

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 New Well	
⁴ API Number 30 – 039-31413	⁵ Pool Name Basin Mancos		⁶ Pool Code 97232
⁷ Property Code 320608	⁸ Property Name Rosa Unit		⁹ Well Number 652H

II. ¹⁰ Surface Location

UL or lot no. A	Section 25	Township 31N	Range 6W	Lot Idn 1	Feet from the 1076	North/South Line North	Feet from the 253	East/West line East	County Rio Arriba
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¹¹ Bottom Hole Location

UL or lot no. D	Section 26	Township 31N	Range 6W	Lot Idn	Feet from the 1007	North/South line North	Feet from the 168	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

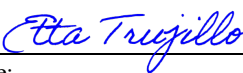
¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
373888	Harvest Four Corners, LLC 1755 Arroyo Dr. Bloomfield, NM 87413	G

IV. Well Completion Data

²¹ Spud Date 4/10/2022	²² Ready Date 10/18/2023	²³ TD 16,165’ MD / 7,232’ TVD	²⁴ PBTD 16,043’ MD / 7,230’ TVD	²⁵ Perforations 7,610’ MD /16,001’ MD 7,244’ TVD / 7,230’ TVD	²⁶ DHC, MC R-13457
²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set	
17.5”		13-3/8”, 54.5#, J-55		322’	
12.5”		9-5/8”, 47#, L-80		6241’	
8.5”		5.5”, 20#, HCP-110		16,137’	
		2-7/8”, 6.5#, J-55		pending	
³⁰ Sacks Cement					
365sx (75bbbls, 427cf)					
2487sx (767bbbls, 4306cf) DV tool @ 4658’ & 3101’					
2133sx (634bbbls, 3448cf) TOC @ 1,710’					

V. Well Test Data

³¹ Date New Oil n/a	³² Gas Delivery Date 10/21/2023	³³ Test Date 10/21/2023	³⁴ Test Length 12hrs	³⁵ Tbg. Pressure n/a	³⁶ Csg. Pressure 1651
³⁷ Choke Size 16/128	³⁸ Oil n/a	³⁹ Water 744 bwpd	⁴⁰ Gas 575 mcf		⁴¹ Test Method F

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: <i>PATRICIA MARTINEZ</i>	
Title: Regulatory Specialist		Title: <i>PETROLEUM SPECIALIST</i>	
E-mail Address: etrujillo@logosresourcesllc.com		Approval Date: <i>3/6/2024</i>	
Date: 3/1/2024	Phone: (505) 324-4154		



Request for Confidential "Tight Hole" Status

LOGOS Operating, LLC
Rosa Unit 652H
API# 30-039-31413
A Section 25 T31N R06W
Rio Arriba County, New Mexico

Per 19.15.7.16 WELL COMPLETION OR RECOMPLETION REPORT AND LOG (Form C-105); LOGOS Operating, LLC.
Request the Division keep Form C-105 and all pertained documentation confidential as of 12/15/2023 for 90 days acceptance of the referenced documents.

Sincerely,

A handwritten signature in blue ink that reads "Etta Trujillo". The signature is cursive and fluid.

Etta Trujillo
Regulatory Specialist
Email: etrujillo@logosresourcesllc.com
Office: 505-324-4154
Cell: 505-258-2936

1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form O-18 Page 3 of 25
Revised August 1, 2011

Submit one copy to
Appropriate District Office

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505

☒ AMENDED REPORT

AS-DRILLED WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-31413	² Pool Code 97232	³ Pool Name BASIN MANCOS
⁴ Property Code 320608	⁵ Property Name ROSA UNIT	⁶ Well Number 652H
⁷ OGRID No. 289408	⁸ Operator Name LOGOS OPERATING, LLC	⁹ Elevation 6372'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	25	31N	6W	1	1076	NORTH	253	EAST	RIO ARriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	26	31N	6W		1007	NORTH	168	WEST	RIO ARriba

¹² Dedicated Acres 592.16	N/2 - Section 25 N/2 - Section 26	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13457
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

BOTTOM HOLE LOCATION (D)
1007' FNL 168' FWL
SECTION 26, T31N, R6W
LAT 36.8750969°N
LONG -107.4400075°W
DATUM: NAD1927

LAT 36.8751028°N
LONG -107.4406114°W
DATUM: NAD1983

LAST TAKE POINT (C)
1015' FNL 335' FWL
SECTION 26, T31N, R6W
LAT 36.8750764°N
LONG -107.4394372°W
DATUM: NAD1927

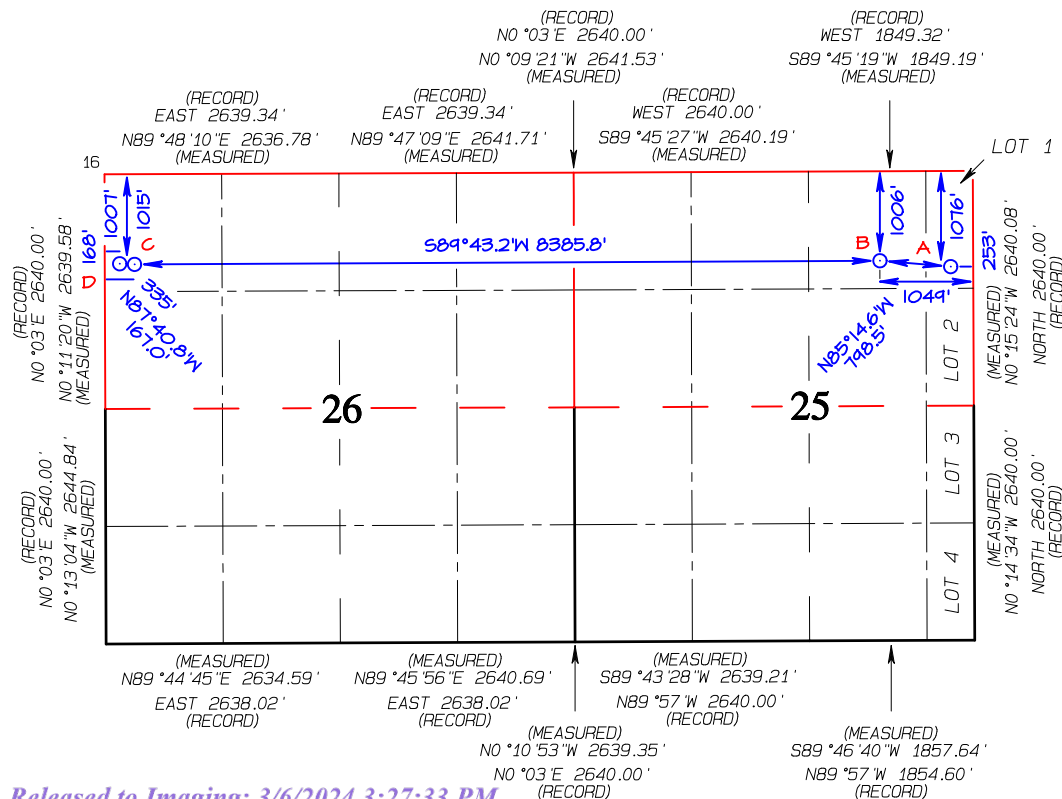
LAT 36.8750824°N
LONG -107.4400411°W
DATUM: NAD1983

FIRST TAKE POINT (B)
1006' FNL 1049' FEL
SECTION 25, T31N, R6W
LAT 36.8750904°N
LONG -107.4107676°W
DATUM: NAD1927

LAT 36.8750964°N
LONG -107.4113707°W
DATUM: NAD1983

SURFACE LOCATION (A)
1076' FNL 253' FEL
SECTION 25, T31N, R6W
LAT 36.874899°N
LONG -107.408048°W
DATUM: NAD1927

LAT 36.874905°N
LONG -107.408651°W
DATUM: NAD1983



¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Etta Trujillo Date 3/4/2024
Printed Name Etta Trujillo
E-mail Address etrujillo@logosresourcesllc.com

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Revised: MARCH 4, 2024
Date of Survey: MARCH 15, 2019

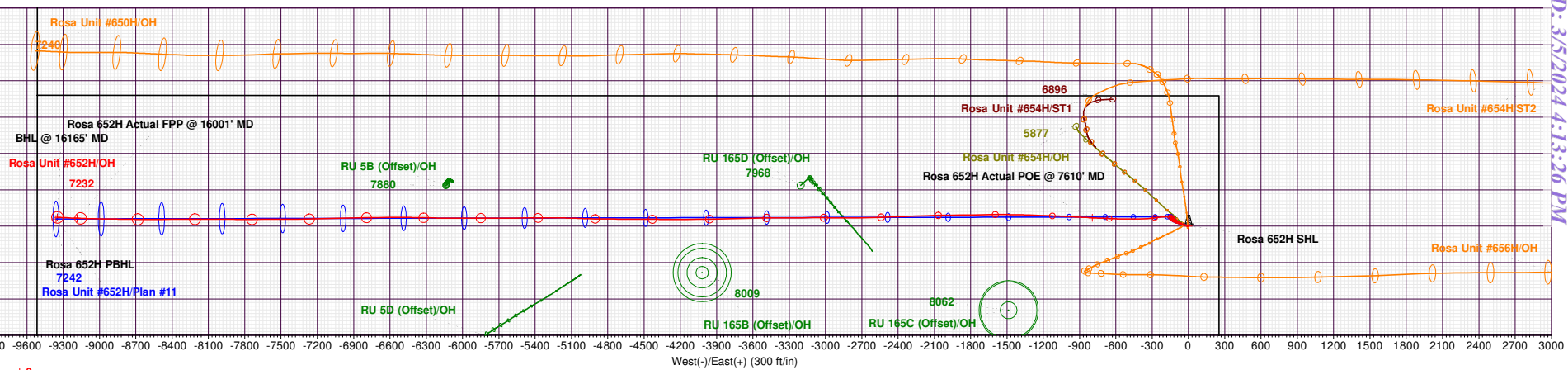
Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269



County: Rio Arriba, NM NAD83
Site: Rosa Unit 29
Well: Rosa Unit #652H
Depth Reference: 6372+30 @ 6402.00ft (H&P 530)
Rig: H&P 530
Plan: OH
Job #: 16820

