

Apollo Operating, LLC

Loewen Multi Well Plan

Sec. 32, T4N, R68W

Loewen 11-32D - Slot 11-32D

Wellbore #1

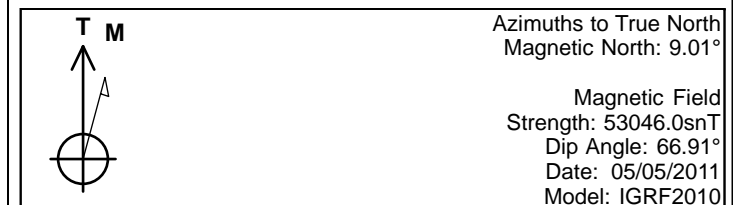
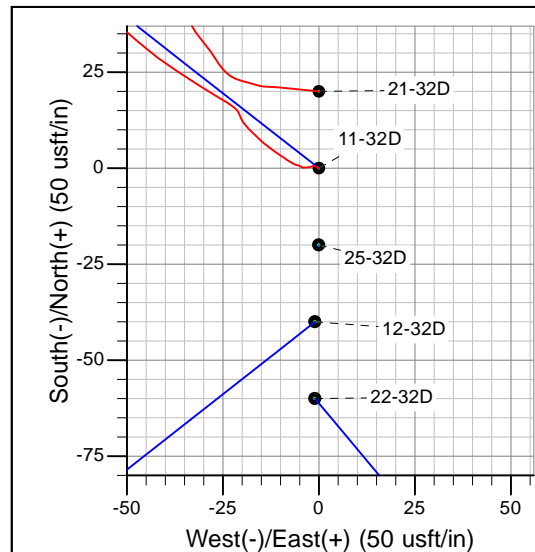
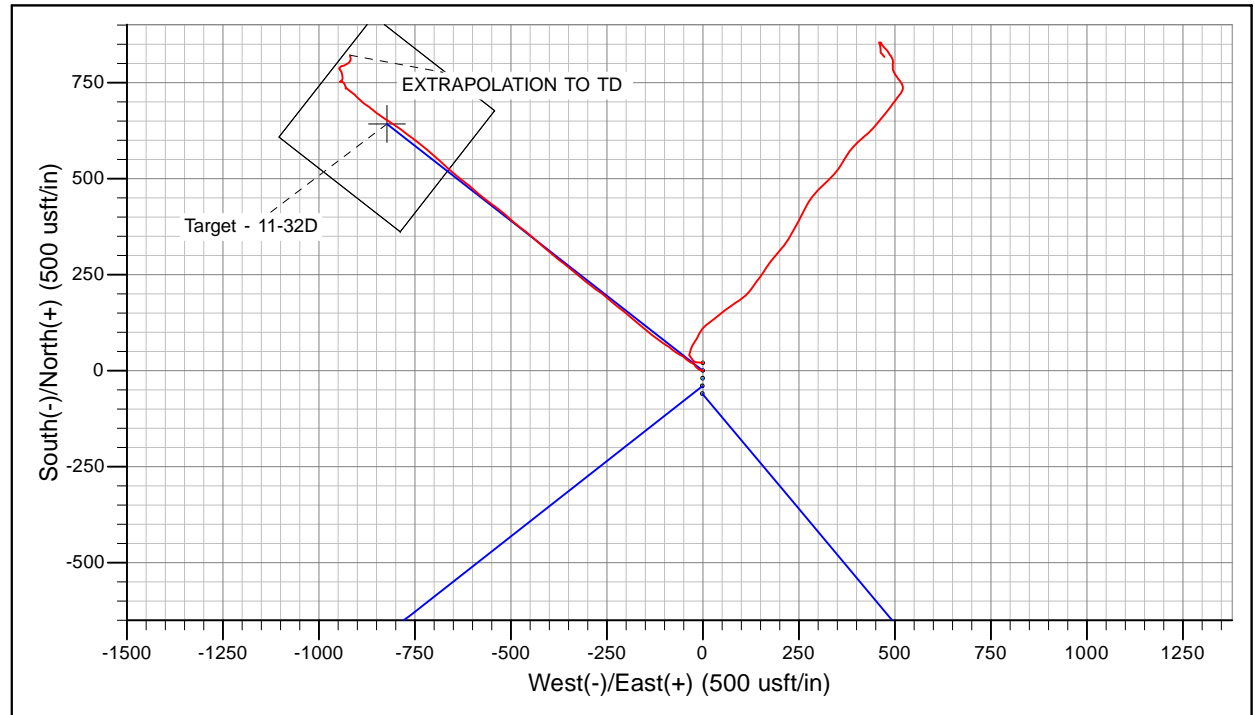
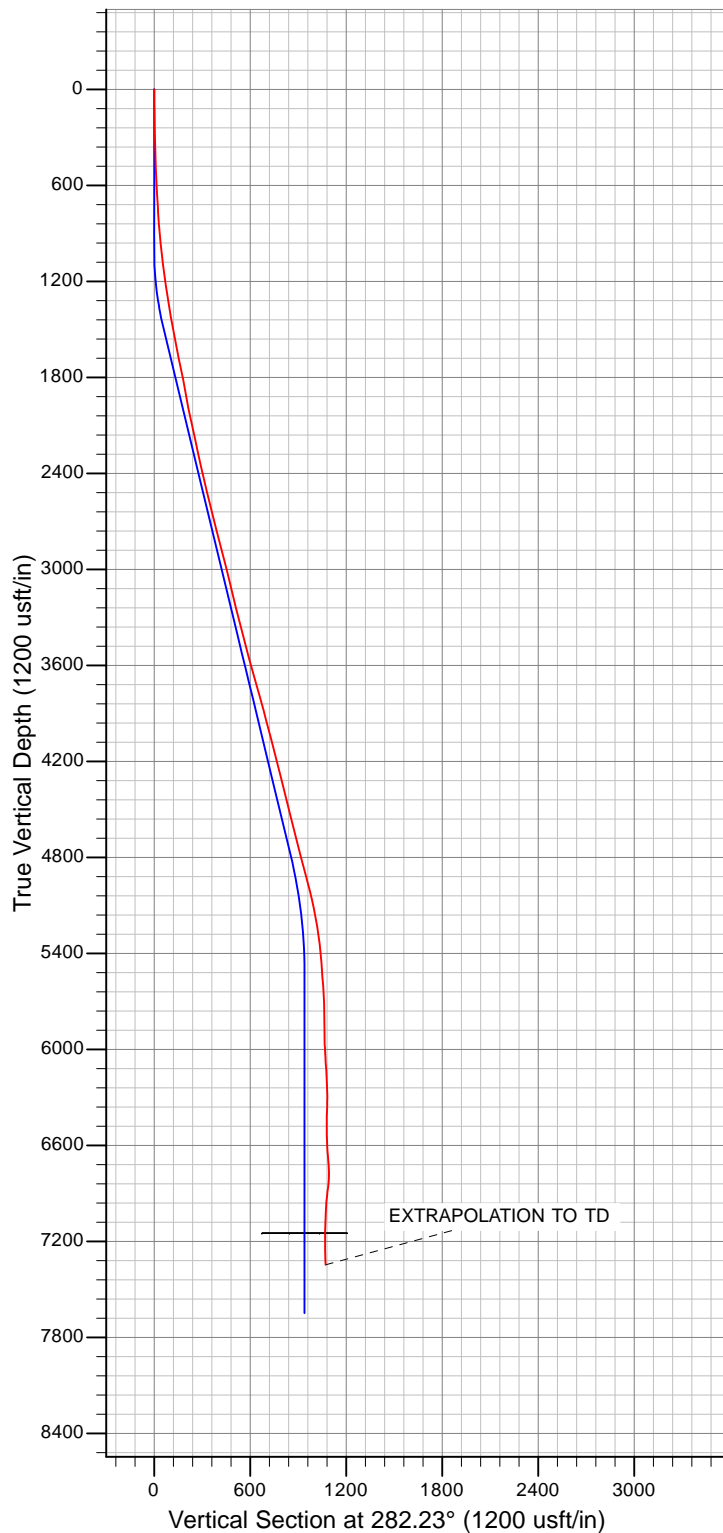
19 August, 2011

