AMEND DHC 2520 1/25/01

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dugan production corp.

RECEIVED
JAN 5 2001
OIL CONSERVATION DIVISION

January 3, 2001

Ms. Lori Wrotenbery
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Mr. Lee Otteni
Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401

Re: Proposed Modification to Downhole Commingling Allocation Factors
Dugan Production Corp.'s El Niño No. 6E
API No. 30-045-29639, Unit J, Section11, T-26N, R-9W
Blanco Mesaverde and Basin Dakota Gas Pools
San Juan County, New Mexico

Dear Ms. Wrotenbery and Mr. Otteni,

We are writing to request your approvals for revised downhole commingling allocation factors for the captioned well. The El Niño No. 6E was completed on 11-15-99 in the Blanco Mesaverde and Basin Dakota gas pools. Production is downhole commingled under NMOCD Administrative Order DHC-2520 issued on 11-23-99 and is being allocated using the following allocation factors:

	Gas	*Condensate*
Blanco Mesaverde	74%	79%
Basin Dakota	26%	21%

This well was placed on production during November 1999 and as of 11-1-00 had produced a total of 73,128 mcf of gas, 1275 bbl of condensate plus 3023 bbl water from the Mesaverde and Dakota. The daily average during the first 12 months was 213 mcfd, 3.75 BCPD and 8.8 BWPD. The daily production history is present on Attachment No. 1.

In our application dated 10-28-99, the El Niño No. 6E had been drilled but not completed and our proposed allocation factors were based upon production statistics from 24 Dakota and four Mesaverde completions located in sections adjacent to the El Niño No. 6E.

Federal lease NM-012737 comprises the entire south half spacing unit for each completion and all ownership (working, royalty and overriding royalty) is common, however subsequent to our application, Burlington Resources (our only other working interest owner) elected to participate in the Mesaverde completion but not the Dakota completion. Their interest in the Dakota completion remains unchanged, however Burlington's proportionate share of the Dakota completion costs have been paid by Dugan Production under the non-consent provisions of the Joint Operating Agreement. Thus, the following working interest participation now exists:

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	Blanco Mesaverde	*Basin Dakota*
Burlington Resources	25.196595	0*
Dugan Production Corp.	74.803405	100.00*

* - ownership = 25.196595% Burlington, and 74.803405% Dugan but Burlington elected to go non-consent under the Joint Operating Agreement. Upon payout of Burlington's carried working interest, interests will revert to 25.196595/74.803405.

Since Burlington elected to join in the Mesaverde completion, but not in the Dakota completion, Dugan Production Corp. believed it was necessary to verify the allocation factors and on 10-11-00 commenced to separately test production from the Mesaverde formation. A retrievable bridge plug was set between the Mesaverde and Dakota perforations to temporarily isolate the Dakota and produce only the Mesaverde. Detailed information from the Mesaverde production test is presented on Attachment No. 2 and it can be seen that the commingled production (MV & DK) was averaging 145 mcfd immediately preceding the test. In addition, an average of 2.3 bbl of condensate plus 5.3 bbl of water were also being produced each day. The Mesaverde perforations were separately production tested for 22 days, beginning on 10/12/00 and continuing through 11/2/00. During this period a total of 10 mcf was delivered into El Paso's pipeline which occurred after a ±48 hour shut in period and swabbing six barrels of water. For most of the test, the Mesaverde would not produce into the pipeline which was averaging 108 psia and ranged from 92 to 124 psia. We swabbed the well multiple times during the test and recovered two to 25 barrels of water each time with only a slight show of condensate. A total of 68 barrels of water were recovered for an average of 3.1 BWPD. We did not recover any measurable volumes of condensate, only a slight film on the water recovered. All fluid was swabbed into a tank and all gas produced into the pipeline was measured with an electronic flow meter operated and maintained by El Paso Field Services. For a three day period 10/30/00 through 11/1/00, the Mesaverde was produced through the separator operating at ±39 psia with all fluid being dumped to a tank and the gas being vented to the atmosphere with gas volumes being measured using a 2" orifice well tester. During the last 24 hours, a total of 8.7 mcf was measured with instantaneous rates ranging from no flow to ±21 mcfd during the test. Attachment No. 3 presents a copy of the test chart which was recorded using an 1/8" orifice plate. During this three day test, we recovered no condensate or water and the flowing tubing pressure averaged 39 psia which is less than half of the existing pipeline pressure.

