

AMEREDEV

Ameredev Operating LLC

**Lea Co., NM (NAD 83 Grid)
Camellia Fed Com 26-36-21
121H**

ST01

Design: ST01

Survey Report - Geographic

27 June, 2019



L T I T U D E
ENERGY PARTNERS

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 121H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Site:	Camellia Fed Com 26-36-21	MD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Well:	121H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.1 Single User Db

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

Site	Camellia Fed Com 26-36-21			
Site Position:		Northing:	373,448.30 usft	Latitude: 32.022296
From:	Map	Easting:	868,493.74 usft	Longitude: -103.277721
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.56 °

Well	121H			
Well Position	+N/-S	0.00 usft	Northing:	373,448.30 usft
	+E/-W	0.00 usft	Easting:	868,493.74 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft
			Ground Level:	2,924.00 usft

Wellbore	ST01				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	06/04/19	6.59	59.90	47,650.52665348

Design	ST01				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	12,604.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	0.71	

Survey Program	Date	06/27/19			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
58.00	11,680.00	Scout Surveys (OH)	MWD+IFR1	OWSG MWD + IFR1	
11,786.00	12,604.00	MWD Surveys (OH)	MWD	OWSG MWD - Standard	
12,651.00	22,641.00	MWD Survey (ST01)	MWD	OWSG MWD - Standard	

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	373,448.30	868,493.74	32.022296	-103.277721
58.00	0.22	200.24	58.00	-0.10	-0.04	373,448.19	868,493.70	32.022296	-103.277721
88.00	0.09	276.36	88.00	-0.16	-0.08	373,448.14	868,493.66	32.022296	-103.277721
118.00	0.35	249.11	118.00	-0.19	-0.19	373,448.11	868,493.55	32.022296	-103.277722
205.00	0.62	355.19	205.00	0.19	-0.48	373,448.49	868,493.26	32.022297	-103.277723
268.00	0.66	357.57	267.99	0.89	-0.52	373,449.19	868,493.22	32.022299	-103.277723
299.00	0.57	359.24	298.99	1.22	-0.53	373,449.52	868,493.21	32.022300	-103.277723
330.00	0.44	332.25	329.99	1.48	-0.59	373,449.78	868,493.15	32.022300	-103.277723
361.00	0.09	47.49	360.99	1.60	-0.63	373,449.90	868,493.11	32.022301	-103.277723
391.00	0.09	69.99	390.99	1.63	-0.59	373,449.93	868,493.15	32.022301	-103.277723

