

Well Name: ROSA UNIT	Well Location: T31N / R5W / SEC 36 / NWNW / 36.861707 / -107.321042	County or Parish/State: RIO ARRIBA / NM
Well Number: 832H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMSF78768	Unit or CA Name: ROSA UNIT	Unit or CA Number: NMNM78407E
US Well Number: 3003931420	Operator: LOGOS OPERATING LLC	

Notice of Intent

Sundry ID: 2873854

Type of Submission: Notice of Intent	Type of Action: Other
Date Sundry Submitted: 09/16/2025	Time Sundry Submitted: 01:32
Date proposed operation will begin: 09/16/2025	

Procedure Description: LOGOS Operating request a change in plans for subject well (based on KB elevation) per the operations plan attached.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

- Rosa_Unit_832H_Revised_C102_Plat_20250912_20250916133037.pdf
- Rosa_Unit_832H_Operations_Plan_3_string_P4_Prelim2_9.3.2025_20250916132955.pdf
- Logos__Rosa_Unit_832H_Plan_Data_p4_Prelim_2_20250916132955.pdf

Well Name: ROSA UNIT	Well Location: T31N / R5W / SEC 36 / NWNW / 36.861707 / -107.321042	County or Parish/State: RIO ARRIBA / NM
Well Number: 832H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMSF78768	Unit or CA Name: ROSA UNIT	Unit or CA Number: NMNM78407E
US Well Number: 3003931420	Operator: LOGOS OPERATING LLC	

Operator

I certify that the foregoing is true and correct. 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 any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: ETTA TRUJILLO	Signed on: SEP 16, 2025 01:33 PM
Name: LOGOS OPERATING LLC	
Title: Regulatory Specialist	
Street Address: 2010 AFTON PLACE	
City: FARMINGTON	State: NM
Phone: (505) 324-4154	
Email address: ETRUJILLO@LOGOSRESOURCESLLC.COM	

Field

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: KENNETH G RENNICK	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5055647742	BLM POC Email Address: krennick@blm.gov
Disposition: Approved	Disposition Date: 09/17/2025
Signature: Kenneth Rennick	

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024	
		Submittal Type	☐ Initial Submittal
			☒ Amended Report
		☐ As Drilled	

WELL LOCATION INFORMATION

API Number 30-039-31420	Pool Code 97232	Pool Name BASIN MANCOS
Property Code 320608	Property Name ROSA UNIT	Well Number 832H
OGRID No. 289408	Operator Name LOGOS OPERATING, LLC	Ground Level Elevation 6563'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL D	Section 36	Township 31N	Range 5W	Lot	Feet from N/S Line 537' NORTH	Feet from E/W Line 483' WEST	Latitude 36.861891 °N	Longitude -107.320923 °W	County RIO ARRIBA
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Bottom Hole Location

UL P	Section 28	Township 31N	Range 4W	Lot	Feet from N/S Line 711' SOUTH	Feet from E/W Line 51' EAST	Latitude 36.865327 °N	Longitude -107.251422 °W	County RIO ARRIBA
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Dedicated Acres 1267.10	Penetrated Spacing Unit S/2 - Section 25, T31N R5W S/2 - Section 30, T31N R4W S/2 - Section 29, T31N R4W S/2 - Section 28, T31N R4W	Infill or Defining Well INFILL	Defining Well API	Overlapping Spacing Unit ☐ Yes ☒ No	Consolidation Code UNITIZATION
Order Numbers R-13457			Well setbacks are under Common Ownership ☐ Yes ☒ No		

Kick Off Point (KOP)

UL M	Section 25	Township 31N	Range 5W	Lot	Feet from N/S Line 589' SOUTH	Feet from E/W Line 497' WEST	Latitude 36.864984 °N	Longitude -107.320874 °W	County RIO ARRIBA
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First Take Point (FTP)

UL M	Section 25	Township 31N	Range 5W	Lot	Feet from N/S Line 711' SOUTH	Feet from E/W Line 1134' WEST	Latitude 36.865319 °N	Longitude -107.318697 °W	County RIO ARRIBA
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Last Take Point (LTP)

UL P	Section 28	Township 31N	Range 4W	Lot	Feet from N/S Line 713' SOUTH	Feet from E/W Line 251' EAST	Latitude 36.865328 °N	Longitude -107.252106 °W	County RIO ARRIBA
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Unitized Area or Area of Uniform Interest ROSA UNIT	Spacing Unit Type ☒ Horizontal ☐ Vertical ☐ Directional	Ground Floor Elevation
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OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division. Etta Trujillo Signature 9/12/2025 Date Etta Trujillo Printed Name etrujillo@logosresourcesllc.com E-mail Address	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. JASON C. EDWARDS NEW MEXICO 15269 9/12/2025 REGISTERED PROFESSIONAL SURVEYOR JASON C. EDWARDS Signature and Seal of Professional Surveyor Certificate Number 15269 Date of Survey APRIL 20, 2016
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$$\begin{array}{ccccccc} \text{(MEASURED)} & & \text{(MEASURED)} & \equiv & 51' 251'' & \text{(MEASURED)} & \text{(MEASURED)} \\ \text{N } 0^{\circ} 23' 38'' \text{ W } 2636.50' & & \text{N } 0^{\circ} 24' 06'' \text{ W } 2629.18' & & \text{N } 0^{\circ} 22' 52'' \text{ W } 2632.98' & & \text{N } 0^{\circ} 28' 12'' \text{ W } 2630.18' \\ 1339.4 \text{ M } 2640.00' \text{ (REC)} & & \text{N } 0^{\circ} 01' \text{ W } 2640.00' \text{ (REC)} & & \text{N } 0^{\circ} 01' \text{ W } 2640.00' \text{ (REC)} & & \text{N } 0^{\circ} 01' \text{ W } 2640.00' \text{ (REC)} \end{array}$$

NO *18' 21" W 2634.45' (MEASURED)

NO *16' 22" W 2636.74' (MEASURED)

NO *19' 35" W 2639.13' (MEASURED)

NO *19' 37" W 2626.70' (MEASURED)

SURFACE LOCATION (A)
537' FNL 483' FNL
SEC 36, T31N, R5W
LAT 36.861885 N
LONG -107.320322 W
DATUM: NAD1983

KICK OFF POINT (B)
589' FSL 497' FNL
SECTION 25, T31N, R5W
LAT 36.864928 N
LONG -107.320273 W
DATUM: NAD1927

FIRST TAKE POINT (C)
714' FSL 1134' FNL
SECTION 25, T31N, R5W
LAT 36.865313 N
LONG -107.318096 W
DATUM: NAD1927

LAST TAKE POINT (D)
713' FSL 251' FEL
SECTION 28, T31N, R4W
LAT 36.865321 N
LONG -107.251507 W
DATUM: NAD1927

BOTTOM HOLE LOCATION (E)
714' FSL 51' FEL
SECTION 28, T31N, R4W
LAT 36.865320 N
LONG -107.250824 W
DATUM: NAD1927

(RECORD)
S89 *57' W 2642.31' S89 *57' W 2642.31' (RECORD)
S89 *36.52' W 2628.97' S89 *37' 47" W 2665.85' (MEASURED)

(RECORD)
N89 *56' E 2531.10' N89 *46' 18" E 2387.60' (MEASURED)