The bridge plug was removed on 11-3-00 and the well returned to production with the Dakota and Mesaverde again downhole commingled. Commingled production was restored upon getting the wellbore fluids to unload on 11-16-00. During the test and the first 12 days following the test, a gas flow rate was difficult to maintain since the well exhibited a tendency to log off from the small volumes of water being produced. A rate of 8 mcfd was tested into the pipeline on 10-17-00 following a 48 hour shut in period and swabbing accumulated fluids from the wellbore. In addition, we were able to maintain a rate of 8.8 mcfd while producing the well against a back pressure of 39 PSIA which is approximately 36% of average pressure necessary to produce into the pipeline.

Based upon our test results, we believe the Mesaverde will produce gas, condensate and water under stabilized producing conditions which will exist with the well being downhole commingled and production from the Dakota keeping wellbore fluids from accumulating and logging the wellbore off. Our test results are summarized as follows:

	Gas	*Condensate*	*Water*
	mcfd	*BPD*	*BPD*
Commingled Mesaverde & Dakota	145	2.3	5.3
Mesaverde only	8 maximum	*	3.1

*Slight show

Thus, approximately 5.5% of the commingled gas and 58.5% of the commingled water is believed to be from the Mesaverde. We did not recover measurable volumes of condensate, but since a show of condensate was recovered, we believe using the gas factor will also approximate condensate production.

Based upon these test rates, we propose to change the production allocation factors to the following:

	Gas	*Condensate*	*Water*
Mesaverde	5.5%	5.5%	60%
Dakota	94.5%	94.5%	40%

These allocation factors will more closely represent the production that is occurring from each formation and should have no impact upon any of the royalty and overriding royalty interest owners since all ownership in the Mesaverde and Dakota is common. The primary impact of the new allocation factors will be to insure that production revenues are properly allocated to each producing interval which is only important during the payout period since Burlington elected to participate in the Mesaverde completion but chose to have their interest in the Dakota completion carried as a non-consenting party. Dugan Production, as operator of the well, has paid all Dakota drilling and completion costs attributable to Burlington's interest and in return we receive all revenues attributable to Burlington's interest until these costs have been recovered. Upon payout, the Dakota revenues attributable to Burlington's interest will revert back to them.

We propose to make these new allocation factors effective beginning 11-1-00 which will apply to all commingled production subsequent to our test of the Mesaverde.

We did advise Burlington of our plans to conduct this testing in order to verify the allocation factors and it is our understanding that Burlington had no objections. Attachment No. 4 is a copy of this notice.

Should you have questions or need additional information please let me know.

