

AMEREDEV

Ameredev Operating LLC

Lea Co., NM (NAD 83 Grid)
Magnolia State Com 26-36-22
125H

ST02

Design: ST02

Survey Report - Geographic

27 June, 2019

HOBBS OCD
SEP 25 2019
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ALTITUDE
ENERGY PARTNERS

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 125H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Site:	Magnolia State Com 26-36-22	MD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Well:	125H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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		Magnolia State Com 26-36-22			
Site Position:		Northing:	373,645.00 usft	Latitude:	32.022621
From:	Map	Easting:	876,428.00 usft	Longitude:	-103.252118
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.57 °

Well	125H					
Well Position	+N/-S	0.00 usft	Northing:	373,645.00 usft	Latitude:	32.022621
	+E/-W	0.00 usft	Easting:	876,428.00 usft	Longitude:	-103.252118
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	2,908.00 usft

Wellbore	ST02				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	04/22/19	6.59	59.90	47,665.54322351

Design	ST02				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	18,504.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00		358.66

Survey Program	Date	05/20/19			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
167.00	10,973.00	Scout Surveys (OH)	MWD+IFR1	OWSG MWD + IFR1	
11,214.00	18,504.00	MWD Surveys (ST01)	MWD	OWSG MWD - Standard	
18,522.00	22,108.00	MWD Survey (ST02)	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	373,645.00	876,428.00	32.022621	-103.252118
167.00	0.30	45.30	167.00	0.31	0.31	373,645.31	876,428.31	32.022622	-103.252117
229.00	1.10	93.10	228.99	0.39	1.02	373,645.39	876,429.02	32.022622	-103.252114
353.00	1.40	77.50	352.97	0.65	3.69	373,645.65	876,431.69	32.022623	-103.252106
469.00	1.40	74.90	468.93	1.33	6.44	373,646.33	876,434.44	32.022625	-103.252097
540.00	1.50	72.00	539.91	1.84	8.16	373,646.84	876,436.16	32.022626	-103.252091
682.00	1.40	81.20	681.86	2.68	11.64	373,647.68	876,439.64	32.022628	-103.252080
836.00	1.30	148.50	835.83	1.48	14.41	373,646.48	876,442.41	32.022625	-103.252071
925.00	2.00	127.30	924.79	-0.32	16.18	373,644.68	876,444.18	32.022620	-103.252065
1,016.00	1.90	131.00	1,015.74	-2.27	18.58	373,642.72	876,446.58	32.022614	-103.252058

