

Survey Report

30-025-44916

Company:	Manzano LLC	Local Co-ordinate Reference:	Well Trinity 22 State Com #1H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	17' KB @ 3821.00usft (Norton #2)
Site:	Sec 22-12S-38E	MD Reference:	17' KB @ 3821.00usft (Norton #2)
Well:	Trinity 22 State Com #1H	North Reference:	Grid
Wellbore:	HZ [394637]	Survey Calculation Method:	Minimum Curvature
Design:	Final	Database:	USA EDM 5000 Multi Users DB

Project	Lea Co., NM (NAD 83)		
System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 22-12S-38E, 0.9986g			
Site Position:		Northing:	822,671.90 usft	Latitude: 33.255132
From:	Map	Easting:	925,452.20 usft	Longitude: -103.076829
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence: 0.69 °

Well Position	Trinity 22 State Com #1H			
+N/-S	0.00 usft	Northing:	822,671.90 usft	Latitude: 33.255132
+E/-W	0.00 usft	Easting:	925,452.20 usft	Longitude: -103.076829
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level: 3,804.00 usft

Wellbore	HZ [394637]				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM_FILE	7/5/2018	6.63	60.93	48,375.20000000

Design	Final			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	355.64

Survey Program	Date 7/24/2018			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
82.00	2,219.00	Surface Surveys (HZ [394637])	GyroFlex	
2,349.00	10,728.00	CES MWD (HZ [394637])	MWD+HDGM	OWSG MWD + HDGM

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Formations /
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Comments
(usft)			(usft)			(usft)	(°/100usft)	(°/100u)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
82.00	0.70	353.01	82.00	0.50	-0.06	0.50	0.85	0.85	
176.00	0.60	241.01	175.99	0.83	-0.56	0.87	1.15	-0.11	
263.00	0.70	354.01	262.99	1.14	-1.02	1.21	1.25	0.11	
353.00	0.40	146.01	352.99	1.42	-0.90	1.49	1.19	-0.33	
439.00	0.70	182.01	438.99	0.65	-0.75	0.70	0.52	0.35	
617.00	0.70	168.01	616.97	-1.50	-0.56	-1.45	0.10	0.00	
712.00	0.80	225.01	711.97	-2.54	-0.91	-2.46	0.76	0.11	
807.00	0.80	274.01	806.96	-2.96	-2.04	-2.80	0.70	0.00	
902.00	0.90	225.01	901.95	-3.44	-3.23	-3.19	0.75	0.11	
997.00	0.50	274.01	996.94	-3.94	-4.17	-3.61	0.72	-0.42	
1,093.00	0.90	231.01	1,092.94	-4.39	-5.17	-3.98	0.66	0.42	

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Wellbore: HZ [394637]
Design: Final

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MD Reference: 17' KB @ 3821.00usft (Norton #2)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
1,188.00	0.80	154.01	1,187.93	-5.45	-5.46	-5.02	1.12	-0.11	
1,283.00	0.70	248.01	1,282.92	-6.26	-5.71	-5.81	1.16	-0.11	
1,378.00	0.80	154.01	1,377.92	-7.08	-5.96	-6.60	1.16	0.11	
1,473.00	0.70	243.01	1,472.91	-7.94	-6.18	-7.44	1.11	-0.11	
1,568.00	1.00	205.01	1,567.90	-8.95	-7.05	-8.39	0.65	0.32	
1,663.00	0.10	29.01	1,662.90	-9.63	-7.36	-9.04	1.16	-0.95	
1,756.00	0.50	166.01	1,755.90	-9.95	-7.22	-9.38	0.62	0.43	
1,853.00	1.00	249.01	1,852.89	-10.67	-7.91	-10.03	1.09	0.52	
2,040.00	0.70	327.01	2,039.87	-10.29	-10.06	-9.50	0.59	-0.16	
2,138.00	1.50	317.01	2,137.86	-8.85	-11.26	-7.97	0.84	0.82	
2,219.00	1.30	277.01	2,218.83	-7.97	-12.89	-6.96	1.20	-0.25	Last Gyro Survey
2,349.00	1.30	304.00	2,348.80	-6.96	-15.58	-5.76	0.47	0.00	
2,444.00	1.10	303.80	2,443.78	-5.85	-17.23	-4.52	0.21	-0.21	
2,539.00	1.10	291.50	2,538.76	-5.01	-18.84	-3.56	0.25	0.00	
2,634.00	1.20	298.00	2,633.74	-4.21	-20.56	-2.63	0.17	0.11	
2,730.00	0.30	177.30	2,729.74	-3.99	-21.44	-2.35	1.43	-0.94	
2,824.00	0.30	138.50	2,823.74	-4.42	-21.26	-2.79	0.21	0.00	
2,920.00	0.40	106.60	2,919.73	-4.70	-20.78	-3.11	0.22	0.10	
3,015.00	0.60	117.30	3,014.73	-5.02	-20.02	-3.49	0.23	0.21	
3,111.00	0.40	142.20	3,110.73	-5.52	-19.37	-4.03	0.30	-0.21	
3,206.00	0.40	139.40	3,205.72	-6.03	-18.95	-4.58	0.02	0.00	
3,301.00	0.50	115.40	3,300.72	-6.46	-18.36	-5.05	0.22	0.11	
3,397.00	0.60	96.60	3,396.72	-6.70	-17.48	-5.35	0.21	0.10	
3,492.00	0.80	90.70	3,491.71	-6.77	-16.32	-5.50	0.22	0.21	
3,587.00	0.80	84.30	3,586.70	-6.71	-15.00	-5.55	0.09	0.00	
3,682.00	0.80	46.50	3,681.69	-6.19	-13.86	-5.11	0.55	0.00	
3,776.00	0.70	41.50	3,775.68	-5.30	-13.00	-4.30	0.13	-0.11	
3,872.00	0.50	37.50	3,871.68	-4.53	-12.36	-3.58	0.21	-0.21	
3,967.00	0.60	28.50	3,966.67	-3.77	-11.87	-2.85	0.14	0.11	
4,062.00	0.50	37.00	4,061.67	-3.00	-11.38	-2.12	0.14	-0.11	
4,157.00	0.50	38.80	4,156.67	-2.34	-10.87	-1.51	0.02	0.00	
4,252.00	0.90	48.20	4,251.66	-1.52	-10.06	-0.75	0.44	0.42	
4,284.00	1.00	44.40	4,283.65	-1.16	-9.67	-0.42	0.37	0.31	
4,315.00	1.00	43.20	4,314.65	-0.77	-9.30	-0.06	0.07	0.00	
4,347.00	1.50	13.60	4,346.64	-0.16	-9.01	0.53	2.50	1.56	
4,378.00	5.50	349.50	4,377.58	1.70	-9.18	2.39	13.47	12.90	
4,410.00	9.30	357.50	4,409.31	5.79	-9.58	6.50	12.28	11.87	
4,441.00	12.00	12.00	4,439.78	11.45	-9.02	12.10	12.21	8.71	
4,473.00	14.10	9.50	4,470.95	18.55	-7.68	19.08	6.79	6.56	
4,505.00	16.50	5.40	4,501.81	26.92	-6.61	27.34	8.22	7.50	
4,536.00	18.50	7.50	4,531.38	36.18	-5.55	36.50	6.76	6.45	
4,568.00	19.90	8.80	4,561.60	46.59	-4.06	46.77	4.57	4.37	
4,600.00	20.00	8.80	4,591.68	57.38	-2.39	57.40	0.31	0.31	
4,631.00	19.20	4.50	4,620.88	67.71	-1.18	67.60	5.32	-2.58	
4,663.00	20.70	359.00	4,650.96	78.61	-0.86	78.45	7.50	4.69	
4,695.00	23.30	355.40	4,680.63	90.57	-1.47	90.42	9.15	8.12	
4,727.00	25.90	353.30	4,709.73	103.83	-2.79	103.74	8.57	8.12	
4,758.00	28.70	350.60	4,737.27	117.90	-4.80	117.92	9.87	9.03	
4,790.00	32.40	346.70	4,764.83	133.83	-8.03	134.05	13.11	11.56	
4,821.00	35.60	342.70	4,790.53	150.53	-12.62	151.05	12.59	10.32	
4,853.00	38.70	338.30	4,816.03	168.73	-19.09	169.69	12.75	9.69	
4,885.00	41.70	337.40	4,840.47	187.85	-26.88	189.35	9.55	9.37	
4,916.00	43.50	337.40	4,863.29	207.22	-34.95	209.28	5.81	5.81	