Survey: FINAL SURVEYS



Apollo Operating, LLC

Project: Loewen Multi Well Plan
 Site: Sec. 32, T4N, R68W
 Well: Loewen 11-32D
 Wellbore: Wellbore #1
 Design: FINAL SURVEYS



Survey: FINAL SURVEYS (Loewen 11-32D/Wellbore #1)

Created By: Roopa Dattan Date: 9:05, August 19 2011

Survey Report



Company:	Apollo Operating, LLC	Local Co-ordinate Reference:	Well Loewen 11-32D - Slot 11-32D
Project:	Loewen Multi Well Plan	TVD Reference:	KB @ 5020.0usft
Site:	Sec. 32, T4N, R68W	MD Reference:	KB @ 5020.0usft
Well:	Loewen 11-32D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM_5000_1_7

Project	Loewen Multi Well Plan		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD83 Colorado - HARN		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		Sec. 32, T4N, R68W			
Site Position:		Northing:	14,626,180.41 usft	Latitude:	40° 16' 23.124 N
From:	Lat/Long	Easting:	1,631,853.45 usft	Longitude:	105° 1' 50.520 W
Position Uncertainty:		Slot Radius:	13-3/16"	Grid Convergence:	-0.02 °

Well	Loewen 11-32D - Slot 11-32D					
Well Position	+N-S	0.0 usft	Northing:	14,626,160.41 usft	Latitude:	40° 16' 22.926 N
	+E-W	0.0 usft	Easting:	1,631,853.44 usft	Longitude:	105° 1' 50.520 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	5,000.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	05/05/2011	9.01	66.91	53,046

Design	FINAL SURVEYS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	282.23	

Survey Program	Date	19/08/2011			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
64.0	7,498.0	FINAL SURVEYS (Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
TIE ON TO SURFACE										
0.0	0.00	0.00	0.0	5,020.0	0.0	0.0	0.0	0.00	0.00	0.00
64.0	1.01	300.46	64.0	4,956.0	0.3	-0.5	0.5	1.58	1.58	0.00
93.0	1.01	300.89	93.0	4,927.0	0.5	-0.9	1.0	0.03	0.00	1.48
123.0	0.92	260.29	123.0	4,897.0	0.6	-1.4	1.5	2.25	-0.30	-135.33
152.0	1.58	241.39	152.0	4,868.0	0.4	-2.0	2.0	2.65	2.28	-65.17
183.0	1.14	271.10	183.0	4,837.0	0.2	-2.7	2.6	2.63	-1.42	95.84
213.0	1.45	271.19	213.0	4,807.0	0.2	-3.3	3.3	1.03	1.03	0.30
242.0	1.10	256.95	242.0	4,778.0	0.2	-4.0	3.9	1.62	-1.21	-49.10
275.0	1.14	314.34	275.0	4,745.0	0.3	-4.5	4.5	3.26	0.12	173.91
305.0	1.63	285.78	304.9	4,715.1	0.7	-5.1	5.2	2.77	1.63	-95.20
336.0	1.67	280.59	335.9	4,684.1	0.9	-6.0	6.1	0.50	0.13	-16.74
366.0	1.45	314.34	365.9	4,654.1	1.2	-6.7	6.8	3.10	-0.73	112.50

Survey Report



Company:	Apollo Operating, LLC	Local Co-ordinate Reference:	Well Loewen 11-32D - Slot 11-32D
Project:	Loewen Multi Well Plan	TVD Reference:	KB @ 5020.0usft
Site:	Sec. 32, T4N, R68W	MD Reference:	KB @ 5020.0usft
Well:	Loewen 11-32D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM_5000_1_7

