

HOBBS OCD
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**CENTENNIAL RESOURCE
DEVELOPMENT, LLC**

LEA COUNTY, NM (NAD 83 - UTM ZONE 13 - TRUE)
SW SE SEC. 13 T22S R34E
AIRSTREAM 24 STATE COM 503H
26 August, 2019

Survey: FINAL SURVEYS





Project: LEA COUNTY, NM (NAD 83 - UTM ZONE 13 - TRUE)
 Site: SW SE SEC. 13 T22S R34E
 Well: AIRSTREAM 24 STATE COM 503H
 Wellbore: JOB # 2019-508-650
 Design: FINAL SURVEYS

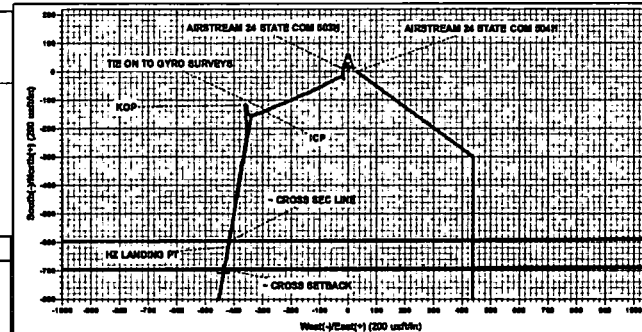


ANNOTATIONS

TVD	MD	Inc	Ad	+N-S	+E-W	Vertical	Annotation
5320.00	5320.00	3.84	248.60	-134.78	-253.91	120.40	329.32
5480.07	5500.00	3.28	231.25	-129.22	-252.81	192.25	337.81
5623.70	5647.04	3.25	191.21	-117.42	-233.98	153.21	301.25
5718.20	5745.00	88.35	183.29	-286.44	-418.20	614.27	853.43
10187.50	10481.00	67.68	194.47	-815.10	-419.22	633.37	1004.41
10190.23	10545.00	88.56	190.08	-894.78	-434.01	713.28	1085.37
10340.84	10811.00	89.72	181.78	-1033.27	-510.23	1104.25	1143.08
10341.10	10845.00	89.72	181.78	-1084.28	-511.05	1107.04	11443.08

WELLBORE TARGET DETAILS (LAT/LONG)

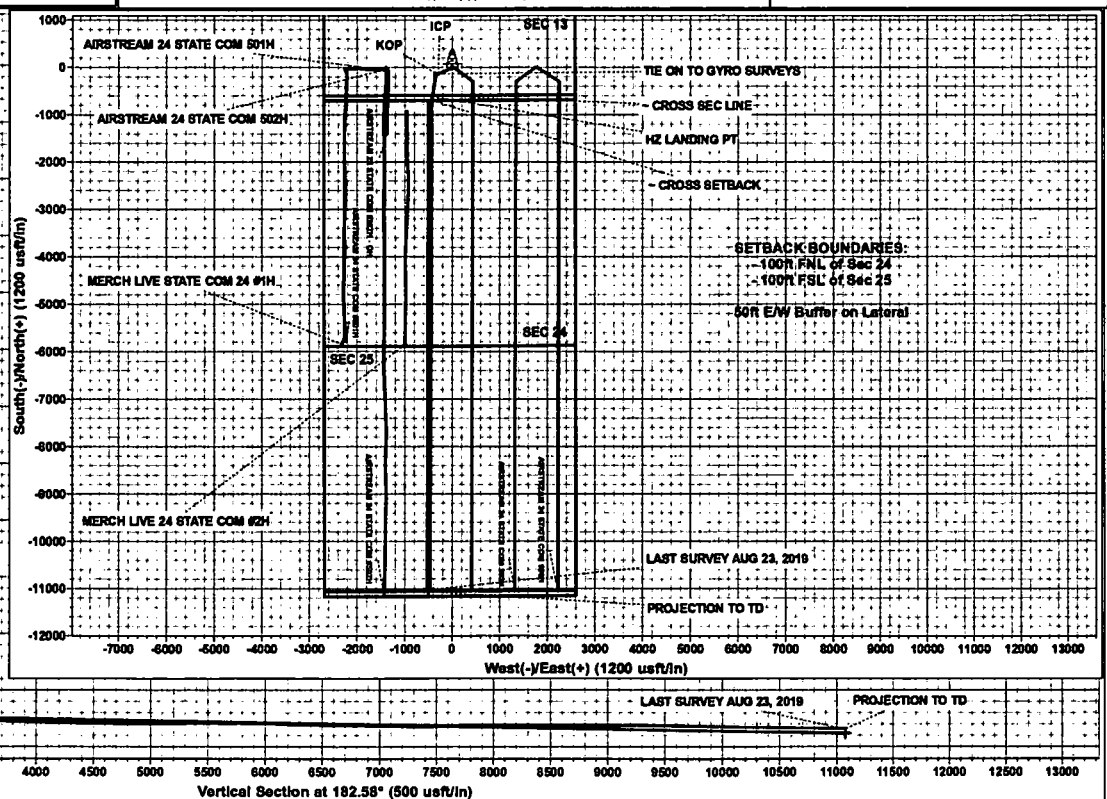
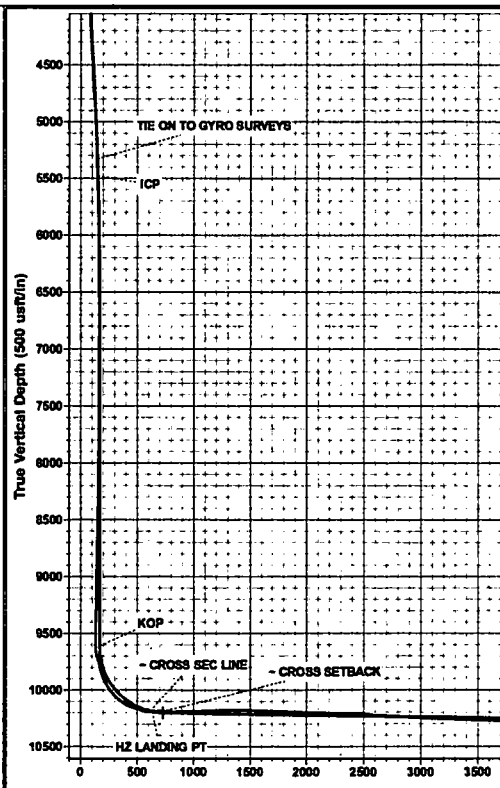
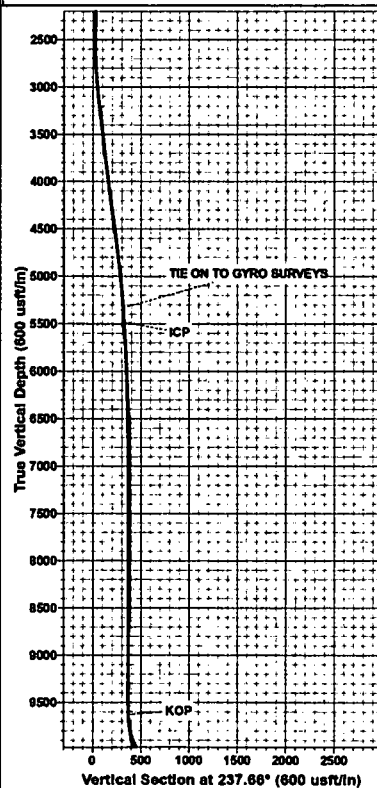
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
HZ LP - AIRSTREAM 24 STATE COM 503H (P3)	10199.87	-707.72	-438.75	11758861.84	2126517.93	32.384152	-103.424888
LTP/BHL - AIRSTREAM 24 STATE COM 503H (P2) 0380.50		-11061.15	-493.41	11748509.96	2126608.88	32.355694	-103.425067



