

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 30-039-31417	⁵ Pool Name Basin Mancos			⁶ Pool Code 97232		
⁷ Property Code 320608	⁸ Property Name Rosa Unit			⁹ Well Number 662H		

II. 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
K	30	31N	5W	3	2300	FSL	946	FWL	Rio Arriba

¹¹ Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	28	31N	5W		2347	FSL	952	FEL	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 4/05/2022	²² Ready Date ~9/19/2022	²³ TD 19223' MD / 6,973' TVD	²⁴ PBTD 19093' MD / 6973' TVD	²⁵ Perforations ~7484' MD / ~19026' MD ~7051' TVD / ~6972' TVD	²⁶ DHC, MC R-13457
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17-1/2"	13-3/8", 54.5#, J-55	328'	364sx (74.5bbls - 419cf)		
12-1/4"	9-5/8", 43.5#, N-80	6270'	1991sx (689bbls - 4579cf) DV @ 4682' & DV @ 3128'		
8-1/2"	5 1/2", 20#, P-110	19,185'	2700sx (736bbls - 4131cf)		
	2 7/8", 6.5#, J-55	pending			

V. Well Test Data

³¹ Date New Oil	³² Gas Delivery Date ~9/19/2022	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: <i>Etta Trujillo</i> Printed name: Etta Trujillo Title: Regulatory Specialist E-mail Address: etrujillo@logosresourcesllc.com Date: 9/16/2022	Phone: 505-324-4154	OIL CONSERVATION DIVISION	
	Approved by:		
	Title:		
	Approval Date:		

Released to Imaging: 9/20/2022 1:18:22 PM

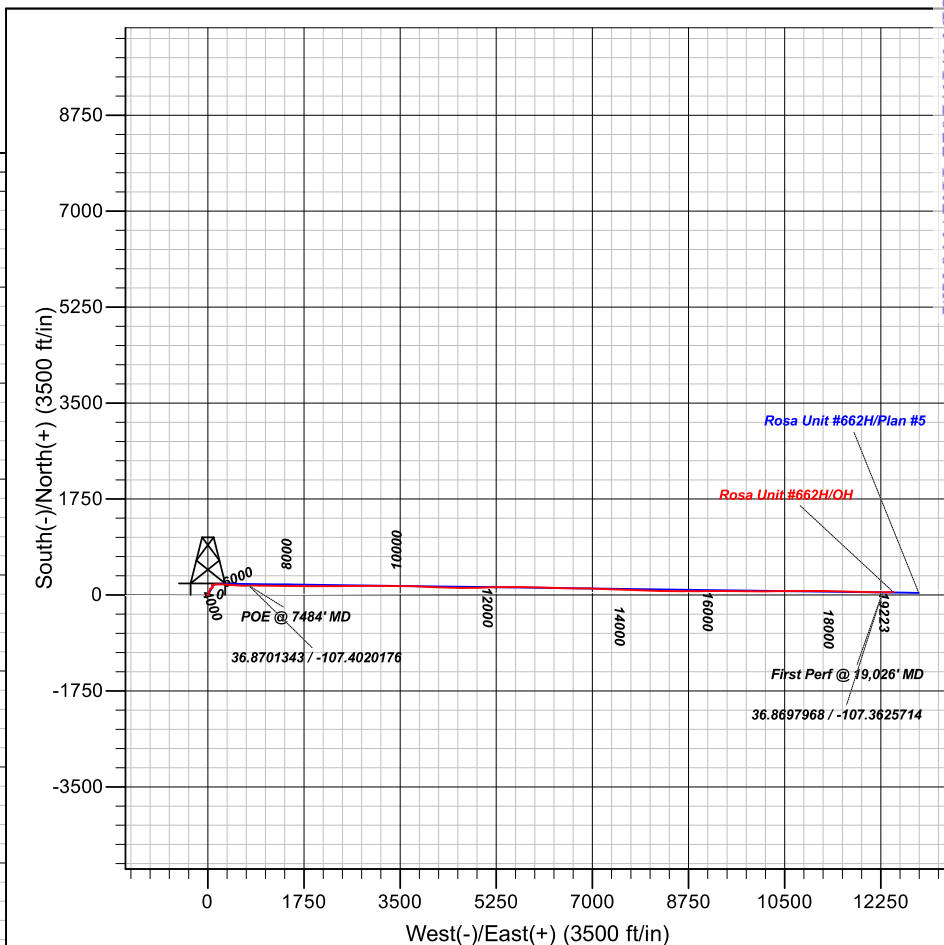
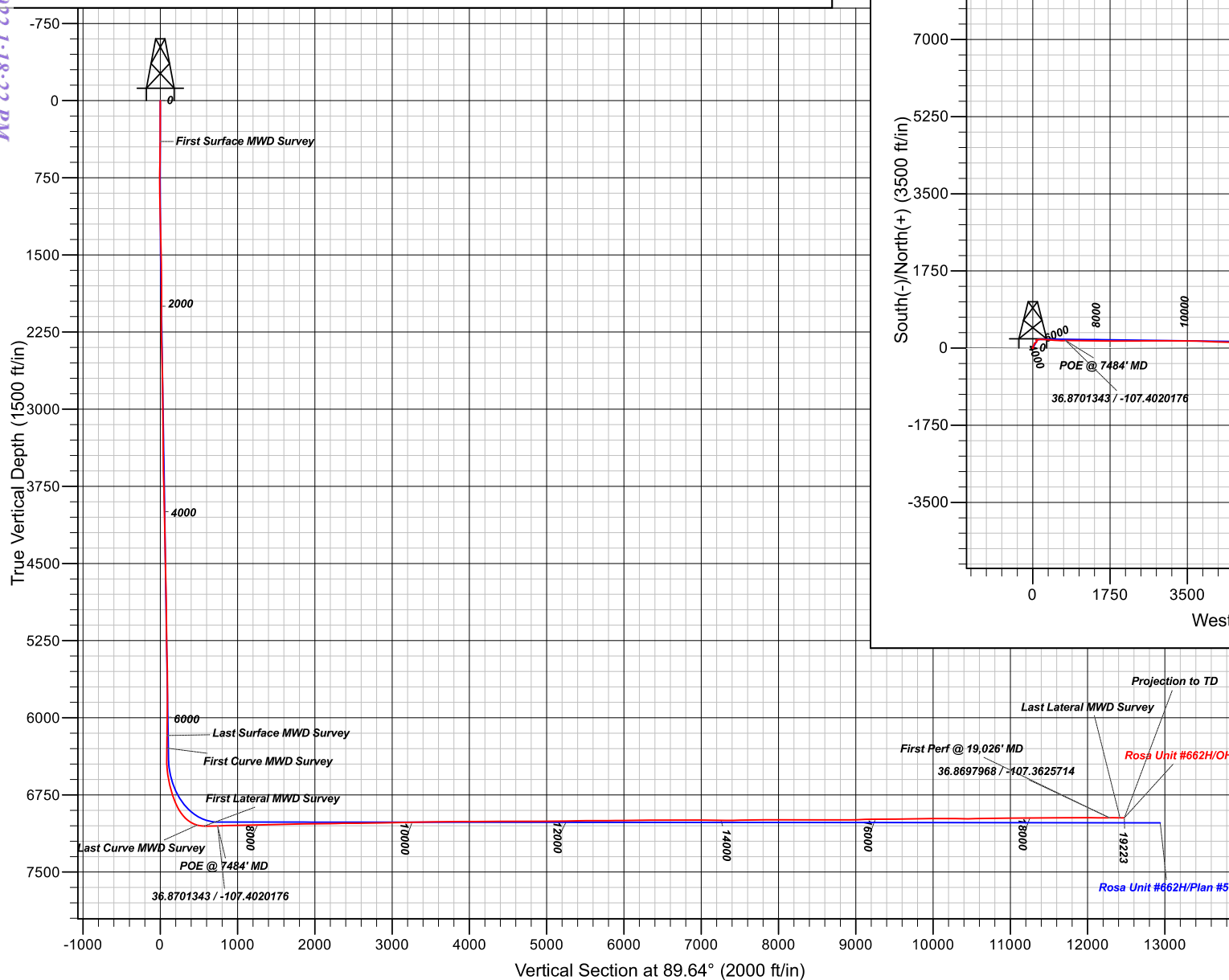


