

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-104
Revised August 1, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate District Office

☒ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address LOGOS Operating, LLC 2010 Afton Place Farmington, NM 87401		² OGRID Number 289408	
		³ Reason for Filing Code/ Effective Date Test Allowable	
⁴ API Number 30 – 039-31364	⁵ Pool Name Basin Mancos		⁶ Pool Code 97232
⁷ Property Code 32608	⁸ Property Name Rosa Unit		⁹ Well Number 740H

II. ¹⁰ Surface Location

UL or lot no. C	Section 33	Township 31N	Range 5W	Lot Idn	Feet from the 319	North/South Line North	Feet from the 1681	East/West line West	County Rio Arriba
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¹¹ Bottom Hole Location

UL or lot no. C	Section 31	Township 31N	Range 5W	Lot Idn 1	Feet from the 363	North/South line North	Feet from the 165	East/West line West	County Rio Arriba
¹² Lse Code F	¹³ Producing Method Code F		¹⁴ Gas Connection Date		¹⁵ C-129 Permit Number		¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date

III. Oil and Gas Transporters

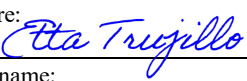
¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
373888	Harvest Four Corners, LLC 1755 Arroyo Dr. Bloomfield, NM 87413	G

IV. Well Completion Data

²¹ Spud Date 8/25/2021	²² Ready Date ~10/16/2023	²³ TD 17,327' MD / 7,064' TVD	²⁴ PBTD 17,066' MD / 7,064' TVD	²⁵ Perforations 7,420' MD / ~17,060' MD 7,093' TVD / ~7,066' TVD	²⁶ DHC, MC R-13457	
²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set		³⁰ Sacks Cement
17.5"		13-3/8", 54.5#, J-55		331'		190sx (47bbbls, 264cf)
12.5"		9-5/8", 47#, L-80		6368'		2993sx (928bbbls, 5210cf) DV tool @ 3223' & 4825'
8.5"		5.5", 20#, HCP-110		17,297'		2424sx (710bbbls, 3989cf) TOC @ 4,720'
		2-7/8", 6.5#, J-55		pending		

V. Well Test Data

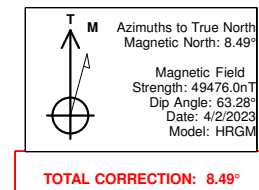
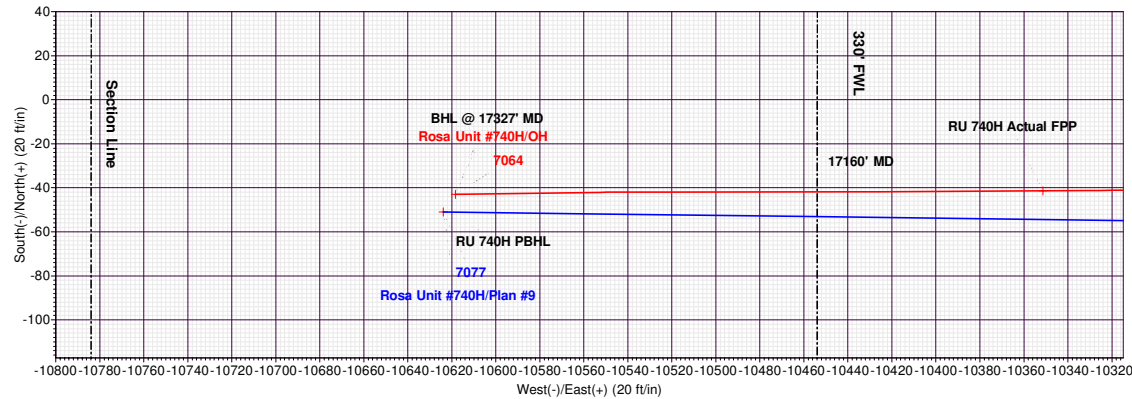
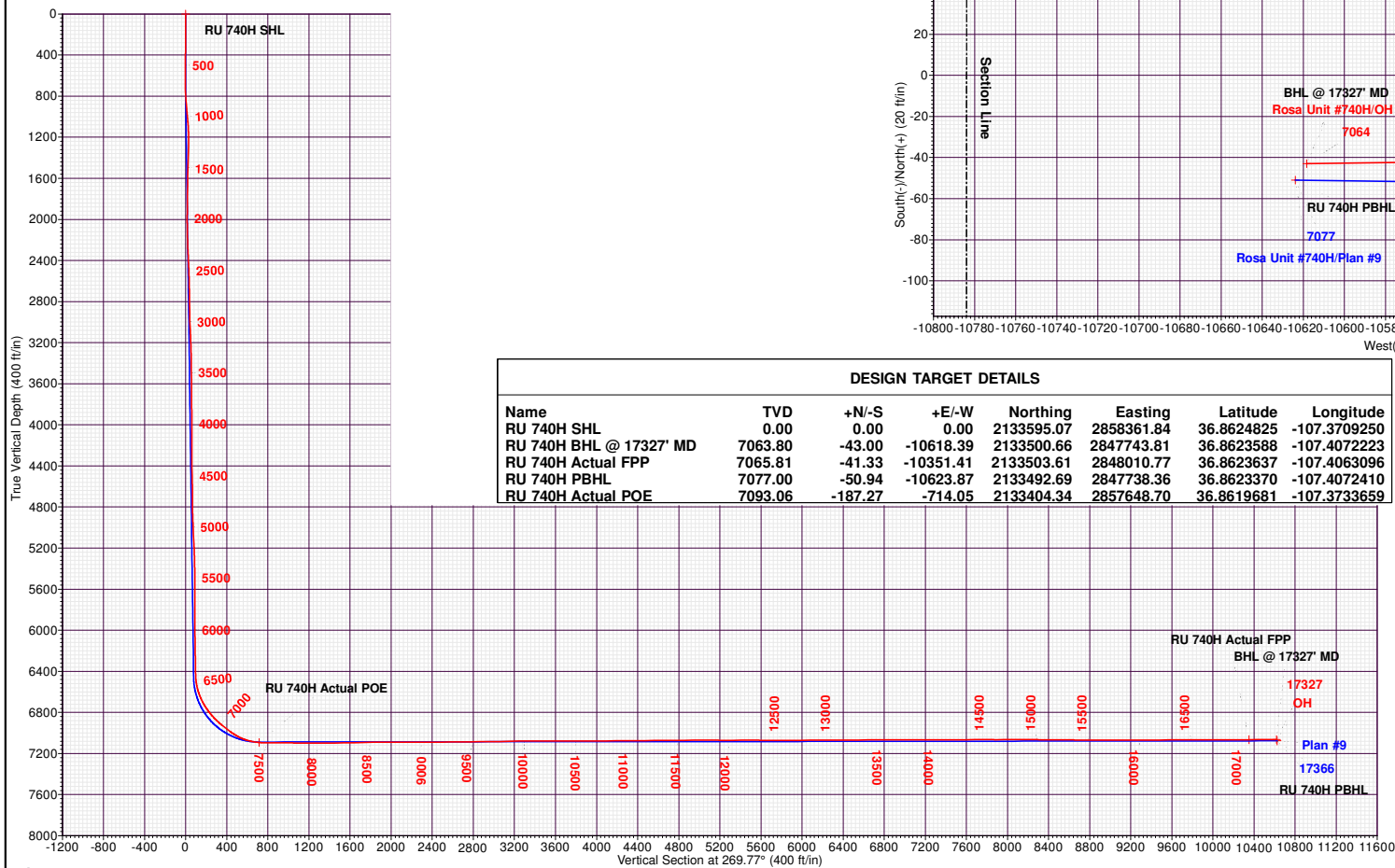
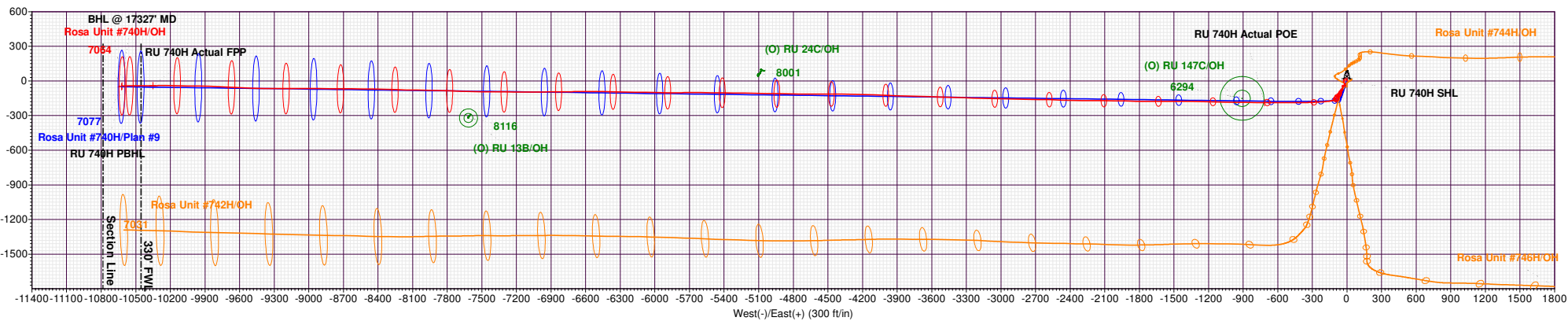
³¹ Date New Oil	³² Gas Delivery Date ~10/16/2023	³³ Test Date	³⁴ Test Length	³⁵ Tbg. Pressure	³⁶ Csg. Pressure
³⁷ Choke Size	³⁸ Oil	³⁹ Water	⁴⁰ Gas		⁴¹ Test Method

⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: 		OIL CONSERVATION DIVISION	
Printed name: Etta Trujillo		Approved by: PATRICIA MARTINEZ	
Title: Regulatory Specialist		Title: PETROLEUM SPECIALIST	
E-mail Address: etrujillo@logosresourcesllc.com		Approval Date: 10/16/2023	
Date: 10/16/2023	Phone: (505) 324-4154	RT EXPIRES 1/16/2024	

Released to Imaging: 10/16/2023 12:59:30 PM



County: Rio Arriba, NM NAD83
 Site: Rosa Unit 31
 Well: Rosa Unit #740H
 Depth Reference: GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
 Rig: H&P 530
 Plan: OH
 Job #: 15945



TOTAL CORRECTION: 8.49°

Logos Operating LLC

Rio Arriba, NM NAD83

Rosa Unit 31

Rosa Unit #740H - Slot A1

OH

Design: OH

Standard Survey Report

13 October, 2023

SDT

Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #740H - Slot A1
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Site:	Rosa Unit 31	MD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Well:	Rosa Unit #740H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Project	Rio Arriba, NM NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	Rosa Unit 31				
Site Position:		Northing:	2,133,595.07 usft	Latitude:	36.8624824
From:	Map	Easting:	2,858,361.84 usft	Longitude:	-107.3709251
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well		Rosa Unit #740H - Slot A1				
Well Position	+N/-S	0.00 ft	Northing:	2,133,595.07 usft	Latitude:	36.8624824
	+E/-W	0.00 ft	Easting:	2,858,361.84 usft	Longitude:	-107.3709251
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,492.00 ft
Grid Convergence:		0.28 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	4/2/2023	8.49	63.28	49,475.98890216

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	269.77	

Survey Program	Date	10/13/2023			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
376.00	17,261.00	Survey #1 (OH)	B001Mb_MWD+HRGM	OWSG MWD + HRGM	
17,327.00	17,327.00	Survey #2 (OH)	Project	Projection	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
376.00	0.68	58.50	375.99	1.17	1.90	-1.91	0.18	0.18	0.00	
467.00	0.84	21.80	466.98	2.07	2.61	-2.62	0.55	0.18	-40.33	
558.00	0.81	21.72	557.97	3.28	3.10	-3.11	0.03	-0.03	-0.09	
649.00	0.83	23.21	648.96	4.49	3.59	-3.61	0.03	0.02	1.64	
740.00	2.96	330.98	739.91	7.15	2.71	-2.74	2.79	2.34	-57.40	
832.00	5.77	307.58	831.64	12.05	-2.10	2.06	3.56	3.05	-25.43	
927.00	5.85	286.52	926.17	16.34	-10.53	10.47	2.23	0.08	-22.17	
1,018.00	5.27	248.83	1,016.77	16.15	-18.88	18.81	3.99	-0.64	-41.42	

SDT

Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #740H - Slot A1
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Site:	Rosa Unit 31	MD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Well:	Rosa Unit #740H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,110.00	6.87	211.19	1,108.28	9.91	-25.67	25.63	4.56	1.74	-40.91
1,201.00	6.41	184.10	1,198.70	0.19	-28.85	28.85	3.45	-0.51	-29.77
1,294.00	5.49	167.42	1,291.20	-9.34	-28.26	28.29	2.10	-0.99	-17.94
1,387.00	3.98	154.26	1,383.88	-16.59	-25.88	25.95	1.99	-1.62	-14.15
1,482.00	2.09	127.90	1,478.75	-20.62	-23.09	23.17	2.42	-1.99	-27.75
1,577.00	1.46	118.88	1,573.70	-22.27	-20.66	20.75	0.72	-0.66	-9.49
1,672.00	2.33	153.26	1,668.65	-24.58	-18.73	18.83	1.47	0.92	36.19
1,766.00	2.86	165.44	1,762.56	-28.55	-17.28	17.40	0.81	0.56	12.96
1,860.00	3.16	172.28	1,856.43	-33.39	-16.34	16.48	0.50	0.32	7.28
1,955.00	1.93	160.39	1,951.33	-37.49	-15.45	15.61	1.40	-1.29	-12.52
2,050.00	0.92	237.63	2,046.31	-39.41	-15.56	15.72	2.05	-1.06	81.31
2,144.00	1.49	289.43	2,140.29	-39.41	-17.35	17.51	1.25	0.61	55.11
2,239.00	1.76	290.87	2,235.25	-38.48	-19.88	20.04	0.29	0.28	1.52
2,333.00	2.51	273.92	2,329.19	-37.82	-23.28	23.43	1.03	0.80	-18.03
2,428.00	3.31	245.08	2,424.07	-38.83	-27.84	28.00	1.73	0.84	-30.36
2,523.00	2.80	218.08	2,518.94	-41.82	-31.76	31.93	1.59	-0.54	-28.42
2,617.00	3.36	203.77	2,612.80	-46.14	-34.29	34.48	1.01	0.60	-15.22
2,712.00	4.23	199.10	2,707.60	-52.00	-36.56	36.77	0.97	0.92	-4.92
2,806.00	4.89	186.78	2,801.30	-59.26	-38.17	38.41	1.25	0.70	-13.11
2,901.00	4.94	188.60	2,895.95	-67.32	-39.26	39.53	0.17	0.05	1.92
2,995.00	3.78	209.33	2,989.68	-74.03	-41.38	41.68	2.06	-1.23	22.05
3,090.00	3.78	230.81	3,084.48	-78.74	-45.34	45.66	1.48	0.00	22.61
3,183.00	2.97	229.67	3,177.32	-82.23	-49.55	49.88	0.87	-0.87	-1.23
3,278.00	2.53	216.59	3,272.21	-85.51	-52.68	53.02	0.80	-0.46	-13.77
3,372.00	2.17	196.83	3,366.13	-88.88	-54.43	54.79	0.94	-0.38	-21.02
3,467.00	1.59	191.87	3,461.08	-91.89	-55.22	55.59	0.63	-0.61	-5.22
3,562.00	1.51	199.69	3,556.05	-94.36	-55.92	56.30	0.24	-0.08	8.23
3,656.00	1.81	197.32	3,650.01	-96.94	-56.77	57.17	0.33	0.32	-2.52
3,750.00	1.76	202.03	3,743.96	-99.70	-57.76	58.16	0.16	-0.05	5.01
3,845.00	1.68	212.03	3,838.92	-102.23	-59.04	59.46	0.33	-0.08	10.53
3,940.00	1.30	206.58	3,933.89	-104.37	-60.26	60.69	0.43	-0.40	-5.74
4,034.00	1.45	170.89	4,027.86	-106.50	-60.55	60.98	0.91	0.16	-37.97
4,130.00	1.08	174.30	4,123.84	-108.60	-60.27	60.71	0.39	-0.39	3.55
4,224.00	0.73	173.46	4,217.83	-110.08	-60.11	60.56	0.37	-0.37	-0.89
4,319.00	0.67	160.99	4,312.82	-111.20	-59.86	60.31	0.17	-0.06	-13.13
4,413.00	2.01	216.73	4,406.79	-113.04	-60.67	61.13	1.83	1.43	59.30
4,508.00	1.96	228.16	4,501.74	-115.46	-62.88	63.35	0.42	-0.05	12.03
4,602.00	1.38	210.17	4,595.70	-117.51	-64.65	65.12	0.82	-0.62	-19.14
4,697.00	1.05	208.05	4,690.68	-119.27	-65.63	66.11	0.35	-0.35	-2.23
4,791.00	0.71	206.51	4,784.66	-120.55	-66.29	66.78	0.36	-0.36	-1.64
4,886.00	2.13	227.58	4,879.63	-122.27	-67.86	68.35	1.57	1.49	22.18
4,980.00	3.16	243.00	4,973.53	-124.62	-71.46	71.96	1.32	1.10	16.40
5,075.00	3.11	248.70	5,068.39	-126.75	-76.19	76.71	0.33	-0.05	6.00

