

# Scientific Drilling

30-039-30204

## CONOCOPHILLIPS

Field: San Juan  
Site: San Juan County, NM  
Well: San Juan 28-7 #248F  
Wellpath: DH - Job #33D0707559  
Survey: 07/03/07-07/11/07

RCVD DEC 20 '07

OIL CONS. DIV.

DIST. 3

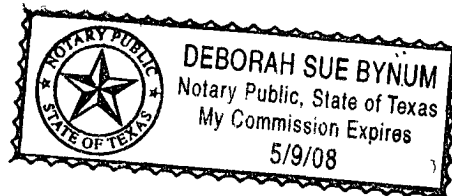
This survey is correct to the best of my knowledge and is supported by actual field data.

B. Hart ..... Company Representative

Notorized this date 30<sup>th</sup> of August, 2007.

Deborah Sue Bynum  
Notary Signature

County of Midland  
State of Texas



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# Scientific Drilling International Survey Report

Company: CONOCOPHILLIPS	Date: 08/23/2007	Time: 08:15:42	Page: 1
Field: San Juan	Co-ordinate(N/E) Reference:	Site: San Juan County, NM, Grid North	
Site: San Juan County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: San Juan 28-7 #248F	Section (VS) Reference:	Well (0.00N,0.00E,154.43Azi)	
Wellpath: DH - Job #33D0707559	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: 07/03/07-07/11/07	Start Date: 07/03/2007	
E-field 219'-4391' w/projection @ 4437'		
Company: Scientific Drilling Internatio	Engineer: Calvert/Oleniczak/Heikkinen/Sh	
Tool: E-field;E-field MWD	Tied-to: User Defined	

**Survey**

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
219.00	1.00	179.45	218.99	1.73	-1.91	0.02	0.00	1.91	179.40
354.00	0.93	179.45	353.97	3.79	-4.18	0.04	0.05	4.18	179.43
429.00	2.45	172.74	428.94	5.87	-6.38	0.25	2.04	6.39	177.75
490.00	4.77	159.45	489.81	9.63	-10.05	1.31	4.02	10.14	172.60
552.00	7.18	155.02	551.47	16.07	-15.98	3.85	3.95	16.43	166.46
613.00	10.32	153.78	611.75	25.35	-24.34	7.87	5.16	25.58	162.08
673.00	13.95	150.83	670.40	37.95	-35.48	13.77	6.14	38.06	158.78
735.00	17.32	149.88	730.10	54.61	-49.99	22.05	5.45	54.64	156.20
797.00	20.10	151.05	788.82	74.45	-67.30	31.84	4.52	74.45	154.68
857.00	22.09	150.52	844.80	96.00	-86.14	42.38	3.33	96.01	153.80
919.00	22.87	151.13	902.08	119.66	-106.84	53.94	1.31	119.69	153.21
980.00	23.97	150.20	958.06	143.85	-127.98	65.82	1.90	143.91	152.78
1043.00	24.20	150.10	1015.57	169.49	-150.28	78.62	0.37	169.60	152.38
1105.00	24.95	149.15	1071.96	195.18	-172.52	91.66	1.37	195.35	152.02
1168.00	23.86	149.82	1129.33	221.11	-194.94	104.88	1.79	221.36	151.72
1231.00	21.60	149.75	1187.43	245.37	-215.98	117.12	3.59	245.69	151.53
1295.00	22.31	149.87	1246.79	269.23	-236.66	129.16	1.11	269.61	151.38
1358.00	22.82	149.60	1304.96	293.32	-257.54	141.34	0.83	293.77	151.24
1421.00	24.17	150.09	1362.74	318.35	-279.26	153.96	2.17	318.88	151.13
1484.00	24.39	150.99	1420.17	344.20	-301.81	166.70	0.68	344.79	151.09
1545.00	25.10	149.21	1475.57	369.66	-323.94	179.43	1.69	370.31	151.02
1608.00	23.83	150.92	1532.91	395.67	-346.54	192.45	2.31	396.40	150.95
1669.00	23.65	150.81	1588.75	420.18	-367.99	204.41	0.30	420.95	150.95
1733.00	24.32	151.84	1647.22	446.15	-390.82	216.89	1.23	446.97	150.97
1795.00	24.43	152.03	1703.70	471.72	-413.40	228.93	0.22	472.55	151.02
1858.00	24.06	150.95	1761.14	497.55	-436.13	241.27	0.92	498.42	151.05
1921.00	23.78	150.60	1818.73	523.04	-458.42	253.74	0.50	523.97	151.03
1983.00	24.02	150.30	1875.41	548.10	-480.28	266.13	0.43	549.08	151.01
2046.00	24.18	149.44	1932.92	573.75	-502.52	279.05	0.61	574.80	150.96
2109.00	23.39	153.41	1990.57	599.10	-524.82	291.20	2.83	600.20	150.98
2171.00	23.42	152.52	2047.47	623.72	-546.75	302.40	0.57	624.81	151.05
2235.00	23.33	152.40	2106.22	649.10	-569.27	314.14	0.16	650.19	151.11
2298.00	23.93	153.90	2163.94	674.34	-591.80	325.54	1.35	675.43	151.19
2360.00	25.43	153.57	2220.27	700.23	-615.01	337.00	2.43	701.29	151.28
2422.00	25.42	153.20	2276.27	726.84	-638.81	348.92	0.26	727.89	151.36
2484.00	24.11	152.31	2332.56	752.80	-661.90	360.81	2.20	753.85	151.40
2547.00	24.02	151.73	2390.09	778.47	-684.59	372.86	0.40	779.54	151.43
2610.00	24.17	150.98	2447.60	804.15	-707.16	385.19	0.54	805.26	151.42
2673.00	24.33	150.05	2505.04	829.97	-729.68	397.93	0.66	831.13	151.39
2736.00	23.50	151.83	2562.63	855.45	-752.00	410.33	1.75	856.67	151.38
2798.00	23.53	153.15	2619.48	880.18	-773.94	421.76	0.85	881.40	151.41
2860.00	23.85	152.19	2676.26	905.07	-796.07	433.20	0.81	906.30	151.45
2923.00	23.93	152.57	2733.86	930.57	-818.68	445.03	0.28	931.81	151.47
2985.00	23.56	151.51	2790.61	955.51	-840.73	456.73	0.91	956.78	151.49
3046.00	23.61	151.55	2846.52	979.89	-862.18	468.36	0.09	981.18	151.49
3111.00	24.00	151.26	2905.99	1006.09	-885.22	480.92	0.63	1007.42	151.49
3174.00	24.89	152.22	2963.34	1032.13	-908.18	493.26	1.55	1033.49	151.49
3236.00	25.00	151.84	3019.56	1058.25	-931.28	505.52	0.31	1059.64	151.51
3298.00	24.81	151.79	3075.79	1084.34	-954.29	517.86	0.31	1085.74	151.51