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
396.0	1.80	287.62	395.9	4,624.1	1.6	-7.4	7.6	2.75	1.17	-89.07
427.0	1.98	313.20	426.9	4,593.1	2.1	-8.3	8.5	2.76	0.58	82.52
458.0	1.71	303.27	457.9	4,562.1	2.7	-9.1	9.4	1.35	-0.87	-32.03
490.0	2.15	301.95	489.9	4,530.1	3.3	-10.0	10.4	1.38	1.37	-4.12
521.0	2.55	305.46	520.8	4,499.2	4.0	-11.0	11.6	1.37	1.29	11.32
553.0	2.99	304.94	552.8	4,467.2	4.9	-12.3	13.1	1.38	1.37	-1.62
583.0	3.43	310.56	582.7	4,437.3	6.0	-13.6	14.6	1.80	1.47	18.73
604.0	3.69	310.29	603.7	4,416.3	6.8	-14.6	15.7	1.24	1.24	-1.29
677.0	4.09	315.40	676.5	4,343.5	10.2	-18.2	20.0	0.72	0.55	7.00
708.0	4.31	325.33	707.5	4,312.5	11.9	-19.7	21.7	2.45	0.71	32.03
739.0	3.91	342.20	738.4	4,281.6	13.9	-20.6	23.1	4.09	-1.29	54.42
771.0	3.30	310.12	770.3	4,249.7	15.5	-21.7	24.5	6.49	-1.91	-100.25
833.0	5.71	299.66	832.1	4,187.9	18.2	-25.7	29.0	4.09	3.89	-16.87
895.0	5.89	303.44	893.8	4,126.2	21.5	-31.1	34.9	0.68	0.29	6.10
957.0	6.06	302.83	955.5	4,064.5	25.0	-36.5	40.9	0.29	0.27	-0.98
1,020.0	6.24	306.70	1,018.1	4,001.9	28.8	-42.0	47.2	0.72	0.29	6.14
1,082.0	6.68	311.44	1,079.7	3,940.3	33.2	-47.4	53.4	1.11	0.71	7.65
1,176.0	8.79	299.58	1,172.9	3,847.1	40.4	-57.8	65.0	2.80	2.24	-12.62
1,268.0	9.32	302.92	1,263.7	3,756.3	47.9	-70.1	78.7	0.81	0.58	3.63
1,361.0	9.98	309.68	1,355.4	3,664.6	57.2	-82.7	92.9	1.41	0.71	7.27
1,453.0	11.38	301.86	1,445.8	3,574.2	67.1	-96.5	108.5	2.19	1.52	-8.50
1,546.0	12.26	306.43	1,536.8	3,483.2	77.8	-112.2	126.2	1.38	0.95	4.91
1,638.0	12.70	308.80	1,626.7	3,393.3	89.9	-128.0	144.1	0.73	0.48	2.58
1,730.0	12.48	308.19	1,716.5	3,303.5	102.4	-143.7	162.1	0.28	-0.24	-0.66
1,825.0	11.95	308.80	1,809.3	3,210.7	114.9	-159.4	180.1	0.57	-0.56	0.64
1,919.0	11.95	310.91	1,901.3	3,118.7	127.4	-174.3	197.4	0.46	0.00	2.24
2,012.0	12.66	312.41	1,992.1	3,027.9	140.5	-189.1	214.6	0.84	0.76	1.61
2,105.0	13.62	306.78	2,082.7	2,937.3	154.0	-205.4	233.4	1.72	1.03	-6.05
2,199.0	13.45	308.89	2,174.1	2,845.9	167.5	-222.8	253.2	0.56	-0.18	2.24
2,293.0	13.75	309.42	2,265.4	2,754.6	181.4	-240.0	272.9	0.35	0.32	0.56
2,386.0	13.75	311.44	2,355.8	2,664.2	195.7	-256.8	292.4	0.52	0.00	2.17
2,480.0	14.72	303.00	2,446.9	2,573.1	209.6	-275.2	313.3	2.43	1.03	-8.98
2,573.0	15.21	308.10	2,536.8	2,483.2	223.6	-294.7	335.4	1.51	0.53	5.48
2,667.0	15.69	310.30	2,627.4	2,392.6	239.4	-314.1	357.7	0.81	0.51	2.34
2,761.0	15.78	311.27	2,717.8	2,302.2	256.1	-333.4	380.1	0.30	0.10	1.03
2,855.0	16.52	305.46	2,808.1	2,211.9	272.3	-353.9	403.5	1.89	0.79	-6.18
2,948.0	16.35	310.47	2,897.3	2,122.7	288.4	-374.6	427.2	1.53	-0.18	5.39
3,041.0	15.86	309.77	2,986.7	2,033.3	305.1	-394.3	450.0	0.57	-0.53	-0.75
3,135.0	15.47	310.47	3,077.2	1,942.8	321.4	-413.7	472.4	0.46	-0.41	0.74
3,229.0	15.16	310.83	3,167.9	1,852.1	337.6	-432.6	494.3	0.34	-0.33	0.38
3,323.0	15.12	310.91	3,258.6	1,761.4	353.7	-451.1	515.8	0.05	-0.04	0.09
3,417.0	16.56	306.87	3,349.0	1,671.0	369.7	-471.1	538.7	1.93	1.53	-4.30
3,511.0	16.66	310.04	3,439.1	1,580.9	386.4	-492.2	562.8	0.97	0.11	3.37
3,605.0	16.74	312.76	3,529.1	1,490.9	404.3	-512.4	586.4	0.84	0.09	2.89
3,698.0	17.09	305.46	3,618.1	1,401.9	421.3	-533.4	610.5	2.31	0.38	-7.85
3,792.0	16.92	308.10	3,708.0	1,312.0	437.8	-555.4	635.5	0.84	-0.18	2.81
3,885.0	17.62	308.45	3,796.8	1,223.2	454.9	-577.1	660.3	0.76	0.75	0.38
3,979.0	17.40	312.40	3,886.5	1,133.5	473.2	-598.6	685.2	1.29	-0.23	4.20
4,072.0	16.17	307.22	3,975.5	1,044.5	490.4	-619.2	709.0	2.08	-1.32	-5.57
4,166.0	16.22	308.10	4,065.8	954.2	506.4	-639.9	732.7	0.27	0.05	0.94
4,260.0	16.13	311.00	4,156.1	863.9	523.1	-660.1	755.9	0.86	-0.10	3.09
4,354.0	17.09	315.05	4,246.1	773.9	541.4	-679.7	779.0	1.60	1.02	4.31
4,447.0	15.95	310.91	4,335.3	684.7	559.5	-699.0	801.7	1.76	-1.23	-4.45

