API #30-025-40507 Ruby Federal #10

DATEN YOR

SHEDENSE

ENGINEER

Caple /21/3

WIPE BHC

PAXK13172Segyz

ABOVE THIS LINE FOR DIVISION USE ONLY

### NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -1220 South St. Francis Drive, Santa Fe, NM 87505



### ADMINISTRATIVE APPLICATION CHECKLIST

TH	HIS CHECKLIST IS M	ANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE
Applic	[DHC-Down	s: Indard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication] Inhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling] Indicate of the commingling
	_	ified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]
[1]	[A]	PLICATION - Check Those Which Apply for [A] Location - Spacing Unit - Simultaneous Dedication  NSL NSP SD
	Check [B]	PLICATION - Check Those Which Apply for [A]  Location - Spacing Unit - Simultaneous Dedication  NSL NSP SD  One Only for [B] or [C]  Commingling - Storage - Measurement  DHC CTB PLC PC OLS OLM  OLM  ONOCO Ph. 1/35
	[C]	Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  WFX PMX SWD IPI EOR PPR
	[D]	Other: Specify
[2]	NOTIFICAT: [A]	ON REQUIRED TO: - Check Those Which Apply, or □ Does Not Apply  Working, Royalty or Overriding Royalty Interest Owners
	[B]	Offset Operators, Leaseholders or Surface Owner
165	[C]	Application is One Which Requires Published Legal Notice
	[D]	Notification and/or Concurrent Approval by BLM or SLO U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
	[E]	For all of the above, Proof of Notification or Publication is Attached, and/or,
	[F]	☐ Waivers are Attached
3]		CURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE TION INDICATED ABOVE.
	al is <b>accurate</b> ar	<b>TION:</b> I hereby certify that the information submitted with this application for administrative ad <b>complete</b> to the best of my knowledge. I also understand that <b>no action</b> will be taken on this quired information and notifications are submitted to the Division.
	Note:	Statement must be completed by an individual with managerial and/or supervisory capacity.
	n B. Maunder Type Name	Susau B. Maunder Sr. Regulatory Specialist 6/18/13 Signature Title Date
		Susan.B.Maunder@conocophillips.com

e-mail Address

<u>District I</u> 1625 N. French Drive, Hobbs, NM 88240

District II 811 S. First St., Artesia, NM 88210

District III 1000 Rio Brazos Road, Aztec, NM 87410

District IV

TYPE OR PRINT NAME Susan B. Maunder

E-MAIL ADDRESS Susan.B.Maunder@conocophillips.com

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

Form C-107A Revised August 1, 2011

Oil Conservation Division APPLICATION TYPE 1220 South St. Francis Dr.

