



EXTRA COPY

Legacy Reserves

Lea County, NM (NAD-27 2015)

Lea Unit #37H

Lea Unit #37H

OH

Plan #1

HOBBS OCD

FEB 29 2016

RECEIVED

Anticollision Report

18 February, 2016



MAR 01 2016

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Reference Site: Lea Unit #37H
Site Error: 0.00 usft
Reference Well: Lea Unit #37H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
TVD Reference: KB @ 3692.00usft (McVay 4)
MD Reference: KB @ 3692.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Reference: Plan #1

Filter type: NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method: Stations
Depth Range: Unlimited
Results Limited by: Maximum center-center distance of 9,999.98 usft
Warning Levels Evaluated at: 2.00 Sigma
Error Model: ISCWSA
Scan Method: Closest Approach 3D
Error Surface: Elliptical Conic
Casing Method: Not applied

Survey Tool Program: Date: 2/17/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	18,367.10	Plan #1 (OH)	MWD	MWD - Standard

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Lea Unit						
#17 - OH - OH	14,388.00	10,599.17	101.30	5.68	1.059	Level 2, CC, ES, SF
#3 - OH - OH	15,460.42	9,618.30	968.98	910.00	16.429	CC, ES
#3 - OH - OH	15,500.00	9,618.30	969.78	910.56	16.375	SF
#9 - OH - OH	18,067.88	9,359.60	1,224.12	1,147.74	16.026	CC, ES
#9 - OH - OH	18,200.00	9,359.60	1,231.23	1,154.20	15.984	SF

Offset Design: Lea Unit - #17 - OH - OH

Survey Program: 100-ISCWSA-GYRO-3										Offset Site Error: 0.00 usft	Offset Well Error: 0.00 usft		
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi-Major Axis Reference (usft)	Semi-Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-4.45	3,904.31	-304.06	3,916.15				
100.00	100.00	82.58	82.58	0.09	0.07	-4.45	3,904.41	-303.90	3,916.23	3,916.08	0.15	N/A	
200.00	200.00	201.68	201.68	0.32	0.26	-4.44	3,904.48	-303.39	3,916.27	3,915.70	0.57	6,929.254	
300.00	300.00	300.00	300.00	0.54	0.44	-4.44	3,904.24	-303.00	3,915.99	3,915.03	0.96	4,075.391	
354.38	354.38	345.38	345.38	0.66	0.52	-4.44	3,904.18	-302.89	3,915.91	3,914.75	1.16	3,373.491	
400.00	400.00	381.85	381.85	0.77	0.58	-4.44	3,904.22	-302.90	3,915.96	3,914.64	1.33	2,952.378	
500.00	500.00	487.35	487.34	0.99	0.75	-4.44	3,904.45	-303.16	3,916.20	3,914.47	1.73	2,257.361	
600.00	600.00	609.86	609.85	1.22	0.96	-4.44	3,904.20	-303.26	3,916.00	3,913.83	2.17	1,800.538	
700.00	700.00	714.18	714.17	1.44	1.14	-4.45	3,903.59	-303.54	3,915.44	3,912.86	2.58	1,515.013	
800.00	800.00	807.02	807.01	1.67	1.31	-4.46	3,903.10	-304.10	3,914.96	3,911.99	2.97	1,316.692	
900.00	900.00	919.57	919.56	1.89	1.51	-4.46	3,902.33	-304.31	3,914.28	3,910.88	3.40	1,151.233	
1,000.00	1,000.00	1,000.00	999.99	2.12	1.65	-4.46	3,901.96	-304.45	3,913.83	3,910.07	3.77	1,038.771	
1,047.58	1,047.58	1,038.60	1,038.58	2.22	1.72	-4.46	3,901.92	-304.60	3,913.79	3,909.85	3.94	993.089	
1,100.00	1,100.00	1,083.85	1,083.84	2.34	1.80	-4.47	3,901.95	-304.78	3,913.84	3,909.70	4.14	946.120	
1,200.00	1,200.00	1,176.55	1,176.53	2.56	1.96	-4.47	3,902.20	-305.11	3,914.13	3,909.61	4.52	866.235	
1,300.00	1,300.00	1,289.82	1,289.80	2.79	2.16	-4.48	3,902.46	-305.45	3,914.39	3,909.46	4.94	792.773	
1,400.00	1,400.00	1,406.18	1,406.16	3.01	2.37	-4.48	3,902.20	-305.84	3,914.20	3,908.83	5.37	729.304	
1,500.00	1,500.00	1,505.26	1,505.24	3.24	2.55	-4.49	3,901.80	-306.26	3,913.82	3,908.06	5.77	678.592	
1,600.00	1,600.00	1,605.21	1,605.19	3.46	2.73	-4.49	3,901.40	-306.70	3,913.46	3,907.29	6.17	634.297	
1,700.00	1,700.00	1,709.02	1,709.00	3.69	2.93	-4.50	3,900.92	-307.10	3,913.03	3,906.45	6.58	594.700	
1,800.00	1,800.00	1,800.00	1,799.98	3.91	3.09	-4.50	3,900.65	-307.32	3,912.75	3,905.78	6.97	561.604	
1,837.37	1,837.37	1,828.39	1,828.37	4.00	3.14	-4.50	3,900.64	-307.28	3,912.72	3,905.62	7.10	551.031	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error: 0.00 usft
Survey Program: 100-ISCWSA-GYRO-3													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Highside		Distance		Minimum		Separation		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
1,900.00	1,900.00	1,883.59	1,883.56	4.14	3.24	-4.50	3,900.72	-306.86	3,912.78	3,905.44	7.34	533.211	
2,000.00	2,000.00	1,973.17	1,973.13	4.36	3.38	-4.48	3,901.12	-305.48	3,913.11	3,905.39	7.72	507.052	
2,100.00	2,100.00	2,063.18	2,063.13	4.59	3.53	-4.45	3,901.78	-303.88	3,913.69	3,905.60	8.10	483.382	
2,200.00	2,200.00	2,160.31	2,160.24	4.81	3.69	-4.43	3,902.68	-302.18	3,914.48	3,905.99	8.49	461.189	
2,300.00	2,300.00	2,259.27	2,259.18	5.04	3.85	-4.40	3,903.59	-300.47	3,915.26	3,906.38	8.88	440.781	
2,400.00	2,400.00	2,358.17	2,358.06	5.26	4.02	-4.38	3,904.54	-298.81	3,916.10	3,906.82	9.28	422.104	
2,500.00	2,500.00	2,468.01	2,467.87	5.49	4.21	-4.35	3,905.53	-296.84	3,916.87	3,907.17	9.69	404.123	
2,600.00	2,600.00	2,571.37	2,571.22	5.71	4.39	-4.32	3,906.19	-295.04	3,917.37	3,907.27	10.10	388.002	
2,700.00	2,700.00	2,670.80	2,670.64	5.94	4.56	-4.30	3,906.83	-293.44	3,917.88	3,907.39	10.49	373.364	
2,800.00	2,800.00	2,780.30	2,780.12	6.16	4.75	-4.27	3,907.44	-291.52	3,918.32	3,907.41	10.91	359.191	
2,900.00	2,900.00	2,880.20	2,879.99	6.39	4.92	-4.23	3,907.87	-289.20	3,918.57	3,907.26	11.31	346.546	
3,000.00	3,000.00	2,976.70	2,976.43	6.61	5.10	-4.19	3,908.41	-286.05	3,918.89	3,907.19	11.70	334.936	
3,100.00	3,100.00	3,071.95	3,071.61	6.84	5.26	-4.13	3,909.10	-282.27	3,919.32	3,907.23	12.09	324.148	
3,200.00	3,200.00	3,163.35	3,162.92	7.06	5.43	-4.07	3,909.91	-278.46	3,919.91	3,907.44	12.48	314.219	
3,300.00	3,300.00	3,262.30	3,261.77	7.28	5.60	-4.01	3,910.98	-274.23	3,920.69	3,907.82	12.87	304.584	
3,400.00	3,400.00	3,361.61	3,360.99	7.51	5.78	-3.95	3,912.00	-270.04	3,921.42	3,908.15	13.27	295.506	
3,500.00	3,500.00	3,455.24	3,454.56	7.73	5.95	-3.90	3,913.01	-266.70	3,922.26	3,908.60	13.66	287.177	
3,600.00	3,600.00	3,551.11	3,550.40	7.96	6.12	-3.87	3,914.12	-264.52	3,923.26	3,909.21	14.05	279.244	
3,700.00	3,700.00	3,651.07	3,650.35	8.18	6.30	-3.85	3,915.25	-263.18	3,924.30	3,909.85	14.45	271.601	
3,800.00	3,800.00	3,750.89	3,750.15	8.41	6.48	-3.83	3,916.36	-262.12	3,925.33	3,910.49	14.85	264.373	
3,900.00	3,900.00	3,842.49	3,841.74	8.63	6.64	-3.82	3,917.41	-261.40	3,926.43	3,911.20	15.23	257.767	
4,000.00	4,000.00	3,924.60	3,923.84	8.86	6.79	-3.81	3,918.63	-261.26	3,927.90	3,912.30	15.60	251.781	
4,100.00	4,100.00	4,000.00	3,999.23	9.08	6.92	-3.82	3,920.11	-261.43	3,929.89	3,913.94	15.96	246.293	
4,200.00	4,200.00	4,082.53	4,081.72	9.31	7.06	-3.82	3,922.15	-262.03	3,932.42	3,916.09	16.32	240.884	
4,300.00	4,300.00	4,177.12	4,176.27	9.53	7.23	-3.84	3,924.81	-263.26	3,935.30	3,918.59	16.72	235.417	
4,400.00	4,400.00	4,275.12	4,274.22	9.76	7.40	-3.86	3,927.59	-264.93	3,938.24	3,921.13	17.11	230.114	
4,500.00	4,500.00	4,400.00	4,399.00	9.98	7.61	-3.91	3,930.72	-268.58	3,940.96	3,923.40	17.56	224.401	
4,600.00	4,600.00	4,479.47	4,478.37	10.21	7.75	-3.96	3,932.53	-272.06	3,943.54	3,925.62	17.92	220.005	
4,700.00	4,700.00	4,558.26	4,557.02	10.43	7.88	-4.02	3,934.70	-276.30	3,946.67	3,928.38	18.29	215.835	
4,800.00	4,800.00	4,626.82	4,625.39	10.66	8.00	-4.08	3,936.91	-280.92	3,950.39	3,931.77	18.63	212.089	
4,900.00	4,900.00	4,700.00	4,698.25	10.88	8.13	-4.17	3,940.05	-286.99	3,955.19	3,936.21	18.97	208.448	
5,000.00	5,000.00	4,770.53	4,768.40	11.11	8.25	-4.26	3,943.53	-293.44	3,960.69	3,941.37	19.32	205.039	
5,100.00	5,100.00	4,903.86	4,901.03	11.33	8.48	-4.42	3,949.67	-305.52	3,966.02	3,946.24	19.78	200.471	
5,200.00	5,200.00	5,032.97	5,029.59	11.56	8.70	-4.58	3,954.43	-316.52	3,970.36	3,950.12	20.24	196.154	
5,300.00	5,300.00	5,139.53	5,135.76	11.78	8.89	-4.69	3,958.01	-324.86	3,974.35	3,953.69	20.65	192.418	
5,400.00	5,400.00	5,245.74	5,241.64	12.00	9.08	-4.80	3,961.45	-332.42	3,978.17	3,957.11	21.07	188.825	
5,500.00	5,500.00	5,351.13	5,346.78	12.23	9.26	-4.89	3,964.79	-338.91	3,981.86	3,960.38	21.48	185.374	
5,600.00	5,600.00	5,470.59	5,466.02	12.45	9.47	-4.97	3,968.39	-345.10	3,985.32	3,963.40	21.92	181.817	
5,700.00	5,700.00	5,574.82	5,570.14	12.68	9.66	-5.03	3,971.17	-349.25	3,988.33	3,966.00	22.33	178.607	
5,800.00	5,800.00	5,700.46	5,695.65	12.90	9.88	-5.09	3,974.26	-353.97	3,991.13	3,968.35	22.78	175.194	
5,900.00	5,900.00	5,807.92	5,803.02	13.13	10.07	-5.14	3,976.41	-357.73	3,993.44	3,970.24	23.20	172.149	
6,000.00	6,000.00	5,924.69	5,919.73	13.35	10.28	-5.19	3,978.42	-361.19	3,995.42	3,971.79	23.63	169.074	
6,100.00	6,100.00	6,035.18	6,030.16	13.58	10.48	-5.23	3,979.96	-364.18	3,997.05	3,973.00	24.05	166.178	
6,200.00	6,200.00	6,138.93	6,133.87	13.80	10.67	-5.26	3,981.25	-366.73	3,998.52	3,974.06	24.46	163.459	
6,300.00	6,300.00	6,238.32	6,233.23	14.03	10.84	-5.30	3,982.45	-369.17	3,999.94	3,975.08	24.86	160.879	
6,400.00	6,400.00	6,333.54	6,328.41	14.25	11.01	-5.33	3,983.66	-371.52	4,001.43	3,976.18	25.26	158.432	
6,500.00	6,500.00	6,429.38	6,424.21	14.48	11.19	-5.36	3,985.01	-373.93	4,003.07	3,977.42	25.65	156.057	
6,600.00	6,600.00	6,531.13	6,525.91	14.70	11.37	-5.40	3,986.44	-376.56	4,004.72	3,978.66	26.06	153.690	
6,700.00	6,700.00	6,634.65	6,629.39	14.93	11.56	-5.43	3,987.87	-379.14	4,006.32	3,979.86	26.47	151.375	
6,800.00	6,800.00	6,748.56	6,743.26	15.15	11.76	-5.47	3,989.19	-381.88	4,007.71	3,980.82	26.89	149.019	
6,900.00	6,900.00	6,861.45	6,856.11	15.38	11.97	-5.51	3,990.06	-384.67	4,008.71	3,981.39	27.32	146.738	
7,000.00	7,000.00	6,969.60	6,964.22	15.60	12.16	-5.55	3,990.62	-387.51	4,009.48	3,981.75	27.73	144.569	