Survey Report



Company:	Apollo Operating, LLC	Local Co-ordinate Reference:	Well Loewen 11-32D - Slot 11-32D
Project:	Loewen Multi Well Plan	TVD Reference:	KB @ 5020.0usft
Site:	Sec. 32, T4N, R68W	MD Reference:	KB @ 5020.0usft
Well:	Loewen 11-32D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM_5000_1_7

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,541.0	14.55	307.75	4,426.0	594.0	575.2	-718.1	823.7	1.73	-1.49	-3.36
4,635.0	15.73	311.09	4,516.7	503.3	590.8	-737.1	845.5	1.56	1.26	3.55
4,728.0	15.29	303.80	4,606.4	413.6	605.9	-756.8	867.9	2.15	-0.47	-7.84
4,822.0	16.48	308.19	4,696.8	323.2	621.0	-777.5	891.4	1.80	1.27	4.67
4,915.0	16.66	304.76	4,785.9	234.1	636.8	-798.9	915.6	1.07	0.19	-3.69
4,978.0	15.60	303.44	4,846.4	173.6	646.6	-813.4	931.9	1.78	-1.68	-2.10
5,040.0	14.24	300.63	4,906.3	113.7	655.1	-826.9	946.9	2.48	-2.19	-4.53
5,102.0	16.04	306.48	4,966.2	53.8	664.1	-840.3	961.9	3.80	2.90	9.44
5,133.0	16.04	307.40	4,996.0	24.0	669.2	-847.2	969.7	0.82	0.00	2.97
5,165.0	15.60	309.42	5,026.8	-6.8	674.6	-854.0	977.5	2.20	-1.37	6.31
5,196.0	14.15	308.98	5,056.7	-36.7	679.6	-860.2	984.6	4.69	-4.68	-1.42
5,259.0	11.60	303.80	5,118.1	-98.1	688.0	-871.4	997.4	4.44	-4.05	-8.22
5,321.0	11.56	308.28	5,178.9	-158.9	695.3	-881.5	1,008.8	1.45	-0.06	7.23
5,353.0	12.35	311.97	5,210.2	-190.2	699.6	-886.5	1,014.6	3.43	2.47	11.53
5,384.0	12.17	311.53	5,240.5	-220.5	704.0	-891.5	1,020.3	0.65	-0.58	-1.42
5,415.0	10.50	311.18	5,270.9	-250.9	708.0	-896.0	1,025.7	5.39	-5.39	-1.13
5,446.0	9.01	312.94	5,301.4	-281.4	711.5	-899.9	1,030.2	4.90	-4.81	5.68
5,477.0	7.51	316.45	5,332.1	-312.1	714.7	-903.1	1,034.0	5.10	-4.84	11.32
5,508.0	6.28	317.24	5,362.9	-342.9	717.4	-905.6	1,037.0	3.98	-3.97	2.55
5,540.0	5.36	311.53	5,394.7	-374.7	719.6	-908.0	1,039.8	3.39	-2.87	-17.84
5,571.0	4.44	304.59	5,425.6	-405.6	721.3	-910.0	1,042.2	3.53	-2.97	-22.39
5,602.0	4.31	311.44	5,456.5	-436.5	722.7	-911.9	1,044.3	1.74	-0.42	22.10
5,633.0	4.79	302.21	5,487.4	-467.4	724.2	-913.9	1,046.5	2.82	1.55	-29.77
5,664.0	4.53	306.61	5,518.3	-498.3	725.6	-915.9	1,048.9	1.43	-0.84	14.19
5,696.0	5.84	305.29	5,550.2	-530.2	727.3	-918.3	1,051.5	4.11	4.09	-4.12
