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COP Deviation Report
SAN JUAN 29-7 UNIT #93C

RCVD JUN 10 '13
OIL CONS. DIV.
DIST. 3

Operator BURLINGTON RESOURCES OIL & GAS COMPANY LP	Legal WellName SAN JUAN 29-7 UNIT #93C	API / UWI 3003931161	County RIO ARRIBA	State/Province NEW MEXICO
Surface Legal Location 002-029N-007W-J	N/S Dist (ft) 2,636.00	N/S Ref FSL	E/W Dist (ft) 2,206.00	E/W Ref FEL

Survey Data					
Date	MD (ftKB)	Incl. (°)	Azm. (°)	Method	Survey Company
3/12/2013	133.00	1.25		Inc-Drop	Mo Te Drilling Inc
3/12/2013	228.00	0.75		Inc-Drop	Mo Te Drilling Inc
3/19/2013	268.00	0.14	188.15	IncAzi-MWD	Scientific Drilling
3/19/2013	330.00	0.48	282.96	IncAzi-MWD	Scientific Drilling
3/19/2013	392.00	1.67	271.48	IncAzi-MWD	Scientific Drilling
3/19/2013	454.00	3.07	289.95	IncAzi-MWD	Scientific Drilling
3/19/2013	515.00	4.30	294.62	IncAzi-MWD	Scientific Drilling
3/19/2013	576.00	5.16	297.00	IncAzi-MWD	Scientific Drilling
3/19/2013	638.00	5.99	296.23	IncAzi-MWD	Scientific Drilling
3/19/2013	701.00	7.45	296.38	IncAzi-MWD	Scientific Drilling
3/19/2013	762.00	8.82	301.06	IncAzi-MWD	Scientific Drilling
3/19/2013	823.00	10.55	301.44	IncAzi-MWD	Scientific Drilling
3/19/2013	886.00	12.21	300.60	IncAzi-MWD	Scientific Drilling
3/19/2013	949.00	13.39	301.04	IncAzi-MWD	Scientific Drilling
3/19/2013	1,012.00	15.41	300.23	IncAzi-MWD	Scientific Drilling
3/19/2013	1,074.00	16.90	300.20	IncAzi-MWD	Scientific Drilling
3/19/2013	1,137.00	18.48	301.53	IncAzi-MWD	Scientific Drilling
3/19/2013	1,200.00	19.80	301.59	IncAzi-MWD	Scientific Drilling
3/19/2013	1,263.00	21.49	302.80	IncAzi-MWD	Scientific Drilling
3/19/2013	1,327.00	22.59	302.51	IncAzi-MWD	Scientific Drilling
3/19/2013	1,390.00	23.16	303.19	IncAzi-MWD	Scientific Drilling
3/19/2013	1,452.00	23.34	302.77	IncAzi-MWD	Scientific Drilling
3/19/2013	1,516.00	23.72	302.47	IncAzi-MWD	Scientific Drilling
3/19/2013	1,579.00	24.16	303.21	IncAzi-MWD	Scientific Drilling
3/19/2013	1,642.00	24.37	302.25	IncAzi-MWD	Scientific Drilling
3/19/2013	1,705.00	24.27	301.59	IncAzi-MWD	Scientific Drilling
3/19/2013	1,768.00	24.21	299.37	IncAzi-MWD	Scientific Drilling
3/19/2013	1,831.00	23.37	298.55	IncAzi-MWD	Scientific Drilling
3/19/2013	1,895.00	23.50	299.27	IncAzi-MWD	Scientific Drilling
3/19/2013	1,958.00	23.56	297.99	IncAzi-MWD	Scientific Drilling
3/19/2013	2,021.00	22.71	298.65	IncAzi-MWD	Scientific Drilling
3/19/2013	2,085.00	21.40	298.30	IncAzi-MWD	Scientific Drilling
3/19/2013	2,148.00	21.01	297.78	IncAzi-MWD	Scientific Drilling
3/19/2013	2,211.00	21.05	297.87	IncAzi-MWD	Scientific Drilling
3/19/2013	2,274.00	21.63	297.37	IncAzi-MWD	Scientific Drilling

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 _____

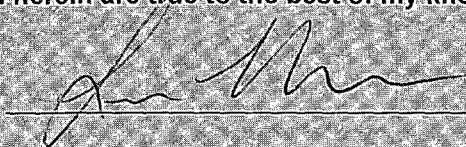
Notary Public in and for San Juan County, New Mexico

