

Results of Directional Survey

DD

API number:	30-025-40597		
OGRID:		Operator:	COG OPERATING LLC
		Property:	SC FEDERAL # 10

surface	ULSTR:	O	22	T 17S	R 32E
				1005 FSL	1880 FEL

BH Loc	ULSTR:	O	22	T 17S	R 32E
7102	MD	7082.7	TVD	1045 FSL	2303 FEL

Top Perf/OH	ULSTR:	O	22	T 17S	R 32E
5595	MD	5580.3	TVD	1035 FSL	2187 FEL

Bot Perf/OH	ULSTR:	O	22	T 17S	R 32E
6797	MD	6778.5	TVD	1042 FSL	2280 FEL

	MD	N/S	E/W	VD
	5551.00	29.51	-303.36	5536.41
TOP PERFS/OH	5595.00	29.64	-306.81	5580.28
	5641.00	29.78	-310.42	5626.14
	6717.00	36.63	-393.12	6695.92
BOT PERFS/OH	6797.00	37.30	-399.51	6778.46
	6803.00	37.35	-399.99	6784.65

NEXT TO LAST	7041.00	39.16	-418.44	7021.92
LAST READING	7102.00	39.53	-423.10	7082.74
TD	7102.00	39.53	-423.10	7082.74

Surface Location	1005	FS	1880	FE
Projected BHL	1045	FS	2303	FE
Location of				
Top Perfs/OH	1035	FS	2187	FE
Bottom Perfs/OH	1042	FS	2280	FE

SUMMARY of Subsurface Locations

Surface Location	O-22-17S-32E	1005	FS	1880	FE	Vert. Depth
Top Perfs/OH	O-22-17S-32E	1035	FS	2187	FE	5580.28
Bottom Perfs/OH	O-22-17S-32E	1042	FS	2280	FE	6778.46
Projected TD	O-22-17S-32E	1045	FS	2303	FE	7082.74

DEC 03 2014



HOBBS OCD

NOV 21 2014

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1407 Northpark Dr.
Kingwood, TX 77339
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BlueStar MWD, LP performed a MWD survey for ConocoPhillips' SC Federal 10, located in Lea County, NM. The API number is: 30-025-40597. The surveys were taken from 995 MD to 7041 MD and ranged over the dates from 17-Apr-14 to 22-Apr-14 and are certified as being true and correct.

A handwritten signature in cursive script, appearing to read "Greg Nazzal".

