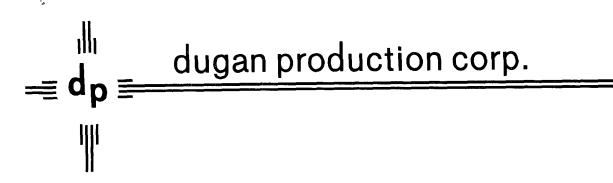
	4/21/98.	_5/11/98	_ DC	W	- DHC
	<u></u>	NEW MEXIC	ABOVE THIS LIKE FOR DAVISION USE O CO OIL CONSERVA - Engineering Bureau -		MC G20
		ADMINISTRAT	IVE APPLICATIO	DN COVERSHE	
	THES CO	DVERSHEET IS MANDATORY FOR ALL	ADMINISTRATIVE APPLICATIONS FO	REXCEPTIONS TO DIVISION RULES	ND REGULATIONS
Appli	t	[NSP-Non-Standam [DD-Direction -Downhole Commingling] [PC-Pool Commingling] [([WFX-Waterflood Exp	DLS - Off-Lease Storage) bansion) (PMX-Pressure r Disposal) [1P1-Injection	neous Dedication) g] [PLC-Pool/Lease Con [OLM-Off-Lease Measure Maintenance Expansion] Pressure Increase]	iment)
[1]	TYPE OF A [A]	APPLICATION - Check Location - Spacing U NSL NSP	k Those Which Apply f nit - Directional Drillin DD DSSD	g	211998
	Chec [B]	k One Only for [B] or [Commingling - Stora DHC CTB	-	OIL CONSER	VATION DIVISION
	[C]	Injection - Disposal -	Pressure Increase - Enl	nanced Oil Recovery	
[2]	NOTIFICA	TION REQUIRED TO	: - Check Those Which	Apply, or 🖵 Does No	t Apply
•••	[A]		or Overriding Royalty		· · · · · · · · · · · · · · · · · · ·
	[B]	🖾 Offset Operators, L	easeholders or Surface	Owner	
	[C]	Application is One	Which Requires Publis	hed Legal Notice	
	[D]	Notification and/or U.S. Bureau of Land Ma	Concurrent Approval l magement - Commissioner of Publi	oy BLM or SLO c Lands, State Land Office	
	(E)	A For all of the above	, Proof of Notification	or Publication is Attack	ned, and/or,
	[F]	Waivers are Attach	ed		
[3]	INFORMAT	ION / DATA SUBMIT	TED IS COMPLETE	- Statement of Unders	tanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I further verify that all applicable API Numbers are included. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

John Alexander Print or Type Name

with supervisory cap Vice-President Signature



April 15, 1998

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

Re: Request for Administrative Approval to Downhole Commingle Gallup with Dakota and Mesa Verde
 Mona Lisa No. 2
 1620' fsl & 1850' fel, S.14-T.26N-R.7W, Rio Arriba Co., NM
 API No. 30-039-25745

Dear Ms. Wrotenbery:

Dugan Production Corp. seeks administrative approval to downhole commingle the Ice Canyon Gallup with the already approved commingling of the Basin Dakota and Blanco Mesa Verde formations in this wellbore. In Case No. 11897, Order No. R-10963, Dugan Production Corp. was granted a 160 Acre spacing unit and permission to downhole commingle the Basin Dakota and Blanco Mesa Verde. The subject well has been drilled and cased. A review of open hole and mud logs revealed that the Gallup formation was hydrocarbon bearing in commercial quantities. The Gallup was not included in the original application because it's economic viability was unknown prior to drilling. The economic and efficient completion of all three zones will be best served by continuous operations. The supporting information attached will demonstrate that conservation is served and correlative rights are protected by your approval of this application.

Caulkins Oil is the only offsetting operator. They have been notified by certified mail of this application. The Bureau of Land Management has been notified of this application and their approval requested.

Sincerely,

alefande John

John Alexander Vice President

DISTRICT I P.O. Box 1980, Hobbs, NM 88241-1980 DISTRICT II 811 South First St., Artesia, NM 88210-2835 DISTRICT_III 1000 Rio Brazos Rd, Aztec, NM 87410-1693

> . . •

~

State of New Mexico Energy, Minerals and Natural Resources Department **OIL CONSERVATION DIVISION** 2040 S. Pacheco Santa Fe, New Mexico 87505-6429

Form C-10 New 3-APPROVAL PROCESS: X Administrative _____Hearing **EXISTING WELLBORE** X YES NO

APPLICATION FOR DOWNHOLE COMMINGLING

Roy 120 Farmington NIM 87499-0420

<u>X</u> Yes <u>No</u>

(If Yes, attach explanation)

Dugan Production Corp.		Address	mington, mi 07455 0420
Mona Lisa	2	J-14-26N-7W	Rio Arriba
Lease	Well No.	Unit Ltr Sec - Twp - Age	County
OGRID NO. 006515 Property Code	21582	_ API NO. <u>30-039-25745</u>	Spacing Unit Lease Types: (check 1 or more)Federal, State, (and/or) Fee

