

Endurance Resources LLC

Lea County, NM (NAD 83)

Jazzbass 34 Federal

Jazzbass 34 Federal 3H

ST 01

Design: Surveys

Sperry Drilling Services Combo Report

07 October, 2015

Well Coordinates: 394,725.43 N, 844,886.19 E (32° 04' 53.00" N, 103° 21' 11.74" W)

Ground Level: 3,171.00 usft

Local Coordinate Origin:	Centered on Well Jazzbass 34 Federal 3H
Viewing Datum:	GL 3171' + KB 25' @ 3196.00usft (H&P 490)
TVDs to System:	N
North Reference:	Grid
Unit System:	API - US Survey Feet

Version: 5000.1 Build: 76

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Design Report for Jazzbass 34 Federal 3H - Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
0.00	0.00	0.00	-3,196.00	0.00	0.00 N	0.00 E	394,725.43	844,886.19	0.00	0.00	
100.00	0.45	314.31	-3,096.00	100.00	0.27 N	0.28 W	394,725.70	844,885.91	0.45	0.29	
200.00	0.57	318.15	-2,996.01	199.99	0.92 N	0.89 W	394,726.35	844,885.30	0.12	0.98	
300.00	0.60	325.73	-2,896.01	299.99	1.72 N	1.52 W	394,727.15	844,884.67	0.08	1.83	
400.00	0.73	335.57	-2,796.02	399.98	2.74 N	2.08 W	394,728.17	844,884.11	0.17	2.88	
500.00	1.16	339.32	-2,696.03	499.97	4.26 N	2.70 W	394,729.69	844,883.49	0.43	4.45	
600.00	1.44	348.41	-2,596.06	599.94	6.44 N	3.31 W	394,731.87	844,882.88	0.35	6.67	
700.00	1.22	350.57	-2,496.08	699.92	8.72 N	3.74 W	394,734.15	844,882.45	0.23	8.97	
800.00	1.03	352.35	-2,396.10	799.90	10.66 N	4.03 W	394,736.09	844,882.16	0.19	10.93	
900.00	0.83	357.30	-2,296.12	899.88	12.28 N	4.18 W	394,737.71	844,882.01	0.22	12.55	
1,000.00	0.65	352.30	-2,196.12	999.88	13.56 N	4.29 W	394,738.99	844,881.90	0.19	13.84	
1,100.00	0.51	359.62	-2,096.13	1,099.87	14.57 N	4.37 W	394,740.00	844,881.82	0.16	14.85	
1,200.00	0.68	348.79	-1,996.13	1,199.87	15.60 N	4.49 W	394,741.03	844,881.70	0.20	15.89	
1,300.00	0.07	232.71	-1,896.14	1,299.86	16.14 N	4.66 W	394,741.57	844,881.53	0.71	16.44	
1,400.00	0.62	354.66	-1,796.14	1,399.86	16.64 N	4.75 W	394,742.07	844,881.44	0.66	16.95	
1,500.00	0.56	358.73	-1,696.14	1,499.86	17.67 N	4.82 W	394,743.10	844,881.37	0.07	17.98	
