

Results of Directional Survey

DD

API number:	30-025-40592		
OGRID:		Operator:	COG OPERATING LLC
		Property:	SC FEDERAL # 1

surface	ULSTR:	I	22	T	17S	R	32E
				2345	FSL	225	FEL

BH Loc	ULSTR:	I	22	T	17S	R	32E
7118	MD	7113.7	TVD	2264	FSL	382	FEL

Top Perf/OH	ULSTR:	I	22	T	17S	R	32E
5624	MD	5619.9	TVD	2271	FSL	357	FEL

Bot Perf/OH	ULSTR:	I	22	T	17S	R	32E
6840	MD	6835.8	TVD	2264	FSL	376	FEL

	MD	N/S	E/W	VD
	5591.00	-74.07	-131.12	5586.94
TOP PERFS/OH	5624.00	-74.14	-131.55	5619.94
	5680.00	-74.27	-132.27	5675.94
	6752.00	-80.98	-148.80	6747.78
BOT PERFS/OH	6840.00	-81.32	-150.53	6835.76
	6841.00	-81.32	-150.55	6836.76

NEXT TO LAST	7062.00	-81.56	-155.70	7057.70
LAST READING	7118.00	-81.00	-156.50	7113.69
TD	7118.00	-81.00	-156.50	7113.69

Surface Location	2345	FS	225	FE
Projected BHL	2264	FS	382	FE
Location of				
Top Perfs/OH	2271	FS	357	FE
Bottom Perfs/OH	2264	FS	376	FE

SUMMARY of Subsurface Locations

Surface Location	I-22-17S-32E	2345	FS	225	FE	Vert. Depth
Top Perfs/OH	I-22-17S-32E	2271	FS	357	FE	5619.94
Bottom Perfs/OH	I-22-17S-32E	2264	FS	376	FE	6835.76
Projected TD	I-22-17S-32E	2264	FS	382	FE	7113.69

DEC 15 2014



HOBBS OCD

DEC 08 2014

RECEIVED

1407 Northpark Dr.
Kingwood, TX 77339
Cell: (281) 851-8112
Efax: (281) 966-1566

BlueStar MWD, LP performed a MWD survey for ConocoPhillips' SC Federal 1, located in Lea County, NM. The API number is: 30-025-40592. The surveys were taken from 943 MD to 7062 MD and ranged over the dates from 26-Apr-14 to 1-May-14 and are certified as being true and correct.