The following facts are submitted in support of downhole commingling:	Upper DHC MV + R-10963	Intermediate Subject Zone	Lower Zone DHC Dakota - R-10963	
1. Pool Name and Pool Code	Blanco Mesaverde 72319	Ice Canyon Gallup 93235	Basin Dakota 71599	
2. Top and Bottom of Pay Section (Perforations)	Approximately 4600'-4740'	Approximately 5730'-6000'	Approximately 6620'-6765'	
3. Type of production (Oil or Gas)	<u>Gas & Condensate</u>	Gas & Condensate	<u>Gas & Condensate</u>	
4. Method of Production (Flowing or Artificial Lift)	Flowing	Flowing	Flowing	
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing:	a. ^(Current) Not completed	a. Not completed	a. Not completed	
All Gas Zones: Estimated Or Measured Original	b. ^(Original) 1087 psia (est)	ъ. 1388 psia (est)	ь. 2680 psia (est)	
6. Oil Gravity (°API) or Gas BTU Content	1279 BTU/SCF (est)	1250 BTU/SCF (est)	1249 BTU/SCF (est)	
7. Producing or Shut-In?	Not completed	Not completed	Not completed	
Production Marginal? (yes or no)	Anticipated to be	Anticipated to be	Anticipated to be	
 If Shut-In, give date and oil/gas/ water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data 	Date: See R-10963 Rates: 74 MCFD + 0.6 BCPD (est)	Date: See attached 63 MCFD + 0.6 BCPD (est	Date: See R-10963 1 ^{Rates:} MCFD + 0.9 BCPD (est)	
 If Producing, give date andoil/gas/ water rates of recent test (within 60 days) 	Date: Rates: Control C	Date: Rales:	Date: <u>307700F17</u> 3- Rales:	
8. Fixed Percentage Allocation Formula -% for each zone	0ii: Gas: 30 %	Oil: Gas: 25 %	oii: 45 % Gas: 45 %	

If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? If not, have all working, overriding, and royalty interests been notified by certified mail? Have all offset operators been given written notice of the proposed downhole commingling?

 $\begin{array}{c} X & Yes \\ \hline X & Yes \\ \hline \chi & Yes \\ \hline No \\ \hline No \\ \end{array}$ Will cross-flow occur? X Yes ___ No If yes, are fluids compatible, will flowed production be recovered, and will the allocation formula be reliable. 11. Will cross-flow occur? If yes, are fluids compatible, will the formations not be damaged, will any cross-X Yes No (If No, attach explanation)

_ Yes X No

ORDER NO(S). <u>R-10963</u>, <u>R-10239</u>

12. Are all produced fluids from all commingled zones compatible with each other?

13. Will the value of production be decreased by commingling?

14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. <u>X</u>Yes <u>No</u>

15. NMOCD Reference Cases for Rule 303(D) Exceptions:

16. ATTACHMENTS

* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
* Production curve for each zone for at least one year. (If not available, attach explanation.)
* For zones with no production history, estimated production rates and supporting data.
* Data to support allocation method or formula.
* Notification list of all offset operators.
* Notification list of working, overriðing, and royalty interests for uncommon interest cases.
* Any additional statements, data, or documents required to support commingling.

Any additional statements, data, or documents re	equired to support commingling.
I hereby certify that the information above is true and complete	to the best of my knowledge and belief.
SIGNATURE John alerande	_TITLE _Vice-PresidentDATE4/13/98
TYPE OR PRINT NAME John_Alexander	

Information in support of this application:

- 1. Operator: Dugan Production Corp. P.O. Box 420 Farmington, NM 87401 (505) 325-1821 Contact: John Alexander
- Well: Mona Lisa No. 2 1620' fsl & 1850' fel, S.14-T.26N-R.7W, Rio Arriba Co., NM Lease No. NM 99002 API No. 30-039-25745
- 2. Order No. R-10963 granted commingling of the Basin Dakota and Blanco Mesa Verde formations in the Mona Lisa #2 wellbore.
- 3. The Ice Canyon Gallup proposed in this application is spaced 160 Acres in SE/4 S.14-T.26N-R.6W. Applicant is 100% working interest owner.
- 4. Caulkins Oil has recently completed an Ice Canyon Gallup in their Breech #377, located in M-23-26N-7W (API 30-039-25690), 1.2 miles Southwest of the Mona Lisa #2. The Breech #377 was not complete at the time the Mona Lisa #2 well application was being prepared. A seven (7) day shut-in casing pressure reported to the NMOCD was 1125 psi. The calculated Gallup bottom hole pressure at the Breech #377 well is 1388 psi. It is assumed that the Gallup will exhibit the same pressure in the Mona Lisa #2. In the order referenced in (1) above, the Dakota BHP was 2680 psi, and the Mesa Verde was 1087 psi. Correcting the Dakota BHP to the Gallup mid-perforation depth yields 2616 psi. The Gallup BHP is 53% of the higher pressured zone and as such qualifies under Rule 303C(vi). Correcting Gallup BHP to Mesa Verde mid-perforation depth yields 1338 psi. The Mesa Verde BHP is 81% of the higher pressured zone and so also qualifies under 303C(vi).
- 5. Caulkins reports that their Breech #377 Gallup well is being produced at approximately 300 MCFD with 1.5 BCPD. An average for area Gallup wells is 63 MCFD with .6 BCPD. This is marginal production for a well of this depth. Dugan's commingle application for the Dakota and Mesa Verde estimated production from those zones at 118 MCFD/0.9 BCPD and 74 MCFD/0.6 BCPD respectively. The ability to complete all three zones with one trip to the well will greatly reduce the completion costs and enhance economics of attempting a Gallup completion. Since the potential for a Gallup completion was unknown prior to drilling this well, the operator opted to run 5-1/2" casing. The small

