

Job Number: 1010xxxx
Company: Black Hills E&P
Lease/Well: Ute #34-21
Location: La Plata County, Colorado
Rig Name: ☐
RKB: 7337'
G.L. or M.S.L.: 7326'

State/Country: CO
Declination: ☐
Grid: ☐
File name: Y:\JOB DAT~1\BLACKH~1\2010\UTE#34~2\#34-21.SVY
Date/Time: 05-Feb-10 / 16:09
Curve Name: Ute #34-21 plan 2-05-10

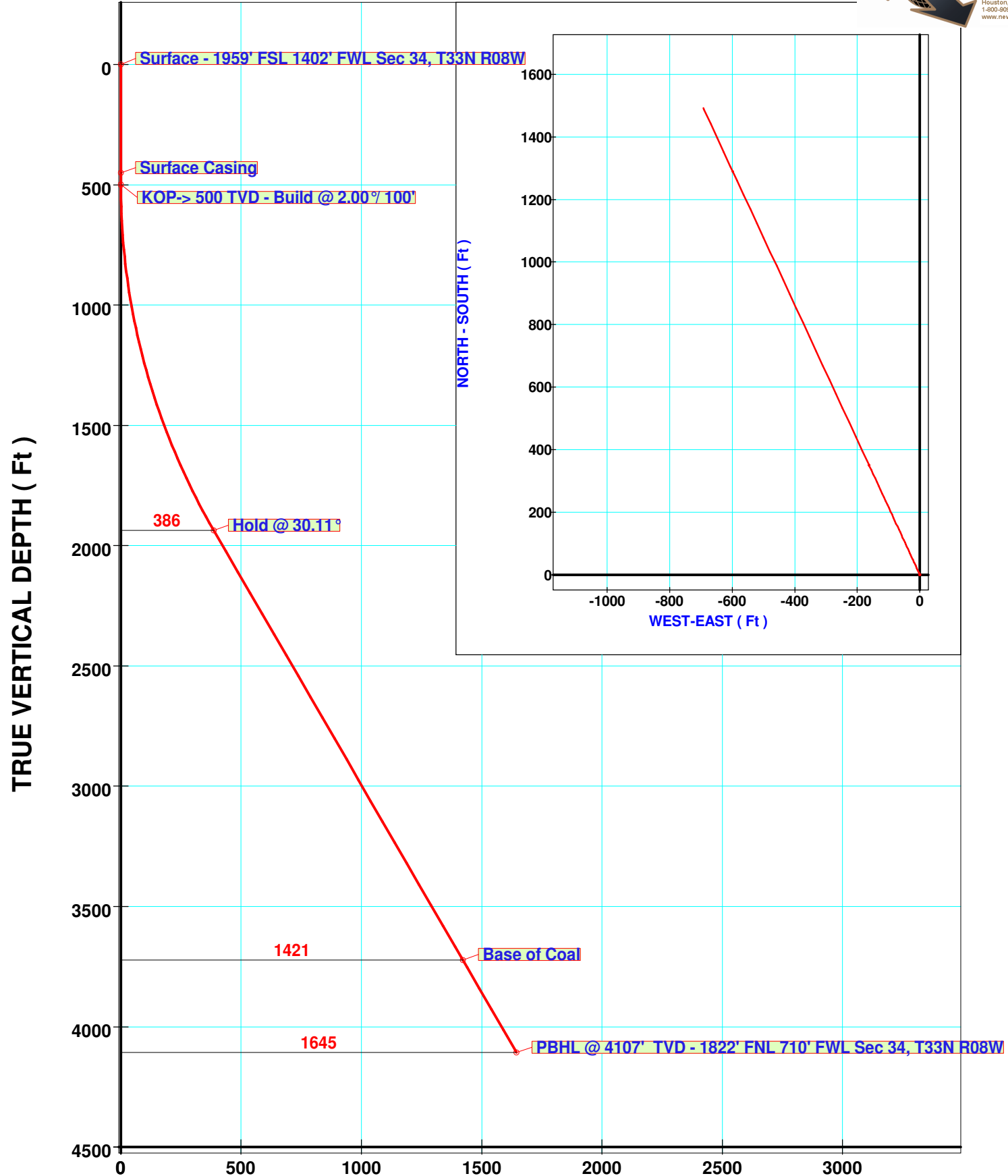
Ute #34-21 plan 2-05-10

WINSERVE PROPOSAL REPORT
Minimum Curvature Method
Vertical Section Plane 335.12
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

