

DISTRICT I
1635 N. French Dr., Hobbs, N.M. 88240
Phone: (505) 593-0161 Fax: (505) 593-0720

DISTRICT II
811 E. First St., Artesia, N.M. 88210
Phone: (505) 748-1888 Fax: (505) 748-9720

DISTRICT III
1000 E. Bruce Rd., Artesia, N.M. 87410
Phone: (505) 334-0178 Fax: (505) 334-0170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-5460 Fax: (505) 476-5468

State of New Mexico
Energy, Minerals & Natural Resources Department

"AS DRILLED"

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35585		*Pool Code 72319/71599	*Pool Name BLANCO MESAVERDE / BASIN DAKOTA
*Property Code 18498	*Property Name COOPER		*Well Number 3P
*GRID No. 14538	*Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY LP		*Elevation 5758'

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
N	6	29N	11W		1110'	SOUTH	1456'	WEST	SAN JUAN

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
K	6	29N	11W		1831	SOUTH	2197	WEST	SAN JUAN

*Dedicated Acres 307.12 ACRES - S/2 SEC. 6	*Joint or Infill	*Consolidation Code	*Order No.
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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

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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 undivided 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 is a voluntary voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Dollie L. Busse 2/13/15
Signature Date

Dollie L. Busse
Printed Name

dollie.lbusse@cop.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.

JUNE 12, 2014
Date of Survey

David R. Russell
Signature and Seal of Professional Surveyor

DAVID R. RUSSELL
REGISTERED PROFESSIONAL LAND SURVEYOR
10201

DAVID RUSSELL
Certificate Number 10201

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COP Deviation Report

COOPER #3P

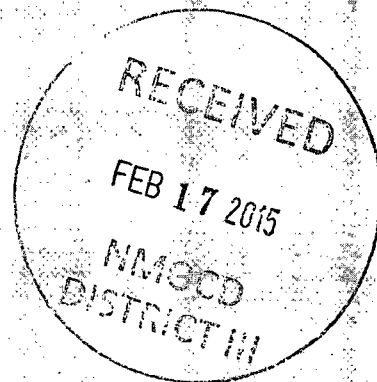
Operator BURLINGTON RESOURCES OIL & GAS COMPANY LP		Legal WellName COOPER #3P		API / UWI 3004535585		County SAN JUAN		State/Province NEW MEXICO	
Surface Legal Location 006-029N-011W-N				N/S Dist (ft) 1,110.00		N/S Ref FSL		E/W Dist (ft) 1,456.00	
Date 1/14/2015		Description INCLINATION SURVEY							
Survey Data									
Date	MD (RKB)	Incl (°)	Azm (°)	Method	Survey Company				
1/14/2015	134.00	0.50	0.00	Inc-Drop	MO-TE DRILLING INC				
1/14/2015	233.00	1.00	0.00	Inc-Drop	MO-TE DRILLING INC				
Date 1/24/2015		Description DIRECTIONAL SURVEY							
Survey Data									
Date	MD (RKB)	Incl (°)	Azm (°)	Method	Survey Company				
1/25/2015	0.00	0.00	0.00	Projection	Cathedral				
1/25/2015	273.00	0.40	170.00	IncAzi-MWD	Cathedral				
1/25/2015	303.00	0.30	158.80	IncAzi-MWD	Cathedral				
1/25/2015	333.00	0.50	73.80	IncAzi-MWD	Cathedral				
1/25/2015	364.00	1.40	62.00	IncAzi-MWD	Cathedral				
1/25/2015	395.00	2.00	51.90	IncAzi-MWD	Cathedral				
1/25/2015	426.00	2.50	46.80	IncAzi-MWD	Cathedral				
1/25/2015	457.00	3.10	48.20	IncAzi-MWD	Cathedral				
1/25/2015	487.00	4.00	44.10	IncAzi-MWD	Cathedral				
1/25/2015	518.00	4.50	41.80	IncAzi-MWD	Cathedral				
1/25/2015	549.00	5.40	41.70	IncAzi-MWD	Cathedral				
1/25/2015	579.00	6.10	41.00	IncAzi-MWD	Cathedral				
1/25/2015	610.00	6.90	41.50	IncAzi-MWD	Cathedral				
1/25/2015	640.00	7.60	38.80	IncAzi-MWD	Cathedral				
1/25/2015	670.00	8.40	38.90	IncAzi-MWD	Cathedral				
1/26/2015	701.00	9.10	38.60	IncAzi-MWD	Cathedral				
1/26/2015	732.00	10.20	40.60	IncAzi-MWD	Cathedral				
1/26/2015	762.00	10.80	43.70	IncAzi-MWD	Cathedral				
1/26/2015	793.00	11.70	45.70	IncAzi-MWD	Cathedral				
1/26/2015	824.00	12.70	46.30	IncAzi-MWD	Cathedral				
1/26/2015	855.00	13.20	47.20	IncAzi-MWD	Cathedral				
1/26/2015	885.00	13.90	46.30	IncAzi-MWD	Cathedral				
1/26/2015	916.00	14.40	45.80	IncAzi-MWD	Cathedral				
1/26/2015	947.00	15.00	45.40	IncAzi-MWD	Cathedral				

I, the undersigned, certify that I acting in my capacity as _____ for ConocoPhillips Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.

