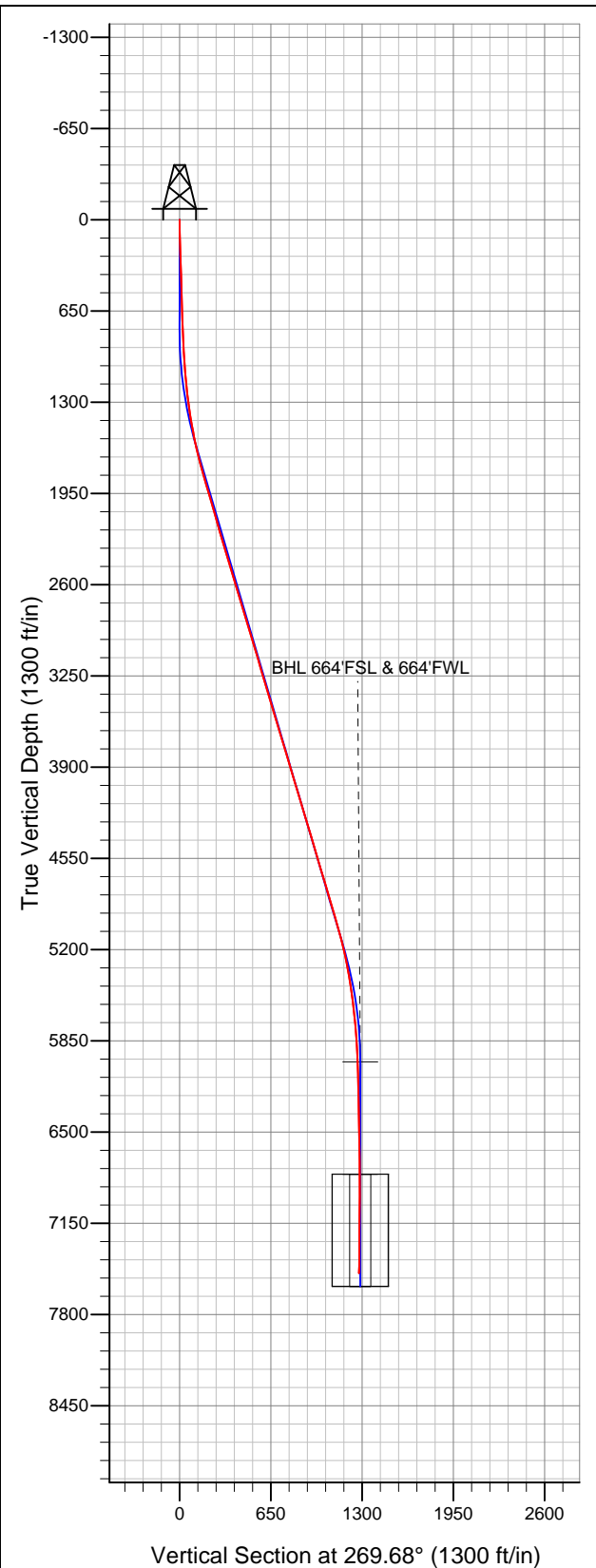


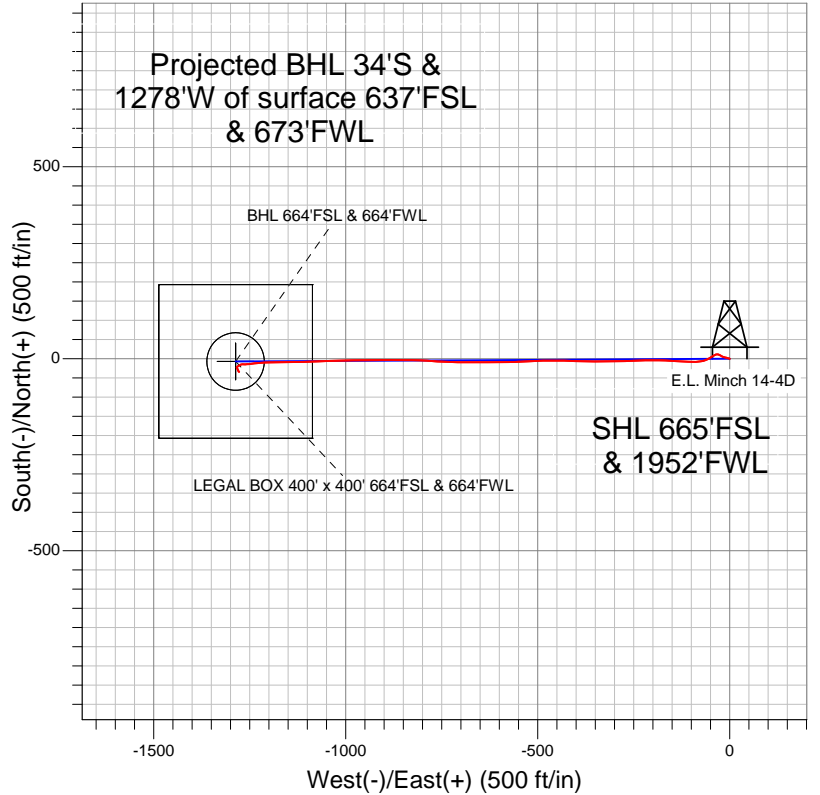
**Well Name: E.L. Minch 14-4D**

Surface Location: E.L. Minch 35-4D PAD Sec.4-T3N-R68W  
North American Datum 1983 US State Plane 1983Colorado Northern Zone  
Ground Elevation: 5053.0

+N/-S 0.0	+E/-W 0.0	Northing 1334107.70 EST KB 13'	Easting 3136576.97 RKB @ 5066.0ft (EST KB 13')	Latitude 40.249490	Longitude -105.010700	Slot
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**Apollo Operating, LLC.**



**LEGEND**

- Wellbore #1
- E.L. Minch 14-4D, Wellbore #1, Plan 1 (4-11-2012) R V0
- Survey #1

**Final Survey Plot**

Projected Final Survey -  
7673'MD & 7506'TVD @ 1278'VS  
1.40 deg Inc 133.20 deg AZ

Project: SEC.4-T3N-R68W  
Site: E.L. Minch 35-4D PAD Sec.4-T3N-R68W  
Well: E.L. Minch 14-4D  
Plan: Wellbore #1