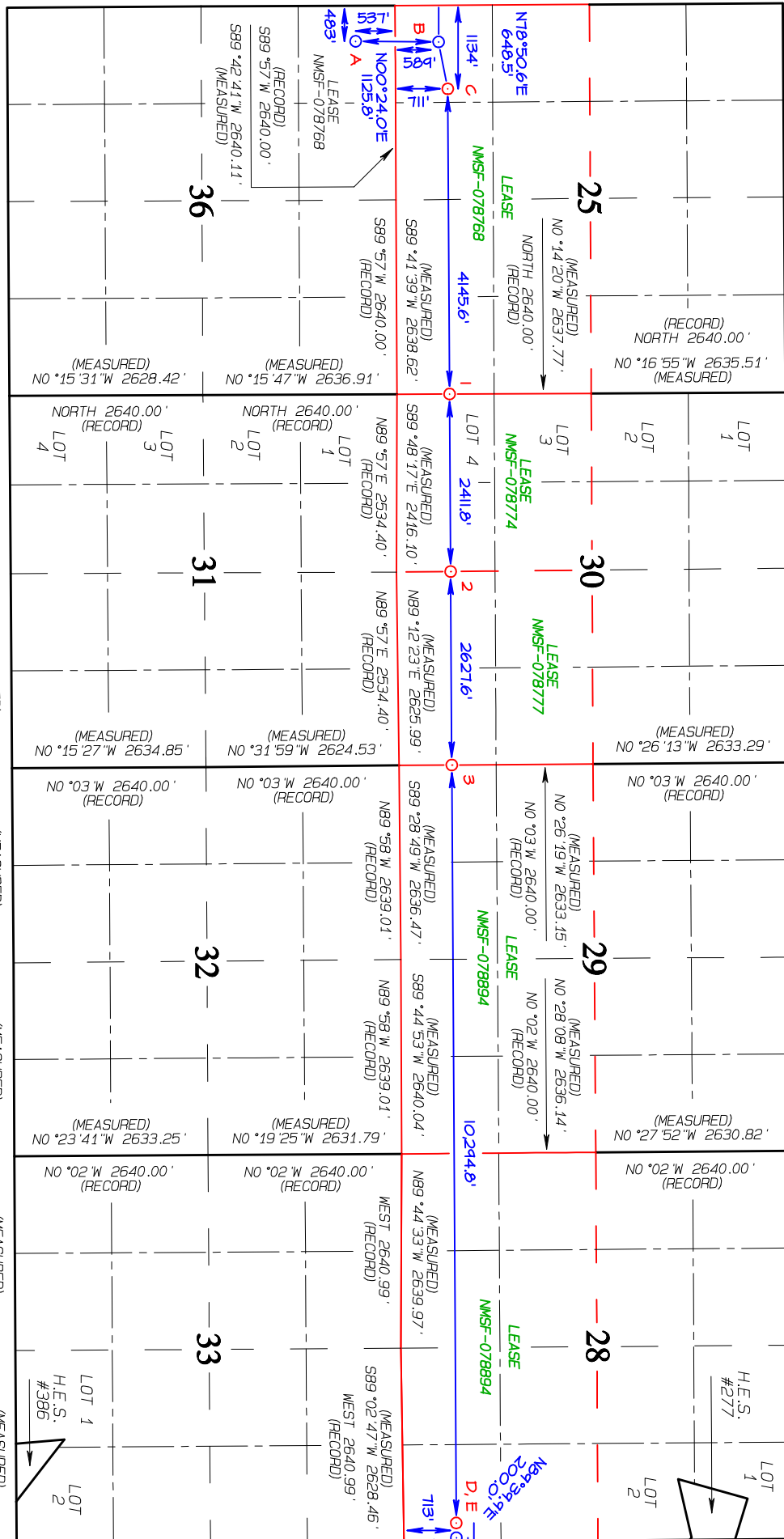
(RECORD)
N89 *56' E 2531.10' N89 *44' 47" E 2637.99' (MEASURED)

(RECORD)
N89 *59' W 2640.00' N89 *35' 17" W 2645.68' (MEASURED)

(RECORD)
N89 *59' W 2640.00' N89 *37' 46" W 2628.16' (MEASURED)

(RECORD)
N89 *54' W 2640.00' N89 *47' 42" W 2641.17' (MEASURED)

(RECORD)
N89 *54' W 2640.00' N89 *35' 37" W 2630.76' (MEASURED)



NO *23' 38" W 2636.50' (MEASURED)

NO *24' 06" W 2629.18' (MEASURED)

NO *22' 52" W 2632.98' (MEASURED)

NO *22' 12" W 2630.18' (MEASURED)

Logos Operating LLC

Rio Arriba, NM (NAD83)

Rosa Unit 42

Rosa Unit 832H

OH

Plan: p4-Prelim 2

Standard Planning Report

11 August, 2025

SDT
Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 832H
Company:	Logos Operating LLC	TVD Reference:	6563+30 @ 6593.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6563+30 @ 6593.00usft (H&P 530)
Site:	Rosa Unit 42	North Reference:	True
Well:	Rosa Unit 832H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	p4-Prelim 2		

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 42			
Site Position:		Northing:	2,133,465.56 usft	Latitude: 36.861919
From:	Lat/Long	Easting:	2,873,174.65 usft	Longitude: -107.320923
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	

Well	Rosa Unit 832H			
Well Position	+N/-S	0.00 usft	Northing:	2,133,454.42 usft
	+E/-W	0.00 usft	Easting:	2,872,990.69 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft
Grid Convergence:		0.31 °	Ground Level:	6,563.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/18/2023	8.46	63.43	49,495.64526035

Design	p4-Prelim 2				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	322.00
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.00	0.00	0.00	89.97

Plan Survey Tool Program		Date	8/11/2025		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	125.00	322.00	Survey #1 (OH)	Standard Keeper 104	
				Standard Wireline Keeper ver 1	
2	322.00	27,335.53	p4-Prelim 2 (OH)	MWD+HRGM+MS	
				MWD + HRGM + Multi-Station	

SDT
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Company:	Logos Operating LLC	TVD Reference:	6563+30 @ 6593.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6563+30 @ 6593.00usft (H&P 530)
Site:	Rosa Unit 42	North Reference:	True
Well:	Rosa Unit 832H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	p4-Prelim 2		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
322.00	0.53	129.31	321.99	-1.10	1.22	0.00	0.00	0.00	0.00	
472.00	0.53	129.31	471.99	-1.98	2.29	0.00	0.00	0.00	0.00	
1,040.87	11.04	0.50	1,037.44	50.98	4.81	2.00	1.85	-22.64	-130.87	
6,656.58	11.04	0.50	6,549.27	1,126.10	14.14	0.00	0.00	0.00	0.00	
7,655.78	90.03	89.97	7,173.00	1,248.16	651.01	9.00	7.91	8.95	89.48	RU 832H POE
27,135.53	90.03	89.97	7,163.10	1,258.36	20,130.75	0.00	0.00	0.00	0.00	RU 832H FPP
27,335.53	90.03	89.97	7,163.00	1,258.47	20,330.76	0.00	0.00	0.00	0.00	RU 832H PBHL

SDT

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Company:	Logos Operating LLC	TVD Reference:	6563+30 @ 6593.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6563+30 @ 6593.00usft (H&P 530)
Site:	Rosa Unit 42	North Reference:	True
Well:	Rosa Unit 832H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	p4-Prelim 2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125.00	0.18	130.34	125.00	-0.13	0.15	0.15	0.14	0.14	0.00
225.00	0.49	134.42	225.00	-0.53	0.57	0.57	0.31	0.31	4.08
322.00	0.53	129.31	321.99	-1.10	1.22	1.22	0.06	0.04	-5.27
Start 150.00 hold at 322.00 MD									
400.00	0.53	129.31	399.99	-1.56	1.78	1.78	0.00	0.00	0.00
472.00	0.53	129.31	471.99	-1.98	2.29	2.29	0.00	0.00	0.00
Start DLS 2.00 TFO -130.87									
500.00	0.45	60.43	499.99	-2.01	2.49	2.49	2.00	-0.27	-246.00
600.00	2.25	8.70	599.96	0.13	3.13	3.13	2.00	1.80	-51.73
700.00	4.23	3.87	699.79	5.75	3.68	3.68	2.00	1.98	-4.84
800.00	6.23	2.12	799.37	14.85	4.12	4.13	2.00	1.99	-1.75
900.00	8.22	1.22	898.57	27.42	4.48	4.49	2.00	2.00	-0.90
1,000.00	10.22	0.67	997.27	43.44	4.73	4.75	2.00	2.00	-0.55
1,040.87	11.04	0.50	1,037.44	50.98	4.81	4.83	2.00	2.00	-0.41
Start 5615.71 hold at 1040.87 MD									
1,100.00	11.04	0.50	1,095.48	62.30	4.91	4.94	0.00	0.00	0.00
1,200.00	11.04	0.50	1,193.63	81.45	5.07	5.12	0.00	0.00	0.00
1,300.00	11.04	0.50	1,291.78	100.59	5.24	5.29	0.00	0.00	0.00
1,400.00	11.04	0.50	1,389.93	119.74	5.40	5.47	0.00	0.00	0.00
1,500.00	11.04	0.50	1,488.08	138.88	5.57	5.64	0.00	0.00	0.00
1,600.00	11.04	0.50	1,586.23	158.03	5.74	5.82	0.00	0.00	0.00
1,700.00	11.04	0.50	1,684.38	177.17	5.90	6.00	0.00	0.00	0.00
1,800.00	11.04	0.50	1,782.53	196.32	6.07	6.17	0.00	0.00	0.00
1,900.00	11.04	0.50	1,880.68	215.46	6.24	6.35	0.00	0.00	0.00
2,000.00	11.04	0.50	1,978.83	234.60	6.40	6.52	0.00	0.00	0.00
2,100.00	11.04	0.50	2,076.98	253.75	6.57	6.70	0.00	0.00	0.00
2,200.00	11.04	0.50	2,175.13	272.89	6.73	6.88	0.00	0.00	0.00
2,300.00	11.04	0.50	2,273.28	292.04	6.90	7.05	0.00	0.00	0.00
2,400.00	11.04	0.50	2,371.43	311.18	7.07	7.23	0.00	0.00	0.00
2,500.00	11.04	0.50	2,469.58	330.33	7.23	7.41	0.00	0.00	0.00
2,600.00	11.04	0.50	2,567.73	349.47	7.40	7.58	0.00	0.00	0.00
2,700.00	11.04	0.50	2,665.88	368.62	7.56	7.76	0.00	0.00	0.00
2,800.00	11.04	0.50	2,764.03	387.76	7.73	7.93	0.00	0.00	0.00
2,810.16	11.04	0.50	2,774.00	389.71	7.75	7.95	0.00	0.00	0.00
Ojo Alamo									
2,900.00	11.04	0.50	2,862.18	406.91	7.90	8.11	0.00	0.00	0.00
2,935.47	11.04	0.50	2,897.00	413.70	7.96	8.17	0.00	0.00	0.00
Kirtland									
3,000.00	11.04	0.50	2,960.33	426.05	8.06	8.29	0.00	0.00	0.00
3,100.00	11.04	0.50	3,058.48	445.20	8.23	8.46	0.00	0.00	0.00
3,200.00	11.04	0.50	3,156.63	464.34	8.39	8.64	0.00	0.00	0.00
3,300.00	11.04	0.50	3,254.78	483.49	8.56	8.81	0.00	0.00	0.00
3,316.52	11.04	0.50	3,271.00	486.65	8.59	8.84	0.00	0.00	0.00
Fruitland									
3,359.32	11.04	0.50	3,313.00	494.84	8.66	8.92	0.00	0.00	0.00
Top of Coals									
3,400.00	11.04	0.50	3,352.93	502.63	8.73	8.99	0.00	0.00	0.00
3,447.96	11.04	0.50	3,400.00	511.81	8.81	9.07	0.00	0.00	0.00
Base of Coals									
3,500.00	11.04	0.50	3,451.08	521.78	8.89	9.17	0.00	0.00	0.00
3,600.00	11.04	0.50	3,549.23	540.92	9.06	9.34	0.00	0.00	0.00
3,676.18	11.04	0.50	3,624.00	555.51	9.19	9.48	0.00	0.00	0.00