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 121H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Site:	Camellia Fed Com 26-36-21	MD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Well:	121H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
423.00	0.79	25.34	422.99	1.84	-0.47	373,450.13	868,493.27	32.022301	-103.277723
485.00	0.57	38.79	484.98	2.46	-0.09	373,450.76	868,493.65	32.022303	-103.277721
515.00	0.53	342.54	514.98	2.71	-0.04	373,451.01	868,493.70	32.022304	-103.277721
577.00	0.57	27.45	576.98	3.26	0.01	373,451.56	868,493.75	32.022305	-103.277721
632.00	0.62	266.69	631.98	3.48	-0.16	373,451.78	868,493.58	32.022306	-103.277721
734.00	1.05	289.28	733.97	3.76	-1.59	373,452.06	868,492.15	32.022307	-103.277726
825.00	0.53	158.93	824.96	3.64	-2.23	373,451.94	868,491.51	32.022306	-103.277728
917.00	0.97	183.63	916.96	2.47	-2.12	373,450.77	868,491.62	32.022303	-103.277728
1,007.00	1.19	175.55	1,006.94	0.78	-2.10	373,449.08	868,491.64	32.022298	-103.277728
1,098.00	1.10	126.06	1,097.92	-0.68	-1.32	373,447.62	868,492.42	32.022294	-103.277725
1,188.00	2.29	124.13	1,187.88	-2.20	0.87	373,446.10	868,494.61	32.022290	-103.277718
1,358.00	3.78	128.26	1,357.64	-7.57	8.08	373,440.73	868,501.82	32.022275	-103.277695
1,448.00	2.73	129.40	1,447.49	-10.77	12.07	373,437.53	868,505.81	32.022266	-103.277682
1,543.00	3.12	139.95	1,542.37	-14.18	15.48	373,434.11	868,509.22	32.022257	-103.277672
1,634.00	2.46	143.38	1,633.26	-17.65	18.24	373,430.65	868,511.98	32.022247	-103.277663
1,730.00	1.49	178.60	1,729.21	-20.55	19.54	373,427.75	868,513.28	32.022239	-103.277659
1,823.00	1.76	181.35	1,822.17	-23.18	19.58	373,425.12	868,513.32	32.022232	-103.277659
1,917.00	1.32	181.00	1,916.14	-25.71	19.53	373,422.59	868,513.26	32.022225	-103.277659
2,012.00	1.05	157.44	2,011.12	-27.61	19.84	373,420.69	868,513.58	32.022220	-103.277658
2,086.00	1.10	180.12	2,085.10	-28.94	20.10	373,419.36	868,513.64	32.022216	-103.277657
2,275.00	5.27	208.42	2,273.78	-38.39	15.96	373,409.90	868,509.70	32.022190	-103.277671
2,464.00	8.44	206.49	2,461.40	-58.45	5.64	373,389.85	868,499.38	32.022135	-103.277705
2,558.00	8.84	205.43	2,554.33	-71.14	-0.54	373,377.15	868,493.20	32.022101	-103.277725
2,653.00	8.79	204.64	2,648.21	-84.33	-6.70	373,363.96	868,487.04	32.022065	-103.277745
2,747.00	8.84	203.24	2,741.10	-97.50	-12.54	373,350.80	868,481.20	32.022029	-103.277765
2,842.00	8.66	200.78	2,835.00	-110.89	-17.96	373,337.40	868,475.78	32.021992	-103.277783
2,936.00	8.62	202.18	2,927.93	-124.03	-23.13	373,324.27	868,470.61	32.021956	-103.277800
3,031.00	8.44	204.12	3,021.88	-136.99	-28.67	373,311.31	868,465.07	32.021920	-103.277818
3,125.00	7.60	200.95	3,114.96	-149.09	-33.71	373,299.21	868,460.03	32.021887	-103.277835
3,220.00	6.15	193.04	3,209.28	-159.92	-37.10	373,288.38	868,456.64	32.021858	-103.277846
3,314.00	5.32	189.44	3,302.80	-169.12	-38.95	373,279.18	868,454.79	32.021832	-103.277852
3,408.00	4.66	185.83	3,396.45	-177.22	-40.06	373,271.08	868,453.68	32.021810	-103.277856
3,503.00	3.96	183.37	3,491.18	-184.33	-40.64	373,263.97	868,453.10	32.021791	-103.277858
3,597.00	4.26	184.34	3,584.84	-191.05	-41.10	373,257.25	868,452.64	32.021772	-103.277860
3,692.00	4.13	190.84	3,679.68	-197.93	-42.01	373,250.37	868,451.73	32.021753	-103.277863
3,786.00	4.31	188.21	3,773.43	-204.75	-43.15	373,243.55	868,450.59	32.021735	-103.277867
3,881.00	4.26	188.47	3,868.16	-211.77	-44.18	373,236.52	868,449.56	32.021715	-103.277870
3,975.00	4.18	192.16	3,961.91	-218.58	-45.41	373,229.72	868,448.33	32.021697	-103.277874
4,070.00	4.26	197.00	4,056.65	-225.34	-47.17	373,222.96	868,446.57	32.021678	-103.277880
4,164.00	4.09	202.27	4,150.40	-231.78	-49.47	373,216.52	868,444.27	32.021660	-103.277888
4,259.00	3.21	196.29	4,245.21	-237.46	-51.50	373,210.83	868,442.24	32.021645	-103.277895
4,353.00	1.01	165.18	4,339.14	-240.79	-52.02	373,207.51	868,441.72	32.021636	-103.277896
4,448.00	0.13	121.23	4,434.14	-241.66	-51.72	373,206.64	868,442.02	32.021633	-103.277896
4,542.00	0.09	171.95	4,528.14	-241.79	-51.61	373,206.51	868,442.13	32.021633	-103.277895
4,637.00	0.09	273.81	4,623.14	-241.86	-51.68	373,206.44	868,442.06	32.021633	-103.277895
4,731.00	0.09	206.93	4,717.14	-241.92	-51.78	373,206.38	868,441.95	32.021633	-103.277896
4,826.00	0.13	206.58	4,812.14	-242.08	-51.87	373,206.22	868,441.87	32.021632	-103.277896
4,920.00	0.13	218.97	4,906.14	-242.26	-51.98	373,206.04	868,441.76	32.021632	-103.277896
5,015.00	0.09	19.81	5,001.14	-242.27	-52.02	373,206.03	868,441.72	32.021632	-103.277897
5,110.00	0.13	73.07	5,096.14	-242.17	-51.90	373,206.13	868,441.84	32.021632	-103.277896
5,204.00	0.13	341.05	5,190.13	-242.04	-51.83	373,206.26	868,441.91	32.021632	-103.277896
5,298.00	0.13	131.08	5,284.13	-242.01	-51.78	373,206.29	868,441.96	32.021632	-103.277896
5,393.00	0.13	277.06	5,379.13	-242.06	-51.81	373,206.23	868,441.93	32.021632	-103.277896
5,487.00	0.09	211.50	5,473.13	-242.11	-51.95	373,206.18	868,441.79	32.021632	-103.277896
5,581.00	0.04	287.44	5,567.13	-242.17	-52.02	373,206.13	868,441.72	32.021632	-103.277897