## **Apollo Operating, LLC.**

**SEC.4-T3N-R68W**

**E.L. Minch 35-4D PAD Sec.4-T3N-R68W**

**E.L. Minch 14-4D**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**18 April, 2012**

Survey	Wellbore Data									
	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)
Survey A	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	98.0	1.50	283.10	98.0	0.3	-1.2	1.2	1.53	1.53	0.00
	248.0	1.50	297.00	247.9	1.6	-4.9	4.9	0.24	0.00	9.27
	368.0	2.00	281.40	367.9	2.8	-8.4	8.3	0.57	0.42	-13.00
	490.0	2.00	285.00	489.8	3.7	-12.5	12.5	0.10	0.00	2.95
	614.0	2.40	288.90	613.7	5.1	-17.1	17.0	0.34	0.32	3.15
	688.0	2.30	289.30	687.7	6.1	-19.9	19.9	0.14	-0.14	0.54
	765.0	2.60	294.50	764.6	7.4	-23.0	22.9	0.48	0.39	6.75
	890.0	2.60	307.90	889.5	10.3	-27.8	27.7	0.49	0.00	10.72
	1,015.0	3.60	262.50	1,014.3	11.5	-33.9	33.8	2.05	0.80	-36.32
	1,139.0	6.50	236.90	1,137.8	7.2	-43.7	43.6	2.91	2.34	-20.65
	1,264.0	8.40	242.30	1,261.7	-0.9	-57.7	57.7	1.62	1.52	4.32
	1,389.0	8.70	260.80	1,385.4	-6.7	-75.1	75.1	2.20	0.24	14.80