SDT

Planning Report

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Site:	Rosa Unit 42	North Reference:	True
Well:	Rosa Unit 832H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	p4-Prelim 2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Pictured Cliffs									
3,700.00	11.04	0.50	3,647.38	560.07	9.23	9.52	0.00	0.00	0.00
3,777.04	11.04	0.50	3,723.00	574.82	9.35	9.65	0.00	0.00	0.00
Lewis									
3,800.00	11.04	0.50	3,745.53	579.21	9.39	9.69	0.00	0.00	0.00
3,900.00	11.04	0.50	3,843.68	598.36	9.56	9.87	0.00	0.00	0.00
4,000.00	11.04	0.50	3,941.83	617.50	9.72	10.05	0.00	0.00	0.00
4,100.00	11.04	0.50	4,039.98	636.65	9.89	10.22	0.00	0.00	0.00
4,200.00	11.04	0.50	4,138.13	655.79	10.06	10.40	0.00	0.00	0.00
4,300.00	11.04	0.50	4,236.28	674.94	10.22	10.58	0.00	0.00	0.00
4,400.00	11.04	0.50	4,334.43	694.08	10.39	10.75	0.00	0.00	0.00
4,500.00	11.04	0.50	4,432.58	713.23	10.55	10.93	0.00	0.00	0.00
4,600.00	11.04	0.50	4,530.73	732.37	10.72	11.10	0.00	0.00	0.00
4,700.00	11.04	0.50	4,628.88	751.52	10.89	11.28	0.00	0.00	0.00
4,800.00	11.04	0.50	4,727.03	770.66	11.05	11.46	0.00	0.00	0.00
4,900.00	11.04	0.50	4,825.18	789.81	11.22	11.63	0.00	0.00	0.00
4,911.02	11.04	0.50	4,836.00	791.92	11.24	11.65	0.00	0.00	0.00
Chacra									
5,000.00	11.04	0.50	4,923.33	808.95	11.39	11.81	0.00	0.00	0.00
5,100.00	11.04	0.50	5,021.48	828.10	11.55	11.98	0.00	0.00	0.00
5,200.00	11.04	0.50	5,119.63	847.24	11.72	12.16	0.00	0.00	0.00
5,300.00	11.04	0.50	5,217.78	866.39	11.88	12.34	0.00	0.00	0.00
5,400.00	11.04	0.50	5,315.93	885.53	12.05	12.51	0.00	0.00	0.00
5,443.88	11.04	0.50	5,359.00	893.93	12.12	12.59	0.00	0.00	0.00
Upper Cliff House									
5,500.00	11.04	0.50	5,414.08	904.67	12.22	12.69	0.00	0.00	0.00
5,600.00	11.04	0.50	5,512.23	923.82	12.38	12.87	0.00	0.00	0.00
5,700.00	11.04	0.50	5,610.39	942.96	12.55	13.04	0.00	0.00	0.00
5,734.25	11.04	0.50	5,644.00	949.52	12.60	13.10	0.00	0.00	0.00
Cliff House									
5,768.89	11.04	0.50	5,678.00	956.15	12.66	13.16	0.00	0.00	0.00
Menefee									
5,800.00	11.04	0.50	5,708.54	962.11	12.71	13.22	0.00	0.00	0.00
5,900.00	11.04	0.50	5,806.69	981.25	12.88	13.39	0.00	0.00	0.00
5,954.32	11.04	0.50	5,860.00	991.65	12.97	13.49	0.00	0.00	0.00
Point Lookout									
6,000.00	11.04	0.50	5,904.84	1,000.40	13.05	13.57	0.00	0.00	0.00
6,100.00	11.04	0.50	6,002.99	1,019.54	13.21	13.75	0.00	0.00	0.00
6,200.00	11.04	0.50	6,101.14	1,038.69	13.38	13.92	0.00	0.00	0.00
6,300.00	11.04	0.50	6,199.29	1,057.83	13.54	14.10	0.00	0.00	0.00
6,400.00	11.04	0.50	6,297.44	1,076.98	13.71	14.27	0.00	0.00	0.00
6,500.00	11.04	0.50	6,395.59	1,096.12	13.88	14.45	0.00	0.00	0.00
6,508.57	11.04	0.50	6,404.00	1,097.76	13.89	14.47	0.00	0.00	0.00
Mancos									
6,600.00	11.04	0.50	6,493.74	1,115.27	14.04	14.63	0.00	0.00	0.00
6,656.58	11.04	0.50	6,549.27	1,126.10	14.14	14.73	0.00	0.00	0.00
Start DLS 9.00 TFO 89.48									
6,700.00	11.73	20.07	6,591.85	1,134.41	15.69	16.28	9.00	1.60	45.09
6,750.00	13.90	37.97	6,640.62	1,143.92	21.13	21.73	9.00	4.34	35.80
6,800.00	17.00	50.32	6,688.82	1,153.33	30.46	31.06	9.00	6.19	24.69
6,850.00	20.61	58.71	6,736.15	1,162.57	43.61	44.22	9.00	7.21	16.79
6,900.00	24.50	64.62	6,782.33	1,171.59	60.51	61.12	9.00	7.79	11.82
6,950.00	28.56	68.97	6,827.06	1,180.33	81.04	81.66	9.00	8.13	8.69