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 125H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Site:	Magnolia State Com 26-36-22	MD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Well:	125H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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
1,106.00	1.90	152.30	1,105.69	-4.57	20.40	373,640.42	876,448.40	32.022608	-103.252052
1,195.00	1.90	163.90	1,194.64	-7.30	21.49	373,637.70	876,449.49	32.022600	-103.252049
1,284.00	1.30	169.30	1,283.61	-9.71	22.09	373,635.29	876,450.09	32.022594	-103.252047
1,374.00	1.90	141.00	1,373.57	-11.87	23.22	373,633.13	876,451.22	32.022588	-103.252043
1,467.00	1.80	168.50	1,466.53	-14.50	24.48	373,630.50	876,452.48	32.022581	-103.252039
1,562.00	1.40	136.90	1,561.49	-16.81	25.57	373,628.19	876,453.57	32.022574	-103.252036
1,656.00	1.70	175.40	1,655.46	-19.04	26.47	373,625.96	876,454.47	32.022568	-103.252033
1,749.00	1.60	183.60	1,748.42	-21.71	26.50	373,623.29	876,454.50	32.022561	-103.252033
1,848.00	1.20	193.80	1,847.39	-24.09	26.16	373,620.90	876,454.16	32.022554	-103.252034
1,942.00	0.50	174.10	1,941.38	-25.46	25.97	373,619.54	876,453.97	32.022550	-103.252035
2,036.00	0.80	184.00	2,035.37	-26.52	25.97	373,618.48	876,453.97	32.022548	-103.252035
2,130.00	0.70	188.60	2,129.37	-27.74	25.83	373,617.26	876,453.83	32.022544	-103.252035
2,201.00	1.20	158.30	2,200.36	-28.86	26.04	373,616.14	876,454.04	32.022541	-103.252035
2,374.00	1.01	200.84	2,373.33	-31.97	26.17	373,613.03	876,454.17	32.022533	-103.252034
2,469.00	1.45	211.21	2,468.30	-33.78	25.25	373,611.22	876,453.25	32.022528	-103.252037
2,563.00	1.80	230.29	2,562.27	-35.74	23.50	373,609.26	876,451.50	32.022522	-103.252043
2,657.00	2.11	227.91	2,656.21	-37.85	21.08	373,607.15	876,449.08	32.022517	-103.252051
2,752.00	2.33	223.70	2,751.14	-40.41	18.45	373,604.58	876,446.45	32.022510	-103.252059
2,846.00	2.29	211.04	2,845.07	-43.40	16.16	373,601.59	876,444.16	32.022501	-103.252067
2,940.00	2.64	203.30	2,938.98	-47.00	14.33	373,598.00	876,442.33	32.022492	-103.252073
3,034.00	2.51	195.66	3,032.88	-50.97	12.92	373,594.03	876,440.92	32.022481	-103.252078
3,129.00	2.37	188.80	3,127.80	-54.92	12.06	373,590.08	876,440.06	32.022470	-103.252081
3,223.00	2.33	185.90	3,221.72	-58.74	11.57	373,586.26	876,439.57	32.022459	-103.252082
3,318.00	2.51	186.78	3,316.63	-62.72	11.12	373,582.27	876,439.12	32.022448	-103.252084
3,412.00	2.73	189.42	3,410.54	-66.98	10.51	373,578.02	876,438.51	32.022437	-103.252086
3,507.00	2.99	191.97	3,505.42	-71.63	9.63	373,573.37	876,437.63	32.022424	-103.252089
3,601.00	3.30	191.53	3,599.28	-76.68	8.58	373,568.32	876,436.58	32.022410	-103.252092
3,696.00	3.34	191.97	3,694.12	-82.07	7.46	373,562.93	876,435.46	32.022395	-103.252096
3,791.00	3.12	189.51	3,788.97	-87.32	6.46	373,557.67	876,434.46	32.022381	-103.252100
3,885.00	3.03	187.22	3,882.83	-92.31	5.72	373,552.69	876,433.72	32.022367	-103.252102
3,980.00	2.99	188.19	3,977.70	-97.26	5.05	373,547.74	876,433.05	32.022354	-103.252104
4,074.00	3.03	187.75	4,071.57	-102.14	4.37	373,542.86	876,432.37	32.022340	-103.252107
4,169.00	2.81	187.66	4,166.45	-106.94	3.72	373,538.06	876,431.72	32.022327	-103.252109
4,264.00	2.86	188.98	4,261.33	-111.59	3.04	373,533.41	876,431.04	32.022314	-103.252111
4,358.00	3.08	182.30	4,355.20	-116.43	2.57	373,528.57	876,430.57	32.022301	-103.252113
4,453.00	3.25	183.53	4,450.06	-121.67	2.31	373,523.33	876,430.30	32.022287	-103.252114
4,548.00	3.69	182.39	4,544.88	-127.41	2.01	373,517.59	876,430.01	32.022271	-103.252115
4,642.00	3.69	179.66	4,638.69	-133.45	1.90	373,511.54	876,429.90	32.022254	-103.252116
4,737.00	3.69	180.54	4,733.49	-139.57	1.89	373,505.43	876,429.89	32.022237	-103.252116
4,831.00	3.82	175.88	4,827.29	-145.72	2.09	373,499.28	876,430.09	32.022221	-103.252116
4,926.00	3.87	177.20	4,922.08	-152.07	2.47	373,492.92	876,430.47	32.022203	-103.252115
5,021.00	4.62	177.90	5,016.82	-159.10	2.77	373,485.90	876,430.77	32.022184	-103.252114
5,115.00	5.67	177.20	5,110.44	-167.52	3.14	373,477.48	876,431.14	32.022161	-103.252113
5,210.00	6.42	180.01	5,204.91	-177.52	3.36	373,467.48	876,431.36	32.022133	-103.252113
5,305.00	6.59	183.35	5,299.30	-188.27	3.04	373,456.72	876,431.04	32.022104	-103.252114
5,399.00	6.37	184.14	5,392.70	-198.86	2.35	373,446.14	876,430.35	32.022075	-103.252116
5,494.00	6.24	182.74	5,487.12	-209.27	1.73	373,435.73	876,429.73	32.022046	-103.252119
5,588.00	5.98	186.17	5,580.59	-219.24	0.96	373,425.75	876,428.95	32.022019	-103.252122
5,683.00	5.71	185.37	5,675.09	-228.87	-0.02	373,416.13	876,427.98	32.021992	-103.252125
5,778.00	5.71	183.09	5,769.62	-238.29	-0.72	373,406.71	876,427.28	32.021966	-103.252128
5,872.00	5.49	182.74	5,863.17	-247.45	-1.18	373,397.54	876,426.82	32.021941	-103.252129
5,967.00	5.58	180.54	5,957.73	-256.61	-1.44	373,388.39	876,426.56	32.021916	-103.252131
6,062.00	5.45	179.49	6,052.29	-265.74	-1.45	373,379.26	876,426.55	32.021891	-103.252131
6,156.00	5.41	180.36	6,145.87	-274.64	-1.44	373,370.36	876,426.56	32.021866	-103.252131
6,251.00	5.23	180.72	6,240.46	-283.44	-1.52	373,361.55	876,426.48	32.021842	-103.252132