Azimuths to True North
 Magnetic North: 6.87°
 Magnetic Field
 Strength: 47032.1nT
 Dip Angle: 60.21°
 Date: 25/07/2019
 Model: IGRF2016

AS DRILLED LOCAL COORDINATES

SNL: 599R FSL & 2583R FEL of Sec 13
 HZ LP: 16.02R FNL & 2282.16R FWL of Sec 24
 BNL: 94.89R FSL & 2215.36R FWL of Sec 25



Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPMENT	Local Co-ordinate Reference:	Well AIRSTREAM 24 STATE COM 503H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE 13)	TVD Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
Site:	SW SE SEC. 13 T22S R34E	MB Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
Well:	AIRSTREAM 24 STATE COM 503H	North Reference:	True
Wellbore:	JOB # 2019-508-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE 13 - TRUE)		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		Using geodetic scale factor

Site		SW SE SEC. 13 T22S R34E			
Site Position:		Northing:	11,759,575.83 usft	Latitude:	32.386097
From:	Map	Easting:	2,126,944.14 usft	Longitude:	-103.423454
Position Uncertainty:	0.00 usft	Slot Radius:	1.10 ft	Grid Convergence:	0.84 °

Well	AIRSTREAM 24 STATE COM 503H					
Well Position	+N/-S	0.00 usft	Northing:	11,759,575.83 usft	Latitude:	32.386097
	+E/-W	0.00 usft	Easting:	2,126,944.14 usft	Longitude:	-103.423454
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,510.50 usft

Wellbore:	JOB # 2019-508-650				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (uT)
	IGRF2015	25/07/2019	6.67	60.21	47,832

Design		FINAL SURVEYS			
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	182.58	

Survey Program	Date: 26/08/2019				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	20,945.00	FINAL SURVEYS (JOB # 2019-508-650)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction	

Survey										
Measured Depth (usft)	Correction (°)	Amount (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (1/1000usft)	Bull's Rate (1/1000usft)	Turn Rate (1/1000usft)
0.00	0.00	0.00	0.00	3,537.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.52	10.44	100.00	3,437.00	0.45	0.08	-0.45	0.52	0.52	0.00
200.00	0.56	8.28	199.99	3,337.01	1.38	0.23	-1.39	0.04	0.04	-2.16
300.00	0.54	10.63	299.99	3,237.01	2.32	0.39	-2.34	0.03	-0.02	2.35
400.00	0.68	14.00	399.98	3,137.02	3.36	0.62	-3.39	0.14	0.14	3.37
500.00	1.05	7.99	499.97	3,037.03	4.84	0.89	-4.88	0.38	0.37	-6.01
600.00	2.18	356.91	599.93	2,937.07	7.65	0.92	-7.69	1.17	1.13	-11.08
700.00	4.49	342.78	699.76	2,837.24	13.29	-0.34	-13.26	2.43	2.31	-14.13
800.00	5.01	331.79	799.41	2,737.59	20.88	-3.57	-20.70	1.05	0.52	-10.99
900.00	2.67	315.60	899.19	2,637.81	26.39	-7.26	-26.04	2.56	-2.34	-16.19
1,000.00	0.92	229.55	999.14	2,537.86	27.53	-9.50	-27.08	2.76	-1.75	-86.05
1,100.00	1.34	200.61	1,099.13	2,437.87	25.92	-10.52	-25.42	0.70	0.42	-28.94
1,200.00	1.42	199.23	1,199.10	2,337.90	23.65	-11.34	-23.12	0.09	0.08	-1.38

