

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 3-20-14

Well information:

Operator Burlington, Well Name and Number Auerlano Unit HZDK #2H

API# 30045-35523, Section 36, Township 26 N/S, Range 10 E/W

Conditions of Approval:

(See the below checked and handwritten conditions)

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☒ Hold C-104 for directional survey & "As Drilled" Plat
- ☐ Hold C-104 for NSL, NSP, DHC
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ☐ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
 - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
 - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
 - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- ☐ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ☒ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.

Charles Lerner
NMOCD Approved by Signature

4-21-14
Date AV

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RCVD APR 11 '14
OIL CONS. DIV.
DIST. 3

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	5. Lease Number SF-078518A Unit Reporting Number
1b. Type of Well GAS	6. If Indian, All. or Tribe
2. Operator BURLINGTON RESOURCES	7. Unit Agreement Name Huerfano Unit HZDK
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	8. Farm or Lease Name 9. Well Number 2H
4. Location of Well Surface: Unit P(SESE), 686' FSL & 621' FEL BHL : Unit P(SESE), 475' FSL & 65' FEL Surface: Latitude: 36.4394172° N (NAD83) Longitude: 107.8408634° W BHL : Latitude: 36.4388277° N (NAD83) Longitude: 107.8210905° W	10. Field, Pool, Wildcat BASIN DAKOTA 11. Sec., Twn, Rge, Mer. (NMPM) Sec. 36, T26N, R10W Sec. 31, T26N, R9W API # 30-045-35523
14. Distance in Miles from Nearest Town 25 from Blanco, NM	12. County San Juan 13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 65'	17. Acres Assigned to Well 645.28 acres (all of Sec.31)
16. Acres in Lease 1847.320	
18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease 1399' from Huerfano Unit 134	
19. Proposed Depth VD - 6556' (MD - 12,293') 6714' GL	20. Rotary or Cable Tools
23. Proposed Casing and Cementing Program See Operations Plan attached	
24. Authorized by: <u>Patsy Chert</u> (Staff Regulatory Tech)	Date <u>3/20/14</u>

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

DRILLING OPERATIONS
AUTHORIZED ARE SUBJECT TO
COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS"

This action is subject to technical
and procedural review pursuant to
43 CFR 3165.3 and appeal
pursuant to 43 CFR 3165.4

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

Archaeological Report attached

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

Threatened and Endangered Species Report attached

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.

Example Master Plan Type 3

Bond Numbers NMB-000015 and NMB-000089

NMOCD

Submit one copy to appropriate
District Office

DISTRICT II
811 S. First St., Artesia, H.L. 88810
Phone: (575) 748-1283 Fax: (575) 748-9720

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, N.M. 87506

DISTRICT II
1000 Rio Grande Rd., Aztec, N.M. 87410
Phone: (505) 324-8178 Fax: (505) 324-0170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 87508
Phone: (505) 476-3460 Fax: (505) 476-3482

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

* API Number 30-045- 35523		* Pool Code 71599	* Pool Name BASIN DAKOTA	
* Property Code 313136	* Property Name HUERFANO UNIT H2DK			* Well Number 2H
* OGRD No. 14538	* Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY LP			* Elevation 6714

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
P	36	26 N	10 W		636	SOUTH	621	EAST	SAN JUAN

¹¹ Bottom Hole Location Is 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
P	31	26 N	9 W	475		SOUTH	65	EAST	SAN JUAN