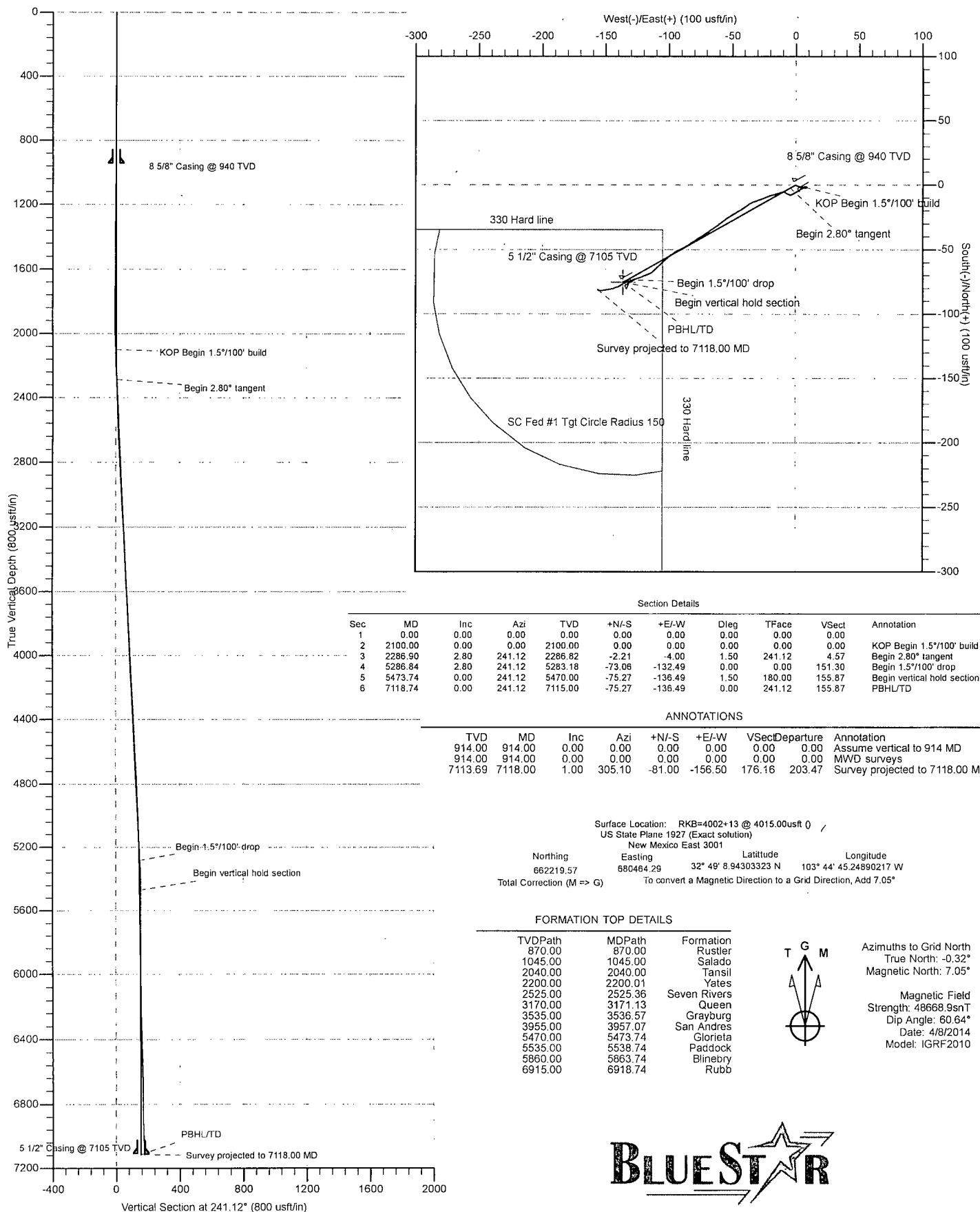
A handwritten signature in black ink, appearing to read "Greg Nazzal".

Certification by Greg Nazzal
President

gm



Well: SC Federal Well No. 1
Site: SC Federal
Project: Lea County, New Mexico
Design: rev0
Rig:





ConocoPhillips

Lea County, New Mexico

SC Federal

SC Federal Well No. 1

HOBBS OGD

DEC 08 2014

RECEIVED

Original hole

Design: Surveys Original hole

Standard Survey Report

03 May, 2014



jm

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal Well No. 1
Project:	Lea County, New Mexico	TVD Reference:	RKB=4002+13 @ 4015.00usft ()
Site:	SC Federal	MD Reference:	RKB=4002+13 @ 4015.00usft ()
Well:	SC Federal Well No. 1	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 Well No. 1					
Well Position	+N/-S	0.00 usft	Northing:	662,219.57 usft	Latitude:	32° 49' 8.94303323 N
	+E/-W	0.00 usft	Easting:	680,464.29 usft	Longitude:	103° 44' 45.24890217 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,002.00 usft

Wellbore	Original hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/8/2014	7.36	60.64	48,669

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)	Direction (°)	
	0.00	0.00	0.00	241.12	

Survey Program	Date 5/3/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
914.00	7,118.00	MWD (Original hole)	MWD	MWD - Standard