SDT

Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 832H
Company:	Logos Operating LLC	TVD Reference:	6563+30 @ 6593.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6563+30 @ 6593.00usft (H&P 530)
Site:	Rosa Unit 42	North Reference:	True
Well:	Rosa Unit 832H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	p4-Prelim 2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,000.00	32.73	72.30	6,870.07	1,188.73	105.08	105.71	9.00	8.34	6.66
7,050.00	36.97	74.95	6,911.09	1,196.75	132.49	133.12	9.00	8.48	5.30
7,100.00	41.26	77.12	6,949.88	1,204.34	163.10	163.73	9.00	8.57	4.34
7,150.00	45.58	78.94	6,986.19	1,211.44	196.71	197.34	9.00	8.64	3.66
7,197.21	49.68	80.44	7,018.00	1,217.66	231.02	231.65	9.00	8.69	3.16
Top Black									
7,200.00	49.92	80.52	7,019.80	1,218.02	233.12	233.76	9.00	8.71	2.95
7,250.00	54.29	81.90	7,050.51	1,224.03	272.11	272.75	9.00	8.73	2.77
7,300.00	58.67	83.15	7,078.11	1,229.44	313.43	314.07	9.00	8.76	2.48
7,350.00	63.06	84.28	7,102.45	1,234.22	356.83	357.47	9.00	8.78	2.26
7,400.00	67.46	85.32	7,123.37	1,238.32	402.04	402.69	9.00	8.80	2.09
7,450.00	71.86	86.30	7,140.74	1,241.74	448.79	449.44	9.00	8.81	1.96
7,500.00	76.27	87.23	7,154.47	1,244.45	496.78	497.43	9.00	8.82	1.86
7,550.00	80.69	88.13	7,164.45	1,246.43	545.72	546.37	9.00	8.83	1.80
7,600.00	85.10	89.01	7,170.63	1,247.66	595.30	595.96	9.00	8.83	1.75
7,650.00	89.52	89.87	7,172.98	1,248.15	645.23	645.89	9.00	8.83	1.73
7,655.78	90.03	89.97	7,173.00	1,248.16	651.01	651.66	9.00	8.83	1.72
Start 19479.75 hold at 7655.78 MD									
7,700.00	90.03	89.97	7,172.98	1,248.18	695.23	695.89	0.00	0.00	0.00
7,800.00	90.03	89.97	7,172.93	1,248.24	795.23	795.89	0.00	0.00	0.00
7,900.00	90.03	89.97	7,172.88	1,248.29	895.23	895.89	0.00	0.00	0.00
8,000.00	90.03	89.97	7,172.83	1,248.34	995.23	995.89	0.00	0.00	0.00
8,100.00	90.03	89.97	7,172.77	1,248.39	1,095.23	1,095.89	0.00	0.00	0.00
8,200.00	90.03	89.97	7,172.72	1,248.44	1,195.23	1,195.89	0.00	0.00	0.00
8,300.00	90.03	89.97	7,172.67	1,248.50	1,295.23	1,295.89	0.00	0.00	0.00
8,400.00	90.03	89.97	7,172.62	1,248.55	1,395.23	1,395.89	0.00	0.00	0.00
8,500.00	90.03	89.97	7,172.57	1,248.60	1,495.23	1,495.89	0.00	0.00	0.00
8,600.00	90.03	89.97	7,172.52	1,248.65	1,595.23	1,595.89	0.00	0.00	0.00
8,700.00	90.03	89.97	7,172.47	1,248.71	1,695.23	1,695.89	0.00	0.00	0.00
8,800.00	90.03	89.97	7,172.42	1,248.76	1,795.23	1,795.89	0.00	0.00	0.00
8,900.00	90.03	89.97	7,172.37	1,248.81	1,895.23	1,895.89	0.00	0.00	0.00
9,000.00	90.03	89.97	7,172.32	1,248.86	1,995.23	1,995.89	0.00	0.00	0.00
9,100.00	90.03	89.97	7,172.27	1,248.92	2,095.23	2,095.89	0.00	0.00	0.00
9,200.00	90.03	89.97	7,172.22	1,248.97	2,195.23	2,195.89	0.00	0.00	0.00
9,300.00	90.03	89.97	7,172.16	1,249.02	2,295.23	2,295.89	0.00	0.00	0.00
9,400.00	90.03	89.97	7,172.11	1,249.07	2,395.23	2,395.89	0.00	0.00	0.00
9,500.00	90.03	89.97	7,172.06	1,249.13	2,495.23	2,495.89	0.00	0.00	0.00
9,600.00	90.03	89.97	7,172.01	1,249.18	2,595.23	2,595.89	0.00	0.00	0.00
9,700.00	90.03	89.97	7,171.96	1,249.23	2,695.23	2,695.89	0.00	0.00	0.00
9,800.00	90.03	89.97	7,171.91	1,249.28	2,795.23	2,795.89	0.00	0.00	0.00
9,900.00	90.03	89.97	7,171.86	1,249.34	2,895.23	2,895.89	0.00	0.00	0.00
10,000.00	90.03	89.97	7,171.81	1,249.39	2,995.23	2,995.89	0.00	0.00	0.00
10,100.00	90.03	89.97	7,171.76	1,249.44	3,095.23	3,095.89	0.00	0.00	0.00
10,200.00	90.03	89.97	7,171.71	1,249.49	3,195.23	3,195.89	0.00	0.00	0.00
10,300.00	90.03	89.97	7,171.66	1,249.54	3,295.23	3,295.89	0.00	0.00	0.00
10,400.00	90.03	89.97	7,171.61	1,249.60	3,395.23	3,395.89	0.00	0.00	0.00
10,500.00	90.03	89.97	7,171.55	1,249.65	3,495.23	3,495.89	0.00	0.00	0.00
10,600.00	90.03	89.97	7,171.50	1,249.70	3,595.23	3,595.89	0.00	0.00	0.00
10,700.00	90.03	89.97	7,171.45	1,249.75	3,695.23	3,695.89	0.00	0.00	0.00
10,800.00	90.03	89.97	7,171.40	1,249.81	3,795.23	3,795.89	0.00	0.00	0.00
10,900.00	90.03	89.97	7,171.35	1,249.86	3,895.23	3,895.89	0.00	0.00	0.00
11,000.00	90.03	89.97	7,171.30	1,249.91	3,995.23	3,995.89	0.00	0.00	0.00
11,100.00	90.03	89.97	7,171.25	1,249.96	4,095.23	4,095.89	0.00	0.00	0.00

SDT
Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 832H
Company:	Logos Operating LLC	TVD Reference:	6563+30 @ 6593.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6563+30 @ 6593.00usft (H&P 530)
Site:	Rosa Unit 42	North Reference:	True
Well:	Rosa Unit 832H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	p4-Prelim 2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,200.00	90.03	89.97	7,171.20	1,250.02	4,195.23	4,195.89	0.00	0.00	0.00
11,300.00	90.03	89.97	7,171.15	1,250.07	4,295.23	4,295.89	0.00	0.00	0.00
11,400.00	90.03	89.97	7,171.10	1,250.12	4,395.23	4,395.89	0.00	0.00	0.00
11,500.00	90.03	89.97	7,171.05	1,250.17	4,495.23	4,495.89	0.00	0.00	0.00
11,600.00	90.03	89.97	7,171.00	1,250.23	4,595.23	4,595.89	0.00	0.00	0.00
11,700.00	90.03	89.97	7,170.94	1,250.28	4,695.23	4,695.89	0.00	0.00	0.00
11,800.00	90.03	89.97	7,170.89	1,250.33	4,795.23	4,795.89	0.00	0.00	0.00
11,900.00	90.03	89.97	7,170.84	1,250.38	4,895.23	4,895.89	0.00	0.00	0.00
12,000.00	90.03	89.97	7,170.79	1,250.44	4,995.23	4,995.89	0.00	0.00	0.00
12,100.00	90.03	89.97	7,170.74	1,250.49	5,095.23	5,095.89	0.00	0.00	0.00
12,200.00	90.03	89.97	7,170.69	1,250.54	5,195.23	5,195.89	0.00	0.00	0.00
12,300.00	90.03	89.97	7,170.64	1,250.59	5,295.23	5,295.89	0.00	0.00	0.00
12,400.00	90.03	89.97	7,170.59	1,250.64	5,395.23	5,395.89	0.00	0.00	0.00
12,500.00	90.03	89.97	7,170.54	1,250.70	5,495.23	5,495.89	0.00	0.00	0.00
12,600.00	90.03	89.97	7,170.49	1,250.75	5,595.23	5,595.89	0.00	0.00	0.00
12,700.00	90.03	89.97	7,170.44	1,250.80	5,695.23	5,695.89	0.00	0.00	0.00
12,800.00	90.03	89.97	7,170.39	1,250.85	5,795.23	5,795.89	0.00	0.00	0.00
12,900.00	90.03	89.97	7,170.33	1,250.91	5,895.23	5,895.89	0.00	0.00	0.00
13,000.00	90.03	89.97	7,170.28	1,250.96	5,995.23	5,995.89	0.00	0.00	0.00
13,100.00	90.03	89.97	7,170.23	1,251.01	6,095.23	6,095.89	0.00	0.00	0.00
13,200.00	90.03	89.97	7,170.18	1,251.06	6,195.23	6,195.89	0.00	0.00	0.00
13,300.00	90.03	89.97	7,170.13	1,251.12	6,295.23	6,295.89	0.00	0.00	0.00
13,400.00	90.03	89.97	7,170.08	1,251.17	6,395.23	6,395.89	0.00	0.00	0.00
13,500.00	90.03	89.97	7,170.03	1,251.22	6,495.23	6,495.89	0.00	0.00	0.00
13,600.00	90.03	89.97	7,169.98	1,251.27	6,595.23	6,595.89	0.00	0.00	0.00
13,700.00	90.03	89.97	7,169.93	1,251.33	6,695.23	6,695.89	0.00	0.00	0.00
13,800.00	90.03	89.97	7,169.88	1,251.38	6,795.23	6,795.89	0.00	0.00	0.00
13,900.00	90.03	89.97	7,169.83	1,251.43	6,895.23	6,895.89	0.00	0.00	0.00
14,000.00	90.03	89.97	7,169.78	1,251.48	6,995.23	6,995.89	0.00	0.00	0.00
14,100.00	90.03	89.97	7,169.73	1,251.54	7,095.23	7,095.89	0.00	0.00	0.00
14,200.00	90.03	89.97	7,169.67	1,251.59	7,195.23	7,195.89	0.00	0.00	0.00
14,300.00	90.03	89.97	7,169.62	1,251.64	7,295.23	7,295.89	0.00	0.00	0.00
14,400.00	90.03	89.97	7,169.57	1,251.69	7,395.23	7,395.89	0.00	0.00	0.00
14,500.00	90.03	89.97	7,169.52	1,251.74	7,495.23	7,495.89	0.00	0.00	0.00
14,600.00	90.03	89.97	7,169.47	1,251.80	7,595.23	7,595.89	0.00	0.00	0.00
14,700.00	90.03	89.97	7,169.42	1,251.85	7,695.23	7,695.89	0.00	0.00	0.00
14,800.00	90.03	89.97	7,169.37	1,251.90	7,795.23	7,795.89	0.00	0.00	0.00
14,900.00	90.03	89.97	7,169.32	1,251.95	7,895.23	7,895.89	0.00	0.00	0.00
15,000.00	90.03	89.97	7,169.27	1,252.01	7,995.23	7,995.89	0.00	0.00	0.00
15,100.00	90.03	89.97	7,169.22	1,252.06	8,095.23	8,095.89	0.00	0.00	0.00
15,200.00	90.03	89.97	7,169.17	1,252.11	8,195.23	8,195.89	0.00	0.00	0.00
15,300.00	90.03	89.97	7,169.12	1,252.16	8,295.23	8,295.89	0.00	0.00	0.00
15,400.00	90.03	89.97	7,169.06	1,252.22	8,395.23	8,395.89	0.00	0.00	0.00
15,500.00	90.03	89.97	7,169.01	1,252.27	8,495.23	8,495.89	0.00	0.00	0.00
15,600.00	90.03	89.97	7,168.96	1,252.32	8,595.23	8,595.89	0.00	0.00	0.00
15,700.00	90.03	89.97	7,168.91	1,252.37	8,695.23	8,695.89	0.00	0.00	0.00
15,800.00	90.03	89.97	7,168.86	1,252.43	8,795.23	8,795.89	0.00	0.00	0.00
15,900.00	90.03	89.97	7,168.81	1,252.48	8,895.23	8,895.89	0.00	0.00	0.00
16,000.00	90.03	89.97	7,168.76	1,252.53	8,995.23	8,995.89	0.00	0.00	0.00
16,100.00	90.03	89.97	7,168.71	1,252.58	9,095.23	9,095.89	0.00	0.00	0.00
16,200.00	90.03	89.97	7,168.66	1,252.64	9,195.23	9,195.89	0.00	0.00	0.00
16,300.00	90.03	89.97	7,168.61	1,252.69	9,295.23	9,295.89	0.00	0.00	0.00
16,400.00	90.03	89.97	7,168.56	1,252.74	9,395.23	9,395.89	0.00	0.00	0.00
16,500.00	90.03	89.97	7,168.51	1,252.79	9,495.23	9,495.89	0.00	0.00	0.00