SDT

Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #740H - Slot A1
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Site:	Rosa Unit 31	MD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Well:	Rosa Unit #740H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,169.00	2.95	250.59	5,162.26	-128.48	-80.85	81.37	0.20	-0.17	2.01
5,264.00	2.08	233.96	5,257.17	-130.31	-84.55	85.08	1.19	-0.92	-17.51
5,359.00	2.24	208.09	5,352.10	-132.96	-86.82	87.36	1.03	0.17	-27.23
5,485.00	2.39	187.14	5,478.00	-137.74	-88.30	88.86	0.68	0.12	-16.63
5,515.00	2.39	182.65	5,507.98	-138.98	-88.41	88.97	0.62	0.00	-14.97
5,578.00	2.37	183.61	5,570.92	-141.60	-88.55	89.13	0.07	-0.03	1.52
5,641.00	2.47	175.39	5,633.87	-144.25	-88.53	89.11	0.57	0.16	-13.05
5,704.00	2.13	172.22	5,696.82	-146.76	-88.26	88.85	0.58	-0.54	-5.03
5,767.00	1.71	166.52	5,759.78	-148.84	-87.88	88.48	0.73	-0.67	-9.05
5,830.00	1.46	175.55	5,822.76	-150.55	-87.60	88.21	0.56	-0.40	14.33
5,893.00	0.91	213.20	5,885.74	-151.77	-87.81	88.42	1.47	-0.87	59.76
5,956.00	1.01	268.78	5,948.74	-152.20	-88.64	89.26	1.43	0.16	88.22
6,019.00	1.18	264.24	6,011.72	-152.28	-89.84	90.46	0.30	0.27	-7.21
6,082.00	1.04	262.21	6,074.71	-152.42	-91.05	91.67	0.23	-0.22	-3.22
6,145.00	1.11	220.58	6,137.70	-152.96	-92.02	92.63	1.22	0.11	-66.08
6,208.00	0.80	228.99	6,200.69	-153.71	-92.74	93.37	0.54	-0.49	13.35
6,271.00	1.29	219.48	6,263.68	-154.55	-93.53	94.15	0.82	0.78	-15.10
6,387.00	1.58	216.71	6,379.65	-156.84	-95.31	95.95	0.26	0.25	-2.39
6,452.00	2.75	222.02	6,444.60	-158.72	-96.89	97.54	1.82	1.80	8.17
6,547.00	12.46	244.90	6,538.66	-164.77	-107.73	108.39	10.51	10.22	24.08
6,641.00	20.80	259.08	6,628.69	-172.25	-133.35	134.05	9.80	8.87	15.09
6,735.00	29.48	263.91	6,713.71	-177.88	-172.82	173.54	9.48	9.23	5.14
6,830.00	37.32	266.97	6,792.96	-181.89	-224.91	225.64	8.44	8.25	3.22
6,924.00	44.60	267.16	6,863.90	-185.03	-286.40	287.15	7.75	7.74	0.20
7,019.00	51.29	268.84	6,927.50	-187.44	-356.86	357.61	7.16	7.04	1.77
7,113.00	53.25	269.25	6,985.02	-188.67	-431.19	431.95	2.11	2.09	0.44
7,207.00	62.11	270.94	7,035.23	-188.48	-510.54	511.30	9.55	9.43	1.80
7,302.00	73.44	271.01	7,071.11	-186.99	-598.33	599.08	11.93	11.93	0.07
7,397.00	82.85	269.06	7,090.60	-186.96	-691.19	691.94	10.11	9.91	-2.05
7,491.00	91.11	270.29	7,095.55	-187.49	-784.97	785.73	8.88	8.79	1.31
7,586.00	89.49	271.16	7,095.06	-186.28	-879.96	880.71	1.94	-1.71	0.92
7,680.00	89.09	270.07	7,096.22	-185.28	-973.95	974.69	1.24	-0.43	-1.16
7,774.00	89.46	271.92	7,097.41	-183.64	-1,067.92	1,068.66	2.01	0.39	1.97
7,868.00	88.92	271.87	7,098.74	-180.54	-1,161.86	1,162.58	0.58	-0.57	-0.05
7,963.00	90.40	270.47	7,099.30	-178.60	-1,256.83	1,257.55	2.14	1.56	-1.47
8,057.00	90.13	270.99	7,098.87	-177.40	-1,350.83	1,351.53	0.62	-0.29	0.55
8,152.00	91.18	270.22	7,097.78	-176.39	-1,445.81	1,446.51	1.37	1.11	-0.81
8,247.00	90.91	269.72	7,096.05	-176.44	-1,540.80	1,541.50	0.60	-0.28	-0.53
8,341.00	90.81	269.39	7,094.64	-177.17	-1,634.78	1,635.49	0.37	-0.11	-0.35
8,436.00	91.75	270.59	7,092.52	-177.19	-1,729.76	1,730.46	1.60	0.99	1.26
8,530.00	90.44	271.08	7,090.72	-175.82	-1,823.73	1,824.42	1.49	-1.39	0.52
8,625.00	90.27	271.20	7,090.13	-173.93	-1,918.71	1,919.39	0.22	-0.18	0.13
8,720.00	90.27	270.81	7,089.68	-172.27	-2,013.69	2,014.37	0.41	0.00	-0.41

SDT

Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #740H - Slot A1
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Site:	Rosa Unit 31	MD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Well:	Rosa Unit #740H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,814.00	90.13	270.14	7,089.35	-171.49	-2,107.68	2,108.36	0.73	-0.15	-0.71	
8,909.00	89.50	270.36	7,089.66	-171.07	-2,202.68	2,203.36	0.70	-0.66	0.23	
9,004.00	89.12	269.77	7,090.81	-170.96	-2,297.68	2,298.35	0.74	-0.40	-0.62	
9,098.00	89.93	272.30	7,091.59	-169.27	-2,391.65	2,392.31	2.83	0.86	2.69	
9,192.00	91.51	272.32	7,090.40	-165.48	-2,485.56	2,486.21	1.68	1.68	0.02	
9,287.00	90.91	270.99	7,088.40	-162.73	-2,580.50	2,581.14	1.54	-0.63	-1.40	
9,382.00	90.61	270.83	7,087.14	-161.23	-2,675.48	2,676.11	0.36	-0.32	-0.17	
9,476.00	90.64	270.20	7,086.11	-160.38	-2,769.47	2,770.09	0.67	0.03	-0.67	
9,571.00	90.88	272.08	7,084.85	-158.49	-2,864.44	2,865.05	1.99	0.25	1.98	
9,665.00	90.71	270.81	7,083.55	-156.12	-2,958.40	2,959.00	1.36	-0.18	-1.35	
9,760.00	90.50	271.31	7,082.54	-154.36	-3,053.37	3,053.97	0.57	-0.22	0.53	
9,854.00	91.11	272.34	7,081.22	-151.37	-3,147.32	3,147.90	1.27	0.65	1.10	
9,949.00	90.74	271.81	7,079.69	-147.93	-3,242.24	3,242.81	0.68	-0.39	-0.56	
10,044.00	90.44	271.79	7,078.71	-144.95	-3,337.19	3,337.75	0.32	-0.32	-0.02	
10,138.00	90.24	271.48	7,078.15	-142.27	-3,431.15	3,431.70	0.39	-0.21	-0.33	
10,233.00	90.07	272.34	7,077.90	-139.10	-3,526.09	3,526.63	0.92	-0.18	0.91	
10,327.00	89.87	270.99	7,077.95	-136.37	-3,620.05	3,620.57	1.45	-0.21	-1.44	
10,421.00	89.36	271.46	7,078.58	-134.36	-3,714.03	3,714.54	0.74	-0.54	0.50	
10,516.00	90.57	271.94	7,078.64	-131.54	-3,808.98	3,809.49	1.37	1.27	0.51	
10,610.00	90.24	272.17	7,077.97	-128.17	-3,902.92	3,903.41	0.43	-0.35	0.24	
10,705.00	90.10	272.15	7,077.69	-124.59	-3,997.85	3,998.32	0.15	-0.15	-0.02	
10,799.00	89.90	272.12	7,077.69	-121.09	-4,091.79	4,092.24	0.22	-0.21	-0.03	
10,894.00	91.04	270.92	7,076.91	-118.57	-4,186.75	4,187.19	1.74	1.20	-1.26	
10,988.00	90.64	271.75	7,075.53	-116.38	-4,280.71	4,281.15	0.98	-0.43	0.88	
11,083.00	90.13	270.97	7,074.89	-114.12	-4,375.68	4,376.11	0.98	-0.54	-0.82	
11,177.00	90.54	269.68	7,074.34	-113.59	-4,469.68	4,470.10	1.44	0.44	-1.37	
11,272.00	90.30	269.53	7,073.65	-114.24	-4,564.67	4,565.10	0.30	-0.25	-0.16	
11,367.00	90.10	270.51	7,073.32	-114.21	-4,659.67	4,660.09	1.05	-0.21	1.03	
11,461.00	90.88	270.41	7,072.51	-113.46	-4,753.66	4,754.08	0.84	0.83	-0.11	
11,556.00	90.64	271.35	7,071.25	-112.00	-4,848.64	4,849.05	1.02	-0.25	0.99	
11,650.00	90.17	270.65	7,070.59	-110.36	-4,942.62	4,943.03	0.90	-0.50	-0.74	
11,744.00	89.93	270.89	7,070.51	-109.09	-5,036.61	5,037.02	0.36	-0.26	0.26	
11,839.00	89.70	270.74	7,070.81	-107.74	-5,131.60	5,132.00	0.29	-0.24	-0.16	
11,934.00	89.33	271.45	7,071.62	-105.93	-5,226.58	5,226.97	0.84	-0.39	0.75	
12,028.00	90.84	270.86	7,071.48	-104.03	-5,320.56	5,320.94	1.72	1.61	-0.63	
12,123.00	90.10	270.72	7,070.70	-102.72	-5,415.55	5,415.92	0.79	-0.78	-0.15	
12,217.00	89.83	270.03	7,070.76	-102.11	-5,509.55	5,509.91	0.79	-0.29	-0.73	
12,312.00	89.33	270.48	7,071.45	-101.69	-5,604.54	5,604.91	0.71	-0.53	0.47	
12,406.00	89.93	269.65	7,072.06	-101.58	-5,698.54	5,698.90	1.09	0.64	-0.88	
12,501.00	89.56	269.51	7,072.48	-102.28	-5,793.53	5,793.90	0.42	-0.39	-0.15	
12,596.00	90.67	270.10	7,072.29	-102.60	-5,888.53	5,888.90	1.32	1.17	0.62	
12,690.00	90.54	271.05	7,071.30	-101.66	-5,982.52	5,982.88	1.02	-0.14	1.01	
12,785.00	90.24	271.23	7,070.65	-99.77	-6,077.50	6,077.85	0.37	-0.32	0.19	
12,879.00	90.00	271.38	7,070.46	-97.62	-6,171.47	6,171.82	0.30	-0.26	0.16	