1,600.00	0.49	335.39	-1,596.15	1,599.85	18.55 N	5.00 W	394,743.98	844,881.19	0.22	18.87	
1,700.00	0.36	327.47	-1,496.15	1,699.85	19.20 N	5.35 W	394,744.63	844,880.84	0.14	19.54	
1,800.00	0.34	23.32	-1,396.15	1,799.85	19.74 N	5.40 W	394,745.17	844,880.79	0.33	20.08	
1,900.00	0.28	35.76	-1,296.15	1,899.85	20.21 N	5.14 W	394,745.64	844,881.05	0.09	20.53	
2,000.00	0.31	57.07	-1,196.16	1,999.84	20.55 N	4.77 W	394,745.98	844,881.42	0.11	20.85	
2,100.00	0.36	77.75	-1,096.16	2,099.84	20.77 N	4.24 W	394,746.20	844,881.95	0.13	21.02	
2,200.00	0.25	99.76	-996.16	2,199.84	20.80 N	3.72 W	394,746.23	844,882.47	0.16	21.02	
2,300.00	0.08	163.88	-896.16	2,299.84	20.69 N	3.48 W	394,746.12	844,882.71	0.23	20.89	
2,400.00	0.27	156.00	-796.16	2,399.84	20.41 N	3.37 W	394,745.84	844,882.82	0.19	20.60	
2,500.00	0.24	147.31	-696.16	2,499.84	20.02 N	3.16 W	394,745.45	844,883.03	0.05	20.20	
2,600.00	0.20	9.07	-596.16	2,599.84	20.02 N	3.02 W	394,745.45	844,883.17	0.41	20.18	
2,700.00	0.03	110.41	-496.16	2,699.84	20.18 N	2.97 W	394,745.61	844,883.22	0.21	20.34	
2,800.00	0.34	33.82	-396.16	2,799.84	20.42 N	2.78 W	394,745.85	844,883.41	0.33	20.57	
2,900.00	0.16	118.04	-296.16	2,899.84	20.60 N	2.49 W	394,746.03	844,883.70	0.36	20.73	
3,000.00	0.37	42.10	-196.16	2,999.84	20.77 N	2.15 W	394,746.20	844,884.04	0.37	20.87	
3,100.00	0.36	129.45	-96.16	3,099.84	20.81 N	1.69 W	394,746.24	844,884.50	0.50	20.88	
3,200.00	0.14	119.65	3.83	3,199.83	20.55 N	1.34 W	394,745.98	844,884.85	0.22	20.59	
3,300.00	0.44	107.81	103.83	3,299.83	20.37 N	0.87 W	394,745.80	844,885.32	0.30	20.38	
3,400.00	0.28	344.39	203.83	3,399.83	20.49 N	0.57 W	394,745.92	844,885.62	0.64	20.48	
3,500.00	0.24	321.44	303.83	3,499.83	20.89 N	0.76 W	394,746.32	844,885.43	0.11	20.89	
3,600.00	0.24	334.55	403.83	3,599.83	21.24 N	0.99 W	394,746.67	844,885.20	0.05	21.26	
3,700.00	0.45	358.27	503.83	3,699.83	21.83 N	1.09 W	394,747.26	844,885.10	0.25	21.85	
3,800.00	0.58	32.44	603.82	3,799.82	22.64 N	0.83 W	394,748.07	844,885.36	0.33	22.64	
3,900.00	0.60	43.06	703.82	3,899.82	23.45 N	0.20 W	394,748.88	844,885.99	0.11	23.41	