TELEPHONE NO. ( ) (432)688-6913

X\_Single Well
Establish Pre-Approved Pools
EXISTING WELLBORE

X Yes No

### APPLICATION FOR DOWNHOLE COMMINGLING

Santa Fe, New Mexico 87505

1220 S. St. Planets Lift., Suma Pc, Post 67505			
ConocoPhillips Company Operator		D. Box 51810 Midland, TX 79710	-1810
Ruby Federal Lease OGRID No.217817 Property Co	Well No. Unit Letter-	ec. 18-T17S-R32E Section-Township-Range 5-40507 Lease Type: X	LEA County Federal State Fee
DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Maljamar;Grayburg,SanAnd		Maljamar; Yeso West
Pool Code	43329		44500
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	prop'd perf's 3503-5235'/		5382-6717' /
Method of Production (Flowing or Artificial Lift)	Artificial		Artificial /
Bottomhole Pressure (Note: Pressure data will not be required if the bottom			
perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)	~1970 psi		0.465 psi/ft
Oil Gravity or Gas BTU (Degree API or Gas BTU)	39		36.6
Producing, Shut-In or New Zone	New Zone		Producing
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: Rates: see attached	Date: Rates:	Date: 04/30/2013  Rates: 59/285/115
Fixed Allocation Percentage (Note: If allocation is based upon something other	Oil Gas	Oil Gas	Oil Gas
than current or past production, supporting data or explanation will be required.)	42 % 19 %	% %	58 % 81 %
	ADDITION	NAL DATA	
Are all working, royalty and overriding If not, have all working, royalty and over Are all produced fluids from all commit Will commingling decrease the value of	erriding royalty interest owners bee ngled zones compatible with each of	n notified by certified mail?	Yes         X         No           Yes         No             Yes         X         No             Yes         No         X
If this well is on, or communitized with or the United States Bureau of Land Ma NMOCD Reference Case No. applicable	anagement been notified in writing	of this application?	YesX No
Attachments: C-102 for each zone to be comming Production curve for each zone for For zones with no production histor Data to support allocation method of Notification list of working, royalty Any additional statements, data or of	at least one year. (If not available, ry, estimated production rates and sor formula.	attach explanation.) upporting data. r uncommon interest cases.	
	PRE-APPRO	VED POOLS	
If application is  List of other orders approving downhol List of all operators within the proposed Proof that all operators within the proposed Bottomhole pressure data.	e commingling within the proposed d Pre-Approved Pools		II be required:
I hereby certify that the information	above is true and complete to t	he best of my knowledge and belie	ef.
SIGNATURE SUSAUB.	Maunder TITLE SO	enior Regulatory Specialist	DATE 6/18/13

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV

### State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe. NM 87505

Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

☐ AMENDED REPORT

30-025-4050	API Number		44500	<sup>2</sup> Pool Code		jamar; Yeso Wes	<sup>3</sup> Pool Na			
<sup>4</sup> Property (	Ruby Fed	leral	<sup>5</sup> Property Name					<sup>6</sup> Well Number		
					8 Operator N	ame	396	<sup>9</sup> Elevation 3962'		
					" Surface L	ocation				
L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West I	ine Count	
0	18	17S	32E		1140	South	2310	East	Lea	
			" Bott	om Hole	Location If	Different From	Surface			
L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West I	ine Count	
Dedicated Acres	13 Joint o	Infill 14 C	onsolidation Co	rde 15 Ord	ler No.					

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		"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 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 heretofore entered by the division.
		Signature Date Date
		Susan B. Maunder Printed Name
		S B. Maundar@aanaanhillina aan
		Susan.B.Maunder@conocophillips.com  E-mail Address
		"SURVEYOR 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.
	11 22 111	Date of Survey
	2310'	Signature and Seal of Professional Surveyor:
	jó l	
		Certificate Number

### New Mexico Oil Conservation Division C-102 Instructions

### IF THIS IS AN AMENDED REPORT, CHECK THE BOX LABELED "AMENDED REPORT" AT THE TOP OF THIS DOCUMENT.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed contact the appropriate OCD district office. Independent subdivision surveys will not be acceptable.

1. The OCD assigned API number for this well. 2. The pool code for this (proposed) completion. 3. The pool name for this (proposed) completion. The property code for this (proposed) completion. 4. 5. The property name (well name) for this (proposed) completion. 6. The well number for this (proposed) completion. 7. Operator's OGRID number. 8. The operator's name. 9. The ground level elevation of this well.

The surveyed surface location of this well measured from the section lines. NOTE: If the United States government survey designates a Lot

11. Proposed bottom hole location. If this is a horizontal hole indicate the location of the end of the hole.

Number for this location use that number in the 'UL or lot no.' box. Otherwise use the OCD unit letter.

- 12. The calculated acreage dedicated to this completion to the nearest hundredth of an acre.
- 13. Put a Y if more than one completion will be sharing this same acreage or N if this is the only completion on this acreage.
- 14. If more than one lease of different ownership has been dedicated to the well show the consolidation code from the following table:
  - C Communitization
  - U Unitization
  - F Forced pooling
  - 0 Other

10.

Consolidation pending

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!