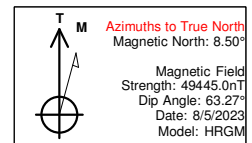
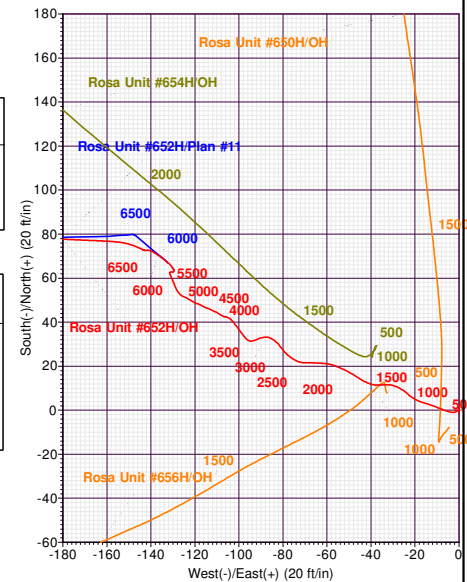


ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
7610.00	89.02	272.64	7243.94	69.76	-795.40	795.84	831.05	Rosa 652H Actual POE @ 7610' MD
16001.00	89.47	272.42	7229.57	66.26	-9184.21	9184.45	9221.50	Rosa 652H Actual FPP @ 16001' MD
16165.00	89.16	272.64	7231.71	73.62	-9348.03	9348.31	9385.48	BHL @ 16165' MD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Rosa 652H SHL	0.00	0.00	0.00	2138066.36	2847305.45	36.8749049	-107.4086513
Rosa 652H Actual FPP	7229.57	66.26	-9184.21	2138091.76	2838121.05	36.8750827	-107.4400513
Rosa 652H BHL	7231.71	73.62	-9348.03	2138098.40	2837957.20	36.8751028	-107.4406114
Rosa 652H PBHL	7242.00	60.55	-9359.91	2138085.27	2837945.38	36.8750669	-107.4406520
Rosa 652H Actual POE	7243.94	69.76	-795.40	2138132.57	2846509.74	36.8750964	-107.4113707



TOTAL CORRECTION: 8.50°

Released to Imaging: 3/6/2024 3:27:33 PM

Received by OCD: 3/5/2024 4:13:26 PM

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Logos Operating LLC

Rio Arriba, NM NAD83

Rosa Unit 29

Rosa Unit #652H - Slot A10 (652H Adjusted)

OH

Design: OH

Standard Survey Report

07 December, 2023

SDT
Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #652H - Slot A10 (652H Adjusted)
Project:	Rio Arriba, NM NAD83	TVD Reference:	6372+30 @ 6402.00ft (H&P 530)
Site:	Rosa Unit 29	MD Reference:	6372+30 @ 6402.00ft (H&P 530)
Well:	Rosa Unit #652H	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 29			
Site Position:		Northing:	2,138,126.53 usft	Latitude:	36.8750715
From:	Map	Easting:	2,847,195.58 usft	Longitude:	-107.4090261
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Rosa Unit #652H - Slot A10 (652H Adjusted)					
Well Position	+N/-S	0.00 ft	Northing:	2,138,066.35 usft	Latitude:	36.8749048
	+E/-W	0.00 ft	Easting:	2,847,305.45 usft	Longitude:	-107.4086514
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	6,372.00 ft
Grid Convergence:		0.25 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	8/5/2023	8.50	63.27	49,445.02102073

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	270.37	

Survey Program	Date	12/7/2023			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
378.50	16,098.00	Survey #1 (OH)	MWD-SDI		
16,165.00	16,165.00	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	
378.50	0.68	243.86	378.49	-0.99	-2.02	2.01	0.18	0.18	0.00	
472.50	1.17	286.09	472.48	-0.97	-3.44	3.43	0.86	0.52	44.93	
567.50	1.89	286.66	567.45	-0.25	-5.87	5.87	0.76	0.76	0.60	
661.50	2.37	293.37	661.38	0.96	-9.14	9.15	0.57	0.51	7.14	
756.50	2.51	288.17	756.29	2.39	-12.92	12.94	0.28	0.15	-5.47	
852.50	2.11	287.44	852.22	3.58	-16.60	16.63	0.42	-0.42	-0.76	
945.50	1.63	296.85	945.17	4.69	-19.42	19.45	0.61	-0.52	10.12	

SDT
Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #652H - Slot A10 (652H Adjusted)
Project:	Rio Arriba, NM NAD83	TVD Reference:	6372+30 @ 6402.00ft (H&P 530)
Site:	Rosa Unit 29	MD Reference:	6372+30 @ 6402.00ft (H&P 530)
Well:	Rosa Unit #652H	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)	
1,041.50	1.72	307.48	1,041.13	6.18	-21.78	21.82	0.34	0.09	11.07	
1,136.50	2.29	309.38	1,136.07	8.25	-24.38	24.43	0.60	0.60	2.00	
1,231.50	2.69	295.82	1,230.98	10.43	-27.85	27.92	0.75	0.42	-14.27	
1,322.50	2.07	275.37	1,321.90	11.51	-31.41	31.48	1.15	-0.68	-22.47	
1,416.50	2.24	263.30	1,415.83	11.46	-34.92	35.00	0.51	0.18	-12.84	
1,510.50	1.60	277.85	1,509.78	11.42	-38.05	38.12	0.85	-0.68	15.48	
1,605.50	1.70	289.02	1,604.74	12.06	-40.70	40.77	0.35	0.11	11.76	
1,700.50	2.04	298.95	1,699.69	13.34	-43.51	43.59	0.49	0.36	10.45	
1,795.50	2.87	304.04	1,794.60	15.49	-46.96	47.06	0.90	0.87	5.36	
1,889.50	3.46	296.39	1,888.46	18.07	-51.45	51.56	0.77	0.63	-8.14	
1,985.50	3.10	289.19	1,984.30	20.21	-56.50	56.62	0.57	-0.38	-7.50	
2,080.50	2.55	274.75	2,079.19	21.23	-61.03	61.16	0.94	-0.58	-15.20	
2,175.50	1.62	272.65	2,174.13	21.46	-64.47	64.61	0.98	-0.98	-2.21	
2,268.50	1.62	271.89	2,267.09	21.57	-67.10	67.24	0.02	0.00	-0.82	
2,364.50	1.85	268.53	2,363.04	21.57	-70.01	70.14	0.26	0.24	-3.50	
2,458.50	1.85	290.68	2,457.00	22.07	-72.94	73.08	0.76	0.00	23.56	
2,553.50	2.24	303.52	2,551.94	23.64	-75.93	76.08	0.63	0.41	13.52	
2,649.50	2.00	315.69	2,647.87	25.87	-78.66	78.83	0.53	-0.25	12.68	
2,743.50	2.53	324.13	2,741.80	28.73	-81.02	81.21	0.66	0.56	8.98	
2,838.50	2.13	307.21	2,836.72	31.49	-83.66	83.86	0.83	-0.42	-17.81	
2,933.50	1.37	289.96	2,931.68	32.95	-86.13	86.34	0.96	-0.80	-18.16	
3,028.50	1.24	264.64	3,026.65	33.24	-88.22	88.43	0.62	-0.14	-26.65	
3,123.50	1.54	250.43	3,121.62	32.72	-90.45	90.66	0.48	0.32	-14.96	
3,218.50	1.51	245.47	3,216.59	31.77	-92.79	92.99	0.14	-0.03	-5.22	
3,314.50	0.91	277.90	3,312.57	31.35	-94.69	94.89	0.92	-0.63	33.78	
3,409.50	1.18	308.99	3,407.55	32.07	-96.20	96.41	0.65	0.28	32.73	
3,505.50	1.45	322.57	3,503.53	33.66	-97.71	97.92	0.43	0.28	14.15	
3,600.50	1.66	322.99	3,598.49	35.71	-99.27	99.50	0.22	0.22	0.44	
3,696.50	1.94	323.11	3,694.45	38.12	-101.08	101.32	0.29	0.29	0.13	
3,790.50	1.44	320.38	3,788.41	40.30	-102.79	103.05	0.54	-0.53	-2.90	
3,883.50	0.88	302.05	3,881.39	41.58	-104.14	104.40	0.72	-0.60	-19.71	
3,979.50	0.66	298.69	3,977.38	42.24	-105.25	105.52	0.23	-0.23	-3.50	
4,075.50	0.53	262.50	4,073.37	42.44	-106.17	106.45	0.41	-0.14	-37.70	
4,171.50	1.26	296.96	4,169.36	42.86	-107.55	107.83	0.91	0.76	35.90	
4,266.50	1.19	305.50	4,264.34	43.91	-109.29	109.57	0.21	-0.07	8.99	
4,360.50	0.87	290.35	4,358.32	44.73	-110.75	111.04	0.44	-0.34	-16.12	
4,456.50	1.49	297.38	4,454.30	45.55	-112.54	112.84	0.66	0.65	7.32	
4,552.50	1.25	288.20	4,550.28	46.45	-114.65	114.94	0.34	-0.25	-9.56	
4,649.50	1.28	301.94	4,647.25	47.36	-116.57	116.88	0.31	0.03	14.16	
4,744.50	1.33	288.82	4,742.23	48.28	-118.52	118.83	0.32	0.05	-13.81	
4,838.50	1.45	297.33	4,836.20	49.17	-120.60	120.92	0.25	0.13	9.05	
4,933.50	1.52	300.92	4,931.17	50.37	-122.75	123.08	0.12	0.07	3.78	

