



## SURVEY CALCULATION PROGRAM

V09.04.02 BK

Minimum Curvature

File: DDCO-100306

OPERATOR: Carrizo						Target Information						VS Referenced to Offset from Surface											
WELL: Bob White 36-44-8-69						TARGET KBTVD:			6585.00			NORTH/SOUTH:		40.34									
LOCATION: Weld County						TARGET INCL:			90.00			EAST/WEST:		1.66									
RIG: Extreme Rig #15						TARGET AZM:			342.18			(Enter 0° N and 0° E for Surface)											
JOB NUMBER: DDCO-100306																							
:SURVEY COMPANY:						:DIRECTIONAL COMPANY:						PROPOSED DIRECTION:		342.18		Total Corr.(+/-):		7.88		GRID NORTH		▼	
MS. Guidance						MS. Directional						COMMENTS: RKB 4945.6 and GL 4930.1											
:SURVEY HANDS:						:DIRECTIONAL HANDS:						Tie In With Gyro											
Kyle Clark						Mike Reynosa																	
Ross Keene						Kenny Reed																	
Carrizo						Bob White 36-44-8-69						DDCO-100306						Target Calculations					
TRUE		TEMP		API		Course				Surface		CLOSURE		DLS/		BUR/		TVD AT 0°		ABOVE (+)		RIGHT(+)	
SVY	MD	INC	AZM	°F	Gamma	Length	TVD	N-S	E-W	Vert Sect	DIST	DIR	100	100'	V. SEC.	BELOW (-)	LEFT(-)						
T/I	5,400	1.0	88.6			N/A	5399.51	40.34	1.66	37.90	40.37	2.36	N/A	N/A	7770.49	1185.49	#DIV/0!						
1	5,422	1.7	98.8	109	84	22	5421.50	40.29	2.17	37.70	40.35	3.09	3.35	3.18	5421.50	1163.50	0.48						
2	5,467	1.7	97.4	109	84	45	5466.48	40.11	3.50	37.11	40.26	4.98	0.09	0.00	5466.48	1118.52	1.68						
3	5,510	1.7	102.1	95	84	43	5509.47	39.89	4.75	36.52	40.17	6.79	0.32	0.00	5509.47	1075.53	2.81						
4	5,555	1.1	35.1	95	76	45	5554.45	40.10	5.65	36.45	40.50	8.02	3.61	-1.33	5554.45	1030.55	3.73						
5	5,600	4.0	351.0	102	92	45	5599.41	42.01	5.66	38.26	42.39	7.67	7.33	6.44	5599.41	985.59	4.31						
6	5,646	4.0	349.4	102	92	46	5645.30	45.17	5.11	41.44	45.46	6.45	0.24	0.00	5645.30	939.70	4.76						
7	5,691	4.1	346.4	102	92	45	5690.18	48.28	4.44	44.60	48.48	5.26	0.52	0.22	5690.18	894.82	5.08						
8	5,736	3.8	352.8	109	97	45	5735.08	51.32	3.88	47.67	51.47	4.32	1.18	-0.67	5735.08	849.92	5.47						
9	5,780	3.3	347.8	109	101	44	5778.99	54.00	3.43	50.36	54.11	3.63	1.34	-1.14	5778.99	806.01	5.86						
10	5,824	3.3	353.3	116	92	44	5822.92	56.50	3.01	52.87	56.58	3.05	0.72	0.00	5822.92	762.08	6.23						
11	5,868	3.1	347.3	116	97	44	5866.85	58.92	2.60	55.29	58.98	2.53	0.89	-0.45	5866.85	718.15	6.58						
12	5,912	2.9	347.1	116	92	44	5910.79	61.16	2.09	57.59	61.20	1.96	0.46	-0.45	5910.79	674.21	6.78						