My Commission expires _____

COP Deviation Report
SAN JUAN 29-7 UNIT #93C

Survey Data						
Date	MD. (ftKB)	Incl. (°)	Azm. (°)	Method	Survey Company	
3/19/2013	2,338.00	21.03	297.27	IncAzi-MWD	Scientific Drilling	
3/19/2013	2,401.00	19.64	296.64	IncAzi-MWD	Scientific Drilling	
3/19/2013	2,464.00	19.87	296.85	IncAzi-MWD	Scientific Drilling	
3/19/2013	2,528.00	19.86	296.59	IncAzi-MWD	Scientific Drilling	
3/19/2013	2,591.00	19.17	295.77	IncAzi-MWD	Scientific Drilling	
3/19/2013	2,654.00	18.78	295.81	IncAzi-MWD	Scientific Drilling	
3/19/2013	2,718.00	18.45	295.37	IncAzi-MWD	Scientific Drilling	
3/19/2013	2,781.00	19.14	294.91	IncAzi-MWD	Scientific Drilling	
3/19/2013	2,844.00	19.09	293.52	IncAzi-MWD	Scientific Drilling	
3/20/2013	2,908.00	19.82	293.58	IncAzi-MWD	Scientific Drilling	
3/20/2013	2,971.00	21.18	295.09	IncAzi-MWD	Scientific Drilling	
3/20/2013	3,034.00	21.85	295.08	IncAzi-MWD	Scientific Drilling	
3/20/2013	3,097.00	21.42	294.80	IncAzi-MWD	Scientific Drilling	
3/20/2013	3,223.00	22.07	294.65	IncAzi-MWD	Scientific Drilling	
3/20/2013	3,286.00	22.35	295.06	IncAzi-MWD	Scientific Drilling	
3/20/2013	3,349.00	22.63	294.85	IncAzi-MWD	Scientific Drilling	
3/20/2013	3,413.00	23.47	296.49	IncAzi-MWD	Scientific Drilling	
3/20/2013	3,476.00	24.20	298.20	IncAzi-MWD	Scientific Drilling	
3/20/2013	3,539.00	24.16	299.79	IncAzi-MWD	Scientific Drilling	
3/20/2013	3,602.00	23.62	299.45	IncAzi-MWD	Scientific Drilling	
3/21/2013	3,664.00	22.71	299.05	IncAzi-MWD	Scientific Drilling	
3/21/2013	3,728.00	21.68	298.89	IncAzi-MWD	Scientific Drilling	
3/21/2013	3,791.00	20.74	298.43	IncAzi-MWD	Scientific Drilling	
3/21/2013	3,855.00	19.25	297.70	IncAzi-MWD	Scientific Drilling	
3/26/2013	3,918.00	17.99	297.93	IncAzi-MWD	Scientific Drilling	
3/26/2013	3,982.00	18.30	297.15	IncAzi-MWD	Scientific Drilling	
3/26/2013	4,045.00	18.28	295.85	IncAzi-MWD	Scientific Drilling	
3/29/2013	4,108.00	17.85	296.23	IncAzi-MWD	Scientific Drilling	
3/29/2013	4,172.00	16.00	294.61	IncAzi-MWD	Scientific Drilling	
3/29/2013	4,235.00	14.33	293.28	IncAzi-MWD	Scientific Drilling	
3/29/2013	4,298.00	12.11	291.24	IncAzi-MWD	Scientific Drilling	
3/29/2013	4,362.00	10.44	287.13	IncAzi-MWD	Scientific Drilling	
3/29/2013	4,425.00	8.83	285.53	IncAzi-MWD	Scientific Drilling	
3/29/2013	4,489.00	7.54	282.28	IncAzi-MWD	Scientific Drilling	
3/29/2013	4,552.00	6.28	278.80	IncAzi-MWD	Scientific Drilling	
3/29/2013	4,615.00	5.17	278.17	IncAzi-MWD	Scientific Drilling	
3/29/2013	4,678.00	3.24	283.23	IncAzi-MWD	Scientific Drilling	
3/29/2013	4,733.00	2.15	282.90	Projection	Scientific Drilling	

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 4-10-13



Notary Public in and for San Juan County, New Mexico

My Commission expires 5/26/15



RCVD JUN 10 '13
OIL CONS. DIV.
DIST. 3

ConocoPhillips

SJB (NM Central)
SEC 02-T29N-R7W
San Juan 29-7 Unit 93C

OH 30-039-31161

Design: OH

Standard Survey Report

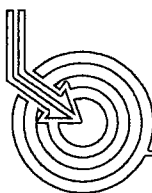
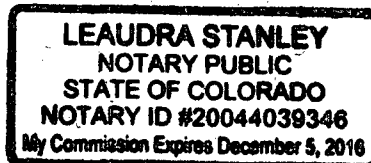
4 April, 2013

This survey is correct to the best of my knowledge and is supported by actual field data.

