

Well Name: ROSA UNIT	Well Location: T31N / R5W / SEC 33 / NWSW / 36.856086 / -107.373408	County or Parish/State: RIO ARRIBA / NM
Well Number: 750H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMSF078773	Unit or CA Name:	Unit or CA Number: NMNM078407E
US Well Number: 300393146100X1	Operator: LOGOS OPERATING LLC	

Notice of Intent

Sundry ID: 2822811

Type of Submission: Notice of Intent

Type of Action: Other

Date Sundry Submitted: 11/15/2024

Time Sundry Submitted: 02:05

Date proposed operation will begin: 11/15/2024

Procedure Description: LOGOS Operating request a change in plans for the following (based on KB elevation): Original 20" surface casing @ 350' (MD) to new 20" Conductor casing @ 350' (MD) Geology tops have been updated per changes. New 13.375" Surface casing @ 3,641' MD All cementing bbls and sacks have been updated per casing depth changes. Attached: C102, Operation and Directional Drill plans.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

Rosa_Unit_750H_Change_in_Drill_Plan_1__20241115_20241115140432.pdf

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US Well Number: 300393146100X1	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: NOV 15, 2024 02:05 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: 11/18/2024
Signature: Kenneth Rennick

District II
811 S. First Street, Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 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

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

Submit one copy to
Appropriate District Office

☒ AMENDED REPORT

17 OPERATOR CERT *Page 3 of 19*
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.

Etta Trujillo **7/10/2024**
Signature Date
Etta Trujillo
Printed Name
etrujillo@logosresourcesllc.com
E-mail Address

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-31461	² Pool Code 97232	³ Pool Name BASIN MANCOS
⁴ Property Code 320608	⁵ Property Name ROSA UNIT	⁶ Well Number 750H
⁷ GRID No. 289408	⁸ Operator Name LOGOS OPERATING, LLC	⁹ Elevation 6534'

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
E	33	31N	5W		2586	NORTH	949	WEST	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
K	31	31N	5W	3	2303	SOUTH	158	WEST	RIO ARriba

¹² Dedicated Acres 872.99	S/2 - Sections 31, 32, 33	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13457
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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.

