c	- C				(	t		
DATEIN	c1/12	SUSPENSE		ENGINEER	LOUGED IN	12	200g	PWV123495435
				ABOVE	THIS LINE FOR DIVIS	ION USE ONLY	4598	
		N		EXICO OIL COI - Engineeri South St. Francis D	ing Bureau	1 -		
			DMI	NISTRATIVE	APPLI	CATI	DN CHEC	KLIST
	ation Ac [NSL-No [DHo	ronyms on-Stan C-Down [PC-Poo [	: dard Loc hole Cor ol Commi WFX-Wa [SW	which REQUIRE PROCE ation] [NSP-Non-S nmingling] [CTB- ingling] [OLS - Of terficod Expansion] D-Salt Water Dispos	ESSING AT THE tandard Pro Lease Com f-Lease Sto [ [PMX-Pro sal] [IPI-In	Division i pration U mingling prage] ressure finjection i	LEVEL IN SANTA FE nit] [SD-Simuli [ [PLC-Pool/L [OLM-Off-Lease faintenance E) Pressure Incres	taneous Dedication] .ease Commingling] 9 Measurement] (pansion]
[1]	TYPE	OF API [A]	Locatio	ION - Check Those n - Spacing Unit - S SL [] NSP []			•	•
,		Check ( [B]		y for [B] or [C] ngling - Storage - M IC 🔲 CTB 🗍	easurement		] OLS []	OLM
		[C]		n - Disposal - Pressi FX 📋 PMX 🗌				
		[D]	Other: S	Specify				
[2]	NOTIF	ICATI [A]		<b>UIRED TO:</b> - Che orking, Royalty or O				Not Apply
		[B]	🗌 Of	fset Operators, Leas	eholders or	Surface (	Owner	
		[C]	🗋 Ap	plication is One Wh	nich Require	s Publist	ed Legal Notic	e
		[D]	No U.S.	otification and/or Co Bureau of Land Management	ncurrent Ap - Commissioner of	proval by Public Lands	BLM or SLO	·
		[E]	Fo	or all of the above, Pr	roof of Noti	fication o	or Publication is	Attached, and/or,
		[F]	🗌 Wa	aivers are Attached				
[3]				E AND COMPLET NDICATED ABOV		MATION	REQUIRED	TO PROCESS THE TYPE
	al is <b>accu</b>	irate an	d compl		knowledge	e. I also u	inderstand that	pplication for administrative no action will be taken on this

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Mayte Reves	Mat	Rep	Regulatory Analyst	<u>8/01/12</u>
Print or Type Name	Signature	<b>b</b>	Title	Date

mreyes1@concho.com e-mail Address .

istrict I 23 N. French Drive, Hobbs, NM 88240		State of New Mexico Energy, Minerals and Natural Resources Department			
<u>istrict II</u> 1 S. First St., Artesia, NM 88210	a	il Conservation Division	APPLICATION TYPE		
<u>istrict III</u> 00 Rio Brazos Road, Aztec, NM 87410	1220 South S	St. Francis Dr.	X_Single Well		
istrict IV	Santa Fe,	New Mexico 87505	Establish Pre-Approved Poe EXISTING WELLBORE		
20 S. St. Francis Dr., Santa Fe, NM 87505	APPLICATION FOR	DOWNHOLE COMMINGLING			
COG Operating LLC			DHG-459		
perator		2208 West Main Street, Artesia, NM 88210 Address			
Mescal 22 Federal	#2HUnit Letter	P Section 22-T25S-R29E	Eddy		
ase		r-Section-Township-Range	County		
GRID No. 217955 Property Co	de API No. <u>30-0</u>	15-39949 Lease Type: X	Federal State Fee		
DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE		
Pool Name USPES VAS	Corral Canyon Delaware	Siv	Willow Lake/Bone Spring		
Pool Code	13365		96217		
Fop and Bottom of Pay Section Perforated or Open-Hole Interval)	5290' - 5312' Perforated		7850' 11140' Perforated		
Method of Production Flowing or Artificial Lift)	Artificial Lift		Artificial Lift		
Bottomhole Pressure Bottomhole Pressure office: Pressure data will not be required if the bottom erforation in the lower zone is within 150% of the lepth of the top performion in the upper zone)	2205	· · · ·	314		
Dil Gravity or Gas BTU Degree API or Gas BTU)	40		38		
Producing, Shut-In or New Zone	Producing 7/19/11		Producing completed 9/20/10		
Date and Oil/Gas/Water Rates of Last Production. Note: For new zones with no production history, pplicant shall be required to emach production	Date: 7/30/11	Date:	Date: 10/28/2010		
stimates and supporting data.)	Rates: 45 oil, 138 H2O, 80mcf	Rates:	Rates: 170 oil, 445 H2O, 1650 mcf		
Fixed Allocation Percentage Note: If allocation is based upon something other	Oil Gas	Oil Gas	Oil Gas		
han current or past production, supporting data or xplanation will be required.)	29 % 7 %	% %	71 % 93 %		
<u>,                                     </u>	ADDITIC	NAL DATA	<u></u>		