¹³ Dedicated Acres

320.00 (E/2) SECTION 31
325.28 (W/2) SECTION 31

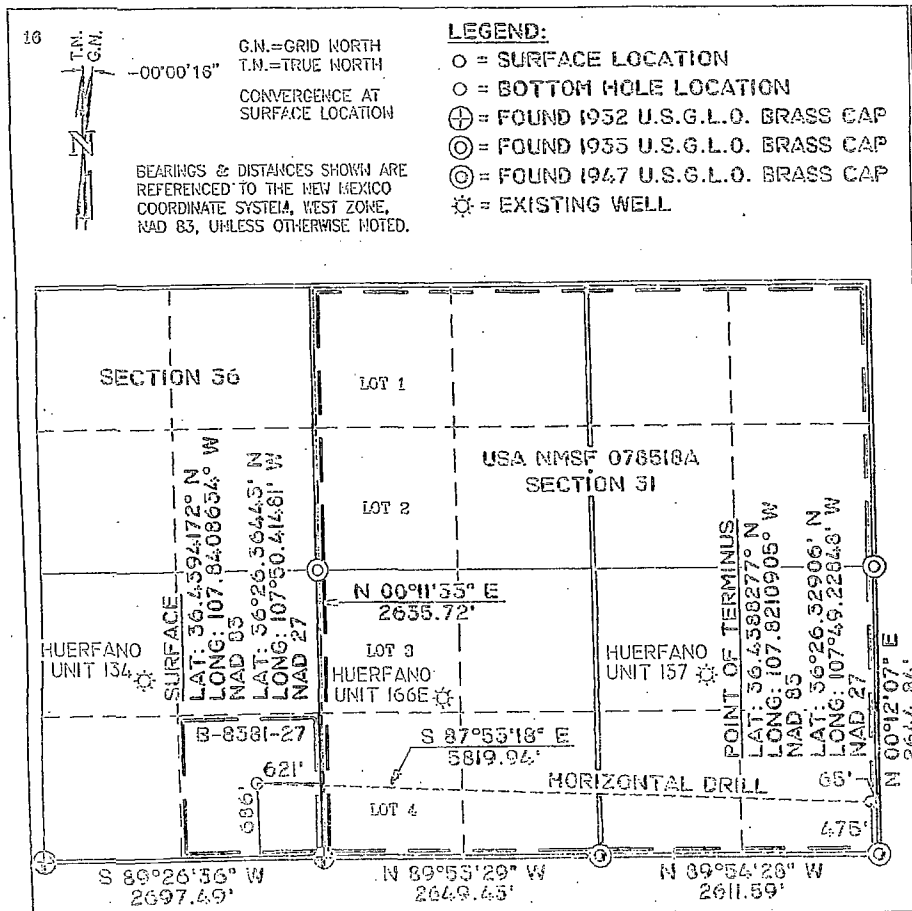
¹³ Joint or Infill

¹⁴ Consolidation Code

16 Order No.

R-13499

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the 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 this division.

 11/12/13
Signature _____ Date _____
Patsy Clugston
Printed Name _____
clugspl@conocophillips.com
E-mail Address _____

18 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.

09/18/13

Date of Survey

Signature and Seal of Production/Bureau



100-100000

11/11/1917

1452



1000

17078

1013

Certificate Number

Burlington Resources Oil & Gas Company LP, a subsidiary of ConocoPhillips proposes to drill and complete the referenced horizontal well targeting a zone within the Dakota formation.

Technical Plan

1. Location

Huerfano Unit HZDK 2H

SHL: 686' FSL, 621' FEL -- T 26N, R 10W, Sec 36

BHL: 475 FSL, 65' FEL -- T 25N, R 09W, Sec 31

GL: 6,714'

2. Geological Markers

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

Formation	Depth (TVD)	Remarks
Nacimiento	Surface	
Ojo Alamo	1,186'	Possible Water
Kirtland	1,368'	
Fruitland	1,645'	Possible Gas
Pictured Cliffs	2,116'	
Lewis	2,285'	
Huerfanito Bentonite	2,484'	
Chacra	2,958'	
Cliffhouse	3,681'	Gas
Menefee	3,714'	
Point Lookout	4,502'	
Mancos	4,810'	Gas
Upper Gallup	5,547'	Gas
Greenhorn	6,476'	
Graneros	6,523'	
Dakota	6,556'	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 the minimum 2M standard.
- 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	Set Depth TVD / MD
Surface	17-1/2"	13-3/8"	54.5#, J-55, STC, New	500' TVD/MD
Intermediate 1	12-1/4"	9-5/8"	36#, J-55, LTC, New	5,995' TVD/MD
Intermediate 2	8-3/4"	7"	26.0#, L-80, LTC/BTC, New	6,719' TVD / 7,140' MD
Production Liner	6-1/8"	4-1/2"	11.6#, P-110, BTC, New	6,670' TVD / 12,293' MD

Tot: 7040' MD

The production liner will be landed back into the intermediate casing string by means of a liner hanger with a pack-off element.