Sincerely,

John D. Roe

John D. Roe
Engineering Manager

JDR/tmf

attachments

xc: NMOCD - Aztec
Burlington Resources

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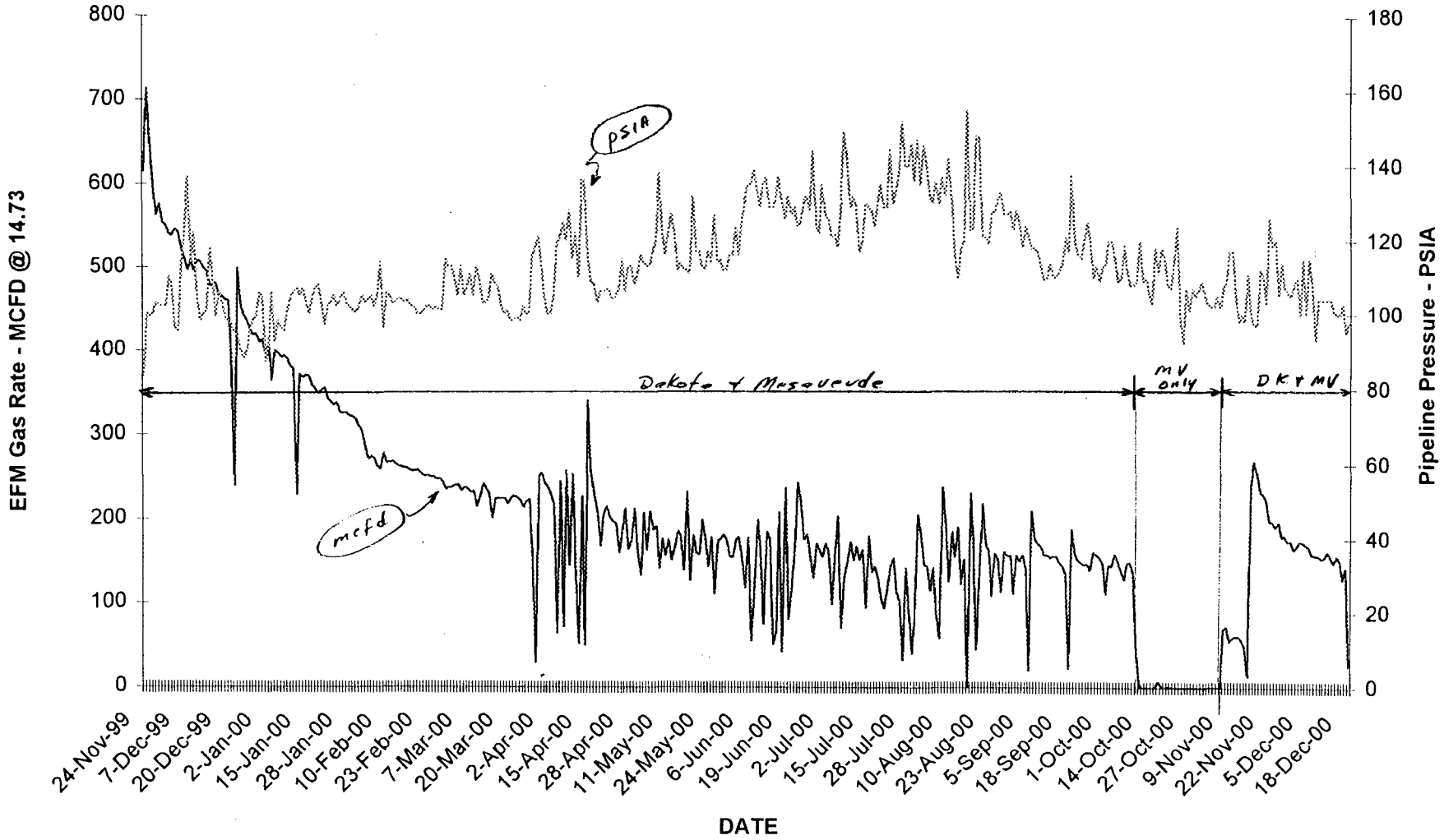
Attachment
No. 1
Pg 1 of 1

El Niño #6E
Blanco Mesaverde & Basin Dakota



DUGAN PRODUCTION CORP.
EL NIÑO #6E
BLANCO MESAVERDE 4292'-4312'
BASIN DAKOTA 6336'-6567'

