

HOBBS OCD
NOV 07 2019
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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



total



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



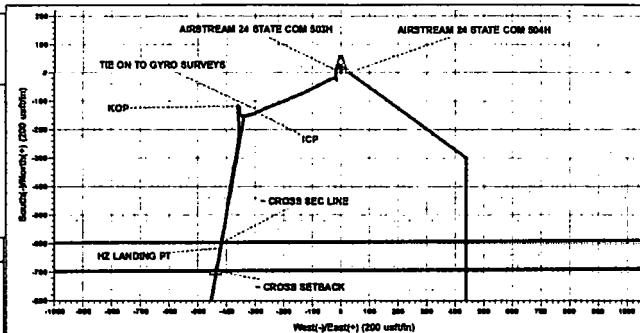
Admutha to True North
Magnetic North: 6.67°
Magnetic Field
Strength: 47832.16nT
Dip Angle: 60.21°
Date: 5/07/2019
Model: IGRF2015

ANNOTATIONS

TVD	MD	Inc	Adj	+N-S	+E-W	VSecDeparture	Annotation
5335.26	5330.00	3.84	245.40	-133.76	-263.91	149.40	282.22 TIE ON TO GYRO SURVEYS
5480.57	5500.00	3.36	251.29	-123.22	-282.51	152.25	297.81 ICP
9623.78	9647.00	3.85	191.81	-117.42	-359.98	133.91	501.88 KOP
10196.20	10462.00	86.35	190.29	-298.44	-418.29	914.57	863.43 - CROSS SEC LINE
10187.20	10491.00	27.58	199.47	-219.10	-419.83	823.37	1004.41 HZ LANDING PT
10190.32	10582.00	89.54	180.09	-694.78	-434.01	713.38	1895.37 - CROSS SETBACK
10540.94	20913.00	89.72	181.79	-1103.27	-419.83	1045.05	11432.08 LAST SURVEY AUG 23, 2019
10341.10	20945.00	89.72	181.79	-11064.26	-411.25	11079.84	11485.08 PROJECTION TO TD

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	-436.75	11758861.84	2126517.93	32.384152	-103.424888
LTP/BHL - AIRSTREAM 24 STATE COM 503H (P2)10380.50		-11081.15	-498.41	11748509.96	2126608.88	32.355694	-103.425067

