



# **Ursa Operating Company, LLC**

**Rockies Region**

**Watson Ranch B**

**WATSON RANCH B 34C-17-07-95**

**Wellbore #1**

**Design: Actual**

## **End of Well Report**

**02 June, 2015**



<b>Company:</b>	Ursa Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well WATSON RANCH B 34C-17-07-95
<b>Project:</b>	Rockies Region	<b>TVD Reference:</b>	WATSON RANCH B 34C-17-07-95 @ 5602.0usft (Caps)
<b>Site:</b>	Watson Ranch B	<b>MD Reference:</b>	WATSON RANCH B 34C-17-07-95 @ 5602.0usft (Caps)
<b>Well:</b>	WATSON RANCH B 34C-17-07-95	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Actual	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Rockies Region		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		

<b>Site</b>	Watson Ranch B		
<b>Site Position:</b>		<b>Northing:</b>	1,592,643.01 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,287,301.12 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	39° 26' 0.219 N
		<b>Longitude:</b>	108° 1' 24.909 W
		<b>Grid Convergence:</b>	-1.59 °

<b>Well</b>	WATSON RANCH B 34C-17-07-95, SHL LAT: 39.433334704 LONG: -108.023407513					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	1,592,619.98 usft	<b>Latitude:</b>	39° 26' 0.005 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	2,287,350.86 usft	<b>Longitude:</b>	108° 1' 24.267 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	5,602.0 usft	<b>Ground Level:</b>	5,585.0 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	3/3/2015	9.88	65.58	51,841

<b>Design</b>	Actual				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>		<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
		0.0	0.0	0.0	105.67

<b>Survey Program</b>	Date 6/2/2015				
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
99.0	6,856.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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<b>Well:</b>	WATSON RANCH B 34C-17-07-95	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Actual	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
99.0	1.05	77.20	99.0	0.8	0.2	0.9	1.06	1.06	0.00	0.00
129.0	1.27	69.95	129.0	1.3	0.4	1.5	0.88	0.73	-24.17	-24.17
158.0	0.92	75.71	158.0	1.8	0.5	2.0	1.26	-1.21	19.86	19.86
190.0	0.59	56.35	190.0	2.1	0.7	2.4	1.29	-1.03	-60.50	-60.50
220.0	0.79	62.35	220.0	2.4	0.9	2.7	0.71	0.67	20.00	20.00
250.0	0.62	52.95	250.0	2.6	1.1	3.0	0.68	-0.57	-31.33	-31.33
280.0	0.63	81.51	280.0	2.9	1.2	3.3	1.03	0.03	95.20	95.20
310.0	0.79	123.48	310.0	3.2	1.1	3.6	1.77	0.53	139.90	139.90
340.0	0.97	122.12	340.0	3.6	0.9	4.0	0.60	0.60	-4.53	-4.53
370.0	0.79	113.75	370.0	4.1	0.6	4.4	0.74	-0.60	-27.90	-27.90
400.0	1.23	126.82	400.0	4.6	0.4	4.9	1.65	1.47	43.57	43.57
430.0	1.63	149.93	430.0	5.2	-0.2	5.3	2.31	1.33	77.03	77.03
460.0	2.24	159.82	459.9	5.8	-1.1	5.8	2.31	2.03	32.97	32.97
490.0	2.59	148.88	489.9	6.7	-2.3	6.3	1.92	1.17	-36.47	-36.47
520.0	2.77	145.85	519.9	7.7	-3.4	7.1	0.76	0.60	-10.10	-10.10
550.0	3.25	138.99	549.8	9.0	-4.7	8.0	2.00	1.60	-22.87	-22.87
580.0	4.13	137.67	579.8	10.6	-6.1	9.3	2.95	2.93	-4.40	-4.40
610.0	4.92	134.82	609.7	12.7	-7.8	11.0	2.74	2.63	-9.50	-9.50
640.0	5.71	132.66	639.5	15.1	-9.7	13.0	2.72	2.63	-7.20	-7.20
670.0	6.42	128.31	669.4	18.0	-11.8	15.4	2.82	2.37	-14.50	-14.50
700.0	7.27	123.58	699.2	21.3	-13.9	18.3	3.40	2.83	-15.77	-15.77
730.0	8.22	120.27	728.9	25.2	-16.0	21.7	3.50	3.17	-11.03	-11.03
760.0	8.75	114.91	758.6	29.6	-18.0	25.6	3.17	1.77	-17.87	-17.87
790.0	9.62	111.44	788.2	34.3	-19.9	30.0	3.44	2.90	-11.57	-11.57
820.0	10.46	107.66	817.7	39.5	-21.7	35.0	3.56	2.80	-12.60	-12.60
850.0	11.16	104.98	847.2	45.1	-23.2	40.4	2.87	2.33	-8.93	-8.93