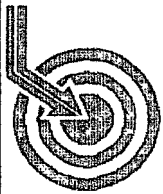


# Scientific Drilling International Survey Report

Company: CONOCOPHILLIPS	Date: 08/23/2007	Time: 08:15:42	Page: 2
Field: San Juan	Co-ordinate(NE) Reference:	Site: San Juan County, NM, Grid:North	
Site: San Juan County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: San Juan 28-7 #248F	Section (VS) Reference:	Well (0.00N,0.00E:154.43Azi)	
Wellpath: DH - Job #33D0707559	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

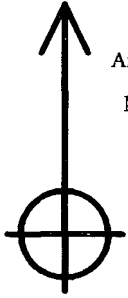
MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
3360.00	24.34	151.44	3132.18	1110.09	-976.97	530.11	0.79	1111.53	151.52
3423.00	24.13	149.38	3189.62	1135.88	-999.46	542.88	1.38	1137.38	151.49
3486.00	23.21	149.80	3247.32	1161.08	-1021.27	555.68	1.48	1162.66	151.45
3550.00	20.96	153.25	3306.63	1185.10	-1042.40	567.18	4.06	1186.71	151.45
3613.00	19.25	163.56	3365.80	1206.63	-1062.43	575.20	6.24	1208.14	151.57
3645.00	19.87	172.01	3395.96	1217.03	-1072.87	577.44	9.04	1218.40	151.71
3662.00	20.21	172.99	3411.93	1222.56	-1078.65	578.20	2.81	1223.85	151.81
3710.00	20.73	173.68	3456.90	1238.44	-1095.32	580.15	1.19	1239.48	152.09
3740.00	20.63	174.13	3484.97	1248.43	-1105.86	581.28	0.63	1249.32	152.27
3769.00	20.42	172.96	3512.13	1258.04	-1115.96	582.42	1.59	1258.80	152.44
3803.00	20.60	173.96	3543.97	1269.30	-1127.79	583.78	1.16	1269.93	152.63
3833.00	19.33	173.38	3572.17	1278.97	-1137.97	584.90	4.28	1279.49	152.80
3864.00	18.24	174.61	3601.52	1288.38	-1147.90	585.95	3.74	1288.80	152.96
3896.00	17.23	173.28	3632.00	1297.56	-1157.59	586.98	3.40	1297.91	153.11
3927.00	15.89	174.26	3661.71	1305.90	-1166.38	587.94	4.42	1306.18	153.25
3959.00	15.19	173.27	3692.54	1313.99	-1174.90	588.87	2.34	1314.21	153.38
3991.00	13.87	172.83	3723.52	1321.60	-1182.87	589.84	4.14	1321.77	153.50
4052.00	11.99	174.90	3782.97	1334.47	-1196.43	591.31	3.17	1334.58	153.70
4083.00	11.66	174.93	3813.31	1340.42	-1202.76	591.88	1.06	1340.51	153.80
4145.00	10.28	175.29	3874.18	1351.46	-1214.52	592.88	2.23	1351.50	153.98
4209.00	8.00	174.77	3937.36	1360.98	-1224.64	593.76	3.56	1360.99	154.13
4272.00	5.98	179.47	3999.89	1368.06	-1232.29	594.19	3.33	1368.07	154.26
4334.00	4.27	178.07	4061.64	1373.10	-1237.83	594.30	2.77	1373.10	154.35
4391.00	3.46	171.94	4118.51	1376.69	-1241.65	594.61	1.59	1376.69	154.41
4437.00	1.79	160.14	4164.46	1378.72	-1243.70	595.05	3.80	1378.72	154.43



Scientific  
Drilling

Field: San Juan  
Site: San Juan County, NM  
Well: San Juan 28-7 #248F  
Wellpath: DH - Job #33D0707559  
Survey: 07/03/07-07/11/07