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7,100.00	7,100.00	7,084.69	7,079.28	15.83	12.37	-5.59	3,990.91	-390.47	4,009.99	3,981.83	28.16	142.397	
7,200.00	7,200.00	7,186.20	7,180.75	16.05	12.55	-5.63	3,990.91	-393.08	4,010.23	3,981.67	28.56	140.403	
7,300.00	7,300.00	7,278.03	7,272.55	16.28	12.72	-5.66	3,991.00	-395.41	4,010.58	3,981.63	28.95	138.548	
7,400.00	7,400.00	7,383.17	7,377.66	16.50	12.90	-5.70	3,991.20	-398.04	4,011.02	3,981.66	29.36	136.635	
7,500.00	7,500.00	7,489.10	7,483.55	16.72	13.09	-5.73	3,991.21	-400.63	4,011.27	3,981.50	29.77	134.763	
7,600.00	7,600.00	7,600.29	7,594.72	16.95	13.29	-5.77	3,991.00	-403.26	4,011.32	3,981.14	30.18	132.898	
7,700.00	7,700.00	7,719.35	7,713.74	17.17	13.51	-5.81	3,990.36	-405.81	4,011.01	3,980.39	30.61	131.022	
7,800.00	7,800.00	7,833.00	7,827.36	17.40	13.71	-5.84	3,989.18	-408.27	4,010.18	3,979.15	31.03	129.225	
7,900.00	7,900.00	7,924.99	7,919.32	17.62	13.87	-5.88	3,988.19	-410.45	4,009.36	3,977.94	31.42	127.625	
8,000.00	8,000.00	8,020.55	8,014.85	17.85	14.04	-5.91	3,987.40	-412.91	4,008.80	3,976.99	31.80	126.046	
8,100.00	8,100.00	8,153.25	8,147.50	18.07	14.28	-5.96	3,985.64	-416.09	4,007.70	3,975.45	32.26	124.249	
8,200.00	8,200.00	8,247.80	8,242.01	18.30	14.44	-5.99	3,984.04	-418.13	4,006.25	3,973.61	32.64	122.735	
8,300.00	8,300.00	8,325.61	8,319.80	18.52	14.58	-6.01	3,983.09	-419.62	4,005.24	3,972.24	33.00	121.371	
8,400.00	8,400.00	8,400.00	8,394.18	18.75	14.72	-6.03	3,982.66	-420.91	4,004.84	3,971.49	33.35	120.074	
8,500.00	8,500.00	8,500.00	8,494.17	18.97	14.90	-6.05	3,982.40	-422.42	4,004.74	3,970.99	33.75	118.855	
8,600.00	8,600.00	8,597.02	8,591.18	19.20	15.07	-6.07	3,982.19	-423.66	4,004.66	3,970.52	34.14	117.286	
8,700.00	8,700.00	8,719.09	8,713.24	19.42	15.29	-6.09	3,981.71	-424.80	4,004.37	3,969.79	34.58	115.803	
8,800.00	8,800.00	8,826.11	8,820.26	19.65	15.47	-6.10	3,980.94	-425.11	4,003.68	3,968.70	34.99	114.438	
8,900.00	8,900.00	8,920.03	8,914.17	19.87	15.63	-6.09	3,980.38	-424.66	4,003.03	3,967.66	35.37	113.176	
9,000.00	9,000.00	9,016.43	9,010.57	20.10	15.78	-6.07	3,979.98	-423.50	4,002.50	3,966.74	35.76	111.926	
9,100.00	9,100.00	9,112.31	9,106.44	20.32	15.94	-6.05	3,979.72	-422.11	4,002.07	3,965.92	36.15	110.707	
9,200.00	9,200.00	9,214.19	9,208.31	20.55	16.11	-6.05	3,979.30	-421.74	4,001.63	3,965.08	36.55	109.484	
9,300.00	9,300.00	9,300.00	9,294.13	20.77	16.26	-6.05	3,979.13	-421.52	4,001.39	3,964.47	36.92	108.374	
9,400.00	9,400.00	9,398.84	9,392.97	21.00	16.43	-6.04	3,979.12	-421.24	4,001.36	3,964.04	37.32	107.223	
9,500.00	9,500.00	9,500.00	9,494.12	21.22	16.60	-6.04	3,978.99	-421.19	4,001.22	3,963.51	37.72	106.086	
9,547.70	9,547.70	9,544.58	9,538.70	21.33	16.68	-6.04	3,978.95	-421.12	4,001.18	3,963.27	37.90	105.567	
9,600.00	9,600.00	9,588.45	9,582.57	21.44	16.75	-6.04	3,979.00	-421.12	4,001.23	3,963.13	38.10	105.031	
9,700.00	9,700.00	9,684.07	9,678.19	21.67	16.92	-6.04	3,979.26	-421.25	4,001.52	3,963.03	38.49	103.962	
9,800.00	9,800.00	9,779.54	9,773.67	21.89	17.10	-6.05	3,979.59	-421.51	4,001.89	3,963.00	38.88	102.917	
9,900.00	9,900.00	9,880.88	9,875.00	22.12	17.28	-6.05	3,979.99	-421.91	4,002.32	3,963.03	39.29	101.868	
10,000.00	10,000.00	9,991.67	9,985.79	22.34	17.48	-6.06	3,980.26	-422.35	4,002.60	3,962.89	39.71	100.796	
10,027.04	10,027.04	10,021.78	10,015.90	22.40	17.54	-6.06	3,980.27	-422.47	4,002.63	3,962.81	39.82	100.509	
10,050.00	10,049.99	10,047.24	10,041.36	22.46	17.58	13.80	3,980.27	-422.58	4,002.19	3,962.27	39.92	100.257	
10,100.00	10,099.80	10,100.00	10,094.12	22.57	17.68	13.91	3,980.20	-422.78	3,998.09	3,957.97	40.12	99.645	
10,150.00	10,149.06	10,147.32	10,141.44	22.68	17.76	14.14	3,980.14	-422.96	3,989.79	3,949.47	40.32	98.959	
10,200.00	10,197.39	10,191.76	10,185.88	22.79	17.84	14.49	3,980.13	-423.14	3,977.40	3,936.90	40.50	98.195	
10,250.00	10,244.42	10,233.01	10,227.13	22.90	17.92	14.99	3,980.16	-423.36	3,961.03	3,920.35	40.68	97.359	
10,300.00	10,289.79	10,272.43	10,266.55	23.01	17.99	15.63	3,980.24	-423.70	3,940.82	3,899.96	40.86	96.453	
10,350.00	10,333.17	10,310.96	10,305.07	23.12	18.06	16.47	3,980.36	-424.14	3,916.91	3,875.88	41.02	95.477	
10,400.00	10,374.21	10,349.39	10,343.50	23.24	18.13	17.53	3,980.51	-424.72	3,889.46	3,848.28	41.19	94.435	
10,450.00	10,412.62	10,385.47	10,379.58	23.38	18.20	18.88	3,980.66	-425.37	3,858.68	3,817.34	41.34	93.343	
10,500.00	10,448.09	10,420.99	10,415.08	23.54	18.26	20.59	3,980.81	-426.10	3,824.78	3,783.30	41.48	92.198	
10,550.00	10,480.35	10,454.80	10,448.88	23.71	18.32	22.80	3,980.95	-426.81	3,788.01	3,746.39	41.62	91.012	
10,600.00	10,509.17	10,485.05	10,479.13	23.92	18.38	25.65	3,981.07	-427.45	3,748.66	3,706.91	41.75	89.798	
10,650.00	10,534.31	10,513.23	10,507.30	24.15	18.43	29.43	3,981.17	-428.05	3,707.02	3,665.16	41.86	88.557	
10,700.00	10,555.60	10,538.97	10,533.04	24.41	18.48	34.54	3,981.23	-428.60	3,663.41	3,621.44	41.97	87.296	
10,750.00	10,572.86	10,559.87	10,553.93	24.71	18.52	41.51	3,981.26	-429.06	3,618.18	3,576.12	42.06	86.031	
10,800.00	10,585.97	10,575.80	10,569.85	25.04	18.54	51.12	3,981.27	-429.40	3,571.68	3,529.54	42.14	84.766	
10,850.00	10,594.83	10,586.66	10,580.71	25.40	18.56	64.10	3,981.27	-429.64	3,524.29	3,482.09	42.20	83.509	
10,900.00	10,599.36	10,592.40	10,586.46	25.79	18.58	80.31	3,981.27	-429.77	3,476.37	3,434.12	42.26	82.264	
10,927.04	10,600.00	10,593.37	10,587.43	26.01	18.58	89.78	3,981.27	-429.79	3,450.38	3,408.09	42.29	81.598	
11,000.00	10,600.00	10,593.95	10,588.00	26.63	18.58	89.80	3,981.27	-429.80	3,380.03	3,337.68	42.35	79.816	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company: Legacy Reserves
 Project: Lea County, NM (NAD-27 2015)
 Reference Site: Lea Unit #37H
 Site Error: 0.00 usft
 Reference Well: Lea Unit #37H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
 TVD Reference: KB @ 3692.00usft (McVay 4)
 MD Reference: KB @ 3692.00usft (McVay 4)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design: Lea Unit - #17 - OH - OH														Offset Site Error: 0.00 usft
Survey Program: 100-ISCWSA-GYRO-3														Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Reference		Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	N-S (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor		
11,100.00	10,600.00	10,594.66	10,588.71	27.55	18.58	89.83	3,981.27	-429.82	3,283.01	3,240.57	42.43	77.371		
11,200.00	10,600.00	10,595.27	10,589.33	28.56	18.58	89.85	3,981.27	-429.83	3,185.35	3,142.83	42.52	74.913		
11,300.00	10,600.00	10,595.80	10,589.85	29.65	18.58	89.88	3,981.27	-429.84	3,087.11	3,044.50	42.61	72.450		
11,400.00	10,600.00	10,596.23	10,590.29	30.80	18.58	89.90	3,981.27	-429.85	2,988.37	2,945.68	42.70	69.992		
11,500.00	10,600.00	10,596.57	10,590.63	32.00	18.58	89.93	3,981.27	-429.86	2,889.20	2,846.43	42.77	67.546		
11,600.00	10,600.00	10,596.83	10,590.88	33.24	18.58	89.97	3,981.27	-429.86	2,789.68	2,746.84	42.84	65.117		
11,700.00	10,600.00	10,596.99	10,591.05	34.51	18.58	90.02	3,981.27	-429.87	2,689.90	2,647.01	42.89	62.712		
11,733.27	10,600.00	10,597.03	10,591.08	34.94	18.58	90.05	3,981.27	-429.87	2,656.66	2,613.75	42.91	61.917		
11,800.00	10,600.00	10,597.09	10,591.14	35.80	18.58	90.08	3,981.27	-429.87	2,589.98	2,547.05	42.93	60.327		
11,900.00	10,600.00	10,597.18	10,591.23	37.12	18.58	90.13	3,981.27	-429.87	2,490.06	2,447.09	42.98	57.941		
12,000.00	10,600.00	10,597.27	10,591.32	38.48	18.58	90.18	3,981.27	-429.87	2,390.15	2,347.13	43.02	55.555		
12,100.00	10,600.00	10,597.36	10,591.41	39.87	18.58	90.23	3,981.27	-429.87	2,290.24	2,247.17	43.07	53.169		
12,200.00	10,600.00	10,597.44	10,591.50	41.31	18.58	90.28	3,981.27	-429.88	2,190.34	2,147.21	43.13	50.784		
12,300.00	10,600.00	10,597.53	10,591.58	42.77	18.58	90.33	3,981.27	-429.88	2,090.46	2,047.26	43.19	48.399		
12,400.00	10,600.00	10,597.62	10,591.67	44.26	18.58	90.38	3,981.27	-429.88	1,990.58	1,947.32	43.26	46.014		
12,500.00	10,600.00	10,597.70	10,591.75	45.78	18.58	90.43	3,981.27	-429.88	1,890.72	1,847.38	43.34	43.630		
12,600.00	10,600.00	10,597.79	10,591.84	47.33	18.59	90.47	3,981.27	-429.88	1,790.87	1,747.45	43.42	41.246		
12,700.00	10,600.00	10,597.87	10,591.92	48.89	18.59	90.52	3,981.27	-429.89	1,691.04	1,647.52	43.51	38.862		
12,800.00	10,600.00	10,597.95	10,592.00	50.48	18.59	90.57	3,981.27	-429.89	1,591.23	1,547.61	43.62	36.480		
12,900.00	10,600.00	10,598.03	10,592.09	52.08	18.59	90.62	3,981.27	-429.89	1,491.45	1,447.70	43.74	34.097		
13,000.00	10,600.00	10,598.11	10,592.17	53.70	18.59	90.66	3,981.27	-429.89	1,391.69	1,347.81	43.88	31.715		
13,100.00	10,600.00	10,598.20	10,592.25	55.33	18.59	90.71	3,981.27	-429.89	1,291.98	1,247.93	44.05	29.333		
13,200.00	10,600.00	10,598.28	10,592.33	56.98	18.59	90.75	3,981.27	-429.89	1,192.31	1,148.07	44.24	26.951		
13,300.00	10,600.00	10,598.35	10,592.41	58.64	18.59	90.80	3,981.27	-429.90	1,092.71	1,048.23	44.48	24.568		
13,400.00	10,600.00	10,598.43	10,592.49	60.31	18.59	90.84	3,981.27	-429.90	993.18	948.41	44.77	22.185		
13,500.00	10,600.00	10,598.51	10,592.56	61.99	18.59	90.89	3,981.27	-429.90	893.76	848.62	45.14	19.800		
13,600.00	10,600.00	10,598.59	10,592.64	63.68	18.59	90.93	3,981.27	-429.90	794.49	748.86	45.62	17.414		
13,700.00	10,600.00	10,598.66	10,592.72	65.37	18.59	90.97	3,981.27	-429.90	695.42	649.14	46.28	15.026		
13,800.00	10,600.00	10,598.74	10,592.79	67.08	18.59	91.01	3,981.27	-429.91	596.66	549.45	47.21	12.637		
13,900.00	10,600.00	10,598.81	10,592.87	68.80	18.59	91.06	3,981.27	-429.91	498.41	449.79	48.62	10.251		
14,000.00	10,600.00	10,598.89	10,592.94	70.52	18.59	91.10	3,981.27	-429.91	401.01	350.11	50.90	7.879		
14,100.00	10,600.00	10,598.96	10,593.02	72.24	18.59	91.14	3,981.27	-429.91	305.30	250.34	54.96	5.555		
14,200.00	10,600.00	10,599.04	10,593.09	73.98	18.59	91.18	3,981.27	-429.91	213.56	150.44	63.12	3.383		
14,300.00	10,600.00	10,599.11	10,593.16	75.72	18.59	91.22	3,981.27	-429.91	134.19	53.49	80.70	1.663		
14,388.00	10,600.00	10,599.17	10,593.22	77.25	18.59	91.26	3,981.27	-429.91	101.30	5.68	95.62	1.059 Level 2, CC, ES, SF		
14,400.00	10,600.00	10,599.18	10,593.23	77.46	18.59	91.26	3,981.27	-429.91	102.01	7.21	94.80	1.076 Level 2		
14,500.00	10,600.00	10,599.25	10,593.30	79.21	18.59	91.30	3,981.27	-429.92	151.02	79.79	71.23	2.120		
14,600.00	10,600.00	10,599.32	10,593.38	80.97	18.59	91.34	3,981.27	-429.92	234.96	178.78	56.18	4.182		
14,700.00	10,600.00	10,600.00	10,594.05	82.73	18.59	91.73	3,981.27	-429.93	328.03	278.19	49.85	6.581		
14,800.00	10,600.00	10,600.00	10,594.05	84.49	18.59	91.73	3,981.27	-429.93	424.27	377.33	46.94	9.039		
14,900.00	10,600.00	10,600.00	10,594.05	86.25	18.59	91.73	3,981.27	-429.93	521.92	476.47	45.46	11.481		
15,000.00	10,600.00	10,600.00	10,594.05	88.02	18.59	91.73	3,981.27	-429.93	620.33	575.68	44.65	13.893		
15,100.00	10,600.00	10,600.00	10,594.05	89.80	18.59	91.73	3,981.27	-429.93	719.17	674.99	44.18	16.277		
15,200.00	10,600.00	10,600.00	10,594.05	91.57	18.59	91.73	3,981.27	-429.93	818.29	774.39	43.91	18.638		
15,300.00	10,600.00	10,600.00	10,594.05	93.35	18.59	91.73	3,981.27	-429.93	917.61	873.87	43.74	20.979		
15,400.00	10,600.00	10,600.00	10,594.05	95.14	18.59	91.73	3,981.27	-429.93	1,017.06	973.41	43.64	23.304		
15,500.00	10,600.00	10,600.00	10,594.05	96.92	18.59	91.73	3,981.27	-429.93	1,116.60	1,073.01	43.59	25.616		
15,600.00	10,600.00	10,600.00	10,594.05	98.71	18.59	91.73	3,981.27	-429.93	1,216.22	1,172.66	43.57	27.915		
15,700.00	10,600.00	10,600.00	10,594.05	100.50	18.59	91.73	3,981.27	-429.93	1,315.90	1,272.34	43.57	30.204		
15,800.00	10,600.00	10,600.00	10,594.05	102.29	18.59	91.73	3,981.27	-429.93	1,415.63	1,372.05	43.58	32.483		
15,900.00	10,600.00	10,600.00	10,594.05	104.09	18.59	91.73	3,981.27	-429.93	1,515.39	1,471.78	43.60	34.753		
16,000.00	10,600.00	10,600.00	10,594.05	105.88	18.59	91.73	3,981.27	-429.93	1,615.18	1,571.54	43.64	37.014		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Reference Site: Lea Unit #37H
Site Error: 0.00 usft
Reference Well: Lea Unit #37H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
TVD Reference: KB @ 3692.00usft (McVay 4)
MD Reference: KB @ 3692.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design: Lea Unit - #17 - OH - OH														Offset Site Error: 0.00 usft
Survey Program: 100-ISCWSA-GYRO-3														Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N/S (usft)	Offset Wellbore Centre E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
16,100.00	10,600.00	10,600.00	10,594.05	107.68	18.59	91.73	3,981.27	-429.93	1,714.99	1,671.32	43.67	39.267		
16,200.00	10,600.00	10,600.00	10,594.05	109.48	18.59	91.73	3,981.27	-429.93	1,814.83	1,771.11	43.72	41.513		
16,300.00	10,600.00	10,600.00	10,594.05	111.28	18.59	91.73	3,981.27	-429.93	1,914.68	1,870.92	43.76	43.750		
16,400.00	10,600.00	10,600.00	10,594.05	113.09	18.59	91.73	3,981.27	-429.93	2,014.55	1,970.73	43.81	45.980		
16,500.00	10,600.00	10,600.00	10,594.05	114.89	18.59	91.73	3,981.27	-429.93	2,114.43	2,070.56	43.87	48.202		
16,600.00	10,600.00	10,600.00	10,594.05	116.70	18.59	91.73	3,981.27	-429.93	2,214.32	2,170.40	43.92	50.417		
16,700.00	10,600.00	10,600.00	10,594.05	118.50	18.59	91.73	3,981.27	-429.93	2,314.22	2,270.24	43.98	52.625		
16,800.00	10,600.00	10,600.00	10,594.05	120.31	18.59	91.73	3,981.27	-429.93	2,414.12	2,370.09	44.03	54.826		
16,900.00	10,600.00	10,600.00	10,594.05	122.12	18.59	91.73	3,981.27	-429.93	2,514.04	2,469.95	44.09	57.019		
17,000.00	10,600.00	10,600.00	10,594.05	123.94	18.59	91.73	3,981.27	-429.93	2,613.96	2,569.81	44.15	59.205		
17,100.00	10,600.00	10,600.00	10,594.05	125.75	18.59	91.73	3,981.27	-429.93	2,713.89	2,669.68	44.21	61.383		
17,200.00	10,600.00	10,600.00	10,594.05	127.56	18.59	91.73	3,981.27	-429.93	2,813.82	2,769.55	44.27	63.554		
17,300.00	10,600.00	10,600.00	10,594.05	129.38	18.59	91.73	3,981.27	-429.93	2,913.76	2,869.42	44.34	65.718		
17,400.00	10,600.00	10,600.00	10,594.05	131.20	18.59	91.73	3,981.27	-429.93	3,013.70	2,969.30	44.40	67.875		
17,500.00	10,600.00	10,601.26	10,595.31	133.01	18.59	92.44	3,981.27	-429.96	3,113.65	3,069.18	44.47	70.020		
17,600.00	10,600.00	10,601.32	10,595.38	134.83	18.59	92.48	3,981.27	-429.96	3,213.60	3,169.06	44.53	72.162		
17,700.00	10,600.00	10,601.39	10,595.44	136.65	18.59	92.51	3,981.27	-429.96	3,313.55	3,268.95	44.60	74.296		
17,800.00	10,600.00	10,601.45	10,595.51	138.47	18.59	92.55	3,981.27	-429.96	3,413.50	3,368.84	44.67	76.422		
17,900.00	10,600.00	10,601.52	10,595.57	140.29	18.59	92.59	3,981.27	-429.97	3,513.46	3,468.72	44.73	78.541		
18,000.00	10,600.00	10,601.58	10,595.63	142.11	18.59	92.62	3,981.27	-429.97	3,613.42	3,568.62	44.80	80.653		
18,100.00	10,600.00	10,601.65	10,595.70	143.94	18.59	92.66	3,981.27	-429.97	3,713.38	3,668.51	44.87	82.757		
18,200.00	10,600.00	10,601.71	10,595.76	145.76	18.59	92.69	3,981.27	-429.97	3,813.34	3,768.40	44.94	84.853		
18,300.00	10,600.00	10,601.78	10,595.83	147.58	18.59	92.73	3,981.27	-429.97	3,913.31	3,868.30	45.01	86.941		
18,367.10	10,600.00	10,601.82	10,595.87	148.81	18.59	92.76	3,981.27	-429.97	3,980.39	3,935.33	45.06	88.338		