SDT

Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 832H
Company:	Logos Operating LLC	TVD Reference:	6563+30 @ 6593.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6563+30 @ 6593.00usft (H&P 530)
Site:	Rosa Unit 42	North Reference:	True
Well:	Rosa Unit 832H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	p4-Prelim 2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,600.00	90.03	89.97	7,168.45	1,252.84	9,595.23	9,595.89	0.00	0.00	0.00
16,700.00	90.03	89.97	7,168.40	1,252.90	9,695.23	9,695.89	0.00	0.00	0.00
16,800.00	90.03	89.97	7,168.35	1,252.95	9,795.23	9,795.89	0.00	0.00	0.00
16,900.00	90.03	89.97	7,168.30	1,253.00	9,895.23	9,895.89	0.00	0.00	0.00
17,000.00	90.03	89.97	7,168.25	1,253.05	9,995.23	9,995.89	0.00	0.00	0.00
17,100.00	90.03	89.97	7,168.20	1,253.11	10,095.23	10,095.89	0.00	0.00	0.00
17,200.00	90.03	89.97	7,168.15	1,253.16	10,195.23	10,195.89	0.00	0.00	0.00
17,300.00	90.03	89.97	7,168.10	1,253.21	10,295.23	10,295.89	0.00	0.00	0.00
17,400.00	90.03	89.97	7,168.05	1,253.26	10,395.23	10,395.89	0.00	0.00	0.00
17,500.00	90.03	89.97	7,168.00	1,253.32	10,495.23	10,495.89	0.00	0.00	0.00
17,600.00	90.03	89.97	7,167.95	1,253.37	10,595.23	10,595.89	0.00	0.00	0.00
17,700.00	90.03	89.97	7,167.90	1,253.42	10,695.23	10,695.89	0.00	0.00	0.00
17,800.00	90.03	89.97	7,167.84	1,253.47	10,795.23	10,795.89	0.00	0.00	0.00
17,900.00	90.03	89.97	7,167.79	1,253.53	10,895.23	10,895.89	0.00	0.00	0.00
18,000.00	90.03	89.97	7,167.74	1,253.58	10,995.23	10,995.89	0.00	0.00	0.00
18,100.00	90.03	89.97	7,167.69	1,253.63	11,095.23	11,095.89	0.00	0.00	0.00
18,200.00	90.03	89.97	7,167.64	1,253.68	11,195.23	11,195.89	0.00	0.00	0.00
18,300.00	90.03	89.97	7,167.59	1,253.74	11,295.23	11,295.89	0.00	0.00	0.00
18,400.00	90.03	89.97	7,167.54	1,253.79	11,395.23	11,395.89	0.00	0.00	0.00
18,500.00	90.03	89.97	7,167.49	1,253.84	11,495.23	11,495.89	0.00	0.00	0.00
18,600.00	90.03	89.97	7,167.44	1,253.89	11,595.23	11,595.89	0.00	0.00	0.00
18,700.00	90.03	89.97	7,167.39	1,253.94	11,695.23	11,695.89	0.00	0.00	0.00
18,800.00	90.03	89.97	7,167.34	1,254.00	11,795.23	11,795.89	0.00	0.00	0.00
18,900.00	90.03	89.97	7,167.29	1,254.05	11,895.23	11,895.89	0.00	0.00	0.00
19,000.00	90.03	89.97	7,167.23	1,254.10	11,995.23	11,995.89	0.00	0.00	0.00
19,100.00	90.03	89.97	7,167.18	1,254.15	12,095.23	12,095.89	0.00	0.00	0.00
19,200.00	90.03	89.97	7,167.13	1,254.21	12,195.23	12,195.89	0.00	0.00	0.00
19,300.00	90.03	89.97	7,167.08	1,254.26	12,295.23	12,295.89	0.00	0.00	0.00
19,400.00	90.03	89.97	7,167.03	1,254.31	12,395.23	12,395.89	0.00	0.00	0.00
19,500.00	90.03	89.97	7,166.98	1,254.36	12,495.23	12,495.89	0.00	0.00	0.00
19,600.00	90.03	89.97	7,166.93	1,254.42	12,595.23	12,595.89	0.00	0.00	0.00
19,700.00	90.03	89.97	7,166.88	1,254.47	12,695.23	12,695.89	0.00	0.00	0.00
19,800.00	90.03	89.97	7,166.83	1,254.52	12,795.23	12,795.89	0.00	0.00	0.00
19,900.00	90.03	89.97	7,166.78	1,254.57	12,895.23	12,895.89	0.00	0.00	0.00
20,000.00	90.03	89.97	7,166.73	1,254.63	12,995.23	12,995.89	0.00	0.00	0.00
20,100.00	90.03	89.97	7,166.68	1,254.68	13,095.23	13,095.89	0.00	0.00	0.00
20,200.00	90.03	89.97	7,166.62	1,254.73	13,195.23	13,195.89	0.00	0.00	0.00
20,300.00	90.03	89.97	7,166.57	1,254.78	13,295.23	13,295.89	0.00	0.00	0.00
20,400.00	90.03	89.97	7,166.52	1,254.84	13,395.23	13,395.89	0.00	0.00	0.00
20,500.00	90.03	89.97	7,166.47	1,254.89	13,495.23	13,495.89	0.00	0.00	0.00
20,600.00	90.03	89.97	7,166.42	1,254.94	13,595.23	13,595.89	0.00	0.00	0.00
20,700.00	90.03	89.97	7,166.37	1,254.99	13,695.23	13,695.89	0.00	0.00	0.00
20,800.00	90.03	89.97	7,166.32	1,255.04	13,795.23	13,795.89	0.00	0.00	0.00
20,900.00	90.03	89.97	7,166.27	1,255.10	13,895.23	13,895.89	0.00	0.00	0.00
21,000.00	90.03	89.97	7,166.22	1,255.15	13,995.23	13,995.89	0.00	0.00	0.00
21,100.00	90.03	89.97	7,166.17	1,255.20	14,095.23	14,095.89	0.00	0.00	0.00
21,200.00	90.03	89.97	7,166.12	1,255.25	14,195.23	14,195.89	0.00	0.00	0.00
21,300.00	90.03	89.97	7,166.07	1,255.31	14,295.23	14,295.89	0.00	0.00	0.00
21,400.00	90.03	89.97	7,166.02	1,255.36	14,395.23	14,395.89	0.00	0.00	0.00
21,500.00	90.03	89.97	7,165.96	1,255.41	14,495.23	14,495.89	0.00	0.00	0.00
21,600.00	90.03	89.97	7,165.91	1,255.46	14,595.23	14,595.89	0.00	0.00	0.00
21,700.00	90.03	89.97	7,165.86	1,255.52	14,695.23	14,695.89	0.00	0.00	0.00
21,800.00	90.03	89.97	7,165.81	1,255.57	14,795.23	14,795.89	0.00	0.00	0.00
21,900.00	90.03	89.97	7,165.76	1,255.62	14,895.23	14,895.89	0.00	0.00	0.00