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Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
4,948.00	45.40	338.00	4,886.13	227.96	-43.45	230.60	6.08	5.94	
4,980.00	45.60	338.60	4,908.56	249.16	-51.89	252.39	1.48	0.62	
5,011.00	45.40	338.00	4,930.29	269.71	-60.06	273.49	1.52	-0.65	
5,043.00	45.20	337.60	4,952.80	290.77	-68.66	295.15	1.09	-0.62	
5,075.00	45.10	337.90	4,975.37	311.76	-77.25	316.74	0.73	-0.31	
5,107.00	45.00	337.50	4,997.98	332.72	-85.84	338.28	0.94	-0.31	
5,138.00	45.80	337.40	5,019.74	353.10	-94.30	359.25	2.59	2.58	
5,170.00	49.70	338.00	5,041.25	375.01	-103.29	381.78	12.27	12.19	
5,201.00	53.80	339.30	5,060.44	397.68	-112.14	405.06	13.63	13.23	
5,233.00	58.30	340.80	5,078.31	422.63	-121.19	430.63	14.59	14.06	
5,265.00	61.20	342.60	5,094.43	448.87	-129.86	457.45	10.28	9.06	
5,296.00	63.00	343.50	5,108.93	475.08	-137.84	484.19	6.35	5.81	
5,328.00	65.40	346.20	5,122.86	502.89	-145.37	512.49	10.67	7.50	
5,360.00	67.80	349.60	5,135.57	531.59	-151.51	541.58	12.30	7.50	
5,391.00	68.80	351.70	5,147.04	560.01	-156.19	570.27	7.07	3.23	
5,423.00	69.80	353.80	5,158.35	589.71	-159.96	600.17	6.89	3.12	
5,454.00	72.70	355.50	5,168.31	618.93	-162.70	629.51	10.70	9.35	
5,486.00	76.20	356.40	5,176.89	649.68	-164.87	660.33	11.27	10.94	
5,493.07	77.16	356.58	5,178.52	656.54	-165.29	667.21	13.78	13.55	Section Line Crossing
5,517.00	80.40	357.20	5,183.18	679.98	-166.56	690.68	13.78	13.55	
5,549.00	85.60	357.60	5,187.07	711.69	-168.00	722.41	16.30	16.25	
5,581.00	89.50	357.50	5,188.44	743.63	-169.37	754.36	12.19	12.19	
5,592.53	89.66	357.16	5,188.53	755.15	-169.91	765.88	3.28	1.38	Hardline Crossing @ 100' FSL
5,634.00	90.23	355.92	5,188.57	796.54	-172.41	807.35	3.28	1.38	Hardline Crossing @ 330' FEL
5,675.00	90.80	354.70	5,188.20	837.40	-175.76	848.34	3.28	1.38	
5,770.00	89.50	354.90	5,187.95	932.01	-184.37	943.33	1.38	-1.37	
5,864.00	90.80	354.10	5,187.70	1,025.57	-193.38	1,037.31	1.62	1.38	
5,959.00	90.50	354.50	5,186.62	1,120.10	-202.82	1,132.28	0.53	-0.32	
6,054.00	90.30	355.30	5,185.96	1,214.72	-211.26	1,227.27	0.87	-0.21	
6,149.00	89.80	355.80	5,185.88	1,309.43	-218.63	1,322.27	0.74	-0.53	
6,243.00	89.90	356.00	5,186.12	1,403.19	-225.35	1,416.26	0.24	0.11	
6,339.00	87.50	356.90	5,188.30	1,498.97	-231.30	1,512.22	2.67	-2.50	
6,434.00	88.80	356.90	5,191.37	1,593.78	-236.43	1,607.15	1.37	1.37	
6,529.00	88.70	356.50	5,193.44	1,688.60	-241.90	1,702.11	0.43	-0.11	
6,624.00	89.40	356.40	5,195.02	1,783.40	-247.78	1,797.09	0.74	0.74	
6,719.00	90.90	356.80	5,194.77	1,878.23	-253.41	1,892.07	1.63	1.58	
6,832.00	91.20	356.50	5,192.70	1,991.02	-260.02	2,005.03	0.38	0.27	
6,917.00	90.00	356.00	5,191.81	2,075.83	-265.57	2,090.02	1.53	-1.41	
7,008.00	89.50	355.40	5,192.20	2,166.58	-272.40	2,181.02	0.86	-0.55	
7,103.00	90.20	355.60	5,192.45	2,261.28	-279.85	2,276.02	0.77	0.74	
7,198.00	90.20	354.30	5,192.12	2,355.91	-288.21	2,371.01	1.37	0.00	
7,293.00	91.00	353.70	5,191.13	2,450.38	-298.14	2,465.96	1.05	0.84	
7,388.00	90.50	354.20	5,189.88	2,544.85	-308.15	2,560.91	0.74	-0.53	
7,483.00	89.60	354.00	5,189.80	2,639.34	-317.92	2,655.88	0.97	-0.95	
7,578.00	89.50	354.10	5,190.55	2,733.83	-327.77	2,750.84	0.15	-0.11	
7,674.00	89.90	353.50	5,191.05	2,829.26	-338.13	2,846.79	0.75	0.42	
7,769.00	91.00	353.50	5,190.30	2,923.65	-348.89	2,941.72	1.16	1.16	
7,864.00	90.10	354.00	5,189.39	3,018.08	-359.23	3,036.66	1.08	-0.95	
7,959.00	91.10	354.20	5,188.40	3,112.57	-369.00	3,131.62	1.07	1.05	
8,054.00	90.40	355.20	5,187.15	3,207.15	-377.77	3,226.60	1.28	-0.74	
8,149.00	89.50	355.90	5,187.23	3,301.86	-385.14	3,321.59	1.20	-0.95	
8,244.00	90.30	356.20	5,187.40	3,396.64	-391.68	3,416.59	0.90	0.84	
8,339.00	89.20	356.10	5,187.81	3,491.42	-398.06	3,511.58	1.16	-1.16	