Notarized this date 4th of April, 2013.

Leaudra Stanley

Notary Signature
County of Mesa
State of Colorado



Scientific Drilling



Project: SJB (NM Central)
Site: SEC 02-T29N-7W
Well: San Juan 29-7 Unit 93C
Wellbore: OH
Design: OH



Scientific Drilling

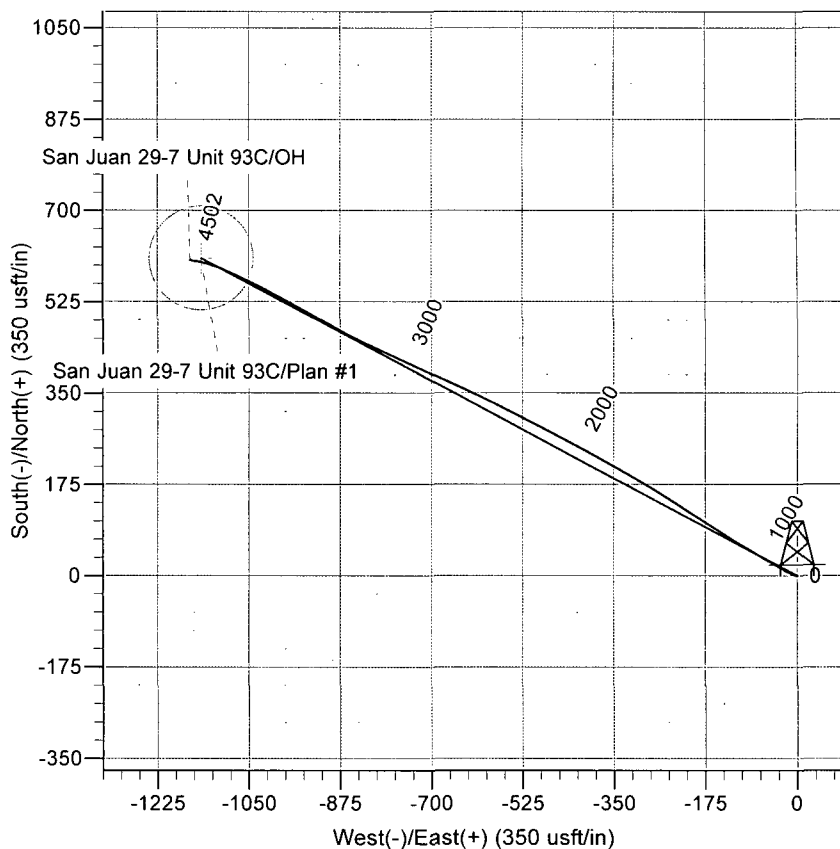
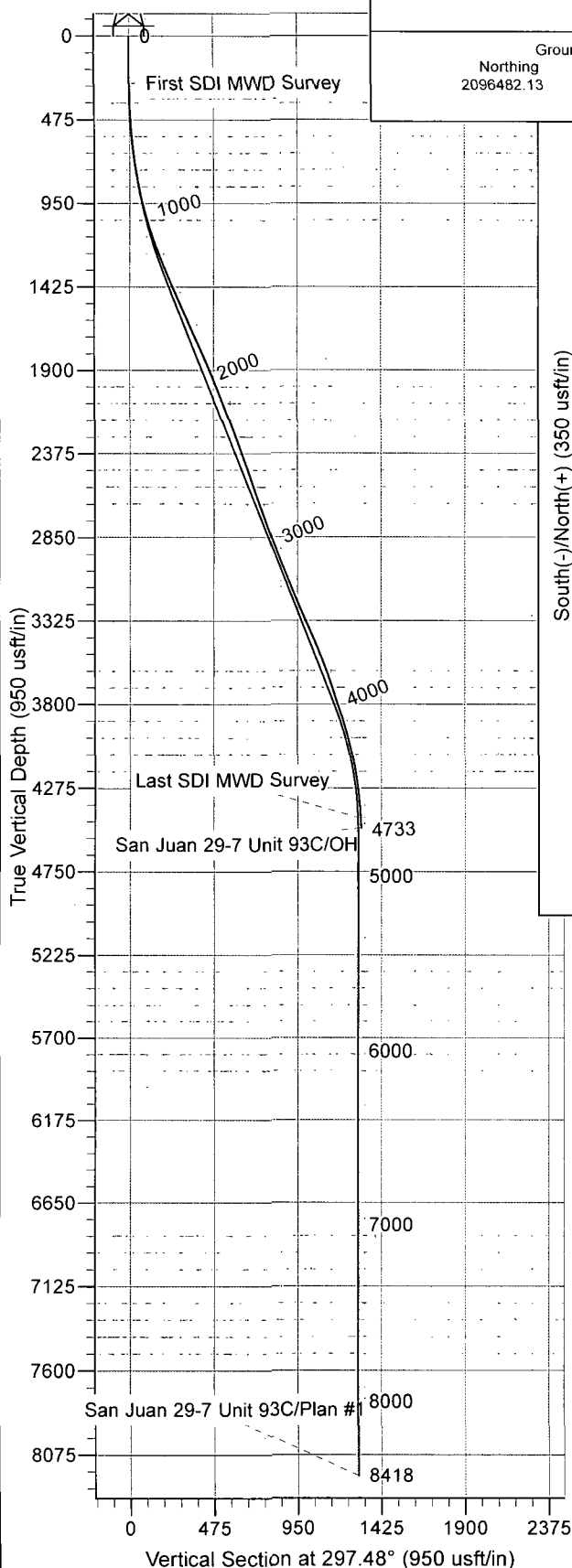
WELL DETAILS: San Juan 29-7 Unit 93C