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
914.00	0.00	0.00	914.00	0.00	0.00	0.00	0.00	0.00	0.00
Assume vertical to 914 MD - MWD surveys									
943.00	0.20	111.20	943.00	-0.02	0.05	-0.03	0.69	0.69	0.00
988.00	0.30	121.00	988.00	-0.11	0.22	-0.14	0.24	0.22	21.78
1,077.00	0.60	115.40	1,077.00	-0.43	0.84	-0.53	0.34	0.34	-6.29
1,167.00	0.60	114.20	1,166.99	-0.82	1.70	-1.09	0.01	0.00	-1.33
1,256.00	0.70	109.40	1,255.99	-1.19	2.64	-1.73	0.13	0.11	-5.39
1,345.00	0.30	126.60	1,344.98	-1.51	3.34	-2.19	0.48	-0.45	19.33
1,435.00	0.30	104.30	1,434.98	-1.71	3.75	-2.46	0.13	0.00	-24.78
1,524.00	0.30	72.30	1,523.98	-1.70	4.20	-2.86	0.19	0.00	-35.96

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal Well No. 1
Project:	Lea County, New Mexico	TVD Reference:	RKB=4002+13 @ 4015.00usft ()
Site:	SC Federal	MD Reference:	RKB=4002+13 @ 4015.00usft ()
Well:	SC Federal Well No. 1	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)	
1,613.00	0.60	92.50	1,612.98	-1.65	4.89	-3.48	0.38	0.34	22.70	
1,703.00	1.00	77.50	1,702.97	-1.50	6.13	-4.64	0.50	0.44	-16.67	
1,792.00	1.10	79.80	1,791.95	-1.18	7.72	-6.19	0.12	0.11	2.58	
1,881.00	0.70	136.10	1,880.94	-1.42	8.94	-7.14	1.03	-0.45	63.26	
1,970.00	1.30	256.00	1,969.94	-2.06	8.34	-6.31	1.97	0.67	134.72	
2,059.00	1.10	269.00	2,058.92	-2.32	6.51	-4.58	0.38	-0.22	14.61	
2,149.00	2.20	236.80	2,148.88	-3.28	4.20	-2.09	1.55	1.22	-35.78	
2,238.00	3.30	241.40	2,237.78	-5.44	0.52	2.17	1.26	1.24	5.17	
2,328.00	3.30	243.60	2,327.63	-7.83	-4.08	7.35	0.14	0.00	2.44	
2,417.00	3.10	348.80	2,416.55	-6.61	-6.84	9.18	5.71	-0.22	118.20	
2,506.00	3.00	250.30	2,505.47	-5.03	-9.50	10.75	5.19	-0.11	-110.67	
2,597.00	2.70	253.80	2,596.36	-6.43	-13.80	15.19	0.38	-0.33	3.85	
2,685.00	2.70	252.90	2,684.26	-7.62	-17.77	19.24	0.05	0.00	-1.02	
2,730.00	3.00	251.90	2,729.20	-8.30	-19.91	21.44	0.68	0.67	-2.22	
2,819.00	3.50	248.70	2,818.06	-10.01	-24.65	26.42	0.60	0.56	-3.60	
2,909.00	3.30	250.90	2,907.90	-11.85	-29.66	31.69	0.27	-0.22	2.44	
2,998.00	3.10	246.40	2,996.76	-13.65	-34.28	36.61	0.36	-0.22	-5.06	
3,043.00	3.30	235.60	3,041.69	-14.87	-36.47	39.12	1.41	0.44	-24.00	
3,132.00	3.10	236.10	3,130.55	-17.66	-40.58	44.06	0.23	-0.22	0.56	
3,222.00	3.00	240.10	3,220.43	-20.19	-44.64	48.84	0.26	-0.11	4.44	
3,311.00	2.90	242.10	3,309.31	-22.41	-48.65	53.42	0.16	-0.11	2.25	
3,356.00	2.90	246.00	3,354.25	-23.40	-50.69	55.69	0.44	0.00	8.67	
3,445.00	3.30	231.60	3,443.12	-25.91	-54.76	60.46	0.98	0.45	-16.18	
3,535.00	3.10	231.40	3,532.98	-29.04	-58.69	65.42	0.22	-0.22	-0.22	
3,624.00	3.10	234.10	3,621.85	-31.95	-62.52	70.18	0.16	0.00	3.03	
3,713.00	3.10	236.30	3,710.72	-34.70	-66.47	74.96	0.13	0.00	2.47	
3,803.00	3.10	236.90	3,800.59	-37.38	-70.54	79.82	0.04	0.00	0.67	
3,981.00	3.20	239.30	3,978.32	-42.54	-78.84	89.58	0.09	0.06	1.35	
4,070.00	3.00	237.10	4,067.19	-45.07	-82.93	94.39	0.26	-0.22	-2.47	
4,160.00	2.90	239.26	4,157.07	-47.52	-86.87	99.01	0.17	-0.11	2.40	
4,249.00	2.90	242.16	4,245.96	-49.72	-90.79	103.51	0.16	0.00	3.26	
4,339.00	2.80	247.40	4,335.85	-51.63	-94.83	107.97	0.31	-0.11	5.82	
4,428.00	2.80	228.40	4,424.74	-53.91	-98.47	112.26	1.04	0.00	-21.35	
4,517.00	3.00	228.20	4,513.63	-56.90	-101.83	116.65	0.23	0.22	-0.22	
4,607.00	3.10	228.50	4,603.50	-60.08	-105.41	121.32	0.11	0.11	0.33	
4,696.00	3.00	226.30	4,692.37	-63.29	-108.89	125.92	0.17	-0.11	-2.47	
4,786.00	3.00	228.20	4,782.25	-66.48	-112.35	130.49	0.11	0.00	2.11	
4,875.00	2.20	247.40	4,871.16	-68.69	-115.66	134.46	1.32	-0.90	21.57	
4,965.00	1.90	251.20	4,961.10	-69.84	-118.67	137.64	0.37	-0.33	4.22	
5,054.00	1.80	248.50	5,050.06	-70.83	-121.37	140.48	0.15	-0.11	-3.03	
5,143.00	1.80	249.00	5,139.01	-71.84	-123.97	143.25	0.02	0.00	0.56	
5,233.00	1.10	257.90	5,228.98	-72.53	-126.14	145.48	0.81	-0.78	9.89	
5,322.00	0.90	247.80	5,317.97	-72.97	-127.62	146.99	0.30	-0.22	-11.35	