- 15. Write in the OCD order(s) approving a non-standard location, non-standard spacing, or directional or horizontal drilling.
- 16. This grid represents a standard section. You may superimpose a non-standard section over this grid. Outline the dedicated acreage and the separate leases within that dedicated acreage. Show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. (Note: A legal location is determined from the perpendicular distance to the edge of the tract.) If this is a high angle or horizontal hole, show that portion of the well bore that is open within this pool.

Show all lots, lot numbers, and their respective acreage.

If more than one lease has been dedicated to this completion, outline each one and identify the ownership as to both working interest and royalty.

- 17. The signature, printed name and e-mail address of the person authorized to make this report, and the date this document was signed.
- 18. The registered surveyors certification. This section does not have to be completed if this form has been previously accepted by the OCD and is being filed for a change of pool or dedicated acreage.

## District.1 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District.11 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 District.111 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District.17

1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

30-025-40507

API Number

### State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

Maljamar; Grayburg, San Andres

<sup>2</sup> Pool Code

43329

* Property C	ode	Ruby	Federal			Property !	Name			10	Vell Number
OGRID N	io.					8 Operator !	Name				Elevation
217817 ConocoPhillips Company				ny					3962'		
						" Surface I	ocation				
UL or lot no.	Section	Township	Range	L	ot Idn	Feet from the	North/South line	Feet from the	Eas	t/West line	County
0	18	178	32E			1140	South	2310	East		Lea
			" Bo	ttom	Hole	Location If	Different From	Surface			
UL or lot no.	Section	Townshi			ot Idn	Feet from the	North/South line	Feet from the	Eas	t/West line	County
12 Dedicated Acres	13 Joint o	r Infill	14 Consolidation	Code	15 Ord	ler No.					
40											
								owns a working the proposed to location pursual interest, or to sorder heretofor Signature  Susan B  Printed Name  Susan.B  E-mail Address  18 SURV  I hereby complat was pursuade by made by made proposed to the proposed to	g interest or und bottom hole loce cant to a control a voluntary poore entered by the Maunde state of the control of the contr	leased mineral ation or has a rect with an owner ling agreement we division.  CERT  CERT	hat this organization either interest in the land including light to drill this well at this or of such a mineral or workin or a compulsory pooling  Date  Date  FICATION  tion shown on this of actual surveys sion, and that the est of my belief.
				7,14			2310'	Date of Surv Signature an	d Seal of Prot	fessional Sur	veyor:

### New Mexico Oil Conservation Division C-102 Instructions

### IF THIS IS AN AMENDED REPORT, CHECK THE BOX LABELED "AMENDED REPORT" AT THE TOP OF THIS DOCUMENT.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed contact the appropriate OCD district office. Independent subdivision surveys will not be acceptable.

- Meridian. If the land is not surveyed contact the appropriate OCD district office. Independent subdivision surveys will not be acceptable.

  1. The OCD assigned API number for this well.
- The pool code for this (proposed) completion.
- The pool name for this (proposed) completion.
- The property code for this (proposed) completion.
- The property name (well name) for this (proposed) completion.
- The well number for this (proposed) completion.
- Operator's OGRID number.
- The operator's name.
- The ground level elevation of this well.
- 10. The surveyed surface location of this well measured from the section lines. NOTE: If the United States government survey designates a Lot Number for this location use that number in the 'UL or lot no.' box. Otherwise use the OCD unit letter.
- 11. Proposed bottom hole location. If this is a horizontal hole indicate the location of the end of the hole.
- 12. The calculated acreage dedicated to this completion to the nearest hundredth of an acre.
- 13. Put a Y if more than one completion will be sharing this same acreage or N if this is the only completion on this acreage.
- 14. If more than one lease of different ownership has been dedicated to the well show the consolidation code from the following table:
  - C Communitization
  - U Unitization
  - F Forced pooling
  - O Other
  - P Consolidation pending

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!