HALLIBURTON**Design Report for Jazzbass 34 Federal 3H - Surveys**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
4,000.00	0.40	61.04	803.82	3,999.82	24.01 N	0.46 E	394,749.44	844,886.65	0.25	23.91	
4,100.00	0.32	52.24	903.81	4,099.81	24.35 N	0.99 E	394,749.78	844,887.18	0.10	24.21	
4,200.00	0.39	22.45	1,003.81	4,199.81	24.83 N	1.34 E	394,750.26	844,887.53	0.19	24.66	
4,300.00	0.33	5.91	1,103.81	4,299.81	25.43 N	1.50 E	394,750.86	844,887.69	0.12	25.25	
4,400.00	0.35	11.38	1,203.81	4,399.81	26.02 N	1.59 E	394,751.45	844,887.78	0.04	25.83	
4,500.00	0.18	30.19	1,303.81	4,499.81	26.45 N	1.73 E	394,751.88	844,887.92	0.19	26.25	
4,600.00	0.39	78.15	1,403.81	4,599.81	26.66 N	2.14 E	394,752.09	844,888.33	0.30	26.43	
4,700.00	0.26	64.00	1,503.80	4,699.80	26.83 N	2.68 E	394,752.26	844,888.87	0.15	26.56	
4,800.00	0.37	67.98	1,603.80	4,799.80	27.05 N	3.18 E	394,752.48	844,889.37	0.11	26.74	
4,900.00	0.55	69.88	1,703.80	4,899.80	27.34 N	3.93 E	394,752.77	844,890.12	0.18	26.97	
5,000.00	0.26	63.39	1,803.80	4,999.80	27.60 N	4.59 E	394,753.03	844,890.78	0.29	27.19	
5,100.00	0.12	55.28	1,903.80	5,099.80	27.76 N	4.87 E	394,753.19	844,891.06	0.14	27.33	
5,200.00	0.19	48.27	2,003.80	5,199.80	27.93 N	5.08 E	394,753.36	844,891.27	0.07	27.48	
5,300.00	0.25	67.62	2,103.79	5,299.79	28.13 N	5.41 E	394,753.56	844,891.60	0.09	27.65	
5,400.00	0.35	77.23	2,203.79	5,399.79	28.28 N	5.91 E	394,753.71	844,892.10	0.11	27.76	
5,500.00	0.20	89.63	2,303.79	5,499.79	28.35 N	6.38 E	394,753.78	844,892.57	0.16	27.80	
5,600.00	0.43	91.61	2,403.79	5,599.79	28.34 N	6.93 E	394,753.77	844,893.12	0.23	27.75	
5,700.00	0.29	102.22	2,503.79	5,699.79	28.27 N	7.55 E	394,753.70	844,893.74	0.15	27.64	
5,800.00	0.30	170.76	2,603.79	5,799.79	27.96 N	7.84 E	394,753.39	844,894.03	0.33	27.31	
5,900.00	0.36	207.66	2,703.79	5,899.79	27.42 N	7.74 E	394,752.85	844,893.93	0.22	26.78	
6,000.00	0.28	203.73	2,803.78	5,999.78	26.92 N	7.50 E	394,752.35	844,893.69	0.08	26.30	
6,100.00	0.23	223.78	2,903.78	6,099.78	26.55 N	7.26 E	394,751.98	844,893.45	0.10	25.95	
6,200.00	0.22	242.01	3,003.78	6,199.78	26.32 N	6.95 E	394,751.75	844,893.14	0.07	25.73	
6,300.00	0.26	255.12	3,103.78	6,299.78	26.17 N	6.56 E	394,751.60	844,892.75	0.07	25.61	
6,400.00	0.53	239.93	3,203.78	6,399.78	25.88 N	5.94 E	394,751.31	844,892.13	0.29	25.37	
6,500.00	0.60	220.11	3,303.77	6,499.77	25.25 N	5.20 E	394,750.68	844,891.39	0.21	24.79	
6,600.00	0.74	202.31	3,403.77	6,599.77	24.25 N	4.62 E	394,749.68	844,890.81	0.25	23.84	
6,700.00	0.38	205.60	3,503.76	6,699.76	23.35 N	4.23 E	394,748.78	844,890.42	0.36	22.98	
6,800.00	0.46	212.26	3,603.76	6,799.76	22.71 N	3.88 E	394,748.14	844,890.07	0.09	22.37	
6,900.00	0.33	220.67	3,703.76	6,899.76	22.16 N	3.47 E	394,747.59	844,889.66	0.14	21.84	
7,000.00	0.49	214.29	3,803.76	6,999.76	21.59 N	3.04 E	394,747.02	844,889.23	0.17	21.30	
7,100.00	0.61	243.38	3,903.75	7,099.75	20.99 N	2.33 E	394,746.42	844,888.52	0.30	20.76	
7,200.00	0.60	207.16	4,003.75	7,199.75	20.29 N	1.61 E	394,745.72	844,887.80	0.38	20.11	
7,300.00	0.57	205.04	4,103.74	7,299.74	19.37 N	1.16 E	394,744.80	844,887.35	0.04	19.23	
7,400.00	0.65	201.72	4,203.73	7,399.73	18.39 N	0.74 E	394,743.82	844,886.93	0.09	18.29	
7,500.00	0.77	206.23	4,303.73	7,499.73	17.27 N	0.24 E	394,742.70	844,886.43	0.13	17.20	
7,600.00	0.85	209.08	4,403.72	7,599.72	16.01 N	0.42 W	394,741.44	844,885.77	0.09	16.00	
7,700.00	0.99	215.50	4,503.70	7,699.70	14.66 N	1.28 W	394,740.09	844,884.91	0.17	14.72	
7,800.00	0.69	218.83	4,603.69	7,799.69	13.49 N	2.16 W	394,738.92	844,884.03	0.30	13.61	