SDT
Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #652H - Slot A10 (652H Adjusted)
Project:	Rio Arriba, NM NAD83	TVD Reference:	6372+30 @ 6402.00ft (H&P 530)
Site:	Rosa Unit 29	MD Reference:	6372+30 @ 6402.00ft (H&P 530)
Well:	Rosa Unit #652H	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)
5,028.50	1.45	291.96	5,026.14	51.47	-124.95	125.28	0.25	-0.07	-9.43
5,124.50	1.27	316.34	5,122.11	52.69	-126.81	127.15	0.63	-0.19	25.40
5,219.50	1.61	330.67	5,217.08	54.62	-128.19	128.54	0.52	0.36	15.08
5,313.50	2.04	338.23	5,311.03	57.32	-129.46	129.83	0.52	0.46	8.04
5,409.50	1.95	336.06	5,406.97	60.40	-130.75	131.14	0.12	-0.09	-2.26
5,472.50	1.19	342.39	5,469.95	62.01	-131.39	131.79	1.24	-1.21	10.05
5,535.50	0.48	65.46	5,532.95	62.74	-131.35	131.75	1.95	-1.13	131.86
5,599.50	0.64	94.95	5,596.94	62.82	-130.75	131.15	0.51	0.25	46.08
5,663.50	0.82	90.65	5,660.94	62.78	-129.93	130.33	0.29	0.28	-6.72
5,726.50	0.84	4.15	5,723.93	63.24	-129.45	129.85	1.81	0.03	-137.30
5,789.50	2.68	323.62	5,786.90	64.89	-130.29	130.70	3.35	2.92	-64.33
5,852.50	2.52	310.03	5,849.84	66.96	-132.22	132.65	1.01	-0.25	-21.57
6,271.00	0.62	264.72	6,268.17	72.67	-141.52	141.99	0.51	-0.45	-10.83
6,334.00	0.67	257.63	6,331.17	72.56	-142.22	142.69	0.15	0.08	-11.25
6,428.00	2.77	296.84	6,425.12	73.47	-144.79	145.26	2.44	2.23	41.71
6,523.00	2.55	286.60	6,520.02	75.11	-148.86	149.34	0.55	-0.23	-10.78
6,617.00	3.11	280.65	6,613.90	76.18	-153.37	153.86	0.67	0.60	-6.33
6,712.00	12.41	272.36	6,707.93	77.08	-166.13	166.62	9.83	9.79	-8.73
6,806.00	19.19	272.92	6,798.33	78.28	-191.68	192.18	7.21	7.21	0.60
6,901.00	27.87	263.10	6,885.38	76.41	-229.40	229.89	10.00	9.14	-10.34
6,996.00	35.08	260.82	6,966.35	69.37	-278.46	278.91	7.69	7.59	-2.40
7,090.00	41.15	264.95	7,040.29	62.33	-336.00	336.40	7.00	6.46	4.39
7,185.00	49.47	270.20	7,107.06	59.70	-403.38	403.76	9.59	8.76	5.53
7,279.00	59.11	270.85	7,161.86	60.43	-479.61	479.99	10.27	10.26	0.69
7,374.00	68.55	270.22	7,203.71	61.20	-564.77	565.16	9.95	9.94	-0.66
7,468.00	76.98	272.67	7,231.54	63.51	-654.43	654.83	9.31	8.97	2.61
7,563.00	88.99	272.42	7,243.13	67.69	-748.46	748.88	12.64	12.64	-0.26
7,610.00	89.02	272.64	7,243.94	69.76	-795.40	795.84	0.46	0.07	0.46
Rosa 652H Actual POE @ 7610' MD									
7,657.00	89.06	272.85	7,244.73	72.01	-842.34	842.79	0.46	0.07	0.46
7,751.00	90.50	272.53	7,245.09	76.42	-936.24	936.71	1.57	1.53	-0.34
7,846.00	90.10	273.34	7,244.59	81.28	-1,031.11	1,031.61	0.95	-0.42	0.85
7,940.00	90.44	272.09	7,244.15	85.73	-1,125.00	1,125.53	1.38	0.36	-1.33
8,034.00	90.30	272.04	7,243.54	89.12	-1,218.94	1,219.49	0.16	-0.15	-0.05
8,129.00	90.44	272.04	7,242.93	92.50	-1,313.88	1,314.45	0.15	0.15	0.00
8,223.00	89.36	270.74	7,243.09	94.78	-1,407.84	1,408.43	1.80	-1.15	-1.38
8,317.00	89.43	271.34	7,244.08	96.49	-1,501.82	1,502.42	0.64	0.07	0.64
8,412.00	89.29	268.97	7,245.14	96.75	-1,596.81	1,597.40	2.50	-0.15	-2.49
8,506.00	89.90	268.92	7,245.81	95.02	-1,690.79	1,691.37	0.65	0.65	-0.05
8,600.00	89.97	269.23	7,245.91	93.50	-1,784.78	1,785.35	0.34	0.07	0.33
8,694.00	89.50	269.41	7,246.35	92.38	-1,878.77	1,879.33	0.54	-0.50	0.19
8,789.00	89.93	269.92	7,246.82	91.83	-1,973.77	1,974.32	0.70	0.45	0.54
8,883.00	90.13	267.43	7,246.77	89.65	-2,067.74	2,068.27	2.66	0.21	-2.65

SDT
Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #652H - Slot A10 (652H Adjusted)
Project:	Rio Arriba, NM NAD83	TVD Reference:	6372+30 @ 6402.00ft (H&P 530)
Site:	Rosa Unit 29	MD Reference:	6372+30 @ 6402.00ft (H&P 530)
Well:	Rosa Unit #652H	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)
8,978.00	89.43	268.57	7,247.14	86.34	-2,162.68	2,163.19	1.41	-0.74	1.20
9,072.00	88.01	267.50	7,249.24	83.12	-2,256.59	2,257.08	1.89	-1.51	-1.14
9,167.00	89.53	268.18	7,251.28	79.54	-2,351.50	2,351.96	1.75	1.60	0.72
9,262.00	89.87	268.24	7,251.77	76.57	-2,446.45	2,446.90	0.36	0.36	0.06
9,356.00	89.73	267.98	7,252.10	73.47	-2,540.40	2,540.82	0.31	-0.15	-0.28
9,450.00	90.57	268.57	7,251.86	70.64	-2,634.36	2,634.76	1.09	0.89	0.63
9,545.00	91.18	269.27	7,250.41	68.85	-2,729.33	2,729.71	0.98	0.64	0.74
9,639.00	90.71	270.41	7,248.85	68.59	-2,823.31	2,823.70	1.31	-0.50	1.21
9,734.00	90.77	270.39	7,247.63	69.25	-2,918.30	2,918.69	0.07	0.06	-0.02
9,829.00	91.68	271.12	7,245.60	70.50	-3,013.27	3,013.66	1.23	0.96	0.77
9,923.00	90.74	269.24	7,243.61	70.80	-3,107.24	3,107.64	2.24	-1.00	-2.00
10,018.00	90.40	269.35	7,242.67	69.63	-3,202.23	3,202.61	0.38	-0.36	0.12
10,113.00	90.13	269.61	7,242.23	68.77	-3,297.23	3,297.60	0.39	-0.28	0.27
10,207.00	89.63	270.35	7,242.42	68.73	-3,391.23	3,391.60	0.95	-0.53	0.79
10,302.00	90.24	269.01	7,242.53	68.20	-3,486.22	3,486.59	1.55	0.64	-1.41
10,397.00	91.85	268.66	7,240.80	66.27	-3,581.18	3,581.54	1.73	1.69	-0.37
10,491.00	91.41	268.64	7,238.13	64.06	-3,675.12	3,675.46	0.47	-0.47	-0.02
10,586.00	91.31	268.63	7,235.87	61.79	-3,770.06	3,770.38	0.11	-0.11	-0.01
10,680.00	89.80	269.18	7,234.96	60.00	-3,864.04	3,864.35	1.71	-1.61	0.59
10,775.00	89.70	269.48	7,235.37	58.89	-3,959.03	3,959.33	0.33	-0.11	0.32
10,869.00	91.08	269.30	7,234.73	57.89	-4,053.02	4,053.31	1.48	1.47	-0.19
10,964.00	91.68	268.59	7,232.45	56.14	-4,147.98	4,148.25	0.98	0.63	-0.75
11,058.00	91.18	270.20	7,230.10	55.15	-4,241.94	4,242.21	1.79	-0.53	1.71
11,153.00	90.67	271.13	7,228.57	56.25	-4,336.92	4,337.19	1.12	-0.54	0.98
11,247.00	90.03	270.44	7,227.99	57.54	-4,430.91	4,431.19	1.00	-0.68	-0.73
11,342.00	89.66	270.42	7,228.25	58.25	-4,525.90	4,526.19	0.39	-0.39	-0.02
11,437.00	90.00	269.98	7,228.53	58.58	-4,620.90	4,621.19	0.59	0.36	-0.46
11,531.00	89.39	270.43	7,229.03	58.92	-4,714.90	4,715.18	0.81	-0.65	0.48
11,625.00	89.23	270.26	7,230.16	59.48	-4,808.89	4,809.18	0.25	-0.17	-0.18
11,720.00	89.83	271.51	7,230.94	60.95	-4,903.88	4,904.17	1.46	0.63	1.32
11,814.00	89.80	271.68	7,231.25	63.57	-4,997.84	4,998.14	0.18	-0.03	0.18
11,909.00	89.43	272.08	7,231.89	66.68	-5,092.78	5,093.11	0.57	-0.39	0.42
12,003.00	89.66	270.11	7,232.63	68.48	-5,186.76	5,187.09	2.11	0.24	-2.10
12,098.00	89.63	269.95	7,233.22	68.53	-5,281.76	5,282.09	0.17	-0.03	-0.17
12,192.00	89.46	270.51	7,233.97	68.91	-5,375.75	5,376.09	0.62	-0.18	0.60
12,287.00	89.12	269.57	7,235.14	68.97	-5,470.75	5,471.08	1.05	-0.36	-0.99
12,381.00	89.43	269.31	7,236.33	68.05	-5,564.73	5,565.06	0.43	0.33	-0.28
12,476.00	90.87	269.94	7,236.09	67.43	-5,659.73	5,660.05	1.65	1.52	0.66
12,570.00	90.67	270.08	7,234.82	67.45	-5,753.72	5,754.03	0.26	-0.21	0.15
12,665.00	90.50	269.70	7,233.85	67.27	-5,848.71	5,849.03	0.44	-0.18	-0.40
12,760.00	90.03	270.20	7,233.41	67.18	-5,943.71	5,944.02	0.72	-0.49	0.53
12,854.00	89.97	270.02	7,233.41	67.36	-6,037.71	6,038.02	0.20	-0.06	-0.19
12,949.00	89.09	270.03	7,234.19	67.41	-6,132.71	6,133.02	0.93	-0.93	0.01