A 4-1/2", 11.6#, P-110, BTC 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 (MD)	Volume	Slurry	Planned Cement Top
Surface	500'	506 ft ³	Lead Cmt: Type III Cmt 0.25 pps celloflake	Surface
Intermediate 1	5,995'	2,788 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: Premium Lite HS FM 0.25 pps celloflake, 0.3% CD-32, 6.25 pps LCM-1, 1% FL-52 1.98 ft ³ /sk -- 9.80 gal/sk 12.5 ppg	Surface
Intermediate 2	7,140'	249 ft ³	Tail Cmt: Premium Lite HS FM 0.25 pps celloflake, 0.3% CD-32, 6.25 pps LCM-1, 1% FL-52 1.98 ft ³ /sk -- 9.80 gal/sk 12.5 ppg	100' inside 9-5/8" casing string
Production	N/A	N/A	N/A – External swellable casing packers will be utilized.	N/A

For the 1st intermediate hole section a 2-stage cement job may be performed if hole conditions indicate during operations. Stage tool will be placed appropriately as conditions indicate. Slurry additives may be adjusted as needed to accommodate required pump and compressive test times.

C) The proposed centralizer program is shown below:

Centralizer Program	
Interval	Centralizers
Surface	1 per joint on bottom 3 joints
Intermediate 1	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
Intermediate 2	10' above shoe jnt w/ collar clamp 1 every 2 jnts (at min) to Intermediate 1 casing shoe 1 inside Intermediate 1 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 1	LSND / Gel System	8.4 - 9.5	6 - 16	
Intermediate 2	Oil Based Mud	7.5 - 10	6 - 14	60/40 - 90/10
	LSND/Gel System	8.5 - 10	4 - 14	
Production	Oil Based Mud	7.5 - 10	4 - 14	60/40 - 90/10
	LSND/Gel System	8.5 - 10	4 - 14	

In the 2nd Intermediate hole section and production hole section a water based mud or an oil based mud may be utilized as hole conditions indicate. If oil based mud is utilized it will be an invert mud; the base fluid will be diesel and the brine fluid will be CaCl or KCl.

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

- B) If OBM is utilized, closed loop equipment will be utilized for solids control. A lined cutting pit will be utilized for cuttings from water based mud hole sections. If oil based mud is utilized, cuttings will be hauled off to an approved disposal site.

6. Abnormal Pressures & Hazards

- No over-pressured intervals expected.
- Estimated Reservoir Pressure = 2,310 psi.
- Maximum Anticipated Surface Pressure = 1,900 psi.
- No hydrogen sulfide gas is expected based off nearby well production.
- No anticipated loss zones or depleted zones. Well is located outside of Fruitland Coal "fairway" and Mesa Verde production intervals.

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 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 will be ran on the 2nd intermediate hole to verify TOC.