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8,434.00	89.20	356.00	5,189.14	3,586.19	-404.61	3,606.57	0.11	0.00	
8,530.00	90.50	356.30	5,189.39	3,681.97	-411.05	3,702.57	1.39	1.35	
8,625.00	89.40	355.70	5,189.48	3,776.73	-417.68	3,797.56	1.32	-1.16	
8,720.00	90.20	355.90	5,189.81	3,871.48	-424.64	3,892.56	0.87	0.84	
8,815.00	90.40	355.20	5,189.31	3,966.19	-432.01	3,987.56	0.77	0.21	
8,910.00	89.60	355.40	5,189.31	4,060.87	-439.79	4,082.56	0.87	-0.84	
9,005.00	89.90	356.00	5,189.72	4,155.60	-446.91	4,177.56	0.71	0.32	
9,100.00	90.30	357.70	5,189.56	4,250.45	-452.13	4,272.53	1.84	0.42	
9,196.00	90.50	358.60	5,188.89	4,346.40	-455.23	4,368.43	0.96	0.21	
9,291.00	90.60	359.20	5,187.98	4,441.38	-457.06	4,463.28	0.64	0.11	
9,386.00	89.90	0.60	5,187.56	4,536.37	-457.22	4,558.01	1.65	-0.74	
9,481.00	92.00	1.10	5,185.99	4,631.34	-455.81	4,652.60	2.27	2.21	
9,576.00	91.20	1.30	5,183.33	4,726.28	-453.82	4,747.11	0.87	-0.84	
9,671.00	90.20	2.60	5,182.17	4,821.22	-450.59	4,841.53	1.73	-1.05	
9,766.00	89.10	3.30	5,182.75	4,916.09	-445.70	4,935.75	1.37	-1.16	
9,862.00	88.70	3.10	5,184.60	5,011.92	-440.35	5,030.90	0.47	-0.42	
9,957.00	87.80	1.50	5,187.50	5,106.80	-436.53	5,125.21	1.93	-0.95	
10,052.00	88.00	1.70	5,190.98	5,201.70	-433.88	5,219.63	0.30	0.21	
10,147.00	89.00	1.50	5,193.47	5,296.63	-431.23	5,314.08	1.07	1.05	
10,242.00	90.90	1.30	5,193.55	5,391.59	-428.91	5,408.60	2.01	2.00	
10,337.00	91.40	1.40	5,191.64	5,486.55	-426.67	5,503.11	0.54	0.53	
10,433.00	90.70	0.70	5,189.88	5,582.51	-424.92	5,598.66	1.03	-0.73	
10,528.00	91.30	0.50	5,188.23	5,677.49	-423.92	5,693.29	0.67	0.63	
10,623.00	91.40	0.10	5,185.99	5,772.47	-423.42	5,787.95	0.43	0.11	
10,666.00	91.60	0.10	5,184.86	5,815.45	-423.35	5,830.80	0.47	0.47	Last CES Survey
10,690.71	91.60	0.10	5,184.17	5,840.15	-423.30	5,855.43	0.00	0.00	Hardline Crossing @ 100' FNL
10,728.00	91.60	0.10	5,183.13	5,877.43	-423.24	5,892.59	0.00	0.00	Actual BHL

Survey Report

Company: Manzano LLC
Project: Lea Co., NM (NAD 83)
Site: Sec 22-12S-38E
Well: Trinity 22 State Com #1H
Wellbore: HZ [394637]
Design: Final