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 121H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Site:	Camellia Fed Com 26-36-21	MD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Well:	121H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,676.00	0.13	157.01	5,662.13	-242.26	-52.01	373,206.04	868,441.73	32.021632	-103.277897
5,771.00	0.09	265.99	5,757.13	-242.36	-52.04	373,205.94	868,441.70	32.021631	-103.277897
5,865.00	0.09	239.62	5,851.13	-242.40	-52.18	373,205.90	868,441.56	32.021631	-103.277897
5,960.00	0.13	314.33	5,946.13	-242.37	-52.32	373,205.93	868,441.42	32.021631	-103.277898
6,054.00	0.13	170.54	6,040.13	-242.40	-52.38	373,205.90	868,441.36	32.021631	-103.277898
6,149.00	0.13	290.86	6,135.13	-242.46	-52.46	373,205.83	868,441.27	32.021631	-103.277898
6,243.00	0.13	141.54	6,229.13	-242.51	-52.50	373,205.79	868,441.24	32.021631	-103.277898
6,338.00	0.13	130.20	6,324.13	-242.66	-52.35	373,205.63	868,441.39	32.021631	-103.277898
6,527.00	0.13	190.23	6,513.13	-243.01	-52.22	373,205.29	868,441.52	32.021630	-103.277897
6,621.00	0.13	271.44	6,607.13	-243.12	-52.35	373,205.18	868,441.39	32.021629	-103.277898
6,716.00	0.18	39.50	6,702.13	-243.00	-52.36	373,205.30	868,441.38	32.021630	-103.277898
6,810.00	0.09	206.66	6,796.13	-242.95	-52.30	373,205.35	868,441.44	32.021630	-103.277897
6,905.00	0.13	208.60	6,891.13	-243.11	-52.39	373,205.19	868,441.35	32.021629	-103.277898
6,999.00	0.13	59.01	6,985.13	-243.15	-52.35	373,205.15	868,441.39	32.021629	-103.277898
7,094.00	0.13	322.59	7,080.13	-243.01	-52.32	373,205.29	868,441.42	32.021630	-103.277898
7,189.00	0.18	297.98	7,175.13	-242.85	-52.52	373,205.45	868,441.22	32.021630	-103.277898
7,283.00	0.13	227.58	7,269.13	-242.86	-52.72	373,205.44	868,441.01	32.021630	-103.277899
7,378.00	0.13	91.88	7,364.13	-242.93	-52.70	373,205.37	868,441.04	32.021630	-103.277899
7,472.00	0.13	258.34	7,458.13	-242.96	-52.69	373,205.34	868,441.04	32.021630	-103.277899
7,566.00	0.13	241.12	7,552.13	-243.03	-52.89	373,205.27	868,440.85	32.021630	-103.277899
7,661.00	0.13	180.82	7,647.13	-243.19	-52.99	373,205.11	868,440.75	32.021629	-103.277900
7,755.00	0.13	10.76	7,741.13	-243.19	-52.97	373,205.11	868,440.77	32.021629	-103.277900
7,850.00	0.13	130.99	7,836.13	-243.16	-52.87	373,205.14	868,440.87	32.021629	-103.277899
7,945.00	0.13	318.11	7,931.13	-243.15	-52.86	373,205.15	868,440.88	32.021629	-103.277899
8,039.00	0.18	63.49	8,025.13	-243.00	-52.80	373,205.30	868,440.94	32.021630	-103.277899
8,133.00	0.44	56.20	8,119.13	-242.73	-52.37	373,205.56	868,441.37	32.021630	-103.277898