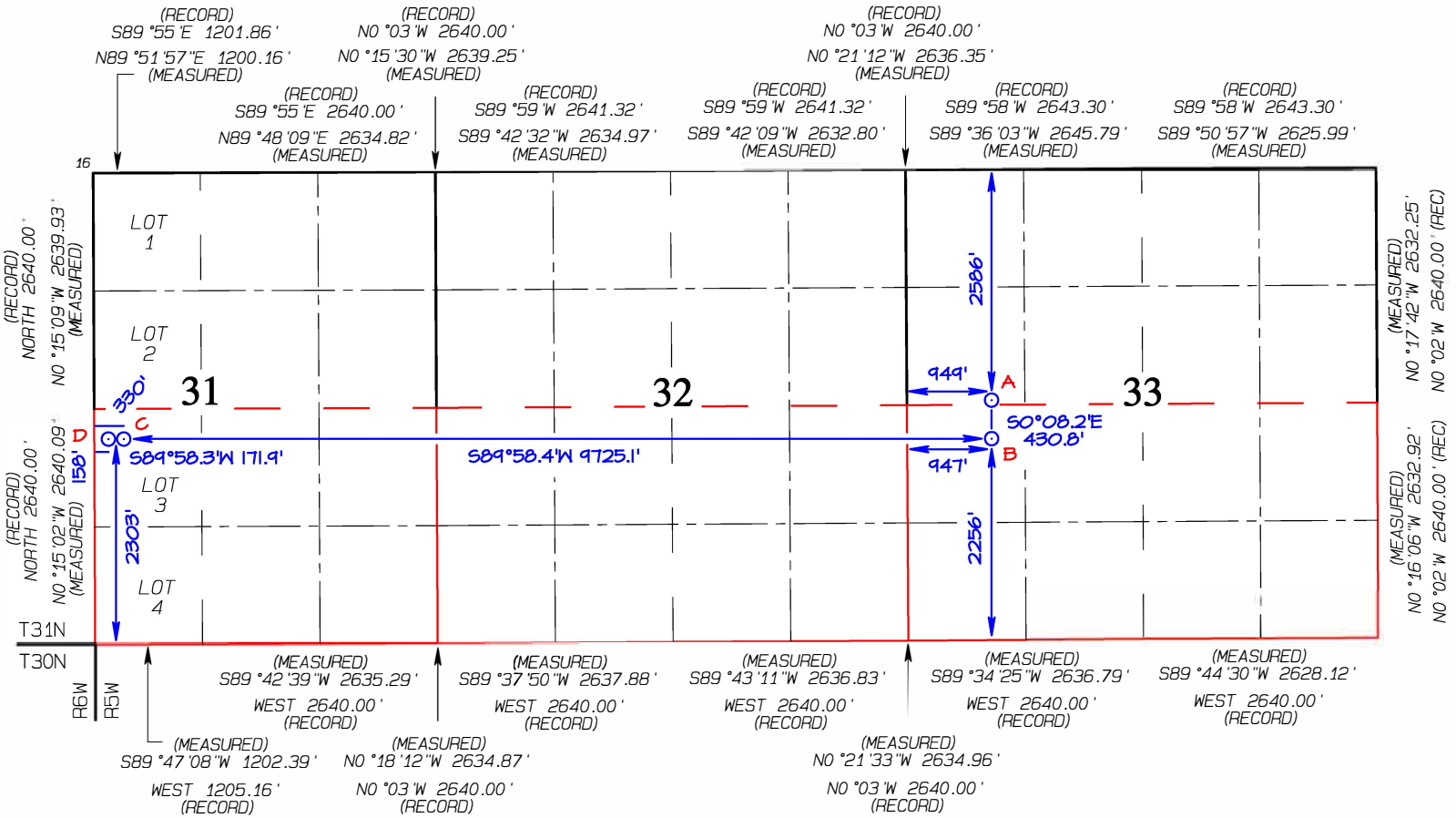
Date Revised: JULY 3, 2024
Date of Survey: JUNE 28, 2024

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

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



LAST TAKE POINT (D)
2303' FSL 158' FWL
SECTION 31, T31N, R5W
LAT 36.855174°N
LONG -107.406645°W
DATUM: NAD1927

FIRST PERFORATION (C)
2303' FSL 330' FWL
SECTION 31, T31N, R5W
LAT 36.855172°N
LONG -107.406607°W
DATUM: NAD1927

FIRST TAKE POINT (B)
2256' FSL 947' FWL
SECTION 33, T31N, R5W
LAT 36.855061°N
LONG -107.372818°W
DATUM: NAD1927

SURFACE LOCATION (A)
2586' FNL 949' FWL
SECTION 33, T31N, R5W
LAT 36.856245°N
LONG -107.372814°W
DATUM: NAD1927

LAT 36.855180°N
LONG -107.407248°W

LAT 36.855178°N
LONG -107.406660°W

LAT 36.855068°N
LONG -107.373420°W

LAT 36.856251°N
LONG -107.373416°W



LOGOS Operating, LLC Operations Plan

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

Date:	November 15, 2024	Pool:	Basin Mancos
Well Name:	Rosa Unit 750H	GL Elevation:	6,534'
Surface Location:	Sec 33, T31N, R5W 2586' FNL, 949' FWL (36.856251° N, -170.373416° W – NAD83)	KB:	30'
Bottom Hole Location:	Sec 31, T31N, R5W 2303' FSL, 158' FWL (36.855180° N, -107.407248° W – NAD83)	Measured Depth:	17382' (KB)
Lease Serial CA Serial	# NMSF78773 # 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	2717'	2702'	*POINT LOOKOUT	5859'	5819'
KIRTLAND	2864'	2847'	*MANCOS	6332'	6290'
*FRUITLAND	3226'	3207'	KICKOFF POINT	6527'	6485'
*PICTURED CLIFFS	3591'	3569'	LANDING POINT	7485'	7107'
LEWIS	3701'	3678'	TD	17382'	7072'
CHACRA	4777'	4746'			
*CLIFF HOUSE	5615'	5578'			
MENEFEE	5644'	5606'			