SDT
Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #652H - Slot A10 (652H Adjusted)
Project:	Rio Arriba, NM NAD83	TVD Reference:	6372+30 @ 6402.00ft (H&P 530)
Site:	Rosa Unit 29	MD Reference:	6372+30 @ 6402.00ft (H&P 530)
Well:	Rosa Unit #652H	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)
13,043.00	90.84	271.09	7,234.25	68.32	-6,226.70	6,227.01	2.18	1.86	1.13
13,138.00	91.55	271.02	7,232.27	70.07	-6,321.66	6,321.98	0.75	0.75	-0.07
13,232.00	90.10	271.21	7,230.91	71.90	-6,415.63	6,415.96	1.56	-1.54	0.20
13,327.00	89.46	270.61	7,231.28	73.41	-6,510.62	6,510.96	0.92	-0.67	-0.63
13,421.00	89.93	269.17	7,231.78	73.23	-6,604.61	6,604.95	1.61	0.50	-1.53
13,516.00	89.33	269.21	7,232.39	71.89	-6,699.60	6,699.93	0.63	-0.63	0.04
13,610.00	88.92	268.78	7,233.83	70.24	-6,793.58	6,793.89	0.63	-0.44	-0.46
13,705.00	90.17	269.16	7,234.58	68.53	-6,888.56	6,888.85	1.38	1.32	0.40
13,800.00	90.40	268.33	7,234.11	66.45	-6,983.53	6,983.81	0.91	0.24	-0.87
13,894.00	90.44	268.70	7,233.42	64.02	-7,077.50	7,077.76	0.40	0.04	0.39
13,989.00	89.87	268.67	7,233.16	61.83	-7,172.47	7,172.72	0.60	-0.60	-0.03
14,083.00	88.82	268.39	7,234.24	59.42	-7,266.43	7,266.66	1.16	-1.12	-0.30
14,178.00	90.00	269.95	7,235.22	58.05	-7,361.41	7,361.63	2.06	1.24	1.64
14,272.00	88.82	269.93	7,236.19	57.95	-7,455.41	7,455.62	1.26	-1.26	-0.02
14,367.00	89.39	269.77	7,237.67	57.70	-7,550.39	7,550.61	0.62	0.60	-0.17
14,461.00	90.94	269.47	7,237.40	57.08	-7,644.39	7,644.60	1.68	1.65	-0.32
14,556.00	90.30	269.66	7,236.37	56.36	-7,739.38	7,739.58	0.70	-0.67	0.20
14,650.00	91.11	270.60	7,235.21	56.57	-7,833.37	7,833.57	1.32	0.86	1.00
14,745.00	90.64	270.48	7,233.76	57.46	-7,928.35	7,928.56	0.51	-0.49	-0.13
14,839.00	90.47	270.50	7,232.85	58.27	-8,022.35	8,022.56	0.18	-0.18	0.02
14,933.00	90.24	269.91	7,232.27	58.60	-8,116.34	8,116.55	0.67	-0.24	-0.63
15,028.00	89.93	269.81	7,232.13	58.37	-8,211.34	8,211.55	0.34	-0.33	-0.11
15,122.00	90.40	269.77	7,231.86	58.03	-8,305.34	8,305.54	0.50	0.50	-0.04
15,217.00	90.64	269.59	7,231.00	57.50	-8,400.34	8,400.53	0.32	0.25	-0.19
15,311.00	90.40	269.67	7,230.14	56.89	-8,494.33	8,494.52	0.27	-0.26	0.09
15,406.00	90.10	269.84	7,229.73	56.48	-8,589.33	8,589.51	0.36	-0.32	0.18
15,500.00	90.03	270.45	7,229.62	56.72	-8,683.33	8,683.51	0.65	-0.07	0.65
15,595.00	89.83	270.87	7,229.74	57.82	-8,778.32	8,778.51	0.49	-0.21	0.44
15,689.00	90.24	271.36	7,229.68	59.65	-8,872.30	8,872.50	0.68	0.44	0.52
15,784.00	90.44	270.72	7,229.12	61.37	-8,967.28	8,967.49	0.71	0.21	-0.67
15,878.00	89.87	270.71	7,228.86	62.54	-9,061.28	9,061.49	0.61	-0.61	-0.01
15,973.00	89.56	272.36	7,229.34	65.09	-9,156.24	9,156.47	1.77	-0.33	1.74
16,001.00	89.47	272.42	7,229.57	66.26	-9,184.21	9,184.45	0.39	-0.32	0.22
Rosa 652H Actual FPP @ 16001' MD									
16,067.00	89.26	272.57	7,230.30	69.13	-9,250.15	9,250.40	0.39	-0.32	0.22
16,098.00	89.16	272.64	7,230.73	70.54	-9,281.11	9,281.37	0.39	-0.32	0.23
16,165.00	89.16	272.64	7,231.71	73.62	-9,348.03	9,348.31	0.00	0.00	0.00
BHL @ 16165' MD									

SDT
Survey Report

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #652H - Slot A10 (652H Adjusted)
Project:	Rio Arriba, NM NAD83	TVD Reference:	6372+30 @ 6402.00ft (H&P 530)
Site:	Rosa Unit 29	MD Reference:	6372+30 @ 6402.00ft (H&P 530)
Well:	Rosa Unit #652H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 Multi User Db

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
Rosa 652H SHL	0.00	0.00	0.00	0.00	0.00	2,138,066.35	2,847,305.45	36.8749048	-107.4086514
- actual wellpath hits target center									
- Point									
Rosa 652H Actual FPP	0.00	0.00	7,229.57	66.26	-9,184.21	2,138,091.76	2,838,121.05	36.8750827	-107.4400514
- actual wellpath hits target center									
- Point									
Rosa 652H BHL	0.00	0.00	7,231.71	73.62	-9,348.03	2,138,098.40	2,837,957.20	36.8751028	-107.4406115
- actual wellpath hits target center									
- Point									
Rosa 652H PBHL	0.00	0.00	7,242.00	60.55	-9,359.91	2,138,085.27	2,837,945.38	36.8750668	-107.4406521
- actual wellpath misses target center by 20.44ft at 16165.00ft MD (7231.71 TVD, 73.62 N, -9348.03 E)									
- Point									
Rosa 652H Actual POE	0.00	0.00	7,243.94	69.76	-795.40	2,138,132.57	2,846,509.75	36.8750964	-107.4113708
- actual wellpath hits target center									
- Point									

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	Comment	
7,610.00	7,243.94	69.76	-795.40	Rosa 652H Actual POE @ 7610' MD	
16,001.00	7,229.57	66.26	-9,184.21	Rosa 652H Actual FPP @ 16001' MD	
16,165.00	7,231.71	73.62	-9,348.03	BHL @ 16165' MD	

Checked By: _____

Approved By: _____

Date: _____

Logos Operating LLC

Rio Arriba, NM NAD83

Rosa Unit 29

Rosa Unit #652H - Slot A10 (652H Adjusted)

OH

Design: OH

Survey Report - Geographic

07 December, 2023

SDT
Survey Report - Geographic

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #652H - Slot A10 (652H Adjusted)
Project:	Rio Arriba, NM NAD83	TVD Reference:	6372+30 @ 6402.00ft (H&P 530)
Site:	Rosa Unit 29	MD Reference:	6372+30 @ 6402.00ft (H&P 530)
Well:	Rosa Unit #652H	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 29				
Site Position:		Northing:	2,138,126.53 usft	Latitude:	36.8750715
From:	Map	Easting:	2,847,195.58 usft	Longitude:	-107.4090261
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.25 °

Well	Rosa Unit #652H - Slot A10 (652H Adjusted)					
Well Position	+N/-S	0.00 ft	Northing:	2,138,066.35 usft	Latitude:	36.8749048
	+E/-W	0.00 ft	Easting:	2,847,305.45 usft	Longitude:	-107.4086514
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	6,372.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	8/5/2023	8.50	63.27	49,445.02102073

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	270.37	

Survey Program	Date	12/7/2023			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
378.50	16,098.00	Survey #1 (OH)	MWD-SDI		
16,165.00	16,165.00	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	2,138,066.35	2,847,305.45	36.8749048	-107.4086514	
378.50	0.68	243.86	378.49	-0.99	-2.02	2,138,065.36	2,847,303.44	36.8749021	-107.4086583	
472.50	1.17	286.09	472.48	-0.97	-3.44	2,138,065.37	2,847,302.02	36.8749022	-107.4086631	
567.50	1.89	286.66	567.45	-0.25	-5.87	2,138,066.08	2,847,299.58	36.8749041	-107.4086714	
661.50	2.37	293.37	661.38	0.96	-9.14	2,138,067.28	2,847,296.31	36.8749075	-107.4086826	
756.50	2.51	288.17	756.29	2.39	-12.92	2,138,068.69	2,847,292.52	36.8749114	-107.4086955	
852.50	2.11	287.44	852.22	3.58	-16.60	2,138,069.86	2,847,288.83	36.8749147	-107.4087081	
945.50	1.63	296.85	945.17	4.69	-19.42	2,138,070.95	2,847,286.01	36.8749177	-107.4087177	
1,041.50	1.72	307.48	1,041.13	6.18	-21.78	2,138,072.44	2,847,283.64	36.8749218	-107.4087258	
1,136.50	2.29	309.38	1,136.07	8.25	-24.38	2,138,074.50	2,847,281.04	36.8749275	-107.4087347	

