



Whiting Petroleum

Rio Blanco County, CO

C-230 Pad Drilling

Boies C-230 N3

Wellbore #1

Survey: Survey #1

Standard Survey Report

28 July, 2008



Whiting Petroleum Corporation

PROJECT DETAILS: Rio Blanco County, CO

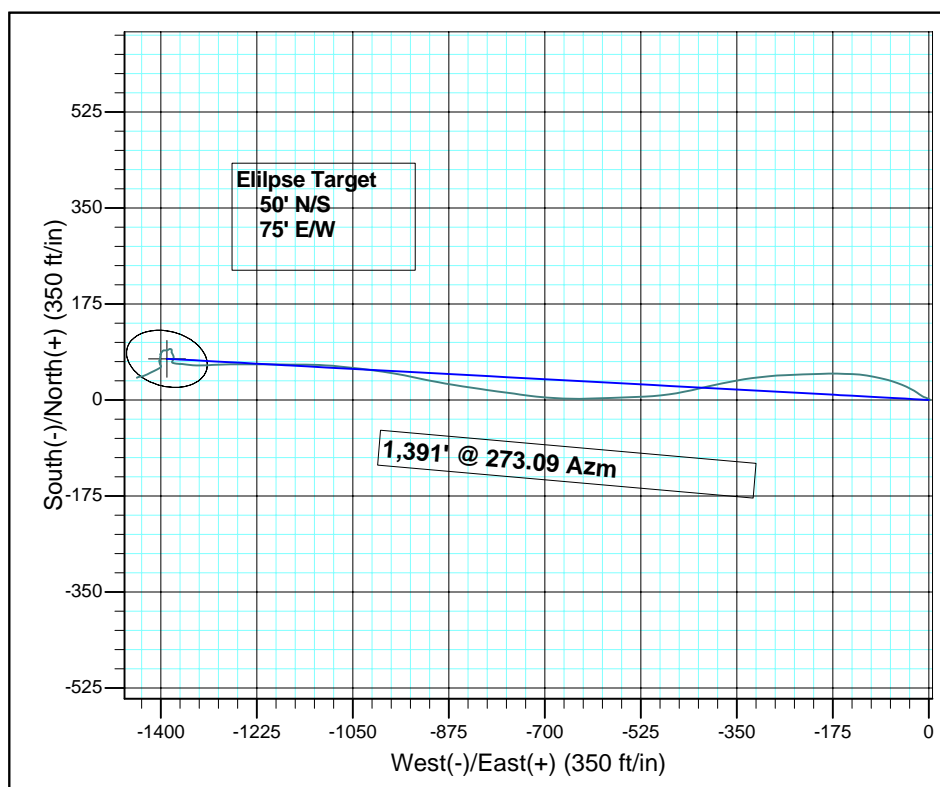
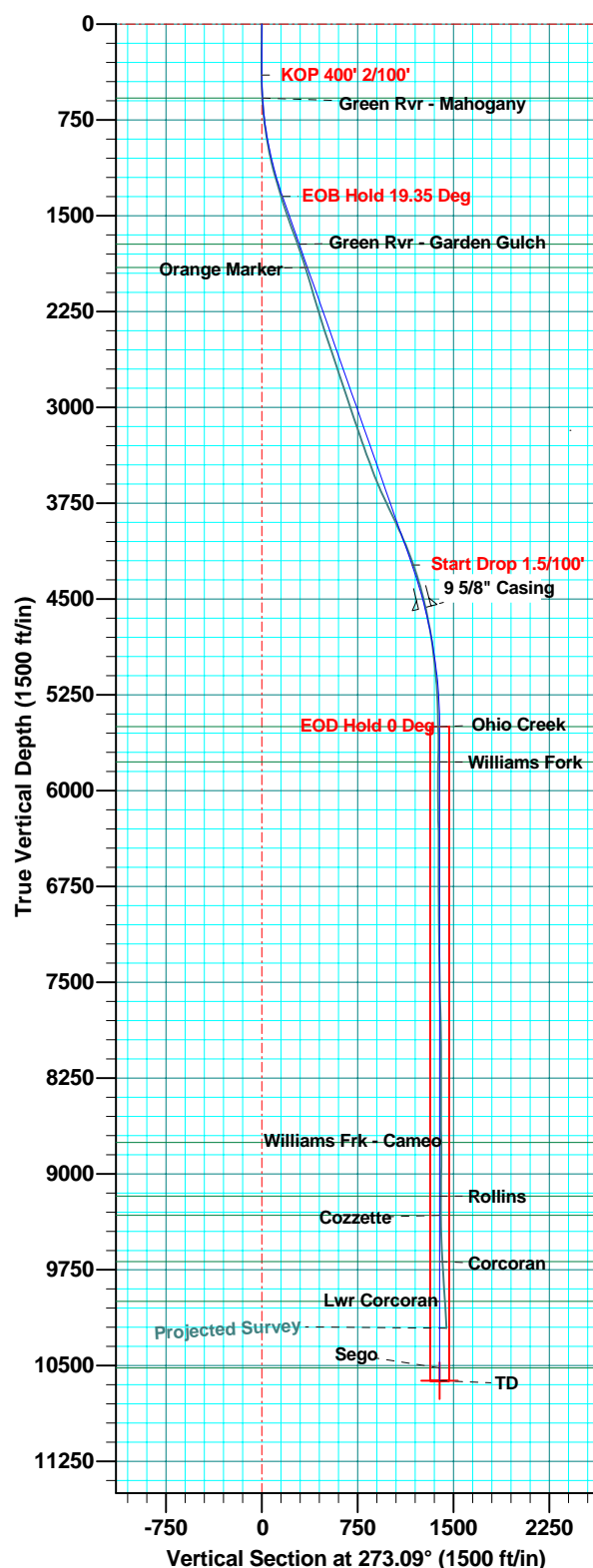
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Colorado North 501