5,727.0	5.58	312.32	5,581.0	-561.0	729.2	-920.7	1,054.3	2.41	-0.84	22.68
5,758.0	4.66	314.61	5,611.9	-591.9	731.1	-922.7	1,056.6	3.04	-2.97	7.39
5,789.0	3.56	311.44	5,642.8	-622.8	732.7	-924.3	1,058.5	3.62	-3.55	-10.23
5,820.0	3.96	305.64	5,673.8	-653.8	733.9	-925.9	1,060.3	1.78	1.29	-18.71
5,852.0	2.72	299.66	5,705.7	-685.7	734.9	-927.5	1,062.1	4.02	-3.87	-18.69
5,883.0	2.33	294.92	5,736.7	-716.7	735.6	-928.7	1,063.4	1.43	-1.26	-15.29
5,914.0	2.15	254.84	5,767.6	-747.6	735.7	-929.8	1,064.5	4.98	-0.58	-129.29
5,945.0	0.70	217.22	5,798.6	-778.6	735.4	-930.5	1,065.1	5.33	-4.68	-121.35
6,039.0	1.50	59.11	5,892.6	-872.6	735.6	-929.8	1,064.5	2.30	0.85	-168.20
6,101.0	5.27	338.16	5,954.5	-934.5	738.6	-930.1	1,065.5	8.46	6.08	-130.56
6,133.0	6.54	340.09	5,986.4	-966.4	741.7	-931.3	1,067.3	4.02	3.97	6.03
6,164.0	5.94	337.19	6,017.2	-997.2	744.8	-932.5	1,069.1	2.19	-1.94	-9.35
6,195.0	4.60	331.22	6,048.0	-1,028.0	747.4	-933.7	1,070.9	4.66	-4.32	-19.26
6,226.0	4.35	320.05	6,079.0	-1,059.0	749.4	-935.1	1,072.6	2.92	-0.81	-36.03
6,257.0	4.11	306.26	6,109.9	-1,089.9	750.9	-936.7	1,074.6	3.36	-0.77	-44.48
6,289.0	3.47	298.79	6,141.8	-1,121.8	752.1	-938.5	1,076.5	2.52	-2.00	-23.34
6,320.0	3.00	289.82	6,172.7	-1,152.7	752.8	-940.1	1,078.2	2.22	-1.52	-28.94
6,351.0	2.77	273.47	6,203.7	-1,183.7	753.1	-941.6	1,079.8	2.75	-0.74	-52.74
6,382.0	2.46	248.86	6,234.7	-1,214.7	752.9	-943.0	1,081.1	3.72	-1.00	-79.39
6,413.0	2.02	233.39	6,265.7	-1,245.7	752.4	-944.0	1,082.0	2.40	-1.42	-49.90
6,445.0	1.05	208.82	6,297.6	-1,277.6	751.8	-944.6	1,082.4	3.60	-3.03	-76.78
6,476.0	1.32	44.59	6,328.6	-1,308.6	751.8	-944.5	1,082.3	7.57	0.87	-529.77
6,507.0	3.21	54.23	6,359.6	-1,339.6	752.6	-943.6	1,081.6	6.20	6.10	31.10
6,538.0	5.01	51.16	6,390.5	-1,370.5	753.9	-941.8	1,080.1	5.85	5.81	-9.90
6,570.0	5.05	29.03	6,422.4	-1,402.4	756.0	-940.0	1,078.8	6.03	0.12	-69.16
6,601.0	5.19	19.98	6,453.3	-1,433.3	758.5	-938.9	1,078.3	2.64	0.45	-29.19
6,632.0	5.11	359.08	6,484.2	-1,464.2	761.2	-938.4	1,078.4	6.02	-0.26	-67.42
6,663.0	5.14	359.34	6,515.0	-1,495.0	764.0	-938.5	1,079.0	0.12	0.10	0.84

