

30-015-37682

RDC THE DIRECTIONAL DRILLING COMPANY		SURVEY CALCULATION PROGRAM v1.00.02										TARGET DETAILS											
OPERATOR:		Marbob Energy Corp.				Supervisors:						TARGET N-S Directional											
WELL:		Showstopper 19 Federal 3H				Joe Hargrove						TARGET E-W											
LOCATION:		Eddy Co., NM				Joe Beal						TARGET RADIUS											
JOB NUMBER:		WT-10337				Nic Black						TARGET DISPLACEMENT											
COMMENTS:		RECEIVED APR 11 2011 NMCCD ARTESIA TIME: 8:00 AM				MAG DEC.(-/+)		7.89		TARGET TVD Horizontal		7180.00											
						GRID CORR.(-/+)		-0.17		DIP AZ		0.06											
						TOTAL CORR.(-/+)		7.72		DIP DEG UP+/DN-		0.00											
DATE: 08/05/10										TARGET INCLINATION		90.00											
MINIMUM CURVATURE CALCULATIONS(SPE-3362)										PROPOSED DIRECTION		0.06		TARGET TRACKING TO CENTER		CLOSURE DIR		CLOSURE DISTANCE		BUILD RATE/		WALK RATE/	
SVY NUM	MD	INC	TRUE AZM	TVD	SECT	N-S	E-W	DLS/ 100	ABOVE(+)	RIGHT(+)	BELOW(-)	LEFT(-)	(DEG AZ)	(FEET)	'/100'	'/100'							
Gyro	6474	1.9	205.3	6471.52		-133.12	-8.53		708.48	0.00			183.67	133.39									
1	6551	1.6	217.0	6548.48	-135.15	-135.14	-9.73	0.61	631.52	-9.58			184.12	135.49	-0.40	15.14							
2	6613	1.8	225.1	6610.46	-136.53	-136.52	-10.94	0.50	569.54	-10.79			184.58	136.95	0.32	13.06							
3	6644	1.1	240.0	6641.45	-137.02	-137.01	-11.54	2.55	538.55	-11.40			184.81	137.49	-2.26	48.06							
4	6676	2.8	349.4	6673.43	-136.41	-136.39	-11.95	10.41	506.57	-11.81			185.01	136.92	5.31	341.88							
5	6707	6.9	3.7	6704.32	-133.80	-133.79	-11.97	13.69	475.68	-11.83			185.11	134.33	13.23	46.13							
6	6738	11.0	7.7	6734.93	-129.01	-129.00	-11.45	13.37	445.07	-11.32			185.07	129.51	13.23	12.90							
7	6770	15.2	6.1	6766.09	-121.81	-121.80	-10.60	13.17	413.91	-10.47			184.97	122.26	13.13	-5.00							
8	6802	19.2	4.7	6796.66	-112.39	-112.38	-9.72	12.57	383.34	-9.60			184.94	112.80	12.50	-4.38							
9	6834	22.8	3.7	6826.53	-100.95	-100.95	-8.89	11.31	353.47	-8.78			185.03	101.34	11.25	-3.13							
10	6866	26.7	3.2	6855.58	-87.58	-87.57	-8.09	12.20	324.42	-7.99			185.28	87.95	12.19	-1.56							
11	6897	30.0	2.0	6882.86	-72.88	-72.87	-7.43	10.80	297.14	-7.35			185.82	73.25	10.65	-3.87							
12	6929	33.4	0.9	6910.08	-56.07	-56.06	-7.01	10.78	269.92	-6.95			187.13	56.50	10.62	-3.44							
13	6961	36.9	0.2	6936.24	-37.65	-37.65	-6.84	11.01	243.76	-6.80			190.29	38.26	10.94	-2.19							
14	6993	40.4	0.3	6961.23	-17.67	-17.66	-6.75	10.94	218.77	-6.73			200.91	18.91	10.94	0.31							
15	7025	44.3	0.3	6984.87	3.88	3.89	-6.64	12.19	195.13	-6.64			300.37	7.69	12.19	0.00							
16	7056	48.0	0.3	7006.35	26.23	26.24	-6.52	11.94	173.65	-6.55			346.05	27.04	11.94	0.00							
17	7088	51.8	0.5	7026.96	50.71	50.71	-6.35	11.88	153.04	-6.40			352.87	51.11	11.88	0.63							
18	7120	55.4	1.1	7045.94	76.46	76.46	-5.98	11.35	134.06	-6.06			355.52	76.70	11.25	1.88							
19	7152	58.6	1.4	7063.37	103.28	103.29	-5.40	10.03	116.63	-5.51			357.01	103.43	10.00	0.94							
20	7184	61.4	0.9	7079.37	130.99	131.00	-4.84	8.85	100.63	-4.98			357.88	131.08	8.75	-1.56							
21	7215	64.7	0.0	7093.41	158.62	158.62	-4.63	10.96	86.59	-4.80			358.33	158.69	10.65	-2.90							
22	7247	66.9	359.2	7106.53	187.80	187.81	-4.84	7.24	73.47	-5.03			358.53	187.87	6.88	-2.50							
23	7279	69.5	358.9	7118.41	217.51	217.51	-5.33	8.17	61.59	-5.56			358.60	217.58	8.13	-0.94							
24	7311	72.3	358.9	7128.88	247.74	247.74	-5.91	8.75	51.12	-6.17			358.63	247.81	8.75	0.00							
25	7343	74.2	359.2	7138.11	278.37	278.38	-6.42	6.00	41.89	-6.71			358.68	278.45	5.94	0.94							
26	7374	75.7	359.4	7146.16	308.31	308.31	-6.78	4.88	33.84	-7.10			358.74	308.39	4.84	0.65							

