

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

AUG 01 2012

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

Farmington Field Office

1a. Type of Work DRILL	5. Lease Number SF-078047 Unit Reporting Number
1b. Type of Well GAS	6. If Indian, All. or Tribe
2. Operator ConocoPhillips Company	7. Unit Agreement Name RCVD NOV 26 12 DIL CONS. DIV. DIST. 3
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	8. Farm or Lease Name Palluche HZMC 9. Well Number 1H
4. Location of Well Surface: Unit B (NWNE), 1042' FNL & 2088' FEL BHL : Unit C (NENW), 790' FNL & 2242' FWL Surface: Latitude: 36.44717° N (NAD83) Longitude: 107.54296° W BHL : Latitude: 36.44848° N (NAD83) Longitude: 107.56412° W	10. Field, Pool, Wildcat Basin Mancos 11. Sec., Twn, Rge, Mer. (NMPM) Surf: Sec. 35, T26N, R7W BHL : Sec. 34, T26N, R7W API # 30-039-31138
14. Distance in Miles from Nearest Town 23 miles from Counselor	12. County Rio Arriba 13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 790'	
16. Acres in Lease This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4	17. Acres Assigned to Well 640.00 acre Sec. 35 640.00 acre Sec. 34
18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease	
19. Proposed Depth 6553	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6925' GL	22. Approx. Date Work will Start DILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS". 8/1/12 Date
23. Proposed Casing and Cementing Program See Operations Plan attached	
24. Authorized by: <u>Arleen Kellywood</u> Arleen Kellywood (Staff Regulatory Tech)	

Hold C104
for Directional Survey
and "As Drilled" plat

A COMPLETE C-144 MUST BE SUBMITTED TO AND
APPROVED BY THE NMOCD FOR: A PIT, CLOSED
LOOP SYSTEM, BELOW GRADE TANK, OR
PROPOSED ALTERNATIVE METHOD, PURSUANT
TO NMOCD PART 19.15.17, PRIOR TO THE USE OR
CONSTRUCTION OF THE ABOVE APPLICATIONS.

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

Archaeological Report attached

Threatened and Endangered Species Report attached

A gas recovery unit may or may not be used on this location.

for Directional Survey

NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

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

Bond Numbers ES-0048 and ES-0085

BLM'S APPROVAL OR ACCEPTANCE OF THIS
ACTION DOES NOT RELIEVE THE LESSEE AND
OPERATOR FROM OBTAINING ANY OTHER
AUTHORIZATION REQUIRED FOR OPERATIONS
ON FEDERAL AND INDIAN LANDS

NOV 30 2012 ca

AV NMOCD

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

DISTRICT I
1035 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-0161 Fax: (575) 393-0720

DISTRICT II
311 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1203 Fax: (575) 748-0720

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-8176 Fax: (505) 334-8170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3400 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

RECEIVED

Form C-102
Revised August 1, 2011

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505 Farmington Field Office

Bureau of Land Management

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039- 31138	² Pool Code 97232	³ Pool Name BASIN MANCOS
⁴ Property Code 39559	⁵ Property Name PALLUCHE HZMC	⁶ Well Number 1H
⁷ GRID No. 217817	⁸ Operator Name CONOCOPHILLIPS COMPANY	⁹ Elevation 6925'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	35	26N	7W		1042'	NORTH	2088'	EAST	RIO ARRIBA

¹¹ 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
C	34	26N	7W		790'	NORTH	2242'	WEST	RIO ARRIBA

¹² Dedicated Acres PROJECT AREA 640.00 ACRES SEC. 35 640.00 ACRES SEC. 34	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13499
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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