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Survey										
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880.0	12.00	103.70	876.6	51.2	-24.7	46.2	2.93	2.80	-4.27	
910.0	13.01	102.56	905.9	57.7	-26.2	52.5	3.47	3.37	-3.80	
940.0	14.37	102.52	935.0	64.7	-27.7	59.5	4.53	4.53	-0.13	
970.0	15.34	104.32	964.0	72.4	-29.5	66.9	3.58	3.23	6.00	
1,000.0	16.39	104.32	992.9	80.6	-31.6	74.9	3.50	3.50	0.00	
1,030.0	17.27	105.24	1,021.6	89.3	-33.8	83.3	3.06	2.93	3.07	
1,060.0	18.15	106.03	1,050.2	98.4	-36.2	92.1	3.04	2.93	2.63	
1,090.0	18.76	106.30	1,078.6	107.9	-38.9	101.2	2.05	2.03	0.90	
1,120.0	19.38	106.21	1,107.0	117.7	-41.6	110.6	2.07	2.07	-0.30	
1,150.0	20.21	106.30	1,135.2	127.9	-44.5	120.4	2.77	2.77	0.30	
1,180.0	20.96	106.03	1,163.3	138.4	-47.4	130.5	2.52	2.50	-0.90	
1,210.0	21.67	105.81	1,191.2	149.3	-50.4	141.0	2.38	2.37	-0.73	
1,240.0	21.97	106.03	1,219.1	160.5	-53.5	151.7	1.04	1.00	0.73	
1,270.0	21.88	106.21	1,246.9	171.7	-56.6	162.5	0.37	-0.30	0.60	
1,300.0	22.02	106.04	1,274.7	182.9	-59.7	173.2	0.51	0.47	-0.57	
1,330.0	22.19	106.47	1,302.5	194.2	-62.8	184.1	0.78	0.57	1.43	
1,360.0	22.63	106.16	1,330.3	205.6	-66.1	195.0	1.52	1.47	-1.03	
1,390.0	22.63	107.00	1,358.0	217.2	-69.4	206.1	1.08	0.00	2.80	
1,420.0	23.25	106.34	1,385.6	228.9	-72.7	217.3	2.24	2.07	-2.20	
1,450.0	23.47	105.64	1,413.1	240.8	-76.0	228.7	1.18	0.73	-2.33	
1,480.0	23.46	105.70	1,440.6	252.7	-79.2	240.2	0.09	-0.03	0.20	
1,510.0	23.51	106.38	1,468.2	264.7	-82.5	251.7	0.92	0.17	2.27	
1,540.0	23.55	106.21	1,495.7	276.6	-85.9	263.2	0.26	0.13	-0.57	
1,570.0	23.64	104.67	1,523.2	288.6	-89.1	274.8	2.08	0.30	-5.13	
1,600.0	23.20	104.80	1,550.7	300.6	-92.1	286.3	1.48	-1.47	0.43	
1,630.0	23.25	104.36	1,578.3	312.4	-95.1	297.8	0.60	0.17	-1.47	
1,660.0	23.51	103.70	1,605.8	324.3	-98.0	309.3	1.23	0.87	-2.20	