* 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 conductor 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) was used to drill the 26"/24" conductor hole. LSND (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 **600 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:** $7,107' \text{ TVD} \times 0.43 = 3,056 \text{ psi}$
- 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
CONDUCTOR (Pre-set)	26" or 24"	350' (GL)	20"	94 LBS	J-55 or equiv	LTC/BTC
SURFACE	17.5"	3,641'	13.375"	54.5 LBS	J-55 or equiv	LTC/BTC
INTERMEDIATE	12.25"	6,407'	9.625"	43.5 LBS	N-80 or equiv	LTC/BTC
PRODUCTION	8.5"	17,382'	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. **CONDUCTOR CASING:** Was Pre-set at (350' GL) on 6/14/2024
2. **SURFACE CASING:** 13-3/8" cement nose guide shoe with float. 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., 2,000ft., 1,500 ft., 1,000 ft., and 500ft.
 - Casing will be kept fluid filled during drilling
3. **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 cancelation 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.
4. **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. CONDUCTOR: Was Pre-set at 350' (GL) on 6/14/2024.
2. SURFACE: Surface casing shall be kept fluid-filled while running into the hole to meet BLM minimum collapse requirements. The surface casing will be cemented in 1 stage. If cement does not circulate to the surface, a CBL will be run to determine TOC.

Surface - 13-3/8"	Top	Footage	Cement (ft3/ft) Annular Capacity	Excess (30%)	Total (ft3)	Total (bbl)	Slurry Yield (ft3/sk)	Sacks Cement	Density (PPG)
Stage 1 Tail	3,041	600	0.6947	1.3	575	102	1.10	523	15.8
Stage 1 Lead - OH	350	2,691	0.6947	1.3	2,430	433	1.90	1279	12.4
Stage 2 Lead - Cased	-	350	1.019	1	357	64	1.90	188	12.4
					3,362	599		1990	

Set Depth 3641

3. 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

Intermediate - 9-5/8"	Top	Footage	Cement (ft3/ft) Annular Capacity	Excess (30%)	Total (ft3)	Total (bbl)	Slurry Yield (ft3/sk)	Sacks Cement	Density (PPG)
Stage 1 Tail	5,907	500	0.3132	1.3	220	39	1.10	200	15.8
Stage 1 Lead	4,852	1,055	0.3132	1.3	430	77	1.90	226	12.4
					650	116		426	
Stage 2 Tail	4,252	600	0.3132	1.3	244	44	1.58	155	13.2
Stage 2 Lead	3,541	711	0.3132	1.3	289	52	1.90	152	12.4
Stage 2 Lead - Cased	3,441	100	0.3627	1	36	6	1.90	19	12.4
Stage 2 Totals					570	102		326	
Int 2 Totals					1,220	217		752	
Contingency									
Stage 3 Tail	3,641	75	0.3132	1.3	31	5	1.58	19	13.2
Stage 3 Tail - Cased	3,141	500	0.3490	1	175	31	1.58	110	13.2
Stage 3 Lead - Cased	-	3,141	0.3490	1	1,096	195	1.90	577	12.4
Contingency Stage 3 Totals					1,301	232		707	

Set Depth 6407

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

4. 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"	Top	ft	Cement (ft3/ft) Annular Capacity	Excess (15%)	Total (ft3)	Total (bbl)	Slurry Yield (ft3/sk)	Sacks Cement	Density (PPG)
Cased Lead	6,307	100	0.2531	1	25	5	1.59	16	13.2
Open Hole Lead	6,407	10,975	0.2291	1.15	2,897	516	1.59	1,822	13.2
					2,922	520		1,838	

Set depth 17382

Calculations based on 15% excess for open hole and 100' overlap into intermediate casing. Actual volumes will vary.