SDT

Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #740H - Slot A1
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Site:	Rosa Unit 31	MD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Well:	Rosa Unit #740H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,974.00	89.36	270.68	7,070.99	-95.92	-6,266.46	6,266.79	1.00	-0.67	-0.74	
13,069.00	90.98	271.39	7,070.70	-94.20	-6,361.44	6,361.77	1.86	1.71	0.75	
13,163.00	90.64	270.43	7,069.37	-92.71	-6,455.41	6,455.74	1.08	-0.36	-1.02	
13,258.00	90.50	270.31	7,068.43	-92.09	-6,550.41	6,550.73	0.19	-0.15	-0.13	
13,353.00	90.47	269.40	7,067.63	-92.34	-6,645.40	6,645.72	0.96	-0.03	-0.96	
13,447.00	90.34	269.00	7,066.96	-93.65	-6,739.39	6,739.72	0.45	-0.14	-0.43	
13,542.00	90.03	269.66	7,066.65	-94.76	-6,834.38	6,834.71	0.77	-0.33	0.69	
13,636.00	89.70	269.65	7,066.88	-95.32	-6,928.38	6,928.71	0.35	-0.35	-0.01	
13,731.00	89.66	269.88	7,067.41	-95.71	-7,023.38	7,023.71	0.25	-0.04	0.24	
13,825.00	89.60	269.36	7,068.01	-96.34	-7,117.38	7,117.71	0.56	-0.06	-0.55	
13,920.00	90.91	270.62	7,067.59	-96.35	-7,212.37	7,212.70	1.91	1.38	1.33	
14,014.00	90.64	270.71	7,066.32	-95.26	-7,306.36	7,306.68	0.30	-0.29	0.10	
14,109.00	89.97	270.30	7,065.81	-94.43	-7,401.35	7,401.67	0.83	-0.71	-0.43	
14,203.00	89.43	270.55	7,066.31	-93.73	-7,495.35	7,495.66	0.63	-0.57	0.27	
14,298.00	90.81	271.55	7,066.11	-91.99	-7,590.33	7,590.64	1.79	1.45	1.05	
14,393.00	90.47	271.87	7,065.05	-89.15	-7,685.28	7,685.57	0.49	-0.36	0.34	
14,487.00	89.90	271.22	7,064.74	-86.62	-7,779.24	7,779.53	0.92	-0.61	-0.69	
14,582.00	89.53	272.33	7,065.21	-83.68	-7,874.19	7,874.47	1.23	-0.39	1.17	
14,676.00	90.67	271.26	7,065.05	-80.73	-7,968.14	7,968.41	1.66	1.21	-1.14	
14,771.00	90.37	270.54	7,064.19	-79.24	-8,063.13	8,063.38	0.82	-0.32	-0.76	
14,865.00	89.76	270.90	7,064.08	-78.06	-8,157.12	8,157.37	0.75	-0.65	0.38	
14,960.00	89.50	271.80	7,064.70	-75.82	-8,252.09	8,252.33	0.99	-0.27	0.95	
15,055.00	89.09	271.85	7,065.86	-72.80	-8,347.03	8,347.26	0.43	-0.43	0.05	
15,149.00	89.83	270.49	7,066.75	-70.88	-8,441.01	8,441.23	1.65	0.79	-1.45	
15,243.00	89.66	270.51	7,067.17	-70.06	-8,535.00	8,535.22	0.18	-0.18	0.02	
15,338.00	89.19	270.11	7,068.12	-69.54	-8,630.00	8,630.21	0.65	-0.49	-0.42	
15,433.00	88.68	271.19	7,069.89	-68.46	-8,724.97	8,725.18	1.26	-0.54	1.14	
15,527.00	90.44	270.38	7,070.61	-67.18	-8,818.96	8,819.16	2.06	1.87	-0.86	
15,622.00	90.00	270.17	7,070.24	-66.72	-8,913.95	8,914.15	0.51	-0.46	-0.22	
15,716.00	89.43	269.97	7,070.71	-66.61	-9,007.95	9,008.15	0.64	-0.61	-0.21	
15,810.00	90.91	270.33	7,070.43	-66.36	-9,101.95	9,102.14	1.62	1.57	0.38	
15,905.00	90.51	269.92	7,069.26	-66.15	-9,196.94	9,197.13	0.60	-0.42	-0.43	
16,000.00	90.07	270.17	7,068.78	-66.08	-9,291.94	9,292.13	0.53	-0.46	0.26	
16,094.00	89.43	270.38	7,069.19	-65.63	-9,385.94	9,386.13	0.72	-0.68	0.22	
16,189.00	91.11	272.31	7,068.74	-63.40	-9,480.90	9,481.08	2.69	1.77	2.03	
16,283.00	90.84	272.15	7,067.14	-59.74	-9,574.82	9,574.98	0.33	-0.29	-0.17	
16,378.00	90.44	272.28	7,066.08	-56.07	-9,669.74	9,669.89	0.44	-0.42	0.14	
16,472.00	90.03	273.31	7,065.69	-51.49	-9,763.63	9,763.75	1.18	-0.44	1.10	
16,567.00	89.80	272.79	7,065.83	-46.43	-9,858.49	9,858.60	0.60	-0.24	-0.55	
16,661.00	90.34	269.88	7,065.72	-44.24	-9,952.45	9,952.55	3.15	0.57	-3.10	
16,756.00	90.13	270.61	7,065.33	-43.83	-10,047.45	10,047.55	0.80	-0.22	0.77	
16,850.00	89.50	271.60	7,065.63	-42.02	-10,141.43	10,141.52	1.25	-0.67	1.05	
16,945.00	89.43	269.87	7,066.52	-40.80	-10,236.42	10,236.50	1.82	-0.07	-1.82	