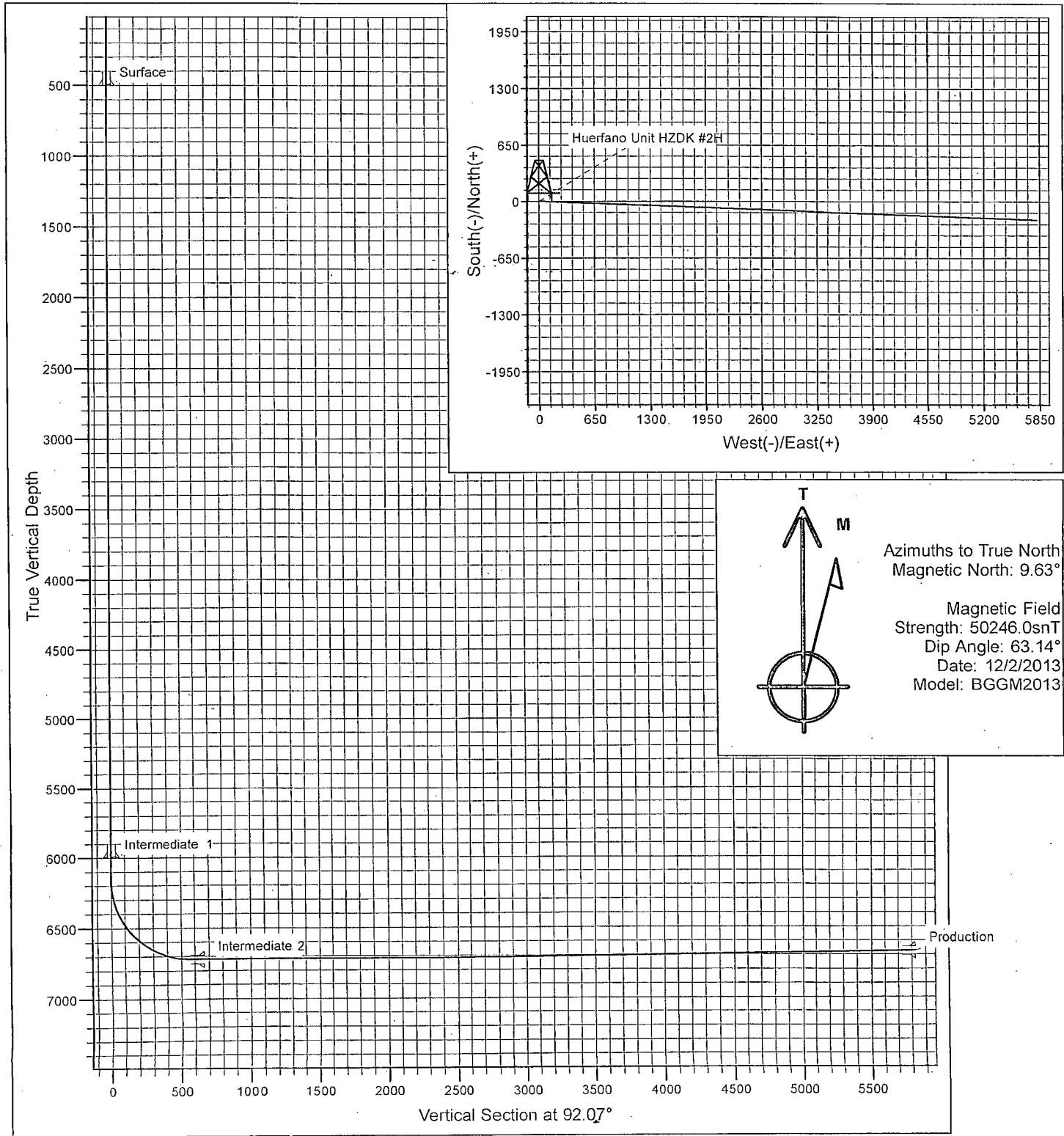
8. Directional Plan

The planned wellbore directional plan and plot is attached.

The 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.

REFERENCE INFORMATION		Project: San Juan Basin - New Mexico West Wells	
WELL @ 6729.0usft (Original Well Elev)		Site: Huerfano / Huerfanito Wells	
Ground Elevation 6714.0		Well: Huerfano Unit HZDK #2H	
Reference Lat: 36° 26' 21.866 N		Wellbore: Wellbore #1	
Reference Long: 107° 50' 24.889 W		Design: Design #1 - APD	

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	6157.1	0.00	0.00	6157.1	0.0	0.0	0.00	0.00	0.0
3	7039.7	90.00	92.10	6719.0	-20.6	561.5	10.20	92.10	561.9
4	12298.4	91.07	92.04	6670.0	-210.7	5816.4	0.02	-3.47	5820.2