SDT

Survey Report - Geographic

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #652H - Slot A10 (652H Adjusted)
Project:	Rio Arriba, NM NAD83	TVD Reference:	6372+30 @ 6402.00ft (H&P 530)
Site:	Rosa Unit 29	MD Reference:	6372+30 @ 6402.00ft (H&P 530)
Well:	Rosa Unit #652H	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
1,231.50	2.69	295.82	1,230.98	10.43	-27.85	2,138,076.66	2,847,277.55	36.8749335	-107.4087466
1,322.50	2.07	275.37	1,321.90	11.51	-31.41	2,138,077.73	2,847,273.99	36.8749365	-107.4087587
1,416.50	2.24	263.30	1,415.83	11.46	-34.92	2,138,077.65	2,847,270.48	36.8749363	-107.4087708
1,510.50	1.60	277.85	1,509.78	11.42	-38.05	2,138,077.61	2,847,267.35	36.8749362	-107.4087814
1,605.50	1.70	289.02	1,604.74	12.06	-40.70	2,138,078.23	2,847,264.70	36.8749380	-107.4087905
1,700.50	2.04	298.95	1,699.69	13.34	-43.51	2,138,079.50	2,847,261.88	36.8749415	-107.4088001
1,795.50	2.87	304.04	1,794.60	15.49	-46.96	2,138,081.63	2,847,258.42	36.8749474	-107.4088119
1,889.50	3.46	296.39	1,888.46	18.07	-51.45	2,138,084.19	2,847,253.92	36.8749545	-107.4088273
1,985.50	3.10	289.19	1,984.30	20.21	-56.50	2,138,086.31	2,847,248.87	36.8749603	-107.4088445
2,080.50	2.55	274.75	2,079.19	21.23	-61.03	2,138,087.31	2,847,244.33	36.8749631	-107.4088600
2,175.50	1.62	272.65	2,174.13	21.46	-64.47	2,138,087.53	2,847,240.88	36.8749638	-107.4088718
2,268.50	1.62	271.89	2,267.09	21.57	-67.10	2,138,087.62	2,847,238.25	36.8749641	-107.4088808
2,364.50	1.85	268.53	2,363.04	21.57	-70.01	2,138,087.62	2,847,235.35	36.8749641	-107.4088907
2,458.50	1.85	290.68	2,457.00	22.07	-72.94	2,138,088.10	2,847,232.41	36.8749655	-107.4089007
2,553.50	2.24	303.52	2,551.94	23.64	-75.93	2,138,089.65	2,847,229.42	36.8749698	-107.4089109
2,649.50	2.00	315.69	2,647.87	25.87	-78.66	2,138,091.88	2,847,226.68	36.8749759	-107.4089203
2,743.50	2.53	324.13	2,741.80	28.73	-81.02	2,138,094.72	2,847,224.30	36.8749837	-107.4089284
2,838.50	2.13	307.21	2,836.72	31.49	-83.66	2,138,097.48	2,847,221.66	36.8749913	-107.4089374
2,933.50	1.37	289.96	2,931.68	32.95	-86.13	2,138,098.92	2,847,219.18	36.8749953	-107.4089458
3,028.50	1.24	264.64	3,026.65	33.24	-88.22	2,138,099.20	2,847,217.08	36.8749961	-107.4089530
3,123.50	1.54	250.43	3,121.62	32.72	-90.45	2,138,098.67	2,847,214.86	36.8749947	-107.4089606
3,218.50	1.51	245.47	3,216.59	31.77	-92.79	2,138,097.71	2,847,212.52	36.8749921	-107.4089686
3,314.50	0.91	277.90	3,312.57	31.35	-94.69	2,138,097.28	2,847,210.62	36.8749909	-107.4089751
3,409.50	1.18	308.99	3,407.55	32.07	-96.20	2,138,097.99	2,847,209.11	36.8749929	-107.4089803
3,505.50	1.45	322.57	3,503.53	33.66	-97.71	2,138,099.57	2,847,207.59	36.8749973	-107.4089854
3,600.50	1.66	322.99	3,598.49	35.71	-99.27	2,138,101.62	2,847,206.03	36.8750029	-107.4089907
3,696.50	1.94	323.11	3,694.45	38.12	-101.08	2,138,104.02	2,847,204.20	36.8750095	-107.4089969
3,790.50	1.44	320.38	3,788.41	40.30	-102.79	2,138,106.20	2,847,202.48	36.8750155	-107.4090028
3,883.50	0.88	302.05	3,881.39	41.58	-104.14	2,138,107.47	2,847,201.13	36.8750190	-107.4090074
3,979.50	0.66	298.69	3,977.38	42.24	-105.25	2,138,108.12	2,847,200.02	36.8750208	-107.4090112
4,075.50	0.53	262.50	4,073.37	42.44	-106.17	2,138,108.33	2,847,199.09	36.8750214	-107.4090144
4,171.50	1.26	296.96	4,169.36	42.86	-107.55	2,138,108.74	2,847,197.71	36.8750226	-107.4090191
4,266.50	1.19	305.50	4,264.34	43.91	-109.29	2,138,109.78	2,847,195.97	36.8750254	-107.4090250
4,360.50	0.87	290.35	4,358.32	44.73	-110.75	2,138,110.59	2,847,194.50	36.8750277	-107.4090300
4,456.50	1.49	297.38	4,454.30	45.55	-112.54	2,138,111.41	2,847,192.71	36.8750300	-107.4090361
4,552.50	1.25	288.20	4,550.28	46.45	-114.65	2,138,112.30	2,847,190.60	36.8750324	-107.4090433
4,649.50	1.28	301.94	4,647.25	47.36	-116.57	2,138,113.19	2,847,188.67	36.8750349	-107.4090499
4,744.50	1.33	288.82	4,742.23	48.28	-118.52	2,138,114.10	2,847,186.72	36.8750374	-107.4090566
4,838.50	1.45	297.33	4,836.20	49.17	-120.60	2,138,114.99	2,847,184.63	36.8750399	-107.4090637
4,933.50	1.52	300.92	4,931.17	50.37	-122.75	2,138,116.18	2,847,182.47	36.8750432	-107.4090710
5,028.50	1.45	291.96	5,026.14	51.47	-124.95	2,138,117.27	2,847,180.27	36.8750462	-107.4090785
5,124.50	1.27	316.34	5,122.11	52.69	-126.81	2,138,118.48	2,847,178.41	36.8750496	-107.4090849
5,219.50	1.61	330.67	5,217.08	54.62	-128.19	2,138,120.40	2,847,177.02	36.8750549	-107.4090896
5,313.50	2.04	338.23	5,311.03	57.32	-129.46	2,138,123.10	2,847,175.74	36.8750623	-107.4090940
5,409.50	1.95	336.06	5,406.97	60.40	-130.75	2,138,126.17	2,847,174.43	36.8750707	-107.4090984
5,472.50	1.19	342.39	5,469.95	62.01	-131.39	2,138,127.77	2,847,173.79	36.8750751	-107.4091006
5,535.50	0.48	65.46	5,532.95	62.74	-131.35	2,138,128.51	2,847,173.83	36.8750772	-107.4091004
5,599.50	0.64	94.95	5,596.94	62.82	-130.75	2,138,128.59	2,847,174.43	36.8750774	-107.4090984
5,663.50	0.82	90.65	5,660.94	62.78	-129.93	2,138,128.56	2,847,175.24	36.8750773	-107.4090956
5,726.50	0.84	4.15	5,723.93	63.24	-129.45	2,138,129.02	2,847,175.72	36.8750785	-107.4090939
5,789.50	2.68	323.62	5,786.90	64.89	-130.29	2,138,130.66	2,847,174.88	36.8750831	-107.4090968
5,852.50	2.52	310.03	5,849.84	66.96	-132.22	2,138,132.73	2,847,172.93	36.8750888	-107.4091034
6,271.00	0.62	264.72	6,268.17	72.67	-141.52	2,138,138.40	2,847,163.61	36.8751044	-107.4091352
6,334.00	0.67	257.63	6,331.17	72.56	-142.22	2,138,138.28	2,847,162.91	36.8751041	-107.4091376