Subscribed and sworn to me this _____

Notary Public in and for San Juan County, New Mexico

My Commission expires _____



COP Deviation Report

COOPER #3P



Survey Data					
Date	MD (ftKB)	Incl (°)	Azm (°)	Method	Survey Company
1/26/2015	977.00	15.70	46.10	IncAzi-MWD	Cathedral
1/26/2015	1,008.00	16.40	47.10	IncAzi-MWD	Cathedral
1/26/2015	1,072.00	17.90	48.10	IncAzi-MWD	Cathedral
1/26/2015	1,136.00	18.80	47.60	IncAzi-MWD	Cathedral
1/26/2015	1,199.00	19.00	46.90	IncAzi-MWD	Cathedral
1/26/2015	1,263.00	20.00	47.20	IncAzi-MWD	Cathedral
1/26/2015	1,326.00	20.30	47.10	IncAzi-MWD	Cathedral
1/26/2015	1,390.00	19.80	46.80	IncAzi-MWD	Cathedral
1/26/2015	1,454.00	20.50	47.20	IncAzi-MWD	Cathedral
1/26/2015	1,518.00	21.80	47.40	IncAzi-MWD	Cathedral
1/26/2015	1,582.00	21.40	46.60	IncAzi-MWD	Cathedral
1/26/2015	1,646.00	21.70	45.30	IncAzi-MWD	Cathedral
1/26/2015	1,710.00	21.30	44.60	IncAzi-MWD	Cathedral
1/26/2015	1,773.00	22.00	44.40	IncAzi-MWD	Cathedral
1/26/2015	1,836.00	21.60	43.50	IncAzi-MWD	Cathedral
1/26/2015	1,900.00	21.00	45.00	IncAzi-MWD	Cathedral
1/26/2015	1,963.00	21.00	47.30	IncAzi-MWD	Cathedral
1/26/2015	2,026.00	22.10	48.20	IncAzi-MWD	Cathedral
1/26/2015	2,090.00	22.50	47.40	IncAzi-MWD	Cathedral
1/26/2015	2,154.00	22.50	47.50	IncAzi-MWD	Cathedral
1/26/2015	2,218.00	21.70	46.50	IncAzi-MWD	Cathedral
1/26/2015	2,281.00	20.50	45.80	IncAzi-MWD	Cathedral
1/26/2015	2,345.00	21.00	46.10	IncAzi-MWD	Cathedral
1/26/2015	2,409.00	21.70	46.60	IncAzi-MWD	Cathedral
1/26/2015	2,472.00	22.10	46.00	IncAzi-MWD	Cathedral
1/26/2015	2,536.00	21.40	45.50	IncAzi-MWD	Cathedral
1/26/2015	2,599.00	21.20	44.70	IncAzi-MWD	Cathedral
1/26/2015	2,663.00	21.40	43.20	IncAzi-MWD	Cathedral
1/27/2015	2,727.00	21.40	42.60	IncAzi-MWD	Cathedral
1/27/2015	2,791.00	22.20	42.90	IncAzi-MWD	Cathedral
1/27/2015	2,855.00	21.20	43.00	IncAzi-MWD	Cathedral
1/27/2015	2,919.00	19.80	41.50	IncAzi-MWD	Cathedral
1/27/2015	2,982.00	18.80	41.00	IncAzi-MWD	Cathedral
1/27/2015	3,046.00	17.10	38.80	IncAzi-MWD	Cathedral
1/27/2015	3,110.00	16.40	38.90	IncAzi-MWD	Cathedral

I, the undersigned, certify that I acting in my capacity as _____ for ConocoPhillips Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.

Subscribed and sworn to me this _____

Notary Public in and for San Juan County, New Mexico

My Commission expires _____

COP Deviation Report

COOPER #3P



Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	Method	Survey Company
1/27/2015	3,174.00	17.20	40.30	IncAzi-MWD	Cathedral
1/27/2015	3,237.00	17.30	40.30	IncAzi-MWD	Cathedral
1/27/2015	3,301.00	16.80	39.60	IncAzi-MWD	Cathedral
1/27/2015	3,365.00	17.30	41.80	IncAzi-MWD	Cathedral
1/27/2015	3,429.00	17.00	44.70	IncAzi-MWD	Cathedral
1/27/2015	3,493.00	14.60	49.50	IncAzi-MWD	Cathedral
1/27/2015	3,557.00	12.10	50.50	IncAzi-MWD	Cathedral
1/27/2015	3,620.00	9.70	49.70	IncAzi-MWD	Cathedral
1/27/2015	3,684.00	8.40	54.90	IncAzi-MWD	Cathedral
1/27/2015	3,748.00	6.60	55.10	IncAzi-MWD	Cathedral
1/27/2015	3,812.00	4.30	57.00	IncAzi-MWD	Cathedral
1/27/2015	3,876.00	1.30	69.90	IncAzi-MWD	Cathedral
1/27/2015	3,939.00	0.50	325.70	IncAzi-MWD	Cathedral
1/27/2015	3,993.00	0.50	349.30	IncAzi-MWD	Cathedral
1/27/2015	4,045.00	0.50	349.30	Projection	Cathedral
2/1/2015	6,753.00	1.10		Inc-Drop	Aztec Well Servicing Co Inc

I, the undersigned, certify that I acting in my capacity as DRILLING ENGINEER for ConocoPhillips Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.