13	5,957	2.5	351.0	116	92	45	5955.74	63.24	1.69	59.69	63.26	1.53	0.98	-0.89	5955.74	629.26	7.03						
14	6,002	2.7	337.8	116	97	45	6000.69	65.19	1.13	61.72	65.20	0.99	1.40	0.44	6000.69	584.31	7.10						
15	6,048	7.1	338.3	124	88	46	6046.51	68.84	-0.33	65.64	68.84	359.73	9.57	9.57	6046.51	538.49	6.83						
16	6,093	12.0	343.1	124	84	45	6090.88	75.90	-2.72	73.09	75.95	357.95	11.02	10.89	6090.88	494.12	6.71						
17	6,136	16.9	340.5	124	88	43	6132.51	86.08	-6.11	83.82	86.30	355.94	11.49	11.40	6132.51	452.49	6.60						
18	6,181	21.5	339.9	124	88	45	6174.99	100.00	-11.13	98.60	100.61	353.65	10.23	10.22	6174.99	410.01	6.08						
19	6,226	26.0	340.8	124	88	45	6216.17	117.06	-17.21	116.71	118.32	351.64	10.03	10.00	6216.17	368.83	5.52						
20	6,271	30.8	341.3	131	92	45	6255.74	137.30	-24.15	138.11	139.41	350.02	10.68	10.67	6255.74	329.26	5.10						
21	6,315	34.9	342.0	131	97	44	6292.70	159.95	-31.65	161.97	163.06	348.81	9.36	9.32	6292.70	292.30	4.89						
22	6,360	39.5	341.9	131	97	45	6328.53	185.81	-40.08	189.17	190.09	347.83	10.22	10.22	6328.53	256.47	4.78						
23	6,405	44.7	341.2	131	92	45	6361.91	214.42	-49.64	219.32	220.09	346.97	11.60	11.56	6361.91	223.09	4.44						
24	6,451	50.1	339.8	131	101	46	6393.04	246.32	-60.95	253.15	253.75	346.10	11.95	11.74	6393.04	191.96	3.43						
25	6,496	51.4	338.9	131	105	45	6421.51	278.93	-73.24	287.96	288.38	345.29	3.28	2.89	6421.51	163.49	1.70						
26	6,541	54.7	339.6	131	130	45	6448.55	312.55	-85.98	323.87	324.16	344.62	7.44	7.33	6448.55	136.45	-0.13						
27	6,586	57.3	339.2	131	160	45	6473.72	347.47	-99.10	361.13	361.33	344.08	5.82	5.78	6473.72	111.28	-1.94						
28	6,629	59.7	339.1	131	147	43	6496.18	381.73	-112.15	397.74	397.86	343.63	5.58	5.58	6496.18	88.82	-3.88						
29	6,673	61.0	338.7	131	122	44	6517.95	417.40	-125.92	435.91	435.98	343.21	3.06	2.95	6517.95	67.05	-6.07						
30	6,718	66.1	339.4	131	80	45	6537.99	455.02	-140.32	476.13	476.16	342.86	11.42	11.33	6537.99	47.01	-8.26						
31	6,762	71.4	339.2	138	71	44	6553.93	493.37	-154.81	517.07	517.08	342.58	12.05	12.05	6553.93	31.07	-10.32						
32	6,806	77.0	339.9	138	92	44	6565.90	533.02	-169.59	559.35	559.35	342.35	12.82	12.73	6565.90	19.10	-12.26						
33	6,849	81.8	341.5	138	80	43	6573.81	572.90	-183.55	601.58	601.58	342.24	11.75	11.16	6573.81	11.19	-13.35						
34	6,894	85.2	342.0	138	109	45	6578.90	615.35	-197.55	646.29	646.29	342.20	7.64	7.56	6578.90	6.10	-13.68						