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal Well No. 1
Project:	Lea County, New Mexico	TVD Reference:	RKB=4002+13 @ 4015.00usft ()
Site:	SC Federal	MD Reference:	RKB=4002+13 @ 4015.00usft ()
Well:	SC Federal Well No. 1	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)
5,412.00	0.70	251.50	5,407.96	-73.41	-128.80	148.23	0.23	-0.22	4.11
5,501.00	0.80	251.90	5,496.95	-73.78	-129.90	149.38	0.11	0.11	0.45
5,591.00	0.80	260.60	5,586.94	-74.07	-131.12	150.59	0.13	0.00	9.67
5,680.00	0.70	260.40	5,675.94	-74.27	-132.27	151.69	0.11	-0.11	-0.22
5,769.00	0.90	242.30	5,764.93	-74.68	-133.42	152.90	0.36	0.22	-20.34
5,859.00	0.90	237.30	5,854.92	-75.39	-134.64	154.31	0.09	0.00	-5.56
5,948.00	0.90	240.70	5,943.91	-76.11	-135.84	155.71	0.06	0.00	3.82
6,037.00	0.80	237.90	6,032.90	-76.78	-136.98	157.03	0.12	-0.11	-3.15
6,126.00	1.00	238.10	6,121.88	-77.53	-138.16	158.42	0.22	0.22	0.22
6,215.00	1.00	242.50	6,210.87	-78.29	-139.51	159.98	0.09	0.00	4.94
6,305.00	0.90	243.30	6,300.86	-78.97	-140.84	161.47	0.11	-0.11	0.89
6,394.00	1.00	249.00	6,389.85	-79.57	-142.19	162.93	0.15	0.11	6.40
6,483.00	1.00	252.00	6,478.83	-80.09	-143.65	164.47	0.06	0.00	3.37
6,573.00	1.10	257.30	6,568.82	-80.52	-145.24	166.07	0.15	0.11	5.89
6,662.00	1.20	265.50	6,657.80	-80.78	-147.01	167.74	0.22	0.11	9.21
6,752.00	1.10	261.40	6,747.78	-80.98	-148.80	169.41	0.14	-0.11	-4.56
6,841.00	1.20	256.80	6,836.76	-81.32	-150.55	171.10	0.15	0.11	-5.17
6,930.00	1.50	263.60	6,925.74	-81.67	-152.62	173.08	0.38	0.34	7.64
7,020.00	1.40	270.90	7,015.71	-81.78	-154.89	175.12	0.23	-0.11	8.11
7,062.00	1.00	305.10	7,057.70	-81.56	-155.70	175.73	1.91	-0.95	81.43
7,118.00	1.00	305.10	7,113.69	-81.00	-156.50	176.16	0.00	0.00	0.00

