

ConocoPhillips

SJB (NM Central)
SEC 16-T28N-R6W
SJ 28-6 #123N

Original Hole

Survey: Original Hole

Standard Survey Report

31 March, 2010

RCVD APR 7 '10

OIL CONS. DIV.

DIST. 3

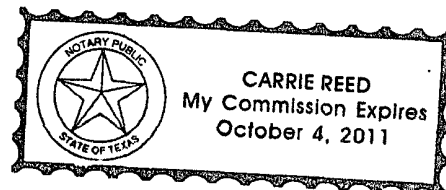
This survey is correct to the best of my knowledge and is supported by actual field data.

Elwharton

Notorized this date 1st of April, 2010.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.

Survey Report

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SJ 28-6 #123N
Project:	SJB (NM Central)	TVD Reference:	DFE @ 6724.0ft (H&P 283)
Site:	SEC 16-T28N-R6W	MD Reference:	DFE @ 6724.0ft (H&P 283)
Well:	SJ 28-6 #123N	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	edmCOP

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 16-T28N-R6W		
Site Position:		Northing:	2,063,508.53 ft
From:	Lat/Long	Easting:	143,534.10 ft
Position Uncertainty:	0.0 ft	Slot Radius:	6-1/8"
		Latitude:	36° 39' 53.724 N
		Longitude:	107° 27' 55.410 W
		Grid Convergence:	-0.73 °

Well	SJ 28-6 #123N, S-Type MV/DK Well		
Well Position	+N-S	0.0 ft	Northing: 2,063,508.53 ft
	+E-W	0.0 ft	Easting: 143,534.10 ft
Position Uncertainty	3.5 ft	Wellhead Elevation:	ft
		Latitude:	36° 39' 53.724 N
		Longitude:	107° 27' 55.410 W
		Ground Level:	6,708.0 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2009	1/7/2010	9.93	63.53	50,894

Design	Original Hole			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	163.42

Survey Program	Date 3/31/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
267.0	4,032.0	Original Hole (Original Hole)	MWD SDI	MWD - Standard ver 1.0.1

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
267.0	0.32	285.09	267.0	0.2	-0.7	-0.4	0.12	0.12	0.00	
329.0	0.44	177.81	329.0	0.0	-0.9	-0.3	0.99	0.19	-173.03	
390.0	1.52	161.32	390.0	-1.0	-0.6	0.8	1.81	1.77	-27.03	
451.0	2.62	155.50	450.9	-3.0	0.2	3.0	1.83	1.80	-9.54	
513.0	3.90	157.81	512.8	-6.3	1.6	6.5	2.07	2.06	3.73	
574.0	5.17	164.24	573.7	-10.8	3.1	11.3	2.24	2.08	10.54	
635.0	6.21	163.30	634.4	-16.6	4.8	17.3	1.71	1.70	-1.54	
697.0	7.17	164.57	695.9	-23.6	6.8	24.6	1.57	1.55	2.05	
758.0	8.35	164.71	756.4	-31.5	9.0	32.8	1.93	1.93	0.23	
835.0	9.84	164.83	832.4	-43.3	12.2	45.0	1.94	1.94	0.16	
925.0	11.71	163.92	920.8	-59.5	16.7	61.8	2.09	2.08	-1.01	
1,015.0	13.83	162.19	1,008.6	-78.5	22.6	81.7	2.39	2.36	-1.92	