HALLIBURTON**Design Report for Jazzbass 34 Federal 3H - Surveys**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
7,900.00	0.26	210.58	4,703.69	7,899.69	12.83 N	2.66 W	394,738.26	844,883.53	0.43	12.99	
8,000.00	0.27	147.05	4,803.69	7,999.69	12.43 N	2.64 W	394,737.86	844,883.55	0.28	12.59	
8,100.00	0.52	121.33	4,903.69	8,099.69	12.00 N	2.13 W	394,737.43	844,884.06	0.30	12.12	
8,200.00	0.64	110.57	5,003.68	8,199.68	11.57 N	1.22 W	394,737.00	844,884.97	0.16	11.63	
8,300.00	0.73	107.20	5,103.67	8,299.67	11.18 N	0.09 W	394,736.61	844,886.10	0.10	11.16	
8,400.00	1.02	112.15	5,203.66	8,399.66	10.66 N	1.35 E	394,736.09	844,887.54	0.30	10.53	
8,500.00	1.06	113.50	5,303.65	8,499.65	9.95 N	3.02 E	394,735.38	844,889.21	0.05	9.70	
8,600.00	1.20	114.80	5,403.63	8,599.63	9.15 N	4.82 E	394,734.58	844,891.01	0.14	8.77	
8,700.00	1.41	111.64	5,503.60	8,699.60	8.25 N	6.91 E	394,733.68	844,893.10	0.22	7.72	
8,800.00	1.24	108.84	5,603.57	8,799.57	7.45 N	9.08 E	394,732.88	844,895.27	0.18	6.76	
8,900.00	1.04	95.69	5,703.55	8,899.55	7.01 N	11.01 E	394,732.44	844,897.20	0.33	6.18	
9,000.00	1.07	89.26	5,803.54	8,999.54	6.93 N	12.84 E	394,732.36	844,899.03	0.12	5.97	
9,100.00	1.30	71.61	5,903.52	9,099.52	7.30 N	14.86 E	394,732.73	844,901.05	0.43	6.19	
9,200.00	1.99	60.32	6,003.47	9,199.47	8.52 N	17.44 E	394,733.95	844,903.63	0.76	7.21	
9,300.00	2.45	54.35	6,103.40	9,299.40	10.63 N	20.69 E	394,736.06	844,906.88	0.51	9.07	
9,400.00	2.71	53.81	6,203.30	9,399.30	13.27 N	24.33 E	394,738.70	844,910.52	0.26	11.44	
9,500.00	2.35	51.62	6,303.20	9,499.20	15.94 N	27.85 E	394,741.37	844,914.04	0.37	13.84	
9,600.00	1.96	50.06	6,403.13	9,599.13	18.31 N	30.76 E	394,743.74	844,916.95	0.39	15.99	
9,700.00	1.92	52.64	6,503.07	9,699.07	20.42 N	33.41 E	394,745.85	844,919.60	0.10	17.90	
9,800.00	1.95	54.47	6,603.02	9,799.02	22.43 N	36.12 E	394,747.86	844,922.31	0.07	19.70	
9,900.00	2.08	54.16	6,702.95	9,898.95	24.48 N	38.98 E	394,749.91	844,925.17	0.13	21.53	
10,000.00	2.05	56.16	6,802.89	9,998.89	26.54 N	41.93 E	394,751.97	844,928.12	0.08	23.37	
10,100.00	1.92	58.55	6,902.83	10,098.83	28.41 N	44.85 E	394,753.84	844,931.04	0.15	25.02	
10,200.00	1.34	52.46	7,002.79	10,198.79	29.99 N	47.21 E	394,755.42	844,933.40	0.60	26.43	
10,300.00	0.68	12.03	7,102.77	10,298.77	31.29 N	48.26 E	394,756.72	844,934.45	0.93	27.64	
10,400.00	0.93	341.36	7,202.76	10,398.76	32.64 N	48.12 E	394,758.07	844,934.31	0.49	28.99	
10,500.00	0.72	338.81	7,302.75	10,498.75	33.99 N	47.63 E	394,759.42	844,933.82	0.21	30.38	
10,600.00	1.20	330.78	7,402.74	10,598.74	35.49 N	46.90 E	394,760.92	844,933.09	0.50	31.93	
10,700.00	1.02	332.55	7,502.72	10,698.72	37.19 N	45.97 E	394,762.62	844,932.16	0.18	33.70	
10,800.00	0.93	334.77	7,602.70	10,798.70	38.72 N	45.22 E	394,764.15	844,931.41	0.10	35.27	
10,900.00	1.02	306.83	7,702.69	10,898.69	39.99 N	44.16 E	394,765.42	844,930.35	0.48	36.62	
11,000.00	1.64	282.28	7,802.66	10,998.66	40.82 N	42.05 E	394,766.25	844,928.24	0.83	37.61	
11,100.00	3.51	279.48	7,902.56	11,098.56	41.63 N	37.63 E	394,767.06	844,923.82	1.87	38.74	
11,200.00	5.34	278.85	8,002.26	11,198.26	42.85 N	30.01 E	394,768.28	844,916.20	1.83	40.52	
11,300.00	6.37	277.44	8,101.73	11,297.73	44.29 N	19.91 E	394,769.72	844,906.10	1.04	42.70	
11,400.00	6.79	278.04	8,201.07	11,397.07	45.83 N	8.56 E	394,771.26	844,894.75	0.43	45.07	
11,500.00	6.00	276.48	8,300.45	11,496.45	47.25 N	2.49 W	394,772.68	844,883.70	0.81	47.30	
11,545.00	5.69	275.77	8,345.22	11,541.22	47.74 N	7.04 W	394,773.17	844,879.15	0.71	48.13	
11,575.00	7.34	291.62	8,375.03	11,571.03	48.59 N	10.30 W	394,774.02	844,875.89	8.09	49.22	