SDT

Survey Report - Geographic

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #652H - Slot A10 (652H Adjusted)
Project:	Rio Arriba, NM NAD83	TVD Reference:	6372+30 @ 6402.00ft (H&P 530)
Site:	Rosa Unit 29	MD Reference:	6372+30 @ 6402.00ft (H&P 530)
Well:	Rosa Unit #652H	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
6,428.00	2.77	296.84	6,425.12	73.47	-144.79	2,138,139.18	2,847,160.34	36.8751066	-107.4091464
6,523.00	2.55	286.60	6,520.02	75.11	-148.86	2,138,140.80	2,847,156.26	36.8751111	-107.4091603
6,617.00	3.11	280.65	6,613.90	76.18	-153.37	2,138,141.85	2,847,151.75	36.8751141	-107.4091757
6,712.00	12.41	272.36	6,707.93	77.08	-166.13	2,138,142.69	2,847,138.98	36.8751165	-107.4092193
6,806.00	19.19	272.92	6,798.33	78.28	-191.68	2,138,143.78	2,847,113.43	36.8751199	-107.4093067
6,901.00	27.87	263.10	6,885.38	76.41	-229.40	2,138,141.74	2,847,075.71	36.8751147	-107.4094357
6,996.00	35.08	260.82	6,966.35	69.37	-278.46	2,138,134.49	2,847,026.68	36.8750954	-107.4096034
7,090.00	41.15	264.95	7,040.29	62.33	-336.00	2,138,127.19	2,846,969.18	36.8750760	-107.4098001
7,185.00	49.47	270.20	7,107.06	59.70	-403.38	2,138,124.26	2,846,901.81	36.8750688	-107.4100305
7,279.00	59.11	270.85	7,161.86	60.43	-479.61	2,138,124.65	2,846,825.58	36.8750708	-107.4102911
7,374.00	68.55	270.22	7,203.71	61.20	-564.77	2,138,125.04	2,846,740.41	36.8750729	-107.4105823
7,468.00	76.98	272.67	7,231.54	63.51	-654.43	2,138,126.95	2,846,650.74	36.8750793	-107.4108888
7,563.00	88.99	272.42	7,243.13	67.69	-748.46	2,138,130.71	2,846,556.70	36.8750907	-107.4112103
7,610.00	89.02	272.64	7,243.94	69.76	-795.40	2,138,132.57	2,846,509.75	36.8750964	-107.4113708
Rosa 652H Actual POE @ 7610' MD									
7,657.00	89.06	272.85	7,244.73	72.01	-842.34	2,138,134.61	2,846,462.80	36.8751026	-107.4115313
7,751.00	90.50	272.53	7,245.09	76.42	-936.24	2,138,138.61	2,846,368.89	36.8751147	-107.4118523
7,846.00	90.10	273.34	7,244.59	81.28	-1,031.11	2,138,143.05	2,846,273.99	36.8751280	-107.4121766
7,940.00	90.44	272.09	7,244.15	85.73	-1,125.00	2,138,147.08	2,846,180.08	36.8751403	-107.4124976
8,034.00	90.30	272.04	7,243.54	89.12	-1,218.94	2,138,150.05	2,846,086.13	36.8751496	-107.4128188
8,129.00	90.44	272.04	7,242.93	92.50	-1,313.88	2,138,153.01	2,845,991.18	36.8751588	-107.4131434
8,223.00	89.36	270.74	7,243.09	94.78	-1,407.84	2,138,154.87	2,845,897.20	36.8751651	-107.4134647
8,317.00	89.43	271.34	7,244.08	96.49	-1,501.82	2,138,156.16	2,845,803.22	36.8751698	-107.4137860
8,412.00	89.29	268.97	7,245.14	96.75	-1,596.81	2,138,156.00	2,845,708.23	36.8751704	-107.4141107
8,506.00	89.90	268.92	7,245.81	95.02	-1,690.79	2,138,153.85	2,845,614.26	36.8751657	-107.4144320
8,600.00	89.97	269.23	7,245.91	93.50	-1,784.78	2,138,151.91	2,845,520.28	36.8751615	-107.4147534
8,694.00	89.50	269.41	7,246.35	92.38	-1,878.77	2,138,150.38	2,845,426.29	36.8751584	-107.4150747
8,789.00	89.93	269.92	7,246.82	91.83	-1,973.77	2,138,149.40	2,845,331.30	36.8751569	-107.4153995
8,883.00	90.13	267.43	7,246.77	89.65	-2,067.74	2,138,146.81	2,845,237.34	36.8751509	-107.4157208
8,978.00	89.43	268.57	7,247.14	86.34	-2,162.68	2,138,143.07	2,845,142.42	36.8751418	-107.4160454
9,072.00	88.01	267.50	7,249.24	83.12	-2,256.59	2,138,139.43	2,845,048.52	36.8751329	-107.4163665
9,167.00	89.53	268.18	7,251.28	79.54	-2,351.50	2,138,135.43	2,844,953.62	36.8751230	-107.4166909
9,262.00	89.87	268.24	7,251.77	76.57	-2,446.45	2,138,132.04	2,844,858.69	36.8751149	-107.4170156
9,356.00	89.73	267.98	7,252.10	73.47	-2,540.40	2,138,128.52	2,844,764.75	36.8751063	-107.4173368
9,450.00	90.57	268.57	7,251.86	70.64	-2,634.36	2,138,125.27	2,844,670.81	36.8750985	-107.4176580
9,545.00	91.18	269.27	7,250.41	68.85	-2,729.33	2,138,123.06	2,844,575.85	36.8750936	-107.4179827
9,639.00	90.71	270.41	7,248.85	68.59	-2,823.31	2,138,122.38	2,844,481.87	36.8750928	-107.4183040
9,734.00	90.77	270.39	7,247.63	69.25	-2,918.30	2,138,122.62	2,844,386.88	36.8750946	-107.4186288
9,829.00	91.68	271.12	7,245.60	70.50	-3,013.27	2,138,123.45	2,844,291.90	36.8750980	-107.4189535
9,923.00	90.74	269.24	7,243.61	70.80	-3,107.24	2,138,123.33	2,844,197.93	36.8750988	-107.4192747
10,018.00	90.40	269.35	7,242.67	69.63	-3,202.23	2,138,121.74	2,844,102.95	36.8750956	-107.4195995
10,113.00	90.13	269.61	7,242.23	68.77	-3,297.23	2,138,120.45	2,844,007.96	36.8750932	-107.4199243
10,207.00	89.63	270.35	7,242.42	68.73	-3,391.23	2,138,120.00	2,843,913.96	36.8750931	-107.4202457
10,302.00	90.24	269.01	7,242.53	68.20	-3,486.22	2,138,119.05	2,843,818.97	36.8750916	-107.4205704
10,397.00	91.85	268.66	7,240.80	66.27	-3,581.18	2,138,116.69	2,843,724.02	36.8750862	-107.4208951
10,491.00	91.41	268.64	7,238.13	64.06	-3,675.12	2,138,114.06	2,843,630.09	36.8750801	-107.4212163
10,586.00	91.31	268.63	7,235.87	61.79	-3,770.06	2,138,111.38	2,843,535.16	36.8750739	-107.4215409
10,680.00	89.80	269.18	7,234.96	60.00	-3,864.04	2,138,109.16	2,843,441.19	36.8750689	-107.4218622
10,775.00	89.70	269.48	7,235.37	58.89	-3,959.03	2,138,107.63	2,843,346.20	36.8750658	-107.4221869
10,869.00	91.08	269.30	7,234.73	57.89	-4,053.02	2,138,106.21	2,843,252.22	36.8750630	-107.4225083
10,964.00	91.68	268.59	7,232.45	56.14	-4,147.98	2,138,104.04	2,843,157.27	36.8750582	-107.4228329
11,058.00	91.18	270.20	7,230.10	55.15	-4,241.94	2,138,102.63	2,843,063.32	36.8750554	-107.4231542
11,153.00	90.67	271.13	7,228.57	56.25	-4,336.92	2,138,103.31	2,842,968.33	36.8750584	-107.4234789
11,247.00	90.03	270.44	7,227.99	57.54	-4,430.91	2,138,104.18	2,842,874.34	36.8750619	-107.4238002

SDT

Survey Report - Geographic

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #652H - Slot A10 (652H Adjusted)
Project:	Rio Arriba, NM NAD83	TVD Reference:	6372+30 @ 6402.00ft (H&P 530)
Site:	Rosa Unit 29	MD Reference:	6372+30 @ 6402.00ft (H&P 530)
Well:	Rosa Unit #652H	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
11,342.00	89.66	270.42	7,228.25	58.25	-4,525.90	2,138,104.47	2,842,779.34	36.8750638	-107.4241250
11,437.00	90.00	269.98	7,228.53	58.58	-4,620.90	2,138,104.38	2,842,684.34	36.8750647	-107.4244498
11,531.00	89.39	270.43	7,229.03	58.92	-4,714.90	2,138,104.30	2,842,590.34	36.8750656	-107.4247712
11,625.00	89.23	270.26	7,230.16	59.48	-4,808.89	2,138,104.45	2,842,496.35	36.8750671	-107.4250925
11,720.00	89.83	271.51	7,230.94	60.95	-4,903.88	2,138,105.49	2,842,401.36	36.8750711	-107.4254173
11,814.00	89.80	271.68	7,231.25	63.57	-4,997.84	2,138,107.69	2,842,307.39	36.8750782	-107.4257385
11,909.00	89.43	272.08	7,231.89	66.68	-5,092.78	2,138,110.38	2,842,212.43	36.8750867	-107.4260631
12,003.00	89.66	270.11	7,232.63	68.48	-5,186.76	2,138,111.76	2,842,118.45	36.8750916	-107.4263844
12,098.00	89.63	269.95	7,233.22	68.53	-5,281.76	2,138,111.39	2,842,023.45	36.8750917	-107.4267092
12,192.00	89.46	270.51	7,233.97	68.91	-5,375.75	2,138,111.35	2,841,929.45	36.8750927	-107.4270306
12,287.00	89.12	269.57	7,235.14	68.97	-5,470.75	2,138,110.99	2,841,834.46	36.8750928	-107.4273554
12,381.00	89.43	269.31	7,236.33	68.05	-5,564.73	2,138,109.66	2,841,740.48	36.8750902	-107.4276767
12,476.00	90.87	269.94	7,236.09	67.43	-5,659.73	2,138,108.61	2,841,645.49	36.8750885	-107.4280015
12,570.00	90.67	270.08	7,234.82	67.45	-5,753.72	2,138,108.21	2,841,551.50	36.8750885	-107.4283228
12,665.00	90.50	269.70	7,233.85	67.27	-5,848.71	2,138,107.60	2,841,456.51	36.8750879	-107.4286476
12,760.00	90.03	270.20	7,233.41	67.18	-5,943.71	2,138,107.10	2,841,361.51	36.8750876	-107.4289724
12,854.00	89.97	270.02	7,233.41	67.36	-6,037.71	2,138,106.86	2,841,267.51	36.8750881	-107.4292938
12,949.00	89.09	270.03	7,234.19	67.41	-6,132.71	2,138,106.48	2,841,172.52	36.8750881	-107.4296186
13,043.00	90.84	271.09	7,234.25	68.32	-6,226.70	2,138,106.98	2,841,078.52	36.8750906	-107.4299399
13,138.00	91.55	271.02	7,232.27	70.07	-6,321.66	2,138,108.31	2,840,983.55	36.8750953	-107.4302646
13,232.00	90.10	271.21	7,230.91	71.90	-6,415.63	2,138,109.72	2,840,889.58	36.8751003	-107.4305858
13,327.00	89.46	270.61	7,231.28	73.41	-6,510.62	2,138,110.80	2,840,794.58	36.8751044	-107.4309106
13,421.00	89.93	269.17	7,231.78	73.23	-6,604.61	2,138,110.21	2,840,700.59	36.8751038	-107.4312320
13,516.00	89.33	269.21	7,232.39	71.89	-6,699.60	2,138,108.44	2,840,605.61	36.8751001	-107.4315567
13,610.00	88.92	268.78	7,233.83	70.24	-6,793.58	2,138,106.37	2,840,511.64	36.8750955	-107.4318780
13,705.00	90.17	269.16	7,234.58	68.53	-6,888.56	2,138,104.24	2,840,416.67	36.8750907	-107.4322027
13,800.00	90.40	268.33	7,234.11	66.45	-6,983.53	2,138,101.74	2,840,321.71	36.8750850	-107.4325274
13,894.00	90.44	268.70	7,233.42	64.02	-7,077.50	2,138,098.89	2,840,227.75	36.8750782	-107.4328487
13,989.00	89.87	268.67	7,233.16	61.83	-7,172.47	2,138,096.28	2,840,132.79	36.8750721	-107.4331734
14,083.00	88.82	268.39	7,234.24	59.42	-7,266.43	2,138,093.45	2,840,038.84	36.8750655	-107.4334947
14,178.00	90.00	269.95	7,235.22	58.05	-7,361.41	2,138,091.66	2,839,943.87	36.8750616	-107.4338194
14,272.00	88.82	269.93	7,236.19	57.95	-7,455.41	2,138,091.14	2,839,849.88	36.8750613	-107.4341407
14,367.00	89.39	269.77	7,237.67	57.70	-7,550.39	2,138,090.47	2,839,754.89	36.8750605	-107.4344655
14,461.00	90.94	269.47	7,237.40	57.08	-7,644.39	2,138,089.43	2,839,660.90	36.8750587	-107.4347869
14,556.00	90.30	269.66	7,236.37	56.36	-7,739.38	2,138,088.28	2,839,565.91	36.8750567	-107.4351116
14,650.00	91.11	270.60	7,235.21	56.57	-7,833.37	2,138,088.08	2,839,471.92	36.8750572	-107.4354330
14,745.00	90.64	270.48	7,233.76	57.46	-7,928.35	2,138,088.55	2,839,376.94	36.8750596	-107.4357577
14,839.00	90.47	270.50	7,232.85	58.27	-8,022.35	2,138,088.94	2,839,282.94	36.8750617	-107.4360791
14,933.00	90.24	269.91	7,232.27	58.60	-8,116.34	2,138,088.86	2,839,188.94	36.8750626	-107.4364004
15,028.00	89.93	269.81	7,232.13	58.37	-8,211.34	2,138,088.20	2,839,093.95	36.8750618	-107.4367252
15,122.00	90.40	269.77	7,231.86	58.03	-8,305.34	2,138,087.44	2,838,999.95	36.8750608	-107.4370466
15,217.00	90.64	269.59	7,231.00	57.50	-8,400.34	2,138,086.49	2,838,904.96	36.8750593	-107.4373714
15,311.00	90.40	269.67	7,230.14	56.89	-8,494.33	2,138,085.46	2,838,810.97	36.8750575	-107.4376927
15,406.00	90.10	269.84	7,229.73	56.48	-8,589.33	2,138,084.63	2,838,715.97	36.8750563	-107.4380175
15,500.00	90.03	270.45	7,229.62	56.72	-8,683.33	2,138,084.45	2,838,621.97	36.8750569	-107.4383389
15,595.00	89.83	270.87	7,229.74	57.82	-8,778.32	2,138,085.12	2,838,526.98	36.8750598	-107.4386637
15,689.00	90.24	271.36	7,229.68	59.65	-8,872.30	2,138,086.53	2,838,432.99	36.8750648	-107.4389850
15,784.00	90.44	270.72	7,229.12	61.37	-8,967.28	2,138,087.84	2,838,338.00	36.8750694	-107.4393097
15,878.00	89.87	270.71	7,228.86	62.54	-9,061.28	2,138,088.59	2,838,244.00	36.8750726	-107.4396311
15,973.00	89.56	272.36	7,229.34	65.09	-9,156.24	2,138,090.71	2,838,149.03	36.8750795	-107.4399557
16,001.00	89.47	272.42	7,229.57	66.26	-9,184.21	2,138,091.76	2,838,121.05	36.8750827	-107.4400514
Rosa 652H Actual FPP @ 16001' MD									
16,067.00	89.26	272.57	7,230.30	69.13	-9,250.15	2,138,094.34	2,838,055.11	36.8750905	-107.4402768
16,098.00	89.16	272.64	7,230.73	70.54	-9,281.11	2,138,095.61	2,838,024.14	36.8750943	-107.4403827

