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Drilling Plan ConocoPhillips Company <u>Maljamar; Yeso, west</u>

Emerald Federal #9

Lea County, New Mexico

1. Estimated tops of geological markers and estimated depths to water, oil, or gas formations:

The ranges of depths for the formation tops, thicknesses, and planned Total Depths for all the wells to be drilled under this Master Drilling Plan are presented in the table below.

The datum for these depths is RKB (which is 13' above Ground Level).

Formations	Top Depth FT TVD	Top Depths FT MD	Contents
Quaternary	Surface	Surface	Fresh Water
Rustler	791	791	Anhydrite
Salado (top of salt)	972	972	Salt
Tansill (base of salt)	1980	1980	Gas, Oil and Water
Yates	2116	2116	Gas, Oil and Water
Seven Rivers	2451	2451	Gas, Oil and Water
Queen	3082	3085	Gas, Oil and Water
Grayburg	3493	3497	Gas, Oil and Water
San Andres	3875	3881	Gas, Oil and Water
Glorieta	5364	5375	Gas, Oil and Water
Paddock	5438	5450	Gas, Oil and Water
Blinebry	5780	5793	Gas, Oil and Water
Tubb	6826	6843	Gas, Oil and Water
Deepest estimated perforation	6826	6843	Deepest estimated perf. is ~ Top of Tubb
Total Depth (maximum)	7026	7044	200' below deepest estimated perforation

All of the water bearing formations identified above will be protected by setting of the <u> $8-5/8^{*}$ </u> surface casing <u>25' - 70' into the Rustler formation</u> and circulating of cement from casing shoe to surface in accordance with the provisions of Onshore Oil and Gas Order No. 2 and New Mexico Oil Conservation Division Title 19.

The targeted oil and gas bearing formations identified above will be protected by setting of the <u>5-1/2</u>" production casing <u>10' off bottom of TD</u> and circulating of cement from casing shoe to surface in accordance with the provisions of Onshore Oil and Gas Order No. 2 and New Mexico Oil Conservation Division Title 19.

Emerald Federal #9

(Date: 4/16/2013)

Page 1 of 9

2. Proposed casing program

Туре	Hole Size	M	Interval D RKB (ft)	OD	Wt	Gr	Conn	MIY	Col	Jt Str		Safety Fac lated per Co Corporate C	nocoPhillips
Type	(in)	From	То	(inches)	(lb/ft)		Conn	(psi)	(psi)	(klbs)	Burst DF	Collapse DF	Jt Str DF (Tension) Dry/Buoyant
Cond	20	0	40' – 85' (30' – 75' BGL)	16	0.5" wall	В	Line Pipe	N/A	N/A	N/A	NA	NA	NA
Alt. Cond	20	0	40' – 85' (30' – 75' BGL)	13-3/8	48#	H-40	PE	1730	740	N/A	NA	NA	NA
Surf	12-1/4	0	816' - 861'	8-5/8	24#	J-55	STC	2950	1370	244	1.57	5.39	3.59
Prod	7-7/8	0	6989' – 7034'	5-1/2	17#	L-80	LTC	7740	6290	338	2.12	2.46	1.98

The casing will be suitable for H_2S Service. All casing will be new.

The surface and production casing will be set approximately 10' off bottom and we will drill the hole with a 45' range uncertainty for casing set depth to fit the casing string so that the cementing head is positioned at the floor for the cement job.

The production casing will be set 155' to 200' below the deepest estimated perforation to provide rathole for the pumping completion and for the logs to get deep enough to log the interval of interest.

Casing Safety Factors - BLM Criteria:

		W					Burs	Collaps		
Туре	Depth	t	MIY	Col	Jt Str	Drill Fluid	t	е	Tensile-Dry	Tens-Bouy
				137	24400					
Surface Casing	861	24	2950	0	0	8.5	7.75	3.60	11.8	13.6
-				629	33800					
Production Casing	7034	17	7740	0	0	10	2.12	1.72	2.83	3.34

Casing Safety Factors – Additional ConocoPhillips Criteria:

ConocoPhillips casing design policy establishes Corporate Minimum Design Factors (see table below) and requires that service life load cases be considered and provided for in the casing design.

 ConocoPhillips Corporate Criteria for Minimum Design Factors	

	Burst	Collapse	Axial
Casing Design Factors	1.15	1.05	1.4

Emerald Federal #9

(Date: 4/16/2013)