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Well:	125H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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	
6,346.00	4.84	176.32	6,335.09	-291.77	-1.31	373,353.23	876,426.68	32.021819	-103.252131	
6,440.00	4.40	171.66	6,428.79	-299.30	-0.54	373,345.70	876,427.46	32.021799	-103.252129	
6,535.00	4.13	169.11	6,523.53	-306.26	0.64	373,338.74	876,428.64	32.021779	-103.252125	
6,629.00	4.04	168.65	6,617.29	-312.81	2.04	373,332.19	876,430.04	32.021761	-103.252121	
6,724.00	3.87	164.11	6,712.06	-319.15	3.69	373,325.85	876,431.69	32.021744	-103.252116	
6,818.00	3.78	159.97	6,805.85	-325.11	5.62	373,319.89	876,433.62	32.021727	-103.252110	
6,913.00	3.74	158.22	6,900.65	-330.93	7.84	373,314.07	876,435.84	32.021711	-103.252103	
7,007.00	3.56	158.83	6,994.46	-336.50	10.04	373,308.50	876,438.04	32.021696	-103.252096	
7,101.00	3.38	159.10	7,088.28	-341.81	12.08	373,303.19	876,440.08	32.021681	-103.252090	
7,196.00	3.65	161.82	7,183.10	-347.30	14.02	373,297.70	876,442.02	32.021666	-103.252084	
7,290.00	4.26	166.39	7,276.88	-353.53	15.78	373,291.46	876,443.78	32.021649	-103.252078	
7,385.00	5.05	173.69	7,371.57	-361.12	17.07	373,283.88	876,445.07	32.021628	-103.252074	
7,480.00	4.84	172.19	7,466.21	-369.25	18.07	373,275.75	876,446.07	32.021606	-103.252071	
7,574.00	4.70	170.08	7,559.89	-376.97	19.27	373,268.03	876,447.27	32.021585	-103.252068	
7,669.00	4.44	166.65	7,654.59	-384.38	20.79	373,260.62	876,448.79	32.021564	-103.252063	
7,763.00	4.40	165.07	7,748.31	-391.40	22.56	373,253.59	876,450.56	32.021545	-103.252057	
7,858.00	3.78	155.93	7,843.07	-397.78	24.78	373,247.21	876,452.78	32.021527	-103.252051	
7,952.00	3.47	152.50	7,936.88	-403.14	27.35	373,241.86	876,455.35	32.021512	-103.252042	
8,047.00	3.16	151.98	8,031.72	-408.00	29.91	373,237.00	876,457.91	32.021499	-103.252034	
8,151.00	2.86	151.10	8,135.57	-412.80	32.51	373,232.20	876,460.51	32.021486	-103.252026	
8,246.00	2.29	147.05	8,230.48	-416.47	34.69	373,228.53	876,462.69	32.021476	-103.252019	
8,331.00	2.24	136.60	8,315.41	-419.10	36.75	373,225.90	876,464.75	32.021468	-103.252013	
8,425.00	2.24	135.28	8,409.34	-421.74	39.31	373,223.26	876,467.31	32.021461	-103.252004	
8,519.00	2.46	139.50	8,503.26	-424.58	41.91	373,220.42	876,469.91	32.021453	-103.251996	
8,603.00	2.37	147.14	8,587.19	-427.41	44.03	373,217.59	876,472.03	32.021445	-103.251989	
8,717.00	1.93	162.52	8,701.11	-431.22	45.88	373,213.78	876,473.88	32.021435	-103.251984	
8,811.00	1.49	184.94	8,795.07	-433.95	46.25	373,211.05	876,474.25	32.021427	-103.251982	
8,906.00	1.36	212.36	8,890.04	-436.13	45.54	373,208.87	876,473.54	32.021421	-103.251985	
8,967.00	0.75	236.43	8,951.03	-436.96	44.82	373,208.04	876,472.82	32.021419	-103.251987	
9,025.00	1.80	290.30	9,009.01	-436.86	43.65	373,208.14	876,471.65	32.021419	-103.251991	
9,150.00	1.23	259.19	9,133.97	-436.43	40.49	373,208.57	876,468.49	32.021421	-103.252001	
9,245.00	1.67	241.17	9,228.94	-437.29	38.28	373,207.71	876,466.28	32.021418	-103.252008	
9,341.00	2.15	232.47	9,324.89	-439.06	35.62	373,205.94	876,463.62	32.021413	-103.252017	
9,436.00	2.15	217.44	9,419.82	-441.56	33.13	373,203.44	876,461.13	32.021407	-103.252025	
9,527.00	1.89	219.38	9,510.77	-444.07	31.14	373,200.93	876,459.14	32.021400	-103.252032	
9,622.00	2.55	219.55	9,605.69	-446.91	28.80	373,198.09	876,456.80	32.021392	-103.252039	
9,719.00	2.42	210.68	9,702.60	-450.34	26.38	373,194.66	876,454.38	32.021383	-103.252047	
9,813.00	3.16	191.25	9,796.49	-454.59	24.86	373,190.41	876,452.86	32.021371	-103.252052	
9,906.00	2.73	202.85	9,889.37	-459.14	23.50	373,185.86	876,451.50	32.021359	-103.252057	
10,000.00	2.51	177.89	9,983.28	-463.26	22.71	373,181.74	876,450.71	32.021347	-103.252059	
10,095.00	2.51	186.15	10,078.18	-467.41	22.56	373,177.59	876,450.56	32.021336	-103.252060	
10,191.00	1.63	209.62	10,174.12	-470.69	21.66	373,174.31	876,449.66	32.021327	-103.252063	
10,285.00	1.71	203.64	10,268.08	-473.13	20.44	373,171.87	876,448.44	32.021320	-103.252067	
10,377.00	1.54	183.87	10,360.05	-475.62	19.80	373,169.37	876,447.80	32.021313	-103.252069	
10,471.00	2.07	164.88	10,454.00	-478.52	20.16	373,166.48	876,448.16	32.021305	-103.252068	
10,566.00	1.98	160.67	10,548.94	-481.73	21.15	373,163.27	876,449.15	32.021297	-103.252065	
10,663.00	1.63	187.30	10,645.89	-484.68	21.53	373,160.32	876,449.53	32.021288	-103.252064	
10,758.00	1.80	168.93	10,740.85	-487.48	21.65	373,157.52	876,449.65	32.021281	-103.252064	
10,852.00	1.01	183.87	10,834.82	-489.76	21.87	373,155.24	876,449.87	32.021274	-103.252063	
10,944.00	0.62	156.71	10,926.81	-491.02	22.02	373,153.97	876,450.02	32.021271	-103.252062	
10,973.00	1.54	159.26	10,955.81	-491.53	22.22	373,153.47	876,450.22	32.021270	-103.252062	
11,214.00	5.53	359.35	11,196.50	-482.94	23.23	373,162.06	876,451.23	32.021293	-103.252058	
11,245.00	5.60	10.15	11,227.36	-479.96	23.48	373,165.04	876,451.48	32.021301	-103.252057	
11,277.00	8.88	359.54	11,259.10	-475.95	23.74	373,169.05	876,451.74	32.021312	-103.252056	
11,308.00	12.94	355.45	11,289.53	-470.09	23.44	373,174.91	876,451.44	32.021328	-103.252057	