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
11,606.00	7.21	290.79	8,405.78	11,601.78	50.01 N	13.96 W	394,775.44	844,872.23	0.54	50.91	
11,638.00	8.46	303.46	8,437.48	11,633.48	52.02 N	17.81 W	394,777.45	844,868.38	6.64	53.20	
11,730.00	17.22	328.07	8,527.15	11,723.15	67.35 N	30.69 W	394,792.78	844,855.50	11.02	69.43	
11,762.00	19.84	331.19	8,557.49	11,753.49	76.13 N	35.81 W	394,801.56	844,850.38	8.75	78.57	
11,793.00	22.00	332.59	8,586.44	11,782.44	85.90 N	41.02 W	394,811.33	844,845.17	7.15	88.69	
11,824.00	24.85	333.77	8,614.89	11,810.89	96.90 N	46.57 W	394,822.33	844,839.62	9.32	100.07	
11,856.00	27.19	335.76	8,643.64	11,839.64	109.60 N	52.55 W	394,835.03	844,833.64	7.80	113.18	
11,887.00	29.53	339.90	8,670.92	11,866.92	123.23 N	58.08 W	394,848.66	844,828.11	9.86	127.18	
11,918.00	31.15	343.57	8,697.68	11,893.68	138.10 N	62.98 W	394,863.53	844,823.21	7.94	142.37	
11,950.00	33.31	345.41	8,724.75	11,920.75	154.55 N	67.53 W	394,879.98	844,818.66	7.41	159.11	
11,981.00	35.19	347.03	8,750.37	11,946.37	171.49 N	71.68 W	394,896.92	844,814.51	6.74	176.31	
12,013.00	36.66	349.16	8,776.28	11,972.28	189.86 N	75.55 W	394,915.29	844,810.64	6.03	194.92	
12,044.00	38.28	352.25	8,800.89	11,996.89	208.47 N	78.58 W	394,933.90	844,807.61	8.00	213.70	
12,076.00	39.88	354.09	8,825.73	12,021.73	228.49 N	80.98 W	394,953.92	844,805.21	6.18	233.85	
12,107.00	41.85	355.00	8,849.17	12,045.17	248.68 N	82.90 W	394,974.11	844,803.29	6.64	254.12	
12,139.00	43.94	355.25	8,872.61	12,068.61	270.38 N	84.75 W	394,995.81	844,801.44	6.55	275.90	
12,170.00	46.42	355.35	8,894.46	12,090.46	292.30 N	86.55 W	395,017.73	844,799.64	8.00	297.89	
12,201.00	48.62	355.57	8,915.40	12,111.40	315.09 N	88.36 W	395,040.52	844,797.83	7.12	320.75	
12,233.00	50.88	355.64	8,936.07	12,132.07	339.44 N	90.23 W	395,064.87	844,795.96	7.06	345.17	
12,264.00	52.78	356.07	8,955.23	12,151.23	363.74 N	91.99 W	395,089.17	844,794.20	6.23	369.54	
12,296.00	54.61	356.23	8,974.18	12,170.18	389.47 N	93.72 W	395,114.90	844,792.47	5.73	395.33	
12,327.00	57.15	355.44	8,991.56	12,187.56	415.07 N	95.59 W	395,140.50	844,790.60	8.46	420.99	
12,359.00	60.00	355.61	9,008.25	12,204.25	442.29 N	97.72 W	395,167.72	844,788.47	8.92	448.29	
12,390.00	62.48	355.63	9,023.16	12,219.16	469.38 N	99.79 W	395,194.81	844,786.40	8.00	475.47	
12,422.00	64.73	355.80	9,037.38	12,233.38	497.96 N	101.94 W	395,223.39	844,784.25	7.05	504.13	
12,454.00	67.22	356.28	9,050.41	12,246.41	527.12 N	103.95 W	395,252.55	844,782.24	7.90	533.35	
12,485.00	69.12	356.84	9,061.94	12,257.94	555.84 N	105.68 W	395,281.27	844,780.51	6.35	562.13	
12,516.00	71.13	357.26	9,072.48	12,268.48	584.96 N	107.18 W	395,310.39	844,779.01	6.61	591.27	
12,548.00	73.36	357.31	9,082.24	12,278.24	615.40 N	108.62 W	395,340.83	844,777.57	6.97	621.73	
12,579.00	76.32	357.48	9,090.34	12,286.34	645.28 N	109.98 W	395,370.71	844,776.21	9.56	651.64	
12,611.00	78.94	356.90	9,097.20	12,293.20	676.50 N	111.51 W	395,401.93	844,774.68	8.38	682.88	
12,642.00	81.48	356.28	9,102.47	12,298.47	706.99 N	113.33 W	395,432.42	844,772.86	8.43	713.43	
12,674.00	84.00	356.40	9,106.51	12,302.51	738.67 N	115.36 W	395,464.10	844,770.83	7.88	745.17	
12,705.00	86.45	356.52	9,109.09	12,305.09	769.50 N	117.26 W	395,494.93	844,768.93	7.91	776.05	
12,737.00	88.34	356.58	9,110.54	12,306.54	801.41 N	119.19 W	395,526.84	844,767.00	5.91	808.02	
12,768.00	89.38	356.93	9,111.16	12,307.16	832.35 N	120.94 W	395,557.78	844,765.25	3.54	839.01	
12,800.00	90.25	356.87	9,111.27	12,307.27	864.30 N	122.67 W	395,589.73	844,763.52	2.73	871.00	
12,829.00	91.30	356.91	9,110.87	12,306.87	893.26 N	124.25 W	395,618.69	844,761.94	3.62	899.99	
12,923.00	92.25	357.63	9,107.96	12,303.96	987.10 N	128.72 W	395,712.53	844,757.47	1.27	993.91	