Certification by Greg Nazzal
President

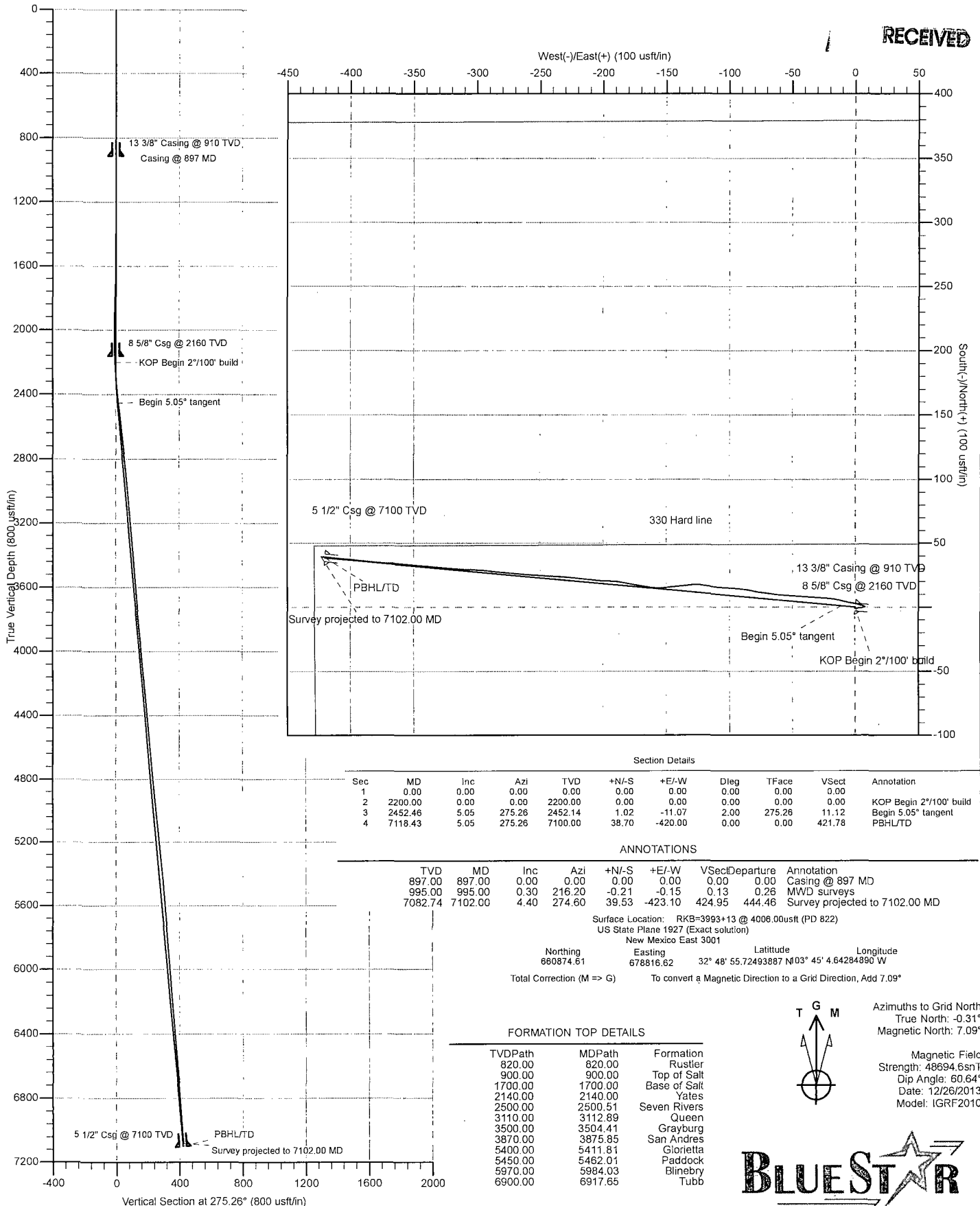


Well: SC Federal 10
Site: SC Federal
Project: Lea County, New Mexico
Design: rev0
Rig: PD 822

HOBBS OCT

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ConocoPhillips

Lea County, New Mexico

SC Federal

SC Federal 10

Original Hole

Design: Surveys Original Hole

Standard Survey Report

29 April, 2014



Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal 10
Project:	Lea County, New Mexico	TVD Reference:	RKB=3993+13 @ 4006.00usft (PD 822)
Site:	SC Federal	MD Reference:	RKB=3993+13 @ 4006.00usft (PD 822)
Well:	SC Federal 10	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	EDM 5000.1 Ddatabase

Project	Lea County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	SC Federal		
Site Position:		Northing:	661,068.40 usft
From:	Map	Easting:	679,895.30 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 48' 57.58353609 N
		Longitude:	103° 44' 51.99096534 W
		Grid Convergence:	0.32 °

Well	SC Federal 10		
Well Position	+N/-S	0.00 usft	Northing: 660,874.61 usft
	+E/-W	0.00 usft	Easting: 678,816.62 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 48' 55.72493887 N
		Longitude:	103° 45' 4.64284890 W
		Ground Level:	3,993.00 usft

Wellbore	Original Hole		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	12/26/2013	7.40
			Dip Angle (°) 60.64
			Field Strength (nT) 48,695

Design	Surveys Original Hole		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°) 275.26

Survey Program	Date 4/29/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
897.00	7,102.00	MWD (Original Hole)	MWD
			Description MWD - Standard

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
897.00	0.00	0.00	897.00	0.00	0.00	0.00	0.00	0.00	0.00
Casing @ 897 MD									
995.00	0.30	216.20	995.00	-0.21	-0.15	0.13	0.31	0.31	0.00
MWD surveys									
1,084.00	0.30	174.90	1,084.00	-0.63	-0.27	0.21	0.24	0.00	-46.40
1,174.00	0.30	239.70	1,174.00	-0.98	-0.45	0.36	0.36	0.00	72.00
1,263.00	0.30	85.20	1,263.00	-1.08	-0.42	0.32	0.66	0.00	-173.60
1,353.00	0.20	42.20	1,353.00	-0.94	-0.08	-0.01	0.23	-0.11	-47.78
1,442.00	0.30	93.20	1,442.00	-0.84	0.26	-0.33	0.26	0.11	57.30