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 125H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Site:	Magnolia State Com 26-36-22	MD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Well:	125H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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
11,340.00	16.31	355.26	11,320.49	-462.04	22.79	373,182.96	876,450.79	32.021351	-103.252059
11,371.00	20.02	352.80	11,349.94	-452.43	21.76	373,192.56	876,449.76	32.021377	-103.252062
11,403.00	23.43	352.85	11,379.67	-440.68	20.28	373,204.31	876,448.28	32.021409	-103.252066
11,434.00	26.04	353.30	11,407.82	-427.81	18.72	373,217.19	876,446.72	32.021445	-103.252071
11,466.00	29.33	353.74	11,436.15	-413.04	17.05	373,231.96	876,445.05	32.021485	-103.252076
11,497.00	32.81	354.28	11,462.70	-397.13	15.38	373,247.87	876,443.38	32.021529	-103.252081
11,529.00	36.00	353.12	11,489.10	-379.16	13.39	373,265.84	876,441.39	32.021579	-103.252087
11,560.00	40.20	351.61	11,513.49	-360.21	10.84	373,284.79	876,438.84	32.021631	-103.252094
11,592.00	44.21	350.58	11,537.19	-338.98	7.50	373,306.02	876,435.50	32.021689	-103.252104
11,623.00	48.04	349.24	11,558.67	-316.98	3.58	373,328.02	876,431.58	32.021750	-103.252116
11,655.00	51.62	348.90	11,579.31	-292.98	-1.06	373,352.02	876,426.94	32.021816	-103.252131
11,686.00	55.34	347.49	11,597.76	-268.60	-6.16	373,376.40	876,421.84	32.021883	-103.252146
11,717.00	57.93	345.97	11,614.80	-243.40	-12.11	373,401.59	876,415.89	32.021952	-103.252165
11,749.00	60.78	345.72	11,631.11	-216.71	-18.84	373,428.29	876,409.16	32.022026	-103.252185
11,780.00	62.84	346.48	11,645.76	-190.19	-25.40	373,454.81	876,402.60	32.022099	-103.252206
11,812.00	65.34	347.94	11,659.74	-162.12	-31.77	373,482.87	876,396.23	32.022176	-103.252225
11,844.00	69.08	350.22	11,672.13	-133.16	-37.35	373,511.84	876,390.65	32.022256	-103.252242
11,875.00	72.05	351.21	11,682.45	-104.32	-42.06	373,540.68	876,385.94	32.022336	-103.252257
11,906.00	74.44	352.59	11,691.38	-74.93	-46.24	373,570.07	876,381.76	32.022416	-103.252269
11,938.00	76.61	353.21	11,699.38	-44.19	-50.07	373,600.81	876,377.93	32.022501	-103.252281
11,969.00	80.47	353.82	11,705.54	-14.00	-53.50	373,630.99	876,374.50	32.022584	-103.252291
12,000.00	84.10	355.02	11,709.70	16.56	-56.48	373,661.56	876,371.52	32.022668	-103.252299
12,032.00	87.56	355.61	11,712.03	48.37	-59.09	373,693.37	876,368.91	32.022756	-103.252307
12,130.00	90.42	0.15	11,713.76	146.25	-62.71	373,791.25	876,365.29	32.023025	-103.252315
12,225.00	93.45	357.73	11,710.55	241.16	-64.47	373,886.16	876,363.53	32.023286	-103.252318
12,319.00	94.57	357.76	11,703.97	334.86	-68.16	373,979.86	876,359.84	32.023543	-103.252327
12,414.00	93.25	358.10	11,697.50	429.57	-71.58	374,074.57	876,356.42	32.023804	-103.252335
12,509.00	93.73	357.94	11,691.71	524.34	-74.86	374,169.34	876,353.14	32.024064	-103.252342
12,603.00	91.71	359.35	11,687.25	618.20	-77.07	374,263.20	876,350.93	32.024322	-103.252346
12,698.00	93.00	359.68	11,683.35	713.11	-77.88	374,358.11	876,350.12	32.024583	-103.252346
12,792.00	90.59	0.26	11,680.41	807.06	-77.93	374,452.06	876,350.07	32.024842	-103.252343
12,887.00	89.66	0.38	11,680.20	902.06	-77.40	374,547.06	876,350.60	32.025103	-103.252338
12,982.00	91.23	0.59	11,679.46	997.05	-76.59	374,642.05	876,351.41	32.025364	-103.252333
13,076.00	87.45	359.12	11,680.54	1,091.02	-76.83	374,736.02	876,351.17	32.025622	-103.252330
13,171.00	87.84	359.20	11,684.45	1,185.93	-78.22	374,830.93	876,349.78	32.025883	-103.252332
13,265.00	88.74	359.10	11,687.25	1,279.88	-79.61	374,924.88	876,348.38	32.026141	-103.252333
13,360.00	87.11	358.03	11,690.69	1,374.78	-81.99	375,019.78	876,346.01	32.026402	-103.252338
13,454.00	88.01	358.00	11,694.69	1,468.64	-85.24	375,113.64	876,342.75	32.026660	-103.252345
13,549.00	89.38	358.31	11,696.86	1,563.56	-88.30	375,208.56	876,339.70	32.026921	-103.252352
13,659.00	89.78	358.15	11,697.66	1,673.51	-91.70	375,318.51	876,336.30	32.027223	-103.252359
13,754.00	90.64	358.23	11,697.31	1,768.46	-94.70	375,413.46	876,333.30	32.027484	-103.252366
13,848.00	91.82	358.59	11,695.30	1,862.40	-97.31	375,507.40	876,330.69	32.027743	-103.252371
13,943.00	90.59	358.82	11,693.30	1,957.35	-99.45	375,602.35	876,328.55	32.028004	-103.252375
14,037.00	91.82	358.95	11,691.32	2,051.31	-101.28	375,696.31	876,326.72	32.028262	-103.252378
14,132.00	89.47	357.70	11,690.25	2,146.26	-104.06	375,791.25	876,323.94	32.028523	-103.252384
14,226.00	92.89	357.51	11,688.32	2,240.14	-107.99	375,885.14	876,320.01	32.028781	-103.252394
14,321.00	94.31	357.85	11,682.35	2,334.87	-111.82	375,979.87	876,316.17	32.029042	-103.252403
14,415.00	92.58	0.28	11,676.70	2,428.68	-113.35	376,073.68	876,314.65	32.029299	-103.252405
14,509.00	92.80	0.20	11,672.29	2,522.58	-112.96	376,167.57	876,315.04	32.029558	-103.252401
14,604.00	93.56	0.43	11,667.02	2,617.43	-112.44	376,262.43	876,315.56	32.029818	-103.252396
14,698.00	94.18	0.83	11,660.68	2,711.21	-111.41	376,356.20	876,316.59	32.030076	-103.252390
14,793.00	94.74	0.88	11,653.29	2,805.91	-109.99	376,450.91	876,318.00	32.030336	-103.252382
14,888.00	94.91	1.25	11,645.30	2,900.55	-108.24	376,545.55	876,319.76	32.030596	-103.252373
14,982.00	91.93	359.67	11,639.69	2,994.37	-107.48	376,639.37	876,320.52	32.030854	-103.252368
15,077.00	91.20	359.15	11,637.10	3,089.33	-108.46	376,734.33	876,319.54	32.031115	-103.252368