35	6,939	87.0	342.6	138	109	45	6581.97	658.12	-211.20	691.18	691.18	342.21	4.22	4.00	6581.97	3.03	-13.59						
36	6,982	90.5	344.3	146	105	43	6582.90	699.32	-223.44	734.15	734.15	342.28	9.05	8.14	6582.90	2.10	-12.63						
37	7,057	92.9	343.6	153	105	75	6580.68	771.36	-244.17	809.08	809.09	342.44	3.33	3.20	6580.68	4.32	-10.32						
38	7,102	93.3	342.9	146	86	45	6578.24	814.39	-257.12	854.00	854.01	342.48	1.79	0.89	6578.24	6.76	-9.48						
39	7,146	93.9	342.0	138	76	44	6575.48	856.26	-270.36	897.92	897.93	342.48	2.45	1.36	6575.48	9.52	-9.27						
40	7,191	90.6	341.5	131	73	45	6573.72	898.96	-284.44	942.87	942.88	342.44	7.42	-7.33	6573.72	11.28	-9.61						
41	7,236	88.0	341.3	138	73	45	6574.27	941.60	-298.79	987.86	987.87	342.39	5.79	-5.78	6574.27	10.73	-10.22						
42	7,281	87.5	340.8	138	76	45	6576.03	984.13	-313.39	1032.82	1032.82	342.34	1.57	-1.11	6576.03	8.97	-11.11						
43	7,325	87.3	340.5	138	80	44	6578.03	1025.60	-327.95	1076.76	1076.76	342.27	0.82	-0.45	6578.03	6.97	-12.28						
44	7,371	87.2	340.1	138	99	46	6580.24	1068.86	-343.44	1122.68	1122.68	342.19	0.90	-0.22	6580.24	4.76	-13.79						
45	7,414	88.7	339.9	138	86	43	6581.77	1109.24	-358.14	1165.62	1165.62	342.11	3.52	3.49	6581.77	3.23	-15.42						
46	7,439	89.0	339.8	146	90	25	6582.27	1132.70	-366.75	1190.59	1190.60	342.06	1.26	1.20	6582.27	2.73	-16.44						
47	7,458	90.0	339.4	146	92	19	6582.44	1150.51	-373.37	1209.57	1209.58	342.02	5.67	5.26	6582.44	2.56	-17.30						
48	7,503	90.5	339.0	146	76	45	6582.24	1192.58	-389.35	1254.51	1254.52	341.92	1.42	1.11	6582.24	2.76	-19.64						
49	7,546	91.6	339.2	146	109	43	6581.46	1232.74	-404.69	1297.44	1297.47	341.83	2.60	2.56	6581.46	3.54	-21.95						
50	7,569	91.8	339.4	146	50	23	6580.77	1254.24	-412.81	1320.40	1320.43	341.78	1.23	0.87	6580.77	4.23	-23.10						
51	7,591	92.0	338.7	146	55	22	6580.04	1274.78	-420.68	1342.36	1342.40	341.74	3.31	0.91	6580.04	4.96	-24.30						
52	7,611	92.0	339.1	146	61	20	6579.35	1293.43	-427.87	1362.31	1362.36	341.70	2.00	0.00	6579.35	5.65	-25.44						
53	7,635	90.2	339.2	138	82	24	6578.89	1315.85	-436.41	1386.27	1386.33	341.65	7.51	-7.50	6578.89	6.11	-26.71						
54	7,680	88.7	339.9	146	80	45	6579.32	1358.01	-452.13	1431.22	1431.30	341.59	3.68	-3.33	6579.32	5.68	-28.78						
55	7,725	88.5	339.8	146	57	45	6580.42	1400.24	-467.63	1476.17	1476.27	341.53	0.50	-0.44	6580.42	4.58	-30.61						