Subscribed and sworn to me this FEBRUARY 17, 2015

DUGLE L. BLISE

Notary Public in and for San Juan County, New Mexico

My Commission expires AUGUST 6, 2018

REFERENCE INFORMATION

WELL @ 5773.0usft (Original Well Elev)
Ground Elevation 5758.0
Reference Lat: 36° 45' 1.824 N
Reference Long: 108° 2' 7.899 W

Project: San Juan Basin - New Mexico West V
Other Named Wells
Well: Cooper #3P
APD Plan



SECTION DETAILS

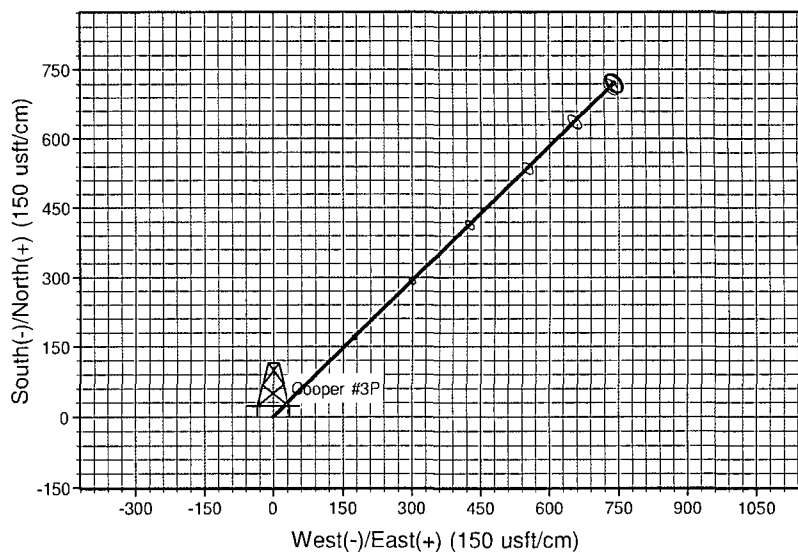
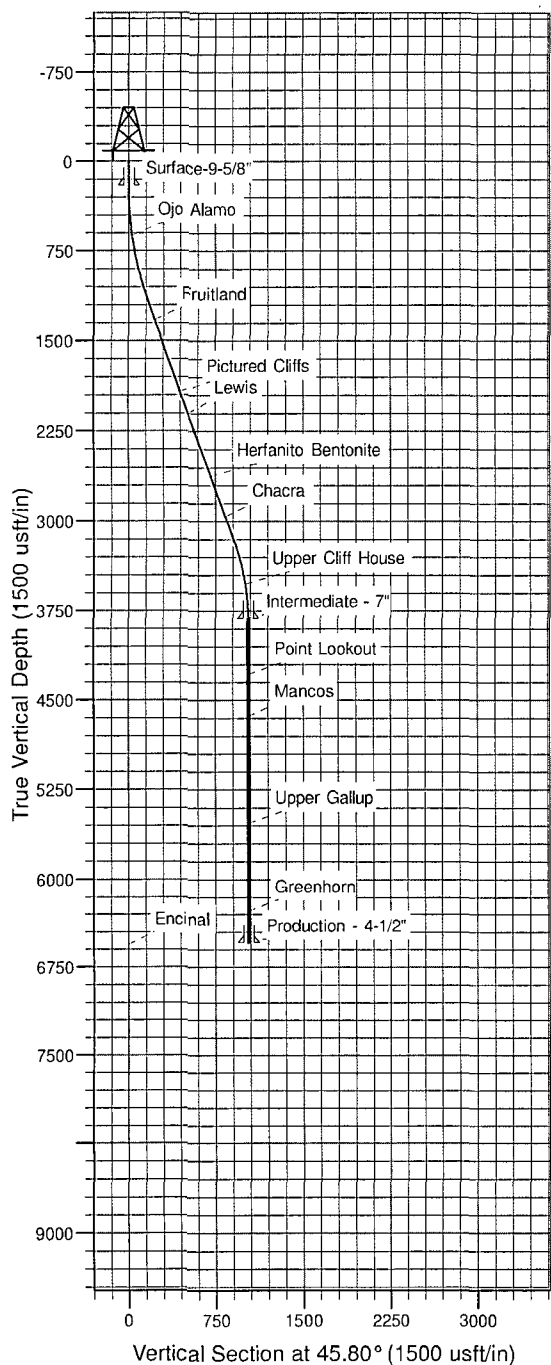
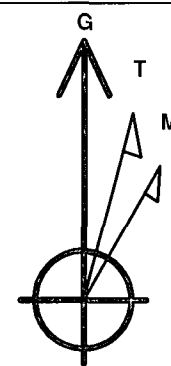
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1225.0	20.50	45.80	1203.3	126.5	130.1	2.00	45.80	181.4	
4	3313.9	20.50	45.80	3159.9	636.5	654.6	0.00	0.00	913.0	
5	3997.3	0.00	0.00	3828.8	720.8	741.3	3.00	180.00	1033.9	
6	6708.5	0.00	0.00	6540.0	720.8	741.3	0.00	0.00	1033.9	Cooper #3P BHL