Ground Level: GL 6832' & RKB 15' @ 6847.0usft (AWS 711)
Northing 2096482.13 Easting 122618.54 Latitude 36° 45' 17.025 N Longitude 107° 32' 17.518 W



Azimuths to True North
Magnetic North: 9.63°

Magnetic Field
Strength: 50531.8snT
Dip Angle: 63.46°
Date: 3/12/2013
Model: BGGM2012



REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well San Juan 29-7 Unit 93C, True North
Vertical (TVD) Reference: GL 6832' & RKB 15' @ 6847.0usft (AWS 711)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: GL 6832' & RKB 15' @ 6847.0usft (AWS 711)
Calculation Method: Minimum Curvature
Local North: True

PROJECT DETAILS: SJB (NM Central)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico Central 3002

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well San Juan 29-7 Unit 93C
Project:	SJB (NM Central)	TVD Reference:	GL 6832' & RKB 15' @ 6847.0usft (AWS 711)
Site:	SEC 02-T29N-7W	MD Reference:	GL 6832' & RKB 15' @ 6847.0usft (AWS 711)
Well:	San Juan 29-7 Unit 93C	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Farmington District

Project	SJB (NM Central), New Mexico, S-Type MV/DK Wells		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		Using Well Reference Point
Map Zone:	New Mexico Central 3002		Using geodetic scale factor

Site	SEC 02-T29N-7W
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Site Position:	Lat/Long	Northing:	2,096,482.12 usft	Latitude:	36° 45' 17.025 N
From:		Easting:	122,618.55 usft	Longitude:	107° 32' 17.518 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.77 °

Well	San Juan 29-7 Unit 93C
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Well Position	+N/-S	0.0 usft	Northing:	2,096,482.12 usft	Latitude:	36° 45' 17.025 N
	+E/-W	0.0 usft	Easting:	122,618.55 usft	Longitude:	107° 32' 17.518 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	6,832.0 usft

Wellbore	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	3/12/2013	9.63	63.46	50,532

Design	OH
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Audit Notes:		Phase:	ACTUAL	Tie On Depth:	0.0
Version:	1.0				

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	297.48

Survey Program	Date	From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
	4/4/2013	268.0	4,733.0	Survey #1 - MWD Survey (OH)	MWD SDI	MWD - Standard ver 1.0.1

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
	268.0	0.14	188.15	268.0	-0.3	0.0	-0.1	0.05	0.05	0.00
	330.0	0.48	282.96	330.0	-0.3	-0.3	0.1	0.82	0.55	152.92
	392.0	1.67	271.48	392.0	-0.3	-1.5	1.2	1.94	1.92	-18.52
	454.0	3.07	289.95	453.9	0.3	-3.9	3.6	2.54	2.26	29.79
	515.0	4.30	294.62	514.8	1.8	-7.5	7.5	2.07	2.02	7.66
	576.0	5.16	297.00	575.6	4.0	-12.1	12.6	1.45	1.41	3.90
	638.0	5.99	296.23	637.3	6.7	-17.5	18.6	1.34	1.34	-1.24
	701.0	7.45	296.38	699.9	10.0	-24.1	26.0	2.32	2.32	0.24
	762.0	8.82	301.06	760.3	14.2	-31.6	34.6	2.49	2.25	7.67