Company Name: Logos Operating LLC
 Project: Rio Arriba, NM NAD83
 Site: Rosa Unit 30
 Well: Rosa Unit #662H
 Wellbore: OH



WELL DETAILS: Rosa Unit #662H

+N/-S	+E/-W	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)	6394.00
0.00	0.00	Northings	Easting
		2136165.14	2848512.74
		Latitude	Longitude
		36.8696679	-107.4045529
		B2 (662H)	



Projection to TD
 Last Lateral MWD Survey
 First Perf @ 19,026' MD
 36.8697968 / -107.3625714
 Rosa Unit #662H/OH
 19223
 Rosa Unit #662H/Plan #5

Design: OH (Rosa Unit #662H/OH)

Created By: Janie Collins Date: 16:46, August 03 2022

PROJECT DETAILS: Rio Arriba, NM NAD83

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Western Zone

System Datum: Mean Sea Level
 Local North: True



Logos Operating LLC

Rio Arriba, NM NAD83

Rosa Unit 30

Rosa Unit #662H - Slot B2 (662H)

OH

Design: OH

Standard Survey Report

03 August, 2022





Lonestar Consulting, LLC

Survey Report



Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #662H - Slot B2 (662H)
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Site:	Rosa Unit 30	MD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Well:	Rosa Unit #662H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	edm

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 30				
Site Position:		Northing:	2,136,112.13 usft	Latitude:	36.8695220
From:	Lat/Long	Easting:	2,848,540.75 usft	Longitude:	-107.4044580
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in		

Well	Rosa Unit #662H - Slot B2 (662H)					
Well Position	+N/-S	0.00 ft	Northing:	2,136,165.13 usft	Latitude:	36.8696679
	+E/-W	0.00 ft	Easting:	2,848,512.75 usft	Longitude:	-107.4045529
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,394.00 ft
Grid Convergence:		0.26 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2022	7/16/2022	8.58	63.32	49,563.20000000