18

BOTTOM HOLE LAT. 36.44848° N (NAD83) LONG. 107.56412° W (NAD83) LAT. 36.2690817° N (NAD27) LONG. 107.33.81079° W (NAD27) WELL FLAG LAT. 36.44717° N (NAD83) LONG. 107.54296° W (NAD83) LAT. 36.26.82956° N (NAD27) LONG. 107.32.54123° W (NAD27) BASIS OF BEARINGS N 87°54'00" W 5306.47' (R&M) CALC N 87°59' W 2664.42' (R) N 88°01'33" W 2682.10' (M) N 88°00'08" W 2664.52' (M) N 87°59' W 2664.42' (R) FND 3/4" BC GLO 1954 PORKCHOP FEDERAL 34 #1 HORIZONTAL DRILL LEASE # USA SF-078047 34 640.00 ACRES HUGHES #3 FND 3/4" BC GLO 1954 T 26 N T 25 N	17 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. <i>Arleen Kellywood</i> 4/5/12 Signature Date Arleen Kellywood Printed Name arleen.r.kellywood@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. MARCH 21, 2012 Date of Survey Signature and Seal of Professional Surveyor: <i>David R. Russell</i> DAVID R. RUSSELL REGISTERED PROFESSIONAL LAND SURVEYOR 10201 Certificate Number 10201
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PC

Technical Plan**1. Location**

PALLUCHE HZMC 1H

SHL: 1042' FNL, 2088' FEL -- T 26N, R 7W, Sec 35

BHL: 790' FNL, 2242' FWL -- T 26N, R 7W, Sec 34

GL: 6925'

2. Geological Markers

Anticipated formation tops with comments of any possible water, gas, or oil shows are indicated below:

Formation	Depth (TVD)	Remarks
San Jose	Surface	
Nacimiento	1670'	
Ojo Alamo	2278'	Possible Water
Kirtland	2389'	
Fruitland	2608'	Possible Gas
Pictured Cliffs	2994'	
Lewis	3032'	
Huerfano Bentonite	3364'	
Chacra	3822'	
Massive Cliffhouse	4560'	
Menefee	4639'	
Point Lookout	5224'	Gas
Mancos	5559'	
El Vado	6308'	Oil/Gas

See attached directional plan for anticipated formation tops in measure depth.

3. Pressure Control Equipment

See Attached BOPE & Choke Manifold Schematic for a diagram of pressure control equipment.

- BOPE will be nipped up on top of wellhead after surface casing is set and cemented.
- Pressure control configuration will be designed to meet and exceed 2M standards.
- All equipment will have 3M pressure ratings.
- A rotating head will be rigged up on top of annular as seen in attached diagram.

4. Casing & Cement Program

A) The proposed casing program is outlined below:

Proposed Casing				
Casing	Hole Size	Casing Size	Weight/Grade	Depth
Surface	12-1/4"	9-5/8"	32.3#, H-40, STC, New	0' - 800' (TVD)
Intermediate	8-3/4"	7"	26.0#, L-80, LTC, New	0' - 6044' (TVD)
Production Liner	6-1/8"	4-1/2"	11.6#, P-110, BTC, New	6044' - 12,639' (MD)

The production liner will be tied back into the intermediate casing string with a liner hanger with a pack-off element.

A 4-1/2", 11.6#, P-110, BTC (new) frac string will be ran and tied into liner hanger for the stimulation.

If the 6 1/8" hole is not drilled to total MD, the production liner setting depth and length will be adjusted accordingly.

B) The proposed cement program is shown below:

Cement Program				
Interval	Depth (TVD)	Volume	Slurry	Planned Cement Top
Surface	800'	394 ft ³	Lead Cmt: Type III Cmt 0.25 pps Celloflake 1.25 ft ³ /sk -- 5.75 gal/sk 15.2 ppg	Surface
Intermediate	6044'	1332 ft ³	Lead Cmt: Premium Lite 3% CaCl, 0.25 pps celloflake, 5 ppm LCM-1, 0.4% FL-52, 8% Bentonite, 0.4% SMS 2.13 ft ³ /sk -- 11.29 gal/sk 12.1 ppg Tail Cmt: Type III 1% CaCl, 0.25 pps celloflake, 0.2% FL-52 1.38 ft ³ /sk -- 6.64 gal/sk 14.6 ppg	Surface
Production	N/A	N/A	N/A – Sliding sleeves and external swellable casing packers will be utilized	N/A

For the intermediate holes, a 2-stage cement job may be performed if hole conditions indicate during operations. Stage tool will be placed appropriately as conditions indicate.