Are all working, royalty and overriding royalty interests identical in all commingled zones? If not, have all working, royalty and overriding royalty interest owners been notified by certified mail?	Yes_X No Yes No
Are all produced fluids from all commingled zones compatible with each other?	Yes No
Will commingling decrease the value of production?	Yes NoX
If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application?	Yes X No
NMOCD Reference Case No. applicable to this well:	
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 working, royalty and overriding royalty interests for uncommon interest cases.

Any additional statements, data or documents required to support commingling.

#### PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

List of other orders approving downhole commingling within the proposed Pre-Approved Pools List of all operators within the proposed Pre-Approved Pools Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application. Bottomhole pressure data.

I hereby certify that the information above is true and c	complete to the best of my knowledge and belief.
I hereby certify that the information above is true and of SIGNATURE A Charles A Charl	
SIGNATURE CLASSIC	
TYPE OR PRINT NAME Mayte Reyes	TELEPHONE NO. ( 575 ) <u>748-6945</u>

----

E-MAIL ADDRESS mreyes1@concho.com

Form 3160- 5	STATES			FORM APPROVED					
(August, 2007)		DEPARTMENT OF THE INTERIOR					OMB No. 1004-0137		
		BUREAU OF LAND	MANAGE		Expires: July 31, 2010				
				5. Lease Serial					
		DRY NOTICES AND			+	6 IG Indian All	NMNM14778 ottee, or Tribe Name		
		use this form for propo ned well. Use Form 3160				o. Ir indian, Alf	ollee, of those ivanie		
	UBMIT IN TI	RIPLICATE - Other Ins	structions or	page 2.		7. If Unit or CA	Agreement Name and/or No.		
), Type of Well Vil Well	Gas Well	Other				8. Well Name a	nd No.		
2. Name of Operator					<u> </u>		escal 22 Federal #2H		
COG Production	LLC					9. API Well No			
3a. Address			3b. Ph	one No. (inclu	de area code)	1	30-015-37949		
2208 W. Main St Artesia, NM 882				575-7	48-6940	10 Field and P	ool, or Exploratory Area		
4. Location of Well (Footag		or Survey Description;	L	Lat.			al Draw; Bone Spring		
990) FOL & 640) PEL LI-	t I away 14 (533/	SUD 5 22 265 20F				11. County or F			
880' FSL & 560' FEL Uni		5 w) Sec 22-255-29E	L	.ong.		Eddy C	ounty NM		
12. CHECK APPROPR	LATE BOX(S	) TO INDICATE NATU	RE OF NOT	CE, REPO	RT, OR OTHER D.	ATA			
TYPE OF SUBMIS	SION			Ť	YPE OF ACTION				
X Notice of Intent		Acidize	Deeper	I	Production ( St.	art/ Resume)	Water Shut-off		
		Altering Casing	Fractur	e Treat	Reclamation		Well Integrity		
Subsequent Report		Casing Repair	New C	onstruction	Recomplete		X Other		
		Change Plans	Plug an	d abandon	Temporarily Al	bandon	Downhole Commingle		
Final Abandonment	Notice	Convert to Injection	Plug ba	ck	Water Disposa	I			
Attach the Bond unde following completion of testing has been com determined that the site is	If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths or pertinent markers and sands. Attach the Bond under which the work will performed or provide the Bond No. on file with the BLM/ BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandoument Notice shall be filed only after all requirements, including reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.) See attached C-107A application for Downhole Commingling.								
< (2 (2 A 1 1		<							
6/3/2011 6/4/2011	Set RBP @		orrolato to (		a and nonfamata E	2001 52121	7 ionf 11		
0/4/2011	-	s and gamma-ray/ccl, c hw/ wireline; R/D wire			÷ ·				
		wn & pump acid/ball jo		packer to	5200 and 501 N	. 110p. 10 sp			
6/5/2011		ew and spot 500 glns. 1		across per	forations 5,290' - :	5.312': PUH	w/ packer to		
				ker and monitor backside;					
		fs. w/ 4500 glns. 15%							
7/19/2011		umping Services & frac	c Delaware	with 29,00	0 gals XL Borate	+ 55,000 lbs	s 16/30 RC 1200		
psi max.									
7/28/2011 RIH w/ tbg and wash down to RBP. Circ 1				release RBP and	pool out of I	iole.			
7/30/2011 RIH w/ Rod pumping equipment, hang well on.									
14. 1 hereby certify that the f	oregoing is true ar	nd correct.							
Name (Printed/ Typed)				Title:			·		
Mayte Reyes		<u> </u>		Reg	gulatory Analyst				
Signature: M	ate	Kees		Date: 8/1	/12				
	D	THIS SPACE F	FOR FEDER	AL OR S	TATE OFFICE US	)E			