Survey Report



Company:	Apollo Operating, LLC	Local Co-ordinate Reference:	Well Loewen 11-32D - Slot 11-32D
Project:	Loewen Multi Well Plan	TVD Reference:	KB @ 5020.0usft
Site:	Sec. 32, T4N, R68W	MD Reference:	KB @ 5020.0usft
Well:	Loewen 11-32D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM_5000_1_7

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,694.0	5.13	359.23	6,545.9	-1,525.9	766.8	-938.5	1,079.6	0.05	-0.03	-0.35
6,726.0	5.27	345.46	6,577.8	-1,557.8	769.6	-938.9	1,080.6	3.91	0.44	-43.03
6,757.0	6.50	343.52	6,608.6	-1,588.6	772.7	-939.8	1,082.1	4.02	3.97	-6.26
6,788.0	6.68	339.04	6,639.4	-1,619.4	776.1	-940.9	1,083.9	1.76	0.58	-14.45
6,819.0	6.86	335.88	6,670.2	-1,650.2	779.4	-942.3	1,086.0	1.33	0.58	-10.19
6,850.0	7.65	319.62	6,701.0	-1,681.0	782.7	-944.4	1,088.8	7.07	2.55	-52.45
6,870.0	6.42	325.06	6,720.8	-1,700.8	784.6	-945.9	1,090.6	6.99	-6.15	27.20
6,893.0	5.05	337.28	6,743.7	-1,723.7	786.6	-947.0	1,092.2	7.95	-5.96	53.13
6,990.0	6.59	71.85	6,840.4	-1,820.4	792.3	-943.4	1,089.8	8.88	1.59	97.49
7,012.0	8.26	76.25	6,862.2	-1,842.2	793.1	-940.6	1,087.3	8.01	7.59	20.00
7,037.0	8.61	75.10	6,886.9	-1,866.9	794.0	-937.1	1,084.0	1.55	1.40	-4.60
7,068.0	7.29	65.70	6,917.6	-1,897.6	795.4	-933.1	1,080.4	5.96	-4.26	-30.32
7,100.0	6.11	61.22	6,949.4	-1,929.4	797.0	-929.7	1,077.4	4.03	-3.69	-14.00
7,131.0	5.80	57.97	6,980.2	-1,960.2	798.7	-926.9	1,075.1	1.48	-1.00	-10.48
7,162.0	4.26	57.26	7,011.1	-1,991.1	800.1	-924.6	1,073.1	4.97	-4.97	-2.29
7,193.0	3.82	50.67	7,042.0	-2,022.0	801.4	-922.9	1,071.7	2.06	-1.42	-21.26
7,224.0	3.74	43.81	7,073.0	-2,053.0	802.8	-921.4	1,070.5	1.48	-0.26	-22.13
7,255.0	3.52	35.20	7,103.9	-2,083.9	804.3	-920.1	1,069.6	1.89	-0.71	-27.77
7,287.0	3.34	30.28	7,135.8	-2,115.8	805.9	-919.1	1,068.9	1.08	-0.56	-15.37
7,318.0	3.30	28.35	7,166.8	-2,146.8	807.4	-918.2	1,068.4	0.38	-0.13	-6.23
7,349.0	3.47	17.62	7,197.7	-2,177.7	809.1	-917.5	1,068.1	2.11	0.55	-34.61
7,380.0	3.96	4.00	7,228.7	-2,208.7	811.1	-917.1	1,068.1	3.24	1.58	-43.94
7,412.0	4.92	352.84	7,260.6	-2,240.6	813.6	-917.2	1,068.8	4.02	3.00	-34.87
7,453.0	6.02	345.28	7,301.4	-2,281.4	817.4	-918.0	1,070.3	3.20	2.68	-18.44
EXTRAPOLATION TO TD										
7,498.0	6.02	345.28	7,346.1	-2,326.1	821.9	-919.2	1,072.4	0.00	0.00	0.00

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Target - 11-32D	0.00	0.00	7,149.0	642.7	-822.8	14,626,803.42	1,631,030.84	40° 16' 29.280 N	105° 2' 1.140 W
- hit/miss target									
- Shape									
Target - 11-32D									
- survey misses target center by 189.7usft at 7294.6usft MD (7143.5 TVD, 806.3 N, -918.9 E)									
- Rectangle (sides W400.0 H400.0 D0.0)									

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	TIE ON TO SURFACE
7,498.0	7,346.1	821.9	-919.2	EXTRAPOLATION TO TD

Checked By: _____ Approved By: _____ Date: _____