C) The proposed centralizer program is shown below:

Centralizer Program	
Interval	Centralizers
Surface	1 per joint on bottom 3 joints
Intermediate	10' above shoe jnt w/ collar clamp On top of 2 nd , 4 th , 6 th , 8 th , 10 th jnts 1 every 4 th jnt to Ojo Alamo 1 Turbolizer at base of Ojo Alamo 1 every joint thru Ojo Alamo 1 Turbolizer will be placed mid way into Ojo Alamo 1 every 4 th jnt from top of Ojo Alamo up to surface shoe 1 inside surface casing
Production	N/A

To allow adequate time for cement to achieve a minimum of 500 psi compressive strength, a minimum of 8 hours wait on cement time for each hole section will be observed. The wellhead will not be installed, casing will not be tested, and the prior casing shoe will not be drilled out until adequate wait on cement time is achieved.

Production hole will be completed/stimulated by means of sliding sleeves spaced out appropriately throughout the production liner. Swellable packers will be placed between sleeves to provide isolation for each stage.

5. Drilling Fluids

A) The proposed drilling fluid program is outlined below:

Mud Program				
Interval	Mud Type	Weight (ppg)	Fluid Loss (cc)	Invert Ratio (Diesel/Brine)
Surface	Air Water / Gel System	Air 8.3 - 9.2	NC	
Intermediate	LSND / Gel system	8.4 - 10	6 - 14	
Production	Oil Based Mud	7.0 - 8.5	4 - 12	70/30 - 90/10

Oil based mud will be an Invert Mud. Base fluid will be diesel. Brine fluid will be CaCl or KCl.

LCM may be added to the mud system if hole conditions indicate.

B) Closed loop equipment will be utilized for solids control. A lined cutting pit will be utilized for water based cutting from upper hole sections. Cuttings from production hole will be hauled off to approved disposal site.

6. Abnormal Pressures & Hazards

- No over-pressured intervals expected.
- Estimated Reservoir Pressure = 2031 psi. (Based on a pore pressure gradient of 0.31 psi/ft from layer pressure tests of El Vado formation in offset well)
- There is some offset Fruitland Coal and Picture Cliff production within the area which could result in these respective formations being under pressured. Well is located outside of Mesa Verde production intervals, no losses expected within the Lewis or Mesa Verde formations.
- No hydrogen sulfide gas is expected based on nearby well production.

7. Testing, Logging, Coring

- Mud Logs: Mud loggers will be rigged up from KOP to production hole TD.
- MWD: Directional tools from KOP to production hole TD.
- LWD: Gamma Ray and Resistivity will be utilized in production hole for well placement.
- Logs: No planned open hole logs (other than the previously identified LWD logs) will be ran.
- Cased Hole Logs: A Temp Survey or CBL will be ran on the intermediate hole if cement is not circulated to surface during intermediate cement job.

8. Directional Plan

The planned wellbore directional plan and plot is attached.

The planned directional plan is built off geological targets from offset wells. The production hole will be landed and drilled within target formation horizontally utilizing LWD equipment to help steer the wellbore. On site adjustments will be made to the directional plan as formation and hole indicates.