## SURVEY CALCULATION PROGRAM

V09.04.02 BK

Minimum Curvature

File: DDCO-100306

OPERATOR:		Carrizo										Target Information				VS Referenced to Offset from Surface					
WELL:		Bob White 36-44-8-69										TARGET KBTVD:		6585.00		NORTH/SOUTH:		40.34			
LOCATION:		Weld County										TARGET INCL:		90.00		EAST/WEST:		1.66			
RIG:		Extreme Rig #15										TARGET AZM:		342.18		(Enter 0° N and 0° E for Surface)					
JOB NUMBER:		DDCO-100306																			
:SURVEY COMPANY:						:DIRECTIONAL COMPANY:						PROPOSED DIRECTION:		342.18		Total Corr.(+/-):		7.88 GRID NORTH ▼			
MS. Guidance						MS. Directional						COMMENTS: RKB 4945.6 and GL 4930.1									
:SURVEY HANDS:						:DIRECTIONAL HANDS:						Tie In With Gyro									
Kyle Clark						Mike Reynosa															
Ross Keene						Kenny Reed															
Carrizo						Bob White 36-44-8-69						DDCO-100306				Target Calculations					
TRUE		TEMP		API		Course		Surface		CLOSURE		DLS/		BUR/		TVD AT 0°		ABOVE (+)		RIGHT(+)	
SVY	MD	INC	AZM	°F	Gamma	Length	TVD	N-S	E-W	Vert Sect	DIST	DIR	100	100'	V. SEC.	BELOW (-)	LEFT(-)				
56	7,769	88.6	341.0	146	90	44	6581.53	1441.68	-482.39	1520.14	1520.24	341.50	2.74	0.23	6581.53	3.47	-31.97				
57	7,813	89.4	341.7	146	52	44	6582.30	1483.36	-496.45	1564.12	1564.24	341.50	2.42	1.82	6582.30	2.70	-32.61				
58	7,859	90.5	342.7	146	57	46	6582.34	1527.16	-510.51	1610.12	1610.23	341.52	3.23	2.39	6582.34	2.66	-32.59				
59	7,902	90.8	342.6	146	71	43	6581.85	1568.20	-523.34	1653.12	1653.22	341.55	0.74	0.70	6581.85	3.15	-32.24				
60	7,946	91.1	342.0	146	88	44	6581.12	1610.11	-536.71	1697.11	1697.21	341.56	1.52	0.68	6581.12	3.88	-32.15				
61	7,991	89.7	341.9	146	84	45	6580.81	1652.89	-550.65	1742.11	1742.21	341.57	3.12	-3.11	6580.81	4.19	-32.33				
62	8,036	88.7	340.8	146	78	45	6581.44	1695.53	-565.04	1787.10	1787.20	341.57	3.30	-2.22	6581.44	3.56	-32.98				
63	8,081	89.8	342.4	153	80	45	6582.02	1738.22	-579.25	1832.09	1832.19	341.57	4.31	2.44	6582.02	2.98	-33.44				
64	8,126	89.5	341.7	153	82	45	6582.30	1781.03	-593.11	1877.09	1877.19	341.58	1.69	-0.67	6582.30	2.70	-33.54				
65	8,170	89.1	342.0	153	80	44	6582.84	1822.84	-606.82	1921.08	1921.19	341.59	1.14	-0.91	6582.84	2.16	-33.79				
66	8,213	89.0	341.5	153	78	43	6583.55	1863.67	-620.28	1964.08	1964.18	341.59	1.19	-0.23	6583.55	1.45	-34.12				
67	8,256	89.7	342.2	153	80	43	6584.04	1904.52	-633.68	2007.07	2007.18	341.60	2.30	1.63	6584.04	0.96	-34.36				
68	8,301	90.2	342.7	153	97	45	6584.08	1947.43	-647.25	2052.07	2052.17	341.62	1.57	1.11	6584.08	0.92	-34.15				
69	8,345	90.6	342.6	153	103	44	6583.77	1989.43	-660.37	2096.07	2096.16	341.64	0.94	0.91	6583.77	1.23	-33.79				
70	8,390	89.3	342.6	160	88	45	6583.81	2032.37	-673.82	2141.07	2141.16	341.66	2.89	-2.89	6583.81	1.19	-33.46				
71	8,435	89.4	342.9	160	71	45	6584.32	2075.34	-687.17	2186.06	2186.15	341.68	0.70	0.22	6584.32	0.68	-33.01				
72	8,478	87.5	343.6	160	107	43	6585.48	2116.50	-699.55	2229.04	2229.11	341.71	4.71	-4.42	6585.48	-0.48	-32.21				
73	8,522	85.8	344.3	160	88	44	6588.05	2158.71	-711.70	2272.94	2273.00	341.75	4.18	-3.86	6588.05	-3.05	-30.85				
74	8,567	85.5	343.8	160	107	45	6591.47	2201.85	-724.03	2317.79	2317.84	341.80	1.29	-0.67	6591.47	-6.47	-29.39				
75	8,610	86.6	343.6	160	71	43	6594.43	2243.02	-736.07	2360.67	2360.71	341.83	2.60	2.56	6594.43	-9.43	-28.25				
76	8,654	86.9	343.8	167	78	44	6596.92	2285.19	-748.40	2404.58	2404.62	341.87	0.82	0.68	6596.92	-11.92	-27.09				
