



PHOENIX
TECHNOLOGY SERVICES

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Centennial Resources Development, Inc.

Lea County, NM (NAD83 - NME)

Airstream 24 State Com

505H

ST01/ 65151

Survey: Phoenix MWD Surveys

Standard Survey Report

30 August, 2019



CENTENNIAL
RESOURCE DEVELOPMENT, INC.

Company: Centennial Resources Development, Inc.
Project: Lea County, NM (NAD83 - NME)
Site: Airstream 24 State Com
Well: 505H
Wellbore: ST01 / 65151
Design: Surveys (H&P 618)

Local Co-ordinate Reference: Well 505H
TVD Reference: RKB @ 3549.50usft (H&P 618)
MD Reference: RKB @ 3549.50usft (H&P 618)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA Compass

Project	Lea County, NM (NAD83 - NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Airstream 24 State Com
Site Position:
From: Map
Position Uncertainty: 0.00 usft
Northing: 505,402.74 usft
Easting: 823,950.92 usft
Slot Radius: 13-3/16 "
Latitude: 32° 23' 9.946151 N
Longitude: 103° 25' 4.085155 W
Grid Convergence: 0.49 °

Well 505H
Well Position +N/-S 0.00 usft
+E/-W 0.00 usft
Position Uncertainty 0.00 usft
Wellhead Elevation: usft
Latitude: 32° 23' 9.946151 N
Longitude: 103° 25' 4.085155 W
Ground Level: 3,524.50 usft

Wellbore	ST01 / 65151				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	9/12/2019	6.65	60.10	48,014.09157453

Design Surveys (H&P 618)
Audit Notes:
Version: 1.0
Phase: ACTUAL
Tie On Depth: 17,193.00
Vertical Section:
Depth From (TVD) (usft) 0.00
+N/-S (usft) 0.00
+E/-W (usft) 0.00
Direction (°) 182.21

Survey Program	Date 8/30/2019				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
180.00	1,834.00	Fabtech MWD Surveys (OH / Surface)	MWD	OWSG MWD - Standard	
1,834.00	17,193.00	Phoenix MWD Surveys (OH / 65151)	MWD+HRGM	OWSG MWD + HRGM	
17,202.00	20,710.00	Phoenix MWD Surveys (ST01 / 65151)	MWD+HRGM	OWSG MWD + HRGM	

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,193.00	90.90	180.69	10,330.19	-7,548.43	-392.81	7,557.97	0.00	0.00	0.00
Tie In									
17,202.00	89.76	181.09	10,330.14	-7,557.43	-392.95	7,566.96	13.42	-12.67	4.44
First Phoenix MWD Survey - ST01									
17,220.00	88.96	182.45	10,330.34	-7,575.42	-393.51	7,584.96	8.77	-4.44	7.56
17,251.00	88.25	183.81	10,331.10	-7,606.37	-395.20	7,615.95	4.95	-2.29	4.39
17,282.00	88.14	185.15	10,332.07	-7,637.26	-397.62	7,646.91	4.33	-0.35	4.32
17,314.00	88.27	186.27	10,333.07	-7,669.08	-400.80	7,678.83	3.52	0.41	3.50