SDT
Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #740H - Slot A1
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Site:	Rosa Unit 31	MD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Well:	Rosa Unit #740H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,040.00	91.01	269.64	7,066.15	-41.21	-10,331.41	10,331.49	1.68	1.66	-0.24
17,135.00	90.74	269.66	7,064.70	-41.79	-10,426.40	10,426.48	0.28	-0.28	0.02
17,160.00	90.62	269.81	7,064.41	-41.91	-10,451.40	10,451.48	0.77	-0.50	0.59
17160' MD									
17,229.00	90.27	270.21	7,063.87	-41.90	-10,520.40	10,520.48	0.77	-0.50	0.59
17,261.00	90.00	269.19	7,063.80	-42.06	-10,552.39	10,552.48	3.30	-0.84	-3.19
17,327.00	90.00	269.19	7,063.80	-43.00	-10,618.39	10,618.47	0.00	0.00	0.00
BHL @ 17327' MD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
RU 740H SHL	0.00	0.00	0.00	0.00	0.00	2,133,595.07	2,858,361.84	36.8624824	-107.3709251
- actual wellpath hits target center									
- Point									
RU 740H BHL @ 17327'	0.00	0.00	7,063.80	-43.00	-10,618.39	2,133,500.66	2,847,743.81	36.8623588	-107.4072223
- actual wellpath hits target center									
- Point									
RU 740H Actual FPP	0.00	0.00	7,065.81	-41.33	-10,351.41	2,133,503.61	2,848,010.78	36.8623636	-107.4063097
- actual wellpath hits target center									
- Point									
RU 740H PBHL	0.00	0.00	7,077.00	-50.94	-10,623.87	2,133,492.69	2,847,738.37	36.8623370	-107.4072410
- actual wellpath misses target center by 16.35ft at 17327.00ft MD (7063.80 TVD, -43.00 N, -10618.39 E)									
- Point									
RU 740H Actual POE	0.00	0.00	7,093.06	-187.27	-714.05	2,133,404.34	2,857,648.70	36.8619680	-107.3733659
- actual wellpath misses target center by 0.02ft at 7419.98ft MD (7093.06 TVD, -187.27 N, -714.04 E)									
- Point									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
17,160.00	7,064.41	-41.91	-10,451.40	17160' MD
17,327.00	7,063.80	-43.00	-10,618.39	BHL @ 17327' MD

Checked By: _____

Approved By: _____

Date: _____

Logos Operating LLC

Rio Arriba, NM NAD83

Rosa Unit 31

Rosa Unit #740H - Slot A1

OH

Design: OH

Survey Report - Geographic

13 October, 2023

SDT

Survey Report - Geographic

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #740H - Slot A1
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Site:	Rosa Unit 31	MD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Well:	Rosa Unit #740H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Project	Rio Arriba, NM NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site		Rosa Unit 31						
Site Position:		Northing:	2,133,595.07	usft	Latitude:	36.8624824		
From:	Map	Easting:	2,858,361.84	usft	Longitude:	-107.3709251		
Position Uncertainty:	0.00	ft	Slot Radius:	13-3/16	"	Grid Convergence:	0.28	°

Well	Rosa Unit #740H - Slot A1					
Well Position	+N/-S	0.00 ft	Northing:	2,133,595.07 usft	Latitude:	36.8624824
	+E/-W	0.00 ft	Easting:	2,858,361.84 usft	Longitude:	-107.3709251
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,492.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	4/2/2023	8.49	63.28	49,475.98890216

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00		269.77

Survey Program	Date	10/13/2023			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
376.00	17,261.00	Survey #1 (OH)	B001Mb_MWD+HRGM	OWSG MWD + HRGM	
17,327.00	17,327.00	Survey #2 (OH)	Project	Projection	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	2,133,595.07	2,858,361.84	36.8624824	-107.3709251
376.00	0.68	58.50	375.99	1.17	1.90	2,133,596.24	2,858,363.74	36.8624856	-107.3709186
467.00	0.84	21.80	466.98	2.07	2.61	2,133,597.15	2,858,364.44	36.8624881	-107.3709162
558.00	0.81	21.72	557.97	3.28	3.10	2,133,598.36	2,858,364.92	36.8624915	-107.3709145
649.00	0.83	23.21	648.96	4.49	3.59	2,133,599.57	2,858,365.42	36.8624948	-107.3709128
740.00	2.96	330.98	739.91	7.15	2.71	2,133,602.23	2,858,364.52	36.8625021	-107.3709158
832.00	5.77	307.58	831.64	12.05	-2.10	2,133,607.10	2,858,359.68	36.8625155	-107.3709323
927.00	5.85	286.52	926.17	16.34	-10.53	2,133,611.35	2,858,351.23	36.8625273	-107.3709611
1,018.00	5.27	248.83	1,016.77	16.15	-18.88	2,133,611.12	2,858,342.89	36.8625268	-107.3709896
1,110.00	6.87	211.19	1,108.28	9.91	-25.67	2,133,604.85	2,858,336.12	36.8625097	-107.3710128
1,201.00	6.41	184.10	1,198.70	0.19	-28.85	2,133,595.11	2,858,332.99	36.8624829	-107.3710237