Attachment No. 2 Pg 1 of 1

DATE	Gas Sales/EFM MCF @ 14.73	Pipeline press-psia	Zones Producing & Remarks
1-Oct-00	146	120	MV & DK downhole commingled
2-Oct-00	145	120	MV & DK
3-Oct-00	160	115	MV & DK
4-Oct-00	151	109	MV & DK
5-Oct-00	140	110	MV & DK
6-Oct-00	129	119	MV & DK
7-Oct-00	149	112	MV & DK
8-Oct-00	150	108	MV & DK
9-Oct-00	137	108	MV & DK
10-Oct-00	41	109	MV & DK
11-Oct-00	1	120	Kill well w/20 BW, isolate Dakota below retrievable bridge plug.
12-Oct-00	0	109	MV only - swab FL to 3800', Rec. 5 BW.
13-Oct-00	0	110	MV only - swab FL to 4100', Rec. 11 BW.
14-Oct-00	0	106	MV only - SI for build up
15-Oct-00	0	103	MV only - SI for build up
16-Oct-00	0	118	MV only - SICP = 420 psi - open up - didn't unload. Swab FL to 4200', Rec. 6 BW. Left open to pipeline.
17-Oct-00	8	111	MV only
18-Oct-00	1	118	MV only - Swab well, Rec. 1.5 BW - SI for build up.
19-Oct-00	0	115	MV only - SICP = 400 psi, opened up. Swabbed FL to 4200', Rec. 25 BW, gasses after each run. SI for build up
20-Oct-00	1	108	MV only - SICP = 340 psi. Swab FL to 4200', Rec. 15 BW - slight condensate show. Install stop clock.
21-Oct-00	0	107	MV only
22-Oct-00	0	114	MV only
23-Oct-00	0	124	MV only - blow well. Did not unload. Swab FL to 4200', Rec. 4 BW.
24-Oct-00	0	98	MV only
25-Oct-00	0	92	MV only
26-Oct-00	0	107	MV only
27-Oct-00	0	101	MV only
28-Oct-00	0	107	MV only
29-Oct-00	0	105	MV only
30-Oct-00	0	107	MV only - vented to atmosphere, had light mist of water.
31-Oct-00	0	109	MV only - vented to atmosphere, slight flow of gas, no fluid.
1-Nov-00	0	105	MV only - test with orifice well tester, 1/8" orifice, FTP = 39 psia, 8.8 MCFD, no fluid.
2-Nov-00	0	103	MV only
3-Nov-00	0	102	Kill well, retrieve BP & return well to MV/DK downhole commingled.
4-Nov-00	0	102	MV & DK
5-Nov-00	0	105	MV & DK
6-Nov-00	0	102	MV & DK - Swab FL to 5600'. SI for build up.
7-Nov-00	70	108	MV & DK - SICP = 600 psi. Blew well & returned to pipeline.
8-Nov-00	73	109	MV & DK
9-Nov-00	55	117	MV & DK
10-Nov-00	59	117	MV & DK
11-Nov-00	62	104	MV & DK
12-Nov-00	61	98	MV & DK
13-Nov-00	56	100	MV & DK
14-Nov-00	49	98	MV & DK
15-Nov-00	13	111	MV & DK - SI for build up. Added soap sticks. Blew well to unload water. Returned to PL.
16-Nov-00	244	100	MV & DK
17-Nov-00	271	97	MV & DK
18-Nov-00	256	97	MV & DK