- 15. Write in the OCD order(s) approving a non-standard location, non-standard spacing, or directional or horizontal drilling.
- 16. This grid represents a standard section. You may superimpose a non-standard section over this grid. Outline the dedicated acreage and the separate leases within that dedicated acreage. Show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. (Note: A legal location is determined from the perpendicular distance to the edge of the tract.) If this is a high angle or horizontal hole, show that portion of the well bore that is open within this pool.

Show all lots, lot numbers, and their respective acreage.

If more than one lease has been dedicated to this completion, outline each one and identify the ownership as to both working interest and royalty.

- The signature, printed name and e-mail address of the person authorized to make this report, and the date this document was signed.
- 18. The registered surveyors certification. This section does not have to be completed if this form has been previously accepted by the OCD and is being filed for a change of pool or dedicated acreage.

### Maljamar-Yeso West and Grayburg-San Andres Pool Co-mingle

Co-mingle Application

Summary

It is proposed to co-mingle the Maljamar-Yeso West and Grayburg-San Andres pools in ConocoPhillips' Yeso development program in Section 18 and 17, T17S, R32E, Lea County, New Mexico. The working, net revenue, and royalty interest are the same for both pools on most of COP's Ruby Federal and Mitchell B lease. The fluids from both zones are compatible. The following fixed allocation will be used for production: Oil: Yeso 58%, GB/SA 42%, Gas: Yeso 81%, GB/SA 19%.

### Purpose

COP requests to co-mingle both pools in order to access reserves that would otherwise be stranded. Development of the Grayburg-San Andres with dedicated wells is not economic as initial production rates and recoveries are very low. Yeso development is economic independently. The co-mingling of these two pools is expected to enhance production and boost ultimate recovery from the field. This will result in increased income for both the BLM and COP.

With co-mingling, the total recoverable resource in the GB/SA pool overlying COP's Ruby Federal lease is estimated to be ~3 MMBO and 5 BCFG or an incremental 67 MBO and 133 MMcf per well.

### History

ConocoPhillips operates the Mitchell B lease in Section 18 and 17, T17S R32E. This lease has produced from the GB/SA since the 1950's. Historically, the GB/SA has not been very productive in Mitchell B due to low reservoir permeability and the use of outdated completion techniques. As a result of low productivity, a significant amount of oil has been bypassed. It is believed this resource can be economically produced by modern completions and co-mingling with Yeso production.

Development of the Maljamar-Yeso West pool in began in 2008 targeting the Paddock and Blinebry formations of the Yeso. The Yeso has proven to be a very successful, high rate of return play. The productive potential of these zones has been unlocked with improvements in completion practice, namely larger frac's. ConocoPhillips plans to continue its Yeso development program throughout Sections 18 and 19, T17S R32E over the next few years.

### Reservoir Details

With co-mingling, Yeso and GB/SA will be developed on 20-acre spacing. Oil gravity between the Yeso and GB/SA reservoirs is similar, 38 and 37 degrees API respectively.

The Yeso is a normally pressured reservoir (~0.465 psi/ft). The Grayburg/San Andres is expected to be normally pressured to slightly under-pressured due to historical production. If the GB/SA reservoir pressure is found to be under-pressured, cross-flow will be mitigated by ensuring the co-mingled wells are pumped off or producing fluid level is at least below the GB/SA perforations. However, if there is temporary cross-flow into the GB/SA due to a high fluid level, it is expected production will be recovered once the fluid level is pumped back down.

# Mitigateur operation

### **Allocation Method**

The production allocation method for both zones is based on a fixed allocation. This allocation is based on the type curves for both the Yeso and GB/SA formations. These type curves were generated using wells which only produce from Yeso or GB/SA within the same geologic area as the co-mingle candidates, Figure 1. Due to the close proximity of these wells, it is believed existing production provides sufficient insight for co-mingling allocation.