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 125H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Site:	Magnolia State Com 26-36-22	MD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Well:	125H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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
15,171.00	91.91	359.57	11,634.55	3,183.29	-109.51	376,828.29	876,318.49	32.031373	-103.252368
15,266.00	92.41	359.99	11,630.97	3,278.22	-109.88	376,923.22	876,318.12	32.031634	-103.252366
15,360.00	92.80	359.36	11,626.69	3,372.12	-110.41	377,017.12	876,317.59	32.031892	-103.252365
15,455.00	90.20	358.20	11,624.21	3,467.06	-112.43	377,112.05	876,315.57	32.032153	-103.252368
15,549.00	90.42	358.32	11,623.70	3,561.01	-115.29	377,206.01	876,312.71	32.032412	-103.252375
15,643.00	91.18	356.11	11,622.39	3,654.88	-119.85	377,299.88	876,308.15	32.032670	-103.252386
15,738.00	91.60	0.68	11,620.08	3,749.79	-122.51	377,394.79	876,305.49	32.032931	-103.252392
15,833.00	92.19	0.85	11,616.94	3,844.73	-121.24	377,489.73	876,306.76	32.033192	-103.252385
15,927.00	93.31	1.04	11,612.43	3,938.61	-119.70	377,583.61	876,308.30	32.033450	-103.252377
16,021.00	91.96	359.78	11,608.11	4,032.50	-119.02	377,677.50	876,308.98	32.033708	-103.252371
16,116.00	89.66	358.80	11,606.76	4,127.48	-120.20	377,772.48	876,307.80	32.033969	-103.252372
16,238.00	90.08	359.18	11,607.04	4,249.46	-122.35	377,894.46	876,305.65	32.034304	-103.252375
16,333.00	88.63	357.78	11,608.11	4,344.42	-124.87	377,989.41	876,303.13	32.034565	-103.252380
16,427.00	88.35	357.61	11,610.59	4,438.31	-128.65	378,083.31	876,299.35	32.034823	-103.252389
16,522.00	86.78	357.31	11,614.62	4,533.12	-132.86	378,178.12	876,295.14	32.035084	-103.252400
16,616.00	86.83	358.66	11,619.86	4,626.92	-136.16	378,271.92	876,291.84	32.035342	-103.252408
16,711.00	86.69	357.79	11,625.23	4,721.72	-139.09	378,366.72	876,288.91	32.035603	-103.252414
16,805.00	86.83	358.97	11,630.55	4,815.53	-141.75	378,460.53	876,286.25	32.035861	-103.252419
16,900.00	87.53	358.25	11,635.22	4,910.39	-144.05	378,555.39	876,283.95	32.036121	-103.252424
16,994.00	89.33	359.04	11,637.79	5,004.32	-146.27	378,649.32	876,281.73	32.036380	-103.252428
17,088.00	88.77	357.93	11,639.35	5,098.27	-148.76	378,743.27	876,279.24	32.036638	-103.252433
17,183.00	89.27	358.75	11,640.98	5,193.22	-151.51	378,838.22	876,276.49	32.036899	-103.252439
17,277.00	90.14	0.18	11,641.46	5,287.21	-152.38	378,932.21	876,275.62	32.037157	-103.252439
17,372.00	90.14	1.40	11,641.23	5,382.20	-151.07	379,027.20	876,276.92	32.037418	-103.252431
17,466.00	90.70	0.81	11,640.54	5,476.18	-149.26	379,121.18	876,278.74	32.037677	-103.252422
17,560.00	90.64	0.70	11,639.44	5,570.16	-148.02	379,215.16	876,279.98	32.037935	-103.252415
17,655.00	91.79	1.74	11,637.43	5,665.12	-146.00	379,310.12	876,282.00	32.038196	-103.252406
17,749.00	91.74	1.09	11,634.53	5,759.04	-143.68	379,404.04	876,284.32	32.038454	-103.252395
17,843.00	91.79	1.11	11,631.64	5,852.98	-141.88	379,497.98	876,286.12	32.038712	-103.252386
17,938.00	91.74	359.47	11,628.71	5,947.93	-141.40	379,592.93	876,286.60	32.038973	-103.252382
18,032.00	91.68	358.77	11,625.91	6,041.88	-142.84	379,686.88	876,285.16	32.039231	-103.252383
18,126.00	91.71	358.18	11,623.13	6,135.80	-145.34	379,780.80	876,282.66	32.039489	-103.252388
18,220.00	91.68	358.50	11,620.34	6,229.72	-148.06	379,874.72	876,279.94	32.039748	-103.252394
18,315.00	91.77	358.29	11,617.49	6,324.64	-150.72	379,969.64	876,277.28	32.040009	-103.252400
18,409.00	91.62	358.57	11,614.70	6,418.57	-153.30	380,063.56	876,274.70	32.040267	-103.252405
18,504.00	92.66	358.20	11,611.16	6,513.46	-155.97	380,158.46	876,272.03	32.040528	-103.252411
18,522.00	91.77	358.92	11,610.46	6,531.44	-156.42	380,176.44	876,271.58	32.040577	-103.252411
First ST02 Survey									
18,553.00	90.28	0.77	11,609.91	6,562.43	-156.51	380,207.43	876,271.49	32.040662	-103.252411
18,585.00	90.00	1.27	11,609.83	6,594.43	-155.94	380,239.43	876,272.06	32.040750	-103.252408
18,616.00	90.14	1.17	11,609.79	6,625.42	-155.28	380,270.42	876,272.72	32.040835	-103.252405
18,668.00	91.49	1.13	11,606.21	6,877.34	-150.22	380,522.34	876,277.78	32.041528	-103.252380
18,962.00	91.99	1.62	11,603.35	6,971.27	-147.97	380,616.27	876,280.03	32.041786	-103.252370
19,057.00	94.06	0.93	11,598.34	7,066.11	-145.86	380,711.11	876,282.14	32.042046	-103.252360
19,151.00	94.60	1.05	11,591.24	7,159.82	-144.24	380,804.82	876,283.76	32.042304	-103.252352
19,246.00	96.15	358.37	11,582.34	7,254.39	-144.71	380,899.39	876,283.29	32.042564	-103.252350
19,343.00	96.88	358.32	11,571.34	7,350.73	-147.49	380,995.72	876,280.50	32.042829	-103.252356
19,438.00	98.35	357.41	11,558.75	7,444.82	-151.00	381,089.82	876,277.00	32.043087	-103.252364
19,532.00	97.28	356.50	11,545.97	7,537.81	-155.95	381,182.81	876,272.05	32.043343	-103.252377
19,626.00	94.66	357.73	11,536.19	7,631.17	-160.65	381,276.17	876,267.35	32.043600	-103.252390
19,720.00	95.14	357.86	11,528.16	7,724.76	-164.26	381,369.76	876,263.74	32.043857	-103.252398
19,815.00	96.06	357.92	11,518.89	7,819.24	-167.74	381,464.24	876,260.26	32.044117	-103.252406
19,909.00	95.19	358.47	11,509.68	7,912.74	-170.68	381,557.74	876,257.32	32.044374	-103.252413
20,003.00	95.87	358.26	11,500.62	8,006.27	-173.35	381,651.26	876,254.65	32.044631	-103.252418
20,098.00	96.77	358.35	11,490.16	8,100.65	-176.14	381,745.64	876,251.85	32.044891	-103.252424