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	89.64	

Survey Program	Date	8/3/2022			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
398.00	6,178.00	Survey #1 - Surface MWD Survey (OH)	MWD+HDGM	OWSG MWD + HDGM	
6,300.00	7,217.00	Survey #2 - Curve MWD Survey (OH)	MWD+HDGM	OWSG MWD + HDGM	
7,312.00	19,223.00	Survey #3 - Lateral MWD Survey (OH)	MWD+HDGM	OWSG MWD + HDGM	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
398.00	0.57	286.93	397.99	0.58	-1.89	-1.89	0.14	0.14	0.00	
487.00	0.65	259.84	486.99	0.62	-2.81	-2.81	0.33	0.09	-30.44	
576.00	0.80	276.21	575.98	0.59	-3.93	-3.93	0.29	0.17	18.39	
666.00	0.95	272.80	665.97	0.70	-5.30	-5.29	0.18	0.17	-3.79	
758.00	0.24	266.34	757.97	0.72	-6.25	-6.25	0.77	-0.77	-7.02	



Lonestar Consulting, LLC

Survey Report



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Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Site:	Rosa Unit 30	MD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Well:	Rosa Unit #662H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	edm

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
857.00	0.35	358.28	856.97	1.01	-6.47	-6.46	0.44	0.11	92.87
948.00	1.11	50.82	947.96	1.85	-5.79	-5.78	1.03	0.84	57.74
1,038.00	1.71	60.05	1,037.93	3.07	-3.95	-3.94	0.71	0.67	10.26
1,129.00	2.27	53.54	1,128.88	4.82	-1.33	-1.30	0.66	0.62	-7.15
1,224.00	2.99	58.12	1,223.78	7.24	2.29	2.33	0.79	0.76	4.82
1,319.00	2.68	45.52	1,318.66	10.11	5.98	6.04	0.73	-0.33	-13.26
1,415.00	2.95	34.89	1,414.55	13.71	8.99	9.08	0.61	0.28	-11.07
1,509.00	3.88	32.75	1,508.38	18.37	12.10	12.21	1.00	0.99	-2.28
1,603.00	3.55	17.50	1,602.18	23.82	14.69	14.84	1.10	-0.35	-16.22
1,698.00	2.91	5.01	1,697.03	29.02	15.79	15.97	1.00	-0.67	-13.15
1,793.00	1.84	356.15	1,791.95	32.95	15.89	16.10	1.19	-1.13	-9.33
1,889.00	1.92	351.81	1,887.90	36.08	15.56	15.79	0.17	0.08	-4.52
1,984.00	2.50	357.09	1,982.83	39.72	15.23	15.48	0.65	0.61	5.56
2,079.00	3.44	351.61	2,077.70	44.61	14.71	14.99	1.03	0.99	-5.77
2,174.00	3.10	0.16	2,172.55	50.00	14.30	14.61	0.62	-0.36	9.00
2,270.00	2.40	23.57	2,268.44	54.44	15.11	15.45	1.36	-0.73	24.39
2,365.00	2.87	41.77	2,363.34	58.04	17.49	17.86	1.00	0.49	19.16
2,460.00	3.66	42.04	2,458.18	62.06	21.11	21.50	0.83	0.83	0.28
2,556.00	3.41	39.46	2,553.99	66.54	24.97	25.39	0.31	-0.26	-2.69
2,651.00	2.93	27.12	2,648.85	70.88	27.87	28.32	0.88	-0.51	-12.99
2,746.00	1.97	24.72	2,743.76	74.53	29.66	30.13	1.02	-1.01	-2.53
2,842.00	1.95	23.77	2,839.70	77.52	31.01	31.50	0.04	-0.02	-0.99
2,937.00	1.80	28.54	2,934.65	80.31	32.38	32.88	0.23	-0.16	5.02
3,032.00	1.76	19.01	3,029.61	83.00	33.56	34.09	0.31	-0.04	-10.03
3,127.00	1.84	14.05	3,124.56	85.86	34.41	34.95	0.18	0.08	-5.22
3,223.00	2.16	19.57	3,220.50	89.06	35.39	35.95	0.39	0.33	5.75
3,318.00	2.72	20.16	3,315.42	92.86	36.77	37.35	0.59	0.59	0.62
3,413.00	2.92	13.48	3,410.30	97.33	38.11	38.72	0.40	0.21	-7.03
3,509.00	3.27	14.98	3,506.16	102.35	39.39	40.03	0.37	0.36	1.56
3,604.00	3.38	21.59	3,601.00	107.58	41.12	41.79	0.42	0.12	6.96
3,699.00	3.28	37.39	3,695.84	112.34	43.80	44.50	0.97	-0.11	16.63
3,795.00	3.03	50.60	3,791.70	116.13	47.43	48.15	0.80	-0.26	13.76
3,889.00	1.93	59.70	3,885.61	118.51	50.71	51.46	1.24	-1.17	9.68
3,984.00	1.57	66.27	3,980.57	119.84	53.28	54.04	0.43	-0.38	6.92
4,080.00	1.51	71.03	4,076.53	120.78	55.68	56.44	0.15	-0.06	4.96
4,175.00	1.32	70.90	4,171.50	121.54	57.90	58.67	0.20	-0.20	-0.14
4,270.00	1.51	63.66	4,266.48	122.46	60.06	60.83	0.27	0.20	-7.62
4,365.00	1.78	68.86	4,361.44	123.54	62.56	63.33	0.32	0.28	5.47
4,460.00	1.73	77.74	4,456.39	124.38	65.33	66.11	0.29	-0.05	9.35
4,556.00	1.70	77.83	4,552.35	124.99	68.14	68.93	0.03	-0.03	0.09
4,651.00	1.65	87.14	4,647.31	125.35	70.89	71.67	0.29	-0.05	9.80
4,746.00	1.42	90.45	4,742.28	125.41	73.43	74.21	0.26	-0.24	3.48