System Datum: Ground Level



Azimuths to True North
Magnetic North: 10.93°

Magnetic Field
Strength: 52767.6snT
Dip Angle: 66.05°
Date: 6/24/2008
Model: IGRF200510



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1367.7	19.35	273.09	1349.4	8.7	-161.7	2.00	273.09	161.9	
4	4425.2	19.35	273.09	4234.1	63.4	-1173.5	0.00	0.00	1175.2	
5	5715.5	0.00	0.00	5500.0	75.0	-1389.0	1.50	180.00	1391.0	
6	10834.5	0.00	0.00	10619.0	75.0	-1389.0	0.00	0.00	1391.0	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
579.0	579.1	Green Rvr - Mahogany
1723.0	1763.7	Green Rvr - Garden Gulch
1906.0	1957.6	Orange Marker
5500.0	5715.5	Ohio Creek
5776.0	5991.5	Williams Fork
8754.0	8969.5	Williams Frk - Cameo
9174.0	9389.5	Rollins
9324.0	9539.5	Cozzette
9686.0	9901.5	Corcoran
9998.0	10213.5	Lwr Corcoran
10519.0	10734.5	Sego

Company:	Whiting Petroleum	Local Co-ordinate Reference:	Well Boies C-230 N3
Project:	Rio Blanco County, CO	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	C-230 Pad Drilling	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Boies C-230 N3	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 2003.16 Single User Db

Project	Rio Blanco County, CO		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Colorado North 501		

Site	C-230 Pad Drilling				
Site Position:		Northing:	61,934.05 m	Latitude:	39° 51' 20.279 N
From:	Lat/Long	Easting:	364,966.45 m	Longitude:	108° 21' 33.289 W
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.85 °

Well	Boies C-230 N3					
Well Position	+N/-S	0.0 ft	Northing:	61,934.05 m	Latitude:	39° 51' 20.279 N
	+E/-W	0.0 ft	Easting:	364,966.45 m	Longitude:	108° 21' 33.289 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	0.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/24/2008	10.93	66.05	52,768

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	273.09	

Survey Program	Date 7/28/2008				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
139.0	10,435.0	Survey #1 (Wellbore #1)	MWD		