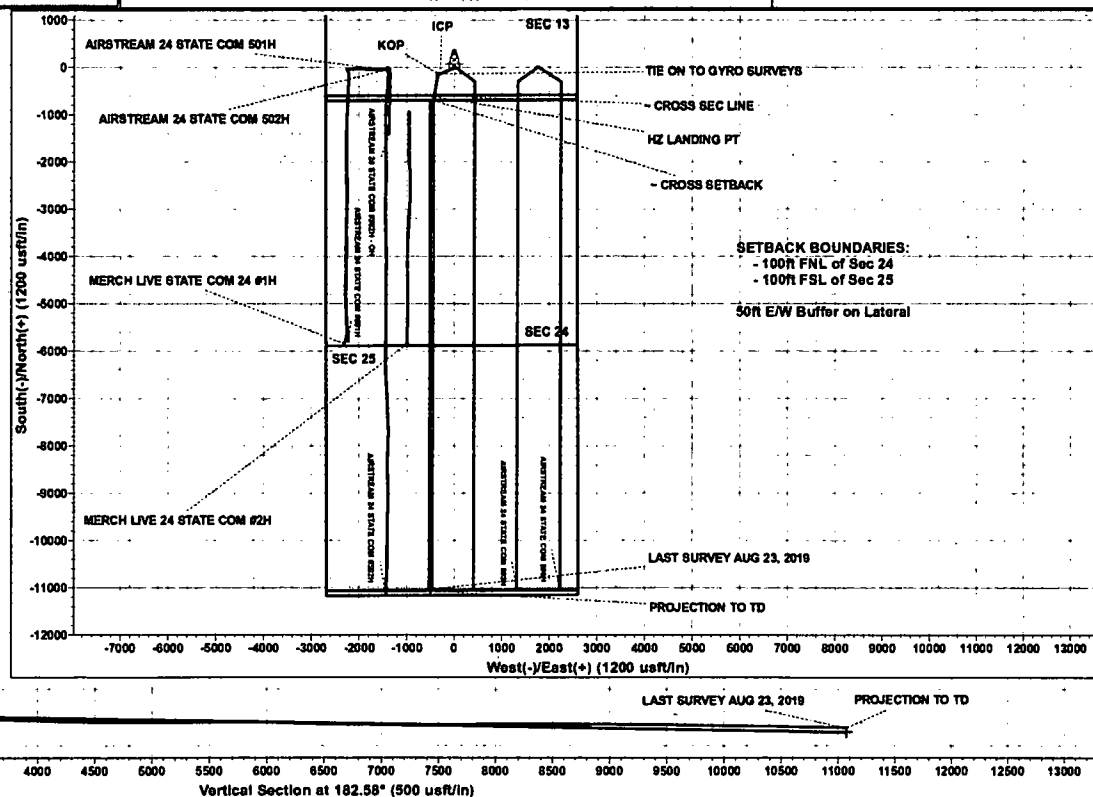
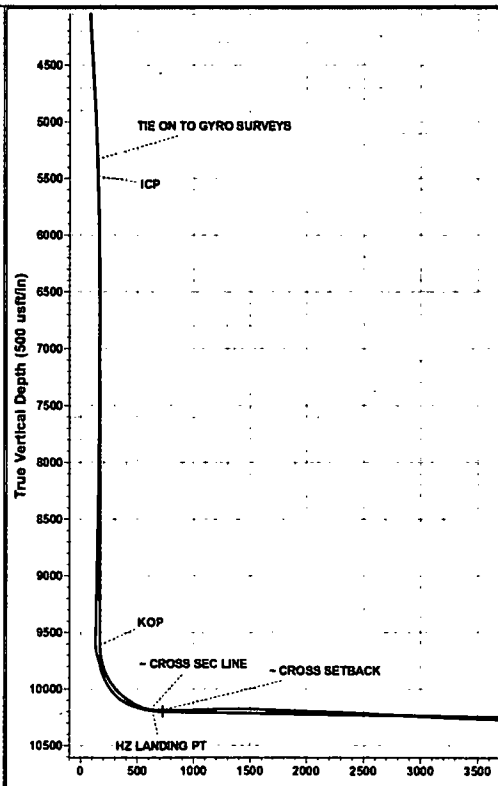
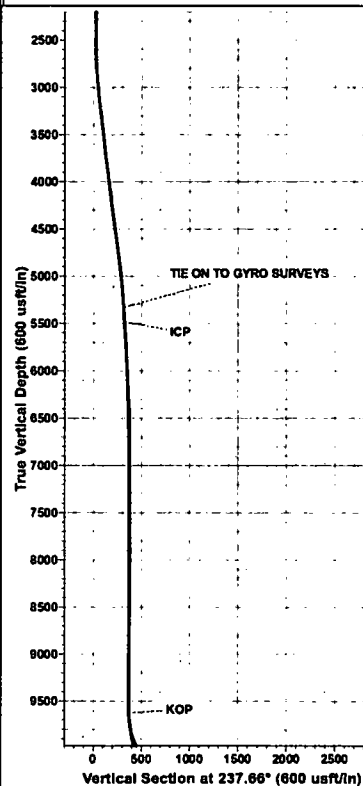


AS DRILLED LOCAL COORDINATES

BHL: 599R FSL & 2583R FEL of Sec 13

HZ LP: 16.02R FNL & 2282.16R FWL of Sec 24

BHL: 94.89R FSL & 2215.36R FWL of Sec 25



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

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

Local Co-ordinate Reference: Well AIRSTREAM 24 STATE COM 503H
TVD Reference: KB 26.5' @ 3537.00usft (Original Well Elev)
MD Reference: KB 26.5' @ 3537.00usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
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	54.64	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



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

Local Co-ordinate Reference: Well AIRSTREAM 24 STATE COM 503H
TVD Reference: KB 26.5' @ 3537.00usft (Original Well Elev)
MD Reference: KB 26.5' @ 3537.00usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
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	90.80	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 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)
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 23, 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 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

Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
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 (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+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*