Lonestar Consulting, LLC

Survey Report



Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #662H - Slot B2 (662H)
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Site:	Rosa Unit 30	MD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Well:	Rosa Unit #662H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	edm

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,841.00	1.60	60.20	4,837.24	126.06	75.76	76.55	0.85	0.19	-31.84
4,936.00	1.96	30.95	4,932.20	128.12	77.74	78.55	1.01	0.38	-30.79
5,032.00	1.55	21.85	5,028.15	130.73	79.07	79.89	0.52	-0.43	-9.48
5,131.00	1.92	27.47	5,127.11	133.44	80.33	81.17	0.41	0.37	5.68
5,226.00	2.38	35.29	5,222.04	136.47	82.21	83.06	0.57	0.48	8.23
5,322.00	2.54	30.60	5,317.95	139.92	84.44	85.32	0.27	0.17	-4.89
5,417.00	2.62	29.96	5,412.86	143.62	86.60	87.50	0.09	0.08	-0.67
5,512.00	2.58	24.56	5,507.76	147.44	88.57	89.50	0.26	-0.04	-5.68
5,607.00	2.20	25.58	5,602.68	151.03	90.25	91.19	0.40	-0.40	1.07
5,703.00	2.29	30.57	5,698.61	154.35	92.02	92.99	0.22	0.09	5.20
5,798.00	2.43	16.49	5,793.53	157.91	93.55	94.55	0.63	0.15	-14.82
5,892.00	2.82	354.68	5,887.43	162.12	93.91	94.92	1.13	0.41	-23.20
5,987.00	3.11	338.68	5,982.30	166.85	92.75	93.80	0.92	0.31	-16.84
6,083.00	2.81	322.46	6,078.18	171.14	90.37	91.45	0.92	-0.31	-16.90
6,178.00	2.23	308.72	6,173.09	174.15	87.51	88.60	0.88	-0.61	-14.46
6,300.00	2.05	291.28	6,295.00	176.42	83.63	84.73	0.55	-0.15	-14.30
6,365.00	1.16	316.79	6,359.97	177.32	82.09	83.20	1.72	-1.37	39.25
6,460.00	4.44	53.15	6,454.88	180.23	84.38	85.51	4.96	3.45	101.43
6,555.00	10.93	71.32	6,548.98	185.33	95.87	97.03	7.21	6.83	19.13
6,650.00	17.32	80.85	6,641.08	190.47	118.38	119.58	7.14	6.73	10.03
6,744.00	21.95	85.62	6,729.59	194.04	149.74	150.95	5.21	4.93	5.07
6,839.00	28.16	92.26	6,815.63	194.51	189.89	191.10	7.17	6.54	6.99
6,934.00	38.63	91.09	6,894.83	193.06	242.08	243.29	11.04	11.02	-1.23
6,965.00	41.74	93.05	6,918.51	192.32	262.06	263.27	10.83	10.03	6.32
6,997.00	46.40	94.28	6,941.50	190.89	284.27	285.46	14.81	14.56	3.84
7,029.00	50.04	94.30	6,962.82	189.11	308.06	309.24	11.38	11.38	0.06
7,123.00	64.66	92.95	7,013.39	184.19	386.84	387.99	15.60	15.55	-1.44
7,217.00	78.30	94.35	7,043.18	178.49	475.57	476.68	14.58	14.51	1.49
7,312.00	90.03	93.66	7,052.82	171.90	569.68	570.75	12.37	12.35	-0.73
7,406.00	90.57	89.49	7,052.33	169.32	663.63	664.68	4.47	0.57	-4.44
7,500.00	91.34	89.89	7,050.77	169.83	757.61	758.66	0.92	0.82	0.43
7,594.00	91.85	88.64	7,048.15	171.04	851.56	852.62	1.44	0.54	-1.33
7,689.00	90.40	91.52	7,046.28	170.90	946.53	947.59	3.39	-1.53	3.03
7,783.00	89.97	90.54	7,045.98	169.21	1,040.52	1,041.56	1.14	-0.46	-1.04
7,877.00	91.11	90.39	7,045.09	168.45	1,134.51	1,135.54	1.22	1.21	-0.16
7,971.00	91.31	90.31	7,043.11	167.88	1,228.49	1,229.52	0.23	0.21	-0.09
8,066.00	91.38	91.07	7,040.88	166.73	1,323.45	1,324.47	0.80	0.07	0.80
8,160.00	91.31	92.24	7,038.67	164.02	1,417.38	1,418.39	1.25	-0.07	1.24
8,255.00	91.34	90.41	7,036.48	161.82	1,512.33	1,513.32	1.93	0.03	-1.93
8,351.00	90.71	90.89	7,034.76	160.73	1,608.31	1,609.29	0.82	-0.66	0.50
8,446.00	90.10	90.42	7,034.09	159.65	1,703.30	1,704.27	0.81	-0.64	-0.49
8,541.00	90.34	89.36	7,033.72	159.83	1,798.30	1,799.26	1.14	0.25	-1.12



Lonestar Consulting, LLC

Survey Report



Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #662H - Slot B2 (662H)
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Site:	Rosa Unit 30	MD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Well:	Rosa Unit #662H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	edm