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well AIRSTREAM 24 STATE COM 503H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
Site:	SW SE SEC. 13 T22S R34E	MD Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
Well:	AIRSTREAM 24 STATE COM 503H	North Reference:	True
Wellbore:	JOB # 2019-508-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,300.00	1.75	195.35	1,299.06	2,237.94	21.01	-12.16	-20.44	0.35	0.33	-3.88
1,400.00	1.99	196.17	1,399.01	2,137.99	17.87	-13.04	-17.27	0.24	0.24	0.82
1,500.00	2.15	198.15	1,498.94	2,038.06	14.42	-14.11	-13.77	0.18	0.16	1.98
1,600.00	2.85	197.96	1,598.84	1,938.16	10.27	-15.46	-9.57	0.70	0.70	-0.19
1,700.00	3.57	192.77	1,698.69	1,838.31	4.87	-16.92	-4.11	0.78	0.72	-5.19
1,800.00	3.95	185.95	1,798.47	1,738.53	-1.59	-17.96	2.40	0.59	0.38	-6.82
1,900.00	4.28	178.01	1,898.21	1,638.79	-8.74	-18.19	9.55	0.66	0.33	-7.94
2,000.00	4.45	176.85	1,997.92	1,539.08	-16.35	-17.85	17.13	0.19	0.17	-1.16
2,100.00	3.33	163.21	2,097.69	1,439.31	-23.00	-16.79	23.73	1.45	-1.12	-13.64
2,200.00	1.57	135.65	2,197.60	1,339.40	-26.76	-15.00	27.41	2.07	-1.76	-27.56
2,300.00	0.62	0.40	2,297.59	1,239.41	-27.20	-14.04	27.81	2.06	-0.95	-135.25
2,400.00	1.07	346.18	2,397.58	1,139.42	-25.75	-14.26	26.37	0.49	0.45	-14.22
2,500.00	1.22	341.65	2,497.56	1,039.44	-23.84	-14.81	24.48	0.18	0.15	-4.53
2,600.00	1.47	304.88	2,597.53	939.47	-22.09	-16.20	22.80	0.88	0.25	-36.77
2,700.00	1.83	289.13	2,697.49	839.51	-20.84	-18.76	21.66	0.58	0.36	-15.75
2,800.00	2.98	268.30	2,797.41	739.59	-20.39	-22.87	21.40	1.43	1.15	-20.83
2,900.00	4.30	255.54	2,897.20	639.80	-21.40	-29.10	22.69	1.54	1.32	-12.76
3,000.00	5.76	246.74	2,996.82	540.18	-24.32	-37.34	25.98	1.65	1.46	-8.80
3,100.00	6.61	243.19	3,096.23	440.77	-28.90	-47.09	30.99	0.93	0.85	-3.55
3,200.00	6.72	242.25	3,195.56	341.44	-34.22	-57.40	36.77	0.15	0.11	-0.94
3,300.00	6.75	241.89	3,294.87	242.13	-39.71	-67.76	42.72	0.05	0.03	-0.36
3,400.00	6.90	241.68	3,394.16	142.84	-45.33	-78.23	48.81	0.15	0.15	-0.21
3,500.00	6.42	243.17	3,493.48	43.52	-50.70	-88.51	54.84	0.51	-0.48	1.49
3,600.00	5.79	244.57	3,592.92	-55.92	-55.39	-98.06	59.75	0.65	-0.63	1.40
3,700.00	5.85	244.27	3,692.40	-155.40	-59.77	-107.20	64.54	0.07	0.06	-0.30
3,800.00	7.36	244.42	3,791.74	-254.74	-64.75	-117.57	69.98	1.51	1.51	0.15
3,900.00	7.67	244.85	3,890.88	-353.88	-70.35	-129.39	76.10	0.32	0.31	0.43
4,000.00	6.99	247.74	3,990.06	-453.06	-75.49	-141.06	81.77	0.77	-0.68	2.89
4,100.00	6.54	248.83	4,089.36	-552.36	-79.85	-152.00	86.62	0.47	-0.45	1.09
4,200.00	7.05	246.68	4,188.66	-651.66	-84.34	-162.95	91.59	0.57	0.51	-2.15
4,300.00	7.73	245.84	4,287.83	-750.83	-89.52	-174.72	97.30	0.69	0.68	-0.84
4,400.00	7.80	245.59	4,386.91	-849.91	-95.08	-187.04	103.40	0.08	0.07	-0.25
4,500.00	7.60	246.67	4,486.01	-949.01	-100.50	-199.29	109.37	0.25	-0.20	1.08
4,600.00	7.33	249.00	4,585.16	-1,048.16	-105.41	-211.32	114.81	0.41	-0.27	2.33
4,700.00	7.45	250.14	4,684.33	-1,147.33	-109.90	-223.37	119.84	0.19	0.12	1.14
4,800.00	7.16	250.07	4,783.52	-1,246.52	-114.22	-235.32	124.70	0.29	-0.29	-0.07
4,900.00	6.69	247.90	4,882.79	-1,345.79	-118.54	-246.58	129.52	0.54	-0.47	-2.17
5,000.00	6.14	245.41	4,982.16	-1,445.16	-122.95	-256.84	134.39	0.62	-0.55	-2.49
5,100.00	5.28	244.08	5,081.67	-1,544.67	-127.19	-265.84	139.03	0.87	-0.86	-1.33
5,200.00	4.61	243.60	5,181.29	-1,644.29	-130.99	-273.58	143.17	0.67	-0.67	-0.48
5,300.00	4.35	246.29	5,280.99	-1,743.99	-134.30	-280.65	146.80	0.33	-0.26	2.69
TIE ON TO GYRO SURVEYS										
5,350.00	3.84	245.40	5,330.86	-1,793.86	-135.76	-283.91	148.40	1.03	-1.02	-1.78
ICP										
5,500.00	3.26	251.28	5,480.57	-1,943.57	-139.22	-292.51	152.25	0.46	-0.39	3.92
5,562.00	3.03	254.35	5,542.48	-2,005.48	-140.23	-295.76	153.40	0.46	-0.37	4.96
5,656.00	3.85	221.43	5,636.32	-2,099.32	-143.26	-300.24	156.63	2.24	0.87	-35.02
5,750.00	3.08	258.16	5,730.16	-2,193.16	-146.15	-304.80	159.72	2.45	-0.82	39.07
5,844.00	3.02	257.79	5,824.02	-2,287.02	-147.19	-309.69	160.98	0.07	-0.06	-0.39
5,938.00	2.92	255.87	5,917.90	-2,380.90	-148.30	-314.44	162.30	0.15	-0.11	-2.04
6,032.00	2.96	254.94	6,011.77	-2,474.77	-149.51	-319.10	163.73	0.07	0.04	-0.99
6,126.00	2.94	256.57	6,105.65	-2,568.65	-150.70	-323.79	165.13	0.09	-0.02	1.73
6,220.00	2.84	255.49	6,199.53	-2,662.53	-151.85	-328.39	166.48	0.12	-0.11	-1.15