tubing strings that would be required to complete as a dual or even worse a triple completion will not allow efficient operation of surface production facilities or facilitate liquid unloading. If a commingled configuration is approved, one 2-3/8" or 2-7/8" will be used, eliminating the operational problems noted above.

- 6. Average production from offsetting Gallup wells is 62.5 MCFD and .64 BCPD. Using this as initial production and the decline curve from the Universal Resources Lindrith 110E (C-10-26N-7W API 30-039-23134), estimated production from the Gallup formation is presented in the attached curve. The Lindrith 110E had more production history than other area Gallup wells and so provided the best model.
- 6. Order R-10239 allowed down hole commingling of the Basin Dakota, Ensenada Gallup, and Blanco Mesa Verde Pools. Burlington provided adequate evidence that fluids from all three zones were compatible and non-damaging. The proximity of these wells (approximately 4 miles SE) is confirmation of the fluid compatibility in the Mona Lisa 2 well.
- 7. Using a ratio of the daily estimated rates from each zone, the following allocation factors are recommended:

Formation	<u>Oil</u>	<u>Gas</u>
Dakota	45%	45%
Gallup	25%	25%
Mesa Verde	30%	30%

District I PO Box 1980, Hobbs, NM 88241-1980 District II PO Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos Rd., Aztee, NM 87410 District IV PO Box 2088, Santa Fe, NM 87504-2088

·· .

State of New Mexico Energy, Minerals & Natural Resources Department

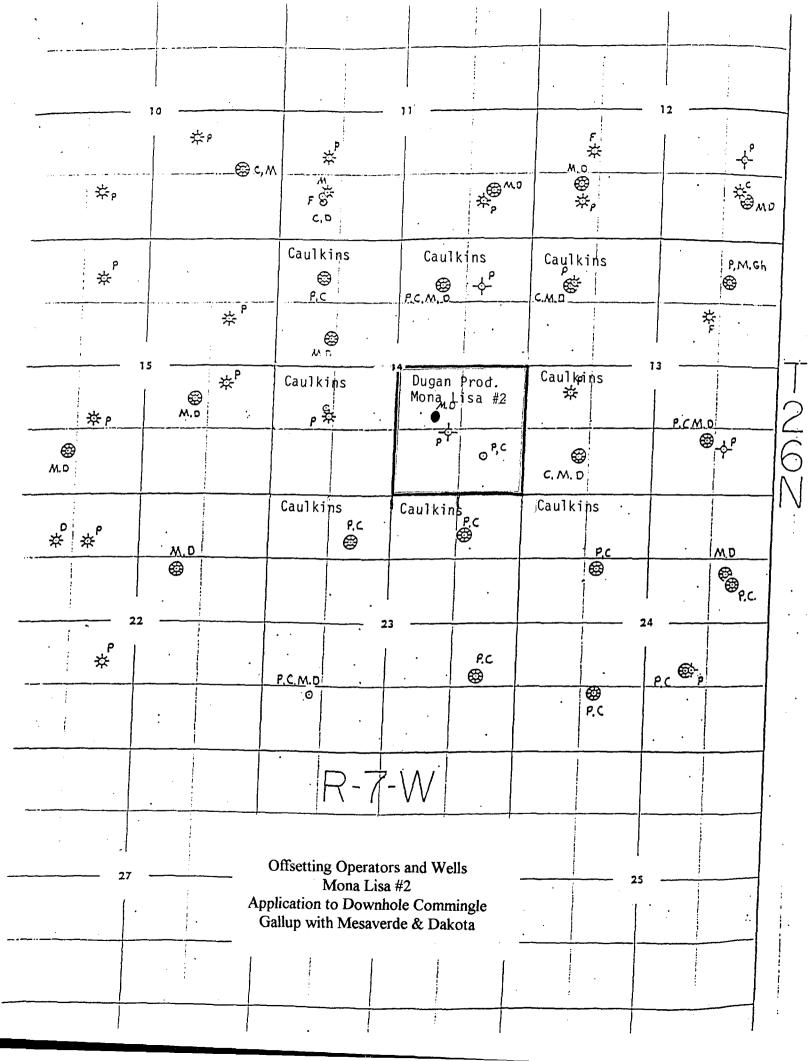
OIL CONSERVATION DIVISION PO Box 2088 Santa Fe, NM 87504-2088