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<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
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Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
1,690.0	23.51	104.45	1,633.3	336.3	-100.9	320.9	1.00	0.00	2.50	
1,720.0	23.73	104.49	1,660.8	348.3	-103.9	332.6	0.74	0.73	0.13	
1,750.0	24.52	103.18	1,688.2	360.5	-106.8	344.5	3.18	2.63	-4.37	
1,780.0	24.20	103.85	1,715.5	372.9	-109.7	356.5	1.41	-1.07	2.23	
1,846.0	23.89	103.59	1,775.8	399.8	-116.1	382.6	0.50	-0.47	-0.39	
1,931.0	23.16	103.53	1,853.7	433.7	-124.0	415.6	0.86	-0.86	-0.07	
2,017.0	23.95	104.27	1,932.5	468.0	-132.3	449.0	0.98	0.92	0.86	
2,102.0	23.38	103.66	2,010.4	502.1	-140.5	482.1	0.73	-0.67	-0.72	
2,188.0	23.20	105.02	2,089.4	536.1	-148.9	515.0	0.66	-0.21	1.58	
2,273.0	21.88	103.45	2,167.9	568.7	-157.0	546.6	1.71	-1.55	-1.85	
2,358.0	22.41	105.15	2,246.6	600.7	-164.9	577.7	0.98	0.62	2.00	
2,444.0	24.08	106.08	2,325.6	634.7	-174.0	610.3	1.99	1.94	1.08	
2,529.0	22.94	105.90	2,403.6	668.6	-183.4	642.9	1.34	-1.34	-0.21	
2,615.0	23.48	105.85	2,482.6	702.5	-192.6	675.5	0.63	0.63	-0.06	
2,700.0	22.81	105.81	2,560.8	735.9	-201.8	707.7	0.79	-0.79	-0.05	
2,786.0	23.29	106.91	2,639.9	769.5	-211.2	740.0	0.75	0.56	1.28	
2,871.0	22.59	106.74	2,718.2	802.7	-220.8	771.7	0.83	-0.82	-0.20	
2,957.0	23.38	107.44	2,797.4	836.2	-230.7	803.8	0.97	0.92	0.81	
3,042.0	22.87	105.72	2,875.5	869.6	-240.2	835.8	1.00	-0.60	-2.02	
3,127.0	21.75	105.64	2,954.2	901.9	-249.0	866.8	1.32	-1.32	-0.09	
3,213.0	23.25	103.35	3,033.6	934.8	-257.2	898.7	2.02	1.74	-2.66	
3,298.0	23.69	105.99	3,111.6	968.6	-265.8	931.4	1.34	0.52	3.11	
3,383.0	22.54	106.16	3,189.8	1,002.0	-275.0	963.5	1.36	-1.35	0.20	
3,469.0	22.85	108.80	3,269.1	1,035.1	-285.0	995.2	1.24	0.36	3.07	
3,554.0	22.63	105.11	3,347.5	1,068.0	-294.5	1,026.6	1.70	-0.26	-4.34	
3,640.0	23.73	106.16	3,426.6	1,101.8	-303.7	1,059.2	1.37	1.28	1.22	
3,725.0	21.71	102.74	3,505.0	1,134.6	-311.9	1,090.9	2.84	-2.38	-4.02	