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal 10
Project:	Lea County, New Mexico	TVD Reference:	RKB=3993+13 @ 4006.00usft (PD 822)
Site:	SC Federal	MD Reference:	RKB=3993+13 @ 4006.00usft (PD 822)
Well:	SC Federal 10	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	EDM 5000.1 Ddatabase

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)
1,532.00	0.40	78.60	1,531.99	-0.79	0.80	-0.87	0.15	0.11	-16.22
1,621.00	0.60	80.20	1,620.99	-0.65	1.56	-1.62	0.23	0.22	1.80
1,710.00	0.90	96.20	1,709.98	-0.65	2.72	-2.77	0.41	0.34	17.98
1,800.00	1.10	78.40	1,799.97	-0.55	4.27	-4.30	0.41	0.22	-19.78
1,889.00	1.50	73.30	1,888.95	-0.04	6.22	-6.20	0.47	0.45	-5.73
1,979.00	0.40	72.60	1,978.93	0.39	7.65	-7.58	1.22	-1.22	-0.78
2,068.00	0.90	290.50	2,067.93	0.73	7.29	-7.19	1.39	0.56	-159.66
2,157.00	1.90	284.60	2,156.90	1.34	5.21	-5.06	1.13	1.12	-6.63
2,247.00	3.40	284.40	2,246.80	2.38	1.18	-0.95	1.67	1.67	-0.22
2,336.00	4.90	279.00	2,335.57	3.63	-5.13	5.44	1.74	1.69	-6.07
2,425.00	5.50	286.40	2,424.20	5.43	-12.98	13.42	1.01	0.67	8.31
2,514.00	6.60	273.60	2,512.71	6.96	-22.18	22.72	1.95	1.24	-14.38
2,693.00	6.50	274.10	2,690.54	8.33	-42.55	43.13	0.06	-0.06	0.28
2,871.00	5.50	275.00	2,867.56	9.79	-61.10	61.74	0.56	-0.56	0.51
3,050.00	5.20	279.80	3,045.78	11.92	-77.63	78.40	0.30	-0.17	2.68
3,139.00	5.00	282.00	3,134.43	13.41	-85.40	86.27	0.31	-0.22	2.47
3,228.00	5.30	274.20	3,223.07	14.52	-93.30	94.23	0.86	0.34	-8.76
3,317.00	4.90	273.50	3,311.72	15.05	-101.19	102.14	0.45	-0.45	-0.79
3,407.00	4.70	276.20	3,401.41	15.69	-108.69	109.67	0.34	-0.22	3.00
3,496.00	4.60	276.90	3,490.11	16.51	-115.86	116.88	0.13	-0.11	0.79
3,586.00	4.60	279.40	3,579.82	17.53	-123.00	124.09	0.22	0.00	2.78
3,675.00	4.80	261.90	3,668.53	17.59	-130.21	131.27	1.62	0.22	-19.66
3,765.00	5.10	263.80	3,758.19	16.63	-137.92	138.86	0.38	0.33	2.11
3,854.00	5.10	265.80	3,846.84	15.91	-145.79	146.64	0.20	0.00	2.25
3,944.00	5.10	263.90	3,936.48	15.19	-153.76	154.51	0.19	0.00	-2.11
4,033.00	5.10	279.10	4,025.14	15.40	-161.60	162.33	1.51	0.00	17.08
4,122.00	5.30	279.60	4,113.77	16.71	-169.56	170.38	0.23	0.22	0.56
4,212.00	5.10	278.90	4,203.40	18.02	-177.61	178.51	0.23	-0.22	-0.78
4,301.00	5.70	282.00	4,292.00	19.55	-185.84	186.85	0.75	0.67	3.48
4,391.00	5.30	270.30	4,381.59	20.50	-194.37	195.43	1.32	-0.44	-13.00
4,480.00	5.20	274.50	4,470.22	20.84	-202.50	203.56	0.45	-0.11	4.72
4,570.00	5.30	276.40	4,559.84	21.63	-210.70	211.79	0.22	0.11	2.11
4,659.00	5.20	276.60	4,648.47	22.55	-218.79	219.93	0.11	-0.11	0.22
4,748.00	5.40	275.50	4,737.09	23.41	-226.96	228.15	0.25	0.22	-1.24
4,837.00	5.40	273.00	4,825.69	24.03	-235.31	236.53	0.26	0.00	-2.81
4,926.00	5.60	273.00	4,914.28	24.48	-243.83	245.05	0.22	0.22	0.00
5,016.00	5.70	275.10	5,003.85	25.11	-252.67	253.91	0.26	0.11	2.33
5,105.00	5.70	273.90	5,092.41	25.80	-261.48	262.75	0.13	0.00	-1.35
5,194.00	5.50	274.90	5,180.98	26.46	-270.14	271.43	0.25	-0.22	1.12
5,283.00	5.60	275.20	5,269.56	27.22	-278.71	280.04	0.12	0.11	0.34
5,373.00	5.40	275.20	5,359.15	28.00	-287.31	288.66	0.22	-0.22	0.00
5,462.00	5.50	276.60	5,447.75	28.87	-295.71	297.11	0.19	0.11	1.57
5,551.00	4.40	272.50	5,536.41	29.51	-303.36	304.79	1.30	-1.24	-4.61