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
0.0	0.0	Nacimiento
621.0	622.5	Ojo Alamo
729.0	732.1	Kirtland
1328.0	1358.2	Fruitland
1925.0	1995.5	Pictured Cliffs
2102.0	2184.5	Lewis
2623.0	2740.7	Herfanito Bentonite
2962.0	3102.6	Chacra
3525.0	3692.2	Upper Cliff House
3617.0	3785.1	Massive Cliff House
3664.0	3832.3	Menefee
4285.0	4453.5	Point Lookout
4640.0	4808.5	Mancos
5532.0	5700.5	Upper Gallup
6276.0	6444.5	Greenhorn
6326.0	6494.5	Graneros
6360.0	6528.5	Two Wells
6456.0	6624.5	Paguate
6510.0	6678.5	Cubero

Azimuths to Grid North
True North: 0.12°
Magnetic North: 9.84°

Magnetic Field
Strength: 50322.8snT
Dip Angle: 63.37°
Date: 7/9/2014
Model: BGGM2014



ConocoPhillips SJB

San Juan Basin - New Mexico West Wells

Other Named Wells

Cooper #3P

Wellbore #1

Plan: APD Plan

Standard Planning Report

09 July, 2014

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Cooper #3P
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 5773.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 5773.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Cooper #3P	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD Plan		

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:	2,108,178.26 usft
From:	Lat/Long	Easting:	643,887.63 usft
Position Uncertainty:	15.0 usft	Slot Radius:	6-1/8"
		Latitude:	36° 47' 33.793 N
		Longitude:	107° 20' 30.932 W
		Grid Convergence:	0.29 °

Well	Cooper #3P		
Well Position	+N/-S	0.0 usft	Northing: 2,092,503.52 usft
	+E/-W	0.0 usft	Easting: 440,763.86 usft
Position Uncertainty	2.5 usft	Wellhead Elevation:	usft
		Latitude:	36° 45' 1.824 N
		Longitude:	108° 2' 7.899 W
		Ground Level:	5,758.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	BGGM2014	7/9/2014	(°) 9.71
			Dip Angle
			(°) 63.37
			Field Strength
			(nT) 50,323

Design	APD Plan		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°) 45.80

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,225.0	20.50	45.80	1,203.3	126.5	130.1	2.00	2.00	0.00	45.80	
3,313.9	20.50	45.80	3,159.9	636.5	654.6	0.00	0.00	0.00	0.00	
3,997.3	0.00	0.00	3,828.8	720.8	741.3	3.00	-3.00	0.00	180.00	
6,708.5	0.00	0.00	6,540.0	720.8	741.3	0.00	0.00	0.00	0.00	Cooper #3P BHL

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Cooper #3P
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 5773.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 5773.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Cooper #3P	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD Plan		

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
Nacimiento									
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
Surface 9-5/8"									
300.0	2.00	45.80	300.0	1.2	1.3	1.7	2.00	2.00	0.00
400.0	4.00	45.80	399.8	4.9	5.0	7.0	2.00	2.00	0.00
500.0	6.00	45.80	499.5	10.9	11.3	15.7	2.00	2.00	0.00
600.0	8.00	45.80	598.7	19.4	20.0	27.9	2.00	2.00	0.00
622.5	8.45	45.80	621.0	21.7	22.3	31.1	2.00	2.00	0.00
Ojo Alamo									
700.0	10.00	45.80	697.5	30.3	31.2	43.5	2.00	2.00	0.00
732.1	10.64	45.80	729.0	34.3	35.3	49.3	2.00	2.00	0.00
Kirtland									
800.0	12.00	45.80	795.6	43.6	44.9	62.6	2.00	2.00	0.00
900.0	14.00	45.80	893.1	59.3	61.0	85.1	2.00	2.00	0.00
1,000.0	16.00	45.80	989.6	77.4	79.6	111.0	2.00	2.00	0.00
1,100.0	18.00	45.80	1,085.3	97.7	100.5	140.2	2.00	2.00	0.00
1,200.0	20.00	45.80	1,179.8	120.4	123.9	172.8	2.00	2.00	0.00
1,225.0	20.50	45.80	1,203.3	126.5	130.1	181.4	2.00	2.00	0.00
1,300.0	20.50	45.80	1,273.5	144.8	148.9	207.7	0.00	0.00	0.00
1,358.2	20.50	45.80	1,328.0	159.0	163.5	228.1	0.00	0.00	0.00
Fruitland									
1,400.0	20.50	45.80	1,367.2	169.2	174.0	242.7	0.00	0.00	0.00
1,500.0	20.50	45.80	1,460.9	193.6	199.1	277.7	0.00	0.00	0.00
1,600.0	20.50	45.80	1,554.5	218.0	224.2	312.7	0.00	0.00	0.00
1,700.0	20.50	45.80	1,648.2	242.4	249.3	347.8	0.00	0.00	0.00
1,800.0	20.50	45.80	1,741.9	266.8	274.4	382.8	0.00	0.00	0.00
1,900.0	20.50	45.80	1,835.5	291.3	299.6	417.8	0.00	0.00	0.00
1,995.5	20.50	45.80	1,925.0	314.6	323.5	451.3	0.00	0.00	0.00
Pictured Cliffs									
2,000.0	20.50	45.80	1,929.2	315.7	324.7	452.8	0.00	0.00	0.00
2,100.0	20.50	45.80	2,022.9	340.1	349.8	487.9	0.00	0.00	0.00
2,184.5	20.50	45.80	2,102.0	360.7	371.0	517.4	0.00	0.00	0.00
Lewis									
2,200.0	20.50	45.80	2,116.5	364.5	374.9	522.9	0.00	0.00	0.00
2,300.0	20.50	45.80	2,210.2	388.9	400.0	557.9	0.00	0.00	0.00
2,400.0	20.50	45.80	2,303.9	413.3	425.1	592.9	0.00	0.00	0.00
2,500.0	20.50	45.80	2,397.5	437.7	450.2	627.9	0.00	0.00	0.00
2,600.0	20.50	45.80	2,491.2	462.2	475.3	663.0	0.00	0.00	0.00
2,700.0	20.50	45.80	2,584.9	486.6	500.4	698.0	0.00	0.00	0.00
2,740.7	20.50	45.80	2,623.0	496.5	510.6	712.2	0.00	0.00	0.00
Herranito Bentonite									
2,800.0	20.50	45.80	2,678.5	511.0	525.5	733.0	0.00	0.00	0.00
2,900.0	20.50	45.80	2,772.2	535.4	550.6	768.0	0.00	0.00	0.00
3,000.0	20.50	45.80	2,865.9	559.8	575.7	803.0	0.00	0.00	0.00
3,100.0	20.50	45.80	2,959.5	584.2	600.9	838.1	0.00	0.00	0.00
3,102.6	20.50	45.80	2,962.0	584.9	601.5	839.0	0.00	0.00	0.00
Chacra									
3,200.0	20.50	45.80	3,053.2	608.6	626.0	873.1	0.00	0.00	0.00
3,300.0	20.50	45.80	3,146.9	633.1	651.1	908.1	0.00	0.00	0.00
3,313.9	20.50	45.80	3,159.9	636.5	654.6	913.0	0.00	0.00	0.00
3,400.0	17.92	45.80	3,241.2	656.2	674.9	941.3	3.00	-3.00	0.00