SDT
Survey Report - Geographic

Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #652H - Slot A10 (652H Adjusted)
Project:	Rio Arriba, NM NAD83	TVD Reference:	6372+30 @ 6402.00ft (H&P 530)
Site:	Rosa Unit 29	MD Reference:	6372+30 @ 6402.00ft (H&P 530)
Well:	Rosa Unit #652H	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
16,165.00	89.16	272.64	7,231.71	73.62	-9,348.03	2,138,098.40	2,837,957.20	36.8751028	-107.4406115
BHL @ 16165' MD									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Rosa 652H SHL - actual wellpath hits target center - Point	0.00	0.00	0.00	0.00	0.00	2,138,066.35	2,847,305.45	36.8749048	-107.4086514
Rosa 652H Actual FPP - actual wellpath hits target center - Point	0.00	0.00	7,229.57	66.26	-9,184.21	2,138,091.76	2,838,121.05	36.8750827	-107.4400514
Rosa 652H BHL - actual wellpath hits target center - Point	0.00	0.00	7,231.71	73.62	-9,348.03	2,138,098.40	2,837,957.20	36.8751028	-107.4406115
Rosa 652H PBHL - actual wellpath misses target center by 20.44ft at 16165.00ft MD (7231.71 TVD, 73.62 N, -9348.03 E) - Point	0.00	0.00	7,242.00	60.55	-9,359.91	2,138,085.27	2,837,945.38	36.8750668	-107.4406521
Rosa 652H Actual POE - actual wellpath hits target center - Point	0.00	0.00	7,243.94	69.76	-795.40	2,138,132.57	2,846,509.75	36.8750964	-107.4113708

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
7,610.00	7,243.94	69.76	-795.40	Rosa 652H Actual POE @ 7610' MD	
16,001.00	7,229.57	66.26	-9,184.21	Rosa 652H Actual FPP @ 16001' MD	
16,165.00	7,231.71	73.62	-9,348.03	BHL @ 16165' MD	

Checked By:	Approved By:	Date:
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Form 3160-5
(June 2019)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED OMB
No. 1004-0137 Expires:
December 31, 2024**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No. NMSF078771

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other2. Name of Operator
LOGOS OPERATING, LLC3a. Address 2010 AFTON PLACE
FARMINGTON, NM 874013b. Phone No. (include area code)
(505) 278-87204. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC 25 T31N R06W NENE (A) 1076' FNL253' FEL

7. If Unit of CA/Agreement, Name and/or No.

8. Well Name and No.
ROSA UNIT 652H

9. API Well No. 30-039-31413

10. Field and Pool or Exploratory Area
BASIN MANCOS11. Country or Parish, State
RIO ARriba COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off	
☒ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Completions	
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon		
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal		

413. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

9/14/2023 - NU master valve. PT to 11,500psi. Test good. SIW.

9/16/2023 - MIRU WL. Run CBL (TOC @ 1,710'). RDMO.

9/20/2023 - MIRU. Open toe sleeves @ 16,001'-15,995' & 15,954'-15,951'. RDMO.

9/23 -9/30/2023 - NU frac stack. MIRU WL. Finish Frac rig up.

10/01 - 10/12/2023 - Frac'd stage 1 w/230,741lbs Proppant, 100mesh & 40/70 sand, 6,935bbls slickwater. Set CFP @ 15,936'. Perforate intervals @ 15,921' - 7,610'. w/5 and 6 SPF, .38" Dia, 60 phasing. Frac'd w/19,139,221lbs Proppant, 100mesh & 40/70 sand, 494,222bbls slickwater. RIH set kill plug @ 7,580'. PT to 6500psi. Total of 1,976 perfs. RDMO.

10/16 - 10/18/2023 - MIRU CTU. DO kill plug @ 7,580'. Circulate, CO & DO composite frac plugs. POOH w/2-3/8" CT and drill out BHA. Well secured. RDMO CTU & all associated equipment.

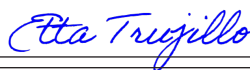
Per the approved operations plan, the 2-7/8", 6.5#, J-55, EUE tubing will be run once volumes and pressures decline and could be close to a year after the well is brought online.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Etta Trujillo

Title Regulatory Specialist

Signature



Date 12/14/2023

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

(Instructions on page 2)

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED OMB
No. 1004-0137 Expires:
December 31, 2024

SUNDRY NOTICES AND REPORTS ON WELLS
**Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.**

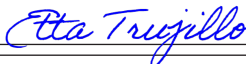
5. Lease Serial No. NMSF078771
6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2		7. If Unit of CA/Agreement, Name and/or No. NMNM78407E
1. Type of Well ☐ Oil Well ☒ Gas Well ☐ Other		8. Well Name and No. ROSA UNIT652H
2. Name of Operator LOGOS OPERATING, LLC		9. API Well No. 30-039-31413
3a. Address 2010 AFTON PLACE FARMINGTON, NM 87401	3b. Phone No. (include area code) (505) 278-8720	10. Field and Pool or Exploratory Area BASIN MANCOS
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) SEC 25 T31N R06W NENE (A) 1076' FNL 253' FEL		11. Country or Parish, State RIO ARRIBA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA				
TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☒ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

First delivery date: 10/21/2023
TP: 0 CP: 1702
Initial MCF: 19 MCF

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) Etta Trujillo		Title Regulatory Specialist
Signature 		Date 10/30/2023

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States

(Instructions on page 2)

From: blm-afmss-notifications@blm.gov
To: [Etta Trujillo](#)
Subject: Well Name: ROSA UNIT, Well Number: 652H, Notification of Well Completion Acceptance
Date: Friday, December 15, 2023 7:22:10 AM

The Bureau of Land Management

Notice of Acceptance for Well Completion Report

- Operator Name: **LOGOS OPERATING LLC**
- Well Name: **ROSA UNIT**
- Well Number: **652H**
- US Well Number: **3003931413**
- Well Completion Report Id: **WCR2023121590492**

This notification is automatically generated. Please do not reply to this message as this account is not monitored.