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal 10
Project:	Lea County, New Mexico	TVD Reference:	RKB=3993+13 @ 4006.00usft (PD 822)
Site:	SC Federal	MD Reference:	RKB=3993+13 @ 4006.00usft (PD 822)
Well:	SC Federal 10	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	EDM 5000.1 Ddatabase

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)
5,641.00	4.60	271.80	5,626.14	29.78	-310.42	311.84	0.23	0.22	-0.78
5,731.00	4.40	274.50	5,715.86	30.16	-317.47	318.89	0.32	-0.22	3.00
5,820.00	4.40	274.10	5,804.60	30.67	-324.27	325.72	0.03	0.00	-0.45
5,909.00	4.60	276.80	5,893.32	31.34	-331.22	332.70	0.33	0.22	3.03
5,999.00	4.50	273.80	5,983.04	32.00	-338.33	339.84	0.29	-0.11	-3.33
6,088.00	4.70	275.20	6,071.75	32.56	-345.45	346.98	0.26	0.22	1.57
6,177.00	4.60	276.60	6,160.46	33.30	-352.62	354.19	0.17	-0.11	1.57
6,267.00	4.50	275.90	6,250.18	34.08	-359.72	361.33	0.13	-0.11	-0.78
6,356.00	4.10	271.50	6,338.92	34.52	-366.37	367.99	0.58	-0.45	-4.94
6,445.00	4.10	272.30	6,427.70	34.73	-372.73	374.35	0.06	0.00	0.90
6,535.00	4.30	276.10	6,517.46	35.22	-379.30	380.93	0.38	0.22	4.22
6,624.00	4.50	275.80	6,606.19	35.93	-386.09	387.76	0.23	0.22	-0.34
6,714.00	4.50	275.50	6,695.92	36.63	-393.12	394.82	0.03	0.00	-0.33
6,803.00	4.40	276.60	6,784.65	37.35	-399.99	401.73	0.15	-0.11	1.24
6,892.00	4.50	274.50	6,873.38	38.02	-406.86	408.63	0.21	0.11	-2.36
6,982.00	4.50	276.70	6,963.10	38.71	-413.88	415.69	0.19	0.00	2.44
7,041.00	4.40	274.60	7,021.92	39.16	-418.44	420.27	0.32	-0.17	-3.56
7,102.00	4.40	274.60	7,082.74	39.53	-423.10	424.95	0.00	0.00	0.00

Survey projected to 7102.00 MD

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
897.00	897.00	0.00	0.00	Casing @ 897 MD
995.00	995.00	-0.21	-0.15	MWD surveys
7,102.00	7,082.74	39.53	-423.10	Survey projected to 7102.00 MD

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal 10
Project:	Lea County, New Mexico	TVD Reference:	RKB=3993+13 @ 4006.00usft (PD 822)
Site:	SC Federal	MD Reference:	RKB=3993+13 @ 4006.00usft (PD 822)
Well:	SC Federal 10	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	EDM 5000.1 Ddatabase

Project	Lea County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	SC Federal		
Site Position:	Map	Northing:	661,068.40 usft
From:		Easting:	679,895.30 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 48' 57.58353609 N
		Longitude:	103° 44' 51.99096534 W
		Grid Convergence:	0.32 °

Well	SC Federal 10		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 48' 55.72493887 N
		Longitude:	103° 45' 4.64284890 W
		Ground Level:	3,993.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	12/26/2013	7.40	60.64	48,695

Design	Surveys Original Hole			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth:
				0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	275.26