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3,810.0	22.63	105.24	3,583.7	1,166.7	-319.7	1,122.0	1.55	1.08	2.94	
3,896.0	21.84	105.69	3,663.3	1,199.2	-328.3	1,153.4	0.94	-0.92	0.52	
3,981.0	20.70	104.76	3,742.5	1,230.1	-336.4	1,183.2	1.40	-1.34	-1.09	
4,066.0	19.03	104.45	3,822.4	1,258.9	-343.7	1,211.1	1.97	-1.96	-0.36	
4,152.0	16.22	105.11	3,904.4	1,285.0	-350.4	1,236.3	3.28	-3.27	0.77	
4,237.0	13.55	104.33	3,986.5	1,306.8	-355.9	1,257.4	3.15	-3.14	-0.92	
4,323.0	10.90	106.78	4,070.6	1,325.0	-360.8	1,274.9	3.14	-3.08	2.85	
4,408.0	8.68	106.28	4,154.3	1,339.4	-364.9	1,288.8	2.61	-2.61	-0.59	
4,493.0	6.81	101.15	4,238.5	1,350.9	-367.7	1,299.9	2.34	-2.20	-6.04	
4,579.0	5.67	109.64	4,324.0	1,360.2	-370.1	1,308.9	1.70	-1.33	9.87	
4,664.0	4.84	102.87	4,408.7	1,368.0	-372.3	1,316.4	1.22	-0.98	-7.96	
4,750.0	2.59	90.87	4,494.5	1,373.5	-373.1	1,321.8	2.75	-2.62	-13.95	
4,835.0	0.92	57.52	4,579.5	1,375.8	-372.8	1,324.3	2.22	-1.96	-39.24	
4,920.0	0.92	55.89	4,664.4	1,376.7	-372.0	1,325.5	0.03	0.00	-1.92	
5,006.0	0.79	54.70	4,750.4	1,377.5	-371.3	1,326.5	0.15	-0.15	-1.38	
5,091.0	0.35	53.03	4,835.4	1,378.0	-370.8	1,327.2	0.52	-0.52	-1.96	
5,176.0	0.13	130.95	4,920.4	1,378.3	-370.7	1,327.5	0.41	-0.26	91.67	
5,262.0	0.04	230.84	5,006.4	1,378.4	-370.8	1,327.5	0.17	-0.10	116.15	
5,347.0	0.31	286.96	5,091.4	1,378.1	-370.8	1,327.3	0.34	0.32	66.02	
5,433.0	1.54	54.92	5,177.4	1,378.6	-370.0	1,328.0	2.03	1.43	148.79	
5,518.0	1.14	61.12	5,262.4	1,379.9	-369.0	1,329.7	0.50	-0.47	7.29	
5,603.0	0.88	52.02	5,347.4	1,380.9	-368.1	1,330.9	0.36	-0.31	-10.71	
5,689.0	0.83	40.07	5,433.4	1,381.6	-367.3	1,331.9	0.21	-0.06	-13.90	
5,774.0	0.53	14.05	5,518.4	1,381.8	-366.4	1,332.4	0.50	-0.35	-30.61	
5,859.0	0.26	328.57	5,603.4	1,381.7	-365.9	1,332.4	0.46	-0.32	-53.51	
5,945.0	0.22	304.97	5,689.4	1,381.4	-365.6	1,332.1	0.12	-0.05	-27.44	
6,030.0	0.62	276.26	5,774.4	1,380.7	-365.5	1,331.5	0.52	0.47	-33.78	

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
6,116.0	0.53	281.64	5,860.4	1,379.9	-365.3	1,330.7	0.12	-0.10	6.26	
6,201.0	0.35	311.83	5,945.4	1,379.3	-365.1	1,330.1	0.34	-0.21	35.52	
6,286.0	0.22	0.70	6,030.4	1,379.0	-364.7	1,329.9	0.31	-0.15	57.49	
6,372.0	0.44	6.19	6,116.4	1,378.9	-364.2	1,329.9	0.26	0.26	6.38	
6,457.0	0.49	161.79	6,201.4	1,379.0	-364.3	1,330.1	1.07	0.06	183.06	
6,542.0	1.19	205.47	6,286.3	1,379.1	-365.4	1,329.8	1.06	0.82	51.39	
6,628.0	1.36	205.22	6,372.3	1,378.8	-367.1	1,329.0	0.20	0.20	-0.29	
6,713.0	1.41	206.40	6,457.3	1,378.4	-369.0	1,328.1	0.07	0.06	1.39	
6,799.0	1.49	210.23	6,543.3	1,377.9	-370.9	1,327.1	0.15	0.09	4.45	
6,856.0	1.49	210.23	6,600.2	1,377.6	-372.2	1,326.3	0.00	0.00	0.00	