Form C-102 Revised February 21, 1994 Instructions on back Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

X AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

30 0.39 25745 93235 Ice Canyon Gallup 'Preperty Cede ''Wall Number 21582 Mona Lisa ''Operator Name ''Envelow 006515 Dugan Production Corporation 6121' Estimated ''Organization ''Uler int me Section ''Definition ''Uler int me ''Surface Location ''Uler int me Section ''' Definition ''' Definition '''''''''''''''''''''''''''''''''''	7	API Numb	:r		¹ Pool Code ³ Pool Name							
* Property Code * Very retry Name * Well Number 21582 Nona Liss 2 * OCRUN No. • Operator Name * Elevation 006515 Dugan Production Corporation 5121* Estimated UL or lot no. Section Range Lat Iden Feet from the East/West line County 14 26N 7W J 1620 South 1850 East Rio Arriba "Bottom Hole Location If Different From Surface UL or lot no. Section Toreaship Range Lat Iden Feet from the North/South line Feet from the County "Dodiested Acres" Joint or Jaffit * Consolidation Code * Order No. County County 160 Image: Section * Consolidation Code * Order No. County County Section ** Consolidation Code ** Order No. 16 Image: Section * Consolidation Code ** Order No. ** Operator Responder to the best of my browledge and being 16 Image: Section 14 Image: Section ** Operator Responder Code No. ** Operator Restription Responder Code No.	30 03	39 2574	15		93235 Ice Canyon Gallup							
10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 1100 10000 11000 10000 11000 10000 11000 10000 11000 10000 11000 10000 11000 10000 11000 10000 110000 10000 110000 110000 100000 110000 110000 100000 110000 110000 110000 100000 110000 110000 110000 110000 110000 110000 110000 11000000	Name of Concession, Name of Street, or other Designation, or other Designation, or other Designation, or other										Well Number	
006515 01000 Hole Location 1 ¹⁰ Surface Location UL or iot no. Section 1000 South 1850 East County 1 Bottom Hole Location If Different From Surface UL or iot no. Section Township Renge Let 1da Feet from the East County UL or iot no. Section Township Renge Let 1da Feet from the East County "Deliasted Acree "Joint or Infill "Consolidation Code Porter No. 10 Consolidation Code Porter No. IO DALLOWABLE WILL BE ASSIGNED TO THILS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNTI HAS BEEN APPROVED BY THE DIVISION 16 If porter colspan="2">Section 14 If porter colspan="2" Section 14 Section 14 Section 14	21582									2		
Output is visual production in the source of the source o	'OGRID	'OGRID No. 'Operator Name 'Élevation								* Élevation		
UL or ist no. Section Township Range Lat Idn Feet from the 1620 North/South line South Feet from the 1850 East/West line East County Rio Arriba '' Bottom Hole Location If Different From Surface UL or let no. Section Township Range Loi Idn Feet from the North/South line Feet from the East/West line County "Dedicated Acree " Joint or Infill " Counsolidation Code " Order No.	0065	15	Dugan	Product	oduction Corporation							Estimated
14 26N 7W J 1620 South 1850 East Rio Arriba "Bottom Hole Location If Different From Surface ULer bit no. Section Towaship Range Lot Idn Feet from the North/South line Feet from the East/West line Cousty "Dedicated Acress" "Joint or Infill "Coassolidation Code "Order No.						¹⁰ Surfa	ce Location				·	
" Bottom Hole Location If Different From Surface UL or bet no. Section Towaship Range Lot Ids Peet from the North/South line Peet from the East/West line County " Dedicated Acres " Joint or Infill " Consolidation Code " Order No. 160 160 160 NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION 17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the bast of my knowledge and belief 16 Image: Section 14 Image: Section 14 Image: Section It Itself Section 14 Image: Section It Image: Section It Image: Section It Image: Section It Itself Image: Section It Image: Section It Image: Section It Image: Section It Image: Section It Image: Section It Image: Section It Image: Section It Image: Section It Image: Section It Image: Section It Image: Section It Image: Section It Image: Section It Image: Section It Image: Se	UL or lot no.	Section	Township	Range	Lot Idn	Feet from th	North/South	line F	eet from the	East/Wes	t line	County
UL or lot no. Section Township Range Lot Ida Feet from the North/South line Feet from the East/West line County "Dedicated Acres " Joint or Infill " Consolidation Code " Order No. 160 160 160 NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION 16 16 17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the basi of my knowledge and belief 18 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the basi of my knowledge and belief 16 Section 14 14 If SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field note of actual surveys made by me or correct to the basi of my belief. 18 Dugan Prod. 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' <t< td=""><td></td><td>14</td><td>26N .</td><td>7W</td><td>J ·</td><td>1620</td><td>South</td><td>ĺ</td><td>1850</td><td>East</td><td></td><td>Rio Arriba</td></t<>		14	26N .	7W	J ·	1620	South	ĺ	1850	East		Rio Arriba
UL or lot no. Section Township Range Lot Ida Feet from the North/South line Feet from the East/West line County "Dedicated Acres " Joint or Infill " Consolidation Code " Order No. 160 160 160 NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION 16 16 17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the basi of my knowledge and belief 18 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the basi of my knowledge and belief 16 Section 14 14 If SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field note of actual surveys made by me or correct to the basi of my belief. 18 Dugan Prod. 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' 1850' <t< td=""><td></td><td></td><td></td><td>¹¹ Bott</td><td>om Hol</td><td>e Location</td><td>If Differen</td><td>t From</td><td>Surface</td><td>· ·</td><td></td><td>- *</td></t<>				¹¹ Bott	om Hol	e Location	If Differen	t From	Surface	· ·		- *