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,636.00	91.07	90.43	7,032.55	160.00	1,893.29	1,894.25	1.36	0.77	1.13	
8,731.00	90.04	89.97	7,031.63	159.67	1,988.28	1,989.24	1.19	-1.08	-0.48	
8,827.00	91.31	89.85	7,030.50	159.82	2,084.27	2,085.23	1.33	1.32	-0.13	
8,921.00	90.57	89.58	7,028.96	160.29	2,178.26	2,179.22	0.84	-0.79	-0.29	
9,016.00	90.87	90.09	7,027.77	160.56	2,273.25	2,274.21	0.62	0.32	0.54	
9,110.00	90.70	89.43	7,026.48	160.96	2,367.24	2,368.20	0.72	-0.18	-0.70	
9,205.00	89.73	87.85	7,026.12	163.21	2,462.21	2,463.18	1.95	-1.02	-1.66	
9,300.00	91.21	89.27	7,025.34	165.60	2,557.17	2,558.16	2.16	1.56	1.49	
9,396.00	91.04	88.47	7,023.46	167.49	2,653.13	2,654.13	0.85	-0.18	-0.83	
9,491.00	90.17	89.44	7,022.45	169.22	2,748.11	2,749.12	1.37	-0.92	1.02	
9,586.00	90.92	91.55	7,021.55	168.40	2,843.09	2,844.10	2.36	0.79	2.22	
9,682.00	90.57	91.39	7,020.30	165.94	2,939.05	2,940.04	0.40	-0.36	-0.17	
9,777.00	90.60	90.64	7,019.33	164.26	3,034.03	3,035.00	0.79	0.03	-0.79	
9,872.00	90.03	88.94	7,018.81	164.61	3,129.03	3,130.00	1.89	-0.60	-1.79	
9,967.00	91.14	90.55	7,017.84	165.03	3,224.02	3,224.99	2.06	1.17	1.69	
10,063.00	91.21	89.94	7,015.87	164.62	3,319.99	3,320.96	0.64	0.07	-0.64	
10,160.00	91.21	90.27	7,013.82	164.44	3,416.97	3,417.94	0.34	0.00	0.34	
10,256.00	90.80	91.15	7,012.14	163.25	3,512.95	3,513.91	1.01	-0.43	0.92	
10,351.00	90.23	90.57	7,011.29	161.83	3,607.93	3,608.88	0.86	-0.60	-0.61	
10,446.00	90.77	92.01	7,010.46	159.69	3,702.90	3,703.83	1.62	0.57	1.52	
10,542.00	90.47	92.32	7,009.42	156.06	3,798.83	3,799.73	0.45	-0.31	0.32	
10,637.00	89.97	92.52	7,009.05	152.05	3,893.74	3,894.62	0.57	-0.53	0.21	
10,732.00	89.97	93.60	7,009.10	146.98	3,988.61	3,989.45	1.14	0.00	1.14	
10,828.00	89.63	91.58	7,009.44	142.64	4,084.50	4,085.32	2.13	-0.35	-2.10	
10,923.00	90.70	92.05	7,009.16	139.63	4,179.45	4,180.25	1.23	1.13	0.49	
11,018.00	90.34	92.51	7,008.30	135.85	4,274.37	4,275.14	0.61	-0.38	0.48	
11,114.00	90.07	91.05	7,007.96	132.87	4,370.32	4,371.07	1.55	-0.28	-1.52	
11,209.00	90.47	90.51	7,007.51	131.58	4,465.31	4,466.05	0.71	0.42	-0.57	
11,304.00	90.00	90.49	7,007.12	130.75	4,560.31	4,561.04	0.50	-0.49	-0.02	
11,399.00	90.44	89.64	7,006.76	130.64	4,655.31	4,656.04	1.01	0.46	-0.89	
11,494.00	90.20	89.94	7,006.23	130.99	4,750.30	4,751.03	0.40	-0.25	0.32	
11,589.00	89.87	90.31	7,006.17	130.78	4,845.30	4,846.03	0.52	-0.35	0.39	
11,684.00	90.47	87.89	7,005.89	132.27	4,940.28	4,941.02	2.62	0.63	-2.55	
11,780.00	89.63	87.48	7,005.80	136.15	5,036.21	5,036.96	0.97	-0.88	-0.43	
11,875.00	90.54	89.13	7,005.66	138.96	5,131.16	5,131.93	1.98	0.96	1.74	
11,970.00	90.13	88.55	7,005.11	140.89	5,226.14	5,226.92	0.75	-0.43	-0.61	
12,065.00	91.37	89.69	7,003.86	142.34	5,321.11	5,321.90	1.77	1.31	1.20	
12,160.00	91.01	89.70	7,001.89	142.85	5,416.09	5,416.88	0.38	-0.38	0.01	
12,255.00	90.13	89.54	7,000.94	143.48	5,511.09	5,511.88	0.94	-0.93	-0.17	
12,351.00	90.57	90.14	7,000.36	143.75	5,607.08	5,607.87	0.78	0.46	0.63	
12,446.00	89.52	89.97	7,000.28	143.66	5,702.08	5,702.87	1.12	-1.11	-0.18	
12,541.00	90.67	91.47	7,000.13	142.46	5,797.07	5,797.85	1.99	1.21	1.58	



Lonestar Consulting, LLC

Survey Report



Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #662H - Slot B2 (662H)
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Site:	Rosa Unit 30	MD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Well:	Rosa Unit #662H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	edm