Survey Report



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Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
Site:	SW SE SEC. 13 T22S R34E	MD Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
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Wellbore:	JOB # 2019-508-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,314.00	3.02	254.99	6,293.41	-2,756.41	-153.07	-333.03	167.91	0.19	0.19	-0.53
6,408.00	3.08	252.00	6,387.27	-2,850.27	-154.49	-337.83	169.54	0.18	0.06	-3.18
6,502.00	1.02	274.18	6,481.21	-2,944.21	-155.21	-341.06	170.41	2.31	-2.19	23.60
6,596.00	0.63	312.95	6,575.20	-3,038.20	-154.80	-342.28	170.05	0.70	-0.41	41.24
6,690.00	0.72	305.52	6,669.19	-3,132.19	-154.11	-343.14	169.40	0.13	0.10	-7.90
6,784.00	0.66	309.62	6,763.19	-3,226.19	-153.42	-344.03	168.75	0.08	-0.06	4.36
6,878.00	0.62	303.69	6,857.18	-3,320.18	-152.79	-344.87	168.16	0.08	-0.04	-6.31
6,972.00	0.61	299.27	6,951.18	-3,414.18	-152.26	-345.73	167.67	0.05	-0.01	-4.70
7,065.00	0.72	309.38	7,044.17	-3,507.17	-151.65	-346.62	167.10	0.17	0.12	10.87
7,160.00	0.59	305.05	7,139.16	-3,602.16	-150.99	-347.48	166.48	0.15	-0.14	-4.56
7,254.00	0.54	294.44	7,233.16	-3,696.16	-150.53	-348.28	166.05	0.12	-0.05	-11.29
7,348.00	0.60	300.50	7,327.15	-3,790.15	-150.10	-349.11	165.66	0.09	0.06	6.45
7,443.00	0.62	292.81	7,422.15	-3,885.15	-149.64	-350.01	165.25	0.09	0.02	-8.09
7,537.00	0.49	302.68	7,516.14	-3,979.14	-149.23	-350.82	164.87	0.17	-0.14	10.50
7,631.00	0.48	313.77	7,610.14	-4,073.14	-148.74	-351.44	164.41	0.10	-0.01	11.80
7,725.00	0.44	327.23	7,704.14	-4,167.14	-148.17	-351.92	163.86	0.12	-0.04	14.32
7,819.00	0.44	336.50	7,798.14	-4,261.14	-147.53	-352.26	163.24	0.08	0.00	9.86
7,913.00	0.50	345.96	7,892.13	-4,355.13	-146.80	-352.50	162.52	0.10	0.06	10.06
8,007.00	0.48	356.25	7,986.13	-4,449.13	-146.01	-352.63	161.74	0.10	-0.02	10.95
8,101.00	0.63	357.88	8,080.12	-4,543.12	-145.10	-352.67	160.83	0.16	0.16	1.73
8,195.00	0.67	357.29	8,174.12	-4,637.12	-144.04	-352.72	159.77	0.04	0.04	-0.63
8,289.00	0.86	359.95	8,268.11	-4,731.11	-142.78	-352.74	158.52	0.21	0.20	2.83
8,383.00	0.97	355.84	8,362.10	-4,825.10	-141.28	-352.80	157.02	0.14	0.12	-4.37
8,477.00	1.03	357.69	8,456.08	-4,919.08	-139.65	-352.89	155.39	0.07	0.06	1.97
8,571.00	1.09	352.92	8,550.07	-5,013.07	-137.91	-353.04	153.67	0.11	0.06	-5.07
8,666.00	1.15	354.88	8,645.05	-5,108.05	-136.07	-353.23	151.83	0.07	0.06	2.06
8,760.00	1.32	356.59	8,739.03	-5,202.03	-134.05	-353.38	149.82	0.19	0.18	1.82
8,854.00	1.53	1.23	8,833.00	-5,296.00	-131.71	-353.42	147.49	0.25	0.22	4.94
8,948.00	1.26	5.84	8,926.97	-5,389.97	-129.43	-353.29	145.20	0.31	-0.29	4.90
9,042.00	1.13	3.86	9,020.95	-5,483.95	-127.48	-353.12	143.24	0.15	-0.14	-2.11
9,137.00	0.94	354.56	9,115.93	-5,578.93	-125.77	-353.13	141.53	0.27	-0.20	-9.79
9,231.00	1.04	348.46	9,209.92	-5,672.92	-124.16	-353.37	139.94	0.15	0.11	-6.49
9,325.00	1.31	330.49	9,303.90	-5,766.90	-122.39	-354.07	138.21	0.48	0.29	-19.12
9,419.00	1.40	326.97	9,397.87	-5,860.87	-120.49	-355.23	136.36	0.13	0.10	-3.74
9,513.00	1.68	311.37	9,491.84	-5,954.84	-118.62	-356.89	134.56	0.53	0.30	-16.60
9,588.00	2.08	314.53	9,566.80	-6,029.80	-116.94	-358.68	132.97	0.55	0.53	4.21
9,604.00	2.10	312.53	9,582.79	-6,045.79	-116.54	-359.11	132.58	0.47	0.12	-12.50
KOP										
9,647.00	3.85	191.81	9,625.76	-6,088.76	-117.42	-359.98	133.51	12.20	4.08	-280.76
9,698.00	9.93	179.30	9,676.37	-6,139.37	-123.50	-360.28	139.59	12.20	11.91	-24.52
9,745.00	21.67	172.91	9,721.52	-6,184.52	-136.21	-359.16	152.24	25.21	24.98	-13.60
9,792.00	13.27	183.65	9,766.32	-6,229.32	-150.23	-358.43	166.21	19.07	-17.87	22.85
9,823.00	11.51	177.27	9,796.60	-6,259.60	-156.87	-358.51	172.85	7.18	-5.68	-20.58
9,854.00	15.91	171.78	9,826.71	-6,289.71	-164.17	-357.75	180.11	14.79	14.19	-17.71
9,886.00	19.13	173.56	9,857.22	-6,320.22	-173.73	-356.54	189.60	10.20	10.06	5.56
9,917.00	21.64	176.74	9,886.28	-6,349.28	-184.48	-355.64	200.30	8.85	8.10	10.26
9,949.00	25.10	178.88	9,915.65	-6,378.65	-197.16	-355.17	212.95	11.13	10.81	6.69
9,980.00	27.81	182.41	9,943.40	-6,406.40	-210.97	-355.35	226.75	10.10	8.74	11.39
10,011.00	31.40	185.10	9,970.35	-6,433.35	-226.24	-356.37	242.05	12.35	11.58	8.68
10,043.00	35.34	186.69	9,997.07	-6,460.07	-243.74	-358.19	259.62	12.61	12.31	4.97
10,074.00	37.91	188.32	10,021.95	-6,484.95	-262.07	-360.61	278.04	8.86	8.29	5.26
10,105.00	42.59	189.58	10,045.60	-6,508.60	-281.85	-363.74	297.94	15.32	15.10	4.06
10,137.00	47.24	190.71	10,068.26	-6,531.26	-304.08	-367.73	320.33	14.74	14.53	3.53