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 125H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Site:	Magnolia State Com 26-36-22	MD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Well:	125H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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
20,192.00	96.06	358.71	11,479.66	8,194.03	-178.54	381,839.02	876,249.46	32.045147	-103.252429
20,286.00	95.27	359.23	11,470.38	8,287.55	-180.22	381,932.55	876,247.78	32.045404	-103.252431
20,381.00	93.56	359.28	11,463.07	8,382.26	-181.45	382,027.26	876,246.55	32.045665	-103.252432
20,476.00	93.22	0.71	11,457.45	8,477.09	-181.46	382,122.09	876,246.54	32.045925	-103.252429
20,571.00	94.49	0.66	11,451.06	8,571.87	-180.33	382,216.86	876,247.67	32.046186	-103.252423
20,665.00	94.23	359.75	11,443.91	8,665.59	-179.99	382,310.59	876,248.01	32.046443	-103.252419
20,760.00	93.11	359.89	11,437.83	8,760.39	-180.29	382,405.39	876,247.71	32.046704	-103.252416
20,854.00	90.59	359.65	11,434.80	8,854.34	-180.67	382,499.34	876,247.33	32.046962	-103.252415
20,949.00	89.58	358.83	11,434.66	8,949.33	-181.93	382,594.33	876,246.07	32.047223	-103.252416
21,043.00	89.33	358.72	11,435.55	9,043.30	-183.94	382,688.30	876,244.06	32.047482	-103.252419
21,138.00	88.51	0.66	11,437.34	9,138.28	-184.45	382,783.28	876,243.55	32.047743	-103.252418
21,232.00	91.04	0.90	11,437.71	9,232.26	-183.17	382,877.26	876,244.83	32.048001	-103.252410
21,326.00	88.80	0.35	11,437.84	9,326.25	-182.15	382,971.25	876,245.85	32.048259	-103.252404
21,426.00	91.12	1.21	11,437.91	9,426.23	-180.79	383,071.23	876,247.21	32.048534	-103.252397
21,521.00	90.45	0.46	11,436.61	9,521.21	-179.40	383,166.21	876,248.60	32.048795	-103.252389
21,615.00	90.98	0.02	11,435.44	9,615.20	-179.01	383,260.20	876,248.99	32.049053	-103.252385
21,709.00	89.47	358.95	11,435.07	9,709.19	-179.85	383,354.19	876,248.15	32.049312	-103.252384
21,804.00	86.81	357.35	11,438.15	9,804.08	-182.92	383,449.08	876,245.08	32.049573	-103.252391
21,898.00	86.64	356.21	11,443.52	9,897.78	-188.19	383,542.78	876,239.81	32.049830	-103.252405
21,992.00	88.52	356.62	11,447.49	9,991.51	-194.06	383,636.51	876,233.94	32.050088	-103.252421
22,048.00	89.58	356.66	11,448.42	10,047.40	-197.34	383,692.40	876,230.66	32.050242	-103.252430
Last ST02 Survey @ 22048'									
22,058.00	89.58	356.66	11,448.49	10,057.39	-197.92	383,702.38	876,230.08	32.050269	-103.252431
LTP @ 22058' MD/ 89.58 INC/ 356.66 AZM									
22,108.00	89.58	356.66	11,448.86	10,107.30	-200.84	383,752.30	876,227.16	32.050407	-103.252439
PTB @ 22108'									