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well San Juan 29-7 Unit 93C
Project:	SJB (NM Central)	TVD Reference:	GL 6832' & RKB 15' @ 6847.0usft (AWS 711)
Site:	SEC 02-T29N-7W	MD Reference:	GL 6832' & RKB 15' @ 6847.0usft (AWS 711)
Well:	San Juan 29-7 Unit 93C	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Farmington District

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)
823.0	10.55	301.44	820.4	19.5	-40.4	44.8	2.84	2.84	0.62
886.0	12.21	300.60	882.1	25.9	-51.0	57.2	2.65	2.63	-1.33
949.0	13.39	301.04	943.6	33.1	-63.0	71.2	1.88	1.87	0.70
1,012.0	15.41	300.23	1,004.6	41.0	-76.5	86.8	3.22	3.21	-1.29
1,074.0	16.90	300.20	1,064.1	49.7	-91.4	104.0	2.40	2.40	-0.05
1,137.0	18.48	301.53	1,124.2	59.5	-107.8	123.1	2.59	2.51	2.11
1,200.0	19.80	301.59	1,183.7	70.3	-125.4	143.7	2.10	2.10	0.10
1,263.0	21.49	302.80	1,242.6	82.2	-144.2	165.9	2.77	2.68	1.92
1,327.0	22.59	302.51	1,302.0	95.1	-164.5	189.8	1.73	1.72	-0.45
1,390.0	23.16	303.19	1,360.0	108.4	-185.0	214.2	1.00	0.90	1.08
1,452.0	23.34	302.77	1,417.0	121.8	-205.6	238.5	0.39	0.29	-0.68
1,516.0	23.72	302.47	1,475.6	135.5	-227.1	264.0	0.62	0.59	-0.47
1,579.0	24.16	303.21	1,533.2	149.4	-248.6	289.4	0.85	0.70	1.17
1,642.0	24.37	302.35	1,590.7	163.4	-270.3	315.2	0.65	0.33	-1.37
1,705.0	24.27	301.59	1,648.1	177.1	-292.3	341.1	0.52	-0.16	-1.21
1,768.0	24.21	299.37	1,705.5	190.3	-314.6	366.9	1.45	-0.10	-3.52
1,831.0	23.37	298.55	1,763.2	202.6	-336.8	392.3	1.43	-1.33	-1.30
1,895.0	23.50	299.27	1,821.9	214.9	-359.1	417.8	0.49	0.20	1.13
1,958.0	23.56	297.99	1,879.6	226.9	-381.2	442.9	0.82	0.10	-2.03
2,021.0	22.71	298.65	1,937.6	238.7	-403.0	467.7	1.41	-1.35	1.05
2,085.0	21.40	298.30	1,996.9	250.1	-424.1	491.7	2.06	-2.05	-0.55
2,148.0	21.01	297.78	2,055.6	260.8	-444.2	514.5	0.69	-0.62	-0.83
2,211.0	21.05	297.87	2,114.4	271.4	-464.2	537.1	0.08	0.06	0.14
2,274.0	21.63	297.37	2,173.1	282.0	-484.5	560.0	0.96	0.92	-0.79
2,338.0	21.03	297.27	2,232.7	292.7	-505.2	583.3	0.94	-0.94	-0.16
2,401.0	19.64	296.64	2,291.8	302.6	-524.7	605.2	2.23	-2.21	-1.00
2,464.0	19.87	296.85	2,351.1	312.2	-543.7	626.5	0.38	0.37	0.33
2,528.0	19.86	296.89	2,411.3	322.0	-563.1	648.2	0.03	-0.02	0.06
2,591.0	19.17	295.77	2,470.7	331.4	-582.0	669.3	1.25	-1.10	-1.78
2,654.0	18.78	295.81	2,530.2	340.3	-600.5	689.7	0.62	-0.62	0.06
2,718.0	18.45	295.37	2,590.9	349.1	-618.9	710.1	0.56	-0.52	-0.69
2,781.0	19.14	294.91	2,650.5	357.7	-637.3	730.4	1.12	1.10	-0.73
2,844.0	19.09	293.52	2,710.1	366.2	-656.1	751.0	0.73	-0.08	-2.21
2,908.0	19.82	293.58	2,770.4	374.7	-675.6	772.3	1.14	1.14	0.09
2,971.0	21.18	295.09	2,829.4	383.8	-695.7	794.3	2.32	2.16	2.40
3,034.0	21.85	295.08	2,888.0	393.6	-716.6	817.4	1.06	1.06	-0.02
3,097.0	21.42	294.80	2,946.6	403.4	-737.7	840.6	0.70	-0.68	-0.44
3,160.0	21.23	294.43	3,005.3	412.9	-758.5	863.5	0.37	-0.30	-0.59
3,223.0	22.07	294.65	3,063.8	422.6	-779.7	886.7	1.34	1.33	0.35
3,286.0	22.35	295.06	3,122.2	432.6	-801.3	910.5	0.51	0.44	0.65
3,349.0	22.63	294.85	3,180.4	442.8	-823.1	934.6	0.46	0.44	-0.33
3,413.0	23.47	296.49	3,239.3	453.6	-845.7	959.6	1.65	1.31	2.56
3,476.0	24.20	298.20	3,296.9	465.3	-868.3	985.1	1.60	1.16	2.71
3,539.0	24.16	299.79	3,354.4	477.8	-890.9	1,010.9	1.04	-0.06	2.52