 Approved by:
 Title:
 Date:

 Conditions of approval, if any are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease office:
 Office:

 which would entitle the applicant to conduct operations thereon
 Office:

 Title 18 U.S.C. Section 1001 AND Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitiousor fraudulent statements or representations as to any matter within its jurisdiction.

 (Instructions on page 2)



## Engineering Summary Form C-107A Application for Downhole Commingling

### Mescal 22 Fed #2H 30-015-37949 (Unit P, Sec. 22-T25S-R29E)

The Mescal 22 Fed #2H was acquired by Concho Resources in November 2011. While going through our due diligence process we have identified this well as being commingled in the Bone Springs and Delaware prior to having a C-107A DHC approved. Thus, Concho Resources is proposing to downhole commingle the Bone Springs and the Delaware in the captioned well.

No Crossflow will occur because this well will be rod pumped in a pumped down condition. The proposed zonal allocation is described below. A nearby Bone Springs well, White Fed Com #1H (attached), and a nearby Delaware well, Pickett Draw 16 St #2H (attached) will be used as analogs for decline behavior over time.

<u>Bone Springs</u>: The Bone Springs was completed in September 2010. It came in at 170 BOPD/1650 MCFD much like the offset White Fed Com #1H (production plot attached). The best engineering estimate is that the oil will decline 80%/yr for 1 year followed by 27%/yr for 2 years and 7%/yr thereafter. The gas will decline 62%/yr for 1 year followed by 35%/yr for 2 years and then 5%/yr thereafter.

Qioil= 170 bopd Qyr1= 34 bopd Qyr3= 18 bopd Qel= 1 bopd  $EUR = \frac{-365 (170-34)}{Ln (1-.8)} + \frac{-365 (34-18)}{Ln (1-.27)} + \frac{-365 (18-1)}{Ln (1-.07)}$ = 30843 + 18557 + 85503 BO = 134903 BO

Tyler Deans – Sr. Production/Operations Engineer COG Operating LLC

	- CONCHO
Qigas=1650 mcfd	
Qyr1= 363 mcfd	
Qyr3= 153 mcfd	
Qel= 5 mcfd	
$EUR = \frac{-365(1650-363)}{4} + -$	-365 (363-153) -365 (153-5)
Lon (178)	Ln (135) Ln (108)
= 310248 ± 177932 ± 647865	MCF

= 1,136,045 MCF

<u>Delaware:</u> The Delaware was added in July 2011. The incremental production was roughly 45 BOPD/ 80 MCFD. The best engineering estimate is that the oil will decline 65%/yr for 1 year followed by 28%/yr for 2 years and 7%/yr thereafter. The gas will decline 54%/yr for 3 year followed by 5%/yr thereafter.