Local Co-ordinate Reference: Well Trinity 22 State Com #1H
TVD Reference: 17' KB @ 3821.00usft (Norton #2)
MD Reference: 17' KB @ 3821.00usft (Norton #2)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
LTP2 - Trinity 22 #1H	0.00	0.00	5,181.00	5,839.89	-448.71	828,511.79	925,003.49	33.271194	-103.078067
- actual wellpath misses target center by 25.60usft at 10690.49usft MD (5184.18 TVD, 5839.93 N, -423.31 E)									
- Point									
FTP - Trinity 22 #1H	0.00	0.00	5,185.00	756.47	-171.83	823,428.37	925,280.37	33.257216	-103.077361
- actual wellpath misses target center by 3.99usft at 5593.96usft MD (5188.54 TVD, 756.58 N, -169.98 E)									
- Point									
LTP - Trinity 22 #1H	0.00	0.00	5,150.00	5,839.89	-448.71	828,511.79	925,003.49	33.271194	-103.078067
- actual wellpath misses target center by 42.58usft at 10690.71usft MD (5184.17 TVD, 5840.15 N, -423.30 E)									
- Point									
TBAU #2H	0.00	0.00	5,177.00	1,642.91	-455.61	824,314.81	924,996.59	33.259661	-103.078254
- actual wellpath misses target center by 216.63usft at 6495.34usft MD (5192.69 TVD, 1655.01 N, -239.89 E)									
- Circle (radius 100.00)									
TBAU #8	0.00	0.00	5,177.00	326.52	-165.14	822,998.42	925,287.06	33.256035	-103.077356
- actual wellpath misses target center by 144.19usft at 5225.59usft MD (5074.36 TVD, 416.72 N, -119.11 E)									
- Circle (radius 100.00)									
TBAU #15	0.00	0.00	5,177.00	4,257.18	-250.76	826,929.08	925,201.44	33.266838	-103.077481
- actual wellpath misses target center by 201.89usft at 9095.67usft MD (5189.58 TVD, 4246.13 N, -451.96 E)									
- Circle (radius 100.00)									
PBHL2 - Trinity 22 #1H	0.00	0.00	5,181.00	5,889.88	-449.49	828,561.78	925,002.71	33.271331	-103.078067
- actual wellpath misses target center by 29.13usft at 10728.00usft MD (5183.13 TVD, 5877.43 N, -423.24 E)									
- Point									
PBHL - Trinity 22 #1H	0.00	0.00	5,149.65	5,889.88	-449.49	828,561.78	925,002.71	33.271331	-103.078067
- actual wellpath misses target center by 44.33usft at 10728.00usft MD (5183.13 TVD, 5877.43 N, -423.24 E)									
- Point									
LT1 - Trinity 22 #1H	0.00	0.01	5,163.29	3,940.10	-419.24	826,612.00	925,032.96	33.265972	-103.078045
- actual wellpath misses target center by 28.25usft at 8788.14usft MD (5189.48 TVD, 3939.42 N, -429.81 E)									
- Point									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N-S	+E-W	
		(usft)	(usft)	
2,219.00	2,218.83	-7.97	-12.89	Last Gyro Survey
5,493.07	5,178.52	656.54	-165.29	Section Line Crossing
5,592.53	5,188.53	755.15	-169.91	Hardline Crossing @ 100' FSL
5,634.00	5,188.57	796.54	-172.41	Hardline Crossing @ 330' FEL
10,666.00	5,184.86	5,815.45	-423.35	Last CES Survey
10,690.71	5,184.17	5,840.15	-423.30	Hardline Crossing @ 100' FNL
10,728.00	5,183.13	5,877.43	-423.24	Actual BHL

Checked By: _____ Approved By: _____ Date: _____

Sharp, Karen, EMNRD

From: Kautz, Paul, EMNRD
Sent: Wednesday, September 5, 2018 9:15 AM
To: Sharp, Karen, EMNRD
Subject: FW: Manzano 22 State Com 1H C105
Attachments: C105_Trinity 22-1H.pdf; Trinity 22 State Com #1H - Final Surveys.pdf; Trinity 22 State Com #1H 5in MD.pdf; Mud Log_TRINITY 22 FEE #1H.pdf

From: Mike Hanagan <mike@manzanoenergy.com>
Sent: Tuesday, September 4, 2018 3:39 PM
To: Kautz, Paul, EMNRD <paul.kautz@state.nm.us>
Subject: Manzano 22 State Com 1H C105

Paul – Attached is the C105 for the Trinity 22 State Com #1H. As soon as I get the C102 As Drilled plat back I will get it to you. Can you let me know if the info submitted so far can get us to the point that we can start selling oil? Thanks again

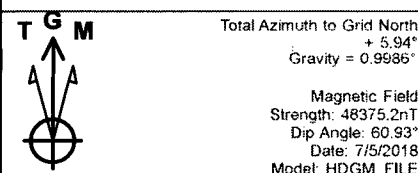
Mike Hanagan

Manzano, LLC
PO Box 1737
Roswell, NM 88202-1737
575-623-1996 ext 310 (office)
575-420-8821 (cell)





Project: Lea Co., NM (NAD 83)
Site: Sec 22-12S-38E
Rig: Norton #2
Well: Trinity 22 State Com #1H
Wellbore: HZ [394637]
Design: Final