Survey projected to 7118.00 MD

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
914.00	914.00	0.00	0.00	Assume vertical to 914 MD
914.00	914.00	0.00	0.00	MWD surveys
7,118.00	7,113.69	-81.00	-156.50	Survey projected to 7118.00 MD

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal Well No. 1
Project:	Lea County, New Mexico	TVD Reference:	RKB=4002+13 @ 4015.00usft ()
Site:	SC Federal	MD Reference:	RKB=4002+13 @ 4015.00usft ()
Well:	SC Federal Well No. 1	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 Well No. 1		
Well Position	+N/-S	0.00 usft	Northing: 662,219.57 usft
	+E/-W	0.00 usft	Easting: 680,464.29 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 49' 8.94303323 N
		Longitude:	103° 44' 45.24890217 W
		Ground Level:	4,002.00 usft

Wellbore	Original hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/8/2014	7.36	60.64	48,669

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)	Direction (°)	
	0.00	0.00	0.00	241.12	

Survey Program	Date 5/3/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
914.00	7,118.00	MWD (Original hole)	MWD	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude		Longitude
0.00	0.00	0.00	0.00	0.00	0.00	662,219.57	680,464.29	32° 49' 8.94303323 N	03° 44' 45.24890217 W	
914.00	0.00	0.00	914.00	0.00	0.00	662,219.57	680,464.29	32° 49' 8.94303323 N	03° 44' 45.24890217 W	
Assume vertical to 914 MD - MWD surveys										
943.00	0.20	111.20	943.00	-0.02	0.05	662,219.56	680,464.33	32° 49' 8.94284953 N	03° 44' 45.24835041 W	
988.00	0.30	121.00	988.00	-0.11	0.22	662,219.47	680,464.51	32° 49' 8.94195853 N	03° 44' 45.24631488 W	
1,077.00	0.60	115.40	1,077.00	-0.43	0.84	662,219.15	680,465.13	32° 49' 8.93875915 N	03° 44' 45.23906278 W	
1,167.00	0.60	114.20	1,166.99	-0.82	1.70	662,218.75	680,465.98	32° 49' 8.93480070 N	03° 44' 45.22906392 W	
1,256.00	0.70	109.40	1,255.99	-1.19	2.64	662,218.38	680,466.92	32° 49' 8.93107215 N	03° 44' 45.21809873 W	
1,345.00	0.30	126.60	1,344.98	-1.51	3.34	662,218.06	680,467.62	32° 49' 8.92787220 N	03° 44' 45.20991880 W	
1,435.00	0.30	104.30	1,434.98	-1.71	3.75	662,217.86	680,468.04	32° 49' 8.92588333 N	03° 44' 45.20503981 W	
1,524.00	0.30	72.30	1,523.98	-1.70	4.20	662,217.88	680,468.49	32° 49' 8.92599021 N	03° 44' 45.19979225 W	
1,613.00	0.60	92.50	1,612.98	-1.65	4.89	662,217.93	680,469.17	32° 49' 8.92645223 N	03° 44' 45.19173266 W	