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Reference Site: Lea Unit #37H
Site Error: 0.00 usft
Reference Well: Lea Unit #37H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
TVD Reference: KB @ 3692.00usft (McVay 4)
MD Reference: KB @ 3692.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design														Offset Site Error
Lea Unit - #3 - OH - OH														0.00 usft
Survey Program: 100-ISCWSA-GYRO-3														Offset Well Error: 0.00 usft
Reference	Offset	Reference	Offset	Reference	Offset	Highside	Offset Wellbore Centre	Distance	Between	Between	Minimum	Separation	Warning	
Measured	Vertical	Measured	Vertical	Reference	Offset	Toolface	N/S	E/W	Centres	Ellipses	Separation	Factor		
Depth	Depth	Depth	Depth	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-6.21	4,982.96	-542.41	5,012.41	5,012.25	0.15	N/A		
100.00	100.00	84.23	84.23	0.09	0.06	-6.21	4,982.97	-542.36	5,012.40	5,012.25	0.52	9,686.291		
200.00	200.00	173.47	173.47	0.32	0.21	-6.21	4,983.07	-542.30	5,012.51	5,011.99	0.91	5,526.544		
300.00	300.00	263.00	263.00	0.54	0.37	-6.21	4,983.37	-542.39	5,012.85	5,011.94	1.30	3,864.435		
400.00	400.00	351.43	351.43	0.77	0.53	-6.21	4,983.84	-542.50	5,013.39	5,012.10	1.68	2,977.062		
500.00	500.00	437.53	437.52	0.99	0.69	-6.21	4,984.54	-542.51	5,014.20	5,012.51	2.07	2,427.355		
600.00	600.00	520.50	520.49	1.22	0.85	-6.21	4,985.45	-542.55	5,015.30	5,013.23	2.44	2,054.228		
700.00	700.00	600.00	599.98	1.44	1.00	-6.21	4,986.66	-542.54	5,016.81	5,014.37	2.81	1,784.674		
800.00	800.00	676.11	676.08	1.67	1.14	-6.21	4,988.18	-542.37	5,018.76	5,015.95	3.18	1,576.947		
900.00	900.00	753.83	753.77	1.89	1.29	-6.20	4,990.10	-541.88	5,021.15	5,017.97	3.57	1,406.938		
1,000.00	1,000.00	840.92	840.82	2.12	1.45	-6.18	4,992.67	-540.87	5,023.95	5,020.38	3.99	1,260.703		
1,100.00	1,100.00	945.76	945.60	2.34	1.64	-6.16	4,995.81	-539.52	5,026.79	5,022.81	4.47	1,125.506		
1,200.00	1,200.00	1,087.69	1,087.48	2.56	1.91	-6.14	4,999.52	-537.80	5,029.31	5,024.84	4.94	1,019.413		
1,300.00	1,300.00	1,221.30	1,221.06	2.79	2.16	-6.12	5,001.74	-536.37	5,030.83	5,025.89	5.35	940.981		
1,400.00	1,400.00	1,324.27	1,324.01	3.01	2.35	-6.11	5,003.14	-535.49	5,032.08	5,026.73	5.78	871.486		
1,500.00	1,500.00	1,435.46	1,435.19	3.24	2.56	-6.10	5,004.47	-534.68	5,033.20	5,027.42	6.28	801.557		
1,600.00	1,600.00	1,600.00	1,599.72	3.46	2.85	-6.09	5,005.25	-533.86	5,033.66	5,027.38	6.64	757.954		
1,695.38	1,695.38	1,680.66	1,680.38	3.68	2.98	-6.09	5,005.03	-533.70	5,033.41	5,026.78	7.01	717.594		
1,700.00	1,700.00	1,684.04	1,683.77	3.69	2.98	-6.09	5,005.04	-533.69	5,033.41	5,026.77	7.40	680.638		
1,800.00	1,800.00	1,768.97	1,768.69	3.91	3.14	-6.08	5,005.24	-533.42	5,033.61	5,026.59	7.78	646.921		
1,900.00	1,900.00	1,855.48	1,855.20	4.14	3.30	-6.08	5,005.67	-533.08	5,034.06	5,026.66	8.20	614.257		
2,000.00	2,000.00	1,943.41	1,943.13	4.36	3.46	-6.07	5,006.34	-532.80	5,034.78	5,027.00	8.62	584.298		
2,100.00	2,100.00	2,046.55	2,046.26	4.59	3.66	-6.07	5,007.28	-532.52	5,035.66	5,027.47	9.02	558.110		
2,200.00	2,200.00	2,154.00	2,153.71	4.81	3.86	-6.06	5,008.00	-532.07	5,036.29	5,027.67	9.42	534.851		
2,300.00	2,300.00	2,252.73	2,252.44	5.04	4.04	-6.06	5,008.70	-531.62	5,036.94	5,027.91	9.80	513.917		
2,400.00	2,400.00	2,344.25	2,343.95	5.26	4.21	-6.06	5,009.33	-531.58	5,037.62	5,028.20	10.22	493.213		
2,500.00	2,500.00	2,431.57	2,431.26	5.49	4.37	-6.05	5,010.24	-531.09	5,038.60	5,028.79	10.64	473.528		
2,600.00	2,600.00	2,535.25	2,534.94	5.71	4.57	-6.04	5,011.44	-530.25	5,039.66	5,029.44	11.05	456.397		
2,700.00	2,700.00	2,646.92	2,646.60	5.94	4.78	-6.03	5,012.50	-529.33	5,040.52	5,029.87	11.43	441.148		
2,800.00	2,800.00	2,745.25	2,744.93	6.16	4.96	-6.02	5,013.32	-528.42	5,041.25	5,030.21	11.81	427.105		
2,900.00	2,900.00	2,834.07	2,833.73	6.39	5.13	-6.00	5,014.23	-527.41	5,042.15	5,030.72	12.18	414.157		
3,000.00	3,000.00	2,919.66	2,919.31	6.61	5.29	-5.99	5,015.34	-526.27	5,043.30	5,031.50	12.58	401.066		
3,100.00	3,100.00	3,001.78	3,001.41	6.84	5.44	-5.97	5,016.69	-525.05	5,044.79	5,032.61	12.94	390.052		
3,200.00	3,200.00	3,100.00	3,099.59	7.06	5.62	-5.95	5,018.54	-523.23	5,046.47	5,033.89	13.33	378.940		
3,300.00	3,300.00	3,175.11	3,174.67	7.28	5.76	-5.93	5,020.16	-521.80	5,048.41	5,035.47	13.76	367.329		
3,400.00	3,400.00	3,263.71	3,263.23	7.51	5.93	-5.91	5,022.41	-520.30	5,050.75	5,037.43	14.20	355.866		
3,500.00	3,500.00	3,375.09	3,374.55	7.73	6.14	-5.88	5,025.28	-517.97	5,053.12	5,039.36	14.68	344.485		
3,600.00	3,600.00	3,498.51	3,497.91	7.96	6.37	-5.85	5,027.96	-515.54	5,055.07	5,040.87	15.13	334.330		
3,700.00	3,700.00	3,637.41	3,636.78	8.18	6.63	-5.82	5,030.05	-512.92	5,056.36	5,041.68	15.58	324.665		
3,800.00	3,800.00	3,764.11	3,763.45	8.41	6.86	-5.80	5,031.12	-511.31	5,057.08	5,041.95	15.95	316.989		
3,900.00	3,900.00	3,897.05	3,896.39	8.63	7.10	-5.79	5,031.41	-509.75	5,057.18	5,041.60	16.36	309.193		
4,000.00	4,000.00	3,988.02	3,987.35	8.86	7.26	-5.77	5,031.41	-508.47	5,057.03	5,041.08	16.76	301.756		
4,100.00	4,100.00	4,093.62	4,092.93	9.08	7.45	-5.75	5,031.50	-506.63	5,056.95	5,040.60	17.15	294.821		
4,200.00	4,200.00	4,200.34	4,199.64	9.31	7.64	-5.73	5,031.44	-504.91	5,056.73	5,039.97	17.54	288.316		
4,300.00	4,300.00	4,302.33	4,301.62	9.53	7.82	-5.72	5,031.24	-503.71	5,056.42	5,039.27	17.79	284.247		
4,400.00	4,400.00	4,400.00	4,399.29	9.76	7.99	-5.71	5,031.05	-502.77	5,056.13	5,038.59	17.90	282.485		
4,469.47	4,469.47	4,455.18	4,454.47	9.91	8.09	-5.70	5,031.01	-502.40	5,056.04	5,038.25	18.30	276.355		
4,500.00	4,500.00	4,479.92	4,479.20	9.98	8.14	-5.70	5,031.04	-502.27	5,056.05	5,038.15	18.69	270.600		
4,600.00	4,600.00	4,579.12	4,578.40	10.21	8.32	-5.70	5,031.25	-501.82	5,056.22	5,037.92	19.09	264.901		
4,700.00	4,700.00	4,672.70	4,671.98	10.43	8.50	-5.69	5,031.46	-501.37	5,056.39	5,037.71	19.47	259.724		
4,800.00	4,800.00	4,772.32	4,771.60	10.66	8.68	-5.69	5,031.78	-501.03	5,056.68	5,037.59				
4,900.00	4,900.00	4,859.04	4,858.32	10.88	8.84	-5.68	5,032.09	-500.92	5,057.03	5,037.56				