8,228.00	0.62	61.47	8,214.12	-242.29	-51.61	373,206.01	868,442.13	32.021632	-103.277895
8,322.00	0.79	69.03	8,308.12	-241.81	-50.56	373,206.49	868,443.18	32.021633	-103.277892
8,417.00	0.79	71.66	8,403.11	-241.37	-49.33	373,206.93	868,444.41	32.021634	-103.277888
8,511.00	0.57	68.24	8,497.10	-240.99	-48.28	373,207.30	868,445.46	32.021635	-103.277884
8,606.00	0.48	46.53	8,592.10	-240.54	-47.55	373,207.75	868,446.19	32.021636	-103.277882
8,706.00	0.70	24.82	8,692.09	-239.70	-46.99	373,208.60	868,446.75	32.021639	-103.277880
8,801.00	0.79	9.00	8,787.09	-238.53	-46.64	373,209.77	868,447.10	32.021642	-103.277879
8,895.00	0.88	352.30	8,881.08	-237.17	-46.64	373,211.12	868,447.10	32.021646	-103.277879
8,990.00	0.97	329.89	8,976.06	-235.75	-47.14	373,212.54	868,446.60	32.021649	-103.277881
9,078.00	1.23	316.26	9,064.05	-234.43	-48.17	373,213.87	868,445.57	32.021653	-103.277884
9,145.00	0.04	204.47	9,131.04	-233.93	-48.67	373,214.37	868,445.07	32.021655	-103.277885
9,621.00	0.05	158.77	9,607.04	-234.27	-48.67	373,214.02	868,445.07	32.021654	-103.277885
10,091.00	0.03	129.79	10,077.04	-234.54	-48.50	373,213.75	868,445.24	32.021653	-103.277885
10,564.00	0.02	40.40	10,550.04	-234.56	-48.35	373,213.74	868,445.39	32.021653	-103.277884
10,966.00	0.18	295.61	10,952.04	-234.23	-48.87	373,214.06	868,444.87	32.021654	-103.277886
11,061.00	0.22	134.24	11,047.04	-234.30	-48.88	373,214.00	868,444.86	32.021654	-103.277886
11,155.00	0.18	287.88	11,141.04	-234.38	-48.89	373,213.92	868,444.85	32.021653	-103.277886
11,249.00	0.26	240.77	11,235.04	-234.44	-49.21	373,213.86	868,444.52	32.021653	-103.277887
11,344.00	0.22	172.12	11,330.04	-234.72	-49.38	373,213.58	868,444.36	32.021652	-103.277888
11,438.00	0.13	42.31	11,424.04	-234.82	-49.28	373,213.48	868,444.46	32.021652	-103.277887
11,533.00	0.18	283.30	11,519.04	-234.71	-49.35	373,213.59	868,444.39	32.021652	-103.277888
11,627.00	0.18	171.33	11,613.04	-234.82	-49.48	373,213.48	868,444.28	32.021652	-103.277888
11,680.00	0.18	152.96	11,666.04	-234.98	-49.43	373,213.32	868,444.31	32.021652	-103.277888
11,786.00	0.17	155.43	11,772.04	-235.27	-49.28	373,213.03	868,444.46	32.021651	-103.277887
11,849.00	0.35	298.57	11,835.04	-235.26	-49.41	373,213.04	868,444.33	32.021651	-103.277888
11,881.00	1.68	9.11	11,867.03	-234.75	-49.43	373,213.55	868,444.31	32.021652	-103.277888
11,912.00	4.51	13.54	11,897.98	-233.12	-49.07	373,215.18	868,444.67	32.021657	-103.277887
11,944.00	7.01	13.50	11,929.82	-230.00	-48.32	373,218.30	868,445.42	32.021665	-103.277884
11,973.00	9.23	10.17	11,958.53	-225.98	-47.49	373,222.31	868,446.25	32.021676	-103.277881