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 * 7,107' TVD = 1564 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

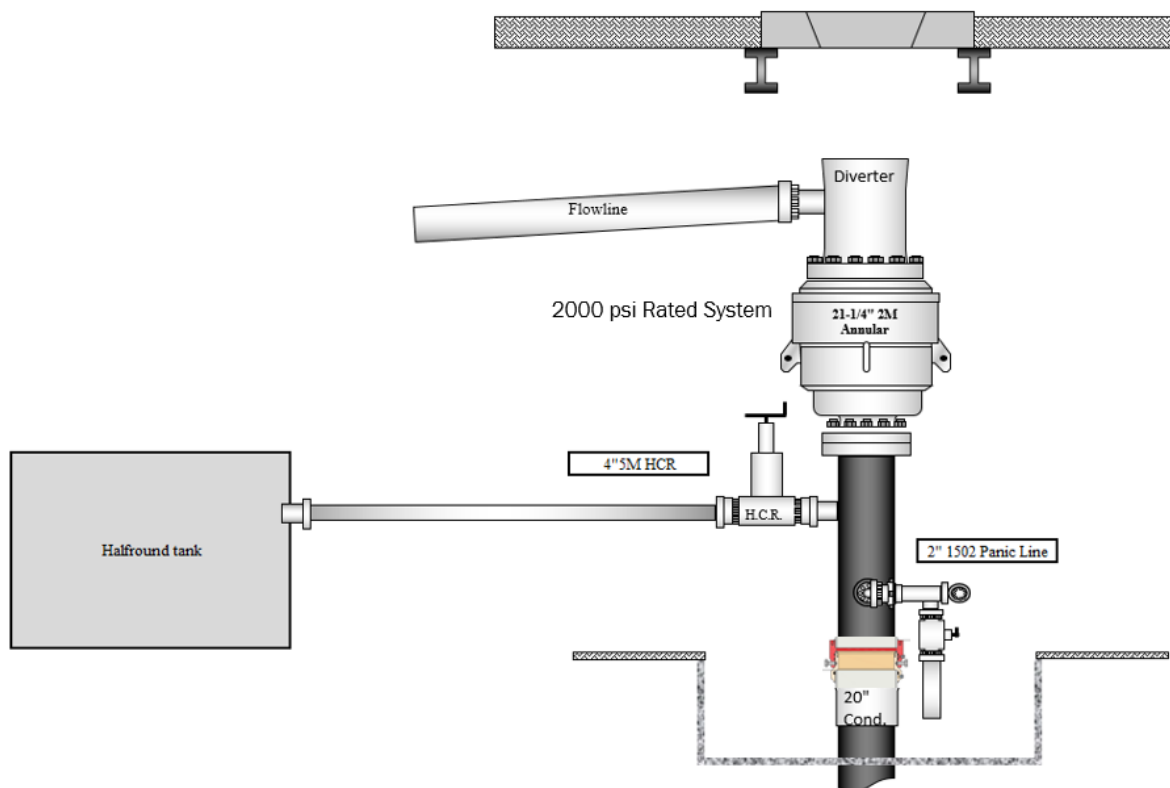
2-7/8", 6.5#, J-55 or L-80, EUE tubing will be run once volumes and pressures dictate. Due to the extremely high initial flow rates and pressures seen in offset wells, tubing will be installed once it is safe to do so, typically 12-36 months after completion.

*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.