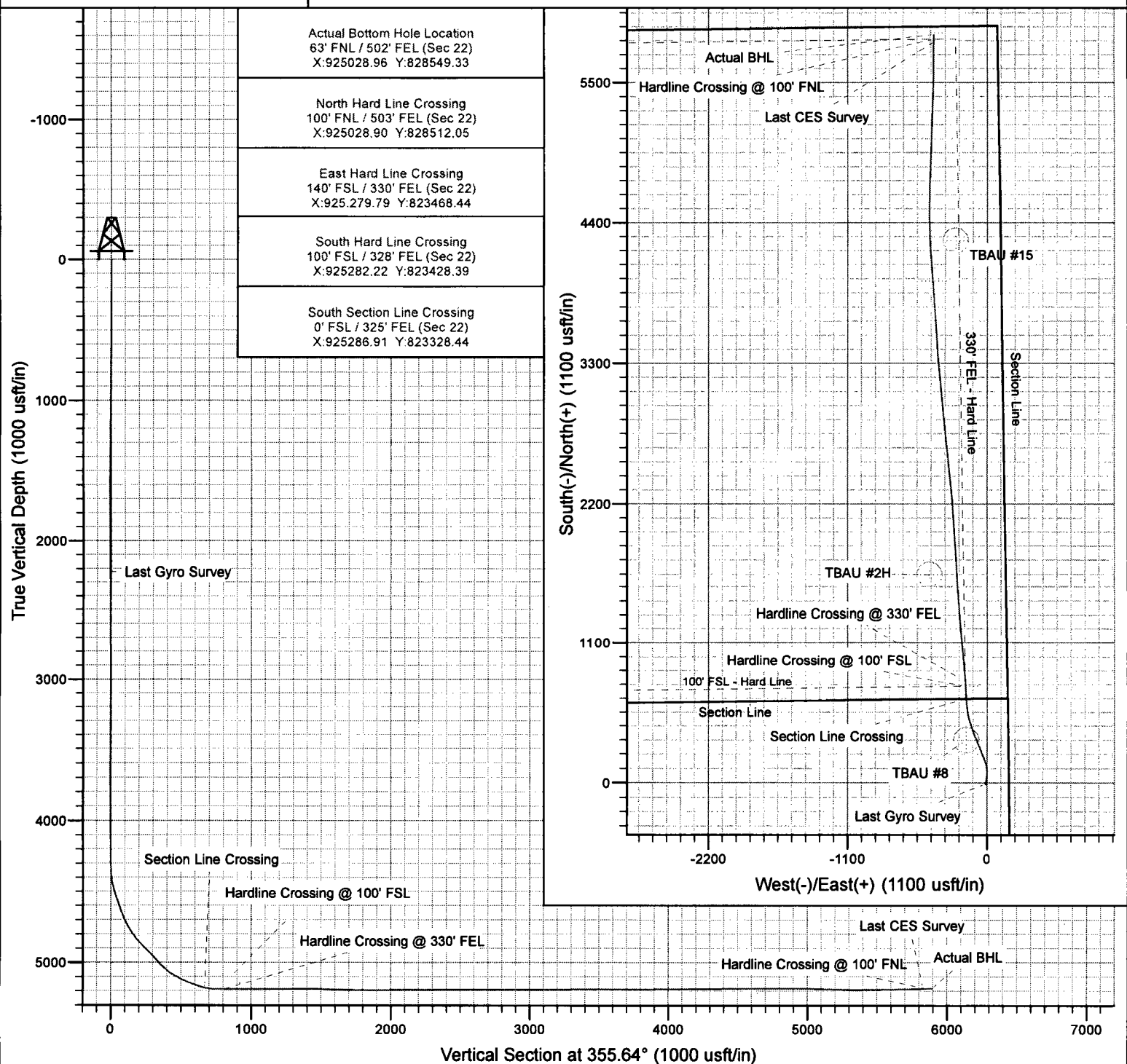


+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	822671.90	925452.20	33.255132	-103.076829

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Annotation
2219.00	1.30	277.01	2218.83	-7.97	-12.89	-6.96	Last Gyro Survey
5493.07	77.16	356.58	5178.52	656.54	-165.29	667.21	Section Line Crossing
5592.53	89.66	357.16	5188.53	755.15	-169.91	765.88	Hardline Crossing @ 100' FSL
5634.00	90.23	355.92	5188.57	796.54	-172.41	807.35	Hardline Crossing @ 330' FEL
10666.00	91.60	0.10	5184.86	5815.45	-423.35	5830.80	Last CES Survey
10690.71	91.60	0.10	5184.17	5840.15	-423.30	5855.43	Hardline Crossing @ 100' FNL
10728.00	91.60	0.10	5183.13	5877.43	-423.24	5892.59	Actual BHL

TARGET LINE
90.18° INC @ 5197' TVD @ 759' VS
10' Up / 10' Down
30' Left / 30' Right



Survey Report

Company:	Manzano LLC	Local Co-ordinate Reference:	Well Trinity 22 State Com #1H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	17' KB @ 3821.00usft (Norton #2)
Site:	Sec 22-12S-38E	MD Reference:	17' KB @ 3821.00usft (Norton #2)
Well:	Trinity 22 State Com #1H	North Reference:	Grid
Wellbore:	HZ [394637]	Survey Calculation Method:	Minimum Curvature
Design:	Final	Database:	USA EDM 5000 Multi Users DB

Project	Lea Co., NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 22-12S-38E, 0.9986g			
Site Position:		Northing:	822,671.90 usft	Latitude: 33.255132
From:	Map	Easting:	925,452.20 usft	Longitude: -103.076829
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence: 0.69 °

Well	Trinity 22 State Com #1H			
Well Position	+N/-S	0.00 usft	Northing:	822,671.90 usft
	+E/-W	0.00 usft	Easting:	925,452.20 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level: 3,804.00 usft

Wellbore	HZ [394637]				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM_FILE	7/5/2018	6.63	60.93	48,375.20000000

Design	Final			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	355.64

Survey Program	Date 7/24/2018			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
82.00	2,219.00	Surface Surveys (HZ [394637])	GyroFlex	
2,349.00	10,728.00	CES MWD (HZ [394637])	MWD+HDGM	OWSG MWD + HDGM

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Formations /
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Comments
(usft)			(usft)			(usft)	(°/100usf	(°/100u	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
82.00	0.70	353.01	82.00	0.50	-0.06	0.50	0.85	0.85	
176.00	0.60	241.01	175.99	0.83	-0.56	0.87	1.15	-0.11	
263.00	0.70	354.01	262.99	1.14	-1.02	1.21	1.25	0.11	
353.00	0.40	146.01	352.99	1.42	-0.90	1.49	1.19	-0.33	
439.00	0.70	182.01	438.99	0.65	-0.75	0.70	0.52	0.35	
617.00	0.70	168.01	616.97	-1.50	-0.56	-1.45	0.10	0.00	
712.00	0.80	225.01	711.97	-2.54	-0.91	-2.46	0.76	0.11	
807.00	0.80	274.01	806.96	-2.96	-2.04	-2.80	0.70	0.00	
902.00	0.90	225.01	901.95	-3.44	-3.23	-3.19	0.75	0.11	
997.00	0.50	274.01	996.94	-3.94	-4.17	-3.61	0.72	-0.42	
1,093.00	0.90	231.01	1,092.94	-4.39	-5.17	-3.98	0.66	0.42	

Survey Report

Company: Manzano LLC
Project: Lea Co., NM (NAD 83)
Site: Sec 22-12S-38E
Well: Trinity 22 State Com #1H
Wellbore: HZ [394637]
Design: Final