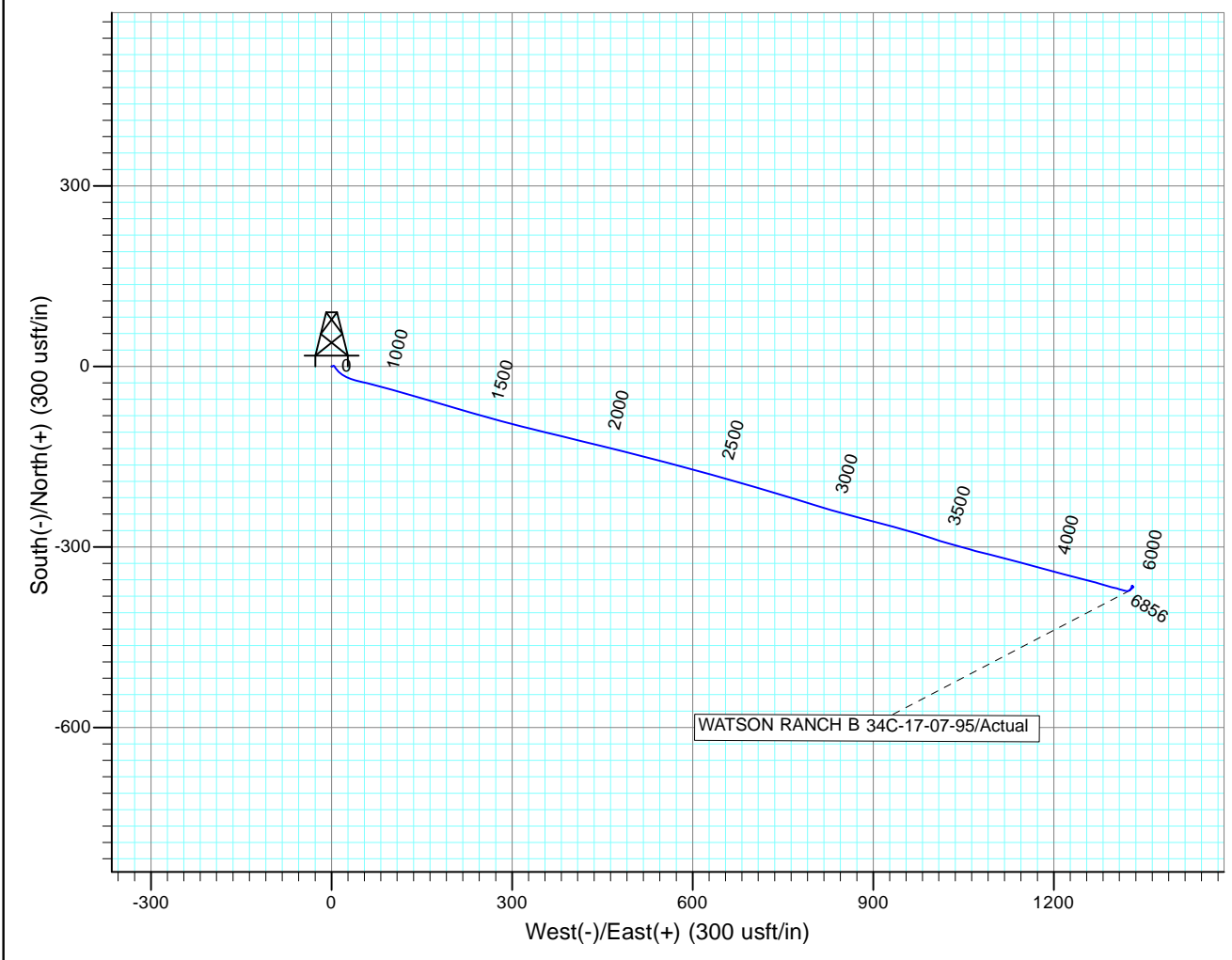
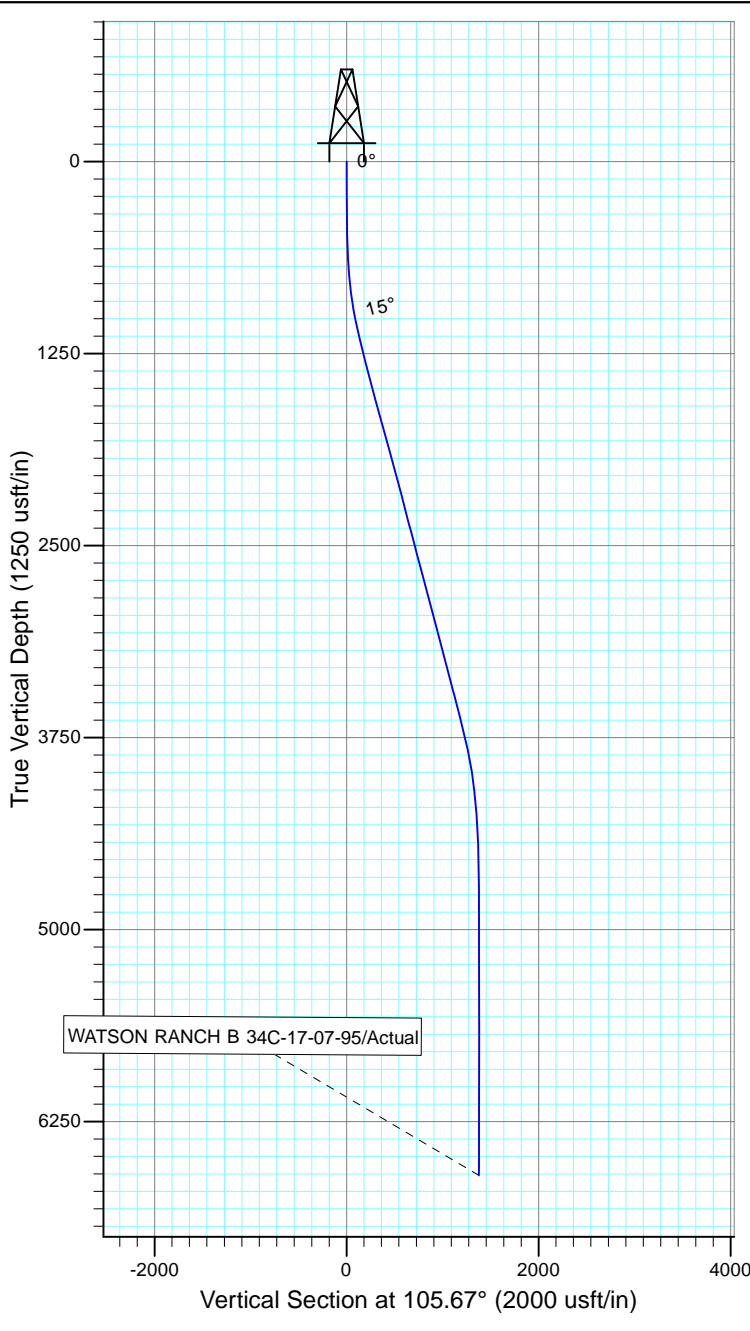
Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



Project: Rockies Region  
 Site: Watson Ranch B  
 Well: WATSON RANCH B 34C-17-07-95  
 Wellbore: Wellbore #1  
 Design: Actual

Azimuths to True North  
 Magnetic North: 9.88°

Magnetic Field  
 Strength: 51841.0snT  
 Dip Angle: 65.58°  
 Date: 3/3/2015  
 Model: IGRF2010



Design: Actual (WATSON RANCH B 34C-17-07-95/Wellbore #1)

Created By: *Matthew Linton* Date: 11:32, June 02 2015

THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND IS SUPPORTED BY ACTUAL FIELD DATA