ConocoPhillips SJB

San Juan Basin - New Mexico West Wells

Other Named Wells

Palluche HZMC #1H

Original Hole

Plan: APD Rev. 1

Standard Planning Report

18 June, 2012

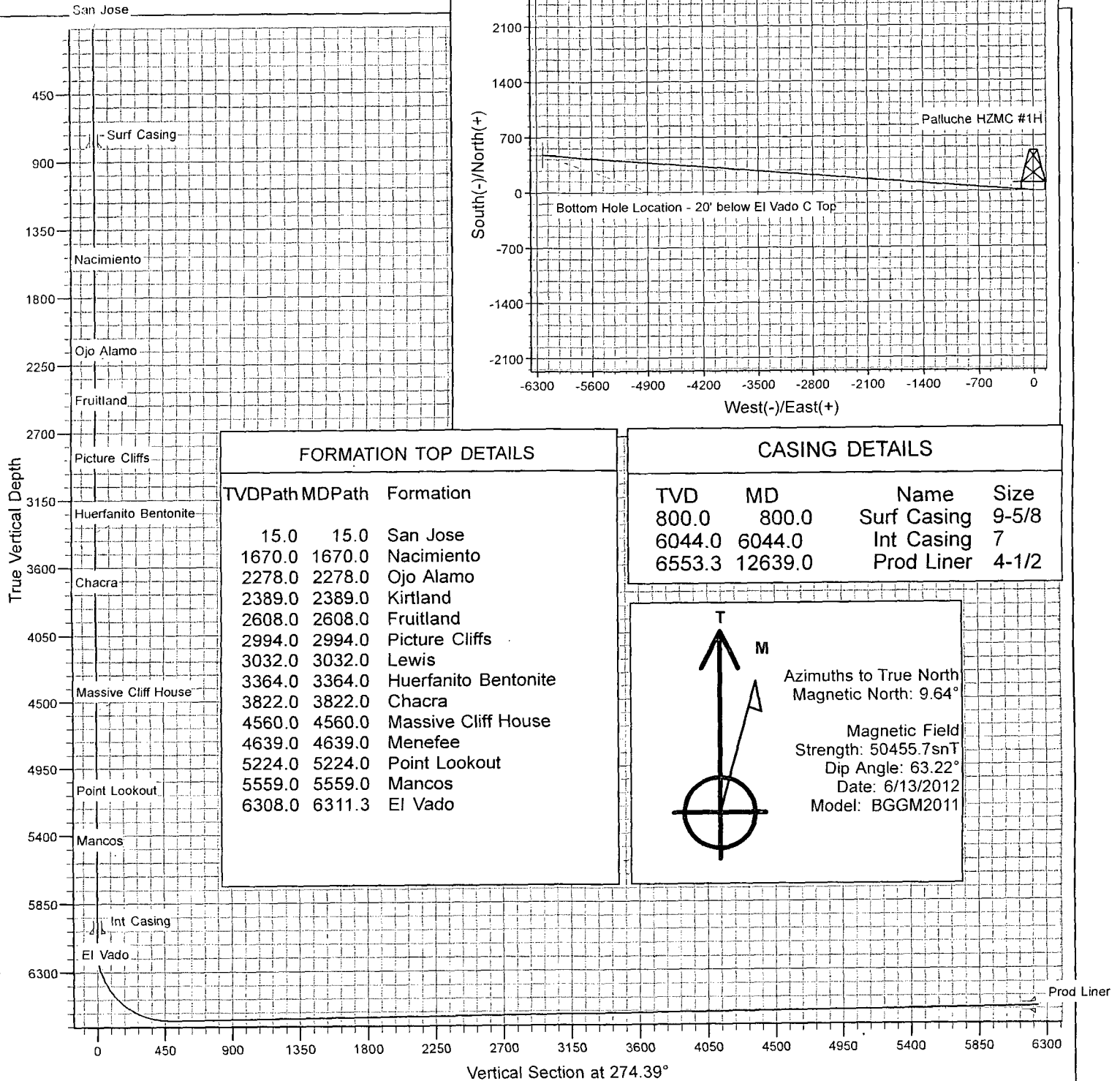
REFERENCE INFORMATION

KB @ 6940.0ft (AWS 920)
Ground Elevation 6925.0
Reference Lat: 36° 26' 49.774 N
Reference Long: 107° 32' 32.474 W

Project: San Juan Basin - New Mexico West Wells
Site: Other Named Wells
Well: Palluche HZMC #1H
Wellbore: Original Hole
Design: APD Rev. 1

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	6144.9	0.00	0.00	6144.9	0.0	0.0	0.00	0.00	0.0	
3	6900.7	90.69	274.39	6622.4	37.0	-481.8	12.00	274.39	483.2	
4	12659.8	90.69	274.39	6553.0	477.5	-6223.7	0.00	0.00	6241.9	Bottom Hole Location