ConocoPhillips SJB

San Juan Basin - New Mexico West Wells

Huerfano / Huerfanito Wells

Huerfano Unit HZDK #2H

Wellbore #1

Plan: Design #1 - APD

Standard Planning Report

20 January, 2014

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Huerfano Unit HZDK #2H
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 6729.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 6729.0usft (Original Well Elev)
Site:	Huerfano / Huerfanito Wells	North Reference:	True
Well:	Huerfano Unit HZDK #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 - APD		

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	Huerfano / Huerfanito Wells				
Site Position:		Northing:	2,010,379.32 usft	Latitude:	36° 31' 30.309 N
From:	Lat/Long	Easting:	498,854.34 usft	Longitude:	107° 50' 14.037 W
Position Uncertainty:	0.0 usft	Slot Radius:	11 "	Grid Convergence:	0.00 °

Well	Huerfano Unit HZDK #2H					
Well Position	+N/-S	-31,192.0 usft	Northing:	1,979,189.94 usft	Latitude:	36° 26' 21.866 N
	+E/-W	-886.7 usft	Easting:	497,966.43 usft	Longitude:	107° 50' 24.889 W
Position Uncertainty	2.5 usft	Wellhead Elevation:		Ground Level:	6,714.0 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	12/2/2013	9.63	63.14	50,246

Design	Design #1 - APD			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	92.08

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,146.0	0.00	0.00	6,146.0	0.0	0.0	0.00	0.00	0.00	0.00	
7,046.0	90.00	92.08	6,719.0	-20.7	572.6	10.00	10.00	0.00	92.08	Huerfano Unit HZDK :
7,246.0	90.00	92.08	6,719.0	-28.0	772.5	0.00	0.00	0.00	0.00	
7,301.9	90.56	92.08	6,718.7	-30.0	828.3	1.00	1.00	0.00	0.00	
12,293.5	90.56	92.08	6,670.0	-210.8	5,816.4	0.00	0.00	0.00	0.00	Huerfano Unit HZDK :