SDT

Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 832H
Company:	Logos Operating LLC	TVD Reference:	6563+30 @ 6593.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6563+30 @ 6593.00usft (H&P 530)
Site:	Rosa Unit 42	North Reference:	True
Well:	Rosa Unit 832H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	p4-Prelim 2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
22,000.00	90.03	89.97	7,165.71	1,255.67	14,995.23	14,995.89	0.00	0.00	0.00
22,100.00	90.03	89.97	7,165.66	1,255.73	15,095.23	15,095.89	0.00	0.00	0.00
22,200.00	90.03	89.97	7,165.61	1,255.78	15,195.23	15,195.89	0.00	0.00	0.00
22,300.00	90.03	89.97	7,165.56	1,255.83	15,295.23	15,295.89	0.00	0.00	0.00
22,400.00	90.03	89.97	7,165.51	1,255.88	15,395.23	15,395.89	0.00	0.00	0.00
22,500.00	90.03	89.97	7,165.46	1,255.94	15,495.23	15,495.89	0.00	0.00	0.00
22,600.00	90.03	89.97	7,165.41	1,255.99	15,595.23	15,595.89	0.00	0.00	0.00
22,700.00	90.03	89.97	7,165.35	1,256.04	15,695.23	15,695.89	0.00	0.00	0.00
22,800.00	90.03	89.97	7,165.30	1,256.09	15,795.23	15,795.89	0.00	0.00	0.00
22,900.00	90.03	89.97	7,165.25	1,256.14	15,895.23	15,895.89	0.00	0.00	0.00
23,000.00	90.03	89.97	7,165.20	1,256.20	15,995.23	15,995.89	0.00	0.00	0.00
23,100.00	90.03	89.97	7,165.15	1,256.25	16,095.23	16,095.89	0.00	0.00	0.00
23,200.00	90.03	89.97	7,165.10	1,256.30	16,195.23	16,195.89	0.00	0.00	0.00
23,300.00	90.03	89.97	7,165.05	1,256.35	16,295.23	16,295.89	0.00	0.00	0.00
23,400.00	90.03	89.97	7,165.00	1,256.41	16,395.23	16,395.89	0.00	0.00	0.00
23,500.00	90.03	89.97	7,164.95	1,256.46	16,495.23	16,495.89	0.00	0.00	0.00
23,600.00	90.03	89.97	7,164.90	1,256.51	16,595.23	16,595.89	0.00	0.00	0.00
23,700.00	90.03	89.97	7,164.85	1,256.56	16,695.23	16,695.89	0.00	0.00	0.00
23,800.00	90.03	89.97	7,164.80	1,256.62	16,795.23	16,795.89	0.00	0.00	0.00
23,900.00	90.03	89.97	7,164.74	1,256.67	16,895.23	16,895.89	0.00	0.00	0.00
24,000.00	90.03	89.97	7,164.69	1,256.72	16,995.23	16,995.89	0.00	0.00	0.00
24,100.00	90.03	89.97	7,164.64	1,256.77	17,095.23	17,095.89	0.00	0.00	0.00
24,200.00	90.03	89.97	7,164.59	1,256.83	17,195.23	17,195.89	0.00	0.00	0.00
24,300.00	90.03	89.97	7,164.54	1,256.88	17,295.23	17,295.89	0.00	0.00	0.00
24,400.00	90.03	89.97	7,164.49	1,256.93	17,395.23	17,395.89	0.00	0.00	0.00
24,500.00	90.03	89.97	7,164.44	1,256.98	17,495.23	17,495.89	0.00	0.00	0.00
24,600.00	90.03	89.97	7,164.39	1,257.04	17,595.23	17,595.89	0.00	0.00	0.00
24,700.00	90.03	89.97	7,164.34	1,257.09	17,695.23	17,695.89	0.00	0.00	0.00
24,800.00	90.03	89.97	7,164.29	1,257.14	17,795.23	17,795.89	0.00	0.00	0.00
24,900.00	90.03	89.97	7,164.24	1,257.19	17,895.23	17,895.89	0.00	0.00	0.00
25,000.00	90.03	89.97	7,164.19	1,257.24	17,995.23	17,995.89	0.00	0.00	0.00
25,100.00	90.03	89.97	7,164.13	1,257.30	18,095.23	18,095.89	0.00	0.00	0.00
25,200.00	90.03	89.97	7,164.08	1,257.35	18,195.23	18,195.89	0.00	0.00	0.00
25,300.00	90.03	89.97	7,164.03	1,257.40	18,295.23	18,295.89	0.00	0.00	0.00
25,400.00	90.03	89.97	7,163.98	1,257.45	18,395.23	18,395.89	0.00	0.00	0.00
25,500.00	90.03	89.97	7,163.93	1,257.51	18,495.23	18,495.89	0.00	0.00	0.00
25,600.00	90.03	89.97	7,163.88	1,257.56	18,595.23	18,595.89	0.00	0.00	0.00
25,700.00	90.03	89.97	7,163.83	1,257.61	18,695.23	18,695.89	0.00	0.00	0.00
25,800.00	90.03	89.97	7,163.78	1,257.66	18,795.23	18,795.89	0.00	0.00	0.00
25,900.00	90.03	89.97	7,163.73	1,257.72	18,895.23	18,895.89	0.00	0.00	0.00
26,000.00	90.03	89.97	7,163.68	1,257.77	18,995.23	18,995.89	0.00	0.00	0.00
26,100.00	90.03	89.97	7,163.63	1,257.82	19,095.23	19,095.89	0.00	0.00	0.00
26,200.00	90.03	89.97	7,163.58	1,257.87	19,195.23	19,195.89	0.00	0.00	0.00
26,300.00	90.03	89.97	7,163.52	1,257.93	19,295.23	19,295.89	0.00	0.00	0.00
26,400.00	90.03	89.97	7,163.47	1,257.98	19,395.23	19,395.89	0.00	0.00	0.00
26,500.00	90.03	89.97	7,163.42	1,258.03	19,495.23	19,495.89	0.00	0.00	0.00
26,600.00	90.03	89.97	7,163.37	1,258.08	19,595.23	19,595.89	0.00	0.00	0.00
26,700.00	90.03	89.97	7,163.32	1,258.14	19,695.23	19,695.89	0.00	0.00	0.00
26,800.00	90.03	89.97	7,163.27	1,258.19	19,795.23	19,795.89	0.00	0.00	0.00
26,900.00	90.03	89.97	7,163.22	1,258.24	19,895.23	19,895.89	0.00	0.00	0.00
27,000.00	90.03	89.97	7,163.17	1,258.29	19,995.23	19,995.89	0.00	0.00	0.00
27,100.00	90.03	89.97	7,163.12	1,258.34	20,095.23	20,095.89	0.00	0.00	0.00
27,135.53	90.03	89.97	7,163.10	1,258.36	20,130.75	20,131.41	0.00	0.00	0.00

