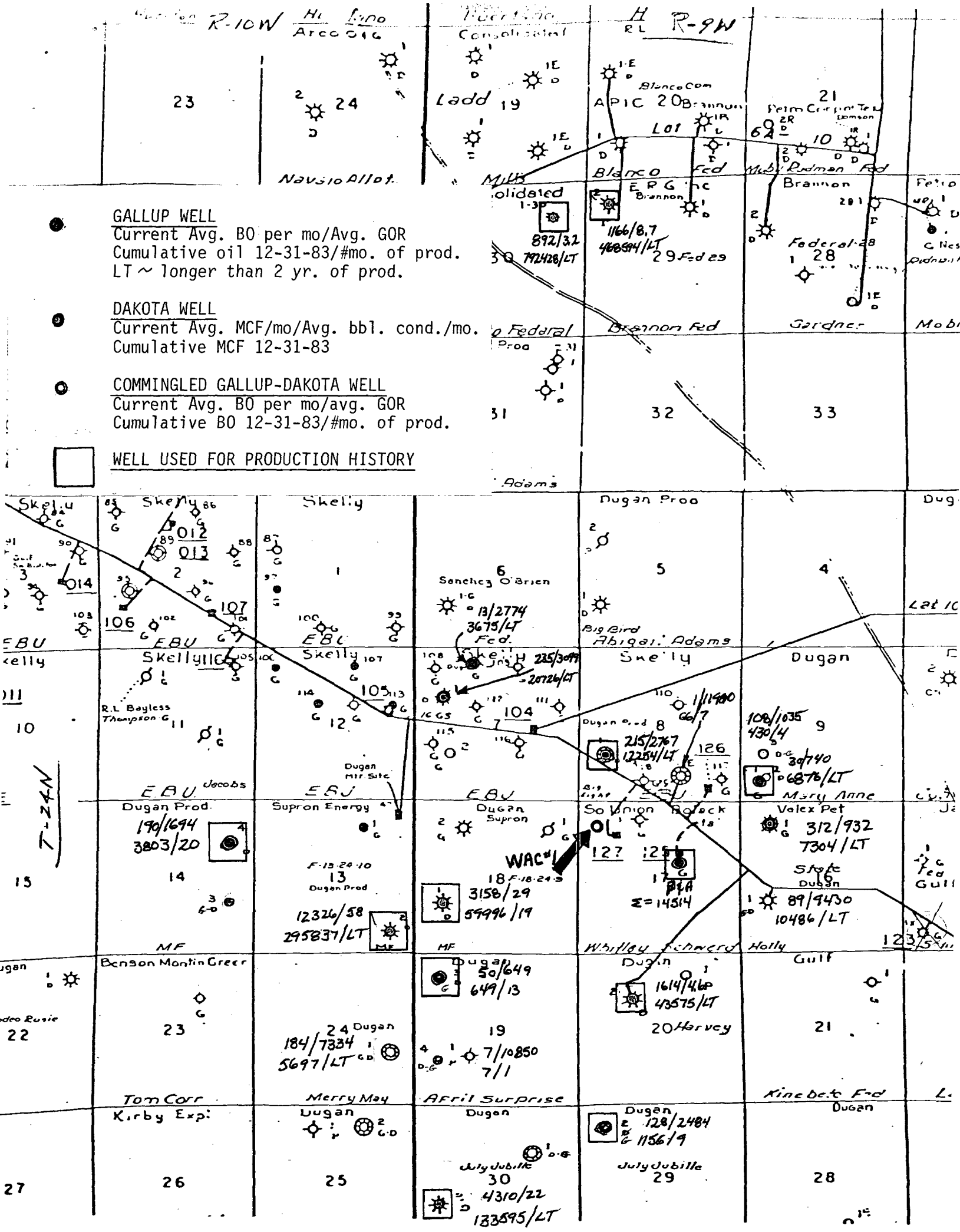
Unleased Indian Land

Federal Lease NM 10755
Dugan Production Corp.

Federal Lease NM 45208
Dugan Production Corp.

Figure No. 2

DUGAN PRODUCTION CORP.
WAC #1
W/2 Sec. 17, T24N, R9W, NMPM
San Juan County, New Mexico



- GALLUP WELL
  Current Avg. BO per mo/Avg. GOR
  Cumulative oil 12-31-83/#mo. of prod.
  LT ~ longer than 2 yr. of prod.
- DAKOTA WELL
  Current Avg. MCF/mo/Avg. bbl. cond./mo.
  Cumulative MCF 12-31-83
- COMMINGLED GALLUP-DAKOTA WELL
  Current Avg. BO per mo/avg. GOR
  Cumulative BO 12-31-83/#mo. of prod.
- WELL USED FOR PRODUCTION HISTORY

dugan production corp.

August 17, 1984

Celsius Energy Company
P.O. Box 11070
Salt Lake City, UT 84147

Re: Request for Administrative Approval to
Downhole Commingle the Bisti Gallup and
Basin Dakota Pools
Dugan Production Corp. - WAC #1 Well
Unit D, Sec. 17, T24N, R9W, NMPM
San Juan Co., NM

Gentlemen:

This purpose of this letter is to inform you of Dugan Production Corp.'s application to the New Mexico Oil Conservation Division requesting permission to downhole commingle production from the Gallup and Dakota formations in the captioned well.

We are making this application because of the marginal productivity indicated in our recent completion efforts of the WAC #1. Thus far, no significant production has occurred and we expect the well to make approximately 10 BOPD, 2-3 BWPD and 21 MCFD total from both of the subject horizons. We expect to rod pump the well and believe this well will always be of marginal productivity.

The proposed commingling is much the same as the downhole commingling of the Gallup and Dakota formations in seven other wells in the vicinity. Enclosed please find a sketch depicting the offset leases and a map showing the location of the WAC #1 Well and the Gallup-Dakota commingled wells.

If you have any questions regarding this matter, feel free to contact me or John Roe at the address listed below.

Sincerely,

Steve Folk
Geologist

SF:nw

enc.

709 BLOOMFIELD RD. • P. O. BOX 208 • FARMINGTON, NEW MEXICO 87499 • PHONE: (505) 325-1821

dugan production corp.

August 17, 1984

Unicon Production Co.
One Riverway
P.O. Box 2120
Houston, TX 77252

Re: Request for Administrative Approval to
Downhole Commingle the Bisti Gallup and
Basin Dakota Pools
Dugan Production Corp. - WAC #1 Well
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STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE August 31, 1984

RE: Proposed MC _____
Proposed DHC DC
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

OIL CONSERVATION DIVISION
SEP - 4 1984
RECEIVED

Gentlemen:

I have examined the application dated August 29, 1984,
for the Dugan Production Co. WAC #1 D-17-24N-9W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank D. Chavez