Qioil= 45 bopd Qyr1= 16 bopd Qyr3= 8 bopd Qel= 1 bopd  $EUR = \frac{-365 (45-16)}{Ln (1-.65)} + \frac{-365 (16-8)}{Ln (1-.28)} + \frac{-365 (8-1)}{Ln (1-.07)}$  = 10083 + 8889 + 35207 BO = 54179 BOQigas= 80 mcfd Qyr3= 8 mcfd

Qel= 5 mcfd

 $EUR = \frac{-365 (80-11)}{Ln (1-.48)} + \frac{-365 (11-5)}{Ln (1-.05)}$ 

= 38513 + 42695 MCF = 81,209 MCF

Tyler Deans – Sr. Production/Operations Engineer COG Operating LLC

**CONCHO** 

Zonal Allocation:

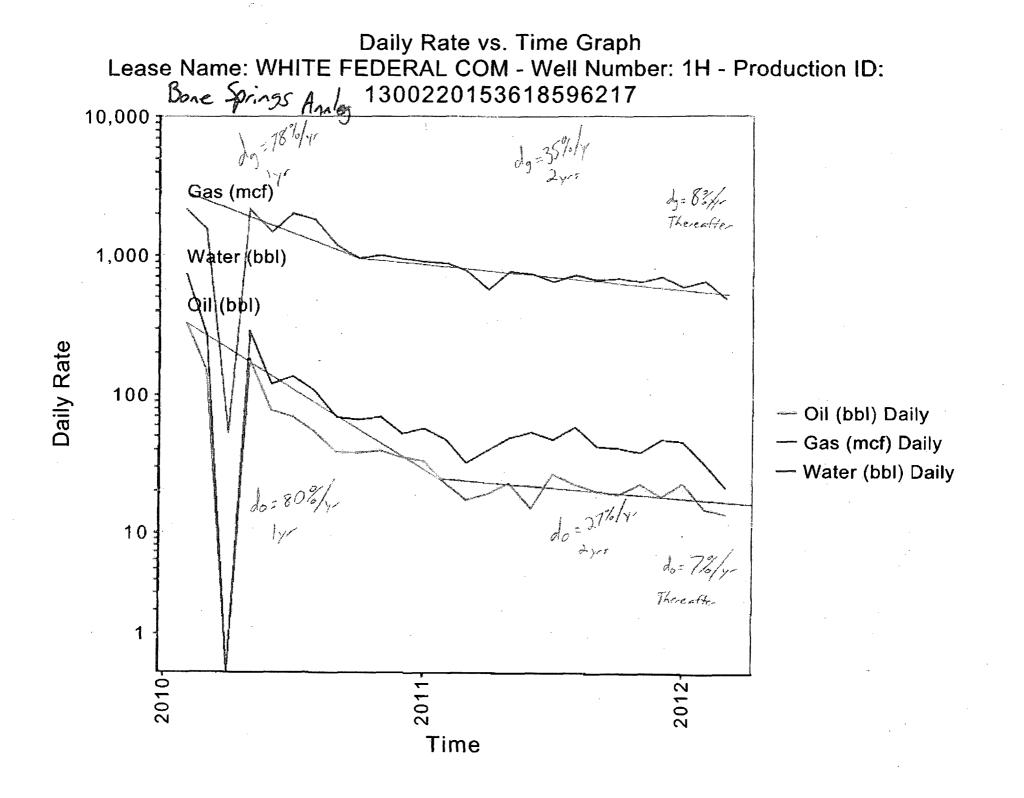
Bone Springs Oil=		134903 BO	= 71%	
Done opringa On	-	134903 + 54179 BO		

Pone Envinge Coo-	1136045  MCF = 939			
Bone Springs Gas=	1136045 + 81209 MCF	)		