Survey Program	Date 4/29/2014			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
897.00	7,102.00	MWD (Original Hole)	MWD	MWD - Standard

Survey									
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Map Northing	Map Easting	Latitude	Longitude
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
0.00	0.00	0.00	0.00	0.00	0.00	660,874.61	678,816.62	2° 48' 55.72493887 N	103° 45' 4.64284890 W
897.00	0.00	0.00	897.00	0.00	0.00	660,874.61	678,816.62	2° 48' 55.72493887 N	103° 45' 4.64284890 W
Casing @ 897 MD									
995.00	0.30	216.20	995.00	-0.21	-0.15	660,874.41	678,816.46	2° 48' 55.72289852 N	103° 45' 4.64463776 W
MWD surveys									
1,084.00	0.30	174.90	1,084.00	-0.63	-0.27	660,873.99	678,816.35	2° 48' 55.71874802 N	103° 45' 4.64603461 W
1,174.00	0.30	239.70	1,174.00	-0.98	-0.45	660,873.63	678,816.16	2° 48' 55.71525949 N	103° 45' 4.64819570 W
1,263.00	0.30	85.20	1,263.00	-1.08	-0.42	660,873.54	678,816.20	2° 48' 55.71428751 N	103° 45' 4.64783864 W
1,353.00	0.20	42.20	1,353.00	-0.94	-0.08	660,873.67	678,816.54	2° 48' 55.71561549 N	103° 45' 4.64384237 W
1,442.00	0.30	93.20	1,442.00	-0.84	0.26	660,873.77	678,816.87	2° 48' 55.71660706 N	103° 45' 4.63988728 W
1,532.00	0.40	78.60	1,531.99	-0.79	0.80	660,873.82	678,817.42	2° 48' 55.71706176 N	103° 45' 4.63351912 W
1,621.00	0.60	80.20	1,620.99	-0.65	1.56	660,873.96	678,818.18	2° 48' 55.71841259 N	103° 45' 4.62456109 W

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal 10
Project:	Lea County, New Mexico	TVD Reference:	RKB=3993+13 @ 4006.00usft (PD 822)
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Well:	SC Federal 10	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	EDM 5000.1 Ddatabase