Local Co-ordinate Reference: Well Trinity 22 State Com #1H
TVD Reference: 17' KB @ 3821.00usft (Norton #2)
MD Reference: 17' KB @ 3821.00usft (Norton #2)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Formations / Comments
1,188.00	0.80	154.01	1,187.93	-5.45	-5.46	-5.02	1.12	-0.11	
1,283.00	0.70	248.01	1,282.92	-6.26	-5.71	-5.81	1.16	-0.11	
1,378.00	0.80	154.01	1,377.92	-7.08	-5.96	-6.60	1.16	0.11	
1,473.00	0.70	243.01	1,472.91	-7.94	-6.18	-7.44	1.11	-0.11	
1,568.00	1.00	205.01	1,567.90	-8.95	-7.05	-8.39	0.65	0.32	
1,663.00	0.10	29.01	1,662.90	-9.63	-7.36	-9.04	1.16	-0.95	
1,756.00	0.50	166.01	1,755.90	-9.95	-7.22	-9.38	0.62	0.43	
1,853.00	1.00	249.01	1,852.89	-10.67	-7.91	-10.03	1.09	0.52	
2,040.00	0.70	327.01	2,039.87	-10.29	-10.06	-9.50	0.59	-0.16	
2,138.00	1.50	317.01	2,137.86	-8.85	-11.26	-7.97	0.84	0.82	
2,219.00	1.30	277.01	2,218.83	-7.97	-12.89	-6.96	1.20	-0.25	Last Gyro Survey
2,349.00	1.30	304.00	2,348.80	-6.96	-15.58	-5.76	0.47	0.00	
2,444.00	1.10	303.80	2,443.78	-5.85	-17.23	-4.52	0.21	-0.21	
2,539.00	1.10	291.50	2,538.76	-5.01	-18.84	-3.56	0.25	0.00	
2,634.00	1.20	298.00	2,633.74	-4.21	-20.56	-2.63	0.17	0.11	
2,730.00	0.30	177.30	2,729.74	-3.99	-21.44	-2.35	1.43	-0.94	
2,824.00	0.30	138.50	2,823.74	-4.42	-21.26	-2.79	0.21	0.00	
2,920.00	0.40	106.60	2,919.73	-4.70	-20.78	-3.11	0.22	0.10	
3,015.00	0.60	117.30	3,014.73	-5.02	-20.02	-3.49	0.23	0.21	
3,111.00	0.40	142.20	3,110.73	-5.52	-19.37	-4.03	0.30	-0.21	
3,206.00	0.40	139.40	3,205.72	-6.03	-18.95	-4.58	0.02	0.00	
3,301.00	0.50	115.40	3,300.72	-6.46	-18.36	-5.05	0.22	0.11	
3,397.00	0.60	96.60	3,396.72	-6.70	-17.48	-5.35	0.21	0.10	
3,492.00	0.80	90.70	3,491.71	-6.77	-16.32	-5.50	0.22	0.21	
3,587.00	0.80	84.30	3,586.70	-6.71	-15.00	-5.55	0.09	0.00	
3,682.00	0.80	46.50	3,681.69	-6.19	-13.86	-5.11	0.55	0.00	
3,776.00	0.70	41.50	3,775.68	-5.30	-13.00	-4.30	0.13	-0.11	
3,872.00	0.50	37.50	3,871.68	-4.53	-12.36	-3.58	0.21	-0.21	
3,967.00	0.60	28.50	3,966.67	-3.77	-11.87	-2.85	0.14	0.11	
4,062.00	0.50	37.00	4,061.67	-3.00	-11.38	-2.12	0.14	-0.11	
4,157.00	0.50	38.80	4,156.67	-2.34	-10.87	-1.51	0.02	0.00	
4,252.00	0.90	48.20	4,251.66	-1.52	-10.06	-0.75	0.44	0.42	
4,284.00	1.00	44.40	4,283.65	-1.16	-9.67	-0.42	0.37	0.31	
4,315.00	1.00	43.20	4,314.65	-0.77	-9.30	-0.06	0.07	0.00	
4,347.00	1.50	13.60	4,346.64	-0.16	-9.01	0.53	2.50	1.56	
4,378.00	5.50	349.50	4,377.58	1.70	-9.18	2.39	13.47	12.90	
4,410.00	9.30	357.50	4,409.31	5.79	-9.58	6.50	12.28	11.87	
4,441.00	12.00	12.00	4,439.78	11.45	-9.02	12.10	12.21	8.71	
4,473.00	14.10	9.50	4,470.95	18.55	-7.68	19.08	6.79	6.56	
4,505.00	16.50	5.40	4,501.81	26.92	-6.61	27.34	8.22	7.50	
4,536.00	18.50	7.50	4,531.38	36.18	-5.55	36.50	6.76	6.45	
4,568.00	19.90	8.80	4,561.60	46.59	-4.06	46.77	4.57	4.37	
4,600.00	20.00	8.80	4,591.68	57.38	-2.39	57.40	0.31	0.31	
4,631.00	19.20	4.50	4,620.88	67.71	-1.18	67.60	5.32	-2.58	
4,663.00	20.70	359.00	4,650.96	78.61	-0.86	78.45	7.50	4.69	
4,695.00	23.30	355.40	4,680.63	90.57	-1.47	90.42	9.15	8.12	
4,727.00	25.90	353.30	4,709.73	103.83	-2.79	103.74	8.57	8.12	
4,758.00	28.70	350.60	4,737.27	117.90	-4.80	117.92	9.87	9.03	
4,790.00	32.40	346.70	4,764.83	133.83	-8.03	134.05	13.11	11.56	
4,821.00	35.60	342.70	4,790.53	150.53	-12.62	151.05	12.59	10.32	
4,853.00	38.70	338.30	4,816.03	168.73	-19.09	169.69	12.75	9.69	
4,885.00	41.70	337.40	4,840.47	187.85	-26.88	189.35	9.55	9.37	
4,916.00	43.50	337.40	4,863.29	207.22	-34.95	209.28	5.81	5.81	

Survey Report

Company: Manzano LLC
Project: Lea Co., NM (NAD 83)
Site: Sec 22-12S-38E
Well: Trinity 22 State Com #1H
Wellbore: HZ [394637]
Design: Final