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 121H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Site:	Camellia Fed Com 26-36-21	MD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Well:	121H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,006.00	11.76	7.30	11,990.97	-220.04	-46.60	373,228.26	868,447.14	32.021693	-103.277878
12,038.00	16.11	4.77	12,022.02	-212.38	-45.82	373,235.92	868,447.92	32.021714	-103.277876
12,069.00	20.87	3.52	12,051.42	-202.58	-45.12	373,245.72	868,448.62	32.021741	-103.277873
12,100.00	26.23	3.72	12,079.82	-190.22	-44.33	373,258.08	868,449.41	32.021775	-103.277870
12,132.00	31.49	4.87	12,107.84	-174.83	-43.16	373,273.47	868,450.57	32.021817	-103.277866
12,163.00	35.57	3.69	12,133.68	-157.75	-41.90	373,290.55	868,451.84	32.021864	-103.277861
12,195.00	39.59	358.94	12,159.04	-138.26	-41.49	373,310.04	868,452.25	32.021917	-103.277859
12,226.00	41.92	354.10	12,182.52	-118.07	-42.73	373,330.22	868,451.01	32.021973	-103.277863
12,258.00	44.65	352.60	12,205.82	-96.29	-45.28	373,352.01	868,448.46	32.022033	-103.277870
12,289.00	47.58	352.67	12,227.30	-74.13	-48.14	373,374.17	868,445.59	32.022084	-103.277879
12,321.00	49.64	353.25	12,248.46	-50.30	-51.09	373,397.99	868,442.65	32.022159	-103.277887
12,352.00	51.03	354.96	12,268.25	-26.57	-53.53	373,421.73	868,440.21	32.022225	-103.277895
12,384.00	54.56	356.97	12,287.60	-1.15	-55.31	373,447.15	868,438.42	32.022294	-103.277900
12,415.00	58.72	359.26	12,304.64	24.72	-56.15	373,473.02	868,437.59	32.022366	-103.277901
12,446.00	63.49	0.38	12,319.62	51.85	-56.23	373,500.15	868,437.51	32.022440	-103.277901
12,478.00	69.02	0.09	12,332.50	81.13	-56.11	373,529.43	868,437.62	32.022521	-103.277900
12,510.00	73.31	1.19	12,342.82	111.41	-55.77	373,559.71	868,437.97	32.022604	-103.277897
12,541.00	76.36	1.25	12,350.93	141.32	-55.14	373,589.62	868,438.60	32.022686	-103.277894
12,573.00	80.46	1.60	12,357.36	172.65	-54.36	373,620.95	868,439.38	32.022772	-103.277891
12,604.00	86.66	1.84	12,360.84	203.43	-53.43	373,651.72	868,440.31	32.022857	-103.277887
12,651.00	84.58	8.27	12,364.43	250.08	-49.31	373,698.38	868,444.43	32.022985	-103.277872
First ST01 Survey									
12,683.00	87.64	12.10	12,366.60	281.49	-43.66	373,729.79	868,450.08	32.023071	-103.277853
12,714.00	90.36	13.80	12,367.14	311.69	-36.72	373,759.99	868,457.02	32.023154	-103.277830
12,746.00	91.21	13.86	12,366.70	342.76	-29.07	373,791.06	868,464.67	32.023239	-103.277804
12,840.00	92.47	10.32	12,363.68	434.61	-9.39	373,882.91	868,484.35	32.023491	-103.277738
12,935.00	90.93	9.02	12,360.87	528.22	6.56	373,976.52	868,500.30	32.023748	-103.277683
13,029.00	89.92	6.85	12,360.17	621.31	19.53	374,069.61	868,513.27	32.024003	-103.277638
13,124.00	95.31	7.96	12,355.84	715.38	31.76	374,163.68	868,525.50	32.024262	-103.277596
13,219.00	92.75	6.01	12,349.16	809.43	43.28	374,257.73	868,537.02	32.024520	-103.277556
13,300.13	91.10	5.16	12,346.43	890.13	51.17	374,338.43	868,544.91	32.024741	-103.277528
FTP @ 13300.13° MD/ 91.10° INC/ 5.16° AZM									
13,313.00	90.84	5.03	12,346.21	902.95	52.31	374,351.24	868,546.05	32.024777	-103.277524
13,408.00	91.20	5.41	12,344.52	997.54	60.95	374,445.83	868,554.69	32.025036	-103.277493
13,502.00	91.82	3.50	12,342.05	1,091.22	68.25	374,539.51	868,561.99	32.025294	-103.277466
13,597.00	91.40	3.37	12,339.38	1,186.01	73.94	374,634.31	868,567.68	32.025554	-103.277445
13,691.00	91.54	0.96	12,336.97	1,279.90	77.49	374,728.20	868,571.23	32.025812	-103.277431
13,786.00	89.94	359.50	12,335.74	1,374.89	77.87	374,823.19	868,571.61	32.026073	-103.277426
13,880.00	94.46	359.36	12,332.13	1,468.79	76.94	374,917.09	868,570.68	32.026331	-103.277427
13,976.00	89.86	356.71	12,328.51	1,564.63	73.65	375,012.93	868,567.39	32.026595	-103.277434
14,071.00	96.76	357.71	12,323.03	1,659.30	69.03	375,107.60	868,562.77	32.026855	-103.277446
14,166.00	96.38	356.10	12,312.16	1,753.54	63.94	375,201.83	868,557.68	32.027114	-103.277460
14,261.00	94.94	356.08	12,302.79	1,847.85	57.49	375,296.15	868,551.23	32.027373	-103.277477
14,356.00	92.16	355.43	12,296.91	1,942.40	50.47	375,390.70	868,544.21	32.027634	-103.277497
14,451.00	92.24	358.83	12,293.26	2,037.19	45.72	375,485.49	868,539.46	32.027894	-103.277509
14,546.00	94.54	1.76	12,287.64	2,132.01	46.20	375,580.31	868,539.94	32.028155	-103.277505
14,641.00	91.35	0.43	12,282.76	2,226.85	48.02	375,675.15	868,541.75	32.028415	-103.277496
14,736.00	85.43	2.30	12,285.43	2,321.74	50.27	375,770.04	868,544.01	32.028676	-103.277486
14,836.00	85.82	2.74	12,293.06	2,421.35	54.66	375,869.65	868,548.40	32.028950	-103.277468
14,931.00	85.60	3.11	12,300.17	2,515.96	59.49	375,964.26	868,553.23	32.029210	-103.277450
15,026.00	87.50	2.93	12,305.88	2,610.66	64.49	376,058.95	868,558.23	32.029470	-103.277431
15,121.00	91.43	2.05	12,306.77	2,705.54	68.61	376,153.84	868,562.35	32.029731	-103.277414
15,215.00	93.09	1.85	12,303.06	2,799.41	71.81	376,247.71	868,565.55	32.029988	-103.277401
15,310.00	94.94	0.24	12,296.41	2,894.16	73.54	376,342.45	868,567.28	32.030249	-103.277393
15,405.00	93.25	359.72	12,289.63	2,988.91	73.51	376,437.21	868,567.25	32.030509	-103.277390

