



Job Number: 1010xxxx
Company: Black Hills E&P
Lease/Well: Ute #33-23
Location: La Plata County, Colorado
Rig Name: ☐
RKB: 7305'
G.L. or M.S.L.: 7294'

State/Country: CO
Declination: ☐
Grid: ☐
File name: Y:\JOB DAT~1\BLACKH~1\2010\UTE33#~1\33#23.SVY
Date/Time: 05-Feb-10 / 15:20
Curve Name: Ute #33-23 plan 2-05-10

Ute #33-23 plan 2-05-10

WINSERVE PROPOSAL REPORT
Minimum Curvature Method
Vertical Section Plane 229.31
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
Surface - 1141' FNL 1055' FEL Sec 33, T33N R08W									
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Surface Casing									
450.00	.00	.00	450.00	.00	.00	.00	.00	.00	.00
KOP-> 500 TVD Begin Build @ 2.00% 100', 229.31° Azimuth									
500.00	.00	229.31	500.00	.00	.00	.00	.00	.00	.00
530.00	.60	229.31	530.00	-.10	-.12	.16	.16	229.32	2.00
560.00	1.20	229.31	560.00	-.41	-.48	.63	.63	229.31	2.00
590.00	1.80	229.31	589.99	-.92	-1.07	1.41	1.41	229.31	2.00
620.00	2.40	229.31	619.96	-1.64	-1.91	2.51	2.51	229.31	2.00
650.00	3.00	229.31	649.93	-2.56	-2.98	3.93	3.93	229.31	2.00
680.00	3.60	229.31	679.88	-3.69	-4.29	5.65	5.65	229.31	2.00
710.00	4.20	229.31	709.81	-5.02	-5.83	7.69	7.69	229.31	2.00
740.00	4.80	229.31	739.72	-6.55	-7.62	10.05	10.05	229.31	2.00
770.00	5.40	229.31	769.60	-8.29	-9.64	12.71	12.71	229.31	2.00
800.00	6.00	229.31	799.45	-10.23	-11.90	15.69	15.69	229.31	2.00
830.00	6.60	229.31	829.27	-12.38	-14.40	18.99	18.99	229.31	2.00
860.00	7.20	229.31	859.05	-14.73	-17.13	22.59	22.59	229.31	2.00
890.00	7.80	229.31	888.80	-17.28	-20.10	26.51	26.51	229.31	2.00
920.00	8.40	229.31	918.50	-20.04	-23.30	30.73	30.73	229.31	2.00
950.00	9.00	229.31	948.15	-22.99	-26.74	35.27	35.27	229.31	2.00
980.00	9.60	229.31	977.76	-26.15	-30.42	40.12	40.12	229.31	2.00
1010.00	10.20	229.31	1007.31	-29.52	-34.33	45.28	45.28	229.31	2.00