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
12,636.00	90.04	90.76	6,999.54	140.61	5,892.05	5,892.82	1.00	-0.66	-0.75	
12,731.00	90.13	91.90	6,999.40	138.41	5,987.02	5,987.77	1.20	0.09	1.20	
12,827.00	91.21	92.39	6,998.27	134.82	6,082.95	6,083.67	1.24	1.13	0.51	
12,922.00	90.57	91.89	6,996.80	131.27	6,177.87	6,178.57	0.85	-0.67	-0.53	
13,017.00	90.00	91.71	6,996.33	128.29	6,272.82	6,273.50	0.63	-0.60	-0.19	
13,112.00	89.70	91.53	6,996.57	125.60	6,367.78	6,368.44	0.37	-0.32	-0.19	
13,207.00	90.77	91.45	6,996.18	123.13	6,462.75	6,463.39	1.13	1.13	-0.08	
13,302.00	90.57	90.97	6,995.07	121.12	6,557.72	6,558.35	0.55	-0.21	-0.51	
13,397.00	90.23	91.06	6,994.41	119.44	6,652.70	6,653.32	0.37	-0.36	0.09	
13,492.00	90.00	90.38	6,994.22	118.25	6,747.69	6,748.30	0.76	-0.24	-0.72	
13,587.00	89.16	90.08	6,994.92	117.87	6,842.69	6,843.29	0.94	-0.88	-0.32	
13,682.00	89.70	90.82	6,995.86	117.12	6,937.68	6,938.28	0.96	0.57	0.78	
13,777.00	90.10	91.63	6,996.03	115.09	7,032.66	7,033.24	0.95	0.42	0.85	
13,872.00	89.63	91.58	6,996.25	112.43	7,127.62	7,128.18	0.50	-0.49	-0.05	
13,967.00	89.46	92.83	6,997.00	108.77	7,222.54	7,223.08	1.33	-0.18	1.32	
14,061.00	90.00	92.44	6,997.45	104.45	7,316.44	7,316.95	0.71	0.57	-0.41	
14,157.00	90.37	92.51	6,997.14	100.31	7,412.35	7,412.84	0.39	0.39	0.07	
14,252.00	90.91	92.44	6,996.08	96.20	7,507.26	7,507.71	0.57	0.57	-0.07	
14,347.00	90.47	91.88	6,994.93	92.62	7,602.18	7,602.61	0.75	-0.46	-0.59	
14,442.00	89.73	91.69	6,994.77	89.66	7,697.13	7,697.55	0.80	-0.78	-0.20	
14,536.00	91.11	91.40	6,994.08	87.13	7,791.10	7,791.49	1.50	1.47	-0.31	
14,631.00	90.94	92.02	6,992.38	84.30	7,886.04	7,886.41	0.68	-0.18	0.65	
14,727.00	90.03	92.03	6,991.57	80.90	7,981.97	7,982.32	0.95	-0.95	0.01	
14,822.00	89.50	92.66	6,991.96	77.02	8,076.89	8,077.22	0.87	-0.56	0.66	
14,917.00	90.37	91.00	6,992.06	73.98	8,171.84	8,172.14	1.97	0.92	-1.75	
15,012.00	89.80	91.42	6,991.92	71.98	8,266.82	8,267.11	0.75	-0.60	0.44	
15,107.00	89.26	91.39	6,992.70	69.65	8,361.79	8,362.06	0.57	-0.57	-0.03	
15,202.00	90.10	90.31	6,993.23	68.24	8,456.77	8,457.03	1.44	0.88	-1.14	
15,296.00	89.66	90.27	6,993.43	67.76	8,550.77	8,551.03	0.47	-0.47	-0.04	
15,391.00	89.40	89.46	6,994.21	67.99	8,645.77	8,646.02	0.90	-0.27	-0.85	
15,486.00	90.87	90.31	6,993.98	68.18	8,740.76	8,741.02	1.79	1.55	0.89	
15,581.00	90.20	90.53	6,993.10	67.48	8,835.75	8,836.00	0.74	-0.71	0.23	
15,676.00	90.37	89.54	6,992.62	67.42	8,930.75	8,931.00	1.06	0.18	-1.04	
15,770.00	91.81	88.96	6,990.84	68.65	9,024.72	9,024.98	1.65	1.53	-0.62	
15,866.00	90.90	89.26	6,988.57	70.14	9,120.68	9,120.94	1.00	-0.95	0.31	
15,961.00	90.23	89.88	6,987.63	70.86	9,215.68	9,215.94	0.96	-0.71	0.65	
16,056.00	90.97	89.70	6,986.64	71.20	9,310.67	9,310.93	0.80	0.78	-0.19	
16,151.00	90.64	90.26	6,985.30	71.24	9,405.66	9,405.92	0.68	-0.35	0.59	
16,246.00	89.80	90.02	6,984.94	71.01	9,500.66	9,500.92	0.92	-0.88	-0.25	
16,341.00	90.54	90.80	6,984.65	70.33	9,595.65	9,595.91	1.13	0.78	0.82	
16,436.00	90.87	91.01	6,983.48	68.83	9,690.63	9,690.88	0.41	0.35	0.22	
16,531.00	90.70	90.87	6,982.18	67.27	9,785.61	9,785.84	0.23	-0.18	-0.15	



Lonestar Consulting, LLC Survey Report



Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #662H - Slot B2 (662H)
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Site:	Rosa Unit 30	MD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Well:	Rosa Unit #662H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	edm