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Surface Casing (8-5/8" 24# J-55 STC)	85		MIY 5 35000 4 2950	<u> </u>	Jt Str - 244000	432968 381000	- l	Burst - 5 1.67	5.3	Ten 9 3.6	9				
Production Casing (5-1/2" 17# L-80 LTC)	7034		7 7740		338000	397000		0 2.12							
Safety Factors - ConocoPhillips Criteria The maximum internal (burst) load on the Surface Casing occurs when the	-141200 000	na in fai	stad to 1600		BLM Onst	ore Órder 3	- III Regui	rements)							
The maximum internal (burst) load on the Production Casing occurs during	the fracture s	timulatio						iemeniaj.							
(MAWP) is the pressure that would fit ConocoPhillips Corporate Criteria for Surface Casing Test Pressure =	1500	psi				essure at TD		8.55							
Surface Rated Working Pressure (BOPE) = Field SW =	3000			Fredicted.	Frac Grad	ient at Shoe	(CSFG) =	19.23	l]ppg						
Surface Casing Burst Safety Factor = API Burst Rating / Max Production Casing MAWP for the Fracture Stimulation = API E						n Allowable	Surface Pi	ressure (N	iasp)						
Surface Casing Burst Safety Factor:					40										
Case #1, MPSP (MWhyd next section) = Case #2, MPSP (Field SW @ Bullheadcsrc + 200 psi) =	861 861	x x	0.052 0.052	x x	10 19.23	-	448 448	+	200	=	613				
Case #3. MPSP (Kick Vol @ next section TD) = Case #4. MPSP (PPTD - GG) =	7034 7034	х х	0.052 0.052	x x	8.55 8.55	-	617.3 703.4		381 2424	=	2129				
Case #3 & #4 Limited to MPSP (CSFG + 0.2 ppg) =	861	x	0.052	× (19.23	+ ``	0.2) =	870						
MASP (MWhyd + Test Pressure) = Burst Safety Factor (Max. MPSP or MASP) =	861 2950	× /	0.052 1881	× =	8.5 1.57	+	1500	=	1881						
Production Casing Burst Safety Factor: Case #1. MPSP (MWhyd TD) =	7034	x	0.052	X	10	=	3657.6	8							
Case #4. MPSP (PPTD · GG) = Burst Safety Factor (Max. MPSP) =	7034 7740	×	0 052 3658	x =	8.55 2.12	-	703.4		2424						
MAWP for the Fracture Stimulation (Corporate Criteria) =	7740	,	1.15] =	6730										
<u>Collapse Safety Factors – ConocoPhillips Criteria</u>															
The maximum collapse load on the Surface Casing occurs when the press job. The maximum collapse load on the production casing occurs with the															
casing to surface, and therefore the external pressure profile on the produ outside of the casing which we estimate to be 8.5 ppg gradlent.															
Surface Casing Collapse Safety Factor = API Collapse Rating						0.4									
Production Casing Collapse Safety Factor = API Collapse Ret Cement Displacement Fluid (FW) =	8.34		led Surface	Pressure 'C	K Cemerit	Uispiaceme	nt auring C	ementing t	o Surtace	1					
Surface Casing Collapse Safety Factor:		504		0.050	r	12.0	٦	000	1	0.053		[110]			
Maximum Diff Lift Pressure = Collapse Safety Factor =	[(1370	561 /	х 254	0.052	× [5.39	13.6])+(300] ×	0.052	x	14.8)	373] =	254
Production Casing Collapse Safety Factor: Maximum Diff Lift Pressure =	[(1634	x	0.052	× [11.8	1)+(5400] ×	0.052	×	16.4) - 3	3051]=	2557
Case #4. MPSP (PPTD-GG) = Collapse Safety Factor =	7034 6290	x /	0.052 2557	х	8.6 2.46	-	703.4	=	2424			L	,		
<u>Tensial Strength Safety Factors – ConocoPhillips Criteria</u> The maximum axial (tension) load occurs if casing were to get stuck and po	ulled on to try														
	ulled on to try Yield Strength ngth Rating / C ax Load) = Ma ble Hook Load	n Reting Corporat aximum - Bouye Max Loa	. / Corporate le Minimum A Allowable A ant V/t of the	kxial Design xial Load String	Factor		verpuli Re	quired)							
The maximum axial (itension) load occurs if casing were to get struck and p Maximum Alloweble Axial Load for Pipe Yield = API Pipe Maximum Alloweble Axial Load for Joint = API Joint Stru- Maximum Alloweble Hook Load (Limited to 75% of Rig M Maximum Alloweble Overpull Margin = Maximum Alloweb Tensiel Sofety Fedor = API Pipe Yield 'OR' API Joint Stru	ulled on to try Yield Strengtl Ingth Rating / C ax Load) = Ma Ne Hook Load Ing <u>th 'OR' Rig</u>	n Reting Corporat aximum - Bouya Max Loa bs	. / Corporate le Minimum A Allowable A ant V/t of the	kxial Design xial Load String	Factor		verpuli Rei	quíred)						·	
The maximum axial (iension) load occurs if casing were to get stuck and pu Maximum Allowable Axial Load for Pipe Yield = API Pipe Maximum Allowable Axial Load for Joint = API Joint Strer Maximum Allowable Hook Load (Linted to 75% of Righ Maximum Allowable Overpull Margin = Maximum Allowab Tensial Safety Factor = API Pipe Yield 'OR' API Joint Stre Rig Max Load (300,000 loss) x 75% = Minimum Overpul Required = Surface Casing Tensial Strength Safety Factor: Air Wit =	viled on to try Yield Strengtl ngth Rating / C ax Load) = Ma ble Hook Load ingth 'OR' Rig 225000 50000 1 50000 1	n Reting Corporat aximum - Bouya Max Loa bs	/ Corporate le Minimum A Allowable A ant Wt of the ad Rating / (Axial Design Xial Load String Bouyant W	Factor		varpuli Rei	quired)						·	
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16" or 13-3/8" Conductor:

Cement to surface with rathole mix, ready mix or Class C Neat cement. (Note: The gravel used in the cement is not to exceed 3/8" diameter) TOC at surface.