G/T/M

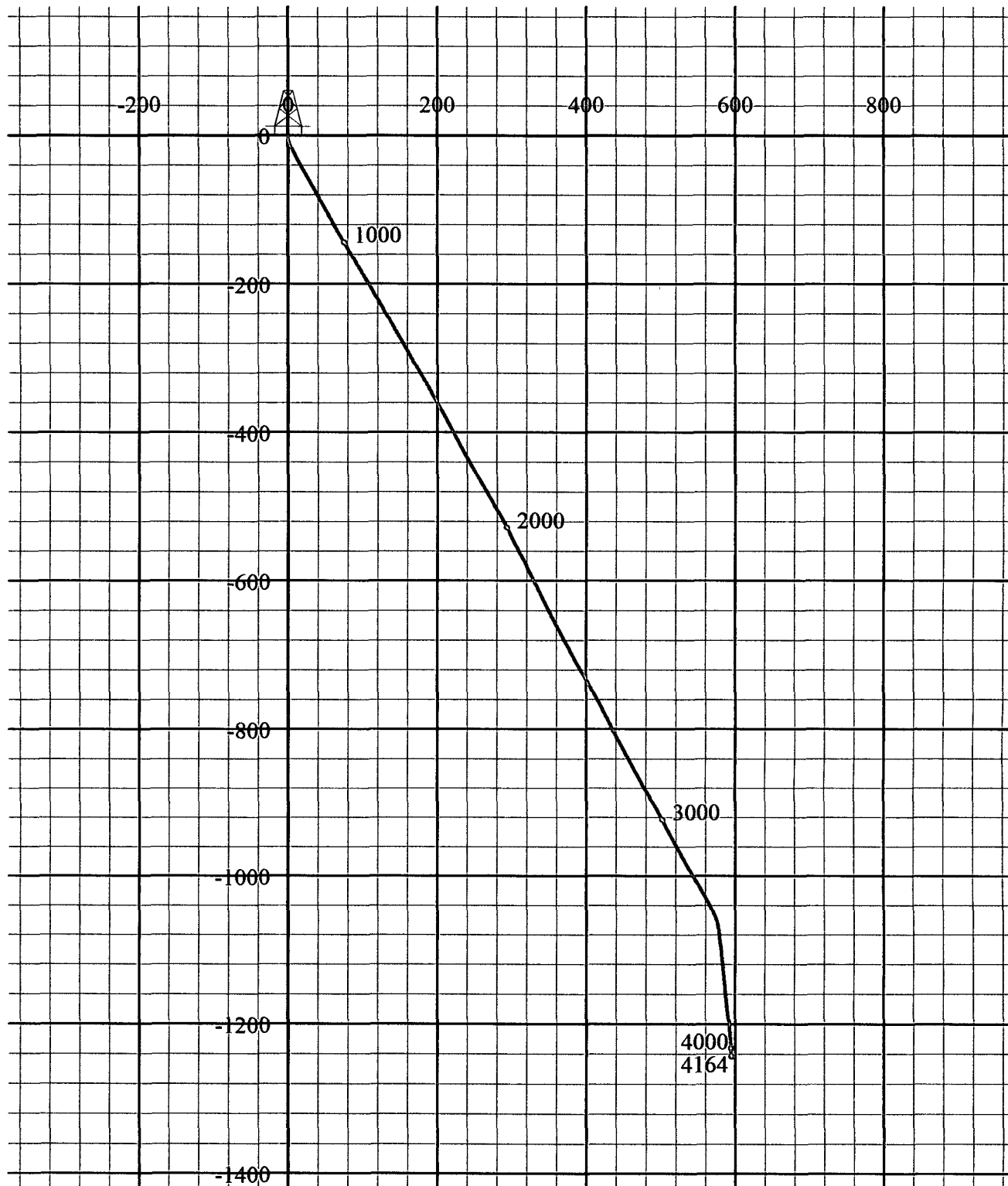


Azimuths to Grid North  
True North: 0.00°  
Magnetic North: 0.00°

Magnetic Field  
Strength: 0nT  
Dip Angle: 0.00°  
Date: 08/23/2007  
Model: igrf2000

West(-)/East(+) [200ft/in]

South(-)/North(+) [200ft/in]



Survey Data

Date	MD (ftKB)	Incl (°)	Method	Survey Company
7/19/2007	8,283.00	0.75	MWD	Scientific Drilling

RCVD DEC 20 '07

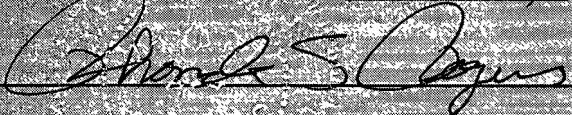
OIL CONS. DIV.

DIST. 3

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 12-19-07



Notary Public in and for San Juan County, New Mexico

My Commission expires January 10, 2011





**COP Deviation Report**  
**SAN JUAN 28-7 UNIT #248F**

**Survey Data**

Date	MD (ftKB)	Incl (*)	Method	Survey Company
7/5/2007	2,422.00	25.42	MWD	Scientific Drilling
7/6/2007	2,484.00	24.11	MWD	Scientific Drilling
7/6/2007	2,547.00	24.02	MWD	Scientific Drilling
7/6/2007	2,610.00	24.17	MWD	Scientific Drilling
7/6/2007	2,673.00	24.33	MWD	Scientific Drilling
7/6/2007	2,736.00	23.50	MWD	Scientific Drilling
7/6/2007	2,798.00	23.53	MWD	Scientific Drilling
7/6/2007	2,860.00	23.85	MWD	Scientific Drilling
7/6/2007	2,923.00	23.93	MWD	Scientific Drilling
7/6/2007	2,985.00	23.56	MWD	Scientific Drilling
7/6/2007	3,046.00	23.61	MWD	Scientific Drilling
7/6/2007	3,111.00	24.00	MWD	Scientific Drilling