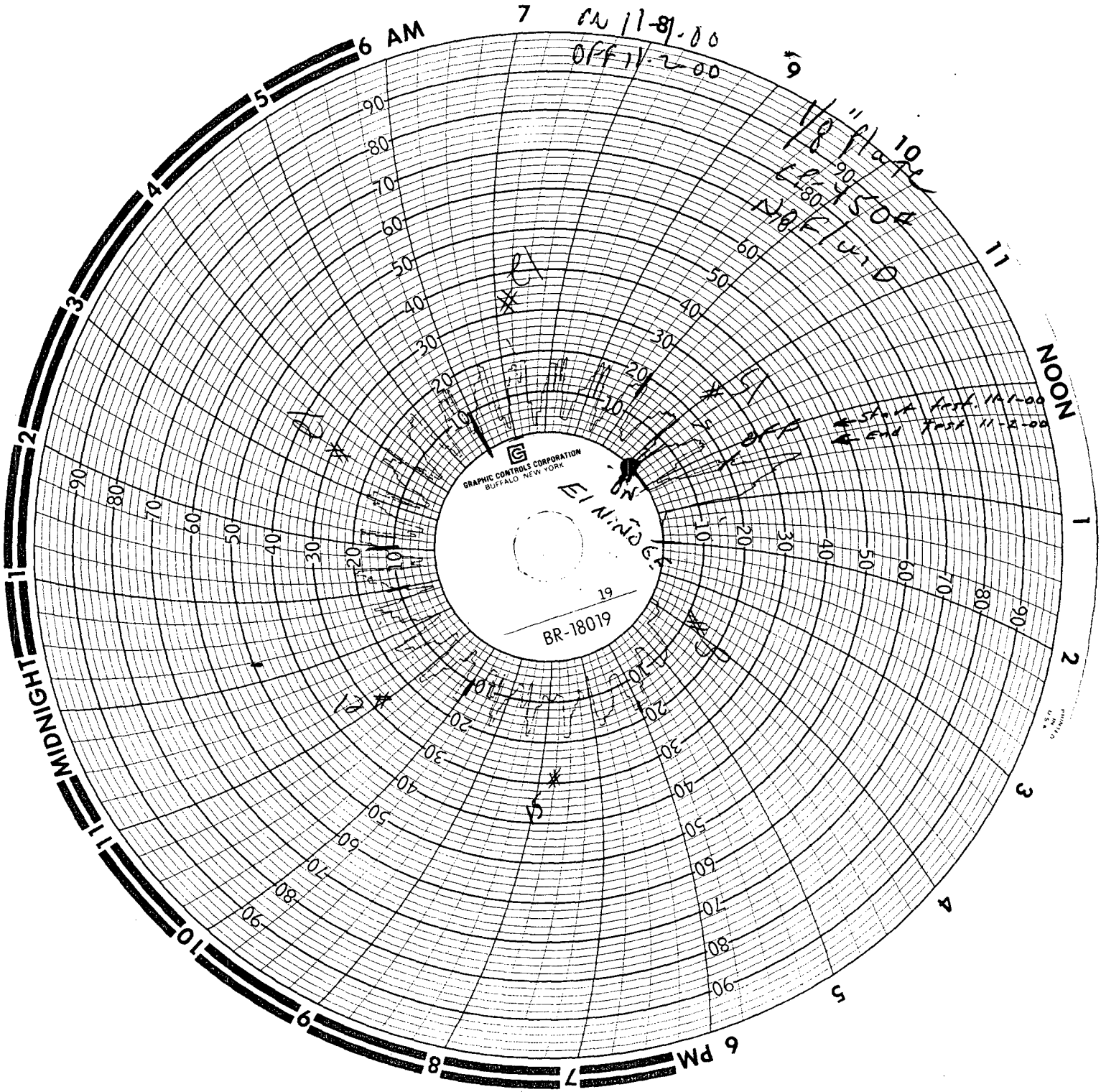
Average 145 mcfd

ATTACHMENT NO. 3 PAGE 1 OF 2
DUGAN PRODUCTION CORP.
EL NIÑO NO. 6E - MESAVERDE

Well producing through production separator operating at 39 psia. All liquids dumped to a tank and gas measured with a 2" orifice well tester and then vented.

Chart on 11-1-00
Chart on 11-2-00

Orifice plate = 1/8"
Flowing tubing pressure = 39 psia



ATTACHMENT NO. 3 PAGE 2 OF 2
DUGAN PRODUCTION CORP.
EL NIÑO NO. 6E - MESAVERDE

FLOW RATE COMPUTATIONS FROM ORIFICE WELL TEST CHART
CHART ON 11-1-00, CHART OFF 11-2-00

Base Data:

Flowing tubing pressure = 39 psia
Orifice plate = 1/8"
Gas gravity = 0.700 estimated

Chart Time	Average Pressure psig 1	Gas Rate mcfd 2	Computed gas volume - mcf
15 minutes	0	0	0
15 minutes	20	14.6	0.15
15 minutes	30	19.0	0.20
15 minutes	22	15.5	0.16
3 hours	0	0	0
2 hours	8	8.3	0.69
4 hours	15	12.1	2.02
4 hours	12	10.5	1.75
4 hours	12	10.5	1.75
4 hours	12	10.5	1.75
2 hours	15	12.1	1.01
24 hours			9.48 mcf @ 14.65 psia & 0.60 specific gravity