160 NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION 16 17 OPERATOR CERTIFICATION I hereby certify that the information contailed herefn is true and complete to the best of my knowledge and belief 16 17 OPERATOR CERTIFICATION I hereby certify that the information contailed herefn is true and complete to the best of my knowledge and belief 16 10 OPERATOR CERTIFICATION I hereby certify that the information contailed herefn is true and complete to the best of my knowledge and belief 18 Section 14 14 18 Dugan Prod. 18 1850' 1850' August 26, 1987 1850' August 26, 1987 1850' August 26, 1987 1850' August 26, 1987	UL or lot no.	Section	Township							East/Wes	it line	County
160 NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION 16 17 OPERATOR CERTIFICATION I hereby certify that the information contailed herefn is true and complete to the best of my knowledge and belief 16 17 OPERATOR CERTIFICATION I hereby certify that the information contailed herefn is true and complete to the best of my knowledge and belief 16 10 OPERATOR CERTIFICATION I hereby certify that the information contailed herefn is true and complete to the best of my knowledge and belief 18 Section 14 14 18 Dugan Prod. 18 1850' 1850' August 26, 1987 1850' August 26, 1987 1850' August 26, 1987 1850' August 26, 1987	H Dadiated As	and the failed			- Code 1 V C			ł		1		
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION 16 16 17 OPERATOR CERTIFICATION I hereby cerify that the information contained herein is true and complete to the best of my knowledge and belief 16 16 16 16 17 OPERATOR CERTIFICATION I hereby cerify that the information contained herein is true and complete to the best of my knowledge and belief 16 Section 14 Dugan Prod. NM 99002 1850' 18 18 18 19 19 10 10 10 10 10 10 10 10		- Joine		.00301108001		nuer no.						[
16 17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief 16 14 17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief 16 14 17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief 18 14 18 14 18 18 19 18 10 14 11 18 12 18 13 18 14 18 14 18 15 18 16 18 17 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 <t< td=""><td></td><td>VARIEV</td><td></td><td>SSIGNE</td><td></td><td>IS COMPLE</td><td>TION UNTIL</td><td></td><td>FERESTS U</td><td>AVE BE</td><td>EN CO</td><td></td></t<>		VARIEV		SSIGNE		IS COMPLE	TION UNTIL		FERESTS U	AVE BE	EN CO	
I hereby certify that the information contained herein is true and complete to the best of my browledge and belief I hereby certify that the information contained herein is true and complete to the best of my browledge and belief I hereby certify that the information contained herein is true and complete to the best of my browledge and belief I hereby certify that the information contained herein is true and complete to the best of my browledge and belief Section 14 Section 14 Dugan Prod. 18SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. I thereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. I the of Survey 1850' August 26, 1937 1937 Signature and Seal of Survey 1937 Signature and Seal of Survey 1937												
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief Section 14 I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. I hereby certify that the same is true and correct of the best of my belief. I hereby certify that the same is true and correct of the best of my belief. I hereby certify that the same is true and correct of the best of my belief. I hereby certify that the same is true and correct of the best of my belief. I hereby certify that the same is true and cor	16								¹⁷ OPE	ATOR	CFR	TIFICATION
Section 14 Dugan Prod. NM 99002 1850' Interesting the set of th							1		1			· · · n
Section 14 Dugan Prod. NM 99002 18SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date of Survey Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Signature and Seal of Solvention of the same is true and Solvention of the same is the same is true and Solvention of the same is the same is true and Solvention of the same is t									true and com	plete to the l	best of my	knowledge and belief
Section 14 Dugan Prod. NM 99002 1850' August 26, 1997 Signature and Seal of Survey Signature and Seal of Survey									1			
Section 14 Dugan Prod. NM 99002 1850' August 26, 1997 Signature and Seal of Survey Signature and Seal of Survey			•								_	
Section 14 Dugan Prod. NM 99002 1850' August 26, 1997 Signature and Seal of Survey Signature and Seal of Survey										1 1	ΩΛ	
Section 14 Dugan Prod. NM 99002 1850' August 26, 1997 Signature and Seal of Survey Signature and Seal of Survey			·					·	100	m (<u>I</u>	yande
Section 14 Dugan Prod. IsSURVEYOR CERTIFICATION Interest IsSURVEYOR CERTIFICATION Interest Issue Image: Section 14 Dugan Prod. Issue Image: Section 14 Image: Section 1850' Image: Section <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Alexan</td><td></td><td></td></td<>										Alexan		
Section 14 Dugan Prod. Image: Constraint of the section of th						۷						[]
Section 14 Dugan Prod. NM 99002 Issurveys certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. August 26, 1997 Date of Survey Signature and Scal of Survey		· ·								-Presic	lent	
Section 14 Dugan Prod. IsSURVEYOR CERTIFICATION Image: NM 99002 Interest certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Image: NM 99002 Image: NM 99002 Image: NM 99002 I										/98		
NM 99002 I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Image: Structure and Structur				Section	14							
NM 99002 I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Image: Structure and Structur					Duga	n Prod			18SURV	/EYOR	CER	TIFICATION
Image: Signature and Scale of Survey		1										1
Image: Instant of the design of the desig									was plotted f	rom field not	tes of actu	al surveys made by me
1620' August 26, 1997 Date of Survey Signature and Scal of Survey 6979 6979 6979 6979 6979 6979						\frown			or under my correct to the	supervision, e best of my	ana mai belief.	une same is true and
1620' Date of Survey Signature and Scal of Witchtion Strate 5979 Signature and Scal of Witchtion Strate 5979 Signature and Scal of Witchtion Strate Solution S							1850'		Άι	ugust 26.	. 1997.	
1620' Signature and Scal of Signature and Sc									Date of Surv	- <u>y</u>	UNITER B	SEN
1620' Edgor to surfame					╼┨┨				Signature and	d Scal of	Section of	MEX SO
1620'								1			\$. \$ }	
1620. Edgor the surfam					11	•				EC	į (6	979) 🏸 📒 🛛
E agon the muchan						1620'						
I I I I I I I I I I I I I I I I I I I		·				,			Ed.	Sa "	er ski	
Certificate Number 5979 Herris									Certificate		ZALLY V	1431