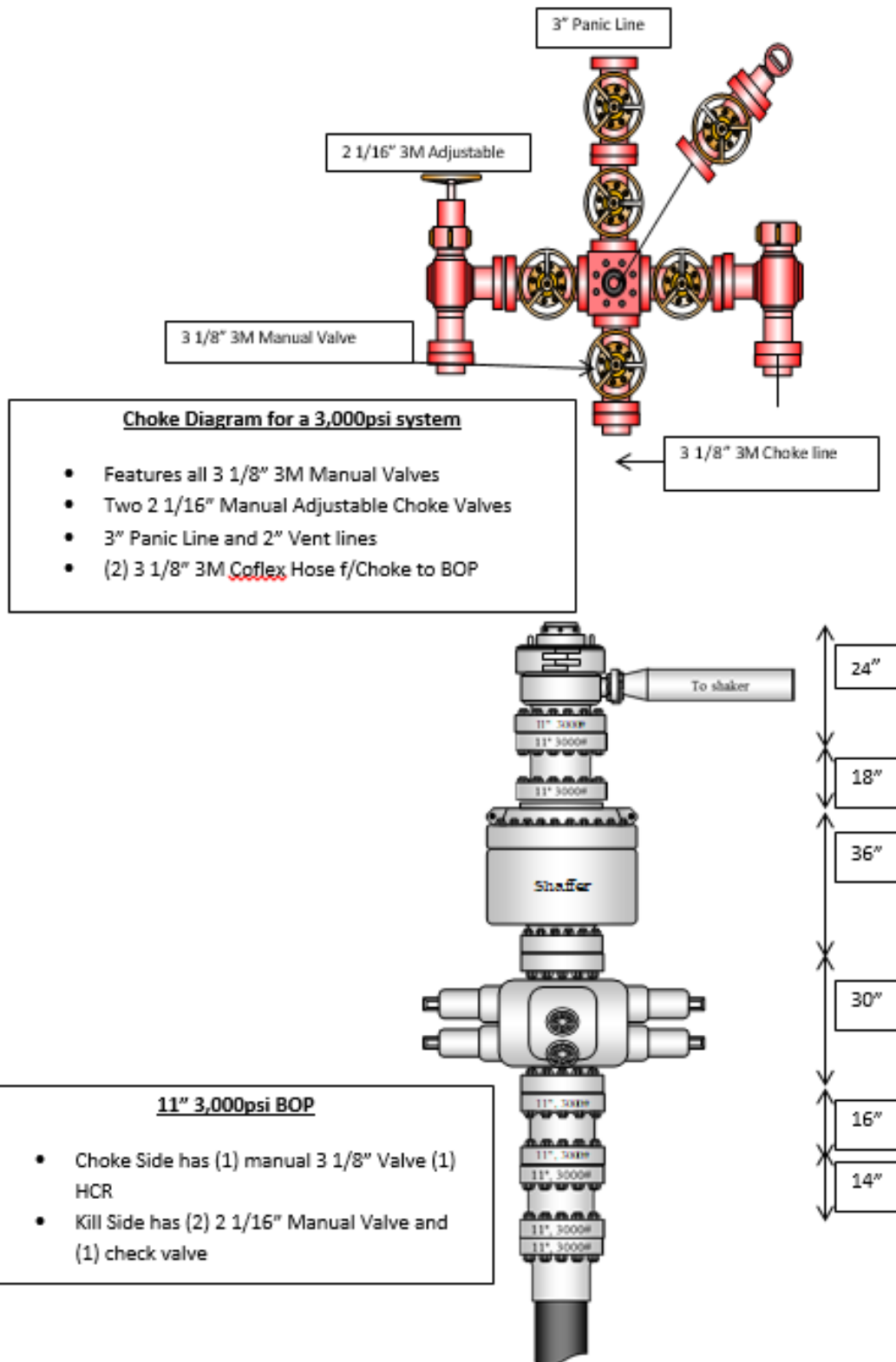
BOP Equipment

Surface Hole Diverter





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



Logos Operating LLC

Rio Arriba, NM (NAD83)

Rosa Unit 32

Rosa Unit 750H

OH

Plan: DP #1

Standard Planning Report

10 September, 2024

SDT
Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 750H
Company:	Logos Operating LLC	TVD Reference:	6534+30 @ 6564.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6534+30 @ 6564.00usft (H&P 530)
Site:	Rosa Unit 32	North Reference:	True
Well:	Rosa Unit 750H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	DP #1		