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal Well No. 1
Project:	Lea County, New Mexico	TVD Reference:	RKB=4002+13 @ 4015.00usft ()
Site:	SC Federal	MD Reference:	RKB=4002+13 @ 4015.00usft ()
Well:	SC Federal Well No. 1	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
1,703.00	1.00	77.50	1,702.97	-1.50	6.13	662,218.08	680,470.41	32° 49' 8.92786276 N	03° 44' 45.17722172 W
1,792.00	1.10	79.80	1,791.95	-1.18	7.72	662,218.40	680,472.01	32° 49' 8.93093503 N	03° 44' 45.15846398 W
1,881.00	0.70	136.10	1,880.94	-1.42	8.94	662,218.15	680,473.23	32° 49' 8.92848877 N	03° 44' 45.14420983 W
1,970.00	1.30	256.00	1,969.94	-2.06	8.34	662,217.52	680,472.62	32° 49' 8.92222851 N	03° 44' 45.15131327 W
2,059.00	1.10	269.00	2,058.92	-2.32	6.51	662,217.26	680,470.79	32° 49' 8.91976507 N	03° 44' 45.17281787 W
2,149.00	2.20	236.80	2,148.88	-3.28	4.20	662,216.30	680,468.48	32° 49' 8.91038291 N	03° 44' 45.19994094 W
2,238.00	3.30	241.40	2,237.78	-5.44	0.52	662,214.14	680,464.80	32° 49' 8.88919570 N	03° 44' 45.24318662 W
2,328.00	3.30	243.60	2,327.63	-7.83	-4.08	662,211.74	680,460.21	32° 49' 8.86578197 N	03° 44' 45.29718059 W
2,417.00	3.10	348.80	2,416.55	-6.61	-6.84	662,212.97	680,457.44	32° 49' 8.87803047 N	03° 44' 45.32948557 W
2,506.00	3.00	250.30	2,505.47	-5.03	-9.50	662,214.54	680,454.78	32° 49' 8.89377567 N	03° 44' 45.36057008 W
2,597.00	2.70	253.80	2,596.36	-6.43	-13.80	662,213.14	680,450.48	32° 49' 8.88015232 N	03° 44' 45.41104997 W
2,685.00	2.70	252.90	2,684.26	-7.62	-17.77	662,211.96	680,446.51	32° 49' 8.86861835 N	03° 44' 45.45766409 W
2,730.00	3.00	251.90	2,729.20	-8.30	-19.91	662,211.28	680,444.38	32° 49' 8.86203185 N	03° 44' 45.48269458 W
2,819.00	3.50	248.70	2,818.06	-10.01	-24.65	662,209.57	680,439.63	32° 49' 8.84536853 N	03° 44' 45.53840512 W
2,909.00	3.30	250.90	2,907.90	-11.85	-29.66	662,207.72	680,434.63	32° 49' 8.82738237 N	03° 44' 45.59720024 W
2,998.00	3.10	246.40	2,996.76	-13.65	-34.28	662,205.92	680,430.00	32° 49' 8.80980952 N	03° 44' 45.65152229 W
3,043.00	3.30	235.60	3,041.69	-14.87	-36.47	662,204.70	680,427.82	32° 49' 8.79786879 N	03° 44' 45.67719001 W
3,132.00	3.10	236.10	3,130.55	-17.66	-40.58	662,201.91	680,423.71	32° 49' 8.77049353 N	03° 44' 45.72554422 W
3,222.00	3.00	240.10	3,220.43	-20.19	-44.64	662,199.38	680,419.65	32° 49' 8.74566981 N	03° 44' 45.77330134 W
3,311.00	2.90	242.10	3,309.31	-22.41	-48.65	662,197.17	680,415.64	32° 49' 8.72397843 N	03° 44' 45.82041837 W
3,356.00	2.90	246.00	3,354.25	-23.40	-50.69	662,196.17	680,413.59	32° 49' 8.71423883 N	03° 44' 45.84445738 W
3,445.00	3.30	231.60	3,443.12	-25.91	-54.76	662,193.66	680,409.53	32° 49' 8.68965668 N	03° 44' 45.89224578 W
3,535.00	3.10	231.40	3,532.98	-29.04	-58.69	662,190.54	680,405.59	32° 49' 8.65892891 N	03° 44' 45.93852318 W
3,624.00	3.10	234.10	3,621.85	-31.95	-62.52	662,187.62	680,401.76	32° 49' 8.63032069 N	03° 44' 45.98359338 W
3,713.00	3.10	236.30	3,710.72	-34.70	-66.47	662,184.88	680,397.81	32° 49' 8.60336301 N	03° 44' 46.03007494 W
3,803.00	3.10	236.90	3,800.59	-37.38	-70.54	662,182.20	680,393.75	32° 49' 8.57707585 N	03° 44' 46.07786160 W