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Cooper #3P
Company:	ConocoPhillips SJBU	TVD Reference:	WELL @ 5773.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 5773.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Cooper #3P	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD Plan		

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)	
3,500.0	14.92	45.80	3,337.1	675.9	695.1	969.6	3.00	-3.00	0.00	
3,600.0	11.92	45.80	3,434.4	692.1	711.8	992.8	3.00	-3.00	0.00	
3,692.2	9.15	45.80	3,525.0	703.8	723.9	1,009.6	3.00	-3.00	0.00	
Upper Cliff House										
3,700.0	8.92	45.80	3,532.7	704.7	724.7	1,010.8	3.00	-3.00	0.00	
3,785.1	6.37	45.80	3,617.0	712.6	732.8	1,022.2	3.00	-3.00	0.00	
Massive Cliff House										
3,800.0	5.92	45.80	3,631.8	713.7	734.0	1,023.8	3.00	-3.00	0.00	
3,832.3	4.95	45.80	3,664.0	715.8	736.2	1,026.8	3.00	-3.00	0.00	
Menefee										
3,900.0	2.92	45.80	3,731.5	719.0	739.5	1,031.5	3.00	-3.00	0.00	
3,982.5	0.44	45.80	3,814.0	720.7	741.2	1,033.9	3.00	-3.00	0.00	
Intermediate 7										
3,997.3	0.00	0.00	3,828.8	720.8	741.3	1,033.9	3.00	-3.00	0.00	
4,000.0	0.00	0.00	3,831.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
4,100.0	0.00	0.00	3,931.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
4,200.0	0.00	0.00	4,031.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
4,300.0	0.00	0.00	4,131.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
4,400.0	0.00	0.00	4,231.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
4,453.5	0.00	0.00	4,285.0	720.8	741.3	1,033.9	0.00	0.00	0.00	
Point Lookout										
4,500.0	0.00	0.00	4,331.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
4,600.0	0.00	0.00	4,431.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
4,700.0	0.00	0.00	4,531.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,631.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
4,808.5	0.00	0.00	4,640.0	720.8	741.3	1,033.9	0.00	0.00	0.00	
Mancos										
4,900.0	0.00	0.00	4,731.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
5,000.0	0.00	0.00	4,831.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
5,100.0	0.00	0.00	4,931.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,031.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,131.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,231.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,331.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,431.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,531.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
5,700.5	0.00	0.00	5,532.0	720.8	741.3	1,033.9	0.00	0.00	0.00	
Upper Gallup										
5,800.0	0.00	0.00	5,631.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,731.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,831.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
6,100.0	0.00	0.00	5,931.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,031.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,131.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,231.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
6,444.5	0.00	0.00	6,276.0	720.8	741.3	1,033.9	0.00	0.00	0.00	
Greenhorn										
6,494.5	0.00	0.00	6,326.0	720.8	741.3	1,033.9	0.00	0.00	0.00	
Graneros										
6,500.0	0.00	0.00	6,331.5	720.8	741.3	1,033.9	0.00	0.00	0.00	
6,528.5	0.00	0.00	6,360.0	720.8	741.3	1,033.9	0.00	0.00	0.00	
Two Wells										

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Cooper #3P
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 5773.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 5773.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Cooper #3P	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD Plan		