Gas volume @ 14.73 & 0.70 specific gravity = $9.48 \times \sqrt{.6/.7} \times \frac{14.65}{14.73} = 8.73$ mcfd

①- Orifice plate pressure from test chart

②- Factor from Teledyne Merla Orifice well tester flow rate tables, Table III, 2" orifice well tester

dugan production corp.

Attachment No. 4 P3 of 3

9/11/2000

Mr. David Valdez
Burlington Resources Oil and Gas
P.O. Box 4289
Farmington, NM 87499

Re: Verification of Production Allocation Factors
El Nino 6E, 1850' fsl & 1850' fel, 11-T.26N-R.9W

Dear Mr. Valdez:

Dugan Production Corp. intends to verify the factors used to allocate production to the Dakota and Mesaverde formations which are commingled in the wellbore of the subject well. Administrative Order DHC-2520 sets the allocation factors for Mesaverde: Oil 79%, Gas 74% and Dakota: Oil 21%, Gas 26%. The attached procedure will be followed to test the production from the Mesaverde. The Mesaverde test will be deducted from the established Mesaverde/Dakota commingled production stream. The remainder will be Dakota production. After the Mesaverde test is completed, we will return the well to commingled production to verify that production has returned to the pre-test rates.

We plan to initiate this test as soon as a rig is available. Please contact the undersigned employee if you have any questions or suggestions about how this test is to be conducted.

Sincerely Yours,

John Alexander
Vice President

Attachments

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DUGAN PRODUCTION CORP.
El Niño #6E
1850' FSL & 1850 FEL
Sec. 11, T26N, R9W
Basin Dakota – Blanco MV

Attachment No. 4 Pg 2 of 3

Procedure to Verify Production Allocation

DATA:

Casing: 8-5/8" 24# J-55 csg. Land @ 330'. Cemented to surface.

18 jts 4-1/2" 11.6# J-55 Newport csg 811.13' & 132 jts 4-1/2" 10.5# J-55 Newport csg 5924.87'. Land csg @ 6736'. FC @ 6691'. DV @ 4630', DV @ 2115'. Cement 1st stage w/125 sx 65/35/8 w/8# Gilsonite/sx w/1/4# celloflake. Tail w/200 sx class "H" w/.4% Cd-32 & .3% FL-52 w/1/4# celloflake/sx. Cement 2nd stage w/330 sx 65/35/8 w/8# Gilsonite/sx w/1/4# celloflake/sx. Tail w/50 sx class "C" w/6-1/4# Gilsonite/sx & 1/4# celloflake/sx. Cement 3rd stage w/340 sx 65/35/8 w/8# Gilsonite/sx w/1/4# celloflake/sx. Tail w/50 sx class "C" w/6-1/4# Gilsonite/sx w/1/4# celloflake/sx. Circulate cement on 3rd stage.