--QUICK BHP--Calculate BHP and Z-factor from surface shut-in pressure 04/09/98 Breech 377 - Gallup WELL NAME : 0.00 GAS GRAVITY: 0.73 % N2 % CO2 0.00 % CONDENSATE (YES=1): 1 RESERVOIR TEMP: 130 'F % H2S 0.00 % 60 'F Pc = 662.34 % SURFACE TEMP: 6,674 feet DEPTH OF ZONE: Tc = 389.80 Ζ BHP/Z SURFACE PRES BHP psia psia psia 1,388 0.8206 1,125 1,691 BHP assumed for MONQ Lisa #2

٠,

Calculate BHP and Z-fac		QUICK m surface		pressure	04/13/98
WELL NAME : Mon GAS GRAVITY: CONDENSATE (YES=1): RESERVOIR TEMP: SURFACE TEMP: DEPTH OF ZONE:	0.73 1 150 60	'F 'F	0 Gallup 8 N2 8 CO2 8 H2S Pc = Tc =	0.00 0.00 0.00 662.34	8
SURFACE PRES psia 2,154 M Oatota SJ PRessur	BHP psia 2,616	_	BHP/Z psia 3,232		

•

--QUICK BHP--Calculate BHP and Z-factor from surface shut-in pressure ######## WELL NAME : Mona Lisa 2 Gallup @ MV mid-perf

WELL NAME :	Mona Lisa 2 Galli	JD @ MV mid	l-peri
GAS GRAVITY:	0.73	8 N2	0.00
CONDENSATE (YES=1):	1	 ୫ CO2	0.00 %
RESERVOIR TEMP:	150 'F	8 H2S	0.00 %
SURFACE TEMP:	60 'F	Pc =	662.34 %
DEPTH OF ZONE:	4,670 feet	Tc =	389.80
SURFACE PRES	BHP	Z BHP/Z	,
psia	psia	psia	1
1,160	1,338 0.846	ig 1,579	
This pressure from	surface pressure	calculated	to give 1388

psi BHP for Gallup

.