8-5/8" Surface Casing Cementing Program:

The intention for the cementing program for the Surface Casing is to:

- Place the Tail Slurry from the casing shoe to 300' above the casing shoe,
- Bring the Lead Slurry to surface.

Spacer: 20 bbls Fresh Water

	Slurry		vals MD	Weight ppg	Sx	Vol Cuft	Additives	Yield ft ³ /sx
Lead	Class C	Surface	516' – 561'	13.6	300	510	+ 2% Extender + 2% CaCl ₂ + 0.125 lb/sx Lost Circulation Control Agent + 0.2% Defoamer Excess =200% based on gauge hole volume	1.70
Tail	Class C	516' – 561'	816' – 861'	14.8	200	268	1% CaCl2 Excess = 100% based on gauge hole volume	1.34

Displacement: Fresh Water.

Note: In accordance with the Pecos District Conditions of Approval, we will Wait on Cement (WOC) for a period of not less than 18 hrs after placement or until at least 500 psi compressive strength has been reached in both the Lead Slurry and Tail Slurry cements on the Surface Casing, whichever is greater.

5-1/2" Production Casing Cementing Program – Single Stage Cementing Option:

The intention for the cementing program for the Production Casing – Single Stage Cementing Option is to:

- Place the Tail Slurry from the casing shoe to above the top of the Paddock,
- Bring the Lead Slurry to surface.

Spacer: 20 bbls Fresh Water

	Slurry		rvals MD	Weight ppg	Sx	Sx Vol Additives Cuft		Yield ft³/sx
Lead	50:50 Poz/C	Surface	5200'	11.8	700	1820	10% Bentonite 8 lbs/sx Salt 0.4% Fluid loss additive 0.125% LCM if needed Excess = 115 % or more if needed based on gauge hole volume	2.6
Tail	Class H	5200'	6989' – 7034'	16.4	400	428	0.2% Fluid loss additive 0.3% Dispersant 0.15% Retarder 0.2% Antifoam Excess = 45% or more if needed based on gauge hole volume	1.07

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Displacement: Fresh Water with approximately 250 ppm gluteraldehyde biocide.

Proposal for Option to Adjust Production Casing Cement Volumes: Emerald Federal #9 (Date: 4/16/2013) The production casing cement volumes for the proposed single stage and two-stage option presented above are estimates based on gauge hole. We will adjust these volumes based on the caliper log data for each well and our trends for amount of cement returns to surface. Also, if no caliper log is available for any particular well, we would propose an option to possibly increase the production casing cement volume to account for any uncertainty in regard to the hole volume.

4. Pressure Control Equipment:

A <u>11" 3M</u> system will be installed, used, maintained, and tested accordingly as described in Onshore Oil and Gas Order No. 2.

Our BOP equipment will be:

- o Rotating Head
- o Annular BOP, 11" 3M
- o Blind Ram, 11" 3M
- o Pipe Ram, 11" 3M

After nippling up, and every 30 days thereafter or whenever any seal subject to test pressure is broken followed by related repairs, blowout preventors will be pressure tested. BOP will be inspected and operated at least daily to insure good working order. All pressure and operating tests will be done by an independent service company and recorded on the daily drilling reports. BOP will be tested using a test plug to isolate BOP stack from casing. BOP test will include a low pressure test from 250 to 300 psi for a minimum of 10 minutes or until requirements of test are met, whichever is longer. Ram type preventers and associated equipment will be tested to 50 percent of rated working pressure, and therefore will be tested to 1500 psi. Pressure will be held for at least 10 minutes or until provisions of test are met, whichever is longer. Valve on casing head below test plug will be open during testing of BOP stack. BOP will comply with all provisions of Onshore Oil and Gas Order No. 2 as specified. See Attached BOPE Schematic. A variance is respectfully requested to allow for the use of flexible hose. The variance request is included as a separate enclosure with attachments.