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company: Legacy Reserves
 Project: Lea County, NM (NAD-27 2015)
 Reference Site: Lea Unit #37H
 Site Error: 0.00 usft
 Reference Well: Lea Unit #37H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
 TVD Reference: KB @ 3692.00usft (McVay 4)
 MD Reference: KB @ 3692.00usft (McVay 4)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design: Lea Unit - #3 - OH - OH														Offset Site Error	0.00 usft
Survey Program: 100-ISCWSA-GYRO-3														Offset Well Error	0.00 usft
Reference		Offset		Semi-Major Axis			Distance								
Measured Depth	Vertical	Measured Depth	Vertical	Reference	Offset	Highside	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning			
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)				
5,000.00	5,000.00	4,939.10	4,938.38	11.11	8.98	-5.69	5,032.63	-501.30	5,057.75	5,037.91	19.84	254.911			
5,100.00	5,100.00	5,024.21	5,023.48	11.33	9.12	-5.70	5,033.50	-502.15	5,058.86	5,038.64	20.22	250.183			
5,200.00	5,200.00	5,133.06	5,132.31	11.56	9.30	-5.71	5,034.61	-503.81	5,060.03	5,039.39	20.64	245.140			
5,300.00	5,300.00	5,244.58	5,243.80	11.78	9.48	-5.74	5,035.36	-506.04	5,060.90	5,039.83	21.06	240.270			
5,400.00	5,400.00	5,337.01	5,336.21	12.00	9.63	-5.76	5,035.92	-508.40	5,061.76	5,040.31	21.45	235.981			
5,500.00	5,500.00	5,426.15	5,425.29	12.23	9.77	-5.80	5,036.62	-511.19	5,062.85	5,041.02	21.83	231.919			
5,600.00	5,600.00	5,526.40	5,525.48	12.45	9.93	-5.83	5,037.47	-514.72	5,064.04	5,041.81	22.23	227.798			
5,700.00	5,700.00	5,627.22	5,626.23	12.68	10.09	-5.88	5,038.23	-518.45	5,065.17	5,042.54	22.63	223.813			
5,800.00	5,800.00	5,718.70	5,717.64	12.90	10.24	-5.91	5,039.03	-521.99	5,066.44	5,043.43	23.02	220.131			
5,900.00	5,900.00	5,821.50	5,820.36	13.13	10.41	-5.96	5,039.96	-525.79	5,067.72	5,044.30	23.42	216.379			
6,000.00	6,000.00	5,917.12	5,915.91	13.35	10.56	-5.99	5,040.89	-529.22	5,069.07	5,045.25	23.81	212.870			
6,100.00	6,100.00	6,024.98	6,023.71	13.58	10.74	-6.03	5,041.90	-532.74	5,070.34	5,046.11	24.23	209.278			
6,200.00	6,200.00	6,126.45	6,125.13	13.80	10.91	-6.07	5,042.79	-535.81	5,071.53	5,046.90	24.63	205.899			
6,300.00	6,300.00	6,226.73	6,225.36	14.03	11.08	-6.10	5,043.67	-538.75	5,072.71	5,047.68	25.03	202.645			
6,400.00	6,400.00	6,325.70	6,324.30	14.25	11.25	-6.13	5,044.54	-541.43	5,073.88	5,048.44	25.43	199.507			
6,500.00	6,500.00	6,418.84	6,417.40	14.48	11.40	-6.15	5,045.48	-543.73	5,075.15	5,049.32	25.82	196.546			
6,600.00	6,600.00	6,516.02	6,514.54	14.70	11.57	-6.18	5,046.55	-546.33	5,076.52	5,050.30	26.22	193.621			
6,700.00	6,700.00	6,621.06	6,619.54	14.93	11.75	-6.21	5,047.63	-549.09	5,077.83	5,051.20	26.63	190.680			
6,800.00	6,800.00	6,717.18	6,715.62	15.15	11.92	-6.23	5,048.67	-551.53	5,079.18	5,052.16	27.03	187.940			
6,900.00	6,900.00	6,824.19	6,822.60	15.38	12.10	-6.26	5,049.76	-554.15	5,080.46	5,053.02	27.44	185.143			
7,000.00	7,000.00	6,924.48	6,922.86	15.60	12.27	-6.29	5,050.76	-556.44	5,081.70	5,053.85	27.84	182.507			
7,100.00	7,100.00	7,028.02	7,026.36	15.83	12.45	-6.31	5,051.73	-558.84	5,082.88	5,054.63	28.25	179.909			
7,200.00	7,200.00	7,128.89	7,127.20	16.05	12.63	-6.34	5,052.62	-561.15	5,084.02	5,055.36	28.66	177.413			
7,300.00	7,300.00	7,219.10	7,217.39	16.28	12.79	-6.36	5,053.46	-563.23	5,085.20	5,056.16	29.04	175.103			
7,400.00	7,400.00	7,300.00	7,298.26	16.50	12.93	-6.38	5,054.62	-564.87	5,086.82	5,057.41	29.41	172.961			
7,500.00	7,500.00	7,387.61	7,385.85	16.72	13.09	-6.39	5,056.17	-566.46	5,088.77	5,058.97	29.79	170.800			
7,600.00	7,600.00	7,502.97	7,501.16	16.95	13.29	-6.41	5,058.03	-568.66	5,090.58	5,060.35	30.23	168.404			
7,700.00	7,700.00	7,623.09	7,621.25	17.17	13.51	-6.44	5,059.50	-571.05	5,092.02	5,061.35	30.67	166.026			
7,800.00	7,800.00	7,744.43	7,742.56	17.40	13.72	-6.47	5,060.55	-573.46	5,093.11	5,062.00	31.11	163.707			
7,900.00	7,900.00	7,850.75	7,848.86	17.62	13.90	-6.49	5,061.02	-575.51	5,093.76	5,062.24	31.52	161.587			
8,000.00	8,000.00	7,943.04	7,941.14	17.85	14.07	-6.51	5,061.59	-577.25	5,094.58	5,062.67	31.91	159.653			
8,100.00	8,100.00	8,056.19	8,054.26	18.07	14.26	-6.53	5,062.21	-579.68	5,095.38	5,063.05	32.33	157.584			
8,200.00	8,200.00	8,169.50	8,167.54	18.30	14.46	-6.56	5,062.41	-582.19	5,095.81	5,063.05	32.76	155.567			
8,300.00	8,300.00	8,263.04	8,261.06	18.52	14.62	-6.58	5,062.57	-583.81	5,096.18	5,063.03	33.14	153.759			
8,400.00	8,400.00	8,356.76	8,354.78	18.75	14.79	-6.59	5,062.92	-585.32	5,096.73	5,063.20	33.53	151.991			
8,500.00	8,500.00	8,479.31	8,477.30	18.97	15.00	-6.62	5,063.24	-587.45	5,097.21	5,063.24	33.97	150.043			
8,600.00	8,600.00	8,598.94	8,596.92	19.20	15.20	-6.64	5,062.94	-589.35	5,097.14	5,062.74	34.40	148.170			
8,700.00	8,700.00	8,693.73	8,691.70	19.42	15.37	-6.65	5,062.62	-590.60	5,096.95	5,062.17	34.79	146.523			
8,800.00	8,800.00	8,808.20	8,806.16	19.65	15.56	-6.67	5,062.10	-592.33	5,096.68	5,061.48	35.20	144.775			
8,900.00	8,900.00	8,922.89	8,920.83	19.87	15.75	-6.69	5,061.37	-593.96	5,096.23	5,060.61	35.62	143.072			
9,000.00	9,000.00	9,077.56	9,075.48	20.10	16.01	-6.71	5,059.06	-595.26	5,094.76	5,058.67	36.09	141.152			
9,100.00	9,100.00	9,197.75	9,195.64	20.32	16.20	-6.72	5,056.60	-595.93	5,092.79	5,056.28	36.51	139.488			
9,200.00	9,200.00	9,323.71	9,321.56	20.55	16.40	-6.73	5,053.47	-596.26	5,090.36	5,053.42	36.94	137.816			
9,300.00	9,300.00	9,433.66	9,431.46	20.77	16.58	-6.73	5,050.31	-596.32	5,087.50	5,050.16	37.34	136.260			
9,400.00	9,400.00	9,526.07	9,523.84	21.00	16.73	-6.74	5,047.72	-596.39	5,084.72	5,047.01	37.71	134.835			
9,500.00	9,500.00	9,618.30	9,616.03	21.22	16.88	-6.74	5,045.12	-596.45	5,081.95	5,043.86	38.08	133.437			
9,600.00	9,600.00	9,618.30	9,616.03	21.44	16.88	-6.74	5,045.12	-596.45	5,080.35	5,042.04	38.31	132.603			
9,631.03	9,631.03	9,618.30	9,616.03	21.51	16.88	-6.74	5,045.12	-596.45	5,080.26	5,041.87	38.38	132.359			
9,700.00	9,700.00	9,618.30	9,616.03	21.67	16.88	-6.74	5,045.12	-596.45	5,080.73	5,042.19	38.54	131.841			
9,800.00	9,800.00	9,618.30	9,616.03	21.89	16.88	-6.74	5,045.12	-596.45	5,083.07	5,044.31	38.76	131.151			
9,900.00	9,900.00	9,618.30	9,616.03	22.12	16.88	-6.74	5,045.12	-596.45	5,087.37	5,048.40	38.97	130.531			
10,000.00	10,000.00	9,618.30	9,616.03	22.34	16.88	-6.74	5,045.12	-596.45	5,093.64	5,054.45	39.19	129.980			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company: Legacy Reserves
 Project: Lea County, NM (NAD-27 2015)
 Reference Site: Lea Unit #37H
 Site Error: 0.00 usft
 Reference Well: Lea Unit #37H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
 TVD Reference: KB @ 3692.00usft (McVay 4)
 MD Reference: KB @ 3692.00usft (McVay 4)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset,TVD Reference: Offset Datum