<b>Company:</b>	Apollo Operating, LLC.	<b>Local Co-ordinate Reference:</b>	Well E.L. Minch 14-4D
<b>Project:</b>	SEC.4-T3N-R68W	<b>TVD Reference:</b>	RKB @ 5066.0ft (EST KB 13')
<b>Site:</b>	E.L. Minch 35-4D PAD Sec.4-T3N-R68W	<b>MD Reference:</b>	RKB @ 5066.0ft (EST KB 13')
<b>Well:</b>	E.L. Minch 14-4D	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

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)	
1,514.0	10.20	271.20	1,508.7	-8.0	-95.5	95.5	1.81	1.20	8.32	
1,638.0	13.00	273.10	1,630.1	-7.0	-120.4	120.4	2.28	2.26	1.53	
1,763.0	15.10	273.10	1,751.4	-5.4	-150.7	150.7	1.68	1.68	0.00	
1,888.0	16.60	271.20	1,871.6	-4.1	-184.8	184.8	1.27	1.20	-1.52	
2,012.0	16.20	269.20	1,990.6	-4.0	-219.8	219.8	0.56	-0.32	-1.61	
2,137.0	15.70	266.60	2,110.8	-5.2	-254.1	254.2	0.70	-0.40	-2.08	
2,262.0	16.70	269.20	2,230.8	-6.5	-289.0	289.0	0.99	0.80	2.08	
2,387.0	16.40	269.60	2,350.7	-6.9	-324.6	324.6	0.26	-0.24	0.32	
2,511.0	16.50	270.60	2,469.6	-6.8	-359.7	359.7	0.24	0.08	0.81	
2,636.0	16.60	272.20	2,589.4	-5.9	-395.3	395.3	0.37	0.08	1.28	
2,761.0	17.00	270.60	2,709.1	-5.0	-431.4	431.4	0.49	0.32	-1.28	
2,886.0	17.10	270.10	2,828.6	-4.8	-468.0	468.1	0.14	0.08	-0.40	
3,010.0	16.40	267.30	2,947.3	-5.6	-503.8	503.8	0.86	-0.56	-2.26	
3,135.0	17.10	267.10	3,067.0	-7.4	-539.7	539.8	0.56	0.56	-0.16	
3,260.0	15.70	269.60	3,186.9	-8.4	-575.0	575.1	1.25	-1.12	2.00	
3,384.0	16.60	269.40	3,306.0	-8.7	-609.5	609.5	0.73	0.73	-0.16	
3,509.0	16.90	269.70	3,425.7	-9.0	-645.5	645.6	0.25	0.24	0.24	
3,634.0	16.50	269.40	3,545.4	-9.3	-681.4	681.5	0.33	-0.32	-0.24	
3,759.0	16.80	271.90	3,665.2	-8.9	-717.3	717.3	0.62	0.24	2.00	
3,883.0	17.20	274.00	3,783.8	-7.0	-753.5	753.5	0.59	0.32	1.69	
4,008.0	16.30	273.10	3,903.5	-4.8	-789.4	789.4	0.75	-0.72	-0.72	
4,133.0	17.10	270.30	4,023.2	-3.7	-825.3	825.3	0.91	0.64	-2.24	
4,257.0	16.50	270.10	4,141.9	-3.6	-861.1	861.1	0.49	-0.48	-0.16	
4,382.0	17.10	271.00	4,261.6	-3.2	-897.3	897.3	0.52	0.48	0.72	
4,507.0	16.40	269.90	4,381.3	-2.9	-933.3	933.3	0.61	-0.56	-0.88	
4,632.0	16.20	269.00	4,501.3	-3.3	-968.4	968.4	0.26	-0.16	-0.72	
4,756.0	16.90	267.50	4,620.1	-4.4	-1,003.7	1,003.7	0.66	0.56	-1.21	
4,881.0	16.20	267.30	4,739.9	-6.0	-1,039.2	1,039.3	0.56	-0.56	-0.16	
5,006.0	17.00	268.70	4,859.7	-7.2	-1,074.9	1,074.9	0.72	0.64	1.12	