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)
6,600.0	0.00	0.00	6,431.5	720.8	741.3	1,033.9	0.00	0.00	0.00
6,624.5	0.00	0.00	6,456.0	720.8	741.3	1,033.9	0.00	0.00	0.00
Paguate									
6,678.5	0.00	0.00	6,510.0	720.8	741.3	1,033.9	0.00	0.00	0.00
Cubero									
6,708.5	0.00	0.00	6,540.0	720.8	741.3	1,033.9	0.00	0.00	0.00

Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	
Shape									Latitude Longitude
Cooper #3P BHL		0.00	0.00	6,540.0	720.8	741.3	2,093,224.23	441,505.08	36° 45' 8.966 N 108° 1' 58.809 W
- plan hits target center									
- Point									

Casing Points							
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")		
200.0	200.0	Surface-9-5/8"		9-5/8	12-1/4		
6,708.5	6,540.0	Production - 4-1/2"		4-1/2	6-1/4		
3,982.5	3,814.0	Intermediate - 7"		7	8-3/4		

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Cooper #3P
Company:	ConocoPhillips SJB	TVD Reference:	WELL @ 5773.0usft (Original Well Elev)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	WELL @ 5773.0usft (Original Well Elev)
Site:	Other Named Wells	North Reference:	Grid
Well:	Cooper #3P	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD Plan		

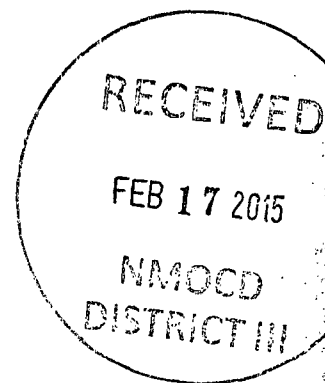
Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,808.5	4,640.0	Mancos		0.00		
2,184.5	2,102.0	Lewis		0.00		
6,678.5	6,510.0	Cubero		0.00		
0.0	0.0	Nacimiento		0.00		
6,528.5	6,360.0	Two Wells		0.00		
6,494.5	6,326.0	Graneros		0.00		
1,995.5	1,925.0	Pictured Cliffs		0.00		
622.5	621.0	Ojo Alamo		0.00		
3,692.2	3,525.0	Upper Cliff House		0.00		
3,102.6	2,962.0	Chacra		0.00		
2,740.7	2,623.0	Herfanito Bentonite		0.00		
6,444.5	6,276.0	Greenhorn		0.00		
1,358.2	1,328.0	Fruitland		0.00		
732.1	729.0	Kirtland		0.00		
3,832.3	3,664.0	Menefee		0.00		
4,453.5	4,285.0	Point Lookout		0.00		
6,624.5	6,456.0	Paguate		0.00		
5,700.5	5,532.0	Upper Gallup		0.00		
3,785.1	3,617.0	Massive Cliff House		0.00		

San Juan Basin
Sec6-T29N-R11W
Cooper #3P
BHA #1

NPI # 3004535585

Cathedral Energy Services Ltd.
Survey Report

17 February 2015



Cathedral Energy Services Ltd.

Survey Report



Database:	Example Projects Database	Local Coordinate Reference:	Sec6-T29N-R11W
Company:		TVD Reference:	Cooper #3P
Project:	San Juan Basin	MD Reference:	Cooper #3P
Site:	Sec6-T29N-R11W	North reference:	True North
Well:	Cooper #3P	Survey Calculation Method:	Minimum Curvature
Wellbore:			
Design:	BHA #1		

Project:	San Juan Basin		
Map System:	NAD83 New Mexico State Planes	System Datum:	Mean Sea Level
Geo Datum:	NAD 1983		
Map Zone:	Western Zone		

Site:	Sec6-T29N-R11W		
Site Position:		Northing:	+2092564.70
From:	Map	Easting:	+2663857.09
Position Uncertainty:	0.00ft	Slot Radius:	0in
		Latitude:	36.75050700° N
		Longitude:	108.03552700° W
		Grid Convergence:	-0.12°

Well:	Cooper #3P		
Well Position:	+N/-S	0.00ft	Northing:
	+E/-W	0.00ft	Easting:
Position Uncertainty:	1.25ft	Wellhead Elevation:	5775.00ft
		Latitude:	36.75050700° N
		Longitude:	108.03552700° W
		Ground Level:	5758.00ft

Wellbore:	
-----------	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/24/2015	9.57	63.34	50352.1

Design:	BHA #1		
Audit Notes:			
Version:		Phase:	Tie On Depth: 0.00ft

Vertical Section:	Depth from TVD (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	45.68

Survey Program	From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
	0.00	4045.00	BHA #1	ISCWSA New MWD	ISCWSA New MWD