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,345.00	88.24	185.98	10,334.02	-7,699.89	-404.11	7,709.75	0.94	-0.10	-0.94
17,439.00	88.10	185.92	10,337.02	-7,793.34	-413.85	7,803.50	0.16	-0.15	-0.06
17,533.00	88.04	185.91	10,340.19	-7,886.78	-423.53	7,897.25	0.06	-0.06	-0.01
17,628.00	88.67	183.57	10,342.91	-7,981.41	-431.37	7,992.11	2.55	0.66	-2.46
17,721.00	86.91	183.16	10,346.50	-8,074.18	-436.83	8,085.02	1.94	-1.89	-0.44
17,815.00	87.33	181.03	10,351.22	-8,167.99	-440.26	8,178.89	2.31	0.45	-2.27
17,910.00	88.37	180.97	10,354.79	-8,262.91	-441.92	8,273.80	1.10	1.09	-0.06
18,004.00	88.91	180.86	10,357.02	-8,356.87	-443.42	8,367.75	0.59	0.57	-0.12
18,097.00	89.18	179.91	10,358.57	-8,449.85	-444.04	8,460.69	1.06	0.29	-1.02
18,191.00	89.81	179.80	10,359.40	-8,543.85	-443.80	8,554.61	0.68	0.67	-0.12
18,285.00	89.56	179.69	10,359.91	-8,637.85	-443.39	8,648.52	0.29	-0.27	-0.12
18,380.00	90.18	179.79	10,360.13	-8,732.84	-442.96	8,743.43	0.66	0.65	0.11
18,473.00	90.22	179.30	10,359.80	-8,825.84	-442.22	8,836.33	0.53	0.04	-0.53
18,567.00	87.42	178.74	10,361.74	-8,919.80	-440.61	8,930.15	3.04	-2.98	-0.60
18,661.00	87.70	178.62	10,365.74	-9,013.69	-438.45	9,023.89	0.32	0.30	-0.13
18,755.00	88.34	178.78	10,368.99	-9,107.61	-436.31	9,117.66	0.70	0.68	0.17
18,850.00	88.91	178.87	10,371.27	-9,202.56	-434.37	9,212.46	0.61	0.60	0.09
18,944.00	89.62	178.47	10,372.48	-9,296.52	-432.19	9,306.28	0.87	0.76	-0.43
19,038.00	90.13	178.39	10,372.68	-9,390.49	-429.61	9,400.07	0.55	0.54	-0.09
19,132.00	90.92	177.97	10,371.82	-9,484.44	-426.63	9,493.83	0.95	0.84	-0.45
19,226.00	89.67	179.35	10,371.34	-9,578.41	-424.43	9,587.65	1.98	-1.33	1.47
19,320.00	88.51	179.15	10,372.83	-9,672.38	-423.20	9,681.51	1.25	-1.23	-0.21
19,414.00	87.39	178.82	10,376.19	-9,766.31	-421.53	9,775.30	1.24	-1.19	-0.35
19,508.00	89.38	179.75	10,378.84	-9,860.26	-420.36	9,869.13	2.34	2.12	0.99
19,602.00	90.41	179.57	10,379.01	-9,954.25	-419.80	9,963.04	1.11	1.10	-0.19
19,696.00	90.59	178.98	10,378.19	-10,048.24	-418.61	10,056.91	0.66	0.19	-0.63
19,790.00	89.81	178.56	10,377.86	-10,142.22	-416.60	10,150.74	0.94	-0.83	-0.45
19,884.00	89.31	178.16	10,378.59	-10,236.18	-413.91	10,244.52	0.68	-0.53	-0.43
19,978.00	89.70	178.15	10,379.40	-10,330.12	-410.88	10,338.29	0.42	0.41	-0.01
20,072.00	90.95	180.83	10,378.86	-10,424.11	-410.04	10,432.17	3.15	1.33	2.85
20,166.00	89.70	179.72	10,378.33	-10,518.10	-410.49	10,526.11	1.78	-1.33	-1.18
20,260.00	90.81	179.24	10,377.91	-10,612.10	-409.64	10,620.00	1.29	1.18	-0.51
20,354.00	90.78	178.67	10,376.61	-10,706.07	-407.93	10,713.84	0.61	-0.03	-0.61
20,448.00	90.82	178.26	10,375.30	-10,800.03	-405.41	10,807.63	0.44	0.04	-0.44
20,540.00	91.78	178.01	10,373.21	-10,891.95	-402.42	10,899.37	1.08	1.04	-0.27
20,631.00	89.50	177.36	10,372.19	-10,982.87	-398.74	10,990.08	2.61	-2.51	-0.71
20,649.00	89.47	177.27	10,372.35	-11,000.85	-397.90	11,008.01	0.53	-0.17	-0.50
Final Phoenix MWD Survey - ST01									
20,710.00	89.47	177.27	10,372.92	-11,061.78	-394.99	11,068.78	0.00	0.00	0.00
Projection to TD - ST01									

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Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
17,193.00	10,330.19	-7,548.43	-392.81	Tie In
17,202.00	10,330.14	-7,557.43	-392.95	First Phoenix MWD Survey - ST01
20,649.00	10,372.35	-11,000.85	-397.90	Final Phoenix MWD Survey - ST01
20,710.00	10,372.92	-11,061.78	-394.99	Projection to TD - ST01