Offset Design: Lea Unit - #3 - OH - OH												Offset Site Error: 0.00 usft	
Survey Program: 100-ISCWSA-GYRO-3												Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,027.04	10,027.04	9,618.30	9,616.03	22.40	16.88	-6.74	5,045.12	-596.45	5,095.67	5,056.42	39.24	129.843	
10,050.00	10,049.99	9,618.30	9,616.03	22.46	16.88	13.07	5,045.12	-596.45	5,097.06	5,057.76	39.29	129.720	
10,100.00	10,099.80	9,618.30	9,616.03	22.57	16.88	13.07	5,045.12	-596.45	5,097.34	5,057.94	39.40	129.388	
10,150.00	10,149.06	9,618.30	9,616.03	22.68	16.88	13.15	5,045.12	-596.45	5,093.87	5,054.37	39.50	128.965	
10,200.00	10,197.39	9,618.30	9,616.03	22.79	16.88	13.31	5,045.12	-596.45	5,086.65	5,047.06	39.60	128.457	
10,250.00	10,244.42	9,618.30	9,616.03	22.90	16.88	13.57	5,045.12	-596.45	5,075.74	5,036.05	39.70	127.867	
10,300.00	10,289.79	9,618.30	9,616.03	23.01	16.88	13.93	5,045.12	-596.45	5,061.19	5,021.41	39.79	127.201	
10,350.00	10,333.17	9,618.30	9,616.03	23.12	16.88	14.41	5,045.12	-596.45	5,043.09	5,003.21	39.88	126.461	
10,400.00	10,374.21	9,618.30	9,616.03	23.24	16.88	15.02	5,045.12	-596.45	5,021.52	4,981.55	39.96	125.652	
10,450.00	10,412.62	9,618.30	9,616.03	23.38	16.88	15.78	5,045.12	-596.45	4,996.61	4,956.57	40.04	124.778	
10,500.00	10,448.09	9,618.30	9,616.03	23.54	16.88	16.73	5,045.12	-596.45	4,968.51	4,928.39	40.12	123.842	
10,550.00	10,480.35	9,618.30	9,616.03	23.71	16.88	17.92	5,045.12	-596.45	4,937.37	4,897.18	40.19	122.850	
10,600.00	10,509.17	9,618.30	9,616.03	23.92	16.88	19.40	5,045.12	-596.45	4,903.37	4,863.11	40.26	121.804	
10,650.00	10,534.31	9,618.30	9,616.03	24.15	16.88	21.28	5,045.12	-596.45	4,866.72	4,826.40	40.32	120.709	
10,700.00	10,555.60	9,618.30	9,616.03	24.41	16.88	23.68	5,045.12	-596.45	4,827.64	4,787.26	40.37	119.571	
10,750.00	10,572.86	9,618.30	9,616.03	24.71	16.88	26.80	5,045.12	-596.45	4,786.37	4,745.94	40.43	118.394	
10,800.00	10,585.97	9,618.30	9,616.03	25.04	16.88	30.94	5,045.12	-596.45	4,743.17	4,702.69	40.48	117.184	
10,850.00	10,594.83	9,618.30	9,616.03	25.40	16.88	36.58	5,045.12	-596.45	4,698.32	4,657.80	40.52	115.946	
10,900.00	10,599.36	9,618.30	9,616.03	25.79	16.88	44.43	5,045.12	-596.45	4,652.12	4,611.56	40.56	114.684	
10,927.04	10,600.00	9,618.30	9,616.03	26.01	16.88	49.93	5,045.12	-596.45	4,626.69	4,586.10	40.59	113.992	
11,000.00	10,600.00	9,618.30	9,616.03	26.63	16.88	47.05	5,045.12	-596.45	4,557.53	4,516.89	40.64	112.149	
11,100.00	10,600.00	9,618.30	9,616.03	27.55	16.88	42.60	5,045.12	-596.45	4,462.25	4,421.55	40.70	109.633	
11,200.00	10,600.00	9,618.30	9,616.03	28.56	16.88	37.49	5,045.12	-596.45	4,366.46	4,325.69	40.77	107.106	
11,300.00	10,600.00	9,618.30	9,616.03	29.65	16.88	31.70	5,045.12	-596.45	4,270.26	4,229.43	40.83	104.581	
11,400.00	10,600.00	9,618.30	9,616.03	30.80	16.88	25.21	5,045.12	-596.45	4,173.74	4,132.84	40.89	102.067	
11,500.00	10,600.00	9,618.30	9,616.03	32.00	16.88	18.10	5,045.12	-596.45	4,076.99	4,036.04	40.94	99.573	
11,600.00	10,600.00	9,618.30	9,616.03	33.24	16.88	10.56	5,045.12	-596.45	3,980.13	3,939.14	40.99	97.105	
11,700.00	10,600.00	9,618.30	9,616.03	34.51	16.88	2.81	5,045.12	-596.45	3,883.26	3,842.24	41.02	94.668	
11,733.27	10,600.00	9,618.30	9,616.03	34.94	16.88	0.25	5,045.12	-596.45	3,851.05	3,810.02	41.03	93.864	
11,800.00	10,600.00	9,618.30	9,616.03	35.80	16.88	0.25	5,045.12	-596.45	3,786.50	3,745.46	41.04	92.257	
11,900.00	10,600.00	9,618.30	9,616.03	37.12	16.88	0.25	5,045.12	-596.45	3,689.92	3,648.85	41.07	89.847	
12,000.00	10,600.00	9,618.30	9,616.03	38.48	16.88	0.25	5,045.12	-596.45	3,593.53	3,552.43	41.10	87.437	
12,100.00	10,600.00	9,618.30	9,616.03	39.87	16.88	0.25	5,045.12	-596.45	3,497.34	3,456.20	41.13	85.027	
12,200.00	10,600.00	9,618.30	9,616.03	41.31	16.88	0.25	5,045.12	-596.45	3,401.36	3,360.19	41.17	82.616	
12,300.00	10,600.00	9,618.30	9,616.03	42.77	16.88	0.25	5,045.12	-596.45	3,305.63	3,264.42	41.21	80.205	
12,400.00	10,600.00	9,618.30	9,616.03	44.26	16.88	0.25	5,045.12	-596.45	3,210.16	3,168.89	41.26	77.794	
12,500.00	10,600.00	9,618.30	9,616.03	45.78	16.88	0.25	5,045.12	-596.45	3,114.97	3,073.65	41.32	75.384	
12,600.00	10,600.00	9,618.30	9,616.03	47.33	16.88	0.25	5,045.12	-596.45	3,020.09	2,978.70	41.39	72.974	
12,700.00	10,600.00	9,618.30	9,616.03	48.89	16.88	0.25	5,045.12	-596.45	2,925.55	2,884.09	41.46	70.566	
12,800.00	10,600.00	9,618.30	9,616.03	50.48	16.88	0.25	5,045.12	-596.45	2,831.39	2,789.85	41.54	68.158	
12,900.00	10,600.00	9,618.30	9,616.03	52.08	16.88	0.25	5,045.12	-596.45	2,737.64	2,696.01	41.64	65.752	
13,000.00	10,600.00	9,618.30	9,616.03	53.70	16.88	0.25	5,045.12	-596.45	2,644.35	2,602.61	41.74	63.348	
13,100.00	10,600.00	9,618.30	9,616.03	55.33	16.88	0.25	5,045.12	-596.45	2,551.57	2,509.71	41.87	60.947	
13,200.00	10,600.00	9,618.30	9,616.03	56.98	16.88	0.25	5,045.12	-596.45	2,459.36	2,417.35	42.01	58.549	
13,300.00	10,600.00	9,618.30	9,616.03	58.64	16.88	0.25	5,045.12	-596.45	2,367.77	2,325.61	42.16	56.155	
13,400.00	10,600.00	9,618.30	9,616.03	60.31	16.88	0.25	5,045.12	-596.45	2,276.90	2,234.55	42.35	53.766	
13,500.00	10,600.00	9,618.30	9,616.03	61.99	16.88	0.25	5,045.12	-596.45	2,186.82	2,144.26	42.56	51.384	
13,600.00	10,600.00	9,618.30	9,616.03	63.68	16.88	0.25	5,045.12	-596.45	2,097.64	2,054.84	42.80	49.009	
13,700.00	10,600.00	9,618.30	9,616.03	65.37	16.88	0.25	5,045.12	-596.45	2,009.48	1,966.40	43.08	46.645	
13,800.00	10,600.00	9,618.30	9,616.03	67.08	16.88	0.25	5,045.12	-596.45	1,922.48	1,879.08	43.40	44.294	
13,900.00	10,600.00	9,618.30	9,616.03	68.80	16.88	0.25	5,045.12	-596.45	1,836.80	1,793.02	43.78	41.959	
14,000.00	10,600.00	9,618.30	9,616.03	70.52	16.88	0.25	5,045.12	-596.45	1,752.64	1,708.43	44.21	39.646	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company: Legacy Reserves
 Project: Lea County, NM (NAD-27 2015)
 Reference Site: Lea Unit #37H
 Site Error: 0.00 usft
 Reference Well: Lea Unit #37H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
 TVD Reference: KB @ 3692.00usft (McVay 4)
 MD Reference: KB @ 3692.00usft (McVay 4)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Lea Unit - #3 - OH - OH													Offset Site Error: 0.00 usft
Survey Program: 100-ISCWSA-GYRO-3													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Reference	Offset	Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	
14,100.00	10,600.00	9,618.30	9,616.03	72.24	16.88	0.25	5,045.12	-596.45	1,670.23	1,625.52	44.71	37.360	
14,200.00	10,600.00	9,618.30	9,616.03	73.98	16.88	0.25	5,045.12	-596.45	1,589.84	1,544.55	45.28	35.108	
14,300.00	10,600.00	9,618.30	9,616.03	75.72	16.88	0.25	5,045.12	-596.45	1,511.79	1,465.84	45.95	32.900	
14,400.00	10,600.00	9,618.30	9,616.03	77.46	16.88	0.25	5,045.12	-596.45	1,436.46	1,389.74	46.72	30.748	
14,500.00	10,600.00	9,618.30	9,616.03	79.21	16.88	0.25	5,045.12	-596.45	1,364.31	1,316.71	47.59	28.666	
14,600.00	10,600.00	9,618.30	9,616.03	80.97	16.88	0.25	5,045.12	-596.45	1,295.86	1,247.27	48.59	26.671	
14,700.00	10,600.00	9,618.30	9,616.03	82.73	16.88	0.25	5,045.12	-596.45	1,231.73	1,182.03	49.70	24.784	
14,800.00	10,600.00	9,618.30	9,616.03	84.49	16.88	0.25	5,045.12	-596.45	1,172.64	1,121.71	50.92	23.027	
14,900.00	10,600.00	9,618.30	9,616.03	86.25	16.88	0.25	5,045.12	-596.45	1,119.37	1,067.13	52.24	21.426	
15,000.00	10,600.00	9,618.30	9,616.03	88.02	16.88	0.25	5,045.12	-596.45	1,072.80	1,019.18	53.62	20.006	
15,100.00	10,600.00	9,618.30	9,616.03	89.80	16.88	0.25	5,045.12	-596.45	1,033.84	978.82	55.01	18.792	
15,200.00	10,600.00	9,618.30	9,616.03	91.57	16.88	0.25	5,045.12	-596.45	1,003.36	947.02	56.35	17.807	
15,300.00	10,600.00	9,618.30	9,616.03	93.35	16.88	0.25	5,045.12	-596.45	982.17	924.63	57.54	17.070	
15,400.00	10,600.00	9,618.30	9,616.03	95.14	16.88	0.25	5,045.12	-596.45	970.86	912.34	58.52	16.591	
15,460.42	10,600.00	9,618.30	9,616.03	96.22	16.88	0.25	5,045.12	-596.45	968.98	910.00	58.98	16.429 CC, ES	
15,500.00	10,600.00	9,618.30	9,616.03	96.92	16.88	0.25	5,045.12	-596.45	969.78	910.56	59.22	16.375 SF	
15,600.00	10,600.00	9,618.30	9,616.03	98.71	16.88	0.25	5,045.12	-596.45	978.98	919.36	59.62	16.420	
15,700.00	10,600.00	9,618.30	9,616.03	100.50	16.88	0.25	5,045.12	-596.45	998.16	938.44	59.72	16.715	
15,800.00	10,600.00	9,618.30	9,616.03	102.29	16.88	0.25	5,045.12	-596.45	1,026.76	967.22	59.54	17.246	
15,900.00	10,600.00	9,618.30	9,616.03	104.09	16.88	0.25	5,045.12	-596.45	1,064.02	1,004.89	59.13	17.993	
16,000.00	10,600.00	9,618.30	9,616.03	105.88	16.88	0.25	5,045.12	-596.45	1,109.08	1,050.51	58.57	18.935	
16,100.00	10,600.00	9,618.30	9,616.03	107.68	16.88	0.25	5,045.12	-596.45	1,161.02	1,103.12	57.91	20.050	
16,200.00	10,600.00	9,618.30	9,616.03	109.48	16.88	0.25	5,045.12	-596.45	1,218.97	1,161.78	57.19	21.316	
16,300.00	10,600.00	9,618.30	9,616.03	111.28	16.88	0.25	5,045.12	-596.45	1,282.11	1,225.66	56.45	22.712	
16,400.00	10,600.00	9,618.30	9,616.03	113.09	16.88	0.25	5,045.12	-596.45	1,349.71	1,293.99	55.73	24.221	
16,500.00	10,600.00	9,618.30	9,616.03	114.89	16.88	0.25	5,045.12	-596.45	1,421.14	1,366.11	55.03	25.825	
16,600.00	10,600.00	9,618.30	9,616.03	116.70	16.88	0.25	5,045.12	-596.45	1,495.84	1,441.47	54.37	27.510	
16,700.00	10,600.00	9,618.30	9,616.03	118.50	16.88	0.25	5,045.12	-596.45	1,573.36	1,519.60	53.76	29.264	
16,800.00	10,600.00	9,618.30	9,616.03	120.31	16.88	0.25	5,045.12	-596.45	1,653.29	1,600.09	53.20	31.076	
16,900.00	10,600.00	9,618.30	9,616.03	122.12	16.88	0.25	5,045.12	-596.45	1,735.31	1,682.62	52.69	32.936	
17,000.00	10,600.00	9,618.30	9,616.03	123.94	16.88	0.25	5,045.12	-596.45	1,819.12	1,766.91	52.22	34.837	
17,100.00	10,600.00	9,618.30	9,616.03	125.75	16.88	0.25	5,045.12	-596.45	1,904.50	1,852.71	51.79	36.772	
17,200.00	10,600.00	9,618.30	9,616.03	127.56	16.88	0.25	5,045.12	-596.45	1,991.24	1,939.84	51.41	38.736	
17,300.00	10,600.00	9,618.30	9,616.03	129.38	16.88	0.25	5,045.12	-596.45	2,079.17	2,028.12	51.06	40.723	
17,400.00	10,600.00	9,618.30	9,616.03	131.20	16.88	0.25	5,045.12	-596.45	2,168.15	2,117.41	50.74	42.730	
17,500.00	10,600.00	9,618.30	9,616.03	133.01	16.88	0.25	5,045.12	-596.45	2,258.05	2,207.59	50.46	44.753	
17,600.00	10,600.00	9,618.30	9,616.03	134.83	16.88	0.25	5,045.12	-596.45	2,348.77	2,298.57	50.20	46.790	
17,700.00	10,600.00	9,618.30	9,616.03	136.65	16.88	0.25	5,045.12	-596.45	2,440.21	2,390.24	49.97	48.837	
17,800.00	10,600.00	9,618.30	9,616.03	138.47	16.88	0.25	5,045.12	-596.45	2,532.30	2,482.54	49.76	50.892	
17,900.00	10,600.00	9,618.30	9,616.03	140.29	16.88	0.25	5,045.12	-596.45	2,624.97	2,575.40	49.57	52.954	
18,000.00	10,600.00	9,618.30	9,616.03	142.11	16.88	0.25	5,045.12	-596.45	2,718.16	2,668.75	49.40	55.021	
18,100.00	10,600.00	9,618.30	9,616.03	143.94	16.88	0.25	5,045.12	-596.45	2,811.81	2,762.56	49.25	57.091	
18,200.00	10,600.00	9,618.30	9,616.03	145.76	16.88	0.25	5,045.12	-596.45	2,905.89	2,856.77	49.12	59.164	
18,300.00	10,600.00	9,618.30	9,616.03	147.58	16.88	0.25	5,045.12	-596.45	3,000.35	2,951.36	49.00	61.238	
18,367.10	10,600.00	9,618.30	9,616.03	148.81	16.88	0.25	5,045.12	-596.45	3,063.94	3,015.01	48.92	62.630	