Design 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									
125H Target #10 ST02 F	0.00	0.00	11,391.00	9,698.30	-181.79	383,343.30	876,246.21	32.049282	-103.252391
- actual wellpath misses target center by 44.04usft at 21698.30usft MD (11434.99 TVD, 9698.49 N, -179.67 E)									
- Point									
125H Target #9 ST02 P2	0.00	0.00	11,441.00	8,698.32	-171.51	382,343.32	876,256.49	32.046533	-103.252390
- actual wellpath misses target center by 8.64usft at 20697.82usft MD (11441.60 TVD, 8698.33 N, -180.12 E)									
- Point									
125H Target #8 ST02 P2	0.00	0.00	11,531.00	7,698.34	-161.23	381,343.34	876,266.77	32.043784	-103.252389
- actual wellpath misses target center by 2.09usft at 19693.34usft MD (11530.52 TVD, 7698.22 N, -163.25 E)									
- Point									
Magnolia State 125H LT	0.00	0.00	12,061.00	10,058.00	-186.00	383,703.00	876,242.00	32.050271	-103.252393
- actual wellpath misses target center by 612.62usft at 22058.00usft MD (11448.49 TVD, 10057.39 N, -197.92 E)									
- Point									
Magnolia State 125H PE	0.00	0.00	12,061.00	10,108.00	-186.00	383,753.00	876,242.00	32.050408	-103.252391
- actual wellpath misses target center by 612.32usft at 22108.00usft MD (11448.86 TVD, 10107.30 N, -200.84 E)									
- Point									

Company:	Ameredev Operating LLC	Local Co-ordinate Reference:	Well 125H
Project:	Lea Co., NM (NAD 83 Grid)	TVD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Site:	Magnolia State Com 26-36-22	MD Reference:	RKB=27' @ 2935.00usft (H&P 616)
Well:	125H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	Database:	EDM 5000.1 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
18,522.00	11,610.46	8,531.44	-156.42	First ST02 Survey
22,048.00	11,448.42	10,047.40	-197.34	Last ST02 Survey @ 22048'
22,058.00	11,448.49	10,057.39	-197.92	LTP @ 22058' MD/ 89.58 INC/ 356.66 AZM
22,108.00	11,448.86	10,107.30	-200.84	PTB @ 22108'

Checked By: _____	Approved By: _____	Date: _____
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AMEREDEV