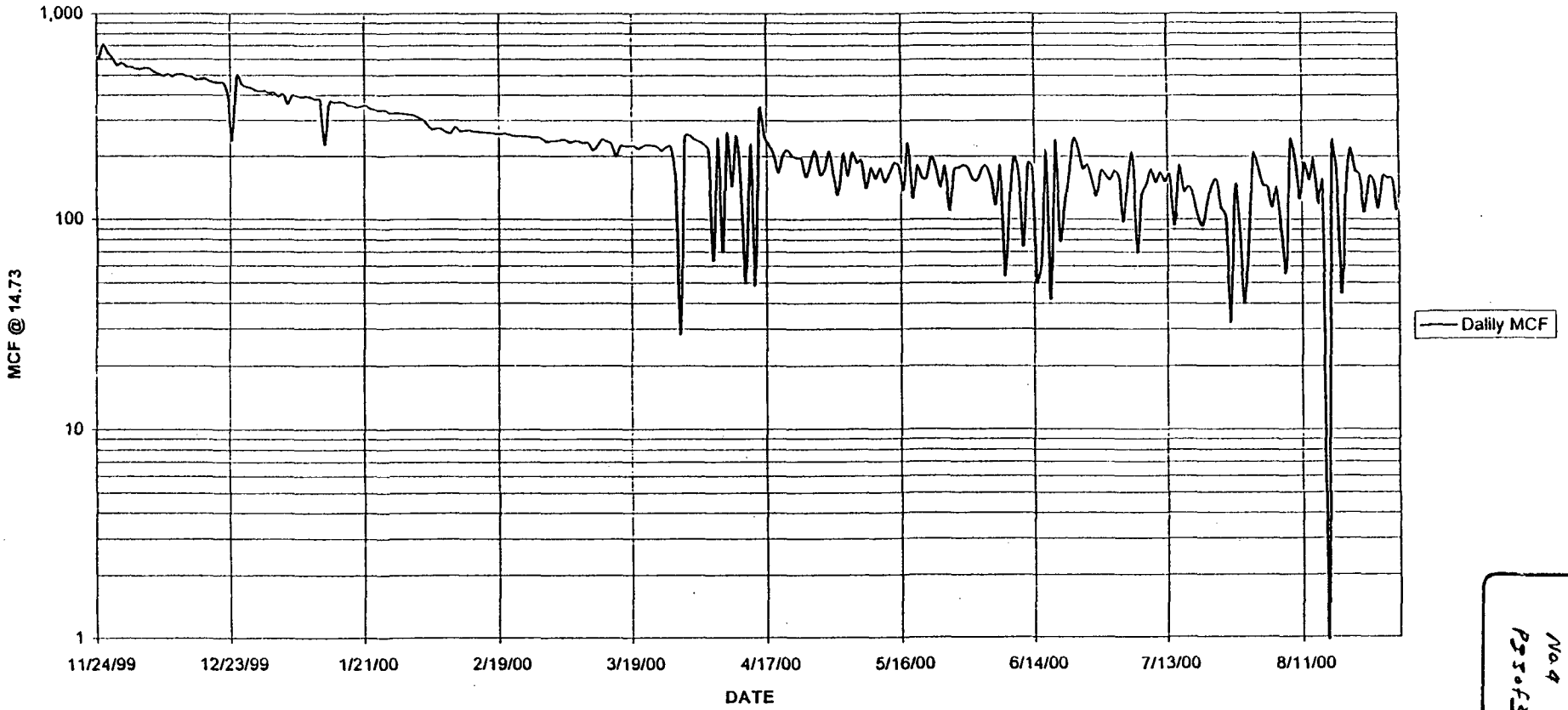
Perforations: (Dakota) 6336',38',40',42',44',6433', 35',37',39',48',59',6519',24',33',47',49',51',67' (total 18 holes).
(Mesaverde) 4292'-4312' w/1 jspf (total 20 holes).

Tubing: 204 jts 2-3/8" tubing 4.7# 8RD EUE, SN, 1 jt 2-3/8" tubing, T.E. 6464.77', set @ 6473' RKB, SN @ 6441'.

PROCEDURE:

1. Kill well with produced water if necessary.
2. Pull production tubing.
3. Run tubing with retrievable bridge plug and packer.
4. Set RBP at 4400' +/-.
5. Pressure test RBP with packer at 2000 psi.
6. Pull tubing and lay down packer.
7. Run tubing with seating nipple and land near bottom of Mesaverde perforations.
8. Return well to production with Mesaverde only being produced.
9. Produce Mesaverde interval until production has stabilized. The exact time required will be determined by daily production rates. At least three weeks will be included in the test period.
10. Pull RBP.
11. Return well to commingled Dakota/Mesaverde production.
12. Monitor commingled production to determine any change in rates when compared to pre-test rates.

EL NINO #6E



Attachment No. 9 Page 3 of 3