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 32				
Site Position:		Northing:	2,131,320.20 usft	Latitude:	36.856242
From:	Lat/Long	Easting:	2,857,795.25 usft	Longitude:	-107.372900
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "		

Well	Rosa Unit 750H					
Well Position	+N/-S	0.00 usft	Northing:	2,131,322.90 usft	Latitude:	36.856251
	+E/-W	0.00 usft	Easting:	2,857,644.07 usft	Longitude:	-107.373416
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	6,534.00 usft
Grid Convergence:		0.28 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	9/13/2024	8.37	63.22	49,275.74131532

Design	DP #1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	333.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	270.25	

Plan Survey Tool Program	Date	8/27/2024			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	69.08	333.00	Survey #1 (OH)	Standard Keeper 105	
				Standard Wireline Keeper ver 1	
2	333.00	17,381.98	DP #1 (OH)	MWD+HRGM+MS	
				MWD + HRGM + Multi-Station	

SDT

Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 750H
Company:	Logos Operating LLC	TVD Reference:	6534+30 @ 6564.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6534+30 @ 6564.00usft (H&P 530)
Site:	Rosa Unit 32	North Reference:	True
Well:	Rosa Unit 750H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	DP #1		

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
333.00	0.47	199.19	332.99	-1.24	-1.43	0.00	0.00	0.00	0.00	
483.00	0.47	199.19	482.99	-2.40	-1.84	0.00	0.00	0.00	0.00	
833.84	7.13	124.34	832.90	-16.05	15.68	2.00	1.90	-21.34	-78.54	
5,537.26	7.13	124.34	5,500.00	-345.10	497.41	0.00	0.00	0.00	0.00	
6,407.13	4.95	124.34	6,365.00	-396.71	572.95	0.25	-0.25	0.00	180.00	
6,527.13	4.95	124.34	6,484.55	-402.55	581.50	0.00	0.00	0.00	0.00	
7,485.01	90.20	270.25	7,107.38	-430.40	-1.19	9.85	8.90	15.23	145.80	
17,381.99	90.20	270.25	7,072.00	-388.07	-9,898.01	0.00	0.00	0.00	0.00	RU 750H PBHL

SDT

Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 750H
Company:	Logos Operating LLC	TVD Reference:	6534+30 @ 6564.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6534+30 @ 6564.00usft (H&P 530)
Site:	Rosa Unit 32	North Reference:	True
Well:	Rosa Unit 750H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	DP #1		