SDT

Survey Report - Geographic

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #740H - Slot A1
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Site:	Rosa Unit 31	MD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Well:	Rosa Unit #740H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
1,294.00	5.49	167.42	1,291.20	-9.34	-28.26	2,133,585.59	2,858,333.63	36.8624568	-107.3710217	
1,387.00	3.98	154.26	1,383.88	-16.59	-25.88	2,133,578.36	2,858,336.04	36.8624369	-107.3710136	
1,482.00	2.09	127.90	1,478.75	-20.62	-23.09	2,133,574.33	2,858,338.86	36.8624258	-107.3710040	
1,577.00	1.46	118.88	1,573.70	-22.27	-20.66	2,133,572.70	2,858,341.29	36.8624213	-107.3709957	
1,672.00	2.33	153.26	1,668.65	-24.58	-18.73	2,133,570.40	2,858,343.23	36.8624149	-107.3709891	
1,766.00	2.86	165.44	1,762.56	-28.55	-17.28	2,133,566.43	2,858,344.70	36.8624040	-107.3709842	
1,860.00	3.16	172.28	1,856.43	-33.39	-16.34	2,133,561.60	2,858,345.66	36.8623907	-107.3709809	
1,955.00	1.93	160.39	1,951.33	-37.49	-15.45	2,133,557.50	2,858,346.57	36.8623795	-107.3709779	
2,050.00	0.92	237.63	2,046.31	-39.41	-15.56	2,133,555.58	2,858,346.47	36.8623742	-107.3709783	
2,144.00	1.49	289.43	2,140.29	-39.41	-17.35	2,133,555.58	2,858,344.68	36.8623742	-107.3709844	
2,239.00	1.76	290.87	2,235.25	-38.48	-19.88	2,133,556.49	2,858,342.15	36.8623768	-107.3709930	
2,333.00	2.51	273.92	2,329.19	-37.82	-23.28	2,133,557.13	2,858,338.74	36.8623786	-107.3710047	
2,428.00	3.31	245.08	2,424.07	-38.83	-27.84	2,133,556.10	2,858,334.19	36.8623758	-107.3710203	
2,523.00	2.80	218.08	2,518.94	-41.82	-31.76	2,133,553.10	2,858,330.28	36.8623676	-107.3710337	
2,617.00	3.36	203.77	2,612.80	-46.14	-34.29	2,133,548.76	2,858,327.78	36.8623557	-107.3710423	
2,712.00	4.23	199.10	2,707.60	-52.00	-36.56	2,133,542.89	2,858,325.54	36.8623396	-107.3710501	
2,806.00	4.89	186.78	2,801.30	-59.26	-38.17	2,133,535.62	2,858,323.96	36.8623197	-107.3710555	
2,901.00	4.94	188.60	2,895.95	-67.32	-39.26	2,133,527.55	2,858,322.91	36.8622975	-107.3710593	
2,995.00	3.78	209.33	2,989.68	-74.03	-41.38	2,133,520.84	2,858,320.82	36.8622791	-107.3710665	
3,090.00	3.78	230.81	3,084.48	-78.74	-45.34	2,133,516.11	2,858,316.89	36.8622662	-107.3710801	
3,183.00	2.97	229.67	3,177.32	-82.23	-49.55	2,133,512.60	2,858,312.69	36.8622566	-107.3710945	
3,278.00	2.53	216.59	3,272.21	-85.51	-52.68	2,133,509.30	2,858,309.58	36.8622476	-107.3711052	
3,372.00	2.17	196.83	3,366.13	-88.88	-54.43	2,133,505.93	2,858,307.84	36.8622383	-107.3711111	
3,467.00	1.59	191.87	3,461.08	-91.89	-55.22	2,133,502.91	2,858,307.07	36.8622300	-107.3711139	
3,562.00	1.51	199.69	3,556.05	-94.36	-55.92	2,133,500.44	2,858,306.39	36.8622233	-107.3711162	
3,656.00	1.81	197.32	3,650.01	-96.94	-56.77	2,133,497.85	2,858,305.54	36.8622162	-107.3711192	
3,750.00	1.76	202.03	3,743.96	-99.70	-57.76	2,133,495.09	2,858,304.57	36.8622086	-107.3711225	
3,845.00	1.68	212.03	3,838.92	-102.23	-59.04	2,133,492.55	2,858,303.30	36.8622016	-107.3711269	
3,940.00	1.30	206.58	3,933.89	-104.37	-60.26	2,133,490.40	2,858,302.08	36.8621958	-107.3711311	
4,034.00	1.45	170.89	4,027.86	-106.50	-60.55	2,133,488.27	2,858,301.81	36.8621899	-107.3711321	
4,130.00	1.08	174.30	4,123.84	-108.60	-60.27	2,133,486.17	2,858,302.10	36.8621841	-107.3711311	
4,224.00	0.73	173.46	4,217.83	-110.08	-60.11	2,133,484.70	2,858,302.26	36.8621801	-107.3711306	
4,319.00	0.67	160.99	4,312.82	-111.20	-59.86	2,133,483.57	2,858,302.52	36.8621770	-107.3711297	
4,413.00	2.01	216.73	4,406.79	-113.04	-60.67	2,133,481.73	2,858,301.72	36.8621719	-107.3711325	
4,508.00	1.96	228.16	4,501.74	-115.46	-62.88	2,133,479.30	2,858,299.52	36.8621653	-107.3711400	
4,602.00	1.38	210.17	4,595.70	-117.51	-64.65	2,133,477.24	2,858,297.77	36.8621597	-107.3711461	
4,697.00	1.05	208.05	4,690.68	-119.27	-65.63	2,133,475.48	2,858,296.79	36.8621548	-107.3711494	
4,791.00	0.71	206.51	4,784.66	-120.55	-66.29	2,133,474.19	2,858,296.13	36.8621513	-107.3711517	
4,886.00	2.13	227.58	4,879.63	-122.27	-67.86	2,133,472.47	2,858,294.58	36.8621466	-107.3711571	
4,980.00	3.16	243.00	4,973.53	-124.62	-71.46	2,133,470.10	2,858,290.99	36.8621401	-107.3711694	
5,075.00	3.11	248.70	5,068.39	-126.75	-76.19	2,133,467.95	2,858,286.27	36.8621343	-107.3711855	
5,169.00	2.95	250.59	5,162.26	-128.48	-80.85	2,133,466.20	2,858,281.62	36.8621295	-107.3712015	
5,264.00	2.08	233.96	5,257.17	-130.31	-84.55	2,133,464.35	2,858,277.93	36.8621245	-107.3712141	
5,359.00	2.24	208.09	5,352.10	-132.96	-86.82	2,133,461.69	2,858,275.67	36.8621172	-107.3712219	
5,485.00	2.39	187.14	5,478.00	-137.74	-88.30	2,133,456.90	2,858,274.21	36.8621041	-107.3712269	
5,515.00	2.39	182.65	5,507.98	-138.98	-88.41	2,133,455.66	2,858,274.11	36.8621007	-107.3712273	
5,578.00	2.37	183.61	5,570.92	-141.60	-88.55	2,133,453.04	2,858,273.98	36.8620935	-107.3712278	
5,641.00	2.47	175.39	5,633.87	-144.25	-88.53	2,133,450.39	2,858,274.02	36.8620862	-107.3712277	
5,704.00	2.13	172.22	5,696.82	-146.76	-88.26	2,133,447.88	2,858,274.30	36.8620793	-107.3712268	
5,767.00	1.71	166.52	5,759.78	-148.84	-87.88	2,133,445.81	2,858,274.68	36.8620736	-107.3712255	
5,830.00	1.46	175.55	5,822.76	-150.55	-87.60	2,133,444.09	2,858,274.97	36.8620689	-107.3712245	
5,893.00	0.91	213.20	5,885.74	-151.77	-87.81	2,133,442.87	2,858,274.77	36.8620656	-107.3712252	
5,956.00	1.01	268.78	5,948.74	-152.20	-88.64	2,133,442.44	2,858,273.94	36.8620644	-107.3712281	
6,019.00	1.18	264.24	6,011.72	-152.28	-89.84	2,133,442.36	2,858,272.74	36.8620642	-107.3712322	
6,082.00	1.04	262.21	6,074.71	-152.42	-91.05	2,133,442.21	2,858,271.53	36.8620638	-107.3712363	