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										TOTAL CORR.(-/+)		7.72		DIP DEG UP+/DN-				0.00					
DATE: 08/05/10				TIME: 8:00 AM								TARGET INCLINATION				90.00							
MINIMUM CURVATURE CALCULATIONS(SPE-3362)										PROPOSED DIRECTION		0.06		TARGET TRACKING TO CENTER		CLOSURE DIR		CLOSURE DISTANCE		BUILD RATE/		WALK RATE/	
SVY NUM	MD	INC	TRUE AZM	TVD	SECT	N-S	E-W	DLS/100	ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)	DIR (DEG AZ)	DISTANCE (FEET)	RATE/ °/100'	RATE/ °/100'									
54	9539	89.3	359.6	7166.44	2470.92	2470.93	-7.37	1.40	13.56	-9.96	359.83	2470.94	-0.32	-1.37									
55	9635	89.1	359.3	7167.78	2566.91	2566.92	-8.29	0.38	12.22	-10.98	359.81	2566.93	-0.21	-0.31									
56	9730	90.3	360.0	7168.28	2661.90	2661.91	-8.87	1.46	11.72	-11.66	359.81	2661.93	1.26	0.74									
57	9825	91.0	0.3	7167.20	2756.90	2756.91	-8.62	0.80	12.80	-11.51	359.82	2756.92	0.74	0.32									
58	9921	90.2	359.8	7166.20	2852.89	2852.90	-8.54	0.98	13.80	-11.53	359.83	2852.91	-0.83	-0.52									
59	10016	89.1	359.8	7166.78	2947.88	2947.90	-8.87	1.16	13.22	-11.96	359.83	2947.91	-1.16	0.00									
60	10112	88.5	359.0	7168.79	3043.86	3043.87	-9.88	1.04	11.21	-13.07	359.81	3043.88	-0.62	-0.83									
61	10205	88.6	0.0	7171.14	3136.82	3136.83	-10.69	1.08	8.86	-13.97	359.80	3136.85	0.11	1.08									
62	10300	88.0	359.3	7173.96	3231.78	3231.79	-11.27	0.97	6.04	-14.65	359.80	3231.81	-0.63	-0.74									
63	10363	87.3	0.2	7176.54	3294.72	3294.73	-11.54	1.81	3.46	-14.99	359.80	3294.75	-1.11	1.43									
64	10427	89.3	359.5	7178.44	3358.69	3358.70	-11.71	3.31	1.56	-15.23	359.80	3358.72	3.12	-1.09									
65	10490	89.4	359.8	7179.16	3421.68	3421.70	-12.10	0.50	0.84	-15.68	359.80	3421.72	0.16	0.48									
66	10554	89.9	359.2	7179.55	3485.68	3485.69	-12.65	1.22	0.45	-16.30	359.79	3485.72	0.78	-0.94									
67	10649	90.8	358.8	7178.97	3580.66	3580.68	-14.31	1.04	1.03	-18.06	359.77	3580.70	0.95	-0.42									
68	10745	91.7	1.9	7176.87	3676.62	3676.64	-13.73	3.36	3.13	-17.58	359.79	3676.66	0.94	3.23									
69	10808	90.8	3.5	7175.50	3739.54	3739.55	-10.76	2.91	4.50	-14.68	359.84	3739.57	-1.43	2.54									
70	10871	90.6	3.8	7174.73	3802.41	3802.42	-6.75	0.57	5.27	-10.73	359.90	3802.42	-0.32	0.48									
71	10965	89.1	1.8	7174.97	3896.29	3896.30	-2.16	2.66	5.03	-6.24	359.97	3896.30	-1.60	-2.13									
72	11060	89.3	2.2	7176.30	3991.23	3991.23	1.16	0.47	3.70	-3.02	0.02	3991.23	0.21	0.42									
73	11156	89.0	2.9	7177.72	4087.13	4087.12	5.43	0.79	2.28	1.15	0.08	4087.13	-0.31	0.73									
74	11251	89.8	1.3	7178.72	4182.06	4182.05	8.91	1.88	1.28	4.53	0.12	4182.06	0.84	-1.68									
75	11346	89.9	0.9	7178.97	4277.04	4277.03	10.73	0.43	1.03	6.25	0.14	4277.05	0.11	-0.42									
76	11442	89.2	0.3	7179.72	4373.03	4373.02	11.74	0.96	0.28	7.16	0.15	4373.04	-0.73	-0.63									
77	11560	88.5	358.8	7182.09	4491.00	4490.99	10.81	1.40	-2.09	6.11	0.14	4491.01	-0.59	-1.27									
PBHL	11610	88.5	358.8	7183.40	4540.97	4540.96	9.76	0.00	-3.40	5.01	0.12	4540.97	0.00	0.00									