Survey Report



Company	CENTENNIAL RESOURCE DEVELOPMENT	Local Coordinate Reference	Well AIRSTREAM 24 STATE COM 503H
Project	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference	KB 26.5' @ 3537.00usft (Original Well Elev)
Site	SW SE SEC. 13 T22S R34E	MD Reference	KB 26.5' @ 3537.00usft (Original Well Elev)
Well	AIRSTREAM 24 STATE COM 503H	North Reference	True
Wellbore	JOB # 2019-508-650	Survey Calculation Method	Minimum Curvature
Design	FINAL SURVEYS	Database	Database 1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subs. Depth (usft)	N/S (usft)	E/W (usft)	Vertical Section (usft)	Degree Rate (°/100usft)	Bold Rate (°/100usft)	Turn Rate (°/100usft)
10,168.00	51.50	191.33	10,088.44	-6,551.44	-327.17	-372.23	343.59	13.83	13.74	2.00
10,199.00	56.61	191.17	10,106.63	-6,569.63	-351.78	-377.12	368.40	16.49	16.48	-0.52
10,231.00	61.10	190.35	10,123.18	-6,586.18	-378.68	-382.23	395.50	14.20	14.03	-2.56
10,262.00	65.54	188.21	10,137.09	-6,600.09	-406.01	-386.68	423.00	15.59	14.32	-6.90
10,293.00	69.17	187.50	10,149.03	-6,612.03	-434.34	-390.59	451.48	11.90	11.71	-2.29
10,324.00	72.40	188.11	10,159.23	-6,622.23	-463.34	-394.57	480.63	10.58	10.42	1.97
10,356.00	74.21	188.67	10,168.42	-6,631.42	-493.66	-399.04	511.12	5.90	5.66	1.75
10,387.00	76.85	188.97	10,176.17	-6,639.17	-523.32	-403.64	540.96	8.57	8.52	0.97
10,418.00	81.38	189.71	10,182.02	-6,645.02	-553.35	-408.58	571.18	14.80	14.61	2.39
10,450.00	85.58	190.18	10,185.65	-6,648.65	-584.66	-414.07	602.71	13.21	13.12	1.47
= GROSS SEG LINE										
10,462.00	86.35	190.29	10,186.50	-6,649.50	-596.44	-416.20	614.57	6.52	6.45	0.94
= LANDING PT										
10,481.00	87.58	190.47	10,187.50	-6,650.50	-615.10	-419.62	633.37	6.52	6.45	0.93
10,512.00	87.85	190.26	10,188.74	-6,651.74	-645.57	-425.19	664.06	1.10	0.87	-0.68
10,544.00	88.26	190.13	10,189.82	-6,652.82	-677.05	-430.85	695.76	1.34	1.28	-0.41
= GROSS SETBACK										
10,562.00	88.54	190.09	10,190.32	-6,653.32	-694.76	-434.01	713.59	1.58	1.57	-0.22
10,609.00	89.28	189.99	10,191.22	-6,654.22	-741.03	-442.20	760.19	1.58	1.57	-0.22
10,702.00	90.03	189.71	10,191.78	-6,654.78	-832.66	-458.11	852.44	0.86	0.81	-0.30
10,796.00	91.17	190.06	10,190.79	-6,653.79	-925.26	-474.25	945.67	1.27	1.21	0.37
10,891.00	92.24	190.38	10,187.97	-6,650.97	-1,018.71	-491.10	1,039.78	1.18	1.13	0.34
10,953.00	92.16	187.86	10,185.59	-6,648.59	-1,079.87	-500.92	1,101.33	4.06	-0.13	-4.06
10,984.00	92.48	186.40	10,184.33	-6,647.33	-1,110.61	-504.76	1,132.20	4.82	1.03	-4.71
11,029.00	92.66	184.08	10,182.31	-6,645.31	-1,155.37	-508.87	1,177.11	5.17	0.40	-5.16
11,078.00	91.89	182.36	10,180.37	-6,643.37	-1,204.25	-511.61	1,226.06	3.84	-1.57	-3.51
11,123.00	90.89	180.84	10,179.28	-6,642.28	-1,249.22	-512.87	1,271.04	4.04	-2.22	-3.38
11,172.00	90.49	179.40	10,178.69	-6,641.69	-1,298.22	-512.97	1,319.99	3.05	-0.82	-2.94
11,217.00	89.93	177.99	10,178.52	-6,641.52	-1,343.20	-511.95	1,364.89	3.37	-1.24	-3.13
11,262.00	89.33	177.73	10,178.81	-6,641.81	-1,388.17	-510.27	1,409.73	1.45	-1.33	-0.58
11,310.00	88.88	178.40	10,179.56	-6,642.56	-1,436.14	-508.65	1,457.58	1.68	-0.94	1.40
11,352.00	88.31	179.03	10,180.59	-6,643.59	-1,478.11	-507.71	1,499.47	2.02	-1.36	1.50
11,397.00	88.10	179.55	10,182.00	-6,645.00	-1,523.09	-507.15	1,544.37	1.25	-0.47	1.16
11,443.00	87.69	179.53	10,183.69	-6,646.69	-1,569.05	-506.78	1,590.28	0.89	-0.89	-0.04
11,488.00	87.72	179.66	10,185.49	-6,648.49	-1,614.02	-506.46	1,635.18	0.30	0.07	0.29
11,534.00	87.46	179.60	10,187.43	-6,650.43	-1,659.98	-506.17	1,681.08	0.58	-0.57	-0.13
11,626.00	87.59	179.65	10,191.40	-6,654.40	-1,751.89	-505.56	1,772.87	0.15	0.14	0.05
11,717.00	87.77	179.91	10,195.08	-6,658.08	-1,842.81	-505.21	1,863.69	0.35	0.20	0.29
11,809.00	87.81	178.52	10,198.63	-6,661.63	-1,934.73	-503.95	1,955.46	1.51	0.04	-1.51
11,901.00	87.66	178.08	10,202.27	-6,665.27	-2,026.62	-501.23	2,047.13	0.50	-0.16	-0.48
11,992.00	87.77	178.23	10,205.90	-6,668.90	-2,117.50	-498.30	2,137.78	0.20	0.12	0.16
12,084.00	87.41	178.64	10,209.76	-6,672.76	-2,209.38	-495.79	2,229.46	0.59	-0.39	0.45
12,175.00	87.42	177.84	10,213.87	-6,676.87	-2,300.25	-493.00	2,320.11	0.88	0.01	-0.88
12,267.00	87.55	178.16	10,217.91	-6,680.91	-2,392.10	-489.79	2,411.73	0.38	0.14	0.35
12,358.00	87.80	177.32	10,221.60	-6,684.60	-2,482.96	-486.20	2,502.33	0.96	0.27	-0.92
12,450.00	87.33	178.75	10,225.51	-6,688.51	-2,574.82	-483.05	2,593.95	1.63	-0.51	1.55
12,542.00	87.42	179.74	10,229.72	-6,692.72	-2,666.71	-481.84	2,685.70	1.08	0.10	1.08
12,636.00	87.23	179.44	10,234.11	-6,697.11	-2,760.61	-481.17	2,779.47	0.38	-0.20	-0.32
12,730.00	87.34	179.69	10,238.56	-6,701.56	-2,854.50	-480.46	2,873.23	0.29	0.12	0.27
12,824.00	87.10	179.94	10,243.12	-6,706.12	-2,948.39	-480.15	2,967.01	0.37	-0.26	0.27
12,918.00	87.08	179.52	10,247.89	-6,710.89	-3,042.26	-479.71	3,060.77	0.45	-0.02	-0.45
13,012.00	87.69	180.05	10,252.18	-6,715.18	-3,136.17	-479.36	3,154.56	0.86	0.65	0.56
13,106.00	88.06	180.91	10,255.67	-6,718.67	-3,230.10	-480.15	3,248.44	1.00	0.39	0.91