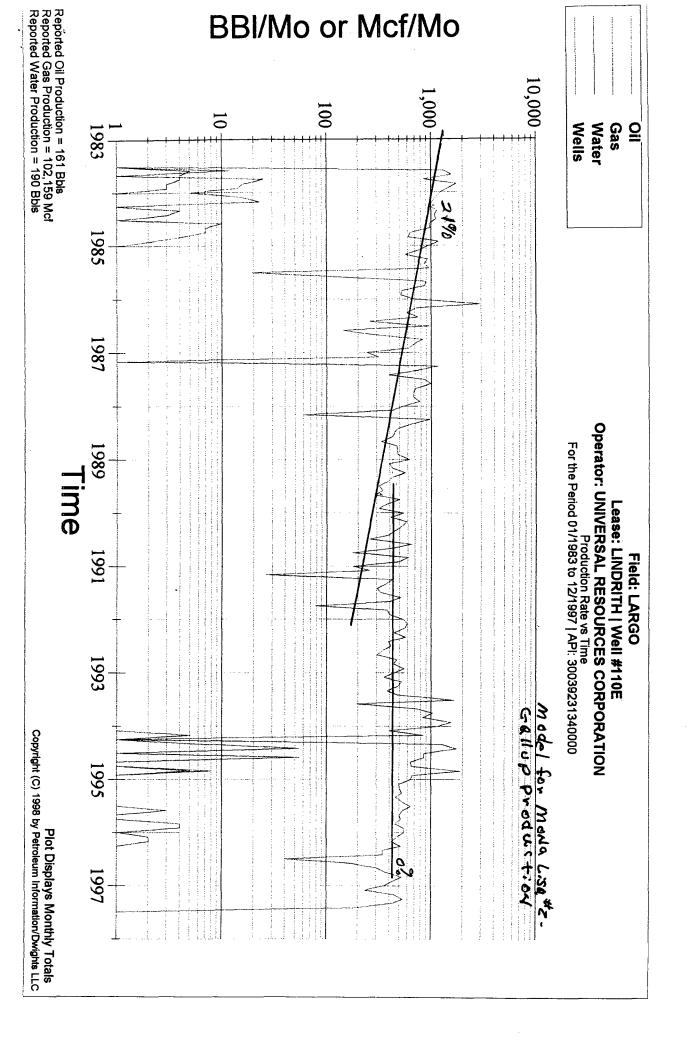
,

Dugan Production Corp. Mona Lisa No. 2 (J--14-26N-R.7W) Production Average for Offsetting Gallup Wells

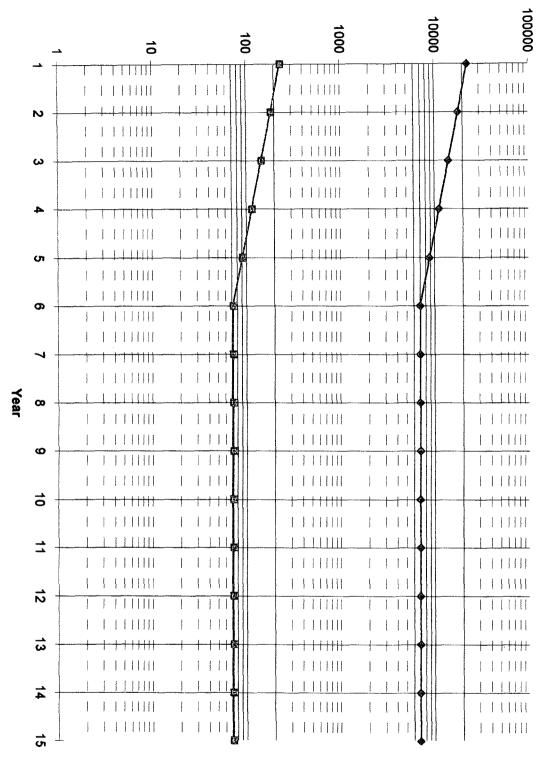
0.64	62.50	19.33	1900.00							
ial Daily Rate	Average Initial Daily Rat	Monthly Rate	Average Initial Monthly							
2.30	65.79	70	2000	6W	26N	33	28E C	KLEIN	30-039-23937	BURLINGTON RESOURCES 30-039-23937 KLEIN
0.33	9.87	10	300	6W	26N	27	13 A	VAUGHN	30-039-20371	BURLINGTON RESOURCES 30-039-20371 VAUGHN
0.20	23.03	6	700	6W	26N	29	31 B	VAUGHN	30-039-22264 VAUGHN	BURLINGTON RESOURCES
0.00	230.26	0	7000	6W	26N	20	2 L	SANCHEZ A	30-039-21968	BURLINGTON RESOURCES 30-039-21968 SANCHEZ A
0.66	13.16	20	400	6W	-	29	32M D	VAUGHN	30-039-23923	BURLINGTON RESOURCES 30-039-23923 VAUGHN
0.33	32.89	10	1000	N N		10	110E C	LINDRITH	30-039-23134 LINDRITH	UNIVERSAL RESOURCES
BCPD	MCFD	BCPM	MCFM	Range	Township	Section	Well Nbr Spot Section Township	Lease	API	Operator
Prod	Initial Daily Proc	thly Prod	Initial Monthly Prod				- - 	••		