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 121H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Site:	Camellia Fed Com 26-36-21	MD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Well:	121H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,500.00	94.43	359.76	12,283.27	3,083.69	73.08	376,531.99	868,566.82	32.030770	-103.277388
15,595.00	94.91	359.91	12,275.53	3,178.38	72.80	376,626.68	868,566.54	32.031030	-103.277386
15,690.00	94.38	359.97	12,267.84	3,273.07	72.70	376,721.36	868,566.44	32.031290	-103.277383
15,785.00	95.27	0.05	12,259.85	3,367.73	72.72	376,816.03	868,566.46	32.031550	-103.277380
15,880.00	94.96	359.74	12,251.38	3,462.35	72.55	376,910.65	868,566.29	32.031811	-103.277378
15,975.00	95.44	359.98	12,242.77	3,556.96	72.32	377,005.26	868,566.06	32.032071	-103.277376
16,070.00	93.36	3.06	12,235.48	3,651.63	74.83	377,099.93	868,568.57	32.032331	-103.277364
16,165.00	95.79	4.01	12,227.90	3,746.14	80.67	377,194.43	868,574.41	32.032590	-103.277343
16,260.00	96.17	7.76	12,218.00	3,840.10	90.35	377,288.40	868,584.09	32.032848	-103.277308
16,355.00	98.01	5.12	12,206.27	3,933.77	100.93	377,382.07	868,594.67	32.033106	-103.277271
16,450.00	97.64	0.31	12,193.33	4,027.75	105.39	377,476.05	868,599.12	32.033364	-103.277254
16,545.00	96.06	357.46	12,182.00	4,122.04	103.55	377,570.34	868,597.29	32.033623	-103.277257
16,640.00	96.45	359.89	12,171.65	4,216.44	101.36	377,664.74	868,595.10	32.033882	-103.277261
16,735.00	95.72	357.48	12,161.57	4,310.88	99.19	377,759.17	868,592.93	32.034142	-103.277265
16,830.00	96.01	353.90	12,151.86	4,405.10	92.09	377,853.39	868,585.83	32.034401	-103.277285
16,925.00	95.67	352.83	12,142.20	4,498.97	81.17	377,947.27	868,574.91	32.034660	-103.277317
17,020.00	96.00	353.33	12,132.54	4,592.79	69.79	378,041.08	868,563.53	32.034918	-103.277351
17,115.00	95.47	353.90	12,123.05	4,686.72	59.27	378,135.02	868,553.01	32.035176	-103.277382
17,210.00	95.81	356.73	12,113.71	4,780.94	51.55	378,229.24	868,545.29	32.035435	-103.277404
17,305.00	95.81	359.42	12,104.09	4,875.39	48.38	378,323.69	868,542.12	32.035695	-103.277411
17,400.00	96.26	358.30	12,094.10	4,969.84	46.50	378,418.14	868,540.24	32.035955	-103.277414
17,495.00	94.79	356.44	12,084.95	5,064.29	42.16	378,512.59	868,535.90	32.036214	-103.277425
17,590.00	93.36	355.39	12,078.20	5,158.81	35.41	378,607.11	868,529.15	32.036474	-103.277444
17,685.00	92.61	357.87	12,073.25	5,253.51	29.83	378,701.81	868,523.57	32.036735	-103.277459
17,780.00	90.53	359.13	12,070.65	5,348.43	27.35	378,796.73	868,521.09	32.036996	-103.277464
17,875.00	91.60	358.33	12,068.89	5,443.39	25.24	378,891.69	868,518.98	32.037257	-103.277468
17,970.00	88.46	357.93	12,068.84	5,538.33	22.14	378,986.63	868,515.88	32.037518	-103.277475
18,071.00	88.04	358.65	12,071.92	5,639.23	19.13	379,087.53	868,512.87	32.037795	-103.277482
18,166.00	89.13	0.20	12,074.27	5,734.20	18.18	379,182.49	868,511.92	32.038056	-103.277482
18,261.00	88.80	1.86	12,075.98	5,829.16	19.88	379,277.46	868,513.62	32.038317	-103.277473
18,356.00	90.17	2.83	12,076.84	5,924.08	23.77	379,372.37	868,517.51	32.038578	-103.277458
18,451.00	92.35	2.26	12,074.75	6,018.95	27.99	379,467.25	868,521.73	32.038839	-103.277441
18,545.00	93.81	2.38	12,069.70	6,112.74	31.79	379,561.04	868,525.53	32.039096	-103.277426
18,640.00	92.75	0.46	12,064.26	6,207.55	34.14	379,655.85	868,527.88	32.039357	-103.277415
18,735.00	93.28	359.53	12,059.26	6,302.41	34.13	379,750.71	868,527.87	32.039618	-103.277412
18,830.00	94.37	358.79	12,052.93	6,397.19	32.74	379,845.49	868,526.48	32.039878	-103.277414
18,925.00	95.14	358.50	12,045.05	6,491.84	30.50	379,940.13	868,524.24	32.040138	-103.277418
19,020.00	95.16	358.71	12,036.52	6,586.42	28.20	380,034.72	868,521.94	32.040398	-103.277422
19,115.00	94.23	359.32	12,028.75	6,681.09	26.57	380,129.39	868,520.31	32.040659	-103.277425
19,210.00	93.17	358.94	12,022.62	6,775.88	25.13	380,224.18	868,518.87	32.040919	-103.277426
19,304.00	92.61	0.13	12,017.88	6,869.75	24.37	380,318.05	868,518.11	32.041177	-103.277426
19,399.00	92.52	359.27	12,013.63	6,964.66	23.87	380,412.96	868,517.61	32.041438	-103.277424
19,494.00	89.86	359.17	12,011.65	7,059.62	22.58	380,507.92	868,516.32	32.041699	-103.277426
19,589.00	88.77	357.92	12,012.79	7,154.58	20.17	380,602.88	868,513.91	32.041960	-103.277430
19,684.00	92.44	358.22	12,011.79	7,249.50	16.97	380,697.80	868,510.71	32.042221	-103.277438
19,779.00	92.13	357.63	12,008.00	7,344.37	13.53	380,792.66	868,507.27	32.042482	-103.277446
19,874.00	92.30	358.62	12,004.33	7,439.24	10.43	380,887.54	868,504.17	32.042743	-103.277453
19,969.00	91.51	359.95	12,001.17	7,534.18	9.24	380,982.48	868,502.98	32.043004	-103.277454
20,064.00	89.69	1.86	12,000.17	7,629.15	10.74	381,077.45	868,504.48	32.043265	-103.277446
20,159.00	89.75	2.54	12,000.64	7,724.08	14.39	381,172.38	868,508.13	32.043526	-103.277431
20,254.00	90.20	1.09	12,000.68	7,819.03	17.40	381,267.33	868,511.14	32.043786	-103.277418
20,348.00	91.40	0.72	11,999.37	7,913.01	18.88	381,361.31	868,512.62	32.044045	-103.277411
20,443.00	90.79	0.53	11,997.55	8,007.99	19.92	381,456.28	868,513.66	32.044306	-103.277404
20,538.00	89.80	0.19	11,997.06	8,102.98	20.51	381,551.28	868,514.25	32.044567	-103.277399
20,634.00	92.19	0.97	11,995.40	8,198.95	21.49	381,647.25	868,515.23	32.044831	-103.277393