ConocoPhillips or its affiliates

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Palluche HZMC #1H
Company:	ConocoPhillips SJB	TVD Reference:	KB @ 6940.0ft (AWS 920)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	KB @ 6940.0ft (AWS 920)
Site:	Other Named Wells	North Reference:	True
Well:	Palluche HZMC #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	APD Rev. 1		

Project:	San Juan Basin - New Mexico West Wells, New Mexico, Directional "S"		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		Using geodetic scale factor

Site:	Other Named Wells		
Site Position:		Northing:	2,063,826.04 ft
From:	Lat/Long	Easting:	504,691.02 ft
Position Uncertainty:	15.0 ft	Slot Radius:	6-1/8"
		Latitude:	36° 40' 18.848 N
		Longitude:	107° 49' 2.415 W
		Grid Convergence:	0.01 °

Well:	Palluche HZMC #1H		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	1.0 ft	Wellhead Elevation:	0.0 ft
		Latitude:	36° 26' 49.774 N
		Longitude:	107° 32' 32.474 W
		Ground Level:	6,925.0 ft

Wellbore:	Original Hole		
Magnetics	Model Name	Sample Date	Declination
	BGGM2011	6/13/2012	9.65
			Dip Angle
			63.22
			Field Strength
			50,456

Design:	APD Rev. 1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction
			(°)
			274.39

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,144.9	0.00	0.00	6,144.9	0.0	0.0	0.00	0.00	0.00	0.00	
6,900.7	90.69	274.39	6,622.4	37.0	-481.8	12.00	12.00	0.00	274.39	
12,659.8	90.69	274.39	6,553.0	477.5	-6,223.7	0.00	0.00	0.00	0.00	Bottom Hole Location

ConocoPhillips or its affiliates

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Palluche HZMC #1H
Company:	ConocoPhillips SJB	TVD Reference:	KB @ 6940.0ft (AWS 920)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	KB @ 6940.0ft (AWS 920)
Site:	Other Named Wells	North Reference:	True
Well:	Palluche HZMC #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	APD Rev. 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
15.0	0.00	0.00	15.0	0.0	0.0	0.0	0.00	0.00	0.00
San Jose									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
Surf Casing									
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,670.0	0.00	0.00	1,670.0	0.0	0.0	0.0	0.00	0.00	0.00
Nacimiento									
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,278.0	0.00	0.00	2,278.0	0.0	0.0	0.0	0.00	0.00	0.00
Ojo Alamo									
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,389.0	0.00	0.00	2,389.0	0.0	0.0	0.0	0.00	0.00	0.00
Kirtland									
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,608.0	0.00	0.00	2,608.0	0.0	0.0	0.0	0.00	0.00	0.00
Fruitland									
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,994.0	0.00	0.00	2,994.0	0.0	0.0	0.0	0.00	0.00	0.00
Picture Cliffs									
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,032.0	0.00	0.00	3,032.0	0.0	0.0	0.0	0.00	0.00	0.00
Lewis									
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,364.0	0.00	0.00	3,364.0	0.0	0.0	0.0	0.00	0.00	0.00
Huerfano Bentonite									
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00