Delaware Oil = 100 - 71% = 29%

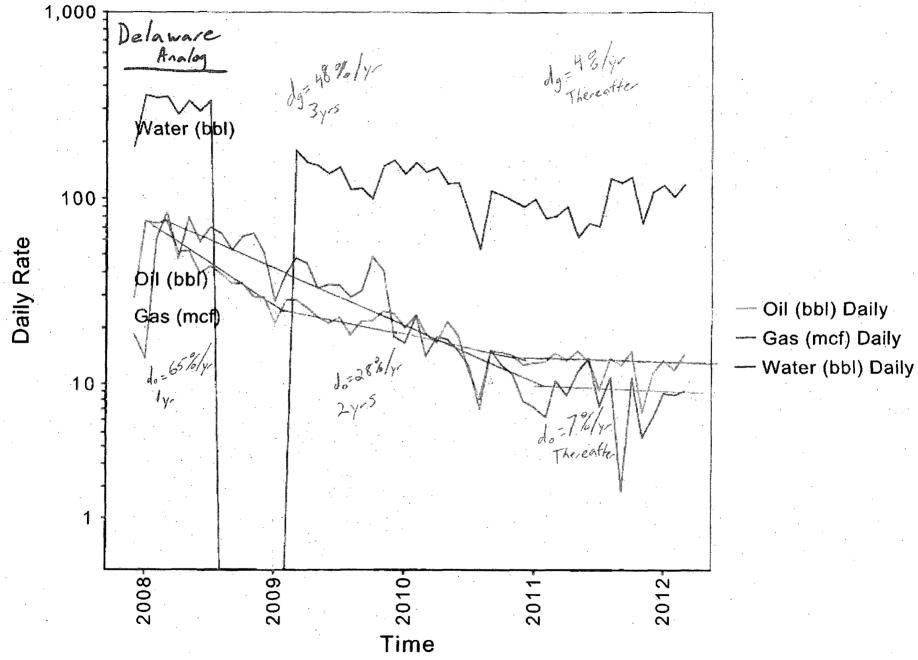
,

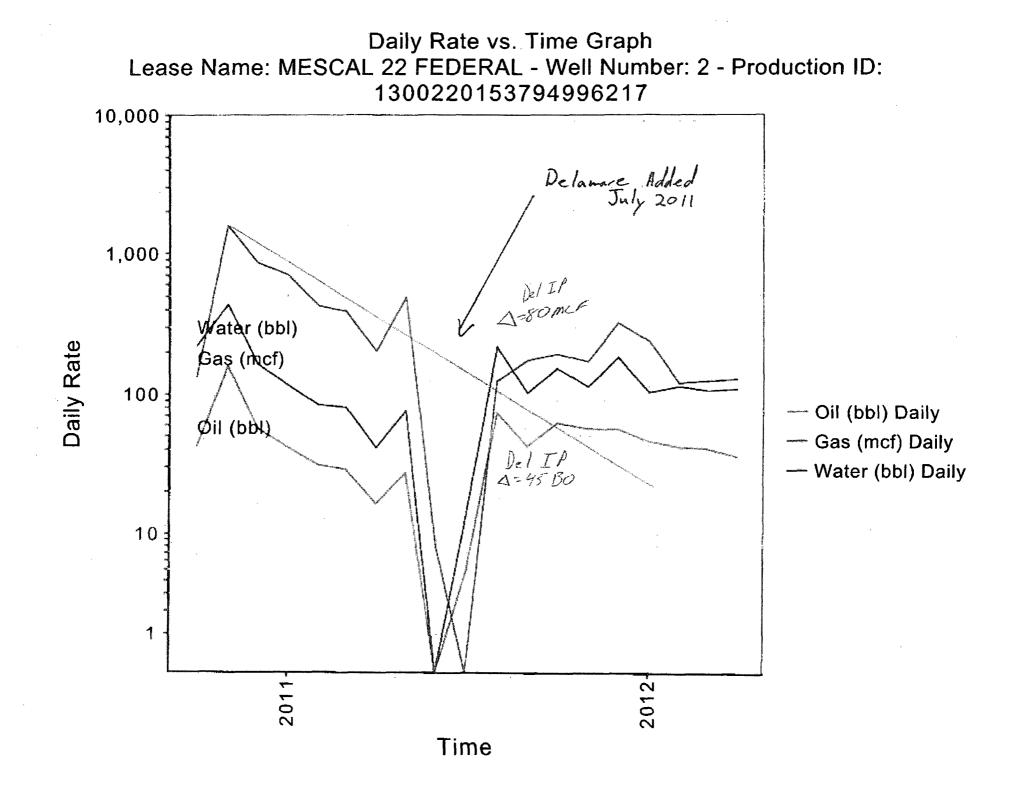
Delaware Gas = 100 - 93% = 7%



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DISTRICT I 1625 N. French Dr., Hobbs, NM 88240 DISTRICT II 1301 W. Grand Avenue, Artonia, NM 68210

DISTRICT III 1000 Rio Brazos Rd., Azteo, NM 87410

DISTRICT IV

# State of New Mexico Energy, Minerals and Natural Resources Department

Form C-102 Revised October 15, 2009

Submit one copy to appropriate District Office

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

1220 S. SL. Francis Dr., Santa Fe, NN 87505 □ AMENDED REPORT WELL LOCATION AND ACREAGE DEDICATION PLAT API Number Pool Code Willow Lake; Bone Spring 96217 Property Code Property Name Well Number "22" FEDERAL 2H MESCAL OGRID No. **Operator** Name Elevation 3071 COG PRODUCTION LLC Surface Location UL or lot No. Section Township Range Lot Idn Feet from the North/South line East/West line Feet from the County P 22 25 S 29 E 880 SOUTH 560 EAST EDDY Bottom Hole Location If Different From Surface UL or lot No. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County 25 S 22 29 E 660 М SOUTH 330 WEST EDDY Dedicated Acres Joint or Infill **Consolidation** Code Order No. 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 **OPERATOR CERTIFICATION** I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral initerest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order hereisfore entered by the givinon. 781 112 Date SURVEYOR CERTIFICATION SURFACE LOCATION I hereby certify that the well location shown PROPOSED BOTTOM HOLE LOCATION Lot - N 32'06'38.24" Long - W 103'57'55.89" NMSPCE- N 404175.502 on this plat was plotted from field notes of HOLE LOCATION Lot - N 32'06'35.96" Long - W 103'58'47.23" NMSPCE- N 403930.319 E 650801.890 actual surveys made by me or under my supervison and that the same is true and correct to the best of my belief. (NAD-83) (NAD-83) 2010 TANKS atupo Date 51 \* 882 P 3081. 3073.2 Śteą 1 1 560 423.1 S.L. 1 ំព ប 0. No 3072.1 3065.5 . B 000 Cortil 7977 Casicado Jones BASIN SURVEYS