7/6/2007	3,174.00	24.89	MWD	Scientific Drilling
7/6/2007	3,236.00	25.00	MWD	Scientific Drilling
7/6/2007	3,298.00	24.81	MWD	Scientific Drilling
7/6/2007	3,360.00	24.34	MWD	Scientific Drilling
7/6/2007	3,423.00	23.44	MWD	Scientific Drilling
7/6/2007	3,486.00	21.83	MWD	Scientific Drilling
7/10/2007	3,550.00	20.96	MWD	Scientific Drilling
7/10/2007	3,613.00	19.25	MWD	Scientific Drilling
7/10/2007	3,645.00	19.87	MWD	Scientific Drilling
7/10/2007	3,662.00	20.21	MWD	Scientific Drilling
7/10/2007	3,710.00	20.73	MWD	Scientific Drilling
7/10/2007	3,740.00	20.63	MWD	Scientific Drilling
7/10/2007	3,769.00	20.42	MWD	Scientific Drilling
7/10/2007	3,803.00	20.60	MWD	Scientific Drilling
7/10/2007	3,833.00	19.33	MWD	Scientific Drilling
7/10/2007	3,864.00	18.24	MWD	Scientific Drilling
7/10/2007	3,896.00	17.23	MWD	Scientific Drilling
7/10/2007	3,927.00	15.89	MWD	Scientific Drilling
7/11/2007	3,959.00	15.19	MWD	Scientific Drilling
7/11/2007	3,991.00	13.87	MWD	Scientific Drilling
7/11/2007	4,052.00	11.99	MWD	Scientific Drilling
7/12/2007	4,083.00	11.66	MWD	Scientific Drilling
7/12/2007	4,145.00	10.28	MWD	Scientific Drilling
7/12/2007	4,209.00	8.00	MWD	Scientific Drilling
7/12/2007	4,272.00	5.98	MWD	Scientific Drilling
7/12/2007	4,334.00	4.27	MWD	Scientific Drilling
7/13/2007	4,391.00	3.46	MWD	Scientific Drilling