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
69.08	0.20	264.24	69.08	-0.01	-0.12	0.12	0.29	0.29	0.00
97.42	0.23	251.67	97.42	-0.03	-0.22	0.22	0.20	0.11	-44.35
134.10	0.21	253.41	134.10	-0.08	-0.36	0.36	0.06	-0.05	4.74
164.12	0.37	246.30	164.12	-0.13	-0.50	0.50	0.55	0.53	-23.68
196.14	0.39	228.93	196.14	-0.25	-0.68	0.67	0.36	0.06	-54.25
225.38	0.49	219.27	225.38	-0.41	-0.83	0.83	0.42	0.34	-33.04
253.93	0.58	218.15	253.93	-0.62	-1.00	0.99	0.32	0.32	-3.92
282.57	0.59	218.77	282.56	-0.84	-1.18	1.17	0.04	0.03	2.16
310.71	0.53	214.63	310.70	-1.06	-1.34	1.34	0.26	-0.21	-14.71
333.00	0.47	199.19	332.99	-1.24	-1.43	1.43	0.66	-0.27	-69.27
Start 150.00 hold at 333.00 MD									
400.00	0.47	199.19	399.99	-1.75	-1.61	1.60	0.00	0.00	0.00
483.00	0.47	199.19	482.99	-2.40	-1.84	1.83	0.00	0.00	0.00
Start DLS 2.00 TFO -78.54									
500.00	0.63	167.39	499.99	-2.56	-1.84	1.83	2.00	0.96	-187.03
600.00	2.48	131.36	599.95	-4.52	-0.10	0.08	2.00	1.84	-36.03
700.00	4.46	126.57	699.76	-8.26	4.65	-4.68	2.00	1.98	-4.79
800.00	6.45	124.73	799.30	-13.78	12.38	-12.44	2.00	1.99	-1.84
833.84	7.13	124.34	832.90	-16.05	15.68	-15.75	2.00	2.00	-1.15
Start 4703.42 hold at 833.84 MD									
900.00	7.13	124.34	898.55	-20.67	22.46	-22.55	0.00	0.00	0.00
1,000.00	7.13	124.34	997.78	-27.67	32.70	-32.82	0.00	0.00	0.00
1,100.00	7.13	124.34	1,097.01	-34.67	42.94	-43.09	0.00	0.00	0.00
1,200.00	7.13	124.34	1,196.24	-41.66	53.18	-53.36	0.00	0.00	0.00
1,300.00	7.13	124.34	1,295.46	-48.66	63.42	-63.64	0.00	0.00	0.00
1,400.00	7.13	124.34	1,394.69	-55.66	73.67	-73.91	0.00	0.00	0.00
1,500.00	7.13	124.34	1,493.92	-62.65	83.91	-84.18	0.00	0.00	0.00
1,600.00	7.13	124.34	1,593.15	-69.65	94.15	-94.45	0.00	0.00	0.00
1,700.00	7.13	124.34	1,692.38	-76.64	104.39	-104.73	0.00	0.00	0.00
1,800.00	7.13	124.34	1,791.60	-83.64	114.63	-115.00	0.00	0.00	0.00
1,900.00	7.13	124.34	1,890.83	-90.64	124.88	-125.27	0.00	0.00	0.00
2,000.00	7.13	124.34	1,990.06	-97.63	135.12	-135.54	0.00	0.00	0.00
2,100.00	7.13	124.34	2,089.29	-104.63	145.36	-145.82	0.00	0.00	0.00
2,200.00	7.13	124.34	2,188.51	-111.62	155.60	-156.09	0.00	0.00	0.00
2,300.00	7.13	124.34	2,287.74	-118.62	165.84	-166.36	0.00	0.00	0.00
2,400.00	7.13	124.34	2,386.97	-125.62	176.09	-176.63	0.00	0.00	0.00
2,500.00	7.13	124.34	2,486.20	-132.61	186.33	-186.91	0.00	0.00	0.00
2,600.00	7.13	124.34	2,585.43	-139.61	196.57	-197.18	0.00	0.00	0.00
2,700.00	7.13	124.34	2,684.65	-146.60	206.81	-207.45	0.00	0.00	0.00
2,717.48	7.13	124.34	2,702.00	-147.83	208.60	-209.25	0.00	0.00	0.00
Ojo Alamo									
2,800.00	7.13	124.34	2,783.88	-153.60	217.05	-217.72	0.00	0.00	0.00
2,863.61	7.13	124.34	2,847.00	-158.05	223.57	-224.26	0.00	0.00	0.00
Kirtland									
2,900.00	7.13	124.34	2,883.11	-160.60	227.30	-228.00	0.00	0.00	0.00
3,000.00	7.13	124.34	2,982.34	-167.59	237.54	-238.27	0.00	0.00	0.00
3,100.00	7.13	124.34	3,081.56	-174.59	247.78	-248.54	0.00	0.00	0.00
3,200.00	7.13	124.34	3,180.79	-181.59	258.02	-258.81	0.00	0.00	0.00
3,226.41	7.13	124.34	3,207.00	-183.43	260.73	-261.53	0.00	0.00	0.00
Fruitland									
3,296.96	7.13	124.34	3,277.00	-188.37	267.95	-268.77	0.00	0.00	0.00
T/Coals									

SDT

Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 750H
Company:	Logos Operating LLC	TVD Reference:	6534+30 @ 6564.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6534+30 @ 6564.00usft (H&P 530)
Site:	Rosa Unit 32	North Reference:	True
Well:	Rosa Unit 750H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	DP #1		