SDT

Survey Report - Geographic

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #740H - Slot A1
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Site:	Rosa Unit 31	MD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Well:	Rosa Unit #740H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
6,145.00	1.11	220.58	6,137.70	-152.96	-92.02	2,133,441.66	2,858,270.57	36.8620623	-107.3712396	
6,208.00	0.80	228.99	6,200.69	-153.71	-92.74	2,133,440.91	2,858,269.84	36.8620602	-107.3712421	
6,271.00	1.29	219.48	6,263.68	-154.55	-93.53	2,133,440.07	2,858,269.06	36.8620579	-107.3712448	
6,387.00	1.58	216.71	6,379.65	-156.84	-95.31	2,133,437.77	2,858,267.29	36.8620516	-107.3712509	
6,452.00	2.75	222.02	6,444.60	-158.72	-96.89	2,133,435.88	2,858,265.72	36.8620465	-107.3712563	
6,547.00	12.46	244.90	6,538.66	-164.77	-107.73	2,133,429.78	2,858,254.92	36.8620299	-107.3712933	
6,641.00	20.80	259.08	6,628.69	-172.25	-133.35	2,133,422.17	2,858,229.33	36.8620093	-107.3713809	
6,735.00	29.48	263.91	6,713.71	-177.88	-172.82	2,133,416.35	2,858,189.89	36.8619939	-107.3715158	
6,830.00	37.32	266.97	6,792.96	-181.89	-224.91	2,133,412.09	2,858,137.82	36.8619828	-107.3716939	
6,924.00	44.60	267.16	6,863.90	-185.03	-286.40	2,133,408.65	2,858,076.34	36.8619742	-107.3719041	
7,019.00	51.29	268.84	6,927.50	-187.44	-356.86	2,133,405.90	2,858,005.90	36.8619676	-107.3721449	
7,113.00	53.25	269.25	6,985.02	-188.67	-431.19	2,133,404.31	2,857,931.58	36.8619642	-107.3723990	
7,207.00	62.11	270.94	7,035.23	-188.48	-510.54	2,133,404.11	2,857,852.22	36.8619647	-107.3726703	
7,302.00	73.44	271.01	7,071.11	-186.99	-598.33	2,133,405.18	2,857,764.43	36.8619688	-107.3729703	
7,397.00	82.85	269.06	7,090.60	-186.96	-691.19	2,133,404.76	2,857,671.57	36.8619689	-107.3732878	
7,491.00	91.11	270.29	7,095.55	-187.49	-784.97	2,133,403.78	2,857,577.79	36.8619674	-107.3736084	
7,586.00	89.49	271.16	7,095.06	-186.28	-879.96	2,133,404.52	2,857,482.80	36.8619707	-107.3739331	
7,680.00	89.09	270.07	7,096.22	-185.28	-973.95	2,133,405.08	2,857,388.81	36.8619735	-107.3742543	
7,774.00	89.46	271.92	7,097.41	-183.64	-1,067.92	2,133,406.25	2,857,294.82	36.8619780	-107.3745756	
7,868.00	88.92	271.87	7,098.74	-180.54	-1,161.86	2,133,408.91	2,857,200.87	36.8619865	-107.3748967	
7,963.00	90.40	270.47	7,099.30	-178.60	-1,256.83	2,133,410.39	2,857,105.89	36.8619918	-107.3752213	
8,057.00	90.13	270.99	7,098.87	-177.40	-1,350.83	2,133,411.13	2,857,011.90	36.8619951	-107.3755426	
8,152.00	91.18	270.22	7,097.78	-176.39	-1,445.81	2,133,411.67	2,856,916.91	36.8619978	-107.3758673	
8,247.00	90.91	269.72	7,096.05	-176.44	-1,540.80	2,133,411.16	2,856,821.92	36.8619977	-107.3761920	
8,341.00	90.81	269.39	7,094.64	-177.17	-1,634.78	2,133,409.98	2,856,727.94	36.8619957	-107.3765133	
8,436.00	91.75	270.59	7,092.52	-177.19	-1,729.76	2,133,409.50	2,856,632.97	36.8619956	-107.3768379	
8,530.00	90.44	271.08	7,090.72	-175.82	-1,823.73	2,133,410.42	2,856,538.99	36.8619993	-107.3771592	
8,625.00	90.27	271.20	7,090.13	-173.93	-1,918.71	2,133,411.85	2,856,444.01	36.8620045	-107.3774838	
8,720.00	90.27	270.81	7,089.68	-172.27	-2,013.69	2,133,413.05	2,856,349.02	36.8620091	-107.3778085	
8,814.00	90.13	270.14	7,089.35	-171.49	-2,107.68	2,133,413.38	2,856,255.02	36.8620112	-107.3781298	
8,909.00	89.50	270.36	7,089.66	-171.07	-2,202.68	2,133,413.33	2,856,160.02	36.8620123	-107.3784546	
9,004.00	89.12	269.77	7,090.81	-170.96	-2,297.68	2,133,412.98	2,856,065.03	36.8620126	-107.3787793	
9,098.00	89.93	272.30	7,091.59	-169.27	-2,391.65	2,133,414.22	2,855,971.05	36.8620172	-107.3791005	
9,192.00	91.51	272.32	7,090.40	-165.48	-2,485.56	2,133,417.56	2,855,877.12	36.8620276	-107.3794215	
9,287.00	90.91	270.99	7,088.40	-162.73	-2,580.50	2,133,419.84	2,855,782.17	36.8620351	-107.3797460	
9,382.00	90.61	270.83	7,087.14	-161.23	-2,675.48	2,133,420.89	2,855,687.18	36.8620392	-107.3800707	
9,476.00	90.64	270.20	7,086.11	-160.38	-2,769.47	2,133,421.28	2,855,593.19	36.8620415	-107.3803920	
9,571.00	90.88	272.08	7,084.85	-158.49	-2,864.44	2,133,422.71	2,855,498.21	36.8620467	-107.3807166	
9,665.00	90.71	270.81	7,083.55	-156.12	-2,958.40	2,133,424.62	2,855,404.24	36.8620532	-107.3810378	
9,760.00	90.50	271.31	7,082.54	-154.36	-3,053.37	2,133,425.92	2,855,309.26	36.8620580	-107.3813625	
9,854.00	91.11	272.34	7,081.22	-151.37	-3,147.32	2,133,428.46	2,855,215.30	36.8620662	-107.3816836	
9,949.00	90.74	271.81	7,079.69	-147.93	-3,242.24	2,133,431.44	2,855,120.36	36.8620756	-107.3820081	
10,044.00	90.44	271.79	7,078.71	-144.95	-3,337.19	2,133,433.96	2,855,025.40	36.8620838	-107.3823327	
10,138.00	90.24	271.48	7,078.15	-142.27	-3,431.15	2,133,436.19	2,854,931.43	36.8620911	-107.3826539	
10,233.00	90.07	272.34	7,077.90	-139.10	-3,526.09	2,133,438.90	2,854,836.47	36.8620998	-107.3829784	
10,327.00	89.87	270.99	7,077.95	-136.37	-3,620.05	2,133,441.17	2,854,742.50	36.8621072	-107.3832996	
10,421.00	89.36	271.46	7,078.58	-134.36	-3,714.03	2,133,442.73	2,854,648.52	36.8621127	-107.3836208	
10,516.00	90.57	271.94	7,078.64	-131.54	-3,808.98	2,133,445.08	2,854,553.55	36.8621204	-107.3839454	
10,610.00	90.24	272.17	7,077.97	-128.17	-3,902.92	2,133,448.00	2,854,459.60	36.8621296	-107.3842665	
10,705.00	90.10	272.15	7,077.69	-124.59	-3,997.85	2,133,451.12	2,854,364.65	36.8621394	-107.3845910	
10,799.00	89.90	272.12	7,077.69	-121.09	-4,091.79	2,133,454.17	2,854,270.70	36.8621490	-107.3849121	
10,894.00	91.04	270.92	7,076.91	-118.57	-4,186.75	2,133,456.23	2,854,175.73	36.8621559	-107.3852367	
10,988.00	90.64	271.75	7,075.53	-116.38	-4,280.71	2,133,457.96	2,854,081.75	36.8621619	-107.3855579	
11,083.00	90.13	270.97	7,074.89	-114.12	-4,375.68	2,133,459.76	2,853,986.77	36.8621680	-107.3858826	
11,177.00	90.54	269.68	7,074.34	-113.59	-4,469.68	2,133,459.84	2,853,892.78	36.8621695	-107.3862039	

SDT

Survey Report - Geographic

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #740H - Slot A1
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Site:	Rosa Unit 31	MD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Well:	Rosa Unit #740H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
11,272.00	90.30	269.53	7,073.65	-114.24	-4,564.67	2,133,458.72	2,853,797.79	36.8621676	-107.3865286	
11,367.00	90.10	270.51	7,073.32	-114.21	-4,659.67	2,133,458.29	2,853,702.79	36.8621677	-107.3868534	
11,461.00	90.88	270.41	7,072.51	-113.46	-4,753.66	2,133,458.59	2,853,608.80	36.8621697	-107.3871746	
11,556.00	90.64	271.35	7,071.25	-112.00	-4,848.64	2,133,459.59	2,853,513.81	36.8621737	-107.3874993	
11,650.00	90.17	270.65	7,070.59	-110.36	-4,942.62	2,133,460.78	2,853,419.82	36.8621781	-107.3878206	
11,744.00	89.93	270.89	7,070.51	-109.09	-5,036.61	2,133,461.59	2,853,325.83	36.8621815	-107.3881419	
11,839.00	89.70	270.74	7,070.81	-107.74	-5,131.60	2,133,462.48	2,853,230.83	36.8621852	-107.3884666	
11,934.00	89.33	271.45	7,071.62	-105.93	-5,226.58	2,133,463.83	2,853,135.84	36.8621901	-107.3887913	
12,028.00	90.84	270.86	7,071.48	-104.03	-5,320.56	2,133,465.27	2,853,041.86	36.8621953	-107.3891125	
12,123.00	90.10	270.72	7,070.70	-102.72	-5,415.55	2,133,466.12	2,852,946.87	36.8621988	-107.3894372	
12,217.00	89.83	270.03	7,070.76	-102.11	-5,509.55	2,133,466.28	2,852,852.87	36.8622005	-107.3897585	
12,312.00	89.33	270.48	7,071.45	-101.69	-5,604.54	2,133,466.25	2,852,757.87	36.8622016	-107.3900832	
12,406.00	89.93	269.65	7,072.06	-101.58	-5,698.54	2,133,465.90	2,852,663.87	36.8622018	-107.3904046	
12,501.00	89.56	269.51	7,072.48	-102.28	-5,793.53	2,133,464.74	2,852,568.88	36.8621999	-107.3907293	
12,596.00	90.67	270.10	7,072.29	-102.60	-5,888.53	2,133,463.96	2,852,473.89	36.8621989	-107.3910540	
12,690.00	90.54	271.05	7,071.30	-101.66	-5,982.52	2,133,464.45	2,852,379.90	36.8622015	-107.3913753	
12,785.00	90.24	271.23	7,070.65	-99.77	-6,077.50	2,133,465.88	2,852,284.91	36.8622066	-107.3917000	
12,879.00	90.00	271.38	7,070.46	-97.62	-6,171.47	2,133,467.56	2,852,190.93	36.8622124	-107.3920212	
12,974.00	89.36	270.68	7,070.99	-95.92	-6,266.46	2,133,468.81	2,852,095.94	36.8622170	-107.3923459	
13,069.00	90.98	271.39	7,070.70	-94.20	-6,361.44	2,133,470.07	2,852,000.95	36.8622217	-107.3926706	
13,163.00	90.64	270.43	7,069.37	-92.71	-6,455.41	2,133,471.10	2,851,906.97	36.8622257	-107.3929918	
13,258.00	90.50	270.31	7,068.43	-92.09	-6,550.41	2,133,471.26	2,851,811.97	36.8622274	-107.3933165	
13,353.00	90.47	269.40	7,067.63	-92.34	-6,645.40	2,133,470.56	2,851,716.98	36.8622266	-107.3936413	
13,447.00	90.34	269.00	7,066.96	-93.65	-6,739.39	2,133,468.79	2,851,623.00	36.8622230	-107.3939625	
13,542.00	90.03	269.66	7,066.65	-94.76	-6,834.38	2,133,467.22	2,851,528.01	36.8622199	-107.3942873	
13,636.00	89.70	269.65	7,066.88	-95.32	-6,928.38	2,133,466.20	2,851,434.02	36.8622182	-107.3946086	
13,731.00	89.66	269.88	7,067.41	-95.71	-7,023.38	2,133,465.35	2,851,339.02	36.8622171	-107.3949333	
13,825.00	89.60	269.36	7,068.01	-96.34	-7,117.38	2,133,464.27	2,851,245.03	36.8622153	-107.3952546	
13,920.00	90.91	270.62	7,067.59	-96.35	-7,212.37	2,133,463.79	2,851,150.04	36.8622152	-107.3955793	
14,014.00	90.64	270.71	7,066.32	-95.26	-7,306.36	2,133,464.43	2,851,056.05	36.8622181	-107.3959006	
14,109.00	89.97	270.30	7,065.81	-94.43	-7,401.35	2,133,464.80	2,850,961.05	36.8622204	-107.3962253	
14,203.00	89.43	270.55	7,066.31	-93.73	-7,495.35	2,133,465.05	2,850,867.05	36.8622222	-107.3965466	
14,298.00	90.81	271.55	7,066.11	-91.99	-7,590.33	2,133,466.33	2,850,772.07	36.8622269	-107.3968713	
14,393.00	90.47	271.87	7,065.05	-89.15	-7,685.28	2,133,468.70	2,850,677.10	36.8622346	-107.3971959	
14,487.00	89.90	271.22	7,064.74	-86.62	-7,779.24	2,133,470.78	2,850,583.13	36.8622415	-107.3975171	
14,582.00	89.53	272.33	7,065.21	-83.68	-7,874.19	2,133,473.26	2,850,488.16	36.8622495	-107.3978417	
14,676.00	90.67	271.26	7,065.05	-80.73	-7,968.14	2,133,475.75	2,850,394.20	36.8622576	-107.3981628	
14,771.00	90.37	270.54	7,064.19	-79.24	-8,063.13	2,133,476.79	2,850,299.21	36.8622616	-107.3984875	
14,865.00	89.76	270.90	7,064.08	-78.06	-8,157.12	2,133,477.51	2,850,205.21	36.8622648	-107.3988088	
14,960.00	89.50	271.80	7,064.70	-75.82	-8,252.09	2,133,479.29	2,850,110.23	36.8622708	-107.3991335	
15,055.00	89.09	271.85	7,065.86	-72.80	-8,347.03	2,133,481.86	2,850,015.28	36.8622791	-107.3994580	
15,149.00	89.83	270.49	7,066.75	-70.88	-8,441.01	2,133,483.32	2,849,921.29	36.8622843	-107.3997793	
15,243.00	89.66	270.51	7,067.17	-70.06	-8,535.00	2,133,483.69	2,849,827.30	36.8622864	-107.4001006	
15,338.00	89.19	270.11	7,068.12	-69.54	-8,630.00	2,133,483.74	2,849,732.30	36.8622878	-107.4004253	
15,433.00	88.68	271.19	7,069.89	-68.46	-8,724.97	2,133,484.36	2,849,637.32	36.8622906	-107.4007499	
15,527.00	90.44	270.38	7,070.61	-67.18	-8,818.96	2,133,485.19	2,849,543.33	36.8622941	-107.4010712	
15,622.00	90.00	270.17	7,070.24	-66.72	-8,913.95	2,133,485.19	2,849,448.33	36.8622953	-107.4013960	
15,716.00	89.43	269.97	7,070.71	-66.61	-9,007.95	2,133,484.85	2,849,354.34	36.8622955	-107.4017173	
15,810.00	90.91	270.33	7,070.43	-66.36	-9,101.95	2,133,484.64	2,849,260.34	36.8622961	-107.4020386	
15,905.00	90.51	269.92	7,069.26	-66.15	-9,196.94	2,133,484.38	2,849,165.35	36.8622966	-107.4023633	
16,000.00	90.07	270.17	7,068.78	-66.08	-9,291.94	2,133,484.00	2,849,070.35	36.8622967	-107.4026880	
16,094.00	89.43	270.38	7,069.19	-65.63	-9,385.94	2,133,483.99	2,848,976.35	36.8622978	-107.4030094	
16,189.00	91.11	272.31	7,068.74	-63.40	-9,480.90	2,133,485.76	2,848,881.38	36.8623039	-107.4033340	
16,283.00	90.84	272.15	7,067.14	-59.74	-9,574.82	2,133,488.97	2,848,787.45	36.8623138	-107.4036550	
16,378.00	90.44	272.28	7,066.08	-56.07	-9,669.74	2,133,492.18	2,848,692.51	36.8623238	-107.4039795	