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
1,710.00	0.90	96.20	1,709.98	-0.65	2.72	660,873.97	678,819.33	2° 48' 55.71838759 N	103° 45' 4.61103798 W	
1,800.00	1.10	78.40	1,799.97	-0.55	4.27	660,874.07	678,820.88	2° 48' 55.71926669 N	103° 45' 4.59288216 W	
1,889.00	1.50	73.30	1,888.95	-0.04	6.22	660,874.57	678,822.84	2° 48' 55.72417229 N	103° 45' 4.56997024 W	
1,979.00	0.40	72.60	1,978.93	0.39	7.65	660,875.00	678,824.26	2° 48' 55.72837364 N	103° 45' 4.55320869 W	
2,068.00	0.90	290.50	2,067.93	0.73	7.29	660,875.34	678,823.90	2° 48' 55.73173469 N	103° 45' 4.55738495 W	
2,157.00	1.90	284.60	2,156.90	1.34	5.21	660,875.96	678,821.82	2° 48' 55.73795041 N	103° 45' 4.58174696 W	
2,247.00	3.40	284.40	2,246.80	2.38	1.18	660,877.00	678,817.79	2° 48' 55.74845907 N	103° 45' 4.62888897 W	
2,336.00	4.90	279.00	2,335.57	3.63	-5.13	660,878.25	678,811.48	2° 48' 55.76118159 N	103° 45' 4.70275508 W	
2,425.00	5.50	286.40	2,424.20	5.43	-12.98	660,880.05	678,803.64	2° 48' 55.77940876 N	103° 45' 4.79457392 W	
2,514.00	6.60	273.60	2,512.71	6.96	-22.18	660,881.57	678,794.44	2° 48' 55.79500440 N	103° 45' 4.90223939 W	
2,693.00	6.50	274.10	2,690.54	8.33	-42.55	660,882.94	678,774.07	2° 48' 55.80967312 N	103° 45' 5.14086169 W	
2,871.00	5.50	275.00	2,867.56	9.79	-61.10	660,884.41	678,755.52	2° 48' 55.82516785 N	103° 45' 5.35809664 W	
3,050.00	5.20	279.80	3,045.78	11.92	-77.63	660,886.54	678,738.98	2° 48' 55.84712814 N	103° 45' 5.55175246 W	
3,139.00	5.00	282.00	3,134.43	13.41	-85.40	660,888.03	678,731.21	2° 48' 55.86232281 N	103° 45' 5.64267680 W	
3,228.00	5.30	274.20	3,223.07	14.52	-93.30	660,889.14	678,723.32	2° 48' 55.87371056 N	103° 45' 5.73509366 W	
3,317.00	4.90	273.50	3,311.72	15.05	-101.19	660,889.67	678,715.43	2° 48' 55.87941528 N	103° 45' 5.82754993 W	
3,407.00	4.70	276.20	3,401.41	15.69	-108.69	660,890.30	678,707.92	2° 48' 55.88608600 N	103° 45' 5.91541625 W	
3,496.00	4.60	276.90	3,490.11	16.51	-115.86	660,891.12	678,700.76	2° 48' 55.89461526 N	103° 45' 5.99935284 W	
3,586.00	4.60	279.40	3,579.82	17.53	-123.00	660,892.15	678,693.61	2° 48' 55.90512671 N	103° 45' 6.08298789 W	
3,675.00	4.80	261.90	3,668.53	17.59	-130.21	660,892.21	678,686.40	2° 48' 55.90609517 N	103° 45' 6.16744108 W	
3,765.00	5.10	263.80	3,758.19	16.63	-137.92	660,891.24	678,678.70	2° 48' 55.89689892 N	103° 45' 6.25778338 W	
3,854.00	5.10	265.80	3,846.84	15.91	-145.79	660,890.53	678,670.82	2° 48' 55.89032457 N	103° 45' 6.35013734 W	
3,944.00	5.10	263.90	3,936.48	15.19	-153.76	660,889.81	678,662.85	2° 48' 55.88365314 N	103° 45' 6.44353727 W	
4,033.00	5.10	279.10	4,025.14	15.40	-161.60	660,890.01	678,655.02	2° 48' 55.88611119 N	103° 45' 6.53538569 W	
4,122.00	5.30	279.60	4,113.77	16.71	-169.56	660,891.33	678,647.06	2° 48' 55.89951804 N	103° 45' 6.62855928 W	
4,212.00	5.10	278.90	4,203.40	18.02	-177.61	660,892.64	678,639.01	2° 48' 55.91293917 N	103° 45' 6.72280626 W	
4,301.00	5.70	282.00	4,292.00	19.55	-185.84	660,894.17	678,630.77	2° 48' 55.92853561 N	103° 45' 6.81915827 W	
4,391.00	5.30	270.30	4,381.59	20.50	-194.37	660,895.12	678,622.25	2° 48' 55.93841016 N	103° 45' 6.91903052 W	
4,480.00	5.20	274.50	4,470.22	20.84	-202.50	660,895.46	678,614.11	2° 48' 55.94219673 N	103° 45' 7.01428506 W	
4,570.00	5.30	276.40	4,559.84	21.63	-210.70	660,896.24	678,605.92	2° 48' 55.95039377 N	103° 45' 7.11027827 W	
4,659.00	5.20	276.60	4,648.47	22.55	-218.79	660,897.16	678,597.83	2° 48' 55.95995469 N	103° 45' 7.20502782 W	
4,748.00	5.40	275.50	4,737.09	23.41	-226.96	660,898.03	678,589.65	2° 48' 55.96895805 N	103° 45' 7.30076149 W	