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 121H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Site:	Camellia Fed Com 26-38-21	MD Reference:	RKB=27' @ 2951.00usft (H&P 616)
Well:	121H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
20,729.00	89.52	0.20	11,993.98	8,293.93	22.46	381,742.23	868,516.20	32.045092	-103.277387
20,824.00	91.76	0.25	11,992.92	8,388.92	22.83	381,837.21	868,516.57	32.045353	-103.277383
20,919.00	89.44	0.99	11,991.92	8,483.90	23.86	381,932.20	868,517.60	32.045614	-103.277377
21,014.00	91.48	1.90	11,991.16	8,578.86	26.25	382,027.16	868,519.99	32.045875	-103.277366
21,109.00	92.13	0.25	11,988.17	8,673.79	28.03	382,122.09	868,521.77	32.046136	-103.277357
21,204.00	93.23	359.74	11,983.73	8,768.69	28.03	382,216.98	868,521.76	32.046396	-103.277354
21,299.00	89.75	356.86	11,981.26	8,863.59	25.21	382,311.89	868,518.95	32.046657	-103.277360
21,353.00	88.43	356.59	11,982.11	8,917.49	22.12	382,365.79	868,515.86	32.046805	-103.277368
21,448.00	87.71	356.74	11,985.31	9,012.28	16.60	382,460.57	868,510.34	32.047066	-103.277383
21,543.00	89.41	357.87	11,987.70	9,107.14	12.13	382,555.43	868,505.87	32.047327	-103.277395
21,638.00	89.24	358.16	11,988.82	9,202.07	8.84	382,650.37	868,502.58	32.047588	-103.277402
21,733.00	89.30	357.72	11,990.03	9,297.00	5.43	382,745.30	868,499.17	32.047849	-103.277410
21,828.00	90.08	358.29	11,990.54	9,391.94	2.12	382,840.24	868,495.86	32.048110	-103.277418
21,923.00	90.08	358.45	11,990.41	9,486.90	-0.58	382,935.20	868,493.16	32.048371	-103.277424
22,017.00	89.36	1.43	11,990.87	9,580.89	-0.68	383,029.19	868,493.06	32.048629	-103.277421
22,112.00	88.82	0.70	11,992.38	9,675.86	1.09	383,124.16	868,494.83	32.048890	-103.277412
22,207.00	87.31	358.12	11,995.59	9,770.79	0.11	383,219.09	868,493.85	32.049151	-103.277413
22,302.00	90.20	357.78	11,997.65	9,865.70	-3.29	383,314.00	868,490.45	32.049412	-103.277420
22,397.00	90.79	357.67	11,996.83	9,960.62	-7.06	383,408.92	868,486.68	32.049673	-103.277430
22,492.00	90.67	358.60	11,995.62	10,055.56	-10.15	383,503.86	868,483.59	32.049934	-103.277437
22,564.00	91.99	359.20	11,993.95	10,127.53	-11.53	383,575.82	868,482.21	32.050132	-103.277439
Last ST01 Survey @ 22564'									
22,615.28	91.99	359.20	11,992.17	10,178.77	-12.25	383,627.07	868,481.49	32.050273	-103.277440
LTP @ 22615.28' MD/ 91.99° INC/ 359.20° AZM									
22,641.00	91.99	359.20	11,991.28	10,204.47	-12.61	383,652.77	868,481.13	32.050344	-103.277440
PTB @ 22641'									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
12,651.00	12,364.43	250.08	-49.31	First ST01 Survey
13,300.13	12,346.43	890.13	51.17	FTP @ 13300.13' MD/ 91.10° INC/ 5.16° AZM
22,564.00	11,993.95	10,127.53	-11.53	Last ST01 Survey @ 22564'
22,615.28	11,992.17	10,178.77	-12.25	LTP @ 22615.28' MD/ 91.99° INC/ 359.20° AZM
22,641.00	11,991.28	10,204.47	-12.61	PTB @ 22641'