3,981.00	3.20	239.30	3,978.32	-42.54	-78.84	662,177.03	680,385.45	32° 49' 8.52642665 N	03° 44' 46.17550043 W
4,070.00	3.00	237.10	4,067.19	-45.07	-82.93	662,174.50	680,381.35	32° 49' 8.50158525 N	03° 44' 46.22360723 W
4,160.00	2.90	239.26	4,157.07	-47.52	-86.87	662,172.06	680,377.42	32° 49' 8.47762867 N	03° 44' 46.26986662 W
4,249.00	2.90	242.16	4,245.96	-49.72	-90.79	662,169.86	680,373.49	32° 49' 8.45605397 N	03° 44' 46.31601253 W
4,339.00	2.80	247.40	4,335.85	-51.63	-94.83	662,167.95	680,369.45	32° 49' 8.43739668 N	03° 44' 46.36350741 W
4,428.00	2.80	228.40	4,424.74	-53.91	-98.47	662,165.67	680,365.82	32° 49' 8.41504888 N	03° 44' 46.40622124 W
4,517.00	3.00	228.20	4,513.63	-56.90	-101.83	662,162.67	680,362.46	32° 49' 8.38559265 N	03° 44' 46.44580869 W
4,607.00	3.10	228.50	4,603.50	-60.08	-105.41	662,159.49	680,358.88	32° 49' 8.35430090 N	03° 44' 46.48794577 W
4,696.00	3.00	226.30	4,692.37	-63.29	-108.89	662,156.29	680,355.39	32° 49' 8.32279281 N	03° 44' 46.52900408 W
4,786.00	3.00	228.20	4,782.25	-66.48	-112.35	662,153.09	680,351.93	32° 49' 8.29135007 N	03° 44' 46.56973659 W
4,875.00	2.20	247.40	4,871.16	-68.69	-115.66	662,150.88	680,348.62	32° 49' 8.26967553 N	03° 44' 46.60870589 W
4,965.00	1.90	251.20	4,961.10	-69.84	-118.67	662,149.74	680,345.61	32° 49' 8.25851436 N	03° 44' 46.64401817 W
5,054.00	1.80	248.50	5,050.06	-70.83	-121.37	662,148.75	680,342.92	32° 49' 8.24888877 N	03° 44' 46.67568792 W
5,143.00	1.80	249.00	5,139.01	-71.84	-123.97	662,147.74	680,340.31	32° 49' 8.23900634 N	03° 44' 46.70628415 W
5,233.00	1.10	257.90	5,228.98	-72.53	-126.14	662,147.05	680,338.15	32° 49' 8.23232109 N	03° 44' 46.73169007 W
5,322.00	0.90	247.80	5,317.97	-72.97	-127.62	662,146.60	680,336.66	32° 49' 8.22801735 N	03° 44' 46.74909025 W
5,412.00	0.70	251.50	5,407.96	-73.41	-128.80	662,146.16	680,335.49	32° 49' 8.22371323 N	03° 44' 46.76289668 W
5,501.00	0.80	251.90	5,496.95	-73.78	-129.90	662,145.80	680,334.38	32° 49' 8.22015709 N	03° 44' 46.77588196 W
5,591.00	0.80	260.60	5,586.94	-74.07	-131.12	662,145.50	680,333.17	32° 49' 8.21727711 N	03° 44' 46.79016275 W
5,680.00	0.70	260.40	5,675.94	-74.27	-132.27	662,145.31	680,332.02	32° 49' 8.21543901 N	03° 44' 46.80363925 W
5,769.00	0.90	242.30	5,764.93	-74.68	-133.42	662,144.89	680,330.86	32° 49' 8.21139035 N	03° 44' 46.81719939 W
5,859.00	0.90	237.30	5,854.92	-75.39	-134.64	662,144.18	680,329.64	32° 49' 8.20442785 N	03° 44' 46.83154872 W
5,948.00	0.90	240.70	5,943.91	-76.11	-135.84	662,143.46	680,328.44	32° 49' 8.19737248 N	03° 44' 46.84563058 W
6,037.00	0.80	237.90	6,032.90	-76.78	-136.98	662,142.79	680,327.31	32° 49' 8.19078319 N	03° 44' 46.85898446 W
6,126.00	1.00	238.10	6,121.88	-77.53	-138.16	662,142.05	680,326.12	32° 49' 8.18352046 N	03° 44' 46.87292614 W
6,215.00	1.00	242.50	6,210.87	-78.29	-139.51	662,141.28	680,324.77	32° 49' 8.17598524 N	03° 44' 46.88877438 W
6,305.00	0.90	243.30	6,300.86	-78.97	-140.84	662,140.60	680,323.45	32° 49' 8.16932739 N	03° 44' 46.90438088 W
6,394.00	1.00	249.00	6,389.85	-79.57	-142.19	662,140.01	680,322.10	32° 49' 8.16353995 N	03° 44' 46.92023257 W
6,483.00	1.00	252.00	6,478.83	-80.09	-143.65	662,139.49	680,320.63	32° 49' 8.15849171 N	03° 44' 46.93741733 W