DISTRICT I 1625 N. French Dr., Hobbs, NM 66240 DISTRICT H 1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III 1000 Rio Brezos Rd., Aztec, NM 87410

DISTRICT IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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## State of New Mexico Energy, Minerals and Natural Resources Department

Form C-102 Revised October 15, 2009

Submit one copy to appropriate District Office

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

□ AMENDED REPORT WELL LOCATION AND ACREAGE DEDICATION PLAT Corral Canyon; Delaware API Number Paol Code 13365 Property Code Property Name Well Number MESCAL "22" FEDERAL 2H OGRID No. **Operator** Name Elevation 3071' COG PRODUCTION LLC Surface Location UL or lot No. Section Township Lot Idn Feet from the East/West line Range North/South line Feet from the County 22 P 25 S 29 E 880 SOUTH 560 EAST EDDY Bottom Hole Location If Different From Surface UL or lot No. Section Lot Idn East/West line Township Range Feet from the North/South line Feet from the County 22 25 S 29 E 660 SOUTH 330 WEST EDDY м Dedicated Acres Joint or Infill Consolidation Code Order No. 40 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 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the interest or unitased mineral interest in the location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a volculary pooling agreement or a compulsary pooling order heretofore-entered by the divir hQ.  $\omega$   $\delta$ Sinna Date Printed SURVEYOR CERTIFICATION SURFACE LOCATION I hereby certify that the well location shown PROPOSED BOTTOM Lat - N 32'06'38.24" Long - W 103'57'55.89" NMSPCE- N 404175.302 E 655217.178 on this plat was plotted from field notes of Lat - N 32'06'35.96" Long - W 103'58'47.23" NMSPCE- N 403930.319 E 650801.890 actual surveys made by me or under my supervison and that the same is true and correct to the best of my belief. (NAD-83) (NAD-83) 2010