HALLIBURTON**Design Report for Jazzbass 34 Federal 3H - Surveys**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
13,017.00	90.06	357.79	9,106.07	12,302.07	1,081.00 N	132.48 W	395,806.43	844,753.71	2.34	1,087.83	
13,111.00	90.59	357.74	9,105.53	12,301.53	1,174.93 N	136.14 W	395,900.36	844,750.05	0.57	1,181.77	
13,206.00	91.39	358.04	9,103.89	12,299.89	1,269.85 N	139.64 W	395,995.28	844,746.55	0.90	1,276.69	
13,300.00	91.73	357.85	9,101.33	12,297.33	1,363.76 N	143.01 W	396,089.19	844,743.18	0.41	1,370.59	
13,394.00	91.14	357.54	9,098.98	12,294.98	1,457.65 N	146.79 W	396,183.08	844,739.40	0.71	1,464.51	
13,489.00	91.85	357.49	9,096.50	12,292.50	1,552.53 N	150.91 W	396,277.96	844,735.28	0.75	1,559.43	
13,583.00	93.14	358.01	9,092.41	12,288.41	1,646.36 N	154.59 W	396,371.79	844,731.60	1.48	1,653.28	
13,677.00	92.00	356.42	9,088.19	12,284.19	1,740.15 N	159.16 W	396,465.58	844,727.03	2.08	1,747.15	
13,771.00	91.23	355.73	9,085.54	12,281.54	1,833.89 N	165.59 W	396,559.32	844,720.60	1.10	1,841.11	
13,866.00	92.00	355.77	9,082.87	12,278.87	1,928.59 N	172.62 W	396,654.02	844,713.57	0.81	1,936.08	
13,960.00	91.26	354.82	9,080.19	12,276.19	2,022.24 N	180.33 W	396,747.67	844,705.86	1.28	2,030.03	
14,055.00	91.94	354.92	9,077.54	12,273.54	2,116.82 N	188.82 W	396,842.25	844,697.37	0.72	2,124.98	
14,149.00	91.38	354.94	9,074.82	12,270.82	2,210.41 N	197.13 W	396,935.84	844,689.06	0.60	2,218.93	
14,243.00	90.22	354.92	9,073.50	12,269.50	2,304.03 N	205.43 W	397,029.46	844,680.76	1.23	2,312.91	
14,337.00	90.74	355.34	9,072.72	12,268.72	2,397.69 N	213.41 W	397,123.12	844,672.78	0.71	2,406.90	
14,432.00	91.70	355.46	9,070.69	12,266.69	2,492.36 N	221.03 W	397,217.79	844,665.16	1.02	2,501.88	
14,557.00	87.57	357.63	9,071.49	12,267.49	2,617.10 N	228.56 W	397,342.53	844,657.63	3.73	2,626.83	
14,588.00	85.74	358.47	9,073.30	12,269.30	2,648.03 N	229.61 W	397,373.46	844,656.58	6.49	2,657.75	
14,620.00	85.55	358.83	9,075.73	12,271.73	2,679.92 N	230.37 W	397,405.35	844,655.82	1.27	2,689.62	