Survey Measured Depth (ft)	Incl. (°)	Az. (°)	Vertical Depth (ft)	Sub Sea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Closure Distance (ft)	Closure Azimuth (°)	Closure Dogleg Rate (°/100ft)	Comments/ Formations
0.00	0.00	0.00	0.00	-5775.00	0.00	0.00	0.00	0.00	0.00	0.000	ISCWSA New MWD
273.00	0.40	170.00	273.00	-5502.00	-0.94	0.17	-0.54	0.95	170.00	0.147	
303.00	0.30	158.80	303.00	-5472.00	-1.11	0.21	-0.63	1.13	169.23	0.402	
333.00	0.50	73.80	333.00	-5442.00	-1.15	0.37	-0.54	1.21	162.36	1.867	
364.00	1.40	62.00	363.99	-5411.01	-0.94	0.83	-0.06	1.25	138.42	2.956	
395.00	2.00	51.90	394.98	-5380.02	-0.42	1.59	0.84	1.65	104.94	2.156	
426.00	2.50	46.80	425.95	-5349.05	0.37	2.51	2.06	2.54	81.56	1.736	
457.00	3.10	48.20	456.92	-5318.08	1.39	3.63	3.57	3.89	68.98	1.948	
487.00	4.00	44.10	486.86	-5288.14	2.69	4.96	5.42	5.64	61.56	3.115	
518.00	4.50	41.80	517.77	-5257.23	4.37	6.52	7.72	7.85	56.19	1.704	
549.00	5.40	41.70	548.66	-5226.34	6.36	8.30	10.39	10.46	52.53	2.903	
579.00	6.10	41.00	578.51	-5196.49	8.62	10.29	13.38	13.42	50.04	2.345	
610.00	6.90	41.50	609.31	-5165.69	11.26	12.60	16.88	16.90	48.22	2.587	
640.00	7.60	38.80	639.07	-5135.93	14.16	15.04	20.65	20.65	46.74	2.594	
670.00	8.40	38.90	668.78	-5106.22	17.41	17.66	24.80	24.80	45.41	2.667	

Cathedral Energy Services Ltd.

Survey Report



CATHEDRAL

Database:	Example Projects Database	Local Coordinate Reference:	Sec6-T29N-R11W
Company:		TVD Reference:	Cooper #3P
Project:	San Juan Basin	MD Reference:	Cooper #3P
Site:	Sec6-T29N-R11W	North reference:	True North
Well:	Cooper #3P	Survey Calculation Method:	Minimum Curvature
Wellbore:			
Design:	BHA #1		

Survey											
Measured Depth (ft)	Incl (°)	Az (°)	Vertical Depth (ft)	Sub Sea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Closure Distance (ft)	Closure Azimuth (°)	Dogleg Rate (°/100ft)	Comments/ Formations
701.00	9.10	38.60	699.41	-5075.59	21.08	20.61	29.48	29.49	44.35	2.263	
732.00	10.20	40.60	729.98	-5045.02	25.08	23.93	34.64	34.67	43.65	3.709	
762.00	10.80	43.70	759.47	-5015.53	29.13	27.60	40.10	40.13	43.45	2.746	
793.00	11.70	45.70	789.88	-4985.12	33.43	31.85	46.15	46.17	43.62	3.164	
824.00	12.70	46.30	820.18	-4954.82	37.98	36.57	52.70	52.72	43.91	3.252	
855.00	13.20	47.20	850.39	-4924.61	42.74	41.63	59.64	59.66	44.25	1.739	
885.00	13.90	46.30	879.55	-4895.45	47.55	46.75	66.67	66.68	44.51	2.437	
916.00	14.40	45.80	909.61	-4865.39	52.81	52.20	74.25	74.26	44.67	1.660	
947.00	15.00	45.40	939.60	-4835.40	58.32	57.82	82.11	82.12	44.75	1.963	
977.00	15.70	46.10	968.53	-4806.47	63.86	63.51	90.05	90.06	44.84	2.414	
1008.00	16.40	47.10	998.32	-4776.68	69.75	69.74	98.62	98.63	45.00	2.428	
1072.00	17.90	48.10	1059.47	-4715.53	82.47	83.68	117.48	117.48	45.42	2.389	
1136.00	18.80	47.60	1120.22	-4654.78	95.99	98.61	137.62	137.62	45.77	1.428	
1199.00	19.00	46.90	1179.82	-4595.18	109.84	113.60	158.02	158.02	45.96	0.480	
1263.00	20.00	47.20	1240.15	-4534.85	124.40	129.24	179.37	179.38	46.09	1.570	
1326.00	20.30	47.10	1299.29	-4475.71	139.16	145.15	201.07	201.08	46.21	0.479	
1390.00	19.80	46.80	1359.41	-4415.59	154.13	161.18	223.00	223.02	46.28	0.798	
1454.00	20.50	47.20	1419.50	-4355.50	169.17	177.31	245.05	245.06	46.35	1.115	
1518.00	21.80	47.40	1479.18	-4295.82	184.83	194.28	268.13	268.15	46.43	2.034	
1582.00	21.40	46.60	1538.69	-4236.31	200.89	211.51	291.68	291.71	46.47	0.776	
1646.00	21.70	45.30	1598.22	-4176.78	217.24	228.40	315.19	315.21	46.44	0.881	
1710.00	21.30	44.60	1657.76	-4117.24	233.84	244.97	338.64	338.66	46.33	0.742	
1773.00	22.00	44.40	1716.32	-4058.68	250.42	261.27	361.88	361.89	46.21	1.117	
1836.00	21.60	43.50	1774.81	-4000.19	267.26	277.50	385.26	385.27	46.08	0.827	
1900.00	21.00	45.00	1834.44	-3940.56	283.91	293.72	408.50	408.51	45.97	1.266	
1963.00	21.00	47.30	1893.26	-3881.74	299.55	310.00	431.07	431.08	45.98	1.308	
2026.00	22.10	48.20	1951.85	-3823.15	315.11	327.13	454.20	454.21	46.07	1.823	
2090.00	22.50	47.40	2011.07	-3763.93	331.42	345.12	478.47	478.48	46.16	0.785	
2154.00	22.50	47.50	2070.19	-3704.81	347.98	363.16	502.95	502.97	46.22	0.060	
2218.00	21.70	46.50	2129.49	-3645.51	364.40	380.77	527.02	527.04	46.26	1.381	
2281.00	20.50	45.80	2188.27	-3586.73	380.11	397.13	549.70	549.72	46.25	1.946	
2345.00	21.00	46.10	2248.12	-3526.88	395.87	413.43	572.37	572.40	46.24	0.799	
2409.00	21.70	46.60	2307.72	-3467.28	411.95	430.29	595.67	595.70	46.25	1.130	
2472.00	22.10	46.00	2366.18	-3408.82	428.19	447.28	619.16	619.20	46.25	0.728	
2536.00	21.40	45.50	2425.62	-3349.38	444.74	464.27	642.88	642.91	46.23	1.131	
2599.00	21.20	44.70	2484.32	-3290.68	460.89	480.48	665.76	665.79	46.19	0.560	
2663.00	21.40	43.20	2543.95	-3231.05	477.63	496.61	689.00	689.02	46.12	0.907	
2727.00	21.40	42.60	2603.53	-3171.47	494.73	512.51	712.32	712.34	46.01	0.342	
2791.00	22.20	42.90	2662.96	-3112.04	512.18	528.64	736.06	736.07	45.91	1.262	
2855.00	21.20	43.00	2722.42	-3052.58	529.50	544.76	759.70	759.70	45.81	1.564	
2919.00	19.80	41.50	2782.37	-2992.63	546.09	559.84	782.07	782.07	45.71	2.336	
2982.00	18.80	41.00	2841.82	-2933.18	561.74	573.57	802.83	802.83	45.60	1.609	
3046.00	17.10	38.80	2902.71	-2872.29	576.86	586.23	822.45	822.45	45.46	2.859	
3110.00	16.40	38.90	2963.99	-2811.01	591.22	597.80	840.76	840.78	45.32	1.095	
3174.00	17.20	40.30	3025.26	-2749.74	605.47	609.59	859.16	859.19	45.19	1.401	
3237.00	17.30	40.30	3085.43	-2689.57	619.72	621.68	877.76	877.80	45.09	0.159	
3301.00	16.80	39.60	3146.61	-2628.39	634.10	633.73	896.43	896.49	44.98	0.844	
3365.00	17.30	41.80	3207.80	-2567.20	648.32	645.97	915.12	915.20	44.90	1.275	
3429.00	17.00	44.70	3268.96	-2506.04	662.07	658.89	933.97	934.06	44.86	1.416	
3493.00	14.60	49.50	3330.54	-2444.46	673.96	671.61	951.37	951.46	44.90	4.267	