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
139.0	0.90	97.30	139.0	-0.1	1.1	-1.1	0.65	0.65	0.00
229.0	0.50	96.30	229.0	-0.3	2.2	-2.2	0.44	-0.44	-1.11
382.0	0.80	316.26	382.0	0.4	2.1	-2.1	0.80	0.20	-91.53
413.0	0.90	300.00	413.0	0.7	1.7	-1.7	0.84	0.32	-52.45
505.0	2.40	301.10	504.9	2.1	-0.5	0.6	1.63	1.63	1.20
597.0	3.40	285.10	596.8	3.8	-4.8	5.0	1.39	1.09	-17.39
689.0	5.90	299.50	688.5	6.8	-11.6	11.9	2.98	2.72	15.65
782.0	8.30	304.30	780.8	12.9	-21.3	21.9	2.66	2.58	5.16
874.0	9.90	298.30	871.6	20.4	-33.7	34.8	2.02	1.74	-6.52
967.0	11.10	291.80	963.1	27.6	-49.1	50.5	1.81	1.29	-6.99
1,059.0	12.70	287.70	1,053.1	33.9	-66.9	68.7	1.97	1.74	-4.46
1,151.0	15.20	283.00	1,142.4	39.7	-88.3	90.3	2.98	2.72	-5.11

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Well:	Boies C-230 N3	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 2003.16 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,244.0	16.40	279.20	1,231.9	44.5	-113.2	115.4	1.70	1.29	-4.09
1,339.0	16.60	272.30	1,323.0	47.2	-140.0	142.3	2.07	0.21	-7.26
1,432.0	18.10	270.70	1,411.7	47.9	-167.7	170.0	1.69	1.61	-1.72
1,526.0	19.10	268.10	1,500.8	47.6	-197.7	199.9	1.38	1.06	-2.77
1,621.0	20.00	267.80	1,590.4	46.5	-229.4	231.6	0.95	0.95	-0.32
1,715.0	19.90	267.70	1,678.7	45.2	-261.5	263.5	0.11	-0.11	-0.11
1,808.0	19.00	264.30	1,766.4	43.1	-292.4	294.3	1.55	-0.97	-3.66
1,901.0	18.30	263.10	1,854.5	39.8	-321.9	323.6	0.86	-0.75	-1.29
1,995.0	17.80	259.50	1,943.9	35.4	-350.7	352.1	1.30	-0.53	-3.83
2,088.0	17.10	258.60	2,032.6	30.1	-378.1	379.2	0.81	-0.75	-0.97
2,182.0	17.00	257.00	2,122.5	24.3	-405.0	405.7	0.51	-0.11	-1.70
2,276.0	17.30	256.50	2,212.3	18.0	-432.0	432.3	0.36	0.32	-0.53
2,370.0	17.90	260.70	2,301.9	12.4	-459.8	459.8	1.49	0.64	4.47
2,463.0	18.40	263.50	2,390.3	8.4	-488.5	488.3	1.08	0.54	3.01
2,557.0	18.70	267.40	2,479.4	6.0	-518.3	517.9	1.36	0.32	4.15
2,650.0	18.60	268.50	2,567.5	5.0	-548.0	547.5	0.39	-0.11	1.18
2,744.0	18.60	268.00	2,656.6	4.0	-578.0	577.4	0.17	0.00	-0.53
2,837.0	18.50	267.20	2,744.8	2.8	-607.6	606.8	0.29	-0.11	-0.86
2,930.0	18.60	269.80	2,833.0	2.0	-637.1	636.3	0.90	0.11	2.80
3,023.0	18.50	272.10	2,921.1	2.5	-666.7	665.9	0.79	-0.11	2.47