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Huerfano Unit HZDK #2H
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 6729.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 6729.0usft (Original Well Elev)
Site:	Huerfano / Huerfanito Wells	North Reference:	True
Well:	Huerfano Unit HZDK #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 - APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
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
13-3/8" Surface Casing									
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
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
1,186.0	0.00	0.00	1,186.0	0.0	0.0	0.0	0.00	0.00	0.00
Ojo Alamo									
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
1,368.0	0.00	0.00	1,368.0	0.0	0.0	0.0	0.00	0.00	0.00
Kirtland									
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
1,645.0	0.00	0.00	1,645.0	0.0	0.0	0.0	0.00	0.00	0.00
Fruitland									
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
2,116.0	0.00	0.00	2,116.0	0.0	0.0	0.0	0.00	0.00	0.00
Pictured Cliffs									
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,285.0	0.00	0.00	2,285.0	0.0	0.0	0.0	0.00	0.00	0.00
Lewis									
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,484.0	0.00	0.00	2,484.0	0.0	0.0	0.0	0.00	0.00	0.00
Huerfanito Bentonite									
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
2,700.0	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
2,958.0	0.00	0.00	2,958.0	0.0	0.0	0.0	0.00	0.00	0.00
Chacra									
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
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
3,400.0	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
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,681.0	0.00	0.00	3,681.0	0.0	0.0	0.0	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Huerfano Unit HZDK #2H
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 6729.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 6729.0usft (Original Well Elev)
Site:	Huerfano / Huerfanito Wells	North Reference:	True
Well:	Huerfano Unit HZDK #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 - APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Massive Cliff House									
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,714.0	0.00	0.00	3,714.0	0.0	0.0	0.0	0.00	0.00	0.00
Menefee									
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
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
4,502.0	0.00	0.00	4,502.0	0.0	0.0	0.0	0.00	0.00	0.00
Point Lookout									
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
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
4,810.0	0.00	0.00	4,810.0	0.0	0.0	0.0	0.00	0.00	0.00
Mancos									
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
5,300.0	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
5,547.0	0.00	0.00	5,547.0	0.0	0.0	0.0	0.00	0.00	0.00
Upper Gallup									
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
5,995.0	0.00	0.00	5,995.0	0.0	0.0	0.0	0.00	0.00	0.00
9-5/8" Intermediate Casing 1									
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,146.0	0.00	0.00	6,146.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	5.40	92.08	6,199.9	-0.1	2.5	2.5	10.00	10.00	0.00
6,300.0	15.40	92.08	6,298.2	-0.7	20.6	20.6	10.00	10.00	0.00
6,400.0	25.40	92.08	6,391.8	-2.0	55.3	55.4	10.00	10.00	0.00
6,497.7	35.17	92.08	6,476.0	-3.8	104.5	104.6	10.00	10.00	0.00
Greenhorn									
6,500.0	35.40	92.08	6,477.9	-3.8	105.9	105.9	10.00	10.00	0.00
6,557.5	41.15	92.08	6,523.0	-5.1	141.4	141.5	10.00	10.00	0.00
Graneros									
6,600.0	45.40	92.08	6,554.0	-6.2	170.5	170.7	10.00	10.00	0.00
6,602.9	45.69	92.08	6,556.0	-6.3	172.6	172.7	10.00	10.00	0.00
Dakota									
6,700.0	55.40	92.08	6,617.6	-9.0	247.4	247.6	10.00	10.00	0.00
6,800.0	65.40	92.08	6,667.0	-12.1	334.2	334.4	10.00	10.00	0.00
6,900.0	75.40	92.08	6,700.5	-15.5	428.3	428.5	10.00	10.00	0.00
7,000.0	85.40	92.08	6,717.1	-19.1	526.7	527.0	10.00	10.00	0.00
7,046.0	90.00	92.08	6,719.0	-20.7	572.6	573.0	10.00	10.00	0.00