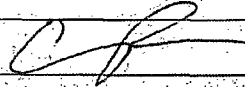
Cathedral Energy Services Ltd.

Survey Report



Database:	Example Projects Database	Local Coordinate Reference:	Sec6-T29N-R11W
Company:		TVD Reference:	Cooper #3P
Project:	San Juan Basin	MD Reference:	Cooper #3P
Site:	Sec6-T29N-R11W	North reference:	True North
Well:	Cooper #3P	Survey Calculation Method:	Minimum Curvature
Wellbore:			
Design:	BHA #1		

Survey Measured Depth (ft)	Incl (°)	Az. (°)	Vertical Depth (ft)	Sub Sea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Closure Distance (ft)	Closure Azimuth (°)	Dogleg Rate (°/100ft)	Comments/ Formations
3557.00	12.10	50.50	3392.80	-2382.20	683.47	682.92	966.11	966.18	44.98	3.923	
3620.00	9.70	49.70	3454.66	-2320.34	691.10	692.06	977.98	978.04	45.04	3.817	
3684.00	8.40	54.90	3517.86	-2257.14	697.28	700.00	987.98	988.03	45.11	2.398	
3748.00	6.60	55.10	3581.31	-2193.69	702.07	706.84	996.22	996.26	45.19	2.813	
3812.00	4.30	57.00	3645.02	-2129.98	705.48	711.87	1002.20	1002.23	45.26	3.604	
3876.00	1.30	69.90	3708.94	-2066.06	707.04	714.57	1005.22	1005.24	45.30	4.760	
3939.00	0.50	325.70	3771.93	-2003.07	707.51	715.08	1005.92	1005.94	45.30	2.386	
3993.00	0.50	349.30	3825.93	-1949.07	707.94	714.91	1006.09	1006.11	45.28	0.379	
4045.00	0.50	349.30	3877.93	-1897.07	708.38	714.82	1006.34	1006.37	45.26	0.000	

Checked By: 	Approved By:	Date:
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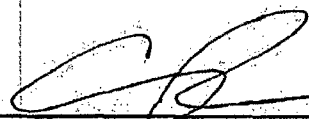
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AFFIRMATION

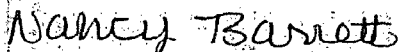
(Applicant must sign in front of a notary public)


Gavin Rathjen
Official Signature of Applicant

2-17-15

Date

Subscribed and sworn to or affirmed before me this 17th day of
February, 2015, in the county of Denver,
State of Colorado.


Nancy Barrett
Signature of Notary Public

9-18-16
Commission Expiration Date

NANCY BARRETT
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19994011053
My Commission Expires September 18, 2016