SDT

Survey Report - Geographic

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #740H - Slot A1
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Site:	Rosa Unit 31	MD Reference:	GL 6492' & RKB 30' @ 6522.00ft (H&P 530)
Well:	Rosa Unit #740H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
16,472.00	90.03	273.31	7,065.69	-51.49	-9,763.63	2,133,496.31	2,848,598.60	36.8623363	-107.4043004	
16,567.00	89.80	272.79	7,065.83	-46.43	-9,858.49	2,133,500.90	2,848,503.71	36.8623501	-107.4046247	
16,661.00	90.34	269.88	7,065.72	-44.24	-9,952.45	2,133,502.64	2,848,409.74	36.8623560	-107.4049459	
16,756.00	90.13	270.61	7,065.33	-43.83	-10,047.45	2,133,502.58	2,848,314.74	36.8623571	-107.4052707	
16,850.00	89.50	271.60	7,065.63	-42.02	-10,141.43	2,133,503.94	2,848,220.75	36.8623620	-107.4055919	
16,945.00	89.43	269.87	7,066.52	-40.80	-10,236.42	2,133,504.70	2,848,125.76	36.8623652	-107.4059166	
17,040.00	91.01	269.64	7,066.15	-41.21	-10,331.41	2,133,503.83	2,848,030.77	36.8623640	-107.4062413	
17,135.00	90.74	269.66	7,064.70	-41.79	-10,426.40	2,133,502.79	2,847,935.79	36.8623623	-107.4065660	
17,160.00	90.62	269.81	7,064.41	-41.91	-10,451.40	2,133,502.56	2,847,910.79	36.8623620	-107.4066515	
17160' MD										
17,229.00	90.27	270.21	7,063.87	-41.90	-10,520.40	2,133,502.23	2,847,841.79	36.8623619	-107.4068873	
17,261.00	90.00	269.19	7,063.80	-42.06	-10,552.39	2,133,501.91	2,847,809.80	36.8623614	-107.4069967	
17,327.00	90.00	269.19	7,063.80	-43.00	-10,618.39	2,133,500.66	2,847,743.81	36.8623588	-107.4072223	
BHL @ 17327' MD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
RU 740H SHL	0.00	0.00	0.00	0.00	0.00	2,133,595.07	2,858,361.84	36.8624824	-107.3709251	
- actual wellpath hits target center										
- Point										
RU 740H BHL @ 17327'	0.00	0.00	7,063.80	-43.00	-10,618.39	2,133,500.66	2,847,743.81	36.8623588	-107.4072223	
- actual wellpath hits target center										
- Point										
RU 740H Actual FPP	0.00	0.00	7,065.81	-41.33	-10,351.41	2,133,503.61	2,848,010.78	36.8623636	-107.4063097	
- actual wellpath hits target center										
- Point										
RU 740H PBHL	0.00	0.00	7,077.00	-50.94	-10,623.87	2,133,492.69	2,847,738.37	36.8623370	-107.4072410	
- actual wellpath misses target center by 16.35ft at 17327.00ft MD (7063.80 TVD, -43.00 N, -10618.39 E)										
- Point										
RU 740H Actual POE	0.00	0.00	7,093.06	-187.27	-714.05	2,133,404.34	2,857,648.70	36.8619680	-107.3733659	
- actual wellpath misses target center by 0.02ft at 7419.98ft MD (7093.06 TVD, -187.27 N, -714.04 E)										
- Point										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
17,160.00	7,064.41	-41.91	-10,451.40	17160' MD	
17,327.00	7,063.80	-43.00	-10,618.39	BHL @ 17327' MD	

Checked By: _____ Approved By: _____ Date: _____

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

ACKNOWLEDGMENTS

Action 275803

ACKNOWLEDGMENTS

Operator: LOGOS OPERATING, LLC 2010 Afton Place Farmington, NM 87401	OGRID: 289408
	Action Number: 275803
	Action Type: [C-104] Completion Packet (C-104C)

ACKNOWLEDGMENTS

☒	I hereby certify that the required Water Use Report has been, or will be, submitted for this wells completion.
☒	I hereby certify that the required FracFocus disclosure has been, or will be, submitted for this wells completion.

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Santa Fe, NM 87505

CONDITIONS

Action 275803

CONDITIONS

Operator: LOGOS OPERATING, LLC 2010 Afton Place Farmington, NM 87401	OGRID: 289408
	Action Number: 275803
	Action Type: [C-104] Completion Packet (C-104C)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	RT EXPIRES 1/16/2024.	10/16/2023