ConocoPhillips Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Huerfano Unit HZDK #2H
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 6729.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 6729.0usft (Original Well Elev)
Site:	Huerfano / Huerfanito Wells	North Reference:	True
Well:	Huerfano Unit HZDK #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 - APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,100.0	90.00	92.08	6,719.0	-22.7	626.5	627.0	0.00	0.00	0.00
7,140.0	90.00	92.08	6,719.0	-24.2	666.5	667.0	0.00	0.00	0.00
7" Intermediate Casing 2									
7,200.0	90.00	92.08	6,719.0	-26.3	726.5	727.0	0.00	0.00	0.00
7,246.0	90.00	92.08	6,719.0	-28.0	772.5	773.0	0.00	0.00	0.00
7,300.0	90.54	92.08	6,718.7	-29.9	826.4	827.0	1.00	1.00	0.00
7,301.9	90.56	92.08	6,718.7	-30.0	828.3	828.8	1.00	1.00	0.00
7,400.0	90.56	92.08	6,717.7	-33.6	926.3	927.0	0.00	0.00	0.00
7,500.0	90.56	92.08	6,716.8	-37.2	1,026.3	1,026.9	0.00	0.00	0.00
7,600.0	90.56	92.08	6,715.8	-40.8	1,126.2	1,126.9	0.00	0.00	0.00
7,700.0	90.56	92.08	6,714.8	-44.4	1,226.1	1,226.9	0.00	0.00	0.00
7,800.0	90.56	92.08	6,713.8	-48.1	1,326.1	1,326.9	0.00	0.00	0.00
7,900.0	90.56	92.08	6,712.9	-51.7	1,426.0	1,426.9	0.00	0.00	0.00
8,000.0	90.56	92.08	6,711.9	-55.3	1,525.9	1,526.9	0.00	0.00	0.00
8,100.0	90.56	92.08	6,710.9	-58.9	1,625.9	1,626.9	0.00	0.00	0.00
8,200.0	90.56	92.08	6,709.9	-62.5	1,725.8	1,726.9	0.00	0.00	0.00
8,300.0	90.56	92.08	6,709.0	-66.2	1,825.7	1,826.9	0.00	0.00	0.00
8,400.0	90.56	92.08	6,708.0	-69.8	1,925.6	1,926.9	0.00	0.00	0.00
8,500.0	90.56	92.08	6,707.0	-73.4	2,025.6	2,026.9	0.00	0.00	0.00
8,600.0	90.56	92.08	6,706.0	-77.0	2,125.5	2,126.9	0.00	0.00	0.00
8,700.0	90.56	92.08	6,705.0	-80.6	2,225.4	2,226.9	0.00	0.00	0.00
8,800.0	90.56	92.08	6,704.1	-84.3	2,325.4	2,326.9	0.00	0.00	0.00
8,900.0	90.56	92.08	6,703.1	-87.9	2,425.3	2,426.9	0.00	0.00	0.00
9,000.0	90.56	92.08	6,702.1	-91.5	2,525.2	2,526.9	0.00	0.00	0.00
9,100.0	90.56	92.08	6,701.1	-95.1	2,625.1	2,626.9	0.00	0.00	0.00
9,200.0	90.56	92.08	6,700.2	-98.7	2,725.1	2,726.9	0.00	0.00	0.00
9,300.0	90.56	92.08	6,699.2	-102.4	2,825.0	2,826.9	0.00	0.00	0.00
9,400.0	90.56	92.08	6,698.2	-106.0	2,924.9	2,926.9	0.00	0.00	0.00
9,500.0	90.56	92.08	6,697.2	-109.6	3,024.9	3,026.9	0.00	0.00	0.00
9,600.0	90.56	92.08	6,696.3	-113.2	3,124.8	3,126.8	0.00	0.00	0.00
9,700.0	90.56	92.08	6,695.3	-116.8	3,224.7	3,226.8	0.00	0.00	0.00
9,800.0	90.56	92.08	6,694.3	-120.5	3,324.7	3,326.8	0.00	0.00	0.00
9,900.0	90.56	92.08	6,693.3	-124.1	3,424.6	3,426.8	0.00	0.00	0.00
10,000.0	90.56	92.08	6,692.4	-127.7	3,524.5	3,526.8	0.00	0.00	0.00
10,100.0	90.56	92.08	6,691.4	-131.3	3,624.4	3,626.8	0.00	0.00	0.00
10,200.0	90.56	92.08	6,690.4	-135.0	3,724.4	3,726.8	0.00	0.00	0.00
10,300.0	90.56	92.08	6,689.4	-138.6	3,824.3	3,826.8	0.00	0.00	0.00
10,400.0	90.56	92.08	6,688.5	-142.2	3,924.2	3,926.8	0.00	0.00	0.00
10,500.0	90.56	92.08	6,687.5	-145.8	4,024.2	4,026.8	0.00	0.00	0.00
10,600.0	90.56	92.08	6,686.5	-149.4	4,124.1	4,126.8	0.00	0.00	0.00
10,700.0	90.56	92.08	6,685.5	-153.1	4,224.0	4,226.8	0.00	0.00	0.00
10,800.0	90.56	92.08	6,684.6	-156.7	4,324.0	4,326.8	0.00	0.00	0.00
10,900.0	90.56	92.08	6,683.6	-160.3	4,423.9	4,426.8	0.00	0.00	0.00
11,000.0	90.56	92.08	6,682.6	-163.9	4,523.8	4,526.8	0.00	0.00	0.00
11,100.0	90.56	92.08	6,681.6	-167.5	4,623.7	4,626.8	0.00	0.00	0.00
11,200.0	90.56	92.08	6,680.7	-171.2	4,723.7	4,726.8	0.00	0.00	0.00
11,300.0	90.56	92.08	6,679.7	-174.8	4,823.6	4,826.8	0.00	0.00	0.00
11,400.0	90.56	92.08	6,678.7	-178.4	4,923.5	4,926.8	0.00	0.00	0.00
11,500.0	90.56	92.08	6,677.7	-182.0	5,023.5	5,026.8	0.00	0.00	0.00
11,600.0	90.56	92.08	6,676.8	-185.6	5,123.4	5,126.8	0.00	0.00	0.00
11,700.0	90.56	92.08	6,675.8	-189.3	5,223.3	5,226.7	0.00	0.00	0.00
11,800.0	90.56	92.08	6,674.8	-192.9	5,323.2	5,326.7	0.00	0.00	0.00
11,900.0	90.56	92.08	6,673.8	-196.5	5,423.2	5,426.7	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Huerfano Unit HZDK #2H
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 6729.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 6729.0usft (Original Well Elev)
Site:	Huerfano / Huerfanito Wells	North Reference:	True
Well:	Huerfano Unit HZDK #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 - APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,000.0	90.56	92.08	6,672.9	-200.1	5,523.1	5,526.7	0.00	0.00	0.00
12,100.0	90.56	92.08	6,671.9	-203.8	5,623.0	5,626.7	0.00	0.00	0.00
12,200.0	90.56	92.08	6,670.9	-207.4	5,723.0	5,726.7	0.00	0.00	0.00
12,293.0	90.56	92.08	6,670.0	-210.7	5,815.9	5,819.7	0.00	0.00	0.00
4-1/2" Production Liner									
12,293.5	90.56	92.08	6,670.0	-210.8	5,816.4	5,820.2	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Huerfano Unit HZDK 2H	0.00	0.00	6,670.0	-210.8	5,816.4	1,978,978.78	503,782.34	36° 26' 19.776 N	107° 49' 13.709 W
- plan hits target center									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
500.0	500.0	13-3/8" Surface Casing	13-3/8	17-1/2
5,995.0	5,995.0	9-5/8" Intermediate Casing 1	9-5/8	12-1/4
7,140.0	6,719.0	7" Intermediate Casing 2	7	8-3/4
12,293.0	6,670.0	4-1/2" Production Liner	4-1/2	6-1/8

