RCVD FEB 7 '12
OIL CONS. DIV.
DIST. 3

ConocoPhillips

ConocoPhillips

SJB (NM West)
SEC 22-T32N-R12W
Hubbard #1B

ST OHS1
API# 30-045-35201

Survey: Survey #1

Standard Survey Report

03 January, 2012

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

Notarized this date 4th of January 2012.

Notary Signature
County of Natrona
State of Wyoming

NOTARY PUBLIC
DARCI D. NEAL
STATE OF WYOMING
COUNTY OF NATRONA
My Commission Expires Oct. 21, 2014

Scientific Drilling

Company:	ConocoPhillips	**Local Co-ordinate Reference:**	Well Hubbard #1B
Project:	SJB (NM West)	**TVD Reference:**	GL 6222' & KB 15' @ 6237.0ft (AWS 730)
Site:	SEC 22-T32N-R12W	**MD Reference:**	GL 6222' & KB 15' @ 6237.0ft (AWS 730)
Well:	Hubbard #1B	**North Reference:**	True
Wellbore:	ST	**Survey Calculation Method:**	Minimum Curvature
Design:	ST	**Database:**	EDM 2003 21 Single User Db

Project SJB (NM West), 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 West 3003		Using geodetic scale factor

Site SEC 22-T32N-R12W

Site Position:		**Northing:**	2,172,183 90 ft	**Latitude:**	36° 58' 9.486 N
From:	Lat/Long	**Easting:**	429,123.22 ft	**Longitude:**	108° 4' 33.426 W
Position Uncertainty:	0 0 ft	**Slot Radius:**	"	**Grid Convergence:**	-0.15 °

Well Hubbard #1B, 1795' FSL 820' FEL

Well Position	**+N/-S**	0.0 ft	**Northing:**	2,172,183.90 ft	**Latitude:**	36° 58' 9.486 N
	+E/-W	0.0 ft	**Easting:**	429,123 22 ft	**Longitude:**	108° 4' 33.426 W
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	6,222.0 ft

Wellbore ST

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2011	11/27/11	10.00	63.59	50,753

Design ST

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	1,640.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0 0	301.12

Survey Program **Date** 01/03/12

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
327.0	1,640 0	Survey #1 (OH)	MWD SDI	MWD - Standard ver 1 0 1
1,670.0	4,577.0	Survey #1 (ST)	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)
1,640.0	23.44	302 25	1,612.3	118.6	-169.8	206 6	0.00	0.00	0.00
TIP									
1,666.0	22.17	301.73	1,636 2	123.9	-178 3	216 7	4.93	-4 87	-1.98
KOP									
1,670.0	21.98	301.65	1,639 9	124.7	-179 6	218.2	4.93	-4.86	-2.11
First SDI MWD Survey									
1,703 0	19.26	301.88	1,670.8	130.8	-189.5	229.8	8 25	-8.24	0.70
1,734.0	18.70	302.21	1,700 1	136.2	-198.0	239 9	1.84	-1 81	1.06
1,766.0	19.25	302.96	1,730.4	141.8	-206 8	250.3	1.88	1.72	2.34
1,798.0	19 89	303.61	1,760.6	147.7	-215.7	261.0	2 11	2.00	2.03
1,830.0	20.68	304 17	1,790.6	153.9	-224 9	272.1	2 54	2 47	1.75
1,862.0	21 22	303.46	1,820.5	160.2	-234.5	283.5	1 86	1 69	-2.22
1,893.0	21.98	303 54	1,849.3	166.5	-244 0	294.9	2 45	2 45	0.26

Company:	ConocoPhillips	**Local Co-ordinate Reference:**	Well Hubbard #1B
Project:	SJB (NM West)	**TVD Reference:**	GL 6222' & KB 15' @ 6237.0ft (AWS 730)
Site:	SEC 22-T32N-R12W	**MD Reference:**	GL 6222' & KB 15' @ 6237.0ft (AWS 730)
Well:	Hubbard #1B	**North Reference:**	True
Wellbore:	ST	**Survey Calculation Method:**	Minimum Curvature
Design:	ST	**Database:**	EDM 2003 21 Single User Db