Company: Legacy Reserves
 Project: Lea County, NM (NAD-27 2015)
 Reference Site: Lea Unit #37H
 Site Error: 0.00 usft
 Reference Well: Lea Unit #37H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
 TVD Reference: KB @ 3692.00usft (McVay 4)
 MD Reference: KB @ 3692.00usft (McVay 4)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Single User Db
 Offset TVD Reference: Offset Datum

Offset Design														Offset Site Error
Lea Unit - #9 - OH - OH														0.00 usft
Survey Program: 100-ISCWSA-GYRO-3														Offset Well Error
														0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-5.30	7,613.12	-706.44	7,645.84					
100.00	100.00	87.04	87.04	0.09	0.07	-5.30	7,613.09	-706.49	7,645.80	7,645.65	0.15	N/A		
200.00	200.00	191.92	191.92	0.32	0.24	-5.30	7,613.00	-706.52	7,645.72	7,645.17	0.55	N/A		
300.00	300.00	295.36	295.36	0.54	0.42	-5.30	7,612.87	-706.36	7,645.58	7,644.62	0.96	7,941.973		
400.00	400.00	397.97	397.97	0.77	0.61	-5.30	7,612.70	-706.17	7,645.40	7,644.03	1.37	5,564.620		
500.00	500.00	495.09	495.09	0.99	0.78	-5.30	7,612.51	-706.35	7,645.22	7,643.45	1.77	4,316.036		
600.00	600.00	597.75	597.75	1.22	0.96	-5.31	7,612.27	-707.02	7,645.05	7,642.87	2.18	3,514.912		
700.00	700.00	726.85	726.85	1.44	1.19	-5.31	7,611.55	-707.24	7,644.46	7,641.83	2.63	2,905.006		
800.00	800.00	800.00	799.99	1.67	1.32	-5.31	7,611.35	-707.55	7,644.18	7,641.20	2.99	2,560.711		
816.99	816.99	800.00	799.99	1.70	1.32	-5.31	7,611.35	-707.55	7,644.16	7,641.14	3.02	2,528.397		
900.00	900.00	880.33	880.32	1.89	1.46	-5.32	7,611.34	-708.21	7,644.22	7,640.87	3.35	2,284.115		
1,000.00	1,000.00	982.99	982.98	2.12	1.64	-5.32	7,611.27	-709.08	7,644.23	7,640.48	3.75	2,039.800		
1,100.00	1,100.00	1,077.77	1,077.75	2.34	1.81	-5.33	7,611.22	-709.90	7,644.26	7,640.12	4.14	1,848.571		
1,200.00	1,200.00	1,174.01	1,173.99	2.56	1.99	-5.33	7,611.24	-710.66	7,644.35	7,639.83	4.53	1,689.283		
1,300.00	1,300.00	1,273.88	1,273.85	2.79	2.17	-5.34	7,611.30	-711.41	7,644.48	7,639.56	4.92	1,553.260		
1,400.00	1,400.00	1,421.93	1,421.91	3.01	2.43	-5.34	7,610.88	-711.81	7,644.20	7,638.79	5.41	1,413.832		
1,500.00	1,500.00	1,500.00	1,499.97	3.24	2.57	-5.35	7,610.68	-712.09	7,643.94	7,638.17	5.77	1,324.879		
1,600.00	1,600.00	1,625.35	1,625.32	3.46	2.80	-5.35	7,610.20	-712.32	7,643.58	7,637.37	6.22	1,229.513		
1,700.00	1,700.00	1,700.00	1,699.97	3.69	2.93	-5.35	7,609.88	-712.55	7,643.18	7,636.61	6.58	1,162.454		
1,774.98	1,774.98	1,758.01	1,757.98	3.86	3.04	-5.35	7,609.77	-712.95	7,643.09	7,636.25	6.84	1,116.714		
1,800.00	1,800.00	1,776.86	1,776.83	3.91	3.07	-5.35	7,609.76	-713.09	7,643.10	7,636.17	6.93	1,102.385		
1,900.00	1,900.00	1,901.62	1,901.59	4.14	3.30	-5.36	7,609.68	-713.96	7,643.12	7,635.74	7.37	1,036.375		
2,000.00	2,000.00	2,014.46	2,014.42	4.36	3.51	-5.36	7,609.25	-714.54	7,642.79	7,634.99	7.80	979.827		
2,100.00	2,100.00	2,125.70	2,125.66	4.59	3.72	-5.37	7,608.66	-714.88	7,642.29	7,634.07	8.23	929.120		
2,200.00	2,200.00	2,227.33	2,227.29	4.81	3.90	-5.37	7,608.06	-715.13	7,641.73	7,633.09	8.63	885.018		
2,300.00	2,300.00	2,300.00	2,299.96	5.04	4.04	-5.37	7,607.62	-715.24	7,641.18	7,632.19	8.99	849.805		
2,370.65	2,370.65	2,353.69	2,353.65	5.20	4.13	-5.37	7,607.45	-715.23	7,641.00	7,631.76	9.24	826.624		
2,400.00	2,400.00	2,369.43	2,369.38	5.26	4.15	-5.37	7,607.47	-715.20	7,641.03	7,631.69	9.34	818.372		
2,500.00	2,500.00	2,445.84	2,445.80	5.49	4.28	-5.37	7,607.84	-714.93	7,641.45	7,631.76	9.69	788.525		
2,600.00	2,600.00	2,600.00	2,599.95	5.71	4.53	-5.36	7,608.02	-714.30	7,641.50	7,631.32	10.18	750.589		
2,667.47	2,667.47	2,650.54	2,650.49	5.86	4.61	-5.36	7,607.85	-714.26	7,641.30	7,630.88	10.42	733.344		
2,700.00	2,700.00	2,666.39	2,666.35	5.94	4.64	-5.36	7,607.87	-714.26	7,641.34	7,630.82	10.52	726.340		
2,800.00	2,800.00	2,800.00	2,799.95	6.16	4.86	-5.36	7,608.22	-713.96	7,641.67	7,630.69	10.97	696.324		
2,900.00	2,900.00	2,886.60	2,886.55	6.39	5.00	-5.36	7,608.13	-713.21	7,641.49	7,630.14	11.35	673.212		
2,922.45	2,922.45	2,905.50	2,905.45	6.44	5.04	-5.35	7,608.14	-713.01	7,641.48	7,630.05	11.43	668.299		
3,000.00	3,000.00	2,980.37	2,980.31	6.61	5.16	-5.35	7,608.25	-712.06	7,641.50	7,629.76	11.74	650.988		
3,100.00	3,100.00	3,048.24	3,048.17	6.84	5.27	-5.34	7,608.47	-711.08	7,641.70	7,629.62	12.08	632.610		
3,200.00	3,200.00	3,112.00	3,111.92	7.06	5.37	-5.33	7,609.01	-710.21	7,642.41	7,630.00	12.41	615.672		
3,300.00	3,300.00	3,200.00	3,199.91	7.28	5.52	-5.32	7,610.06	-708.94	7,643.46	7,630.67	12.79	597.745		
3,400.00	3,400.00	3,286.70	3,286.58	7.51	5.66	-5.31	7,611.24	-707.62	7,644.67	7,631.51	13.16	580.937		
3,500.00	3,500.00	3,400.00	3,399.87	7.73	5.85	-5.30	7,612.68	-705.94	7,645.80	7,632.22	13.58	563.115		
3,600.00	3,600.00	3,482.82	3,482.68	7.96	5.99	-5.29	7,613.71	-705.04	7,646.94	7,633.00	13.94	548.422		
3,700.00	3,700.00	3,591.09	3,590.94	8.18	6.17	-5.29	7,615.17	-704.55	7,648.25	7,633.89	14.35	532.864		
3,800.00	3,800.00	3,710.65	3,710.49	8.41	6.38	-5.29	7,616.43	-704.77	7,649.31	7,634.52	14.78	517.434		
3,900.00	3,900.00	3,800.00	3,799.83	8.63	6.54	-5.29	7,617.25	-705.36	7,650.29	7,635.12	15.16	504.579		
4,000.00	4,000.00	3,875.41	3,875.24	8.86	6.67	-5.29	7,618.10	-706.03	7,651.50	7,635.99	15.52	493.123		
4,100.00	4,100.00	3,979.25	3,979.06	9.08	6.85	-5.30	7,619.50	-707.28	7,652.96	7,637.04	15.92	480.670		
4,200.00	4,200.00	4,052.87	4,052.67	9.31	6.98	-5.31	7,620.48	-708.34	7,654.44	7,638.16	16.27	470.361		
4,300.00	4,300.00	4,124.46	4,124.24	9.53	7.10	-5.32	7,621.79	-709.28	7,656.36	7,639.74	16.62	460.614		
4,400.00	4,400.00	4,215.37	4,215.12	9.76	7.26	-5.32	7,623.60	-710.56	7,658.48	7,641.48	17.01	450.364		
4,500.00	4,500.00	4,300.00	4,299.72	9.98	7.41	-5.33	7,625.48	-711.71	7,660.81	7,643.43	17.38	440.851		
4,600.00	4,600.00	4,439.67	4,439.35	10.21	7.66	-5.35	7,628.34	-713.74	7,663.00	7,645.15	17.85	429.321		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Reference Site: Lea Unit #37H
Site Error: 0.00 usft
Reference Well: Lea Unit #37H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
TVD Reference: KB @ 3692.00usft (McVay 4)
MD Reference: KB @ 3692.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design: Lea Unit - #9 - OH - OH													Offset Site Error: 0.00 usft
Survey Program: 100-ISCWSA-GYRO-3													Offset Well Error: 0.00 usft
Reference	Offset	Semi-Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,700.00	4,700.00	4,586.69	4,586.34	10.43	7.92	-5.35	7,630.52	-715.16	7,664.57	7,646.23	18.33	418.040	
4,800.00	4,800.00	4,692.77	4,692.41	10.66	8.11	-5.36	7,631.72	-715.95	7,665.77	7,647.02	18.75	408.907	
4,900.00	4,900.00	4,792.31	4,791.95	10.88	8.29	-5.36	7,632.83	-716.81	7,666.95	7,647.80	19.15	400.406	
5,000.00	5,000.00	4,892.62	4,892.25	11.11	8.47	-5.37	7,633.95	-717.58	7,668.14	7,648.59	19.55	392.218	
5,100.00	5,100.00	5,053.16	5,052.77	11.33	8.76	-5.38	7,634.80	-718.83	7,668.63	7,648.57	20.06	382.287	
5,200.00	5,200.00	5,141.46	5,141.07	11.56	8.92	-5.38	7,635.20	-719.29	7,669.12	7,648.68	20.44	375.186	
5,300.00	5,300.00	5,244.12	5,243.73	11.78	9.11	-5.39	7,635.71	-719.89	7,669.67	7,648.82	20.85	367.891	
5,400.00	5,400.00	5,345.25	5,344.86	12.00	9.29	-5.39	7,636.10	-720.83	7,670.14	7,648.89	21.25	360.930	
5,500.00	5,500.00	5,461.05	5,460.64	12.23	9.50	-5.40	7,636.54	-722.05	7,670.64	7,648.96	21.68	353.816	
5,600.00	5,600.00	5,567.19	5,566.78	12.45	9.69	-5.41	7,636.62	-723.28	7,670.81	7,648.72	22.09	347.246	
5,700.00	5,700.00	5,658.30	5,657.89	12.68	9.86	-5.42	7,636.76	-724.35	7,671.08	7,648.61	22.47	341.319	
5,800.00	5,800.00	5,759.96	5,759.54	12.90	10.04	-5.43	7,637.01	-725.52	7,671.43	7,648.55	22.88	335.320	
5,900.00	5,900.00	5,861.54	5,861.11	13.13	10.23	-5.44	7,637.16	-726.87	7,671.70	7,648.42	23.28	329.531	
6,000.00	6,000.00	5,951.85	5,951.40	13.35	10.39	-5.45	7,637.33	-728.22	7,672.03	7,648.37	23.66	324.212	
6,100.00	6,100.00	6,053.12	6,052.66	13.58	10.58	-5.46	7,637.63	-729.94	7,672.49	7,648.43	24.07	318.809	
6,200.00	6,200.00	6,170.57	6,170.11	13.80	10.79	-5.47	7,637.85	-731.06	7,672.77	7,648.27	24.50	313.212	
6,300.00	6,300.00	6,260.16	6,259.69	14.03	10.96	-5.47	7,637.94	-731.85	7,672.96	7,648.08	24.88	308.412	
6,400.00	6,400.00	6,400.00	6,399.53	14.25	11.21	-5.48	7,638.03	-733.10	7,673.15	7,647.80	25.35	302.712	
6,448.52	6,448.52	6,431.99	6,431.52	14.36	11.27	-5.48	7,637.95	-733.36	7,673.08	7,647.57	25.51	300.749	
6,500.00	6,500.00	6,461.44	6,460.96	14.48	11.32	-5.49	7,637.98	-733.56	7,673.15	7,647.47	25.68	298.792	
6,600.00	6,600.00	6,544.74	6,544.27	14.70	11.47	-5.49	7,638.38	-734.01	7,673.66	7,647.61	26.05	294.550	
6,700.00	6,700.00	6,680.66	6,680.18	14.93	11.72	-5.50	7,638.64	-735.05	7,673.93	7,647.41	26.52	289.406	
6,765.52	6,765.52	6,749.01	6,748.52	15.07	11.85	-5.50	7,638.59	-735.57	7,673.92	7,647.14	26.78	286.527	
6,800.00	6,800.00	6,782.01	6,781.52	15.15	11.91	-5.50	7,638.57	-735.84	7,673.93	7,647.01	26.92	285.091	
6,900.00	6,900.00	6,878.24	6,877.75	15.38	12.08	-5.51	7,638.53	-736.71	7,673.97	7,646.66	27.31	280.996	