3,116.0	18.20	275.00	3,009.4	4.3	-695.9	695.2	1.03	-0.32	3.12
3,179.0	18.20	275.40	3,069.2	6.1	-715.5	714.8	0.20	0.00	0.63
3,273.0	19.50	278.70	3,158.2	9.9	-745.7	745.1	1.79	1.38	3.51
3,305.0	19.50	278.20	3,188.4	11.4	-756.2	755.7	0.52	0.00	-1.56
3,398.0	18.50	277.30	3,276.3	15.5	-786.2	785.9	1.12	-1.08	-0.97
3,492.0	21.10	278.70	3,364.7	20.0	-817.7	817.6	2.81	2.77	1.49
3,585.0	19.80	278.60	3,451.9	24.9	-849.9	850.0	1.40	-1.40	-0.11
3,678.0	21.50	279.90	3,538.9	30.2	-882.2	882.6	1.89	1.83	1.40
3,771.0	23.70	281.90	3,624.7	36.9	-917.3	918.0	2.51	2.37	2.15
3,865.0	25.80	281.10	3,710.1	44.8	-955.9	956.9	2.26	2.23	-0.85
3,958.0	25.10	278.20	3,794.1	51.5	-995.3	996.6	1.54	-0.75	-3.12
4,052.0	24.80	276.80	3,879.3	56.7	-1,034.6	1,036.1	0.70	-0.32	-1.49
4,146.0	25.00	275.90	3,964.6	61.0	-1,073.9	1,075.6	0.46	0.21	-0.96
4,239.0	23.50	272.10	4,049.4	63.7	-1,112.0	1,113.8	2.33	-1.61	-4.09
4,333.0	21.40	269.70	4,136.2	64.3	-1,147.9	1,149.7	2.44	-2.23	-2.55
4,426.0	19.60	271.40	4,223.4	64.6	-1,180.4	1,182.2	2.04	-1.94	1.83
4,519.0	18.30	270.10	4,311.3	65.0	-1,210.6	1,212.4	1.47	-1.40	-1.40
4,612.0	15.50	270.50	4,400.3	65.2	-1,237.7	1,239.4	3.01	-3.01	0.43
4,706.0	13.90	270.10	4,491.2	65.3	-1,261.5	1,263.2	1.71	-1.70	-0.43
4,799.0	12.30	267.60	4,581.8	64.9	-1,282.6	1,284.2	1.82	-1.72	-2.69
4,892.0	10.80	267.00	4,672.9	64.0	-1,301.2	1,302.7	1.62	-1.61	-0.65
4,962.0	9.80	268.40	4,741.8	63.5	-1,313.7	1,315.2	1.47	-1.43	2.00
5,056.0	8.70	268.90	4,834.6	63.2	-1,328.8	1,330.3	1.17	-1.17	0.53
5,149.0	7.10	273.30	4,926.7	63.4	-1,341.6	1,343.0	1.84	-1.72	4.73
5,241.0	6.20	278.50	5,018.0	64.4	-1,352.2	1,353.7	1.18	-0.98	5.65
5,334.0	5.10	272.40	5,110.6	65.3	-1,361.3	1,362.8	1.35	-1.18	-6.56
5,428.0	2.90	276.00	5,204.4	65.8	-1,367.8	1,369.3	2.35	-2.34	3.83
5,522.0	2.15	280.20	5,298.3	66.3	-1,371.9	1,373.5	0.82	-0.80	4.47
5,617.0	1.70	284.90	5,393.2	67.0	-1,375.0	1,376.6	0.50	-0.47	4.95
5,709.0	1.30	272.00	5,485.2	67.4	-1,377.4	1,379.0	0.57	-0.43	-14.02
5,803.0	1.50	314.20	5,579.2	68.3	-1,379.3	1,381.0	1.09	0.21	44.89
5,895.0	1.80	35.50	5,671.1	70.3	-1,379.3	1,381.1	2.35	0.33	88.37
5,989.0	1.30	25.20	5,765.1	72.5	-1,378.0	1,379.9	0.61	-0.53	-10.96
6,081.0	1.70	17.50	5,857.1	74.7	-1,377.2	1,379.2	0.49	0.43	-8.37