Local Co-ordinate Reference: Well Trinity 22 State Com #1H
TVD Reference: 17' KB @ 3821.00usft (Norton #2)
MD Reference: 17' KB @ 3821.00usft (Norton #2)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Formations / Comments
4,948.00	45.40	338.00	4,886.13	227.96	-43.45	230.60	6.08	5.94	
4,980.00	45.60	338.60	4,908.56	249.16	-51.89	252.39	1.48	0.62	
5,011.00	45.40	338.00	4,930.29	269.71	-60.06	273.49	1.52	-0.65	
5,043.00	45.20	337.60	4,952.80	290.77	-68.66	295.15	1.09	-0.62	
5,075.00	45.10	337.90	4,975.37	311.76	-77.25	316.74	0.73	-0.31	
5,107.00	45.00	337.50	4,997.98	332.72	-85.84	338.28	0.94	-0.31	
5,138.00	45.80	337.40	5,019.74	353.10	-94.30	359.25	2.59	2.58	
5,170.00	49.70	338.00	5,041.25	375.01	-103.29	381.78	12.27	12.19	
5,201.00	53.80	339.30	5,060.44	397.68	-112.14	405.06	13.63	13.23	
5,233.00	58.30	340.80	5,078.31	422.63	-121.19	430.63	14.59	14.06	
5,265.00	61.20	342.60	5,094.43	448.87	-129.86	457.45	10.28	9.06	
5,296.00	63.00	343.50	5,108.93	475.08	-137.84	484.19	6.35	5.81	
5,328.00	65.40	346.20	5,122.86	502.89	-145.37	512.49	10.67	7.50	
5,360.00	67.80	349.60	5,135.57	531.59	-151.51	541.58	12.30	7.50	
5,391.00	68.80	351.70	5,147.04	560.01	-156.19	570.27	7.07	3.23	
5,423.00	69.80	353.80	5,158.35	589.71	-159.96	600.17	6.89	3.12	
5,454.00	72.70	355.50	5,168.31	618.93	-162.70	629.51	10.70	9.35	
5,486.00	76.20	356.40	5,176.89	649.68	-164.87	660.33	11.27	10.94	
5,493.07	77.16	356.58	5,178.52	656.54	-165.29	667.21	13.78	13.55	Section Line Crossing
5,517.00	80.40	357.20	5,183.18	679.98	-166.56	690.68	13.78	13.55	
5,549.00	85.60	357.60	5,187.07	711.69	-168.00	722.41	16.30	16.25	
5,581.00	89.50	357.50	5,188.44	743.63	-169.37	754.36	12.19	12.19	
5,592.53	89.66	357.16	5,188.53	755.15	-169.91	765.88	3.28	1.38	Hardline Crossing @ 100' FSL
5,634.00	90.23	355.92	5,188.57	796.54	-172.41	807.35	3.28	1.38	Hardline Crossing @ 330' FEL
5,675.00	90.80	354.70	5,188.20	837.40	-175.76	848.34	3.28	1.38	
5,770.00	89.50	354.90	5,187.95	932.01	-184.37	943.33	1.38	-1.37	
5,864.00	90.80	354.10	5,187.70	1,025.57	-193.38	1,037.31	1.62	1.38	
5,959.00	90.50	354.50	5,186.62	1,120.10	-202.82	1,132.28	0.53	-0.32	
6,054.00	90.30	355.30	5,185.96	1,214.72	-211.26	1,227.27	0.87	-0.21	
6,149.00	89.80	355.80	5,185.88	1,309.43	-218.63	1,322.27	0.74	-0.53	
6,243.00	89.90	356.00	5,186.12	1,403.19	-225.35	1,416.26	0.24	0.11	
6,339.00	87.50	356.90	5,188.30	1,498.97	-231.30	1,512.22	2.67	-2.50	
6,434.00	88.80	356.90	5,191.37	1,593.78	-236.43	1,607.15	1.37	1.37	
6,529.00	88.70	356.50	5,193.44	1,688.60	-241.90	1,702.11	0.43	-0.11	
6,624.00	89.40	356.40	5,195.02	1,783.40	-247.78	1,797.09	0.74	0.74	
6,719.00	90.90	356.80	5,194.77	1,878.23	-253.41	1,892.07	1.63	1.58	
6,832.00	91.20	356.50	5,192.70	1,991.02	-260.02	2,005.03	0.38	0.27	
6,917.00	90.00	356.00	5,191.81	2,075.83	-265.57	2,090.02	1.53	-1.41	
7,008.00	89.50	355.40	5,192.20	2,166.58	-272.40	2,181.02	0.86	-0.55	
7,103.00	90.20	355.60	5,192.45	2,261.28	-279.85	2,276.02	0.77	0.74	
7,198.00	90.20	354.30	5,192.12	2,355.91	-288.21	2,371.01	1.37	0.00	
7,293.00	91.00	353.70	5,191.13	2,450.38	-298.14	2,465.96	1.05	0.84	
7,388.00	90.50	354.20	5,189.88	2,544.85	-308.15	2,560.91	0.74	-0.53	
7,483.00	89.60	354.00	5,189.80	2,639.34	-317.92	2,655.88	0.97	-0.95	
7,578.00	89.50	354.10	5,190.55	2,733.83	-327.77	2,750.84	0.15	-0.11	
7,674.00	89.90	353.50	5,191.05	2,829.26	-338.13	2,846.79	0.75	0.42	
7,769.00	91.00	353.50	5,190.30	2,923.65	-348.89	2,941.72	1.16	1.16	
7,864.00	90.10	354.00	5,189.39	3,018.08	-359.23	3,036.66	1.08	-0.95	
7,959.00	91.10	354.20	5,188.40	3,112.57	-369.00	3,131.62	1.07	1.05	
8,054.00	90.40	355.20	5,187.15	3,207.15	-377.77	3,226.60	1.28	-0.74	
8,149.00	89.50	355.90	5,187.23	3,301.86	-385.14	3,321.59	1.20	-0.95	
8,244.00	90.30	356.20	5,187.40	3,396.64	-391.68	3,416.59	0.90	0.84	
8,339.00	89.20	356.10	5,187.81	3,491.42	-398.06	3,511.58	1.16	-1.16	

Survey Report

Company: Manzano LLC
Project: Lea Co., NM (NAD 83)
Site: Sec 22-12S-38E
Well: Trinity 22 State Com #1H
Wellbore: HZ [394637]
Design: Final

Local Co-ordinate Reference: Well Trinity 22 State Com #1H
TVD Reference: 17' KB @ 3821.00usft (Norton #2)
MD Reference: 17' KB @ 3821.00usft (Norton #2)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Formations / Comments
8,434.00	89.20	356.00	5,189.14	3,586.19	-404.61	3,606.57	0.11	0.00	
8,530.00	90.50	356.30	5,189.39	3,681.97	-411.05	3,702.57	1.39	1.35	
8,625.00	89.40	355.70	5,189.48	3,776.73	-417.68	3,797.56	1.32	-1.16	
8,720.00	90.20	355.90	5,189.81	3,871.48	-424.64	3,892.56	0.87	0.84	
8,815.00	90.40	355.20	5,189.31	3,966.19	-432.01	3,987.56	0.77	0.21	
8,910.00	89.60	355.40	5,189.31	4,060.87	-439.79	4,082.56	0.87	-0.84	
9,005.00	89.90	356.00	5,189.72	4,155.60	-446.91	4,177.56	0.71	0.32	
9,100.00	90.30	357.70	5,189.56	4,250.45	-452.13	4,272.53	1.84	0.42	
9,196.00	90.50	358.60	5,188.89	4,346.40	-455.23	4,368.43	0.96	0.21	
9,291.00	90.60	359.20	5,187.98	4,441.38	-457.06	4,463.28	0.64	0.11	
9,386.00	89.90	0.60	5,187.56	4,536.37	-457.22	4,558.01	1.65	-0.74	
9,481.00	92.00	1.10	5,185.99	4,631.34	-455.81	4,652.60	2.27	2.21	
9,576.00	91.20	1.30	5,183.33	4,726.28	-453.82	4,747.11	0.87	-0.84	
9,671.00	90.20	2.60	5,182.17	4,821.22	-450.59	4,841.53	1.73	-1.05	
9,766.00	89.10	3.30	5,182.75	4,916.09	-445.70	4,935.75	1.37	-1.16	
9,862.00	88.70	3.10	5,184.60	5,011.92	-440.35	5,030.90	0.47	-0.42	
9,957.00	87.80	1.50	5,187.50	5,106.80	-436.53	5,125.21	1.93	-0.95	
10,052.00	88.00	1.70	5,190.98	5,201.70	-433.88	5,219.63	0.30	0.21	
10,147.00	89.00	1.50	5,193.47	5,296.63	-431.23	5,314.08	1.07	1.05	
10,242.00	90.90	1.30	5,193.55	5,391.59	-428.91	5,408.60	2.01	2.00	
10,337.00	91.40	1.40	5,191.64	5,486.55	-426.67	5,503.11	0.54	0.53	
10,433.00	90.70	0.70	5,189.88	5,582.51	-424.92	5,598.66	1.03	-0.73	
10,528.00	91.30	0.50	5,188.23	5,677.49	-423.92	5,693.29	0.67	0.63	
10,623.00	91.40	0.10	5,185.99	5,772.47	-423.42	5,787.95	0.43	0.11	
10,666.00	91.60	0.10	5,184.86	5,815.45	-423.35	5,830.80	0.47	0.47	Last CES Survey
10,690.71	91.60	0.10	5,184.17	5,840.15	-423.30	5,855.43	0.00	0.00	Hardline Crossing @ 100' FNL
10,728.00	91.60	0.10	5,183.13	5,877.43	-423.24	5,892.59	0.00	0.00	Actual BHL