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
16,626.00	90.30	91.69	6,981.35	65.15	9,880.58	9,880.80	0.96	-0.42	0.86
16,721.00	90.90	89.27	6,980.36	64.35	9,975.57	9,975.78	2.62	0.63	-2.55
16,817.00	90.40	89.67	6,979.27	65.24	10,071.56	10,071.77	0.67	-0.52	0.42
16,912.00	90.03	89.51	6,978.91	65.92	10,166.55	10,166.77	0.42	-0.39	-0.17
17,007.00	89.03	89.50	6,979.69	66.74	10,261.55	10,261.76	1.05	-1.05	-0.01
17,102.00	88.56	89.04	6,981.69	67.95	10,356.52	10,356.74	0.69	-0.49	-0.48
17,197.00	90.40	88.74	6,982.55	69.79	10,451.49	10,451.72	1.96	1.94	-0.32
17,293.00	91.07	89.71	6,981.32	71.09	10,547.47	10,547.71	1.23	0.70	1.01
17,388.00	90.70	89.91	6,979.85	71.40	10,642.46	10,642.70	0.44	-0.39	0.21
17,483.00	90.10	89.69	6,979.19	71.73	10,737.46	10,737.70	0.67	-0.63	-0.23
17,578.00	91.44	89.98	6,977.91	72.01	10,832.45	10,832.68	1.44	1.41	0.31
17,673.00	90.67	89.79	6,976.17	72.20	10,927.43	10,927.67	0.83	-0.81	-0.20
17,768.00	90.13	89.83	6,975.50	72.51	11,022.43	11,022.66	0.57	-0.57	0.04
17,864.00	89.87	90.47	6,975.50	72.26	11,118.42	11,118.66	0.72	-0.27	0.67
17,959.00	91.01	90.67	6,974.77	71.32	11,213.42	11,213.64	1.22	1.20	0.21
18,054.00	90.80	90.92	6,973.27	70.00	11,308.39	11,308.61	0.34	-0.22	0.26
18,149.00	90.03	91.23	6,972.58	68.22	11,403.37	11,403.58	0.87	-0.81	0.33
18,244.00	89.80	91.23	6,972.72	66.18	11,498.35	11,498.54	0.24	-0.24	0.00
18,340.00	89.40	91.15	6,973.40	64.18	11,594.33	11,594.50	0.42	-0.42	-0.08
18,435.00	90.47	92.16	6,973.50	61.44	11,689.29	11,689.44	1.55	1.13	1.06
18,530.00	89.50	92.24	6,973.53	57.79	11,784.22	11,784.35	1.02	-1.02	0.08
18,625.00	90.74	91.83	6,973.33	54.42	11,879.15	11,879.26	1.37	1.31	-0.43
18,689.00	90.87	91.38	6,972.43	52.63	11,943.12	11,943.22	0.73	0.20	-0.70
18,784.00	89.26	90.97	6,972.32	50.68	12,038.10	12,038.18	1.75	-1.69	-0.43
18,879.00	89.87	90.12	6,973.04	49.78	12,133.09	12,133.16	1.10	0.64	-0.89
18,974.00	90.50	90.04	6,972.74	49.64	12,228.09	12,228.16	0.67	0.66	-0.08
19,069.00	90.07	90.09	6,972.26	49.53	12,323.09	12,323.16	0.46	-0.45	0.05
19,164.00	89.43	89.38	6,972.68	49.97	12,418.08	12,418.15	1.01	-0.67	-0.75
19,223.00	89.43	89.38	6,973.27	50.61	12,477.08	12,477.15	0.00	0.00	0.00



Lonestar Consulting, LLC Survey Report



Company:	Logos Operating LLC	Local Co-ordinate Reference:	Well Rosa Unit #662H - Slot B2 (662H)
Project:	Rio Arriba, NM NAD83	TVD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Site:	Rosa Unit 30	MD Reference:	GL 6394' & RKB 24.5' @ 6418.50ft (Ensign T223)
Well:	Rosa Unit #662H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	edm

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
398.00	397.99	0.58	-1.89	First Surface MWD Survey
6,178.00	6,173.08	174.15	87.51	Last Surface MWD Survey
6,300.00	6,295.00	176.42	83.63	First Curve MWD Survey
7,217.00	7,043.18	178.49	475.57	Last Curve MWD Survey
7,312.00	7,052.82	171.90	569.68	First Lateral MWD Survey
7,484.00	7,051.12	169.79	741.61	POE @ 7484' MD
7,484.00	7,051.12	169.79	741.61	36.8701343 / -107.4020176
19,026.00	6,972.39	49.59	12,280.09	First Perf @ 19,026' MD
19,026.00	6,972.39	49.59	12,280.09	36.8697968 / -107.3625714
19,164.00	6,972.68	49.97	12,418.08	Last Lateral MWD Survey
19,223.00	6,973.27	50.61	12,477.08	Projection to TD