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)
1,924.0	22 77	304.10	1,877 9	173.1	-253.8	306.7	2.64	2.55	1.81
1,956.0	23 50	304.90	1,907 4	180.2	-264 1	319 3	2 48	2.28	2.50
1,988.0	24 30	305.46	1,936.6	187.7	-274 7	332.2	2.60	2.50	1 75
2,019.0	24.89	305.30	1,964 8	195 2	-285.2	345.1	1.92	1.90	-0.52
2,051 0	25 29	305 38	1,993 8	203.0	-296.3	358 6	1.25	1.25	0.25
2,083.0	25.57	305.97	2,022.7	211 0	-307 5	372 3	1.18	0.88	1 84
2,114.0	26.01	306.44	2,050 6	219 0	-318 4	385 7	1.57	1.42	1.52
2,146.0	26 57	306 01	2,079 3	227.4	-329 8	399.8	1.85	1.75	-1.34
2,178.0	27 07	305 49	2,107 8	235 8	-341 5	414 2	1.73	1.56	-1.63
2,209.0	27.40	305 81	2,135 4	244 1	-353 0	428 4	1 16	1.06	1.03
2,241.0	27 61	306 19	2,163.8	252 8	-365 0	443 1	0.86	0.66	1.19
2,272.0	27.70	306 92	2,191.3	261 3	-376.6	457 4	1 13	0.29	2.35
2,304.0	27 61	306.15	2,219.6	270.2	-388 5	472 2	1 15	-0 28	-2 41
2,335.0	27.37	305.40	2,247.1	278.5	-400.1	486.5	1 36	-0 77	-2 42
2,366.0	28.15	305 64	2,274 5	286.9	-411.8	500.9	2.54	2 52	0.77
2,397.0	28.23	304.91	2,301.9	295.4	-423 8	515.5	1 14	0 26	-2.35
2,429 0	28 75	305.53	2,330 0	304.2	-436.3	530.7	1.87	1 63	1 94
2,461.0	29 18	304 67	2,358 0	313.1	-449 0	546.2	1.87	1.34	-2.69
2,493.0	29.14	304.46	2,385.9	321.9	-461 8	561.7	0 34	-0.13	-0.66
2,525 0	28.39	303 37	2,414.0	330.5	-474 6	577 1	2.86	-2.34	-3.41
2,556 0	27.25	302 45	2,441.4	338.4	-486.7	591 6	3 93	-3.68	-2.97
2,588 0	26.55	301.64	2,469.9	346 1	-499 0	606 0	2.47	-2.19	-2.53
2,619.0	26 16	301 49	2,497.7	353.3	-510 7	619 8	1.28	-1.26	-0.48
2,651.0	26 16	301 21	2,526.4	360.6	-522.8	633 9	0.39	0.00	-0.88
2,683.0	26 84	301 75	2,555.1	368.1	-534.9	648.2	2.25	2.13	1.69
2,715.0	26 96	302.83	2,583.6	375.8	-547.2	662 7	1 57	0.38	3.38
2,746.0	27 11	303.26	2,611 2	383.5	-559.0	676.7	0 79	0.48	1.39
2,778.0	27 52	304.13	2,639 6	391.6	-571.2	691.4	1.79	1.28	2.72
2,809.0	27 66	304 45	2,667 1	399.7	-583 1	705.7	0 66	0.45	1.03
2,841.0	28 20	304 29	2,695 4	408.2	-595 4	720.7	1.70	1.69	-0.50
2,872 0	28.85	304.37	2,722 6	416 5	-607.7	735.5	2.10	2.10	0.26
2,904 0	28.76	304.45	2,750 7	425 2	-620.4	750.9	0.31	-0 28	0.25
2,935 0	28.52	304.14	2,777.9	433 6	-632 7	765.7	0 91	-0.77	-1.00
2,966.0	28.36	303 48	2,805.1	441.8	-644.9	780 5	1 14	-0.52	-2.13
2,998.0	28.17	303 27	2,833 3	450.2	-657.6	795 6	0 67	-0.59	-0.66
3,030.0	27.85	303 05	2,861 6	458.4	-670 2	810.6	1.05	-1 00	-0 69
3,062.0	27.23	302.32	2,889 9	466.4	-682.6	825.4	2.21	-1.94	-2 28
3,094.0	26.43	301.56	2,918 5	474.0	-694.9	839.9	2.72	-2.50	-2.38
3,125.0	25.25	300.54	2,946 4	481.0	-706 4	853.4	4 07	-3.81	-3 29
3,157.0	24.26	299 41	2,975 5	487 7	-718.0	866 8	3 43	-3.09	-3.53
3,188.0	23.52	298 58	3,003.8	493 8	-729.0	879.3	2 62	-2 39	-2.68
3,251 0	22.24	296.46	3,061 8	505 1	-750.7	903 7	2 42	-2.03	-3.37
3,315 0	20.33	294 49	3,121.5	515 1	-771.7	926.9	3 19	-2.98	-3.08
3,379.0	18.46	292 34	3,181.8	523.6	-791 2	947.9	3.13	-2.92	-3 36
3,442.0	16 77	289.79	3,241.9	530 4	-809.0	966 7	2 95	-2.68	-4.05
3,505.0	15 21	286.80	3,302.5	535 9	-825 4	983.6	2.80	-2.48	-4.75
3,568.0	14 20	287 80	3,363.4	540 7	-840.7	999.1	1.65	-1.60	1.59
3,631.0	12.71	286.82	3,424.7	545.0	-854.7	1,013.4	2.39	-2.37	-1.56
3,694.0	11 03	287.37	3,486.3	548.8	-867.1	1,026.0	2.67	-2.67	0.87
3,757.0	9.90	289.13	3,548.3	552.4	-878.0	1,037 1	1.86	-1.79	2 79
3,821.0	9.34	288.60	3,611 4	555.9	-888.1	1,047 6	0 89	-0.88	-0.83
3,884.0	8.11	286 88	3,673.6	558.8	-897.2	1,056.9	2.00	-1.95	-2.73
3,947.0	6.22	285.20	3,736 1	561.0	-904.7	1,064 4	3.02	-3.00	-2.67
4,010.0	5 49	283 93	3,798 8	562.6	-910.9	1,070.6	1 18	-1.16	-2.02
4,074.0	4 99	282 73	3,862.5	563.9	-916.6	1,076.2	0 80	-0.78	-1.88