<i>Measured Depth FT</i>	<i>Incl Angle Deg</i>	<i>Drift Direction Deg</i>	<i>True Vertical Depth</i>	<i>N-S FT</i>	<i>E-W FT</i>	<i>Vertical Section FT</i>	<i>C L O S U R E Distance FT</i>	<i>Direction Deg</i>	<i>Dogleg Severity Deg/100</i>
Surface - 1959' FSL 1402' FWL Sec 34, 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', 335.12° Azimuth									
500.00	.00	335.12	500.00	.00	.00	.00	.00	.00	.00
530.00	.60	335.12	530.00	.14	-.07	.16	.16	335.13	2.00
560.00	1.20	335.12	560.00	.57	-.26	.63	.63	335.12	2.00
590.00	1.80	335.12	589.99	1.28	-.59	1.41	1.41	335.12	2.00
620.00	2.40	335.12	619.96	2.28	-1.06	2.51	2.51	335.12	2.00
650.00	3.00	335.12	649.93	3.56	-1.65	3.93	3.93	335.12	2.00
680.00	3.60	335.12	679.88	5.13	-2.38	5.65	5.65	335.12	2.00
710.00	4.20	335.12	709.81	6.98	-3.24	7.69	7.69	335.12	2.00
740.00	4.80	335.12	739.72	9.11	-4.23	10.05	10.05	335.12	2.00
770.00	5.40	335.12	769.60	11.53	-5.35	12.71	12.71	335.12	2.00
800.00	6.00	335.12	799.45	14.24	-6.60	15.69	15.69	335.12	2.00
830.00	6.60	335.12	829.27	17.22	-7.99	18.99	18.99	335.12	2.00
860.00	7.20	335.12	859.05	20.49	-9.50	22.59	22.59	335.12	2.00
890.00	7.80	335.12	888.80	24.05	-11.15	26.51	26.51	335.12	2.00
920.00	8.40	335.12	918.50	27.88	-12.93	30.73	30.73	335.12	2.00
950.00	9.00	335.12	948.15	32.00	-14.84	35.27	35.27	335.12	2.00
980.00	9.60	335.12	977.76	36.39	-16.88	40.12	40.12	335.12	2.00
1010.00	10.20	335.12	1007.31	41.07	-19.05	45.28	45.28	335.12	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
1040.00	10.80	335.12	1036.81	46.03	-21.35	50.74	50.74	335.12	2.00
1070.00	11.40	335.12	1066.25	51.27	-23.78	56.52	56.52	335.12	2.00
1100.00	12.00	335.12	1095.62	56.79	-26.34	62.60	62.60	335.12	2.00
1130.00	12.60	335.12	1124.93	62.59	-29.03	68.99	68.99	335.12	2.00
1160.00	13.20	335.12	1154.18	68.66	-31.85	75.69	75.69	335.12	2.00
1190.00	13.80	335.12	1183.35	75.02	-34.79	82.69	82.69	335.12	2.00
1220.00	14.40	335.12	1212.44	81.65	-37.87	90.00	90.00	335.12	2.00
1250.00	15.00	335.12	1241.46	88.55	-41.07	97.62	97.62	335.12	2.00
1280.00	15.60	335.12	1270.40	95.74	-44.40	105.53	105.53	335.12	2.00
1310.00	16.20	335.12	1299.25	103.19	-47.86	113.75	113.75	335.12	2.00
1340.00	16.80	335.12	1328.02	110.92	-51.45	122.27	122.27	335.12	2.00
1370.00	17.40	335.12	1356.69	118.92	-55.16	131.09	131.09	335.12	2.00
1400.00	18.00	335.12	1385.27	127.20	-59.00	140.21	140.21	335.12	2.00
1430.00	18.60	335.12	1413.75	135.74	-62.96	149.63	149.63	335.12	2.00
1460.00	19.20	335.12	1442.13	144.56	-67.05	159.35	159.35	335.12	2.00
1490.00	19.80	335.12	1470.41	153.64	-71.26	169.36	169.36	335.12	2.00
1520.00	20.40	335.12	1498.59	163.00	-75.60	179.67	179.67	335.12	2.00
1550.00	21.00	335.12	1526.65	172.62	-80.06	190.28	190.28	335.12	2.00
1580.00	21.60	335.12	1554.60	182.50	-84.65	201.18	201.18	335.12	2.00
1610.00	22.20	335.12	1582.43	192.65	-89.35	212.37	212.37	335.12	2.00
1640.00	22.80	335.12	1610.15	203.07	-94.18	223.85	223.85	335.12	2.00
1670.00	23.40	335.12	1637.74	213.74	-99.14	235.62	235.62	335.12	2.00