7,000.00	7,000.00	7,000.00	6,999.51	15.60	12.31	-5.52	7,638.35	-737.79	7,673.92	7,646.17	27.75	276.576	
7,048.07	7,048.07	7,031.56	7,031.07	15.71	12.36	-5.52	7,638.29	-738.06	7,673.86	7,645.95	27.91	274.956	
7,100.00	7,100.00	7,063.87	7,063.37	15.83	12.42	-5.52	7,638.30	-738.32	7,673.93	7,645.84	28.08	273.263	
7,200.00	7,200.00	7,167.07	7,166.57	16.05	12.61	-5.53	7,638.62	-739.20	7,674.32	7,645.83	28.49	269.384	
7,300.00	7,300.00	7,282.65	7,282.14	16.28	12.82	-5.54	7,638.57	-740.40	7,674.37	7,645.46	28.92	265.411	
7,400.00	7,400.00	7,346.79	7,346.28	16.50	12.94	-5.54	7,638.62	-741.02	7,674.57	7,645.32	29.25	262.356	
7,500.00	7,500.00	7,456.14	7,455.62	16.72	13.14	-5.54	7,639.36	-741.54	7,675.32	7,645.65	29.67	258.687	
7,579.54	7,579.54	7,563.06	7,562.54	16.90	13.33	-5.55	7,639.25	-742.62	7,675.26	7,645.22	30.04	255.533	
7,600.00	7,600.00	7,580.16	7,579.64	16.95	13.36	-5.55	7,639.24	-742.81	7,675.27	7,645.15	30.11	254.891	
7,700.00	7,700.00	7,675.85	7,675.33	17.17	13.54	-5.56	7,639.22	-743.87	7,675.36	7,644.85	30.50	251.621	
7,800.00	7,800.00	7,768.65	7,768.12	17.40	13.71	-5.57	7,639.24	-744.92	7,675.49	7,644.60	30.89	248.474	
7,900.00	7,900.00	7,874.03	7,873.49	17.62	13.90	-5.58	7,639.33	-746.15	7,675.68	7,644.38	31.30	245.233	
8,000.00	8,000.00	7,975.41	7,974.87	17.85	14.09	-5.59	7,639.30	-747.40	7,675.78	7,644.08	31.70	242.129	
8,100.00	8,100.00	8,065.26	8,064.71	18.07	14.26	-5.60	7,639.34	-748.49	7,675.94	7,643.86	32.08	239.252	
8,200.00	8,200.00	8,158.57	8,158.01	18.30	14.43	-5.60	7,639.50	-749.67	7,676.24	7,643.77	32.47	236.401	
8,300.00	8,300.00	8,258.27	8,257.70	18.52	14.61	-5.61	7,639.71	-750.99	7,676.57	7,643.70	32.87	233.537	
8,400.00	8,400.00	8,354.55	8,353.97	18.75	14.79	-5.62	7,639.92	-752.18	7,676.91	7,643.65	33.26	230.783	
8,500.00	8,500.00	8,451.22	8,450.64	18.97	14.97	-5.63	7,640.20	-753.40	7,677.33	7,643.67	33.66	228.090	
8,600.00	8,600.00	8,534.57	8,533.98	19.20	15.13	-5.64	7,640.48	-754.49	7,677.80	7,643.77	34.03	225.615	
8,700.00	8,700.00	8,600.00	8,599.40	19.42	15.25	-5.65	7,640.95	-755.41	7,678.65	7,644.28	34.37	223.411	
8,800.00	8,800.00	8,685.96	8,685.34	19.65	15.41	-5.66	7,641.82	-756.73	7,679.82	7,645.07	34.75	221.021	
8,900.00	8,900.00	8,762.59	8,761.96	19.87	15.55	-5.66	7,642.79	-757.98	7,681.24	7,646.13	35.11	218.793	
9,000.00	9,000.00	8,890.08	8,889.42	20.10	15.78	-5.68	7,644.53	-760.13	7,682.80	7,647.24	35.56	216.053	
9,100.00	9,100.00	9,044.17	9,043.49	20.32	16.07	-5.69	7,645.64	-762.04	7,683.62	7,647.56	36.06	213.085	
9,200.00	9,200.00	9,150.64	9,149.96	20.55	16.26	-5.70	7,645.94	-763.34	7,684.02	7,647.55	36.47	210.686	
9,300.00	9,300.00	9,230.44	9,229.74	20.77	16.41	-5.71	7,646.24	-764.61	7,684.55	7,647.72	36.84	208.614	
9,400.00	9,400.00	9,400.00	9,335.02	21.00	16.73	-5.72	7,646.89	-766.44	7,685.36	7,648.00	37.36	205.712	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Reference Site: Lea Unit #37H
Site Error: 0.00 usft
Reference Well: Lea Unit #37H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
TVD Reference: KB @ 3692.00usft (McVay 4)
MD Reference: KB @ 3692.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design: Lea Unit - #9 - OH - OH													Offset Site Error
Survey Program: 100-ISCWSA-GYRO-3													Offset Well Error
Reference	Offset	Semi Major Axis		Reference		Offset	Highside	Offset Wellbore Centre		Distance		Minimum	Separation
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)		N-S (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor
9,500.00	9,500.00	9,359.60	9,358.88	21.22	16.65	-5.73		7,647.00	-766.83	7,686.36	7,648.85	37.51	204.906
9,600.00	9,600.00	9,359.60	9,358.88	21.44	16.65	-5.73		7,647.00	-766.83	7,686.62	7,650.89	37.73	203.768
9,700.00	9,700.00	9,359.60	9,358.88	21.67	16.65	-5.73		7,647.00	-766.83	7,692.19	7,654.24	37.95	202.687
9,800.00	9,800.00	9,359.60	9,358.88	21.89	16.65	-5.73		7,647.00	-766.83	7,697.05	7,658.88	38.17	201.662
9,900.00	9,900.00	9,359.60	9,358.88	22.12	16.65	-5.73		7,647.00	-766.83	7,703.21	7,664.82	38.38	200.693
10,000.00	10,000.00	9,359.60	9,358.88	22.34	16.65	-5.73		7,647.00	-766.83	7,710.66	7,672.06	38.60	199.778
10,027.04	10,027.04	9,359.60	9,358.88	22.40	16.65	-5.73		7,647.00	-766.83	7,712.89	7,674.24	38.65	199.539
10,050.00	10,049.99	9,359.60	9,358.88	22.46	16.65	14.08		7,647.00	-766.83	7,714.42	7,675.72	38.70	199.331
10,100.00	10,099.80	9,359.60	9,358.88	22.57	16.65	14.07		7,647.00	-766.83	7,714.90	7,676.09	38.81	198.809
10,150.00	10,149.06	9,359.60	9,358.88	22.68	16.65	14.16		7,647.00	-766.83	7,711.47	7,672.56	38.91	198.191
10,200.00	10,197.39	9,359.60	9,358.88	22.79	16.65	14.34		7,647.00	-766.83	7,704.16	7,665.15	39.01	197.485
10,250.00	10,244.42	9,359.60	9,358.88	22.90	16.65	14.62		7,647.00	-766.83	7,693.01	7,653.89	39.11	196.696
10,300.00	10,289.79	9,359.60	9,358.88	23.01	16.65	15.02		7,647.00	-766.83	7,678.08	7,638.88	39.21	195.832
10,350.00	10,333.17	9,359.60	9,358.88	23.12	16.65	15.55		7,647.00	-766.83	7,659.48	7,620.18	39.30	194.897
10,400.00	10,374.21	9,359.60	9,358.88	23.24	16.65	16.23		7,647.00	-766.83	7,637.32	7,597.93	39.39	193.897
10,450.00	10,412.62	9,359.60	9,358.88	23.38	16.65	17.08		7,647.00	-766.83	7,611.73	7,572.26	39.47	192.837
10,500.00	10,448.09	9,359.60	9,358.88	23.54	16.65	18.16		7,647.00	-766.83	7,582.88	7,543.32	39.55	191.721
10,550.00	10,480.35	9,359.60	9,358.88	23.71	16.65	19.50		7,647.00	-766.83	7,550.94	7,511.32	39.63	190.556
10,600.00	10,509.17	9,359.60	9,358.88	23.92	16.65	21.18		7,647.00	-766.83	7,516.13	7,476.44	39.70	189.345
10,650.00	10,534.31	9,359.60	9,358.88	24.15	16.65	23.33		7,647.00	-766.83	7,478.67	7,438.91	39.76	188.094
10,700.00	10,555.60	9,359.60	9,358.88	24.41	16.65	26.09		7,647.00	-766.83	7,438.82	7,398.99	39.82	186.810
10,750.00	10,572.86	9,359.60	9,358.88	24.71	16.65	29.71		7,647.00	-766.83	7,396.82	7,356.95	39.88	185.497
10,800.00	10,585.97	9,359.60	9,358.88	25.04	16.65	34.57		7,647.00	-766.83	7,352.98	7,313.05	39.93	184.160
10,850.00	10,594.83	9,359.60	9,358.88	25.40	16.65	41.22		7,647.00	-766.83	7,307.59	7,267.62	39.97	182.806
10,900.00	10,599.36	9,359.60	9,358.88	25.79	16.65	50.46		7,647.00	-766.83	7,260.98	7,220.96	40.02	181.438
10,927.04	10,600.00	9,359.60	9,358.88	26.01	16.65	56.86		7,647.00	-766.83	7,235.38	7,195.34	40.04	180.691
11,000.00	10,600.00	9,359.60	9,358.88	26.63	16.65	54.24		7,647.00	-766.83	7,165.80	7,125.71	40.09	178.722
11,100.00	10,600.00	9,359.60	9,358.88	27.55	16.65	50.05		7,647.00	-766.83	7,069.83	7,029.67	40.16	176.042
11,200.00	10,600.00	9,359.60	9,358.88	28.56	16.65	45.02		7,647.00	-766.83	6,973.24	6,933.02	40.23	173.351
11,300.00	10,600.00	9,359.60	9,358.88	29.65	16.65	38.97		7,647.00	-766.83	6,876.13	6,835.84	40.29	170.666
11,400.00	10,600.00	9,359.60	9,358.88	30.80	16.65	31.76		7,647.00	-766.83	6,778.59	6,738.24	40.35	168.002
11,500.00	10,600.00	9,359.60	9,358.88	32.00	16.65	23.32		7,647.00	-766.83	6,680.73	6,640.33	40.40	165.371
11,600.00	10,600.00	9,359.60	9,358.88	33.24	16.65	13.80		7,647.00	-766.83	6,582.65	6,542.21	40.44	162.780
11,700.00	10,600.00	9,359.60	9,358.88	34.51	16.65	3.59		7,647.00	-766.83	6,484.47	6,444.00	40.47	160.236
11,733.27	10,600.00	9,359.60	9,358.88	34.94	16.65	0.14		7,647.00	-766.83	6,451.80	6,411.32	40.48	159.400
11,800.00	10,600.00	9,359.60	9,358.88	35.80	16.65	0.14		7,647.00	-766.83	6,386.29	6,345.81	40.49	157.729
11,900.00	10,600.00	9,359.60	9,358.88	37.12	16.65	0.14		7,647.00	-766.83	6,288.18	6,247.67	40.51	155.221
12,000.00	10,600.00	9,359.60	9,358.88	38.48	16.65	0.14		7,647.00	-766.83	6,190.12	6,149.59	40.54	152.709
12,100.00	10,600.00	9,359.60	9,358.88	39.87	16.65	0.14		7,647.00	-766.83	6,092.13	6,051.57	40.56	150.193
12,200.00	10,600.00	9,359.60	9,358.88	41.31	16.65	0.14		7,647.00	-766.83	5,994.20	5,953.61	40.59	147.673
12,300.00	10,600.00	9,359.60	9,358.88	42.77	16.65	0.14		7,647.00	-766.83	5,896.34	5,855.72	40.62	145.149
12,400.00	10,600.00	9,359.60	9,358.88	44.26	16.65	0.14		7,647.00	-766.83	5,798.56	5,757.90	40.66	142.620
12,500.00	10,600.00	9,359.60	9,358.88	45.78	16.65	0.14		7,647.00	-766.83	5,700.85	5,660.16	40.69	140.088
12,600.00	10,600.00	9,359.60	9,358.88	47.33	16.65	0.14		7,647.00	-766.83	5,603.23	5,562.49	40.74	137.552
12,700.00	10,600.00	9,359.60	9,358.88	48.89	16.65	0.14		7,647.00	-766.83	5,505.69	5,464.91	40.78	135.012
12,800.00	10,600.00	9,359.60	9,358.88	50.48	16.65	0.14		7,647.00	-766.83	5,408.23	5,367.41	40.83	132.469
12,900.00	10,600.00	9,359.60	9,358.88	52.08	16.65	0.14		7,647.00	-766.83	5,310.88	5,270.00	40.88	129.922
13,000.00	10,600.00	9,359.60	9,358.88	53.70	16.65	0.14		7,647.00	-766.83	5,213.62	5,172.69	40.93	127.371
13,100.00	10,600.00	9,359.60	9,358.88	55.33	16.65	0.14		7,647.00	-766.83	5,116.47	5,075.48	40.99	124.816
13,200.00	10,600.00	9,359.60	9,358.88	56.98	16.65	0.14		7,647.00	-766.83	5,019.43	4,978.38	41.06	122.258
13,300.00	10,600.00	9,359.60	9,358.88	58.64	16.65	0.14		7,647.00	-766.83	4,922.51	4,881.39	41.12	119.697
13,400.00	10,600.00	9,359.60	9,358.88	60.31	16.65	0.14		7,647.00	-766.83	4,825.72	4,784.52	41.20	117.132