77	8,699	87.4	343.3	160	82	45	6599.16	2328.29	-761.12	2449.51	2449.54	341.90	1.57	1.11	6599.16	-14.16	-26.01				
78	8,744	89.5	343.4	167	80	45	6600.38	2371.39	-774.01	2494.48	2494.51	341.92	4.67	4.67	6600.38	-15.38	-25.09				
79	8,789	89.7	342.6	167	69	45	6600.69	2414.42	-787.17	2539.48	2539.50	341.94	1.83	0.44	6600.69	-15.69	-24.45				
80	8,834	89.9	342.2	167	92	45	6600.85	2457.31	-800.78	2584.48	2584.50	341.95	0.99	0.44	6600.85	-15.85	-24.28				
81	8,879	88.9	340.6	167	103	45	6601.32	2499.96	-815.13	2629.47	2629.49	341.94	4.19	-2.22	6601.32	-16.32	-24.89				
82	8,923	88.2	340.3	167	84	44	6602.43	2541.41	-829.85	2673.43	2673.46	341.92	1.73	-1.59	6602.43	-17.43	-26.22				
83	8,968	89.3	340.5	168	101	45	6603.42	2583.79	-844.94	2718.40	2718.44	341.89	2.48	2.44	6603.42	-18.42	-27.61				
84	9,013	89.8	341.5	167	78	45	6603.77	2626.34	-859.59	2763.39	2763.43	341.88	2.48	1.11	6603.77	-18.77	-28.54				
85	9,059	90.4	342.4	167	97	46	6603.69	2670.07	-873.84	2809.39	2809.43	341.88	2.37	1.30	6603.69	-18.69	-28.72				
86	9,102	90.6	342.4	167	97	43	6603.31	2711.06	-886.83	2852.39	2852.42	341.89	0.47	0.47	6603.31	-18.31	-28.55				
87	9,146	90.3	342.2	167	80	44	6602.97	2752.98	-900.21	2896.38	2896.42	341.89	0.82	-0.68	6602.97	-17.97	-28.46				
88	9,191	90.5	341.5	167	109	45	6602.65	2795.74	-914.23	2941.38	2941.42	341.89	1.62	0.44	6602.65	-17.65	-28.72				
89	9,236	90.4	341.0	167	111	45	6602.30	2838.35	-928.69	2986.38	2986.42	341.88	1.13	-0.22	6602.30	-17.30	-29.45				
90	9,281	90.8	342.4	167	109	45	6601.83	2881.07	-942.82	3031.37	3031.41	341.88	3.24	0.89	6601.83	-16.83	-29.83				
91	9,325	90.1	341.2	175	111	44	6601.48	2922.86	-956.56	3075.37	3075.41	341.88	3.16	-1.59	6601.48	-16.48	-30.12				
92	9,370	89.8	340.3	167	111	45	6601.52	2965.35	-971.40	3120.35	3120.40	341.86	2.11	-0.67	6601.52	-16.52	-31.24				
93	9,415	90.1	340.8	175	111	45	6601.56	3007.78	-986.38	3165.33	3165.39	341.84	1.30	0.67	6601.56	-16.56	-32.52				
94	9,458	89.9	339.9	167	107	43	6601.56	3048.27	-1000.84	3208.31	3208.37	341.82	2.14	-0.47	6601.56	-16.56	-33.89				
95	9,504	90.3	342.0	167	101	46	6601.48	3091.75	-1015.86	3254.30	3254.37	341.81	4.65	0.87	6601.48	-16.48	-34.88				
96	9,547	90.7	343.8	167	103	43	6601.11	3132.85	-1028.50	3297.29	3297.35	341.83	4.29	0.93	6601.11	-16.11	-34.34				
97	9,591	90.5	343.4	175	99	44	6600.65	3175.05	-1040.92	3341.27	3341.33	341.85	1.02	-0.45	6600.65	-15.65	-33.25				
98	9,636	91.7	344.7	175	113	45	6599.78	3218.31	-1053.28	3386.24	3386.29	341.88	3.93	2.67	6599.78	-14.78	-31.78				
99	9,681	93.1	344.9	175	88	45	6597.90	3261.70	-1065.07	3431.15	3431.19	341.92	3.14	3.11	6597.90	-12.90	-29.73				
100	9,724	93.5	344.7	175	73	43	6595.42	3303.13	-1076.33	3474.04	3474.06	341.95	1.04	0.93	6595.42	-10.42	-27.77				
101	9,769	91.9	344.5	175	65	45	6593.30	3346.46	-1088.26	3518.95	3518.97	341.99	3.58	-3.56	6593.30	-8.30	-25.87				
102	9,814	90.5	344.3	182	65	45	6592.36	3389.79	-1100.36	3563.90	3563.92	342.02	3.14	-3.11	6592.36	-7.36	-24.13				
103	9,860	90.5	343.3	175	67	46	6591.96	3433.96	-1113.20	3609.88	3609.89	342.04	2.17	0.00	6591.96	-6.96	-22.83				
104	9,903	89.0	343.6	182	101	43	6592.15	3475.18	-1125.44	3652.87	3652.88	342.06	3.56	-3.49	6592.15	-7.15	-21.87				
105	9,947	88.7	344.0	182	92	44	6593.03	3517.42	-1137.72	3696.84	3696.85	342.08	1.14	-0.68	6593.03	-8.03	-20.63				
106	9,990	88.8	343.1	182	90	43	6593.97	3558.65	-1149.89	3739.82	3739.82	342.09	2.11	0.23	6593.97	-8.97	-19.60				
107	10,036	88.8	342.6	182	84	46	6594.93</														