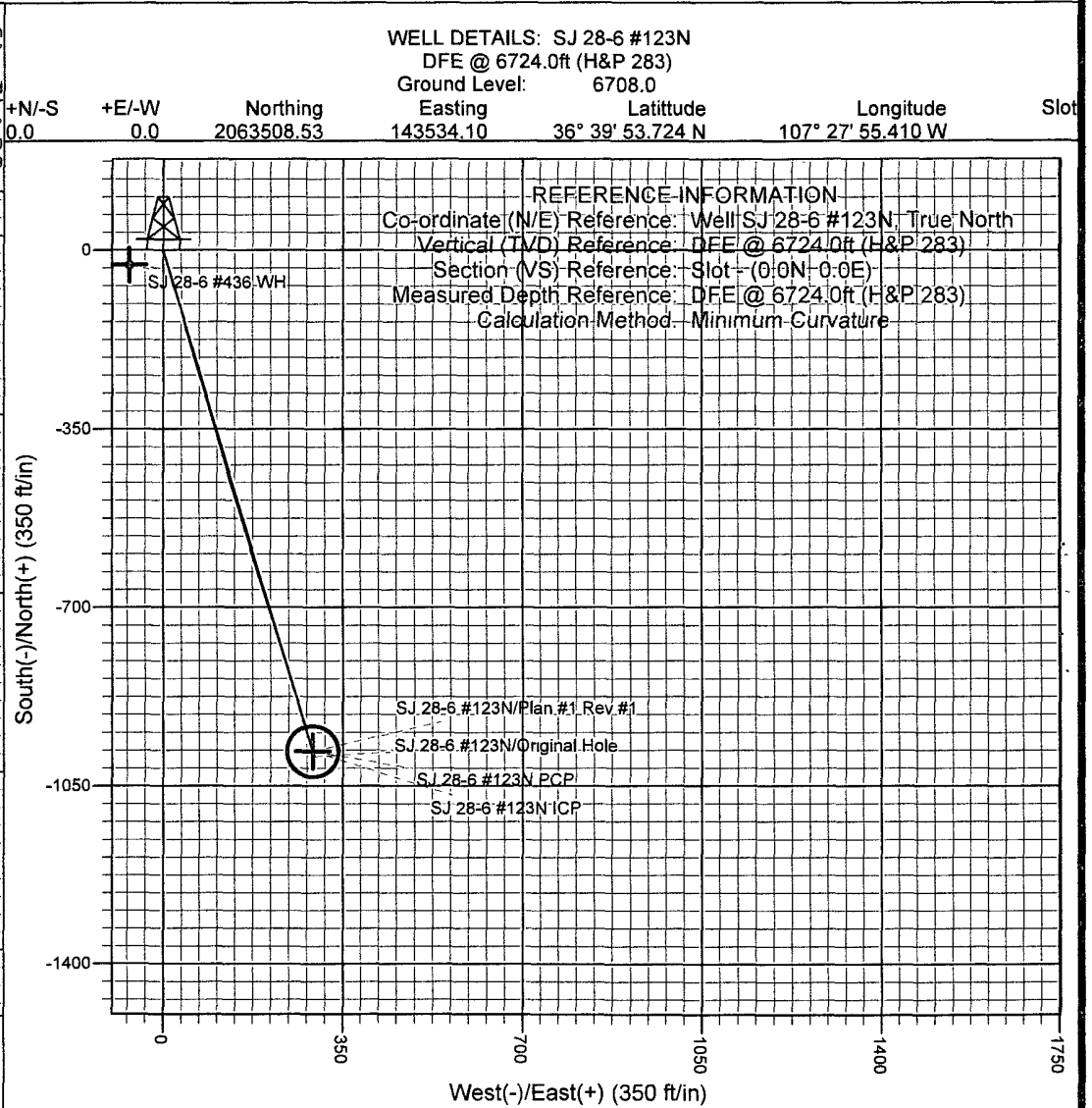
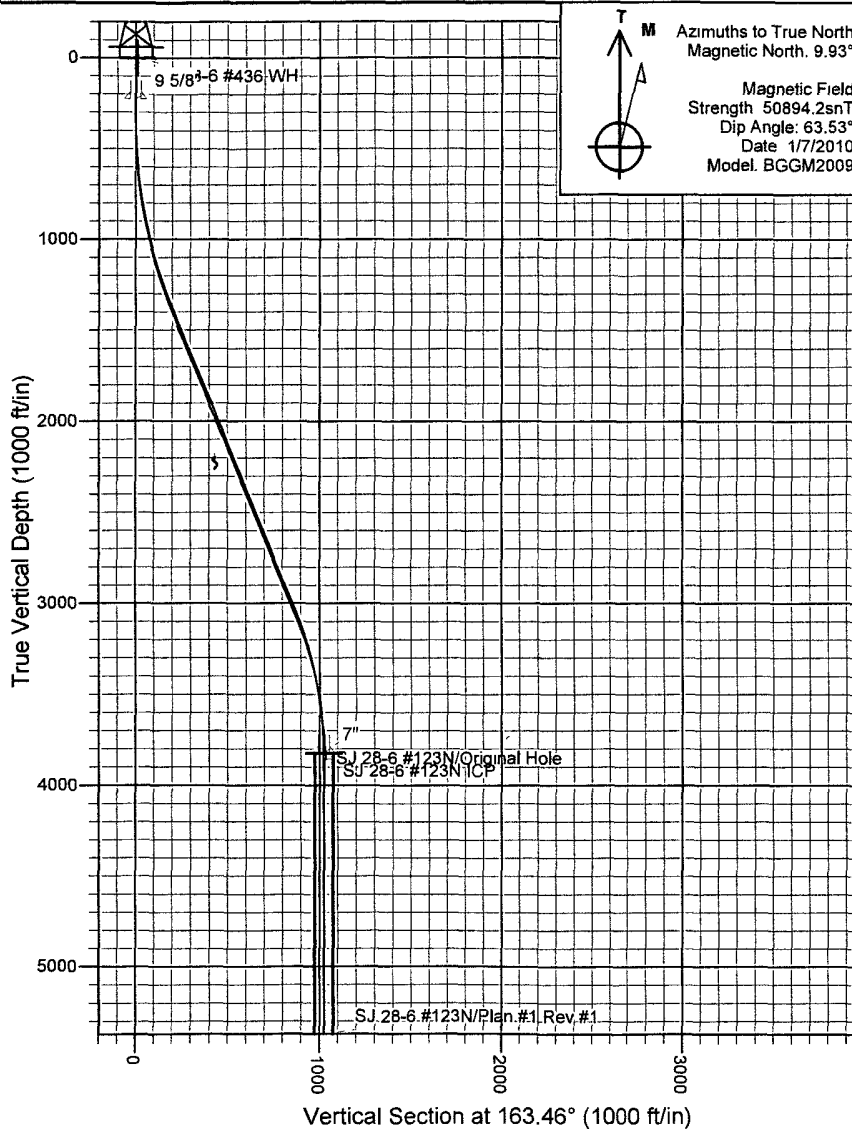
Scientific Drilling International, Inc.
Survey Report