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Reference Site: Lea Unit #37H
Site Error: 0.00 usft
Reference Well: Lea Unit #37H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
TVD Reference: KB @ 3692.00usft (McVay 4)
MD Reference: KB @ 3692.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design												Lea Unit - #9 - OH - OH		Offset Site Error		0.00 usft
Survey Program: 100-ISCWSA-GYRO-3														Offset Well Error		0.00 usft
Reference		Offset		Semi-Major Axis		Distance										
Measured Depth	Vertical	Measured Depth	Vertical	Reference	Offset	Highside	Offset Wellbore Centre	Between	Between	Minimum	Separation					
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Toolface (°)	N-S (usft)	E-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor	Warning			
13,500.00	10,600.00	9,359.60	9,358.88	61.99	16.65	0.14	7,647.00	-766.83	4,729.06	4,687.78	41.28	114.564				
13,600.00	10,600.00	9,359.60	9,358.88	63.68	16.65	0.14	7,647.00	-766.83	4,632.54	4,591.17	41.36	111.993				
13,700.00	10,600.00	9,359.60	9,358.88	65.37	16.65	0.14	7,647.00	-766.83	4,536.17	4,494.71	41.46	109.418				
13,800.00	10,600.00	9,359.60	9,358.88	67.08	16.65	0.14	7,647.00	-766.83	4,439.96	4,398.40	41.56	106.840				
13,900.00	10,600.00	9,359.60	9,358.88	68.80	16.65	0.14	7,647.00	-766.83	4,343.92	4,302.26	41.66	104.259				
14,000.00	10,600.00	9,359.60	9,358.88	70.52	16.65	0.14	7,647.00	-766.83	4,248.07	4,206.29	41.78	101.675				
14,100.00	10,600.00	9,359.60	9,358.88	72.24	16.65	0.14	7,647.00	-766.83	4,152.41	4,110.51	41.91	99.088				
14,200.00	10,600.00	9,359.60	9,358.88	73.98	16.65	0.14	7,647.00	-766.83	4,056.96	4,014.92	42.04	96.498				
14,300.00	10,600.00	9,359.60	9,358.88	75.72	16.65	0.14	7,647.00	-766.83	3,961.74	3,919.55	42.19	93.906				
14,400.00	10,600.00	9,359.60	9,358.88	77.46	16.65	0.14	7,647.00	-766.83	3,866.76	3,824.41	42.35	91.311				
14,500.00	10,600.00	9,359.60	9,358.88	79.21	16.65	0.14	7,647.00	-766.83	3,772.03	3,729.51	42.52	88.714				
14,600.00	10,600.00	9,359.60	9,358.88	80.97	16.65	0.14	7,647.00	-766.83	3,677.59	3,634.88	42.71	86.115				
14,700.00	10,600.00	9,359.60	9,358.88	82.73	16.65	0.14	7,647.00	-766.83	3,583.44	3,540.54	42.91	83.515				
14,800.00	10,600.00	9,359.60	9,358.88	84.49	16.65	0.14	7,647.00	-766.83	3,489.63	3,446.50	43.13	80.914				
14,900.00	10,600.00	9,359.60	9,358.88	86.25	16.65	0.14	7,647.00	-766.83	3,396.16	3,352.80	43.37	78.312				
15,000.00	10,600.00	9,359.60	9,358.88	88.02	16.65	0.14	7,647.00	-766.83	3,303.08	3,259.45	43.63	75.711				
15,100.00	10,600.00	9,359.60	9,358.88	89.80	16.65	0.14	7,647.00	-766.83	3,210.42	3,166.50	43.91	73.111				
15,200.00	10,600.00	9,359.60	9,358.88	91.57	16.65	0.14	7,647.00	-766.83	3,118.20	3,073.98	44.22	70.512				
15,300.00	10,600.00	9,359.60	9,358.88	93.35	16.65	0.14	7,647.00	-766.83	3,026.49	2,981.93	44.56	67.918				
15,400.00	10,600.00	9,359.60	9,358.88	95.14	16.65	0.14	7,647.00	-766.83	2,935.31	2,890.38	44.93	65.328				
15,500.00	10,600.00	9,359.60	9,358.88	96.92	16.65	0.14	7,647.00	-766.83	2,844.73	2,799.39	45.34	62.745				
15,600.00	10,600.00	9,359.60	9,358.88	98.71	16.65	0.14	7,647.00	-766.83	2,754.79	2,709.01	45.78	60.170				
15,700.00	10,600.00	9,359.60	9,358.88	100.50	16.65	0.14	7,647.00	-766.83	2,665.58	2,619.31	46.27	57.607				
15,800.00	10,600.00	9,359.60	9,358.88	102.29	16.65	0.14	7,647.00	-766.83	2,577.16	2,530.35	46.81	55.058				
15,900.00	10,600.00	9,359.60	9,358.88	104.09	16.65	0.14	7,647.00	-766.83	2,489.61	2,442.21	47.40	52.526				
16,000.00	10,600.00	9,359.60	9,358.88	105.88	16.65	0.14	7,647.00	-766.83	2,403.04	2,354.99	48.05	50.016				
16,100.00	10,600.00	9,359.60	9,358.88	107.68	16.65	0.14	7,647.00	-766.83	2,317.55	2,268.79	48.76	47.532				
16,200.00	10,600.00	9,359.60	9,358.88	109.48	16.65	0.14	7,647.00	-766.83	2,233.26	2,183.72	49.54	45.079				
16,300.00	10,600.00	9,359.60	9,358.88	111.28	16.65	0.14	7,647.00	-766.83	2,150.32	2,099.92	50.40	42.664				
16,400.00	10,600.00	9,359.60	9,358.88	113.09	16.65	0.14	7,647.00	-766.83	2,068.89	2,017.54	51.35	40.292				
16,500.00	10,600.00	9,359.60	9,358.88	114.89	16.65	0.14	7,647.00	-766.83	1,989.15	1,936.77	52.38	37.973				
16,600.00	10,600.00	9,359.60	9,358.88	116.70	16.65	0.14	7,647.00	-766.83	1,911.32	1,857.80	53.52	35.713				
16,700.00	10,600.00	9,359.60	9,358.88	118.50	16.65	0.14	7,647.00	-766.83	1,835.64	1,780.88	54.76	33.523				
16,800.00	10,600.00	9,359.60	9,358.88	120.31	16.65	0.14	7,647.00	-766.83	1,762.38	1,706.28	56.10	31.413				
16,900.00	10,600.00	9,359.60	9,358.88	122.12	16.65	0.14	7,647.00	-766.83	1,691.87	1,634.31	57.56	29.392				
17,000.00	10,600.00	9,359.60	9,358.88	123.94	16.65	0.14	7,647.00	-766.83	1,624.45	1,565.32	59.13	27.472				
17,100.00	10,600.00	9,359.60	9,358.88	125.75	16.65	0.14	7,647.00	-766.83	1,560.53	1,499.73	60.80	25.665				
17,200.00	10,600.00	9,359.60	9,358.88	127.56	16.65	0.14	7,647.00	-766.83	1,500.56	1,437.99	62.57	23.983				
17,300.00	10,600.00	9,359.60	9,358.88	129.38	16.65	0.14	7,647.00	-766.83	1,445.03	1,380.62	64.41	22.436				
17,400.00	10,600.00	9,359.60	9,358.88	131.20	16.65	0.14	7,647.00	-766.83	1,394.47	1,328.18	66.29	21.035				
17,500.00	10,600.00	9,359.60	9,358.88	133.01	16.65	0.14	7,647.00	-766.83	1,349.43	1,281.25	68.18	19.791				
17,600.00	10,600.00	9,359.60	9,358.88	134.83	16.65	0.14	7,647.00	-766.83	1,310.49	1,240.46	70.03	18.713				
17,700.00	10,600.00	9,359.60	9,358.88	136.65	16.65	0.14	7,647.00	-766.83	1,278.21	1,206.43	71.78	17.807				
17,800.00	10,600.00	9,359.60	9,358.88	138.47	16.65	0.14	7,647.00	-766.83	1,253.09	1,179.72	73.37	17.079				
17,900.00	10,600.00	9,359.60	9,358.88	140.29	16.65	0.14	7,647.00	-766.83	1,235.58	1,160.85	74.74	16.533				
18,000.00	10,600.00	9,359.60	9,358.88	142.11	16.65	0.14	7,647.00	-766.83	1,226.00	1,150.18	75.82	16.169				
18,067.88	10,600.00	9,359.60	9,358.88	143.35	16.65	0.14	7,647.00	-766.83	1,224.12	1,147.74	76.38	16.026 CC, ES				
18,100.00	10,600.00	9,359.60	9,358.88	143.94	16.65	0.14	7,647.00	-766.83	1,224.55	1,147.95	76.60	15.987				
18,200.00	10,600.00	9,359.60	9,358.88	145.76	16.65	0.14	7,647.00	-766.83	1,231.23	1,154.20	77.03	15.984 SF				
18,300.00	10,600.00	9,359.60	9,358.88	147.58	16.65	0.14	7,647.00	-766.83	1,245.94	1,168.81	77.13	16.154				
18,367.10	10,600.00	9,359.60	9,358.88	148.81	16.65	0.14	7,647.00	-766.83	1,260.17	1,183.15	77.02	16.362				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

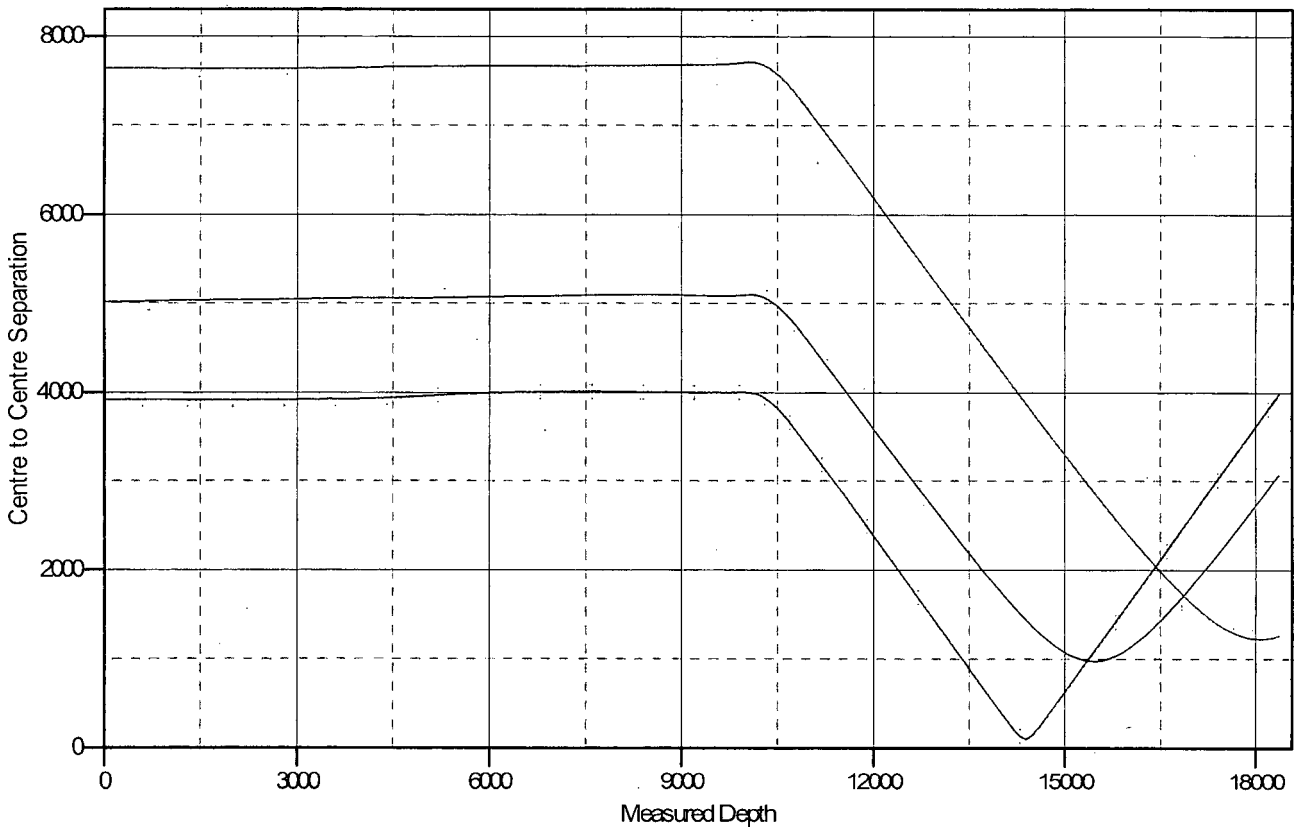
Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Reference Site: Lea Unit #37H
Site Error: 0.00 usft
Reference Well: Lea Unit #37H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
TVD Reference: KB @ 3692.00usft (McVay 4)
MD Reference: KB @ 3692.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB @ 3692.00usft (McVay 4)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Lea Unit #37H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.44°

Ladder Plot



LEGEND

 #17, OH, OHV0
  #9, OH, OHV0
  #3, OH, OHV0

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Reference Site: Lea Unit #37H
Site Error: 0.00 usft
Reference Well: Lea Unit #37H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lea Unit #37H
TVD Reference: KB @ 3692.00usft (McVay 4)
MD Reference: KB @ 3692.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset, TVD Reference: Offset Datum

Reference Depths are relative to KB @ 3692.00usft (McVay 4)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Lea Unit #37H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.44°