## SURVEY CALCULATION PROGRAM

V09.04.02 BK

Minimum Curvature

File: DDCO-100306

OPERATOR:		Carrizo								Target Information				VS Referenced to Offset from Surface							
WELL:		Bob White 36-44-8-69								TARGET KBTVD:		6585.00		NORTH/SOUTH:		40.34					
LOCATION:		Weld County								TARGET INCL:		90.00		EAST/WEST:		1.66					
RIG:		Extreme Rig #15								TARGET AZM:		342.18		(Enter 0' N and 0' E for Surface)							
JOB NUMBER:		DDCO-100306																			
:SURVEY COMPANY:								:DIRECTIONAL COMPANY:				PROPOSED DIRECTION:		342.18	Total Corr.(+/-):		7.88	GRID NORTH			
MS. Guidance								MS. Directional				COMMENTS: RKB 4945.6 and GL 4930.1									
:SURVEY HANDS:								:DIRECTIONAL HANDS:				Tie In With Gyro									
Kyle Clark								Mike Reynosa													
Ross Keene								Kenny Reed													
Carrizo				Bob White 36-44-8-69				DDCO-100306								Target Calculations					
TRUE		TEMP		API		Course		Surface		CLOSURE		DLS/		BUR/		TVD AT 0'		ABOVE (+)		RIGHT(+)	
SVY	MD	INC	AZM	°F	Gamma	Length	TVD	N-S	E-W	Vert Sect	DIST	DIR	100	100'			V. SEC.	BELOW (-)		LEFT(-)	
112	10,259	89.6	341.0	182	76	46	6594.77	3814.51	-1232.82	4008.77	4008.78	342.09	3.29	-3.26			6594.77	-9.77		-20.25	
113	10,302	88.6	342.0	182	73	43	6595.44	3855.28	-1246.46	4051.77	4051.77	342.08	3.29	-2.33			6595.44	-10.44		-20.76	
114	10,346	88.5	341.5	189	73	44	6596.56	3897.05	-1260.24	4095.75	4095.76	342.08	1.16	-0.23			6596.56	-11.56		-21.09	
115	10,389	89.3	341.7	189	78	43	6597.38	3937.85	-1273.81	4138.74	4138.75	342.07	1.92	1.86			6597.38	-12.38		-21.53	
116	10,411	89.8	342.4	189	99	22	6597.55	3958.78	-1280.59	4160.74	4160.75	342.07	3.91	2.27			6597.55	-12.55		-21.58	
BitP	10,463	89.8	342.4			52	6597.74	4008.34	-1296.31	4212.74	4212.74	342.08	0.00	0.00			6597.74	-12.74		-21.38	



