

SURVEY CALCULATION PROGRAM											TARGET DETAILS											
v1.00.02																						
OPERATOR:		Conoco Phillips				Supervisors:					TARGET N-S		Directional				PBHL N-S		-5563.00			
WELL:		University NG #6021H				Billy Carter					TARGET E-W						PBHL E-W		-3.70			
LOCATION:		Reagan County, TX				Scott Thomason					TARGET RADIUS											
JOB NUMBER:		GC-12518				Adam Lee					TARGET DISPLACEMENT						EOC N-S		-551.40			
COMMENTS:						Kevin Whittington					TARGET CLOSURE						EOC E-W		-14.20			
								MAG DEC.(-/+)		6.53		TARGET TVD		Horizontal		7878.00		Planned Lateral AZ		0.53		
								GRID CORR.(-/+)		0.73		DIP AZ				180.04						
								TOTAL CORR.(-/+)		7.26		DIP DEG UP+/DN-				1.00						
DATE: 01/04/13				TIME: 8:45 AM							TARGET INCLINATION				91.00							
MINIMUM CURVATURE CALCULATIONS(SPE-3362)											PROPOSED DIRECTION		180.04		TARGET TRACKING							
												TO CENTER		CLOSURE CLOSURE		BUILD		WALK				
SVY				TRUE				DLS/		ABOVE(+)		RIGHT(+)		DIR		RATE/		RATE/		Δ N-S		
NUM		MD		AZM		TVD		100		BELOW(-)		LEFT(-)		(DEG AZ)		(FEET)		(°/100')		Δ E-W		
																				Δ Dist		
																				Survey→		
																				PBHL AZ		
TieIn		7300		0.94		63.03		7299.51		8.96		-8.99		39.8		0.00		578.3		7.9		
1		7366		2.60		148.40		7365.48		9.99		-10.02		41.07		4.08		512.34		6.60		
2		7397		5.50		160.10		7396.40		11.99		-12.02		41.94		9.68		481.39		5.71		
3		7429		8.90		167.70		7428.15		15.85		-15.88		42.99		11.01		449.58		4.62		
4		7460		12.10		169.50		7458.62		21.39		-21.42		44.09		10.38		419.00		3.47		
5		7492		15.30		173.10		7489.71		28.88		-28.91		45.21		10.34		387.79		2.28		
6		7523		18.60		175.40		7519.36		37.87		-37.90		46.10		10.86		357.98		1.31		
7		7555		21.90		176.80		7549.38		48.91		-48.95		46.84		10.42		327.77		0.46		
8		7587		24.90		177.70		7578.74		61.61		-61.64		47.45		9.44		298.18		-0.26		
9		7650		31.20		180.40		7634.32		91.21		-91.24		47.87		10.20		242.09		-0.95		
10		7681		33.60		181.90		7660.49		107.81		-107.85		47.53		8.16		215.63		-0.76		
11		7713		36.40		182.10		7686.70		126.15		-126.19		46.88		8.76		189.10		-0.29		
12		7776		42.80		180.40		7735.22		166.28		-166.31		46.05		10.30		139.88		0.17		
13		7808		48.70		178.80		7757.54		189.19		-189.22		46.22		18.78		117.16		-0.21		
14		7839		53.60		181.90		7776.98		213.32		-213.35		46.05		17.62		97.30		-0.27		
15		7871		57.40		179.50		7795.10		239.68		-239.71		45.75		13.39		78.71		-0.20		
16		7902		60.90		179.80		7811.00		266.29		-266.32		45.91		11.32		62.35		-0.61		
17		7934		65.70		178.60		7825.37		294.87		-294.90		46.31		15.37		47.48		-1.28		
18		7965		70.10		180.40		7837.03		323.58		-323.61		46.56		15.18		35.32		-1.79		
19		7997		76.80		181.90		7846.14		354.23		-354.26		45.93		21.41		25.67		-1.45		
20		8060		85.40		183.70		7855.88		416.34		-416.37		42.88		13.94		14.85		1.02		
21		8155		88.90		183.20		7860.61		511.03		-511.06		37.18		3.72		8.47		5.86		
22		8249		89.40		182.10		7862.00		604.93		-604.95		32.83		1.29		5.44		9.33		
23		8344		90.50		182.80		7862.08		699.84		-699.86		28.77		1.37		3.70		12.52		