5. Proposed Mud System:

The mud systems that are proposed for use are as follows:

DEPTH	TYPE	Density ppg	FV sec/qt	API Fluid Loss cc/30 min	рН	Vol bbl
0 – Surface Casing Point	Fresh Water or Fresh Water Native Mud in Steel Pits	8.5 - 9.0	28 – 40	N.C.	N.C.	150 - 300
Surface Casing Point to TD	Brine (Saturated NaCl ₂) in Steel Pits	10	29	N.C.	10 – 11	300 – 1000
Conversion to Mud at TD	Brine Based Mud (NaCl ₂) in Steel Pits	10	33 – 40	5 - 10	10 – 11	0 – 1000

Drilling mud containing H2S shall be degassed in accordance with API RP-49, item 5.14. H2S Monitoring Alarm installed at the possum belly could be set as low as 5 to 10 ppm and go into high alarm. The gases shall be piped into the flare system. Gas detection equipment and pit level flow monitoring equipment will be on location. A percentage flow paddle installed in the flow line measures relative amount of mud flowing in non-pressurized return line. There are 4 mud probes in the system. One probe is installed in each of the individual tanks to measure the volume of the drilling fluid in individual mud and trip tanks at the well site. The mud probe data is collected by the Pit Volume Totalizer (PVT) system and the information is available real-time via display in the dog house and the company representative's office on location. ConocoPhillips Company will maintain sufficient mud and weighting material on location if hole conditions warrant.

Proposal for Option to Not Mud Up at TD:

FW, Brine, and Mud volume presented above are estimates based on gauge 12-1/4" or 7-7/8" holes. We will adjust these volume based on hole conditions. We do not plan to keep any weighting material at the wellsite. Also, we propose an option to not mud up leaving only brine in the hole if we have good hole stability.

In the event that the well is flowing from a waterflow, then we would discharge excess drilling fluids from the steel mud pits through a fas-line into steel frac tanks at an offset location for containment. Depending on the rate of waterflow, excess fluids will be hauled to an approved disposal facility, or if in suitable condition, may be reused on the next well.

No reserve pit will be built.

6. Logging, Coring, and Testing Program: See COA

- a. No drill stem tests will be done
- b. Remote gas monitoring planned for the production hole section (optional).
- c. No whole cores are planned
- d. The open hole electrical logging program is planned to be as follows:
 - Total Depth to 2500': Spectral GR, Gamma Ray, Resistivity, Density, and BHC Sonic
 - Total Depth to surface Casing Shoe: Caliper
 - Total Depth to surface, Gamma Ray and Neutron
 - Total Depth to 2500'; Dielectric Scanner (optional)
 - Formation pressure data (XPT) on electric line if needed (optional)
 - Rotary Sidewall Cores on electric line if needed (optional)
 - FMI (Formation Micromager) if needed (optional)

7. Abnormal Pressures and Temperatures:

- No abnormal pressures are expected to be encountered.
- Loss of circulation is a possibility in the horizons below the Top of Grayburg. We expect that normal Loss of Circulation Material will be successful in healing any such loss of circulation events.
 - The bottom hole pressure is expected to be 8.55 ppg gradient.
 - The expected Bottom Hole Temperature is 115 degrees F.
- The estimated H₂S concentrations and ROE calculations for the gas in the zones to be penetrated are presented in the table below for the various producing horizons in this area:

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FORMATION / ZONE	H2S (PPM)	Gas Rate (MCFD)	ROE 100 PPM	ROE 500 PPM
Grayburg / San Andres (from MCA)	14000	38	59	27
Yeso Group	400	433	34	15

ConocoPhillips will comply with the provisions of Oil and Gas Order # 6

8. Anticipated starting date and duration of operations:

Well pad and road constructions will begin as soon as all agency approvals are obtained. Anticipated date to drill this well is mid 2013 after receiving approval of the APD.

Attachments:

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• Attachment # 1......BOP and Choke Manifold Schematic - 3M System

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• Attachment # 2...... Diagram of Choke Manifold Equipment

Contact Information:

Proposed 16 April 2013 by: James Chen Drilling Engineer, ConocoPhillips Company Phone (832) 486-2184 Cell (832) 768-1647

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ConocoPhillips MCBU

Buckeye Emerald Federal Emerald Federal 9

Original Hole

Plan: Actual Plan

Standard Planning Report - Geographic

22 April, 2013

Planning Report - Geographic

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Database:	EDM Central Pla	nning	Loca	I Co-ordinate Refer	énce:	Well Emerald Feder	al 9	
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Planning Report - Geographic