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well San Juan 29-7 Unit 93C
Project:	SJB (NM Central)	TVD Reference:	GL 6832' & RKB 15' @ 6847.0usft (AWS 711)
Site:	SEC 02-T29N-7W	MD Reference:	GL 6832' & RKB 15' @ 6847.0usft (AWS 711)
Well:	San Juan 29-7 Unit 93C	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Farmington District

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)
3,602.0	23.62	299.45	3,412.0	490.5	-913.1	1,036.4	0.88	-0.86	-0.54
3,664.0	22.71	299.05	3,469.0	502.4	-934.3	1,060.7	1.49	-1.47	-0.65
3,728.0	21.68	298.89	3,528.2	514.1	-955.5	1,084.9	1.61	-1.61	-0.25
3,791.0	20.74	298.43	3,586.9	525.0	-975.5	1,107.7	1.52	-1.49	-0.73
3,855.0	19.25	297.70	3,647.1	535.3	-994.8	1,129.6	2.36	-2.33	-1.14
3,918.0	17.99	297.93	3,706.8	544.7	-1,012.6	1,149.7	2.00	-2.00	0.37
3,982.0	18.30	297.15	3,767.6	553.9	-1,030.3	1,169.6	0.62	0.48	-1.22
4,045.0	18.28	295.85	3,827.4	562.7	-1,047.9	1,189.4	0.65	-0.03	-2.06
4,108.0	17.85	296.23	3,887.3	571.3	-1,065.5	1,208.9	0.71	-0.68	0.60
4,172.0	16.00	294.61	3,948.5	579.3	-1,082.3	1,227.5	2.98	-2.89	-2.53
4,235.0	14.33	293.28	4,009.3	586.0	-1,097.4	1,244.0	2.71	-2.65	-2.11
4,298.0	12.11	291.24	4,070.7	591.5	-1,110.7	1,258.3	3.60	-3.52	-3.24
4,362.0	10.44	287.13	4,133.4	595.6	-1,122.5	1,270.7	2.89	-2.61	-6.42
4,425.0	8.83	285.53	4,195.5	598.6	-1,132.6	1,281.0	2.59	-2.56	-2.54
4,489.0	7.54	282.28	4,258.9	600.8	-1,141.5	1,289.9	2.14	-2.02	-5.08
4,552.0	6.28	278.80	4,321.4	602.2	-1,148.9	1,297.2	2.11	-2.00	-5.52
4,615.0	5.17	278.17	4,384.1	603.2	-1,155.1	1,303.1	1.76	-1.76	-1.00
4,678.0	3.24	283.23	4,446.9	604.0	-1,159.7	1,307.5	3.12	-3.06	8.03
4,733.0	2.15	282.90	4,501.9	604.6	-1,162.2	1,310.0	1.98	-1.98	-0.60

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
268.0	268.0	-0.3	0.0	First SDI MWD Survey
4,678.0	4,446.9	604.0	-1,159.7	Last SDI MWD Survey

Checked By: _____	Approved By: _____	Date: _____
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