ConocoPhillips or its affiliates
Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Palluche HZMC #1H
Company:	ConocoPhillips SJB	TVD Reference:	KB @ 6940.0ft (AWS 920)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	KB @ 6940.0ft (AWS 920)
Site:	Other Named Wells	North Reference:	True
Well:	Palluche HZMC #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	APD Rev. 1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,822.0	0.00	0.00	3,822.0	0.0	0.0	0.0	0.00	0.00	0.00	
Chacra										
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,560.0	0.00	0.00	4,560.0	0.0	0.0	0.0	0.00	0.00	0.00	
Massive Cliff House										
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,639.0	0.00	0.00	4,639.0	0.0	0.0	0.0	0.00	0.00	0.00	
Menefee										
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,224.0	0.00	0.00	5,224.0	0.0	0.0	0.0	0.00	0.00	0.00	
Point Lookout										
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,559.0	0.00	0.00	5,559.0	0.0	0.0	0.0	0.00	0.00	0.00	
Manicos										
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,044.0	0.00	0.00	6,044.0	0.0	0.0	0.0	0.00	0.00	0.00	
Int Casing										
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,144.9	0.00	0.00	6,144.9	0.0	0.0	0.0	0.00	0.00	0.00	
6,200.0	6.61	274.39	6,199.9	0.2	-3.2	3.2	12.00	12.00	0.00	
6,300.0	18.61	274.39	6,297.3	1.9	-24.9	25.0	12.00	12.00	0.00	
6,311.3	19.97	274.39	6,308.0	2.2	-28.6	28.7	12.00	12.00	0.00	
El Vado										
6,400.0	30.61	274.39	6,388.0	5.1	-66.3	66.5	12.00	12.00	0.00	
6,500.0	42.61	274.39	6,468.2	9.6	-125.7	126.1	12.00	12.00	0.00	
6,600.0	54.61	274.39	6,534.2	15.4	-200.4	200.9	12.00	12.00	0.00	
6,700.0	66.61	274.39	6,583.1	22.0	-287.1	287.9	12.00	12.00	0.00	
6,800.0	78.61	274.39	6,613.0	29.3	-382.0	383.2	12.00	12.00	0.00	
6,900.0	90.61	274.39	6,622.4	36.9	-481.1	482.5	12.00	12.00	0.00	
6,900.7	90.69	274.39	6,622.4	37.0	-481.8	483.2	12.00	12.00	0.00	
7,000.0	90.69	274.39	6,621.2	44.6	-580.8	582.5	0.00	0.00	0.00	
7,100.0	90.69	274.39	6,620.0	52.2	-680.5	682.5	0.00	0.00	0.00	
7,200.0	90.69	274.39	6,618.7	59.9	-780.2	782.5	0.00	0.00	0.00	