### **Supporting Details**



Figure 1: Map of all wells used in the analysis

17S 32E		
7	8	9
MITCHELLB#1	MITCHELL DATE	
MITCHELL  18  MITCHELL B#20	B#4 MITCHELB#3  MITCHELB#19  17  MITCHELB#9	16
19	20	21

Figure 2: Map of GB/SA wells used in type curve analysis (Mitchell B Lease).

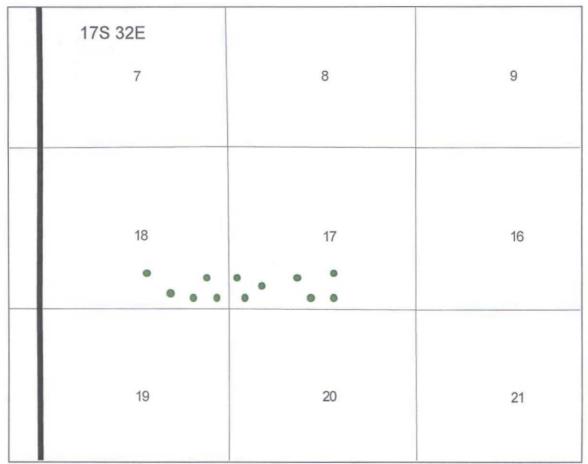


Figure 3: Map of Yeso wells used in type curve analysis (Ruby Federal lease).

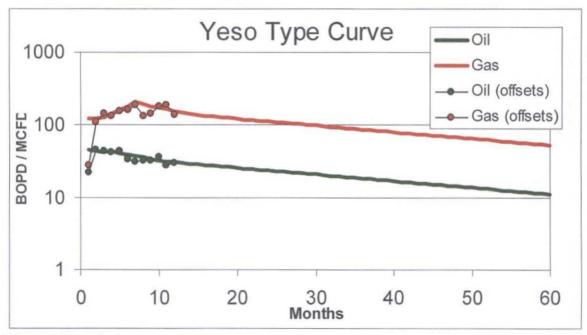


Figure 4: Yeso type curve.