•

,

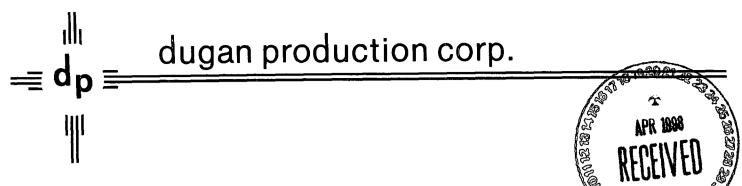


MCFY & BCPY



Mona Lisa #2 - Gallup Projected Yearly Production

--@-- Gas --@-- Condensate



CERTIFIED MAIL - RETURN RECEIPT REQUESTED

April 15, 1998

Mr. Bobby Verquer Caulkins Oil Co. P.O. Box 340 Bloomfield, NM 87413

RE: Application to Down Hole Commingle Gallup with Dakota and Mesa Verde Mona Lisa No. 2 1620' fsl & 1850' fel, S.14-T.26N-R.7W, Rio Arriba Co., NM Lease No. NM 99002 API No. 30-039-25745 Request for Waiver

Dear Mr. Verquer:

Dugan Production requests that Caulkins Oil waive objection to it's application to commingle the Ice Canyon Gallup formation with the already approved commingling of the Dakota and Mesa Verde formations in the subject well. A complete application is attached for your review.

Please sign and return this waiver form in the included envelope. If you wish to object to this application, you must notify the New Mexico Oil Conservation Commission, 2040 South Pacheco Street, Santa Fe, NM 87505 within 20 days of receiving this notice.

Sincerely, alexander

John Alexander Vice President

Caulkins Oil Co. waives objection in the above matter.

Robert L. Verguer Print Name Robert 2 Verguer

	Mona Liza #2 - DH	c baller	9		_
rse sike?	SENDER: Complete items 1 and/or 2 for additional services. Complete items 3, 4a, and 4b. Print your name and address on the reverse of this form so that we card to you.	a can return this	l also wish to recei following services extra fee):		- ക്
reverse	 Attach this form to the front of the mailpiece, or on the back if spac permit. 	e does not	1. 🗆 Addressee	's Address	Vic.
ther	=Write 'Return Receipt Requested' on the mailpiece below the articl = The Return Receipt will show to whom the article was delivered an		2. C Restricted	Delivery	Ser
ont	delivered.		Consult postmaste	r for fee.	Receipt Service
eq	3. Article Addressed to:	4a. Article N	umber		- Sec
completed	Mr. Dekker Verquer Caulkins Oil Co.	P 358 627 126			
Ē	C. It is fille	4b. Service	••		Return
		Registere		Certified	5
your RETURN ADDRESS	P.O. Box 340	Express	Mail ceipt for Merchandise		usin
	Sconfield, 71-77 97413-0340	7. Date of De			
		7116	5148 C	<u>\</u>	you for
E	5. Received By: (Print Name)	8. Addressee	e's Address (Only if r	requested	, k
H	Jim. Feulmer	and fee is	paid)		Thank
our	6. Signature: (Addressee or Agent)				•
ls y	× S. M. Feulmer				
	PS Form 3811 , December 1994 102	2595-97-B-0179	Domestic Retur	n Receipt	
					·, · ·
		· · · · · · · · · · · · · · · · · · ·			
	More disate and more disate	2- DHr. b	ellero.		
erse side?	SENDER: • Complete items 1 and/or 2 for additional services. • Complete items 3, 4a, and 4b. • Print your name and address on the reverse of this form so that we card to you.		I also wish to receiv following services (extra fee):	for an	.e.
ę	Attach this form to the front of the mailpiece, or on the back if space	e does not	1. 🔲 Addressee	's Address	÷

the reverse side	Complete items 1 and/or 2 for additional services. Complete items 3, 4a, and 4b. Print your name and address on the reverse of this form so that we card to you. Attach this form to the front of the mailpiece, or on the back if space		following services extra fee): 1.	s (for an
on the re	permit. ■Write "Return Receipt Requested" on the mailpiece below the article The Return Receipt will show to whom the article was delivered and delivered.	e number. d the date	d Delivery	
ğ	3. Article Addressed to:	4a. Article N		- Sec
complete	Mr. Duane Speacer	P 35 4b. Service 1	8 627 125 Type	
8	Surren of Land Management	Registere	d	Certified
HESS	1235 La Plata Highway	Express Mail Insured Return Receipt for Merchandise COD		
	Jaimington, NM 87401	7. Date of De	əlivəry	vou fo
HEIU	5. Received By: (Print Name)	8. Addressee and fee is	e's Address (Only il paid)	requested to
is your	6. Signature: (Addressee or Agent) X PS Form 3811, December 1994	2595-97-B-0179	Domestic Retu	Irn Receipt