## SURVEY CALCULATION PROGRAM

V09.04.02 BK

Minimum Curvature

File: DDCO-100306

OPERATOR: Carrizo		Target Information		VS Referenced to Offset from Surface	
WELL: Bob White 36-44-8-69		TARGET KBTVD:	6585.00	NORTH/SOUTH:	40.34
LOCATION: Weld County		TARGET INCL:	90.00	EAST/WEST:	1.66
RIG: Extreme Rig #15		TARGET AZM:	342.18	(Enter 0' N and 0' E for Surface)	
JOB NUMBER: DDCO-100306					
:SURVEY COMPANY:		:DIRECTIONAL COMPANY:		PROPOSED DIRECTION: 342.18	
MS. Guidance		MS. Directional		Total Corr.(+/-): 7.88 GRID NORTH	
		COMMENTS: RKB 4945.6 and GL 4930.1			
:SURVEY HANDS:		:DIRECTIONAL HANDS:		Tie In With Gyro	
Kyle Clark		Mike Reynosa			
Ross Keene		Kenny Reed			
Carrizo		Bob White 36-44-8-69		DDCO-100306	
TRUE		TEMP	API	Course	Surface
SVY	MD	INC	AZM	°F	Gamma
			Length	TVD	N-S
				E-W	Surface
				Vert Sect	DIST
				DIR	100
				100'	TVD AT 0' ABOVE (+)
					RIGHT(+)
					V. SEC. BELOW (-)
					LEFT(-)



# SURVEY CALCULATION PROGRAM

V09.04.02 BK

Minimum Curvature

File: DDCO-100306

OPERATOR: Carrizo		Target Information		VS Referenced to Offset from Surface													
WELL: Bob White 36-44-8-69		TARGET KBTVD:	6585.00	NORTH/SOUTH:	40.34												
LOCATION: Weld County		TARGET INCL:	90.00	EAST/WEST:	1.66												
RIG: Extreme Rig #15		TARGET AZM:	342.18	(Enter 0' N and 0' E for Surface)													
JOB NUMBER: DDCO-100306																	
:SURVEY COMPANY:		:DIRECTIONAL COMPANY:		PROPOSED DIRECTION:	342.18												
MS. Guidance		MS. Directional		Total Corr.(+/-):	7.88 GRID NORTH												
				COMMENTS:	RKB 4945.6 and GL 4930.1												
:SURVEY HANDS:		:DIRECTIONAL HANDS:		Tie In With Gyro													
Kyle Clark		Mike Reynosa															
Ross Keene		Kenny Reed															
Carrizo		Bob White 36-44-8-69		DDCO-100306													
				Target Calculations													
TRUE	TEMP	API	Course	Surface	CLOSURE	DLS/	BUR/	TVD AT 0' ABOVE (+)	RIGHT(+)								
SVY	MD	INC	AZM	°F	Gamma	Length	TVD	N-S	E-W	Vert Sect	DIST	DIR	100	100'	V. SEC.	BELOW (-)	LEFT(-)



# SURVEY CALCULATION PROGRAM

V09.04.02 BK

Minimum Curvature

File: DDCO-100306

OPERATOR: Carrizo		Target Information		VS Referenced to Offset from Surface	
WELL: Bob White 36-44-8-69		TARGET KBTVD:	6585.00	NORTH/SOUTH:	40.34
LOCATION: Weld County		TARGET INCL:	90.00	EAST/WEST:	1.66
RIG: Extreme Rig #15		TARGET AZM:	342.18	(Enter 0' N and 0' E for Surface)	
JOB NUMBER: DDCO-100306					
:SURVEY COMPANY:		:DIRECTIONAL COMPANY:		PROPOSED DIRECTION:	342.18
MS. Guidance		MS. Directional		Total Corr.(+/-):	7.88 GRID NORTH
				COMMENTS:	RKB 4945.6 and GL 4930.1
:SURVEY HANDS:		:DIRECTIONAL HANDS:		Tie In With Gyro	
Kyle Clark		Mike Reynosa			
Ross Keene		Kenny Reed			
Carrizo		Bob White 36-44-8-69		DDCO-100306	
TRUE		TEMP	API	Course	Surface
SVY	MD	INC	AZM	°F	Gamma
			Length	TVD	N-S
				E-W	Surface
				Vert Sect	DIST
				DIR	100
				100'	TVD AT 0' ABOVE (+)
					RIGHT(+)
					V. SEC. BELOW (-)
					LEFT(-)