14,651.00	85.89	358.42	9,078.04	12,274.04	2,710.83 N	231.11 W	397,436.26	844,655.08	1.72	2,720.49	
14,683.00	86.61	357.74	9,080.14	12,276.14	2,742.74 N	232.18 W	397,468.17	844,654.01	3.09	2,752.40	
14,714.00	87.13	356.73	9,081.83	12,277.83	2,773.66 N	233.67 W	397,499.09	844,652.52	3.66	2,783.34	
14,746.00	88.31	355.62	9,083.10	12,279.10	2,805.56 N	235.80 W	397,530.99	844,650.39	5.06	2,815.31	
14,777.00	89.54	355.00	9,083.68	12,279.68	2,836.45 N	238.34 W	397,561.88	844,647.85	4.44	2,846.31	
14,809.00	90.03	354.82	9,083.80	12,279.80	2,868.33 N	241.18 W	397,593.76	844,645.01	1.63	2,878.30	
14,903.00	91.66	354.83	9,082.42	12,278.42	2,961.93 N	249.65 W	397,687.36	844,636.54	1.73	2,972.28	
14,998.00	91.88	355.21	9,079.48	12,275.48	3,056.52 N	257.90 W	397,781.95	844,628.29	0.46	3,067.22	
15,092.00	92.00	355.77	9,076.30	12,272.30	3,150.18 N	265.28 W	397,875.61	844,620.91	0.61	3,161.17	
15,186.00	91.70	356.52	9,073.27	12,269.27	3,243.92 N	271.60 W	397,969.35	844,614.59	0.86	3,255.12	
15,280.00	90.74	356.93	9,071.26	12,267.26	3,337.74 N	276.97 W	398,063.17	844,609.22	1.11	3,349.08	
15,374.00	89.91	357.53	9,070.73	12,266.73	3,431.63 N	281.51 W	398,157.06	844,604.68	1.09	3,443.05	
15,468.00	90.28	357.68	9,070.58	12,266.58	3,525.55 N	285.44 W	398,250.98	844,600.75	0.42	3,537.00	
15,562.00	90.77	357.59	9,069.71	12,265.71	3,619.46 N	289.32 W	398,344.89	844,596.87	0.53	3,630.94	
15,656.00	90.52	357.80	9,068.66	12,264.66	3,713.38 N	293.10 W	398,438.81	844,593.09	0.35	3,724.88	
15,751.00	90.96	357.13	9,067.43	12,263.43	3,808.28 N	297.30 W	398,533.71	844,588.89	0.84	3,819.83	
15,845.00	91.94	357.65	9,065.05	12,261.05	3,902.15 N	301.58 W	398,627.58	844,584.61	1.18	3,913.76	
15,939.00	92.13	357.61	9,061.71	12,257.71	3,996.01 N	305.47 W	398,721.44	844,580.72	0.21	4,007.66	
16,033.00	91.97	357.62	9,058.35	12,254.35	4,089.87 N	309.37 W	398,815.30	844,576.82	0.17	4,101.55	
16,127.00	92.31	357.72	9,054.84	12,250.84	4,183.72 N	313.19 W	398,909.15	844,573.00	0.38	4,195.43	