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well AIRSTREAM 24 STATE COM 503H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
Site:	SW SE SEC. 13 T22S R34E	MD Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
Well:	AIRSTREAM 24 STATE COM 503H	North Reference:	True
Wellbore:	JOB # 2019-508-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,200.00	87.94	180.96	10,258.95	-6,721.95	-3,324.03	-481.68	3,342.34	0.14	-0.13	0.05
13,294.00	87.84	181.50	10,262.41	-6,725.41	-3,417.94	-483.70	3,436.25	0.58	-0.11	0.57
13,388.00	87.88	181.69	10,265.92	-6,728.92	-3,511.84	-486.31	3,530.17	0.21	0.04	0.20
13,482.00	88.08	181.24	10,269.23	-6,732.23	-3,605.75	-488.71	3,624.09	0.52	0.21	-0.48
13,576.00	88.46	181.16	10,272.07	-6,735.07	-3,699.69	-490.68	3,718.02	0.41	0.40	-0.09
13,670.00	88.53	181.29	10,274.54	-6,737.54	-3,793.63	-492.69	3,811.96	0.16	0.07	0.14
13,764.00	88.58	180.54	10,276.91	-6,739.91	-3,887.59	-494.19	3,905.89	0.80	0.05	-0.80
13,858.00	88.54	180.27	10,279.27	-6,742.27	-3,981.56	-494.85	3,999.80	0.29	-0.04	-0.29
13,952.00	87.90	179.24	10,282.19	-6,745.19	-4,075.51	-494.45	4,093.64	1.29	-0.68	-1.10
14,046.00	87.80	179.01	10,285.72	-6,748.72	-4,169.43	-493.02	4,187.40	0.27	-0.11	-0.24
14,141.00	88.36	178.77	10,288.90	-6,751.90	-4,264.36	-491.18	4,282.15	0.64	0.59	-0.25
14,235.00	88.58	178.99	10,291.41	-6,754.41	-4,358.31	-489.34	4,375.92	0.33	0.23	0.23
14,329.00	89.17	179.22	10,293.25	-6,756.25	-4,452.28	-487.87	4,469.73	0.67	0.63	0.24
14,423.00	89.39	179.66	10,294.44	-6,757.44	-4,546.27	-486.95	4,563.58	0.52	0.23	0.47
14,517.00	89.58	180.06	10,295.28	-6,758.28	-4,640.26	-486.73	4,657.47	0.47	0.20	0.43
14,611.00	89.87	179.69	10,295.73	-6,758.73	-4,734.26	-486.52	4,751.36	0.50	0.31	-0.39
14,704.00	90.42	179.65	10,295.50	-6,758.50	-4,827.26	-485.98	4,844.24	0.59	0.59	-0.04
14,798.00	89.68	179.38	10,295.41	-6,758.41	-4,921.25	-485.19	4,938.11	0.84	-0.79	-0.29
14,892.00	90.10	179.21	10,295.59	-6,758.59	-5,015.25	-484.03	5,031.95	0.48	0.45	-0.18
14,987.00	90.26	178.96	10,295.30	-6,758.30	-5,110.23	-482.52	5,126.77	0.31	0.17	-0.26
15,080.00	90.34	178.25	10,294.81	-6,757.81	-5,203.20	-480.25	5,219.55	0.77	0.09	-0.76
15,174.00	90.06	179.54	10,294.48	-6,757.48	-5,297.18	-478.44	5,313.35	1.40	-0.30	1.37
15,268.00	90.25	180.03	10,294.23	-6,757.23	-5,391.18	-478.09	5,407.24	0.56	0.20	0.52
15,362.00	90.24	180.74	10,293.82	-6,756.82	-5,485.18	-478.72	5,501.17	0.76	-0.01	0.76
15,456.00	89.93	180.16	10,293.69	-6,756.69	-5,579.18	-479.46	5,595.10	0.70	-0.33	-0.62
15,550.00	90.56	180.21	10,293.28	-6,756.28	-5,673.17	-479.76	5,689.02	0.67	0.67	0.05
15,645.00	90.31	179.72	10,292.56	-6,755.56	-5,768.17	-479.70	5,783.92	0.58	-0.26	-0.52
15,739.00	89.74	180.01	10,292.52	-6,755.52	-5,862.17	-479.48	5,877.81	0.68	-0.61	0.31
15,832.00	88.64	179.97	10,293.84	-6,756.84	-5,955.16	-479.46	5,970.71	1.18	-1.18	-0.04
15,927.00	87.96	180.58	10,296.65	-6,759.65	-6,050.12	-479.92	6,065.59	0.96	-0.72	0.64
16,021.00	87.87	180.93	10,300.07	-6,763.07	-6,144.05	-481.16	6,159.48	0.38	-0.10	0.37
16,115.00	88.11	180.45	10,303.37	-6,766.37	-6,237.98	-482.29	6,253.37	0.57	0.26	-0.51
16,209.00	88.19	180.61	10,306.41	-6,769.41	-6,331.93	-483.16	6,347.26	0.19	0.09	0.17
16,304.00	88.43	180.66	10,309.21	-6,772.21	-6,426.88	-484.21	6,442.16	0.26	0.25	0.05
16,398.00	89.23	181.03	10,311.13	-6,774.13	-6,520.85	-485.60	6,536.10	0.94	0.85	0.39
16,492.00	89.28	181.23	10,312.35	-6,775.35	-6,614.82	-487.45	6,630.06	0.22	0.05	0.21
16,586.00	89.56	181.27	10,313.30	-6,776.30	-6,708.80	-489.50	6,724.03	0.30	0.30	0.04
16,680.00	89.79	181.08	10,313.83	-6,776.83	-6,802.77	-491.43	6,818.00	0.32	0.24	-0.20
16,774.00	89.65	181.09	10,314.29	-6,777.29	-6,896.76	-493.21	6,911.97	0.15	-0.15	0.01
16,868.00	89.20	180.79	10,315.24	-6,778.24	-6,990.74	-494.75	7,005.92	0.58	-0.48	-0.32
16,962.00	88.35	180.70	10,317.25	-6,780.25	-7,084.71	-495.97	7,099.85	0.91	-0.90	-0.10
17,056.00	87.90	180.78	10,320.32	-6,783.32	-7,178.65	-497.18	7,193.75	0.49	-0.48	0.09
17,150.00	89.34	181.01	10,322.59	-6,785.59	-7,272.61	-498.65	7,287.68	1.55	1.53	0.24
17,244.00	90.22	180.74	10,322.95	-6,785.95	-7,366.60	-500.09	7,381.64	0.98	0.94	-0.29
17,338.00	90.86	180.86	10,322.06	-6,785.06	-7,460.58	-501.40	7,475.59	0.69	0.68	0.13
17,432.00	90.48	180.67	10,320.96	-6,783.96	-7,554.57	-502.65	7,569.54	0.45	-0.40	-0.20
17,526.00	91.31	180.61	10,319.49	-6,782.49	-7,648.55	-503.70	7,663.47	0.89	0.88	-0.06
17,620.00	91.78	180.42	10,316.96	-6,779.96	-7,742.51	-504.55	7,757.37	0.54	0.50	-0.20
17,714.00	91.36	180.25	10,314.38	-6,777.38	-7,836.47	-505.10	7,851.27	0.48	-0.45	-0.18
17,808.00	91.27	180.38	10,312.23	-6,775.23	-7,930.45	-505.62	7,945.17	0.17	-0.10	0.14
17,902.00	90.60	180.30	10,310.69	-6,773.69	-8,024.43	-506.17	8,039.08	0.72	-0.71	-0.09
17,996.00	89.85	180.18	10,310.32	-6,773.32	-8,118.43	-506.57	8,133.00	0.81	-0.80	-0.13
18,090.00	89.89	180.21	10,310.54	-6,773.54	-8,212.43	-506.89	8,226.92	0.05	0.04	0.03