Survey Report

Company: Manzano LLC
Project: Lea Co., NM (NAD 83)
Site: Sec 22-12S-38E
Well: Trinity 22 State Com #1H
Wellbore: HZ [394637]
Design: Final

Local Co-ordinate Reference: Well Trinity 22 State Com #1H
TVD Reference: 17' KB @ 3821.00usft (Norton #2)
MD Reference: 17' KB @ 3821.00usft (Norton #2)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Targets									
Target Name	- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	
- Shape		(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	
									Latitude Longitude
LTP2 - Trinity 22 #1H		0.00	0.00	5,181.00	5,839.89	-448.71	828,511.79	925,003.49	33.271194 -103.078067
- actual wellpath misses target center by 25.60usft at 10690.49usft MD (5184.18 TVD, 5839.93 N, -423.31 E)									
- Point									
FTP - Trinity 22 #1H		0.00	0.00	5,185.00	756.47	-171.83	823,428.37	925,280.37	33.257216 -103.077361
- actual wellpath misses target center by 3.99usft at 5593.96usft MD (5188.54 TVD, 756.58 N, -169.98 E)									
- Point									
LTP - Trinity 22 #1H		0.00	0.00	5,150.00	5,839.89	-448.71	828,511.79	925,003.49	33.271194 -103.078067
- actual wellpath misses target center by 42.58usft at 10690.71usft MD (5184.17 TVD, 5840.15 N, -423.30 E)									
- Point									
TBAU #2H		0.00	0.00	5,177.00	1,642.91	-455.61	824,314.81	924,996.59	33.259661 -103.078254
- actual wellpath misses target center by 216.63usft at 6495.34usft MD (5192.69 TVD, 1655.01 N, -239.89 E)									
- Circle (radius 100.00)									
TBAU #8		0.00	0.00	5,177.00	326.52	-165.14	822,998.42	925,287.06	33.256035 -103.077356
- actual wellpath misses target center by 144.19usft at 5225.59usft MD (5074.36 TVD, 416.72 N, -119.11 E)									
- Circle (radius 100.00)									
TBAU #15		0.00	0.00	5,177.00	4,257.18	-250.76	826,929.08	925,201.44	33.266838 -103.077481
- actual wellpath misses target center by 201.89usft at 9095.67usft MD (5189.58 TVD, 4246.13 N, -451.96 E)									
- Circle (radius 100.00)									
PBHL2 - Trinity 22 #1H		0.00	0.00	5,181.00	5,889.88	-449.49	828,561.78	925,002.71	33.271331 -103.078067
- actual wellpath misses target center by 29.13usft at 10728.00usft MD (5183.13 TVD, 5877.43 N, -423.24 E)									
- Point									
PBHL - Trinity 22 #1H		0.00	0.00	5,149.65	5,889.88	-449.49	828,561.78	925,002.71	33.271331 -103.078067
- actual wellpath misses target center by 44.33usft at 10728.00usft MD (5183.13 TVD, 5877.43 N, -423.24 E)									
- Point									
LT1 - Trinity 22 #1H		0.00	0.01	5,163.29	3,940.10	-419.24	826,612.00	925,032.96	33.265972 -103.078045
- actual wellpath misses target center by 28.25usft at 8788.14usft MD (5189.48 TVD, 3939.42 N, -429.81 E)									
- Point									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
2,219.00	2,218.83	-7.97	-12.89	Last Gyro Survey
5,493.07	5,178.52	656.54	-165.29	Section Line Crossing
5,592.53	5,188.53	755.15	-169.91	Hardline Crossing @ 100' FSL
5,634.00	5,188.57	796.54	-172.41	Hardline Crossing @ 330' FEL
10,666.00	5,184.86	5,815.45	-423.35	Last CES Survey
10,690.71	5,184.17	5,840.15	-423.30	Hardline Crossing @ 100' FNL
10,728.00	5,183.13	5,877.43	-423.24	Actual BHL

Checked By: _____ Approved By: _____ Date: _____



Project: Lea Co., NM (NAD 83)
Site: Sec 22-12S-38E
Rig: Norton #2
Well: Trinity 22 State Com #1H
Wellbore: HZ [394637]
Design: Final



Total Azimuth to Grid North
+ 5.94°
Gravity = 0.9986°

Magnetic Field
Strength: 48375.2nT
Dip Angle: 60.93°
Date: 7/5/2018
Model: HDGM_FILE

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	822671.90	925452.20	33.255132	-103.076829

ANNOTATIONS

TARGET LINE
90.18° INC @ 5197' TVD @ 759' VS
10' Up / 10' Down
30' Left / 30' Right

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Annotation
2219.00	1.30	277.01	2218.83	-7.97	-12.89	-6.96	Last Gyro Survey
5493.07	77.16	356.58	5178.52	656.54	-165.29	667.21	Section Line Crossing
5592.53	89.66	357.16	5188.53	755.15	-169.91	765.88	Hardline Crossing @ 100' FSL
5634.00	90.23	355.92	5188.57	796.54	-172.41	807.35	Hardline Crossing @ 330' FEL
10666.00	91.60	0.10	5184.86	5815.45	-423.35	5830.80	Last CES Survey
10690.71	91.60	0.10	5184.17	5840.15	-423.30	5855.43	Hardline Crossing @ 100' FNL
10728.00	91.60	0.10	5183.13	5877.43	-423.24	5892.59	Actual BHL