Checked By: _____ Approved By: _____ Date: _____

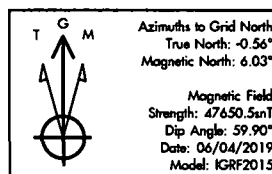
AMEREDEV

Project: Lea Co., NM (NAD 83 Grid)
 Site: Camelia Fed Com 26-36-21
 Well: 121H
 Wellbore: ST01
 Design: ST01
 Lat: 32.022296
 Long: -103.277721
 GL: 2924.00
 KB: RKB=27' @ 2951.00unf (H&P 616)



WELL DETAILS: 121H

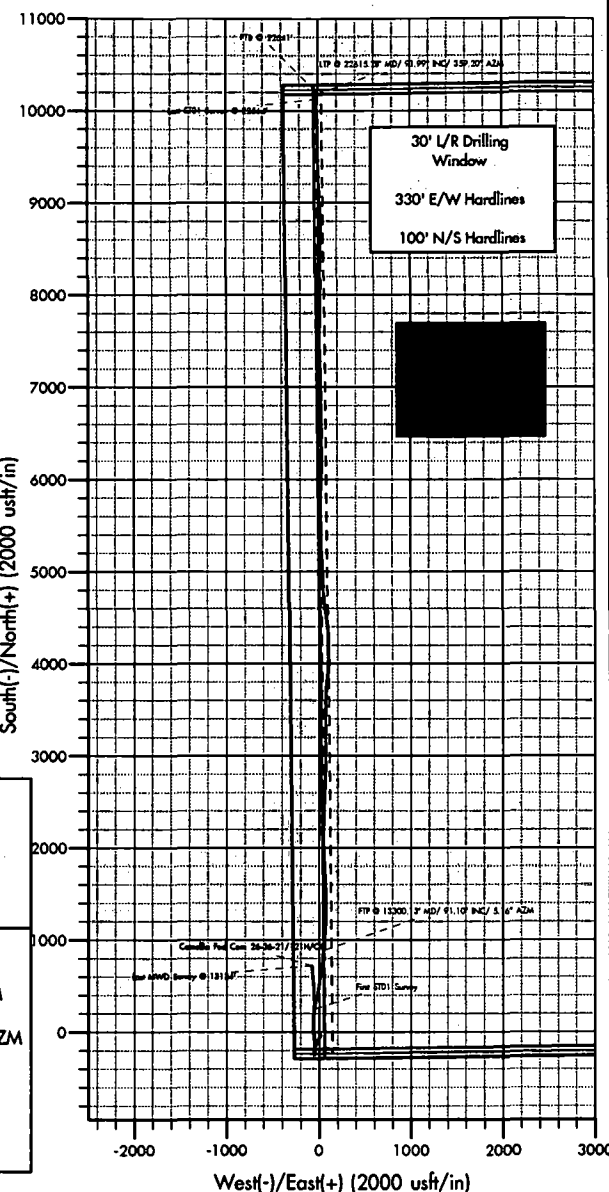
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	373448.30	868493.74	32.022296	-103.277721



PLAN ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	V Sect	Departure	Annotation
12651.00	84.58	8.27	12364.43	250.08	-49.31	249.45	789.88	First ST01 Survey
13300.13	91.10	5.16	12346.43	890.13	51.17	890.70	1438.40	FTP @ 13300.13' MD/ 91.10° INC/ 5.16° AZM
22564.00	91.99	359.20	11993.95	10127.53	-11.53	10126.60	10684.86	Last ST01 Survey @ 22564'
22615.28	91.99	359.20	11992.17	10178.77	-12.25	10177.83	10736.11	LTP @ 22615.28' MD/ 91.99° INC/ 359.20° AZM
22641.00	91.99	359.20	11991.28	10204.47	-12.61	10203.53	10761.81	PTB @ 22641'

Vertical Section at 0.71° (1500 usft/in)



HOBBS OCD
 OCT 08 2019
 RECEIVED

Design: ST01 (121H/ST01)

Created By: Dany Meyer Date: 13-05 June 27 2019