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPMENT	Local Co-ordinate Reference:	Well AIRSTREAM 24 STATE COM 503H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
Site:	SW SE SEC. 13 T22S R34E	MD Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
Well:	AIRSTREAM 24 STATE COM 503H	North Reference:	True
Wellbore:	JOB # 2019-508-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	NYS (usft)	SW (usft)	Vertical Section (usft)	Dogleg Rate (1/100usft)	Buid Rate (1/100usft)	Turn Rate (1/100usft)
18,184.00	90.11	180.81	10,310.54	-6,773.54	-8,306.43	-507.72	8,320.86	0.68	0.23	0.64
18,278.00	90.07	180.77	10,310.39	-6,773.39	-8,400.42	-509.02	8,414.81	0.06	-0.04	-0.04
18,372.00	89.82	180.23	10,310.48	-6,773.48	-8,494.41	-509.84	8,508.75	0.63	-0.27	-0.57
18,466.00	89.83	179.20	10,310.77	-6,773.77	-8,588.41	-509.37	8,602.63	1.10	0.01	-1.10
18,560.00	89.20	178.20	10,311.56	-6,774.56	-8,682.38	-507.24	8,696.41	1.26	-0.67	-1.06
18,654.00	89.09	177.78	10,312.96	-6,775.96	-8,776.31	-503.94	8,790.10	0.46	-0.12	-0.45
18,749.00	90.03	178.05	10,313.69	-6,776.69	-8,871.24	-500.49	8,884.78	1.03	0.99	0.28
18,843.00	89.33	177.81	10,314.22	-6,777.22	-8,965.18	-497.09	8,978.47	0.79	-0.74	-0.26
18,937.00	89.23	177.96	10,315.40	-6,778.40	-9,059.11	-493.62	9,072.15	0.19	-0.11	0.16
19,031.00	89.75	178.11	10,316.24	-6,779.24	-9,153.05	-490.40	9,165.85	0.58	0.55	0.16
19,125.00	90.36	178.56	10,316.15	-6,779.15	-9,247.01	-487.67	9,259.59	0.81	0.65	0.48
19,219.00	89.71	179.28	10,316.09	-6,779.09	-9,340.99	-485.90	9,353.40	1.03	-0.69	0.77
19,313.00	88.95	179.49	10,317.19	-6,780.19	-9,434.98	-484.89	9,447.24	0.84	-0.81	0.22
19,407.00	88.89	179.66	10,318.96	-6,781.96	-9,528.96	-484.19	9,541.10	0.19	-0.06	0.18
19,501.00	88.91	179.93	10,320.76	-6,783.76	-9,622.94	-483.85	9,634.97	0.29	0.02	0.29
19,596.00	89.10	179.84	10,322.41	-6,785.41	-9,717.93	-483.66	9,729.85	0.22	0.20	-0.09
19,690.00	89.48	179.70	10,323.58	-6,786.58	-9,811.92	-483.29	9,823.73	0.43	0.40	-0.15
19,784.00	89.31	179.54	10,324.57	-6,787.57	-9,905.91	-482.66	9,917.60	0.25	-0.18	-0.17
19,878.00	89.21	179.61	10,325.79	-6,788.79	-9,999.90	-481.97	10,011.46	0.13	-0.11	0.07
19,972.00	89.09	179.92	10,327.18	-6,790.18	-10,093.89	-481.58	10,105.34	0.35	-0.13	0.33
20,066.00	89.21	180.84	10,328.57	-6,791.57	-10,187.88	-482.20	10,199.26	0.99	0.13	0.98
20,160.00	89.86	181.24	10,329.34	-6,792.34	-10,281.86	-483.91	10,293.22	0.81	0.69	0.43
20,254.00	89.17	181.20	10,330.13	-6,793.13	-10,375.83	-485.91	10,387.19	0.74	-0.73	-0.04
20,348.00	88.43	181.86	10,332.10	-6,795.10	-10,469.78	-488.42	10,481.15	1.05	-0.79	0.70
20,442.00	88.69	182.57	10,334.46	-6,797.46	-10,563.68	-492.05	10,575.12	0.80	0.28	0.76
20,537.00	88.46	182.36	10,336.83	-6,799.83	-10,658.56	-496.14	10,670.09	0.33	-0.24	-0.22
20,631.00	89.83	182.17	10,338.23	-6,801.23	-10,752.47	-499.85	10,764.07	1.47	1.46	-0.20
20,724.00	89.16	182.20	10,339.05	-6,802.05	-10,845.40	-503.40	10,857.07	0.72	-0.72	0.03
20,818.00	89.41	182.04	10,340.22	-6,803.22	-10,939.33	-506.87	10,951.06	0.32	0.27	-0.17
LAST SURVEY AUG 28, 2019										
20,912.00	89.72	181.79	10,340.94	-6,803.94	-11,033.27	-510.02	11,045.05	0.42	0.33	-0.27
PROJECTION TO TD										
20,945.00	89.72	181.79	10,341.10	-6,804.10	-11,066.26	-511.05	11,078.04	0.00	0.00	0.00