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,186.0	1,186.0	Ojo Alamo		0.00	
1,368.0	1,368.0	Kirtland		0.00	
1,645.0	1,645.0	Fruitland		0.00	
2,116.0	2,116.0	Pictured Cliffs		0.00	
2,285.0	2,285.0	Lewis		0.00	
2,484.0	2,484.0	Huerfanito Bentonite		0.00	
2,958.0	2,958.0	Chacra		0.00	
3,681.0	3,681.0	Massive Cliff House		0.00	
3,714.0	3,714.0	Menefee		0.00	
4,502.0	4,502.0	Point Lookout		0.00	
4,810.0	4,810.0	Mancos		0.00	
5,547.0	5,547.0	Upper Gallup		0.00	
6,497.7	6,476.0	Greenhorn		0.00	
6,557.5	6,523.0	Graneros		0.00	
6,602.9	6,556.0	Dakota		0.00	

BURLINGTON RESOURCES OIL & GAS COMPANY LP

HUERFANO UNIT HZDK 2H

686' FSL & 621' FEL (SURFACE) SECTION 36, T-26-N, R-10-W, N.M.P.M.

475' FSL & 65' FEL (BOTTOM HOLE) SECTION 31, T-26-N, R-9-W, N.M.P.M.

SAN JUAN COUNTY, NEW MEXICO

LATITUDE: 36.4394172° N

LONGITUDE: 107.8408634° W

NAD 83

FROM THE INTERSECTION OF U.S. HIGHWAY 64
& U.S. HIGHWAY 550 IN BLOOMFIELD, NEW MEXICO.

TRAVEL SOUTHERLY 22.5 MILES ON U.S. HIGHWAY 550.

TURN LEFT ONTO C.R. 7425 AND TRAVEL EASTERLY 2.0 MILES TO
PROPOSED HUERFANO UNIT HZDK 2H ACCESS ROAD AND WELL LOCATION.

BOPE & Choke Manifold Schematic