5,130.0	16.10	269.20	4,978.6	-7.9	-1,110.2	1,110.3	0.73	-0.73	0.40	
5,255.0	14.90	269.20	5,099.0	-8.3	-1,143.6	1,143.7	0.96	-0.96	0.00	
5,380.0	12.70	269.00	5,220.4	-8.8	-1,173.5	1,173.5	1.76	-1.76	-0.16	
5,505.0	10.60	268.50	5,342.8	-9.3	-1,198.7	1,198.7	1.68	-1.68	-0.40	
5,629.0	8.40	266.10	5,465.1	-10.3	-1,219.1	1,219.2	1.80	-1.77	-1.94	
5,754.0	6.60	264.30	5,589.1	-11.6	-1,235.4	1,235.4	1.45	-1.44	-1.44	
5,879.0	6.10	261.70	5,713.3	-13.3	-1,249.1	1,249.2	0.46	-0.40	-2.08	
6,004.0	3.60	266.70	5,837.8	-14.5	-1,259.6	1,259.7	2.03	-2.00	4.00	
6,128.0	2.30	270.30	5,961.7	-14.7	-1,266.0	1,266.0	1.06	-1.05	2.90	
6,167.1	2.24	270.56	6,000.7	-14.7	-1,267.5	1,267.6	0.16	-0.16	0.68	
BHL 664'FSL & 664'FWL										
6,253.0	2.10	271.20	6,086.6	-14.6	-1,270.8	1,270.8	0.16	-0.16	0.74	
6,378.0	1.20	232.50	6,211.5	-15.3	-1,274.1	1,274.2	1.11	-0.72	-30.96	
6,502.0	1.10	238.30	6,335.5	-16.8	-1,276.1	1,276.2	0.12	-0.08	4.68	
6,627.0	1.00	247.60	6,460.5	-17.8	-1,278.2	1,278.2	0.16	-0.08	7.44	
6,752.0	1.40	233.90	6,585.5	-19.1	-1,280.4	1,280.5	0.39	0.32	-10.96	
6,877.0	1.40	230.00	6,710.4	-21.0	-1,282.8	1,282.9	0.08	0.00	-3.12	
6,966.4	0.77	194.69	6,799.8	-22.3	-1,283.8	1,283.9	1.00	-0.70	-39.49	
LEGAL BOX 400' x 400' 664'FSL & 664'FWL - TARGET CIRCLE 664'FSL & 664'FWL										
7,002.0	0.70	167.30	6,835.4	-22.7	-1,283.8	1,283.9	1.00	-0.20	-76.97	
7,126.0	1.00	144.10	6,959.4	-24.4	-1,283.0	1,283.1	0.36	0.24	-18.71	
7,251.0	1.00	147.60	7,084.4	-26.2	-1,281.8	1,281.9	0.05	0.00	2.80	
7,376.0	1.20	157.80	7,209.3	-28.3	-1,280.7	1,280.9	0.22	0.16	8.16	
7,501.0	1.30	168.70	7,334.3	-30.9	-1,279.9	1,280.1	0.21	0.08	8.72	
7,625.0	1.40	133.20	7,458.3	-33.3	-1,278.6	1,278.7	0.67	0.08	-28.63	

<b>Company:</b>	Apollo Operating, LLC.	<b>Local Co-ordinate Reference:</b>	Well E.L. Minch 14-4D
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<b>Well:</b>	E.L. Minch 14-4D	<b>North Reference:</b>	True
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<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Survey									
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7,673.0	1.40	133.20	7,506.3	-34.1	-1,277.7	1,277.9	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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