Company:	ConocoPhillips	**Local Co-ordinate Reference:**	Well Hubbard #1B
Project:	SJB (NM West)	**TVD Reference:**	GL 6222' & KB 15' @ 6237.0ft (AWS 730)
Site:	SEC 22-T32N-R12W	**MD Reference:**	GL 6222' & KB 15' @ 6237 0ft (AWS 730)
Well:	Hubbard #1B	**North Reference:**	True
Wellbore:	ST	**Survey Calculation Method:**	Minimum Curvature
Design:	ST	**Database:**	EDM 2003.21 Single User Db

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)
4,137.0	4 67	281.28	3,925.3	565.0	-921.8	1,081.2	0 54	-0 51	-2.30
4,201.0	4.65	281.51	3,989 1	566.1	-926.9	1,086 1	0.04	-0.03	0.36
4,264.0	3 97	285 64	4,051 9	567.2	-931.5	1,090 6	1.19	-1.08	6.56
4,327.0	3 15	289 63	4,114.8	568.3	-935.2	1,094.4	1 36	-1.30	6 33
4,390.0	2.60	286.08	4,177.7	569.3	-938.2	1,097.5	0.92	-0.87	-5.63
4,453 0	2.63	286.00	4,240.7	570.1	-941 0	1,100.2	0.05	0.05	-0.13
4,516 0	2.68	283 77	4,303.6	570 9	-943 8	1,103.0	0.18	0.08	-3.54
4,577 0	2.46	279.31	4,364.5	571.4	-946.5	1,105.6	0.49	-0.36	-7.31
Last SDI MWD Survey									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
1,640.0	1,612.3	118.6	-169 8	TIP
1,666.0	1,636.2	123 9	-178.3	KOP
1,670.0	1,639.9	124.7	-179.6	First SDI MWD Survey
4,577 0	4,364.5	571.4	-946.5	Last SDI MWD Survey

Checked By: _____ Approved By: _____ Date: _____

4577
4365
212