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400.0	0.00	0.00	400.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
500.0	0.00	0.00	500.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
600.0	0.00	0.00	600.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
700.0	0.00	0.00	700.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
791.0	0.00	0.00	791.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
Rustler									
800.0	0.00	0.00	800.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
816.0	0.00	0.00	816.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
Surface						,	,		
900.0	0.00	0.00	900.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
							•		
972.0	0.00	0.00	972.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
Salado									
1,000.0	0.00	0.00	1,000.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42,380 N	103° 47' 2.020 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
1,800.0	0,00	0.00	1,800.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
1,980.0	0.00	0.00	1,980.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
	0.00	0.00	1,000.0	0.0	0.0	000,000.01	000,170.00	02 10 42.000 1	100 47 2.020 10
Tansill	0.00	0.00	0 000 0			005 505 04	000 775 00	008 401 40 000 N	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
2,116.0	0.00	0.00	2,116.0	0.0	0.0	665,535.91	668,775.09	32° 49' 42.380 N	103° 47' 2.020 W
Yates									
2,200.0	1.26	103.57	2,200.0	-0.2	0.9	665,535.69	668,775.98	32° 49' 42.378 N	103° 47' 2.009 W
2,300.0	2.76	103.57	2,299.9	-1.0	4.3	665,534.87	668,779.39	32° 49' 42.370 N	103° 47' 1.970 W
2,400.0	4.26	103.57	2,399.7	-2.5	10.3	665,533.44	668,785.34	32° 49' 42.355 N	103° 47' 1.900 W
2,425.6	4.64	103.57	2,425.2	-2.9	12.2	665,532.97	668,787.27	32° 49' 42.350 N	103° 47' 1.877 W
2,451.4	4.64	103.57	2,451.0	-3.4	14.2	665,532.48	668,789.31	32° 49' 42.345 N	103° 47' 1.854 W
Seven River	rs								
2,500.0	4.64	103.57	2,499.4	-4.4	18.0	665,531.56	668,793.13	32° 49' 42.336 N	103° 47' 1.809 W
2,600.0	4.64	103.57	2,599.1	-6.3	25.9	665,529.66	668,801.00	32° 49' 42.317 N	103° 47' 1.717 W
2,700.0	4.64	103.57	2,698.8	-8.2	33.8	665,527.76	668,808.87	32° 49' 42.298 N	103° 47' 1.625 W
2,800.0	4.64	103.57	2,798.4	-10.1	41.7	665,525.86	668,816.74	32° 49' 42.278 N	103° 47' 1.523 W
2,900.0	4.64	103.57	2,898.1	-12.0	49.5	665,523.96	668,824.61	32° 49' 42.259 N	103° 47' 1.332 W
3,000.0	4.64	103.57	2,997.8	-13.9	57.4	665,522.06	668,832.48	32° 49' 42.240 N	103° 47' 1.348 W
3,084.5	4.64	103.57	3,082.0	-15.5	64.0	665,520.45	668,839.13	32° 49' 42.224 N	103° 47' 1.270 W
Queen									
3,100.0	4.64	103.57	3,097.4	-15.8	65.3	665,520.16	668,840.35	32° 49' 42.221 N	103° 47' 1.256 W
3,200.0	4.64	103.57	3,197.1	-17.7	73.1	665,518.26	668,848.22	32° 49' 42.202 N	103° 47' 1.164 W
3,300.0	4.64	103.57	3,296.8	-19.6	81.0	665,516.36	668,856.09	32° 49' 42.182 N	103° 47' 1.072 W
3,400.0	4.64	103.57	3,396.5	-21.5	88.9	665,514.46	668,863.96	32° 49' 42.163 N	103° 47' 0.980 W