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well SJ 28-6 #123N
Project:	SJB (NM Central)	TVD Reference:	DFE @ 6724.0ft (H&P 283)
Site:	SEC 16-T28N-R6W	MD Reference:	DFE @ 6724.0ft (H&P 283)
Well:	SJ 28-6 #123N	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	edmCOP

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,105.0	15.84	162.86	1,095.6	-100.5	29.5	104.7	2.24	2.23	0.74
1,195.0	17.41	163.90	1,181.8	-125.2	36.8	130.5	1.78	1.74	1.16
1,285.0	19.48	165.57	1,267.2	-152.6	44.3	158.9	2.37	2.30	1.86
1,375.0	21.96	164.90	1,351.4	-183.4	52.4	190.7	2.77	2.76	-0.74
1,465.0	21.90	163.16	1,434.8	-215.7	61.7	224.4	0.73	-0.07	-1.93
1,555.0	21.52	162.98	1,518.5	-247.6	71.4	257.6	0.43	-0.42	-0.20
1,645.0	22.42	163.45	1,601.9	-279.8	81.1	291.3	1.02	1.00	0.52
1,735.0	22.31	162.98	1,685.2	-312.6	91.0	325.6	0.23	-0.12	-0.52
1,825.0	22.28	164.27	1,768.4	-345.3	100.6	359.7	0.54	-0.03	1.43
1,915.0	22.69	164.29	1,851.6	-378.5	109.9	394.1	0.46	0.46	0.02
2,005.0	22.03	163.88	1,934.8	-411.4	119.3	428.4	0.75	-0.73	-0.46
2,095.0	21.50	163.78	2,018.4	-443.5	128.6	461.7	0.59	-0.59	-0.11
2,185.0	21.62	162.72	2,102.1	-475.1	138.1	494.8	0.45	0.13	-1.18
2,275.0	21.17	163.07	2,185.9	-506.5	147.8	527.6	0.52	-0.50	0.39
2,365.0	22.04	164.23	2,269.6	-538.3	157.1	560.8	1.08	0.97	1.29
2,455.0	22.07	163.32	2,353.0	-570.8	166.6	594.6	0.38	0.03	-1.01
2,545.0	22.24	163.18	2,436.3	-603.3	176.4	628.5	0.20	0.19	-0.16
2,635.0	21.33	162.90	2,519.9	-635.2	186.1	661.9	1.02	-1.01	-0.31
2,725.0	22.26	162.50	2,603.5	-667.1	196.0	695.3	1.05	1.03	-0.44
2,815.0	21.04	162.57	2,687.1	-698.8	206.0	728.5	1.36	-1.36	0.08
2,904.0	21.71	163.61	2,770.0	-729.8	215.4	760.9	0.86	0.75	1.17
2,994.0	22.47	162.95	2,853.4	-762.2	225.2	794.8	0.89	0.84	-0.73
3,084.0	22.64	163.49	2,936.5	-795.3	235.1	829.3	0.30	0.19	0.60
3,174.0	22.12	163.78	3,019.7	-828.2	244.8	863.6	0.59	-0.58	0.32
3,264.0	19.91	162.33	3,103.7	-859.0	254.2	895.8	2.52	-2.46	-1.61
3,354.0	17.44	160.98	3,189.0	-886.4	263.2	924.6	2.79	-2.74	-1.50
3,444.0	14.61	163.25	3,275.5	-910.0	270.9	949.5	3.22	-3.14	2.52
3,534.0	11.84	163.71	3,363.1	-929.7	276.8	970.1	3.08	-3.08	0.51
3,624.0	10.65	163.25	3,451.4	-946.6	281.7	987.6	1.33	-1.32	-0.51
3,714.0	8.27	167.27	3,540.1	-960.9	285.6	1,002.4	2.74	-2.64	4.47
3,804.0	6.98	162.03	3,629.3	-972.4	288.7	1,014.3	1.63	-1.43	-5.82
3,894.0	5.89	159.10	3,718.8	-981.9	292.0	1,024.4	1.26	-1.21	-3.26
4,032.0	3.64	165.46	3,856.3	-992.7	295.6	1,035.8	1.67	-1.63	4.61



Project: SJB (NM Central)
SEC 16-T28N-R6W
Well: SJ 28-6 #123N
Wellbore: Original Hole
Design: Plan #1 Rev #1
Site:



COMPANY DETAILS: ConocoPhillips
Calculation Method: Minimum Curvature
Error System: ISCWSA
Scan Method: Closest Approach 3D
Error Surface: Combined Covariances
Warning Method: Risk Ratio

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
System Datum: Mean Sea Level

SITE DETAILS: SEC 16-T28N-R6W
Rio Arriba County NM
Site Centre Latitude: 36° 39' 53.724 N
Longitude: 107° 27' 55.410 W
Positional Uncertainty: 0.0
Convergence: -0.73
Local North: True