1700.00	24.00	335.12	1665.21	224.68	-104.21	247.67	247.67	335.12	2.00
1730.00	24.60	335.12	1692.56	235.88	-109.40	260.02	260.02	335.12	2.00
1760.00	25.20	335.12	1719.77	247.34	-114.72	272.65	272.65	335.12	2.00
1790.00	25.80	335.12	1746.85	259.06	-120.15	285.57	285.57	335.12	2.00
1820.00	26.40	335.12	1773.79	271.03	-125.71	298.76	298.76	335.12	2.00
1850.00	27.00	335.12	1800.59	283.26	-131.38	312.24	312.24	335.12	2.00
1880.00	27.60	335.12	1827.25	295.74	-137.17	326.00	326.00	335.12	2.00
1910.00	28.20	335.12	1853.76	308.48	-143.07	340.04	340.04	335.12	2.00
1940.00	28.80	335.12	1880.12	321.46	-149.10	354.36	354.36	335.12	2.00
1970.00	29.40	335.12	1906.34	334.70	-155.24	368.95	368.95	335.12	2.00
2000.00	30.00	335.12	1932.39	348.18	-161.49	383.81	383.81	335.12	2.00
Begin Hold @ 30.11 °, 335.12 ° Azm									
2005.28	30.11	335.12	1936.97	350.58	-162.60	386.46	386.46	335.12	2.00
2105.28	30.11	335.12	2023.48	396.09	-183.71	436.62	436.62	335.12	.00
2205.28	30.11	335.12	2109.99	441.59	-204.81	486.77	486.77	335.12	.00
2305.28	30.11	335.12	2196.50	487.09	-225.92	536.93	536.93	335.12	.00
2405.28	30.11	335.12	2283.01	532.60	-247.02	587.09	587.09	335.12	.00
2505.28	30.11	335.12	2369.52	578.10	-268.13	637.25	637.25	335.12	.00
2605.28	30.11	335.12	2456.03	623.60	-289.23	687.41	687.41	335.12	.00
2705.28	30.11	335.12	2542.54	669.11	-310.34	737.57	737.57	335.12	.00
2805.28	30.11	335.12	2629.05	714.61	-331.44	787.73	787.73	335.12	.00
2905.28	30.11	335.12	2715.56	760.11	-352.55	837.89	837.89	335.12	.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								
3005.28	30.11	335.12	2802.07	805.62	-373.65	888.05	888.05	335.12	.00
3105.28	30.11	335.12	2888.58	851.12	-394.76	938.21	938.21	335.12	.00
3205.28	30.11	335.12	2975.09	896.63	-415.86	988.37	988.37	335.12	.00
3305.28	30.11	335.12	3061.60	942.13	-436.97	1038.53	1038.53	335.12	.00
3405.28	30.11	335.12	3148.11	987.63	-458.07	1088.69	1088.69	335.12	.00
3505.28	30.11	335.12	3234.62	1033.14	-479.18	1138.85	1138.85	335.12	.00
3605.28	30.11	335.12	3321.13	1078.64	-500.28	1189.01	1189.01	335.12	.00
3705.28	30.11	335.12	3407.64	1124.14	-521.39	1239.17	1239.17	335.12	.00
3805.28	30.11	335.12	3494.15	1169.65	-542.49	1289.33	1289.33	335.12	.00
3905.28	30.11	335.12	3580.66	1215.15	-563.60	1339.49	1339.49	335.12	.00
4005.28	30.11	335.12	3667.17	1260.65	-584.70	1389.65	1389.65	335.12	.00
Base of Coal									
4068.66	30.11	335.12	3722.00	1289.49	-598.08	1421.44	1421.44	335.12	.00
4105.28	30.11	335.12	3753.68	1306.16	-605.81	1439.81	1439.81	335.12	.00
4205.28	30.11	335.12	3840.19	1351.66	-626.91	1489.97	1489.97	335.12	.00
4305.28	30.11	335.12	3926.70	1397.17	-648.01	1540.13	1540.13	335.12	.00
4405.28	30.11	335.12	4013.21	1442.67	-669.12	1590.29	1590.29	335.12	.00
4505.28	30.11	335.12	4099.72	1488.17	-690.22	1640.45	1640.45	335.12	.00
PBHL @ 4107' TVD - 1822' FNL 710' FWL Sec 34, T33N R08W									
4513.70	30.11	335.12	4107.00	1492.00	-692.00	1644.67	1644.67	335.12	.00



VERTICAL SECTION (Ft) @ 335.12°