Survey Report



Company:	CENTENNIAL RESOURCE DEVELOPME	Local Co-ordinate Reference:	Well AIRSTREAM 24 STATE COM 503H
Project:	LEA COUNTY, NM (NAD 83 - UTM ZONE	TVD Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
Site:	SW SE SEC. 13 T22S R34E	MD Reference:	KB 26.5' @ 3537.00usft (Original Well Elev)
Well:	AIRSTREAM 24 STATE COM 503H	North Reference:	True
Wellbore:	JOB # 2019-508-650	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	Database 1

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
LTP/BHL - AIRSTREAM	0.00	0.00	10,380.50	-11,061.15	-498.41	11,748,509.96	2,126,608.88	32.355694	-103.425067
- survey misses target center by 41.35usft at 20939.69usft MD (10341.07 TVD, -11060.95 N, -510.88 E)									
- Point									
KOP - AIRSTREAM 24	0.00	0.00	9,636.53	-699.08	-473.38	11,758,869.94	2,126,481.18	32.384175	-103.424987
- survey misses target center by 555.20usft at 10557.71usft MD (10190.21 TVD, -690.53 N, -433.26 E)									
- Point									
LTP/BHL - AIRSTREAM	0.00	0.00	10,380.50	-11,061.15	-498.41	11,748,509.96	2,126,608.88	32.355694	-103.425067
- survey misses target center by 41.35usft at 20939.69usft MD (10341.07 TVD, -11060.95 N, -510.88 E)									
- Point									
HZ LP - AIRSTREAM 24	0.00	0.00	10,202.42	-862.04	-473.78	11,758,707.01	2,126,483.18	32.383727	-103.424988
- survey misses target center by 15.01usft at 10733.52usft MD (10191.66 TVD, -863.72 N, -463.46 E)									
- Point									
KOP - AIRSTREAM 24	0.00	0.00	9,629.55	-299.08	-472.40	11,759,269.86	2,126,476.26	32.385275	-103.424984
- survey misses target center by 212.59usft at 9673.10usft MD (9651.74 TVD, -119.85 N, -360.24 E)									
- Point									
HZ LP - AIRSTREAM 24	0.00	0.00	10,199.87	-707.72	-436.75	11,758,861.84	2,126,517.93	32.384152	-103.424868
- survey misses target center by 9.24usft at 10575.42usft MD (10190.64 TVD, -707.97 N, -436.36 E)									
- Point									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
5,350.00	5,330.86	-135.76	-283.91	TIE ON TO GYRO SURVEYS
5,500.00	5,480.57	-139.22	-292.51	ICP
9,647.00	9,625.76	-117.42	-359.98	KOP
10,462.00	10,186.50	-596.44	-416.20	~ CROSS SEC LINE
10,481.00	10,187.50	-615.10	-419.62	HZ LANDING PT
10,562.00	10,190.32	-694.76	-434.01	~ CROSS SETBACK
20,912.00	10,340.94	-11,033.27	-510.02	LAST SURVEY AUG 23, 2019
20,945.00	10,341.10	-11,066.26	-511.05	PROJECTION TO TD

Checked By: _____ Approved By: _____ Date: _____



Total Directional
Services, LLC

USA Operations

Final MWD Survey Certification

Lea County, New Mexico

Client: Centennial Resource Development

Well Name: Airstream 24 State Com 503H

Total Job No: 2019-508-650

API No: 30-025-45779

Start Date: 08/04/2019

End Date: 08/23/2019

Measured Start Depth: 1893 feet

Measured End Depth: 20,945 feet

Vertical Section from well center at TD: 11,078.04 feet

I, Adam LePage certify that; I am employed by Total Directional Services, LLC and we conducted or supervised the taking of these open hole MWD surveys at the request of this client. This data is true, correct, complete and within the limitations of the tool as set forth by Total Directional Services, LLC. I am authorized and qualified to make this report and have reviewed this report and find that it conforms to the principals and procedures as set forth by Total Directional Services, LLC.

Date: 08/23/2019

Signed: *Adam LePage*