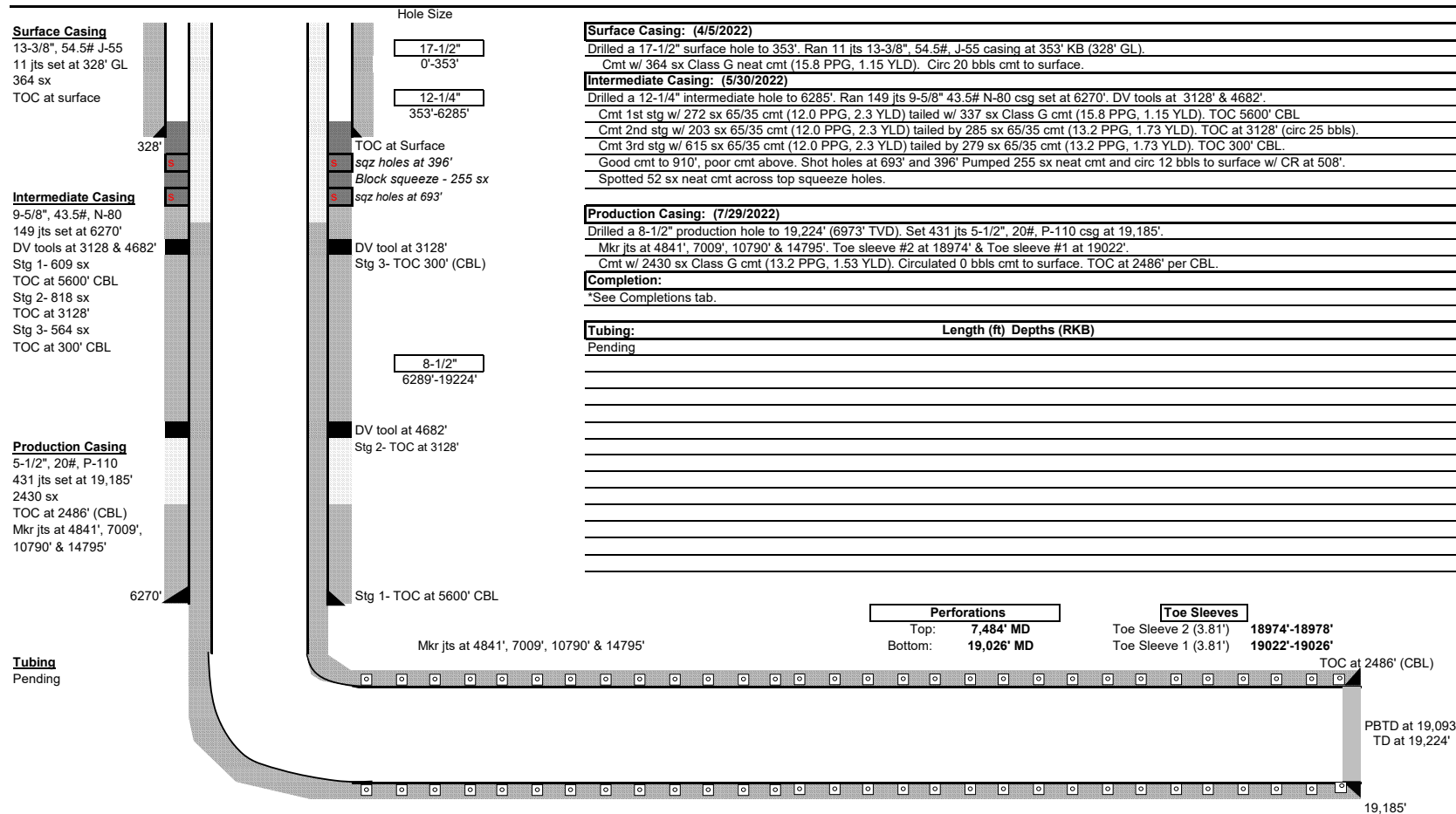


Well Name: Rosa Unit 662H
 Location: K - Sec 30, T31N, R05W, 2300' FSL, 946' FWL
 County: Rio Arriba
 API #: 30-039-31417
 Co-ordinates: 36.8696679, -107.4045529 NAD83
 Operator: LOGOS Operating, LLC

Wellbore Schematic

Ground Elevation: 6394'
 KB Elevation: 6418.5' 24.5'
 TD (TVD): 6973'
 TD (MD): 19,224'
 PBTD: 19,093'

Prepared By: 7/15/2022 Gomez
 Reviewed By: 8/2/2022 Moss
 Last Updated: 8/29/2022 Moss
 Spud Date: 4/5/2022
 Completion Date:
 Last Workover Date:



Formation Tops: (MD)			
Nacimiento	Surface	Chacra	4617'
Ojo Alamo	2525'	Cliff House	5452'
Kirtland	2647'	Menefee	5500'
Fruitland	3073'	Point Lookout	5687'
Pictured Cliffs	3432'	Mancos	6182'
Lewis	3523'		

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 144477

ACKNOWLEDGMENTS

Operator: LOGOS OPERATING, LLC 2010 Afton Place Farmington, NM 87401	OGRID: 289408
	Action Number: 144477
	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.

District I
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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

COMMENTS

Action 144477

COMMENTS

Operator: LOGOS OPERATING, LLC 2010 Afton Place Farmington, NM 87401	OGRID: 289408
	Action Number: 144477
	Action Type: [C-104] Completion Packet (C-104C)

COMMENTS

Created By	Comment	Comment Date
jagarcia	Approved, John Garcia, Petroleum Engineer	9/20/2022

District I
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Phone:(575) 393-6161 Fax:(575) 393-0720
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CONDITIONS

Action 144477

CONDITIONS

Operator: LOGOS OPERATING, LLC 2010 Afton Place Farmington, NM 87401	OGRID: 289408
	Action Number: 144477
	Action Type: [C-104] Completion Packet (C-104C)

CONDITIONS

Created By	Condition	Condition Date
jagarcia	C-104RT expires on 12/19/2022	9/20/2022