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Page 3

Planning Report - Geographic

tabase:	FDM	Central Plann	nina	-	Local C	o-ordinate Referenc	e: We	ll Emerald Federal 9		
mpany:	1	coPhillips MC	-	-						
	1		,60		1	ference:		B @ 4045.0usft (PD 822)		
oject:	Buck	•			' MD Ref			RKB @ 4045.0usft (PD 822)		
te:	Emer	ald Federal			North R	eference:	Grid			
ell:	Emer	ald Federal 9			Survey	Calculation Method	: Min	imum Curvature		
ellbore:	Origir	nal Hole								
sign:	Actua	l Plan			÷	, .				
	· •····	ratar abitus itur atas s	2015 and 2017 a 2 Mar 2	na an an talan Talan sa sa			ana ina ana ana ana ana ana ana ana ana	مربعه مسید به ایکینه مطلقه مربعه افاریک این ایس میشان	ه الملا الهرد التعمار. - الهوارات المارد المسور	
anned Survey	1						· • • •			
						· •				
Measured	, . 		Vertical		•	Мар	Мар	a ^c i i		
	nclination	Ázimuth	Depth	+N/-S	+E/-W	Northing	Easting	•		
(usft)	(°) :	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	Latitude	Longitude	
3 406 0	4.64	103.57	3,493.0	-23.3	96.5	665,512.62	668,871.58	3 32° 49' 42,145 N	103° 47' 0.891	
3,496.9	4.04	103.57	3,493.0	-20.0	30.5	005,512.02	000,071.00	5 52 45 42, 145 14	100 47 0.001	
Grayburg					· ·				(
3,500.0	4.64	103.57	3,496.1	-23.4	96.7	665,512.56	668,871.83		103° 47' 0.888	
3,600.0	4.64	103.57	3,595.8	-25.2	104.6	665,510.66	668,879.70		103° 47' 0.796	
3,700.0	4.64	103.57	3,695.5	-27.1	112.5	665,508.76	668,887.57		103° 47' 0.703	
3,800.0	4.64	103.57	3,795.1	-29.0	120.4	665,506.86	668,895.44		103° 47' 0.611	
3,880.1	4.64	103.57	3,875.0	-30.6	126.7	665,505.34	668,901.74	4 32° 49' 42.071 N	103° 47' 0.538	
San Andre	s									
3,900.0	4.64	103.57	3,894.8	-30.9	128.2	665,504.96	668,903.31	1 32° 49' 42.067 N	103° 47' 0.519	
4,000.0	4.64	103.57	3,994.5	-32.8	136.1	665,503.07	668,911.18		103° 47' 0.427	
4,100.0	4.64	103.57	4,094.2	-34.7	144.0	665,501.17	668,919.05		103° 47' 0.335	
4,200.0	4.64	103.57	4,193.8	-36.6	151.8	665,499.27	668,926.92		103° 47' 0.243	
4,300.0	4.64	103.57	4,293.5	-38.5	159.7	665,497.37	668,934.78		103° 47' 0.151	
4,400.0	4.64	103.57	4,393.2	-40.4	167.6	665,495.47	668,942.65		103° 47' 0.059	
4,500.0	4.64	103.57	4,492.9	-42.3	175.4	665,493.57	668,950.52		103° 46' 59.967	
						665,491.67	668,958.39		103° 46' 59.874	
4,600.0	4.64	103.57	4,592.5	-44.2	183.3		-			
4,700.0	4.64	103.57	4,692.2	-46.1	191.2	665,489.77	668,966.26		103° 46' 59.782	
4,800.0	4.64	103.57	4,791.9	-48.0	199.1	665,487.87	668,974.13		103° 46' 59.690	
4,900.0	4.64	103.57	4,891.5	-49.9	206.9	665,485.97	668,982.00		103° 46' 59.598	
5,000.0	4.64	103.57	4,991.2	-51.8	214.8	665,484.07	668,989.87		103° 46' 59.506	
5,100.0	4.64	103.57	5,090.9	-53.7	222.7	665,482.17	668,997.74		103° 46' 59.414	
5,200.0	4.64	103.57	5,190.6	-55.6	230.5	665,480.27	669,005.61		103° 46' 59.322	
5,300.0	4.64	103.57	5,290.2	-57.5	238.4	665,478.37	669,013.48	3 32° 49' 41.798 N	103° 46' 59.230	
5,374.0	4.64	103.57	5,364.0	-58.9	244.2	665,476.97	669,019.31	I 32° 49' 41.784 N	103° 46' 59.162	
Glorieta										
5,400.0	4.64	103.57	5,389.9	-59.4	246.3	665,476.47	669,021.35	5 32° 49' 41.779 N	103° 46' 59.138	
5,448.3	4.64	103.57	5,438.0	-60.4	250.1	665,475.56	669,025.15	5 32° 49' 41.770 N	103° 46' 59.093	
Paddock										
5,500.0	4.64	103.57	5,489.6	-61.3	254.1	665,474.57	669,029.22	2 32° 49' 41,760 N	103° 46' 59.045	
5,600.0	4.64	103.57	5;589.2	-63.2	262.0	665,472.68	669,037.09		103° 46' 58.953	
	4.64	103.57	5,688.9	-65.1	262.0	665,470.78	669,037.08		103° 46' 58.861	
5,700.0										
5,791.4	4.64	103.57	5,780.0	-66.9	277.1	665,469.04	669,052.15	5 32° 49' 41.704 N	103° 46' 58.777	
Blinebry					a== -					
5,800.0	4.64	103.57	5,788.6	-67.0	277.8	665,468.88	669,052.83		103° 46' 58.769	
5,900.0	4.64	103.57	5,888.3	-68.9	285.6	665,466.98	669,060.70		103° 46' 58.677	
6,000.0	4.64	103.57	5,987.9	-70.8	293.5	665,465.08	669,068.57		103° 46' 58.585	
6,100.0	4.64	103.57	6,087.6	-72.7	301.4	665,463.18	669,076.44		103° 46' 58.493	
6,200.0	4.64	103.57	6,187.3	-74.6	309.2	665,461.28	669,084.31	32° 49' 41.626 N	103° 46' 58.401	
6,300.0	4.64	103.57	6,286.9	-76.5	317.1	665,459.38	669,092.18	32° 49' 41.606 N	103° 46' 58.309	
6,400.0	4.64	103.57	6,386.6	-78.4	325.0	665,457.48	669,100.05	5 32° 49' 41.587 N	103° 46' 58.217	
6,500.0	4.64	103.57	6,486.3	-80.3	332.9	665,455.58	669,107.92	2 32° 49' 41.568 N	103° 46' 58.124	
6,600.0	4.64	103.57	6,586:0	-82.2	340.7	665,453.68	669,115.79	32° 49' 41.549 N	103° 46' 58.032	
6,700.0	4.64	103.57	6,685.6	-84.1	348.6	665,451.78	669,123.66		103° 46' 57.940	
6,800.0	4.64	103.57	6,785.3	-86.0	356.5	665,449.88	669,131.53		103° 46' 57.848	
6,840.8	4.64	103.57	6,826.0	-86.8	359.7	665,449.11	669,134.74		103° 46' 57.810	
Tubb			• • •	. –		• • • •				
6,900.0	4.64	103.57	6,885.0	-87.9	364.3	665,447.98	669,139.40) 32° 49' 41.491 N	103° 46' 57.756	
8,900.0 7,000.0	4.64 4.64	103.57		-07.9 -89.8						
			6,984.6 7.018.5		372.2 374 9	665,446.08 665,445,44	669,147.27		103° 46' 57.664	
7,034.0	4.64	103.57	7,018.5	-90.5	374.9	665,445.44	669,149.94	32° 49' 41.465 N	103° 46′ 57.633	
Production										
7,041.5	4.64	103.57	7,026.0	-90.6	375.5	665,445.30	669,150.53	32° 49' 41.464 N	103° 46' 57.626	