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SC Federal Well No. 1
Project:	Lea County, New Mexico	TVD Reference:	RKB=4002+13 @ 4015.00usft ()
Site:	SC Federal	MD Reference:	RKB=4002+13 @ 4015.00usft ()
Well:	SC Federal Well No. 1	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
6,573.00	1.10	257.30	6,568.82	-80.52	-145.24	662,139.06	680,319.04	32° 49' 8.15429840 N	03° 44' 46.95607296 W
6,662.00	1.20	265.50	6,657.80	-80.78	-147.01	662,138.80	680,317.28	32° 49' 8.15181334 N	03° 44' 46.97674206 W
6,752.00	1.10	261.40	6,747.78	-80.98	-148.80	662,138.59	680,315.49	32° 49' 8.14990201 N	03° 44' 46.99777326 W
6,841.00	1.20	256.80	6,836.76	-81.32	-150.55	662,138.25	680,313.73	32° 49' 8.14662850 N	03° 44' 47.01832502 W
6,930.00	1.50	263.60	6,925.74	-81.67	-152.62	662,137.91	680,311.67	32° 49' 8.14335139 N	03° 44' 47.04254388 W
7,020.00	1.40	270.90	7,015.71	-81.78	-154.89	662,137.80	680,309.40	32° 49' 8.14234771 N	03° 44' 47.06915003 W
7,062.00	1.00	305.10	7,057.70	-81.56	-155.70	662,138.01	680,308.59	32° 49' 8.14455740 N	03° 44' 47.07866096 W
7,118.00	1.00	305.10	7,113.69	-81.00	-156.50	662,138.58	680,307.79	32° 49' 8.15016200 N	03° 44' 47.08799405 W
Survey projected to 7118.00 MD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
914.00	914.00	0.00	0.00	Assume vertical to 914 MD
914.00	914.00	0.00	0.00	MWD surveys
7,118.00	7,113.69	-81.00	-156.50	Survey projected to 7118.00 MD