24		8439		91.60		183.00		7860.34		794.70		-794.72		23.96		1.18		3.79		16.44		
25		8534		92.50		182.60		7856.94		889.53		-889.55		19.33		1.04		5.53		20.20		
26		8629		93.80		180.90		7851.72		984.34		-984.35		16.43		2.25		9.09		22.22		
27		8723		91.60		181.10		7847.30		1078.22		-1078.23		14.79		2.35		11.88		23.00		
28		8818		92.80		181.10		7843.65		1173.13		-1173.14		12.97		1.26		13.87		23.94		
29		8913		92.80		180.40		7839.01		1268.01		-1268.02		11.73		0.74		16.86		24.30		
30		9008		91.00		180.40		7835.86		1362.95		-1362.96		11.06		1.89		18.35		24.09		
31		9102		89.20		180.50		7835.69		1456.94		-1456.95		10.32		1.92		16.87		23.96		
32		9197		88.90		180.20		7837.27		1551.93		-1551.94		9.74		0.45		13.64		23.66		
33		9292		89.90		180.40		7838.26		1646.92		-1646.93		9.25		1.07		10.99		23.28		
34		9387		92.00		181.80		7836.69		1741.88		-1741.89		7.42		2.66		10.91		24.22		
35		9482		90.10		179.80		7834.95		1836.85		-1836.86		6.10		2.90		10.99		24.67		

36	9576	89.40	180.00	7835.36	1930.85	-1930.85	6.26	0.77	8.94	23.64	179.81	1930.86	-0.74	0.38	3632.15	9.96	3632.16	180.16	179.63
37	9671	89.80	180.20	7836.02	2025.85	-2025.85	6.10	0.47	6.62	22.92	179.83	2025.86	0.42	0.38	3537.15	9.80	3537.16	180.16	179.63
38	9766	90.30	180.00	7835.94	2120.85	-2120.85	5.93	0.57	5.04	22.21	179.84	2120.86	0.53	-0.38	3442.15	9.63	3442.16	180.16	179.63
39	9861	91.30	180.20	7834.61	2215.83	-2215.84	5.77	1.07	4.71	21.50	179.85	2215.85	1.05	0.38	3347.16	9.47	3347.17	180.16	179.63
40	9955	90.10	180.50	7833.46	2309.82	-2309.83	5.19	1.32	4.22	21.20	179.87	2309.83	-1.28	0.57	3253.17	8.89	3253.18	180.16	179.63
41	10050	90.60	180.20	7832.88	2404.82	-2404.82	4.61	0.61	3.14	20.90	179.89	2404.83	0.53	-0.57	3158.18	8.31	3158.19	180.15	179.62
42	10145	91.10	181.10	7831.47	2499.80	-2499.81	3.53	1.08	2.89	21.10	179.92	2499.81	0.53	1.71	3063.19	7.23	3063.20	180.14	179.61
43	10240	92.00	180.70	7828.91	2594.76	-2594.76	2.04	1.04	3.80	21.72	179.95	2594.76	0.95	-0.76	2968.24	5.74	2968.25	180.11	179.58
44	10334	92.70	180.20	7825.05	2688.68	-2688.68	1.30	0.91	6.02	21.58	179.97	2688.68	0.74	-0.96	2874.32	5.00	2874.33	180.10	179.57
45	10429	90.90	180.50	7822.07	2783.62	-2783.62	0.72	1.92	7.34	21.29	179.99	2783.62	-1.89	0.57	2779.38	4.42	2779.38	180.09	179.56
46	10524	91.00	179.10	7820.49	2878.61	-2878.61	1.06	1.48	7.26	20.08	179.98	2878.61	0.11	-2.65	2684.39	4.76	2684.40	180.10	179.57
47	10619	92.20	178.60	7817.84	2973.55	-2973.55	2.96	1.37	8.26	17.29	179.94	2973.55	1.26	-0.95	2589.45	6.66	2589.46	180.15	179.62
48	10713	93.00	178.20	7813.58	3067.41	-3067.42	5.58	0.95	10.88	13.80	179.90	3067.42	0.85	-0.77	2495.58	9.28	2495.60	180.21	179.68
49	10808	92.20	178.90	7809.27	3162.28	-3162.29	7.98	1.12	13.54	10.52	179.86	3162.30	-0.84	1.33	2400.71	11.68	2400.74	180.28	179.75
50	10903	92.50	179.10	7805.37	3257.18	-3257.19	9.64	0.38	15.78	7.99	179.83	3257.21	0.32	0.38	2305.81	13.34	2305.85	180.33	179.80
51	10998	91.10	179.10	7802.39	3352.12	-3352.13	11.13	1.47	17.10	5.62	179.81	3352.15	-1.47	0.00	2210.87	14.83	2210.92	180.38	179.85
52	11092	91.00	177.70	7800.66	3446.07	-3446.08	13.76	1.49	17.19	2.13	179.77	3446.10	-0.11	-2.68	2116.92	17.46	2117.00	180.47	179.94