Design Report for Jazzbass 34 Federal 3H - Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Local Coordinates Easting (usft)	Map Coordinates Northing (usft)	Map Coordinates Easting (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
16,169.00	91.51	357.26	9,053.44	12,249.44	4,225.66 N	315.03 W	398,951.09	844,571.16	2.20	4,237.39	Last MWD Survey @ 16169.00' MD
16,226.00	91.51	357.26	9,051.94	12,247.94	4,282.58 N	317.76 W	399,008.01	844,568.43	0.00	4,294.35	Projected to TD @ 16226.00' MD 331.24' FNL & 2260.74 FEL

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
16,169.00	12,249.44	4,225.66	-315.03	Last MWD Survey @ 16169.00' MD
16,226.00	12,247.94	4,282.58	-317.76	Projected to TD @ 16226.00' MD 331.24' FNL & 2260.74 FEL

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft)	Origin +E/-W (usft)	Start TVD (usft)
Target	Jazzbass 34 Federal 3H BHL	355.77	Slot	0.00	0.00	0.00
14,557.00	16,226.00				MWD+SC	

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Jazzbass 34 Federa	0.00	0.00	12,311.00	726.64	-6.34	395,452.07	844,879.85	32° 5' 0.191 N	3° 21' 11.735 W
- actual wellpath misses target center by 108.56usft at 12656.26usft MD (12300.44 TVD, 721.09 N, -114.24 E)									
- Point									
Jazzbass 34 Federa	0.00	0.00	12,231.00	4,283.83	-317.03	399,009.26	844,569.16	32° 5' 35.417 N	3° 21' 14.970 W
- actual wellpath misses target center by 17.00usft at 16226.00usft MD (12247.94 TVD, 4282.58 N, -317.76 E)									
- Point									

North Reference Sheet for Jazzbass 34 Federal - Jazzbass 34 Federal 3H - ST 01

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to GL 3171' + KB 25' @ 3196.00usft (H&P 490). Northing and Easting are relative to Jazzbass 34 Federal 3H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 104° 20' 0.000 W°, Longitude Origin: 0° 0' 0.000 E°, Latitude Origin: 0° 0' 0.000 N°

False Easting: 541,337.50usft, False Northing: 0.00usft, Scale Reduction: 1.00001463

Grid Coordinates of Well: 394,725.43 usft N, 844,886.19 usft E

Geographical Coordinates of Well: 32° 04' 53.00" N, 103° 21' 11.74" W

Grid Convergence at Surface is: 0.52°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,226.00usft
the Bottom Hole Displacement is 4,294.35usft in the Direction of 355.76° (Grid).

Magnetic Convergence at surface is: -6.59° (21 September 2015, , BGGM2015)