4,837.00	5.40	273.00	4,825.69	24.03	-235.31	660,898.65	678,581.30	2° 48' 55.97555276 N	103° 45' 7.39856920 W	
4,926.00	5.60	273.00	4,914.28	24.48	-243.83	660,899.09	678,572.78	2° 48' 55.98043369 N	103° 45' 7.49835599 W	
5,016.00	5.70	275.10	5,003.85	25.11	-252.67	660,899.72	678,563.95	2° 48' 55.98711977 N	103° 45' 7.60186130 W	
5,105.00	5.70	273.90	5,092.41	25.80	-261.48	660,900.41	678,555.13	2° 48' 55.99446123 N	103° 45' 7.70506717 W	
5,194.00	5.50	274.90	5,180.98	26.46	-270.14	660,901.08	678,546.47	2° 48' 56.00151163 N	103° 45' 7.80648592 W	
5,283.00	5.60	275.20	5,269.56	27.22	-278.71	660,901.84	678,537.90	2° 48' 56.00947718 N	103° 45' 7.90690347 W	
5,373.00	5.40	275.20	5,359.15	28.00	-287.31	660,902.62	678,529.31	2° 48' 56.01768035 N	103° 45' 8.00751275 W	
5,462.00	5.50	276.60	5,447.75	28.87	-295.71	660,903.49	678,520.90	2° 48' 56.02674399 N	103° 45' 8.10597031 W	
5,551.00	4.40	272.50	5,536.41	29.51	-303.36	660,904.13	678,513.25	2° 48' 56.03348437 N	103° 45' 8.19554238 W	
5,641.00	4.60	271.80	5,626.14	29.78	-310.42	660,904.39	678,506.20	2° 48' 56.03647988 N	103° 45' 8.27820628 W	
5,731.00	4.40	274.50	5,715.86	30.16	-317.47	660,904.78	678,499.15	2° 48' 56.04066513 N	103° 45' 8.36077633 W	
5,820.00	4.40	274.10	5,804.60	30.67	-324.27	660,905.29	678,492.34	2° 48' 56.04610110 N	103° 45' 8.44052401 W	
5,909.00	4.60	276.80	5,893.32	31.34	-331.22	660,905.96	678,485.39	2° 48' 56.05307552 N	103° 45' 8.52190556 W	
5,999.00	4.50	273.80	5,983.04	32.00	-338.33	660,906.62	678,478.29	2° 48' 56.06000550 N	103° 45' 8.60513239 W	
6,088.00	4.70	275.20	6,071.75	32.56	-345.45	660,907.18	678,471.17	2° 48' 56.06595195 N	103° 45' 8.68846577 W	
6,177.00	4.60	276.60	6,160.46	33.30	-352.62	660,907.92	678,463.99	2° 48' 56.07367096 N	103° 45' 8.77250757 W	
6,267.00	4.50	275.90	6,250.18	34.08	-359.72	660,908.70	678,456.90	2° 48' 56.08175237 N	103° 45' 8.85561583 W	
6,356.00	4.10	271.50	6,338.92	34.52	-366.37	660,909.14	678,450.24	2° 48' 56.08648946 N	103° 45' 8.93354942 W	
6,445.00	4.10	272.30	6,427.70	34.73	-372.73	660,909.35	678,443.88	2° 48' 56.08892273 N	103° 45' 9.00805407 W	
6,535.00	4.30	276.10	6,517.46	35.22	-379.30	660,909.84	678,437.31	2° 48' 56.09410524 N	103° 45' 9.08500309 W	
6,624.00	4.50	275.80	6,606.19	35.93	-386.09	660,910.54	678,430.52	2° 48' 56.10147396 N	103° 45' 9.16453307 W	
6,714.00	4.50	275.50	6,695.92	36.63	-393.12	660,911.24	678,423.50	2° 48' 56.10873483 N	103° 45' 9.24682641 W	
6,803.00	4.40	276.60	6,784.65	37.35	-399.99	660,911.97	678,416.63	2° 48' 56.11630203 N	103° 45' 9.32723987 W	

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal 10
Project:	Lea County, New Mexico	TVD Reference:	RKB=3993+13 @ 4006.00usft (PD 822)
Site:	SC Federal	MD Reference:	RKB=3993+13 @ 4006.00usft (PD 822)
Well:	SC Federal 10	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	EDM 5000.1 Ddatabase

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,892.00	4.50	274.50	6,873.38	38.02	-406.86	660,912.63	678,409.76	2° 48' 56.12326884 N	103° 45' 9.40771951 W
6,982.00	4.50	276.70	6,963.10	38.71	-413.88	660,913.32	678,402.73	2° 48' 56.13046772 N	103° 45' 9.49000550 W
7,041.00	4.40	274.60	7,021.92	39.16	-418.44	660,913.77	678,398.18	2° 48' 56.13518329 N	103° 45' 9.54334526 W
7,102.00	4.40	274.60	7,082.74	39.53	-423.10	660,914.15	678,393.51	2° 48' 56.13915058 N	103° 45' 9.59798030 W
Survey projected to 7102.00 MD									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
897.00	897.00	0.00	0.00	Casing @ 897 MD	
995.00	995.00	-0.21	-0.15	MWD surveys	
7,102.00	7,082.74	39.53	-423.10	Survey projected to 7102.00 MD	