Submit To Appropriate District Office Two Copies <u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 811 S. First St., Artesia, NM 88210 <u>District III</u> 1000 Rio Brazos Rd., Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505		State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505				Amended Form C-105 Revised April 3, 2017												
WELL COMPLETION OR RECOMPLETION REPORT AND LOG																		
4. Reason for filing: ☒ COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only) ☐ C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)						5. Lease Name or Unit Agreement Name ROSA UNIT												
						6. Well Number: 652H												
7. Type of Completion: ☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER																		
8. Name of Operator LOGOS OPERATING, LLC						9. OGRID 289408												
10. Address of Operator 2010 AFTON PLACE, FARMINGTON, NM 87401						11. Pool name or Wildcat BASIN MANCOS												
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County								
Surface:	A	25	31N	R06W	1	1076'	FNL	253'	FEL	RIO ARRIBA								
BH:	D	26	31N	R06W		1007'	FNL	168'	FWL	RIO ARRIBA								
13. Date Spudded 4/10/2022	14. Date T.D. Reached 8/9/2023		15. Date Rig Released 8/9/2023		16. Date Completed (Ready to Produce) 10/18/2023			17. Elevations (DF and RKB, RT, GR, etc.) 6372'										
18. Total Measured Depth of Well 16,165' MD / 7,232' TVD			19. Plug Back Measured Depth 16,043' MD / 7,230' TVD		20. Was Directional Survey Made? Y			21. Type Electric and Other Logs Run CBL										
22. Producing Interval(s), of this completion - Top, Bottom, Name BASIN MANCOS (7230' - 7244') TVD																		
23. CASING RECORD (Report all strings set in well)																		
CASING SIZE		WEIGHT LB./FT.		DEPTH SET		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED								
13-3/8"		54.5#		322' (GL)		17-1/2"		365 sks		Circ 25bbls to surface								
9-5/8"		47.0#		6241'		12-1/2"		2487 sks		167bbls (DV@ 3101', 4658')								
5-1/2"		20.0#		16,137'		8-1/2"		2133 sks		TOC @ 1710' (CBL)								
24. LINER RECORD						25. TUBING RECORD												
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN		SIZE	DEPTH SET		PACKER SET									
						Pending												
26. Perforation record (interval, size, and number) 16,.001' MD to 7,610' MD, 0.38" , 5 & 6 SPF, 1976 total holes						27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>DEPTH INTERVAL</th> <th>AMOUNT AND KIND MATERIAL USED</th> </tr> <tr> <td>16,001' MD - 7,610' MD</td> <td>Frac'd 43 stages of 19,369,962lb Proppant, 100# mesh & 40/70 Ottawa sand. 501,158bbls of slickwater.</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>					DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED	16,001' MD - 7,610' MD	Frac'd 43 stages of 19,369,962lb Proppant, 100# mesh & 40/70 Ottawa sand. 501,158bbls of slickwater.				
DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED																	
16,001' MD - 7,610' MD	Frac'd 43 stages of 19,369,962lb Proppant, 100# mesh & 40/70 Ottawa sand. 501,158bbls of slickwater.																	
28. PRODUCTION																		
Date First Production 10/21/2023		Production Method (<i>Flowing, gas lift, pumping - Size and type pump</i>) <i>Flowing</i>				Well Status (<i>Prod. or Shut-in</i>) <i>Producing</i>												
Date of Test 10/21/2023	Hours Tested 12hrs	Choke Size 16/128	Prod'n For Test Period	Oil - Bbl n/a	Gas - MCF 575 mcf	Water - Bbl. 744 bbls	Gas - Oil Ratio n/a											
Flow Tubing Press. n/a	Casing Pressure 1651 psi	Calculated 24-Hour Rate	Oil - Bbl. n/a	Gas - MCF 1,589 mcf	Water - Bbl. 912 bbls	Oil Gravity - API - (<i>Corr.</i>) n/a												
29. Disposition of Gas (<i>Sold, used for fuel, vented, etc.</i>) <i>SOLD</i>								30. Test Witnessed By										
31. List Attachments																		
32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.								33. Rig Release Date:										
34. If an on-site burial was used at the well, report the exact location of the on-site burial:																		
Latitude _____ Longitude _____ NAD83																		
I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief Signature <i>Etta Trujillo</i> Printed Name Etta Trujillo Title Regulatory Specialist Date 3/5/2024 E-mail Address etrujillo@logosresourcesllc.com																		

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy	T. Canyon	T. Ojo Alamo 2493'	T. Penn A"
T. Salt	T. Strawn	T. Kirtland 2610'	T. Penn. "B"
B. Salt	T. Atoka	T. Fruitland 3030'	T. Penn. "C"
T. Yates	T. Miss	T. Pictured Cliffs 3423'	T. Penn. "D"
T. 7 Rivers	T. Devonian	T. Cliff House 5432'	T. Leadville
T. Queen	T. Silurian	T. Menefee 5478'	T. Madison
T. Grayburg	T. Montoya	T. Point Lookout 5668'	T. Elbert
T. San Andres	T. Simpson	T. Mancos 6171'	T. McCracken
T. Glorieta	T. McKee	T. Gallup	T. Ignacio Otzte
T. Paddock	T. Ellenburger	Base Greenhorn	T. Granite
T. Blinebry	T. Gr. Wash	T. Dakota	
T. Tubb	T. Delaware Sand	T. Morrison	
T. Drinkard	T. Bone Springs	T. Todilto	
T. Abo	T.	T. Entrada	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

No. 1, from.....to.....
No. 2, from.....to.....
No. 3, from.....to.....
No. 4, from.....to.....

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....
No. 2, from.....to.....feet.....
No. 3, from.....to.....feet.....

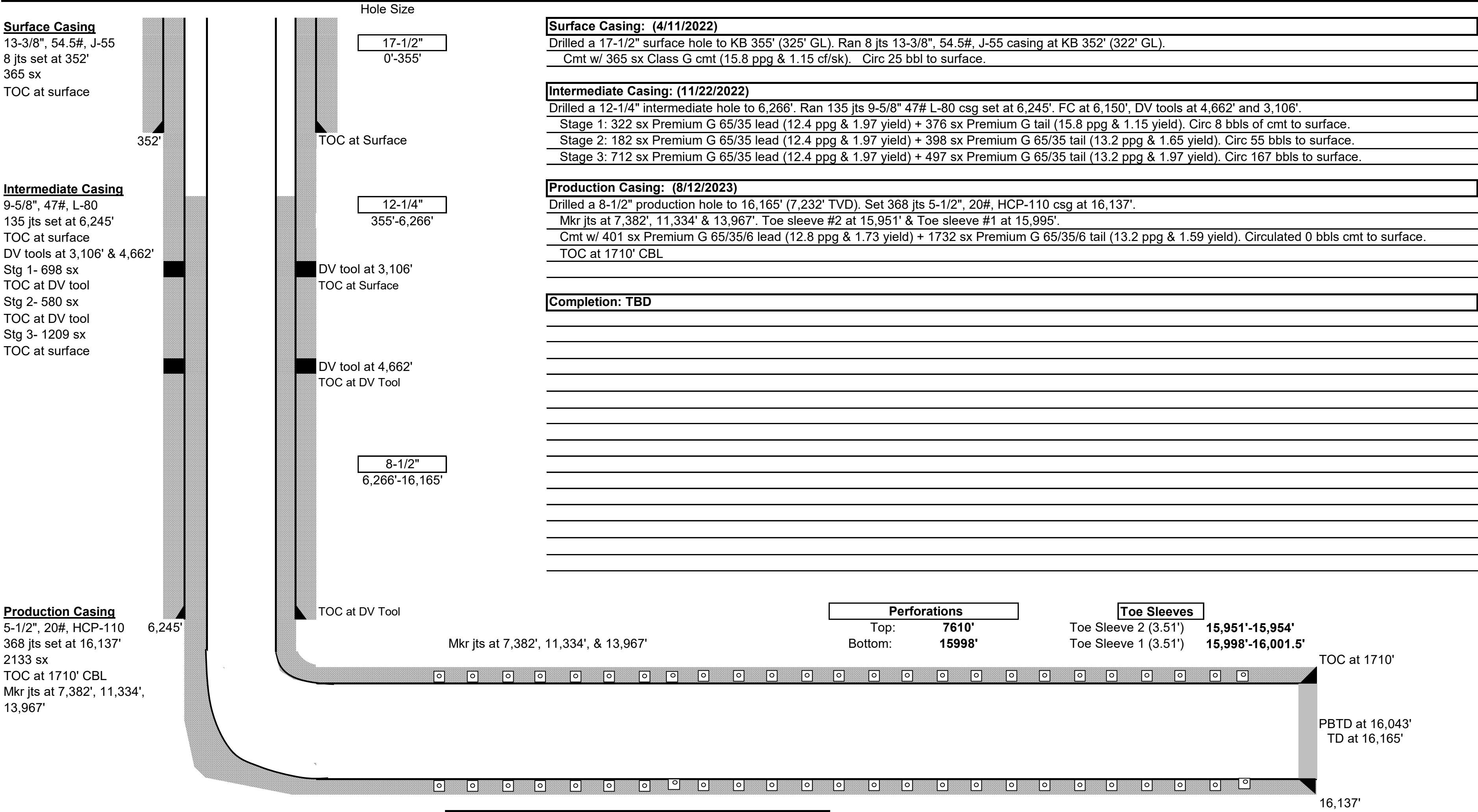
From	To	Thickness In Feet	Lithology



Well Name: Rosa Unit 652H
Location: A- Sec 25, T31N, R06W, 1076' FNL, 253' FEL
County: Rio Arriba
API #: 30-039-31413
Co-ordinates: 36.8749048, -107.4086514
Operator: LOGOS Operating, LLC

Wellbore Schematic
Ground Elevation: 6,372'
KB Elevation: 6,402'
TD (TVD): 7,232'
TD (MD) 16,165'
PBDT: 16,043'

Prepared By: 9/1/2023 Gomez
Reviewed By: 9/5/2023 Peace
Last Updated: 10/12/2023 Peace
Spud Date: 4/10/2022
Completion Date:
Last Workover Date:



Formation Tops: (MD)			
Nacimiento	Surface	Cliff House	5432'
Ojo Alamo	2493'	Menefee	5478'
Kirtland	2610'	Point Lookout	5668'
Fruitland	3030'	Mancos	6171'
Pictured Cliffs	3423'	Top Black	6820'
Lewis	3528'	Top Olive	7487'
Chacra	4608'	Target Top	7655'

District I
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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 320552

ACKNOWLEDGMENTS

Operator: LOGOS OPERATING, LLC 2010 Afton Place Farmington, NM 87401	OGRID: 289408
	Action Number: 320552
	Action Type: [C-104] Tight Hole Completion Packet (C-104CT)

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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CONDITIONS

Action 320552

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	Action Number: 320552
	Action Type: [C-104] Tight Hole Completion Packet (C-104CT)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	File 3160-4 Completion Report within 10 days to NMOCD after BLM approval.	3/6/2024