I, the undersigned, certify that I acting in my capacity as Public 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 \_\_\_\_\_

Notary Public in and for San Juan County, New Mexico

My Commission expires \_\_\_\_\_



**COP Deviation Report**  
**SAN JUAN 28-7 UNIT #248F**

Operator CONOCOPHILLIPS	Legal WellName SAN JUAN 28-7 UNIT #248F	API / UWI 3003930204	County RIO ARRIBA	State/Province NEW MEXICO
Surface Legal Location SEC:18;TWN:028N;RNG:007W - I		N/S Dist (ft) 1,710.00	N/S Ref FSL	E/W Dist (ft) 1,160.00
				E/W Ref FEL

Survey Data					
Date	MD (ftKB)	Incl (°)	Method	Survey Company	
6/4/2007	114.00	1.00			
7/4/2007	219.00	1.00	MWD	Scientific Drilling	
6/4/2007	219.00	1.00			
7/4/2007	354.00	0.93	MWD	Scientific Drilling	
7/4/2007	429.00	2.45	MWD	Scientific Drilling	
7/4/2007	490.00	4.77	MWD	Scientific Drilling	
7/5/2007	552.00	7.18	MWD	Scientific Drilling	
7/5/2007	613.00	10.32	MWD	Scientific Drilling	
7/5/2007	673.00	13.95	MWD	Scientific Drilling	
7/5/2007	735.00	17.32	MWD	Scientific Drilling	
7/5/2007	797.00	20.10	MWD	Scientific Drilling	
7/5/2007	857.00	22.09	MWD	Scientific Drilling	
7/5/2007	919.00	22.87	MWD	Scientific Drilling	
7/5/2007	980.00	23.97	MWD	Scientific Drilling	
7/5/2007	1,043.00	24.20	MWD	Scientific Drilling	
7/5/2007	1,105.00	24.95	MWD	Scientific Drilling	
7/5/2007	1,168.00	23.86	MWD	Scientific Drilling	
7/5/2007	1,231.00	21.60	MWD	Scientific Drilling	
7/5/2007	1,295.00	22.31	MWD	Scientific Drilling	
7/5/2007	1,358.00	22.82	MWD	Scientific Drilling	
7/5/2007	1,421.00	24.17	MWD	Scientific Drilling	
7/5/2007	1,484.00	24.39	MWD	Scientific Drilling	
7/5/2007	1,545.00	25.10	MWD	Scientific Drilling	
7/5/2007	1,608.00	23.83	MWD	Scientific Drilling	
7/5/2007	1,669.00	23.65	MWD	Scientific Drilling	
7/5/2007	1,733.00	24.32	MWD	Scientific Drilling	
7/5/2007	1,795.00	24.43	MWD	Scientific Drilling	
7/5/2007	1,858.00	24.06	MWD	Scientific Drilling	
7/5/2007	1,921.00	23.78	MWD	Scientific Drilling	
7/5/2007	1,983.00	24.02	MWD	Scientific Drilling	
7/5/2007	2,046.00	24.18	MWD	Scientific Drilling	
7/5/2007	2,109.00	23.39	MWD	Scientific Drilling	
7/5/2007	2,171.00	23.42	MWD	Scientific Drilling	
7/5/2007	2,235.00	23.33	MWD	Scientific Drilling	
7/5/2007	2,298.00	23.93	MWD	Scientific Drilling	
7/5/2007	2,360.00	25.43	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 \_\_\_\_\_