SDT
Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 832H
Company:	Logos Operating LLC	TVD Reference:	6563+30 @ 6593.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6563+30 @ 6593.00usft (H&P 530)
Site:	Rosa Unit 42	North Reference:	True
Well:	Rosa Unit 832H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	p4-Prelim 2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Start 200.00 hold at 27135.53 MD									
27,200.00	90.03	89.97	7,163.07	1,258.40	20,195.23	20,195.89	0.00	0.00	0.00
27,300.00	90.03	89.97	7,163.02	1,258.45	20,295.23	20,295.89	0.00	0.00	0.00
27,335.53	90.03	89.97	7,163.00	1,258.47	20,330.76	20,331.41	0.00	0.00	0.00
TD at 27335.53									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
RU 832H SHL - plan hits target center - Point	0.00	0.31	0.00	0.00	0.00	2,133,454.42	2,872,990.69	36.861891	-107.320922
RU 832H KOP - plan hits target center - Point	0.00	0.00	6,549.27	1,126.10	14.14	2,134,580.58	2,872,998.79	36.864984	-107.320874
RU 832H PBHL - plan hits target center - Point	0.00	0.28	7,163.00	1,258.47	20,330.76	2,134,821.95	2,893,314.41	36.865328	-107.251423
RU 832H FPP - plan hits target center - Point	0.00	0.00	7,163.10	1,258.36	20,130.75	2,134,820.77	2,893,114.41	36.865328	-107.252106
RU 832H POE - plan hits target center - Point	0.00	0.00	7,173.00	1,248.16	651.01	2,134,706.05	2,873,635.00	36.865320	-107.318697

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,810.16	2,774.00	Ojo Alamo				
2,935.47	2,897.00	Kirtland				
3,316.52	3,271.00	Fruitland		0.00		
3,359.32	3,313.00	Top of Coals		0.00		
3,447.96	3,400.00	Base of Coals		0.00		
3,676.18	3,624.00	Pictured Cliffs				
3,777.04	3,723.00	Lewis		0.00		
4,911.02	4,836.00	Chacra		0.00		
5,443.88	5,359.00	Upper Cliff House		0.00		
5,734.25	5,644.00	Cliff House				
5,768.89	5,678.00	Menefee				
5,954.32	5,860.00	Point Lookout				
6,508.57	6,404.00	Mancos				
7,197.21	7,018.00	Top Black				

SDT
Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 832H
Company:	Logos Operating LLC	TVD Reference:	6563+30 @ 6593.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6563+30 @ 6593.00usft (H&P 530)
Site:	Rosa Unit 42	North Reference:	True
Well:	Rosa Unit 832H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	p4-Prelim 2		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
322.00	321.99	-1.10	1.22	Start 150.00 hold at 322.00 MD
472.00	471.99	-1.98	2.29	Start DLS 2.00 TFO -130.87
1,040.87	1,037.44	50.98	4.81	Start 5615.71 hold at 1040.87 MD
6,656.58	6,549.27	1,126.10	14.14	Start DLS 9.00 TFO 89.48
7,655.78	7,173.00	1,248.16	651.01	Start 19479.75 hold at 7655.78 MD
27,135.53	7,163.10	1,258.36	20,130.75	Start 200.00 hold at 27135.53 MD
27,335.53	7,163.00	1,258.47	20,330.76	TD at 27335.53



LOGOS Operating, LLC Operations Plan

Note: This procedure will be adjusted onsite based upon actual conditions

Date:	9/3/2025	Pool:	Basin Mancos
Well Name:	Rosa Unit 832H	GL Elevation:	6,563'
Surface Location:	Sec 36, T31N, R5W 537' FNL, 483' FWL (36.861891° N, -107.320923° W – NAD83)	KB:	30'
Bottom Hole Location:	Sec 28, T31N, R4W 711' FSL, 51' FEL (36.865327° N, -107.251422° W – NAD83)	Measured Depth:	27,336'(KB)
Lease Serial CA Serial	# NMSF078894 # NMNM78407E	County:	Rio Arriba

I. GEOLOGY

A. Formation Tops (Based on KB Elevation): Estimated top of important geological markers:
SURFACE FORMATION – NACIMIENTO

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	2,810'	2,774'	*POINT LOOKOUT	5,954'	5,860'
KIRTLAND	2,935'	2,897'	*MANCOS	6,509'	6,404'
*FRUITLAND	3,317'	3,271'	KICKOFF POINT	6,657'	6,549'
*PICTURED CLIFFS	3,676'	3,624'	LANDING POINT	7,656'	7,173'
LEWIS	3,777'	3,723'	TD	27,336'	7,163'
CHACRA	4,911'	4,836'			
*CLIFF HOUSE	5,734'	5,644'			
MENEFEE	5,769'	5,678'			

* indicates depth at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered.

B. MUD LOGGING PROGRAM: Mudlogger on location from KOP to TD.

C. LOGGING PROGRAM: LWD GR from surface casing to TD.

D. NATURAL GAUGES: Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

II. DRILLING

A. MUD PROGRAM: LSND mud (WBM) will be used to drill the 17-1/2" surface hole and 12-1/4" intermediate hole. A LSND (WBM) or (OBM) will be used to drill the 8-1/2" curve and lateral portion of the wellbore. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.

Above ground steel pits will be used for fluid and cuttings while drilling. In the unlikely event that a tank develops a leak, upon immediate visual discovery, the fluid would be transferred to another tank and contaminated soil would be removed and disposed. Any leaks, spills or other undesirable events will be reported in accordance with BLM NTL 3A. Rig crews will monitor the tanks at all times.



- B. **BOP TESTING:** The BOPE will be tested to **250 psi (Low) for 5 minutes** and **3000 psi (High) for 10 minutes**. Pressure test surface casing to **1500 psi for 30 minutes** and intermediate casing to **1500 psi for 30 minutes**. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. BOP equipment will be tested every 30 days, after any repairs are made to the BOP equipment, and after the BOP equipment is subjected to pressure. Annular preventers will be functionally operated at least once per week. Pipe and blind rams shall be activated each trip or but not more than once a day. The New Mexico Oil & Gas Conservation Commission and the BLM will be notified 24 hours in advance of testing of BOPE. **All tests and inspections will be recorded and logged with time and results.** A full BOP test will be conducted when initially installed for the first well on the pad or if seals subject to test pressure are broken, following related repairs and at a minimum of 30 day intervals. A BOPE Shell Test only will be conducted for subsequent wells on the pad when seals subject to pressure have not been broken or repaired and fall within the 30 day interval of first full test.
- C. **GeoHazards:** There are no Geohazards
- D. **Maximum Anticipated Pressure:** $7,173' \text{ TVD} \times 0.43 = 3,085 \text{ psi}$
- E. **H2S Concerns:** There is no record of any naturally occurring H2S in any formation in the Rosa Unit. No H2S is anticipated in this formation or this well.

III. **MATERIALS**

A. **CASING EQUIPMENT:**

CASING TYPE	OH SIZE (IN)	DEPTH (MD)	CSG SIZE	WEIGHT	GRADE	CONN
SURFACE (Pre-Set)	17.5"	333' (GL)	13-3/8"	54.5 LBS	J-55	BTC
INTERMEDIATE	12.25"	6,619'	9.625"	43.5 LBS	N-80 or equiv	LTC/BTC
PRODUCTION	8.5"	27,336'	5.5"	20 LBS	P-110 or equiv	LTC/BTC

NOTE: All casing depths are approximate, based on KB elevation and will be based on drilling conditions +/- 50'. Weights, grades and connections will be based on availability and may vary but will be equivalent or greater.

B. **FLOAT EQUIPMENT:**

1. **SURFACE CASING:** 13-3/8" cement nose guide shoe. Place float shoe 1 joint above shoe. Run (1) standard centralizer on each of the bottom (3) joints of Surface Casing.
2. **INTERMEDIATE CASING:** 9-5/8" cement float shoe. Place float collar one joint above the shoe. Install (1) centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) centralizer at 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft. Optional use of DV Tools (2) will be strategically placed above loss circulation zones anticipated in the Mesaverde and Fruitland Coal. Optional use of cancellation plugs for DV tools may be used if losses while cementing are not encountered. Optional use of an ICP may be used in conjunction with DV Tools.
3. **PRODUCTION CASING:** Run 5-1/2" casing with cement nose guide Float Shoe, 5-1/2" full or pup joints as necessary, Landing Collar, 5-1/2" full or pup joints as necessary, at least (1) one Toe Sleeve (Sliding Sleeve) positioned inside the applicable production area. Centralizer program will be determined by wellbore conditions. Production casing to be pressure tested during completion operations with frac stack installed.