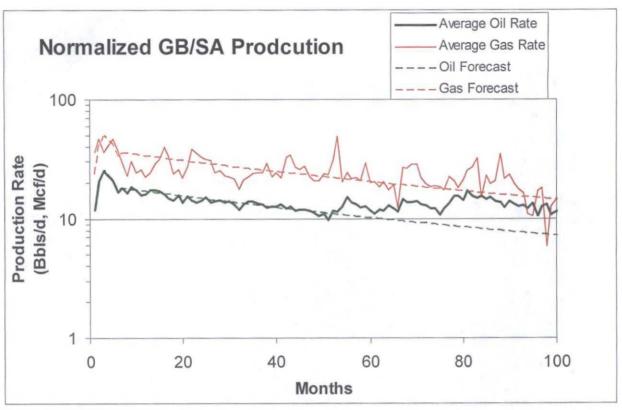


Figure 5: GB/SA type curve

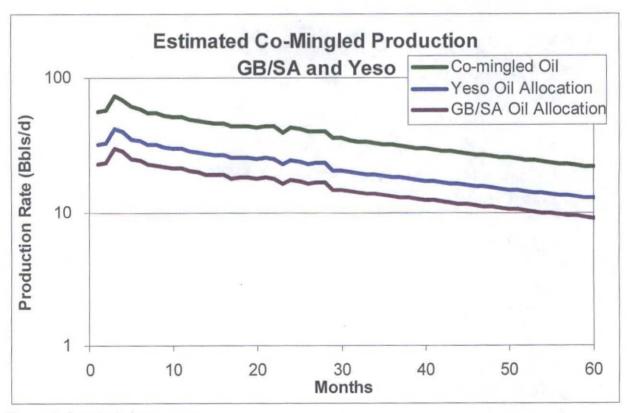
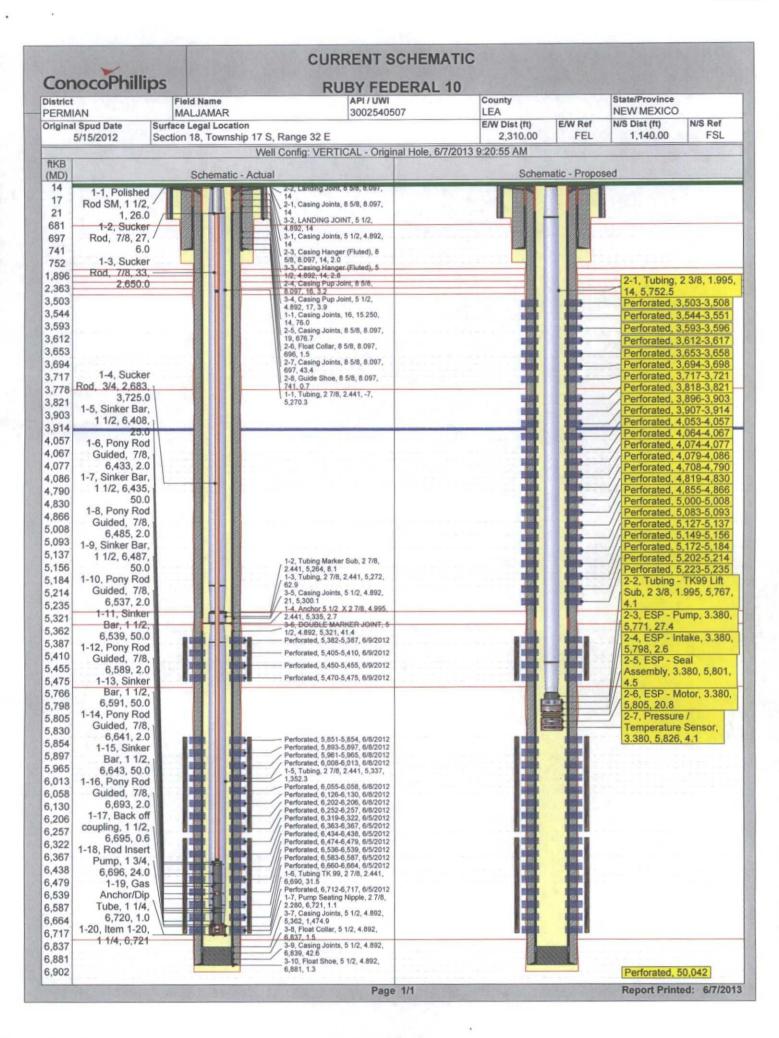


Figure 6: Co-mingled type curve





Susan B. Maunder Sr. Regulatory Specialist Phone: (432) 688-6913 ConocoPhillips Company P.O. Box 51810 Midland, TX 79710-1810

June 18, 2013

COG Operating LLC One Concho Center 600 West Illinois Avenue Midland, Texas 79701

SUBJECT: REQUEST FOR APPROVAL OF DOWNHOLE COMINGLING FOR RUBY FEDERAL #10

Dear Sir or Madam,

ConocoPhillips Company is requesting an approval to Downhole Comingle the Maljamar; Yeso West Pool (44500) and the Maljamar; Grayburg, San Andres Pool (43329) in the Ruby Federal #10 well. The lease is recorded as NM LC 029405B. The well is located in UL P, 1140' from the south line and 2310' from the east line of Section 18, Township 17S, Range 32E, Lea County, New Mexico. ConocoPhillips is 100% lessee and 100% working interest owner of the Ruby federal lease. The lease to the south is NM LC 029405A. You are being provided notification of this action as an interest owner in the spacing unit. Any comments need to be provided to New Mexico Oil Conservation Division; 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505 within 20 days.

If you have questions regarding this request, I can be reached at 432-688-6913 or via email at Susan.B.Maunder@conocophillips.com.