Date

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No

BASIN SURVEYS

7977

Jones

Do 100th

#### Jones, William V., EMNRD

From:	Tyler Deans <tdeans@concho.com></tdeans@concho.com>
Sent:	Tuesday, December 11, 2012 12:17 PM
То:	Mayte Reyes; Jones, William V., EMNRD
Cc:	Tyler Deans
Subject:	RE: Mescal 22 Federal #2H - DHC

Mr. Jones,

After looking at this area I would say we are dealing with subnormal pressured reservoirs, my best engineering estimate for both intervals would be 8ppg pore pressure, which would be equivalent to a .416 psi/ft pressure gradient.

Therefore the estimated static BHP for the Delaware would be 2,205 psi, and the Bone Springs static BHP would be 3,141 psi.

Again this well is currently being rod pumped and no Crossflow will occur because of the pumped down condition of the well.

Thank you again for working with us and helping me and Mayte through this, please let me know if you need anything else!

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From: Mayte Reyes Sent: Friday, December 07, 2012 11:31 AM To: Jones, William V., EMNRD Cc: Tyler Deans Subject: RE: Mescal 22 Federal #2H - DHC

Good morning Mr. Jones,

Our engineer is out till Monday. Is Monday or Tuesday OK for you?

Thanks, Mayte

Mayte Reyes Regulatory Analyst COG OPERATING LLC 2208 W Main St Artesia, New Mexico 88210-3720 575.748.6945



From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Thursday, December 06, 2012 4:18 PM
To: Mayte Reyes
Subject: RE: Mescal 22 Federal #2H - DHC

Mayte,

These depths according to the 150% rule show that your form C-107A needs some reservoir pressures.

Ask your reservoir engineer to estimate the static reservoir pressure near this well location for these two intervals being down hole commingled.

Send me the two numbers and I will process this application hopefully in the next few days.

Regards,

Will Jones

From: Mayte Reyes [mailto:mreyes1@concho.com] Sent: Thursday, December 06, 2012 9:54 AM To: Jones, William V., EMNRD Subject: RE: Mescal 22 Federal #2H - DHC

Good morning Mr. Jones,

I did, and could not see anything on it. No Sr. I did not receive any protests. Will you let me know if there is anything I need to do to get it approved please?

Thank you very much in advance for your help Mr. Jones! Mayte

Mayte Reyes Regulatory Analyst COG OPERATING LLC 2208 W Main St Artesia, New Mexico 88210-3720 575.748.6945

## 3 CONCHO

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Thursday, December 06, 2012 10:47 AM
To: Mayte Reyes
Subject: RE: Mescal 22 Federal #2H - DHC

Mayte, Got it.

Did you check online to see if this was already approved? Was there any protests?

Thank You,

From: Mayte Reyes [mailto:mreyes1@concho.com]
Sent: Monday, December 03, 2012 9:52 AM
To: Ezeanyim, Richard, EMNRD; Jones, William V., EMNRD
Cc: Tyler Deans
Subject: Mescal 22 Federal #2H - DHC

Good morning Mr. Ezeanyim and Mr. Jones,

I hope you both had a great Thanksgiving and a great weekend!

The attached DHC application is for the Mescal 22 Federal #2H well. The DHC application was mailed on 8/1/2012. Can you tell me if there is anything else I may be missing?

Thank you very much in advance for your help! Mayte

Mayte Reyes Regulatory Analyst COG OPERATING LLC 2208 W Main St Artesia, New Mexico 88210-3720 575.748.6945

## 3 CONCHO

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