53	11187	91.50	177.50	7798.59	3540.96	-3540.97	17.73	0.57	17.60	-2.73	179.71	3541.01	0.53	-0.38	2022.03	21.43	2022.14	180.61	180.08
54	11282	91.20	178.10	7796.35	3635.86	-3635.87	21.38	0.71	18.18	-7.25	179.66	3635.94	-0.32	1.14	1927.13	25.08	1927.29	180.75	180.22
55	11377	89.50	179.10	7795.77	3730.82	-3730.84	23.70	2.08	17.11	-10.45	179.64	3730.91	-1.79	1.90	1832.16	27.40	1832.37	180.86	180.33
56	11472	89.50	179.50	7796.60	3825.81	-3825.83	24.86	0.42	14.62	-12.49	179.63	3825.91	0.00	0.76	1737.17	28.56	1737.41	180.94	180.41
57	11567	89.70	179.30	7797.26	3920.80	-3920.82	25.86	0.30	12.30	-14.36	179.62	3920.90	0.21	-0.38	1642.18	29.56	1642.45	181.03	180.50
58	11662	89.50	179.10	7797.93	4015.79	-4015.81	27.18	0.30	9.98	-16.57	179.61	4015.90	-0.21	-0.38	1547.19	30.88	1547.50	181.14	180.61
59	11756	89.30	180.20	7798.91	4109.78	-4109.80	27.76	1.19	7.35	-18.01	179.61	4109.89	-0.21	2.11	1453.20	31.46	1453.54	181.24	180.71
60	11851	89.10	180.40	7800.24	4204.77	-4204.79	27.26	0.30	4.37	-18.39	179.63	4204.88	-0.21	0.38	1358.21	30.96	1358.56	181.31	180.78
61	11946	88.70	180.90	7802.06	4299.74	-4299.76	26.18	0.67	0.88	-18.19	179.65	4299.84	-0.42	0.95	1263.24	29.88	1263.59	181.36	180.83
62	12041	88.90	181.80	7804.05	4394.70	-4394.72	23.94	0.97	-2.76	-16.84	179.69	4394.78	0.21	1.71	1168.28	27.64	1168.61	181.36	180.83
63	12136	89.20	182.30	7805.63	4489.63	-4489.64	20.55	0.61	-5.99	-14.32	179.74	4489.69	0.32	0.95	1073.36	24.25	1073.63	181.29	180.76
64	12230	88.70	181.90	7807.35	4583.55	-4583.56	17.10	0.68	-9.36	-11.74	179.79	4583.59	-0.53	-0.77	979.44	20.80	979.66	181.22	180.69
65	12325	89.30	183.70	7809.01	4678.42	-4678.43	12.46	2.00	-12.67	-7.98	179.85	4678.45	0.63	3.41	884.57	16.16	884.72	181.05	180.52
66	12420	89.80	184.60	7809.75	4773.17	-4773.18	5.59	1.08	-15.07	-1.98	179.93	4773.18	0.53	1.71	789.82	9.29	789.88	180.67	180.14
67	12515	90.70	185.30	7809.34	4867.82	-4867.82	-2.61	1.20	-16.31	5.34	180.03	4867.82	0.95	1.33	695.18	1.09	695.18	180.09	179.56
68	12609	91.00	185.60	7807.95	4961.39	-4961.38	-11.54	0.45	-16.55	13.40	180.13	4961.40	0.32	0.57	601.62	-7.84	601.67	179.25	178.72
69	12704	92.20	184.00	7805.29	5056.02	-5056.01	-19.48	2.10	-15.55	20.47	180.22	5056.05	1.26	-3.03	506.99	-15.78	507.24	178.22	177.69
70	12799	92.90	184.00	7801.07	5150.70	-5150.68	-26.10	0.74	-12.97	26.22	180.29	5150.75	0.74	0.00	412.32	-22.40	412.92	176.89	176.36
71	12894	92.70	182.60	7796.42	5245.43	-5245.41	-31.57	1.49	-9.98	30.80	180.34	5245.51	-0.21	-2.65	317.59	-27.87	318.81	174.99	174.46
72	12988	93.60	183.50	7791.26	5339.16	-5339.13	-36.56	1.35	-6.45	34.93	180.39	5339.26	0.96	1.72	223.87	-32.86	226.26	171.65	171.12
73	13083	94.40	183.20	7784.63	5433.77	-5433.74	-42.10	0.90	-1.48	39.59	180.44	5433.90	0.84	-0.57	129.26	-38.40	134.84	163.46	162.93
74	13153	95.40	183.50	7778.65	5503.39	-5503.36	-46.17	1.49	3.3	43.0	180.48	5503.56	1.43	0.77	59.64	-42.47	73.21	144.54	144.01
TD	13210	95.40	183.50	7773.29	5560.04	-5560.00	-49.64	0.00	7.7	46.0	180.51	5560.23	0.00	0.00	3.00	-45.94	46.03	93.73	93.20