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COMPASS 5000.1 Build 61

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Planning Report - Geographic

Database: EDM Central Planning Company: ConocoPhillips MCBU Project: Buckeye Site: Emerald Federal Well: Ernerald Federal 9 Wellbore: Original Hole Design: Actual Plan	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Well Emerald Federal 9 RKB @ 4045.0usft (PD 822) RKB @ 4045.0usft (PD 822) Grid Minimum Curvature
Design Targets Target Name - hit/miss target Dip Angle, Dip Dir. TVD - Shape (°) (°) (usft) Emerald Federal 9 (Top 0.00 0.01 5,438.0	+N/-S +E/-W Northing Easting (usft) (usft) (usft) Latitude Longitude -126.5 355.7 665,409.41 669,130.72 32° 49' 41.110 N 103° 46' 57.860 W
- plan misses target center by 124.2usft at 5457.8usft MD - Circle (radius 150.0) Casing Points Measured Vertical Depth (usft) (usft) 75.0 75.0 Conductor 816.0 816.0 Surface 7,034.0 7,018.5 Production	Casing Hole Diameter Diameter Name (") (") r 16 20 8-5/8 12-1/4
Formations Measured Vertical Depth Depth Depth (usft) (usft) (usft) 791.0 791.0 Rustler 972.0 972.0 Salado 1,980.0 1,980.0 Tansill 2,116.0 2,116.0 Yates 2,451.4 2,451.0 Seven Rivers 3,084.5 3,082.0 Queen 3,496.9 3,493.0 Grayburg 3,880.1 3,875.0 San Andres 5,374.0 5,364.0 Glorieta 5,448.3 5,438.0 Paddock 5,791.4 5,780.0 Blinebry 6,840.8 6,826.0 Tubb 7,041.5 7,026.0 TD	Dip Direction Dia Direction Dia (°) (°) (°) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

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Proposed Directional Well Plan



Attachment #1



Attachment # 2



Emerald Federal #9

(Date: 4/16/2013)

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Request for Variance

ConocoPhillips Company

Lease Number: NM LC 060329 Well: Emerald Federal #9 Location: Sec. 17, T17S, R32E Date: 02-24-13

Request:

i

ConocoPhillips Company respectfully requests a variance to install a flexible choke line instead of a straight choke line prescribed in the Onshore Order No. 2, III.A.2.b Minimum standards and enforcement provisions for choke manifold equipment. This request is made under the provision of Onshore Order No. 2, IV Variances from Minimum Standard. The rig to be used to drill this well is equipped with a flexible choke line if the requested variance is approved and determined that the proposed alternative meets the objectives of the applicable minimum standards.

Justifications:

The applicability of the flexible choke line will reduce the number of target tees required to make up from the choke valve to the choke manifold. This configuration will facilitate ease of rig up and BOPE Testing.

Attachments:

- Attachment # 1 Specification from Manufacturer
- Attachment # 2 Mill & Test Certification from Manufacturer

Contact Information:

Program prepared by: James Chen Drilling Engineer, ConocoPhillips Company Phone (832) 486-2184 Cell (832) 768-1647 Date: 24 February 2013

Attachment # 1 **Reliance Eliminator Choke & Kill** This hose can be used as a choke hose which connects the BOP stack to the bleed-off manifold or a kill hose which connects the mud stand pipe to the BOP kill valve. The Reliance Eliminator Choke & Kill hose contains a specially bonded compounded cover that replaces rubber covered Asbestos, Fibreglass and other fire retardant materials which are prone to damage. This high cut and gouge resistant cover overcomes costly repairs and downtime associated with older designs. The Reliance Eliminator Choke & Kill hose has been verified by an independent engineer to meet and exceed EUB Directive 36 (700°C for 5 minutes). Nom OD Weight **Min Bend Radius** Max WP Nom. ID in. mm. iŋ. mm ib/ft kg/m in. mm. psi Mpa 21.46 48 1219.2 5000 34.47 3 76.2 5.11 129.79 14.5 3-1/2 88.9 147.06 20.14 29.80 54 1371.6 5000 34.47 5.79 Hammer Unions Fittings Flanges Other RC4X5055 R35 - 3-1/8 5000# API Type 6B All Union Configurations LP Threaded Connectio RC3X5055 R31 - 3-1/8 3000# API Type 68 Graylock RC4X5575 **Custom Ends**