Sincerely,

Susan B. Maunder

Senior Regulatory Specialist

Macerden

ConocoPhillips Company

ConocoPhillips Company MCBU Regulatory P.O. Box 51810 Midland, TX 79710

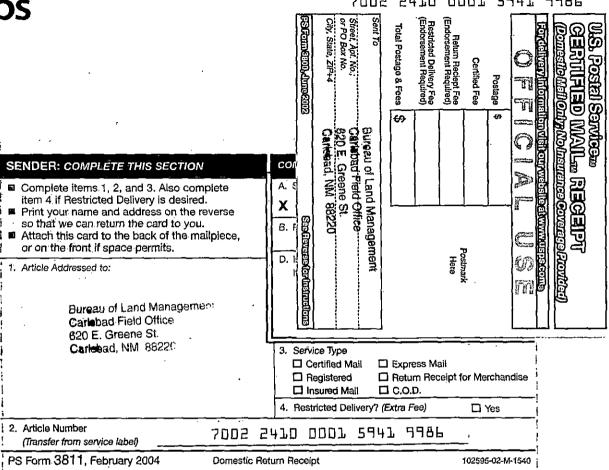


7002 2410 0001 5941 9979 7002 2410 0001 5941 9979

SENDER: COMPLETE THIS SECTION  Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailplece, or on the front if space permits.  Article Addressed to:  COG Operating TLC One Concho Center 600 West Illinois Ave Midland, TX 79701	COMPLETE THIS SECTION ( A. Signature  X  B. Received by ( Printed Name In YES, enter delivery address different If YES,	(Endossemeni Required)  Total Postage & Fees   Sent To  Sirest, Apt. No.;  or PO Box No.  City, State, ZiP+4	Postago \$  Certified Feb Postmark Return Recipt Fee Hero  Restricted Delivery Fee	S O I S I O I S I O I S I O I S I O I S I O I S I O I S I O I O	W.S. (Postal Sarvicem Racal Pi
2. Article Number 7002 24	10 0001 5941 9979				
PS Form 3811, February 2004 Domestic Re	turn Receipt	10259\$-02-M-1540	***		



7002 2410 0001 5941 9986 7002 2410 0001 5941 9986





Susan B. Maunder Sr. Regulatory Specialist Phone: (432) 688-6913 ConocoPhillips Company P.O. Box 51810 Midland, TX 79710-1810

June 18, 2013

State of New Mexico
Oil Conservation Division
Attn: Mr. Phillip Goetze
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

RECEIVED OCD

SUBJECT: REQUEST FOR APPROVAL OF DOWNHOLE COMINGLING FOR RUBY FEDERAL #10

Dear Mr. Goetze,

ConocoPhillips Company respectfully requests an approval of our plans to Downhole Comingle the Maljamar; Yeso West Pool (44500) and the Maljamar; Grayburg, San Andres Pool (43329) in the Ruby Federal #10 well. The lease is recorded as NM LC 029405B. The well is located in UL O, 1140' from the south line and 2310' from the east line of Section 18, Township 17S, Range 32E, Lea County, New Mexico. ConocoPhillips is 100% lessee and 100% working interest owner of the Ruby federal lease. Royalty interest is the same in both pools. The lease to the south is NM LC 029405A. The interest percentages for the lease to the south are: COG Operating LLC 75% and ConocoPhillips Company 25%. The granting of this request will prevent waste by providing access to otherwise marginal production.

Enclosed are the following documents in support of this request.

- Administrative Application Checklist
- Copy of the New Mexico Form C-107A (with attachments)
- Copy of letter sent to spacing unit interest owners.

A copy of this letter is being sent to Bureau of Land Management, Carlsbad Field Office. Notification is being provided by separate letter to interest owners in the spacing unit (as per NMAC 19.15.12) via certified return receipt.

If you have questions regarding this request, I can be reached at 432-688-6913 or via email at Susan B.Maunder@conocophillips.com.

Sincerely,

Susan B. Maunder

Senior Regulatory Specialist ConocoPhillips Company