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Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Palluche HZMC #1H
Company:	ConocoPhillips SJB	TVD Reference:	KB @ 6940.0ft (AWS 920)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	KB @ 6940.0ft (AWS 920)
Site:	Other Named Wells	North Reference:	True
Well:	Palluche HZMC #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	APD Rev. 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,300.0	90.69	274.39	6,617.5	67.5	-879.9	882.5	0.00	0.00	0.00
7,400.0	90.69	274.39	6,616.3	75.2	-979.6	982.5	0.00	0.00	0.00
7,500.0	90.69	274.39	6,615.1	82.8	-1,079.3	1,082.5	0.00	0.00	0.00
7,600.0	90.69	274.39	6,613.9	90.5	-1,179.0	1,182.5	0.00	0.00	0.00
7,700.0	90.69	274.39	6,612.7	98.1	-1,278.7	1,282.5	0.00	0.00	0.00
7,800.0	90.69	274.39	6,611.5	105.8	-1,378.4	1,382.5	0.00	0.00	0.00
7,900.0	90.69	274.39	6,610.3	113.4	-1,478.1	1,482.5	0.00	0.00	0.00
8,000.0	90.69	274.39	6,609.1	121.1	-1,577.8	1,582.5	0.00	0.00	0.00
8,100.0	90.69	274.39	6,607.9	128.7	-1,677.5	1,682.5	0.00	0.00	0.00
8,200.0	90.69	274.39	6,606.7	136.3	-1,777.2	1,782.4	0.00	0.00	0.00
8,300.0	90.69	274.39	6,605.5	144.0	-1,876.9	1,882.4	0.00	0.00	0.00
8,400.0	90.69	274.39	6,604.3	151.6	-1,976.6	1,982.4	0.00	0.00	0.00
8,500.0	90.69	274.39	6,603.1	159.3	-2,076.3	2,082.4	0.00	0.00	0.00
8,600.0	90.69	274.39	6,601.9	166.9	-2,176.0	2,182.4	0.00	0.00	0.00
8,700.0	90.69	274.39	6,600.7	174.6	-2,275.7	2,282.4	0.00	0.00	0.00
8,800.0	90.69	274.39	6,599.5	182.2	-2,375.4	2,382.4	0.00	0.00	0.00
8,900.0	90.69	274.39	6,598.3	189.9	-2,475.1	2,482.4	0.00	0.00	0.00
9,000.0	90.69	274.39	6,597.1	197.5	-2,574.8	2,582.4	0.00	0.00	0.00
9,100.0	90.69	274.39	6,595.9	205.2	-2,674.5	2,682.4	0.00	0.00	0.00
9,200.0	90.69	274.39	6,594.7	212.8	-2,774.2	2,782.4	0.00	0.00	0.00
9,300.0	90.69	274.39	6,593.5	220.5	-2,873.9	2,882.4	0.00	0.00	0.00
9,400.0	90.69	274.39	6,592.3	228.1	-2,973.6	2,982.4	0.00	0.00	0.00
9,500.0	90.69	274.39	6,591.1	235.8	-3,073.3	3,082.4	0.00	0.00	0.00
9,600.0	90.69	274.39	6,589.8	243.4	-3,173.0	3,182.3	0.00	0.00	0.00
9,700.0	90.69	274.39	6,588.6	251.1	-3,272.7	3,282.3	0.00	0.00	0.00
9,800.0	90.69	274.39	6,587.4	258.7	-3,372.4	3,382.3	0.00	0.00	0.00
9,900.0	90.69	274.39	6,586.2	266.4	-3,472.1	3,482.3	0.00	0.00	0.00
10,000.0	90.69	274.39	6,585.0	274.0	-3,571.8	3,582.3	0.00	0.00	0.00
10,100.0	90.69	274.39	6,583.8	281.7	-3,671.5	3,682.3	0.00	0.00	0.00
10,200.0	90.69	274.39	6,582.6	289.3	-3,771.2	3,782.3	0.00	0.00	0.00
10,300.0	90.69	274.39	6,581.4	297.0	-3,870.9	3,882.3	0.00	0.00	0.00
10,400.0	90.69	274.39	6,580.2	304.6	-3,970.6	3,982.3	0.00	0.00	0.00
10,500.0	90.69	274.39	6,579.0	312.3	-4,070.3	4,082.3	0.00	0.00	0.00
10,600.0	90.69	274.39	6,577.8	319.9	-4,170.0	4,182.3	0.00	0.00	0.00
10,700.0	90.69	274.39	6,576.6	327.6	-4,269.7	4,282.3	0.00	0.00	0.00
10,800.0	90.69	274.39	6,575.4	335.2	-4,369.4	4,382.3	0.00	0.00	0.00
10,900.0	90.69	274.39	6,574.2	342.9	-4,469.1	4,482.3	0.00	0.00	0.00
11,000.0	90.69	274.39	6,573.0	350.5	-4,568.8	4,582.2	0.00	0.00	0.00
11,100.0	90.69	274.39	6,571.8	358.2	-4,668.5	4,682.2	0.00	0.00	0.00
11,200.0	90.69	274.39	6,570.6	365.8	-4,768.2	4,782.2	0.00	0.00	0.00
11,300.0	90.69	274.39	6,569.4	373.5	-4,867.9	4,882.2	0.00	0.00	0.00
11,400.0	90.69	274.39	6,568.2	381.1	-4,967.6	4,982.2	0.00	0.00	0.00
11,500.0	90.69	274.39	6,567.0	388.8	-5,067.3	5,082.2	0.00	0.00	0.00
11,600.0	90.69	274.39	6,565.8	396.4	-5,167.0	5,182.2	0.00	0.00	0.00
11,700.0	90.69	274.39	6,564.6	404.1	-5,266.7	5,282.2	0.00	0.00	0.00
11,800.0	90.69	274.39	6,563.4	411.7	-5,366.4	5,382.2	0.00	0.00	0.00
11,900.0	90.69	274.39	6,562.2	419.4	-5,466.1	5,482.2	0.00	0.00	0.00
12,000.0	90.69	274.39	6,560.9	427.0	-5,565.8	5,582.2	0.00	0.00	0.00
12,100.0	90.69	274.39	6,559.7	434.7	-5,665.5	5,682.2	0.00	0.00	0.00
12,200.0	90.69	274.39	6,558.5	442.3	-5,765.2	5,782.2	0.00	0.00	0.00
12,300.0	90.69	274.39	6,557.3	450.0	-5,864.9	5,882.1	0.00	0.00	0.00
12,400.0	90.69	274.39	6,556.1	457.6	-5,964.6	5,982.1	0.00	0.00	0.00
12,500.0	90.69	274.39	6,554.9	465.3	-6,064.3	6,082.1	0.00	0.00	0.00