**C. CEMENTING:**

(Note: Cement type and volumes may be adjusted onsite due to actual conditions and availability)

1. SURFACE:

Surface - 13-3/8", 54.5# csg	Top	Footage	Cement (ft3/ft) Annular Capacity	Excess (30%)	Total (ft3)	Total (bbl)	Slurry Yield (ft3/sk)	Sacks Cement	Density (PPG)
Type G	-	320	0.6946	1.3	339	60	1.15	295	15.8
or Type III		320	0.6946	1.3	339	60	1.39	244	14.6

Set Depth, ft RKB 320

2. **INTERMEDIATE** : Intermediate casing shall be kept fluid filled while running in to the hole to meet BLM minimum collapse requirements. The intermediate casing will be cemented in 2 or 3 stages using DV/STAGE tools in order to reduce cement losses and maximize cement coverage. Operator proposes optional DV tools and optional ICP's above anticipated loss circulation zones in the Mesaverde and in the Fruitland coal. If losses are not observed during the second stage a cancelation plug will be pumped and the remaining cement will be pumped during stage 2. If cement does not circulate to the DV tool(s) or to surface, a CBL will be run to determine TOC.

Intermediate - 9-5/8", 43.5# csg	Top	Footage	Cement (ft3/ft) Annular Capacity	Excess (30%)	Total (ft3)	Total (bbl)	Slurry Yield (ft3/sk)	Sacks Cement	Density (PPG)
Stage 1 Tail	6,119	500	0.3132	1.3	221	39	1.15	192	15.8
Stage 1 Lead	4,986	1,133	0.3132	1.3	461	82	2.66	173	11.8
					682	122		366	
Stage 2 Tail	4,386	600	0.3132	1.3	244	44	1.76	139	13.5
Stage 2 Lead	3,751	635	0.3132	1.3	259	46	2.66	97	11.8
					503	90		236	
Stage 3 Tail	3,101	650	0.3132	1.3	265	47	1.76	150	13.5
Stage 3 Lead	379	2,722	0.3132	1.3	1,108	197	2.66	417	11.8
Stage 3 Lead	-	379	0.3627	1	137	24	2.66	52	11.8
					1,510	269		619	
					2,696	480		1,220	

Set Depth, ft RKB 6619

Calculations based on 30% excess for open hole and cement to surface. Actual excess pumped will be determined by well conditions.

3. **PRODUCTION**: Production casing will be cemented in 1 stage with 100' of cement overlap above intermediate shoe. A CBL, or alternatively, a Temperature Survey will be used to determine TOC.

Production - 5-1/2", 20# csg	Top	ft	Cement (ft3/ft) Annular Capacity	Excess (15%)	Total (ft3)	Total (bbl)	Slurry Yield (ft3/sk)	Sacks Cement	Density (PPG)
Cased hole Tail	6,519	100	0.2531	1	25	5	2.03	12	13.2
Open Hole Tail	6,619	20,717	0.2291	1.15	5,469	974	2.03	2,694	13.2
					5,494	979		2,706	

Set Depth, ft RKB 27336



Cement calculations are used for volume estimation. Well conditions will dictate final cement job design. Actual volumes will be calculated and determined by conditions onsite. All cement slurries will meet or exceed minimum BLM and New Mexico Oil Conservation Division requirements. Slurries used will be the slurries listed above or equivalent slurries depending on service provider selected. Cement yields may change depending on slurries selected. All waiting on cement times shall be a minimum of 8 hours or adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

IV. COMPLETION

A. CBL

CBLs and/or Temperature Surveys will be performed as needed or required to determine cement top if cement is not circulated.

B. PRESSURE TEST

- C. Pressure test 5-1/2" casing to 0.22 psi/ft * 7,173' TVD = 1578 psi for 30 minutes. Increase pressure to Open RSI sleeves.

D. STIMULATION

Stimulate with sand and water. Isolate stages with flow through or dissolvable frac plugs. Drill out frac plugs and flowback lateral.

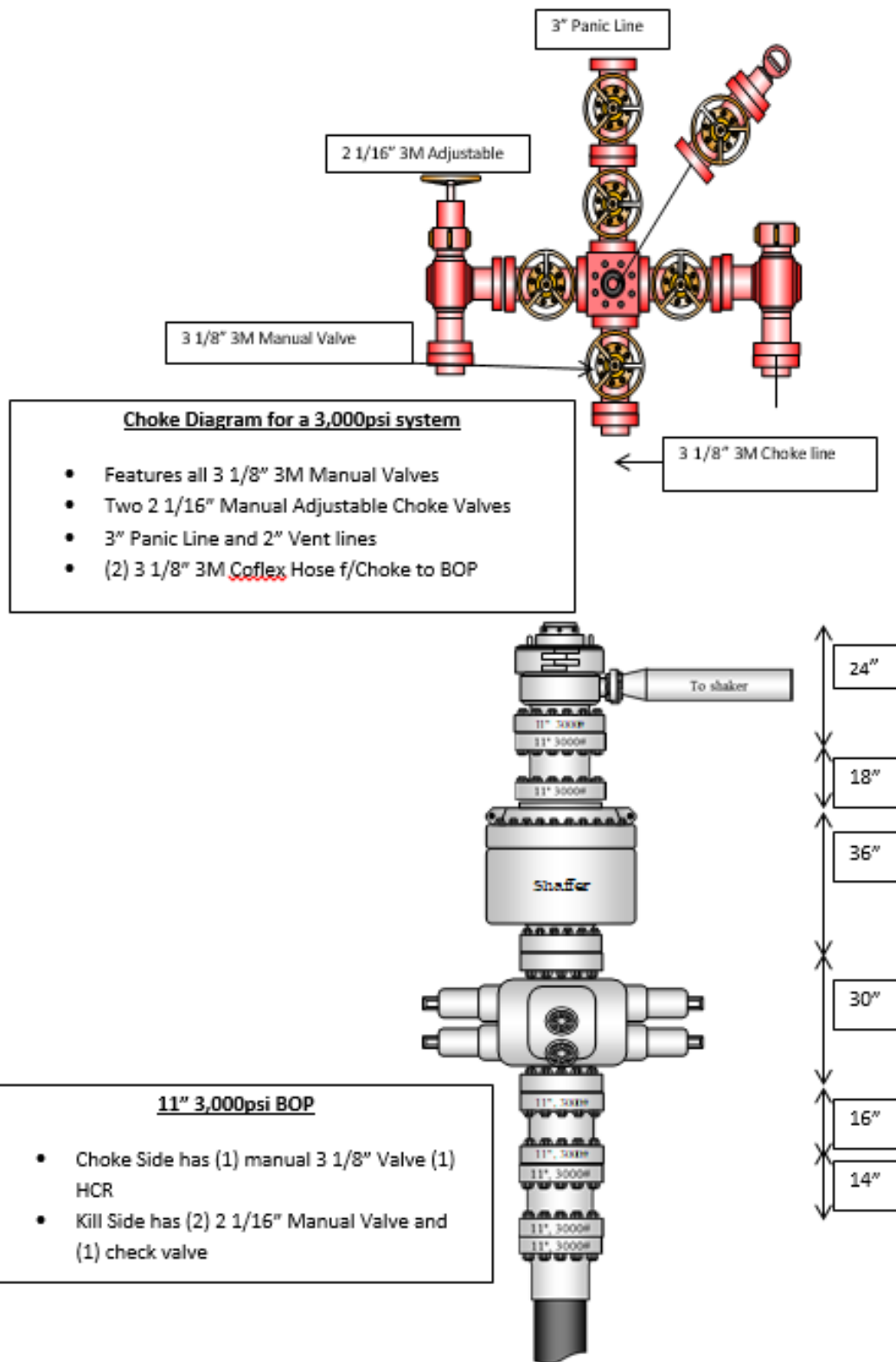
E. PRODUCTION TUBING

2-7/8", 6.5#, J-55 or L-80, EUE tubing will be run once volumes and pressures dictate. Due to the extremely high initial flow rates and pressures seen in offset wells, tubing will be installed once it is safe to do so, typically 12-36 months after completion.

*NOTE: Although this horizontal well may be drilled past the applicable setbacks, an unorthodox location application is not required because the completed interval in this well, as defined by 19.15.16.7 8(1) NMAC, will be entirely within the applicable setbacks. This approach complies with all applicable rules, including 19.15.16.14 A(3) NMAC, 19.15.16.14 8(2) NMAC, 19.15.16.15 8(2)NMAC, and 19.15.16.15. 8(4) NMAC.



3M 11" B.O.P.E Diagram



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

CONDITIONS

Action 506882

CONDITIONS

Operator: LOGOS OPERATING, LLC 2010 Afton Place Farmington, NM 87401	OGRID: 289408
	Action Number: 506882
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	No additives containing PFAS chemicals will be added to the drilling fluids or completion fluids used during drilling, completions, or recompletions operations.	10/3/2025
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	10/3/2025