Project: Lea Co., NM (NAD 83 Grid)
 Site: Magnolia State Cam 26-36-22
 Well: 125H
 Wellbore: ST02
 Design: ST02
 Lat: 32.022621
 Long: -103.252117
 GL: 2908.00
 KB: RKB=27' @ 2935.00usf (H&P 616)



Azimuths to Grid North
 True North: -0.57°
 Magnetic North: 6.02°
 Magnetic Field
 Strength: 47665.5nT
 Dip Angle: 59.90°
 Date: 04/22/2019
 Model: IGRF2015

WELL DETAILS: 125H

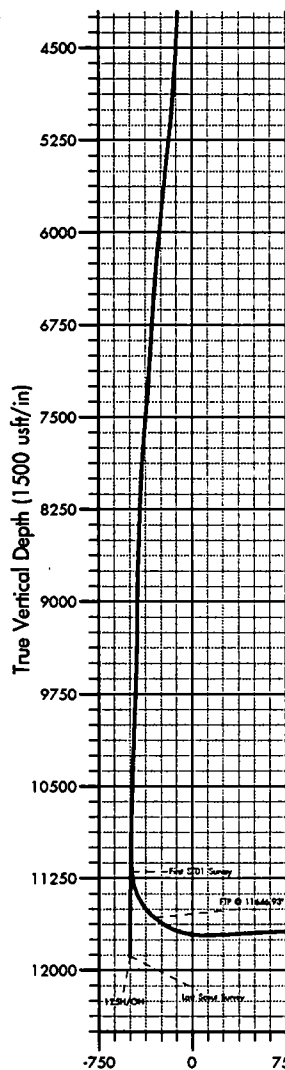
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	373645.00	876428.00	32.022621	-103.252117

WELLBORE TARGET DETAILS (LAT/LONG)

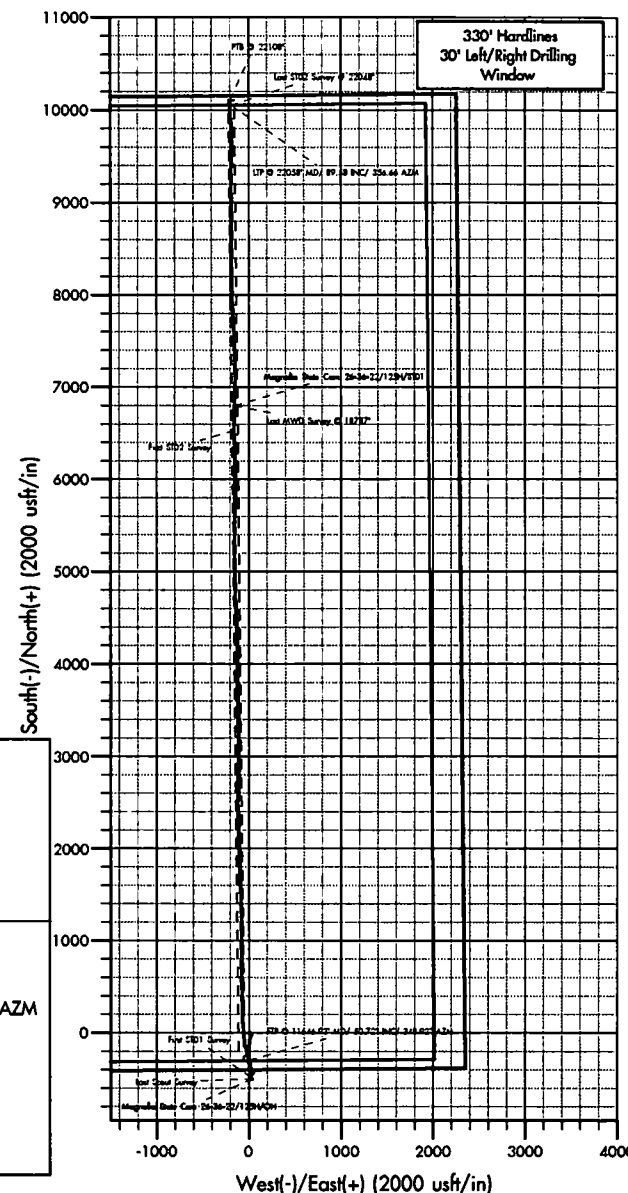
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
125H Target #10 ST02 P2	11391.00	9698.30	-181.79	383343.30	876246.21	Point
125H Target #9 ST02 P2	11441.00	8698.32	-171.51	382343.32	876256.49	Point
125H Target #8 ST02 P2	11531.00	7698.34	-161.23	381343.34	876266.77	Point
Magnolia State 125H LTP P3	12061.00	10058.00	-186.00	383703.00	876242.00	Point
Magnolia State 125H P8HL P3	12061.00	10108.00	-186.00	383753.00	876242.00	Point

PLAN ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
18522.00	91.77	358.92	11610.46	6531.44	-156.42	6533.26	7581.72	First ST02 Survey
22048.00	89.58	356.66	11448.42	10047.40	-197.34	10049.34	11099.07	Last ST02 Survey @ 22048'
22058.00	89.58	356.66	11448.49	10057.39	-197.92	10059.33	11109.07	LTP @ 22058' MD/ 89.58 INC/ 356.66 AZM
22108.00	89.58	356.66	11448.86	10107.30	-200.84	10109.29	11159.07	PTB @ 22108'



Vertical Section at 358.86° (1500 usf/in)



Design: ST02 (125H/ST02)

Created By: Dusty Meyer Date: 13:30, June 27, 2019