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6,175.0	1.10	3.50	5,951.0	76.9	-1,376.7	1,378.8	0.73	-0.64	-14.89
6,267.0	1.30	352.00	6,043.0	78.9	-1,376.8	1,379.0	0.34	0.22	-12.50
6,361.0	1.40	340.90	6,137.0	81.0	-1,377.3	1,379.7	0.30	0.11	-11.81
6,454.0	1.50	325.60	6,230.0	83.1	-1,378.4	1,380.9	0.43	0.11	-16.45
6,547.0	2.00	329.90	6,322.9	85.5	-1,379.9	1,382.5	0.56	0.54	4.62
6,640.0	0.60	20.30	6,415.9	87.3	-1,380.5	1,383.2	1.81	-1.51	54.19
6,733.0	1.10	4.80	6,508.9	88.7	-1,380.3	1,383.1	0.59	0.54	-16.67
6,826.0	0.80	355.30	6,601.9	90.2	-1,380.3	1,383.1	0.36	-0.32	-10.22
6,919.0	0.70	3.50	6,694.9	91.4	-1,380.3	1,383.2	0.16	-0.11	8.82
7,013.0	0.70	304.70	6,788.9	92.3	-1,380.7	1,383.7	0.73	0.00	-62.55
7,106.0	0.40	250.60	6,881.9	92.6	-1,381.5	1,384.5	0.61	-0.32	-58.17
7,199.0	0.70	306.10	6,974.9	92.8	-1,382.3	1,385.2	0.62	0.32	59.68
7,293.0	0.80	264.10	7,068.8	93.1	-1,383.4	1,386.4	0.58	0.11	-44.68
7,386.0	0.30	287.90	7,161.8	93.1	-1,384.2	1,387.2	0.58	-0.54	25.59
7,479.0	0.70	222.20	7,254.8	92.7	-1,384.9	1,387.8	0.69	0.43	-70.65
7,572.0	1.10	239.70	7,347.8	91.8	-1,386.0	1,388.9	0.52	0.43	18.82
7,665.0	1.20	244.90	7,440.8	91.0	-1,387.7	1,390.6	0.16	0.11	5.59
7,758.0	1.00	263.60	7,533.8	90.5	-1,389.4	1,392.2	0.44	-0.22	20.11
7,851.0	1.40	268.30	7,626.8	90.4	-1,391.3	1,394.1	0.44	0.43	5.05
7,945.0	1.80	275.90	7,720.7	90.5	-1,393.9	1,396.8	0.48	0.43	8.09
8,038.0	1.80	233.40	7,813.7	89.7	-1,396.5	1,399.3	1.40	0.00	-45.70
8,132.0	1.50	200.60	7,907.7	87.7	-1,398.2	1,400.9	1.04	-0.32	-34.89
8,225.0	1.50	222.80	8,000.6	85.7	-1,399.4	1,402.0	0.62	0.00	23.87
8,319.0	1.30	214.50	8,094.6	83.9	-1,400.9	1,403.3	0.30	-0.21	-8.83
8,415.0	0.60	84.00	8,190.6	83.1	-1,401.0	1,403.4	1.82	-0.73	-135.94
8,508.0	0.10	283.90	8,283.6	83.1	-1,400.6	1,403.0	0.75	-0.54	-172.15
8,602.0	0.90	166.70	8,377.6	82.4	-1,400.5	1,402.9	1.01	0.85	-124.68
8,696.0	1.30	202.70	8,471.6	80.7	-1,400.7	1,403.0	0.83	0.43	38.30
8,790.0	1.40	175.90	8,565.5	78.6	-1,401.0	1,403.2	0.67	0.11	-28.51
8,884.0	1.40	193.40	8,659.5	76.3	-1,401.2	1,403.3	0.45	0.00	18.62
8,978.0	1.60	204.60	8,753.5	74.0	-1,402.0	1,404.0	0.38	0.21	11.91
9,073.0	1.80	188.80	8,848.4	71.3	-1,402.8	1,404.6	0.53	0.21	-16.63
9,167.0	1.80	162.70	8,942.4	68.5	-1,402.6	1,404.3	0.86	0.00	-27.77
9,261.0	1.50	168.20	9,036.4	65.9	-1,401.9	1,403.4	0.36	-0.32	5.85
9,354.0	1.00	131.90	9,129.3	64.1	-1,401.1	1,402.5	0.98	-0.54	-39.03
9,447.0	1.10	145.60	9,222.3	62.9	-1,400.0	1,401.3	0.29	0.11	14.73
9,540.0	1.00	189.30	9,315.3	61.3	-1,399.6	1,400.9	0.85	-0.11	46.99
9,636.0	1.80	230.60	9,411.3	59.5	-1,400.9	1,402.1	1.29	0.83	43.02
9,730.0	2.40	238.40	9,505.2	57.6	-1,403.7	1,404.8	0.71	0.64	8.30
9,824.0	3.10	241.50	9,599.1	55.3	-1,407.6	1,408.5	0.76	0.74	3.30
9,917.0	3.90	244.30	9,691.9	52.7	-1,412.7	1,413.5	0.88	0.86	3.01
10,011.0	4.20	241.60	9,785.7	49.7	-1,418.6	1,419.2	0.38	0.32	-2.87
10,106.0	4.20	245.40	9,880.4	46.6	-1,424.8	1,425.2	0.29	0.00	4.00
10,200.0	4.10	251.10	9,974.2	44.1	-1,431.1	1,431.4	0.45	-0.11	6.06
10,292.0	2.90	260.90	10,066.0	42.7	-1,436.5	1,436.7	1.45	-1.30	10.65
10,385.0	3.20	253.30	10,158.9	41.5	-1,441.3	1,441.5	0.54	0.32	-8.17
10,435.0	3.36	249.22	10,208.8	40.6	-1,444.0	1,444.1	0.57	0.32	-8.17