ConocoPhillips or its affiliates

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Palluche HZMC #1H
Company:	ConocoPhillips SJBU	TVD Reference:	KB @ 6940.0ft (AWS 920)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	KB @ 6940.0ft (AWS 920)
Site:	Other Named Wells	North Reference:	True
Well:	Palluche HZMC #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	APD Rev. 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,600.0	90.69	274.39	6,553.7	472.9	-6,164.0	6,182.1	0.00	0.00	0.00
12,639.0	90.69	274.39	6,553.3	475.9	-6,202.9	6,221.1	0.00	0.00	0.00
Prod Liner									
12,659.8	90.69	274.39	6,553.0	477.5	-6,223.7	6,241.9	0.00	0.00	0.00
Bottom Hole Location - 20' below El Vado C Top									

Targets									
Target Name	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Bottom Hole Location - 2	0.00	0.00	6,553.0	477.5	-6,223.7	1,982,599.59	579,357.13	36° 26' 54.488 N	107° 33' 48.647 W
- plan hits target center									
- Circle (radius 1.0)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
800.0	800.0	Surf Casing	9-5/8	12-1/4	
6,044.0	6,044.0	Int Casing	7	8-3/4	
12,639.0	6,553.3	Prod Liner	4-1/2	6-1/8	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,032.0	3,032.0	Lewis		0.00		
2,389.0	2,389.0	Kirtland		0.00		
5,224.0	5,224.0	Point Lookout		0.00		
1,670.0	1,670.0	Nacimiento		0.00		
	6,672.0	Basal Niobrara		0.00		
15.0	15.0	San Jose		0.00		
6,311.3	6,308.0	El Vado		0.00		
2,278.0	2,278.0	Ojo Alamo		0.00		
2,994.0	2,994.0	Picture Cliffs		0.00		
3,364.0	3,364.0	Huerfano Bentonite		0.00		
2,608.0	2,608.0	Fruitland		0.00		
4,639.0	4,639.0	Menefee		0.00		
5,559.0	5,559.0	Mancos		0.00		
4,560.0	4,560.0	Massive Cliff House		0.00		
3,822.0	3,822.0	Chacra		0.00		

CONOCOPHILLIPS COMPANY

PALLUCHE HZMC #1H
1042' FNL & 2088' FEL
LOCATED IN THE NW/4 NE/4 OF SECTION 35,
T26N, R7W, N.M.P.M.,
RIO ARriba COUNTY, NEW MEXICO

DIRECTIONS

- 1) FROM BLOOMFIELD N.M., HEAD SOUTH ON 550 TO COUNSLER STORE AND CR 379.
- 2) TURN LEFT ON CR 379 AND GO 7.7 MILES TO "Y" INTERSECTION.
- 3) TURN LEFT TOWARDS RADIO TOWER AND GO 3.9 MILES.
- 4) TURN LEFT AND GO 1.2 MILES.
- 5) TURN RIGHT AND GO UP SUPERIOR MESA FOR 1.4 MILES TO "T" INTERSECTION.
- 6) TURN LEFT AND GO 2.2 MILES TO "T" INTERSECTION.
- 7) TURN LEFT AND GO 6.3 MILES WHERE ACCESS IS FLAGGED ON LEFT SIDE OF ROAD.

WELL FLAG LOCATED AT LAT. 36.44717° N, LONG. 107.54296° W (NAD 83).



BOPE & Choke Manifold Schematic