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
Distance FT	Direction Deg								
1040.00	10.80	229.31	1036.81	-33.08	-38.48	50.74	50.74	229.31	2.00
1070.00	11.40	229.31	1066.25	-36.85	-42.86	56.52	56.52	229.31	2.00
1100.00	12.00	229.31	1095.62	-40.81	-47.47	62.60	62.60	229.31	2.00
1130.00	12.60	229.31	1124.93	-44.98	-52.32	68.99	68.99	229.31	2.00
1160.00	13.20	229.31	1154.18	-49.35	-57.39	75.69	75.69	229.31	2.00
1190.00	13.80	229.31	1183.35	-53.91	-62.70	82.69	82.69	229.31	2.00
1220.00	14.40	229.31	1212.44	-58.68	-68.25	90.00	90.00	229.31	2.00
1250.00	15.00	229.31	1241.46	-63.64	-74.02	97.62	97.62	229.31	2.00
1280.00	15.60	229.31	1270.40	-68.80	-80.02	105.53	105.53	229.31	2.00
1310.00	16.20	229.31	1299.25	-74.16	-86.25	113.75	113.75	229.31	2.00
1340.00	16.80	229.31	1328.02	-79.71	-92.71	122.27	122.27	229.31	2.00
1370.00	17.40	229.31	1356.69	-85.46	-99.40	131.09	131.09	229.31	2.00
1400.00	18.00	229.31	1385.27	-91.41	-106.32	140.21	140.21	229.31	2.00
1430.00	18.60	229.31	1413.75	-97.55	-113.46	149.63	149.63	229.31	2.00
1460.00	19.20	229.31	1442.13	-103.89	-120.83	159.35	159.35	229.31	2.00
1490.00	19.80	229.31	1470.41	-110.42	-128.42	169.36	169.36	229.31	2.00
1520.00	20.40	229.31	1498.59	-117.14	-136.24	179.67	179.67	229.31	2.00
1550.00	21.00	229.31	1526.65	-124.05	-144.28	190.28	190.28	229.31	2.00
1580.00	21.60	229.31	1554.60	-131.16	-152.54	201.18	201.18	229.31	2.00
Begin Hold @ 21.88°, 229.31° Azm									
1593.98	21.88	229.31	1567.59	-134.53	-156.47	206.35	206.35	229.31	2.00
1693.98	21.88	229.31	1660.38	-158.83	-184.73	243.62	243.62	229.31	.00
1793.98	21.88	229.31	1753.18	-183.12	-212.99	280.89	280.89	229.31	.00
1893.98	21.88	229.31	1845.98	-207.42	-241.24	318.15	318.15	229.31	.00
1993.98	21.88	229.31	1938.77	-231.71	-269.50	355.42	355.42	229.31	.00
2093.98	21.88	229.31	2031.57	-256.01	-297.76	392.68	392.68	229.31	.00
2193.98	21.88	229.31	2124.37	-280.30	-326.02	429.95	429.95	229.31	.00
2293.98	21.88	229.31	2217.16	-304.60	-354.27	467.22	467.22	229.31	.00
2393.98	21.88	229.31	2309.96	-328.89	-382.53	504.48	504.48	229.31	.00
2493.98	21.88	229.31	2402.76	-353.19	-410.79	541.75	541.75	229.31	.00
2593.98	21.88	229.31	2495.56	-377.48	-439.05	579.01	579.01	229.31	.00
2693.98	21.88	229.31	2588.35	-401.78	-467.30	616.28	616.28	229.31	.00
2793.98	21.88	229.31	2681.15	-426.07	-495.56	653.54	653.54	229.31	.00
2893.98	21.88	229.31	2773.95	-450.37	-523.82	690.81	690.81	229.31	.00
2993.98	21.88	229.31	2866.74	-474.67	-552.08	728.08	728.08	229.31	.00
3093.98	21.88	229.31	2959.54	-498.96	-580.33	765.34	765.34	229.31	.00
3193.98	21.88	229.31	3052.34	-523.26	-608.59	802.61	802.61	229.31	.00
3293.98	21.88	229.31	3145.13	-547.55	-636.85	839.87	839.87	229.31	.00
3393.98	21.88	229.31	3237.93	-571.85	-665.11	877.14	877.14	229.31	.00
3493.98	21.88	229.31	3330.73	-596.14	-693.36	914.40	914.40	229.31	.00
3593.98	21.88	229.31	3423.52	-620.44	-721.62	951.67	951.67	229.31	.00
3693.98	21.88	229.31	3516.32	-644.73	-749.88	988.94	988.94	229.31	.00
3793.98	21.88	229.31	3609.12	-669.03	-778.14	1026.20	1026.20	229.31	.00
3893.98	21.88	229.31	3701.91	-693.32	-806.39	1063.47	1063.47	229.31	.00
3993.98	21.88	229.31	3794.71	-717.62	-834.65	1100.73	1100.73	229.31	.00

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
Base of Coal									
4080.50	21.88	229.31	3875.00	-738.64	-859.10	1132.98	1132.98	229.31	.00
4093.98	21.88	229.31	3887.51	-741.91	-862.91	1138.00	1138.00	229.31	.00
4193.98	21.88	229.31	3980.31	-766.21	-891.16	1175.27	1175.27	229.31	.00
4293.98	21.88	229.31	4073.10	-790.50	-919.42	1212.53	1212.53	229.31	.00
PBHL @ 4075' TVD - 1932' FNL 1975' FEL Sec 33, T33N R08W									
4296.03	21.88	229.31	4075.00	-791.00	-920.00	1213.29	1213.29	229.31	.01