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Attachment # 2

4



Closed Loop System Design, Operating and Maintenance, and Closure Plan

ConocoPhillips Company Well: Emerald Federal #9 Location: Sec. 17, T17S, R32E Date: 02-22-13

ConocoPhillips proposes the following plan for design, operating and maintenance, and closure of our proposed closed loop system for the above named well:

 We propose to use a closed loop system with steel pits, haul-off bins, and frac tanks for containing all cuttings, solids, mud, water, brine, and liquids. We will not dig a pit, nor will we use a drying pad, nor will we build an earth pit above ground level, nor will we dispose of or bury any waste on location.

All drilling waste and all drilling fluids (fresh water, brine, mud, cuttings, drill solids, cement returns, and any other liquid or solid that may be involved) will be contained on location in the rig's steel pits or in hauloff bins or in frac tanks as needed. The intent is as follows:

- We propose to use the rigs's steel pits for containing and maintaining the drilling fluids.
- We propose to remove cuttings and drilled solids from the mud by using solids control equipment and to contain such cuttings and drilled solids on location in haul-off bins.
- We propose that any excess water that may need to be stored on location will be stored in tanks.

The closed loop system components will be inspected daily by each tour and any needed repairs will be made immediately. Any leak in the system will be repaired immediately, and any spilled liquids and/or solids will be cleaned immediately, and the area where any such spill occurred will be remediated immediately.

2. Cuttings and solids will be removed from location in haul-off bins by an authorized contractor and disposed of at an authorized facility. For this well, we propose the following disposal facility:

Controlled Recovery Inc./ Operator: R-360 Permian Basin, LLC 4507 West Carlsbad Hwy, Hobbs, NM 88240, P.O. Box 388; Hobbs, New Mexico 88241 Toll Free Phone: 877.505.4274, Local Phone Number: 432.638.4076

The physical address for the plant where the disposal facility is located is Highway 62/180 at mile marker 66 (33 miles West of Hobbs, NM and 32 miles East of Carlsbad, NM).

The Permit Number for R-360 is NM-1-006/R-9166

A photograph showing the type of haul-off bins that will be used is attached.

- 3. Mud will be transported by vacuum truck and disposed of at Controlled Recovery Inc at the facility described above.
- 4. Fresh Water and Brine will be hauled off by vacuum truck and disposed of at an authorized salt water disposal well. We propose the following for disposal of fresh water and brine as needed:
 - Nabors Well Services Company, 3221 NW County Rd; Hobbs, NM 88240, PO 5208 Hobbs, NM, 88241, Permit SWD 092. (Well Location: Section 3, T19S R37E)
 - Basic Energy Services, P.O. Box 1869; Eunice, NM 88231 Phone Number: 575.394.2545, Facility located at Hwy 18, Mile Marker 19; Eunice, NM.

James Chen Drilling Engineer Office: 832.486.2184 Cell: 832.678.1647

SPECIFICATIONS

LOOR: 3/16" PL one piece CROSS MEMBER: 31x4,11 chennel 16" on

CHOSSIWEWEERT OX a base center WALLSE 3/16" IPL solid welded with Woing top, inside liner hooks DOOR. 3/16" PL with Wing frame HRONIE, 3/16" PL stantformed PICK UPE Standard cable with 2" x6" x 1/2" rails, go sset at each crossmember WHEELS: 10 DIA x 9 long with reasofillings DOOR LATCHE S Independent at the biodocs with chalas verified second biob with chalks, verified second lateb CASKE TS: Express (about seel with well) relefinera

WELDE: All welds continuous excepted be sinciple dossimables

FINISH Costed Inside and cut with direction tico toloo lemene olivera ontilelinini tevri disem HYDROTESTINC: Full capacity statistics: DIMENSIONS: 22-4(1° long (214-6° thatds), 99° wide (88° inside), see drawing for height OPTIONS: Steel giftblast and special paint; Amplifell. Hell and Dino pickup ROOFE 3/16" PL roof panels with tubing and channel support frame LUDS: 4(2) 68" x 90" metel rolling licespring r loaded self raising

ROULERS: 4" V-groove rollers with delifin bearings and grease fillings OPENING: (2) 60" x 82° gpenings with 8" divider centered on

containe EATCH:(2) independent ratchet, binders with charges

CASKETS: Extruded rubber seal with metal relations

Heavy Duty Split Metal Rolling Lid



CONT.	A	В
20 YD	41	53
25 YD	53	65
30 YD	65	77