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)
3,300.00	7.13	124.34	3,280.02	-188.58	268.27	-269.09	0.00	0.00	0.00
3,400.00	7.13	124.34	3,379.25	-195.58	278.51	-279.36	0.00	0.00	0.00
3,428.98	7.13	124.34	3,408.00	-197.60	281.48	-282.33	0.00	0.00	0.00
B/Coals									
3,500.00	7.13	124.34	3,478.48	-202.57	288.75	-289.63	0.00	0.00	0.00
3,591.23	7.13	124.34	3,569.00	-208.96	298.09	-299.00	0.00	0.00	0.00
Pictured Cliffs									
3,600.00	7.13	124.34	3,577.70	-209.57	298.99	-299.90	0.00	0.00	0.00
3,700.00	7.13	124.34	3,676.93	-216.57	309.23	-310.18	0.00	0.00	0.00
3,701.08	7.13	124.34	3,678.00	-216.64	309.34	-310.29	0.00	0.00	0.00
Lewis									
3,800.00	7.13	124.34	3,776.16	-223.56	319.48	-320.45	0.00	0.00	0.00
3,900.00	7.13	124.34	3,875.39	-230.56	329.72	-330.72	0.00	0.00	0.00
4,000.00	7.13	124.34	3,974.62	-237.55	339.96	-340.99	0.00	0.00	0.00
4,100.00	7.13	124.34	4,073.84	-244.55	350.20	-351.27	0.00	0.00	0.00
4,200.00	7.13	124.34	4,173.07	-251.55	360.44	-361.54	0.00	0.00	0.00
4,300.00	7.13	124.34	4,272.30	-258.54	370.69	-371.81	0.00	0.00	0.00
4,400.00	7.13	124.34	4,371.53	-265.54	380.93	-382.08	0.00	0.00	0.00
4,500.00	7.13	124.34	4,470.75	-272.53	391.17	-392.36	0.00	0.00	0.00
4,600.00	7.13	124.34	4,569.98	-279.53	401.41	-402.63	0.00	0.00	0.00
4,700.00	7.13	124.34	4,669.21	-286.53	411.65	-412.90	0.00	0.00	0.00
4,777.39	7.13	124.34	4,746.00	-291.94	419.58	-420.85	0.00	0.00	0.00
Chacra									
4,800.00	7.13	124.34	4,768.44	-293.52	421.90	-423.17	0.00	0.00	0.00
4,900.00	7.13	124.34	4,867.67	-300.52	432.14	-433.45	0.00	0.00	0.00
5,000.00	7.13	124.34	4,966.89	-307.52	442.38	-443.72	0.00	0.00	0.00
5,100.00	7.13	124.34	5,066.12	-314.51	452.62	-453.99	0.00	0.00	0.00
5,200.00	7.13	124.34	5,165.35	-321.51	462.86	-464.26	0.00	0.00	0.00
5,286.32	7.13	124.34	5,251.00	-327.55	471.71	-473.13	0.00	0.00	0.00
U/Cliff House									
5,300.00	7.13	124.34	5,264.58	-328.50	473.11	-474.54	0.00	0.00	0.00
5,400.00	7.13	124.34	5,363.80	-335.50	483.35	-484.81	0.00	0.00	0.00
5,500.00	7.13	124.34	5,463.03	-342.50	493.59	-495.08	0.00	0.00	0.00
5,537.26	7.13	124.34	5,500.00	-345.10	497.41	-498.91	0.00	0.00	0.00
Start DLS 0.25 TFO 180.00									
5,600.00	6.97	124.34	5,562.27	-349.44	503.76	-505.28	0.25	-0.25	0.00
5,615.85	6.93	124.34	5,578.00	-350.52	505.35	-506.87	0.25	-0.25	0.00
Cliff House									
5,644.05	6.86	124.34	5,606.00	-352.43	508.14	-509.67	0.25	-0.25	0.00
Menefee									
5,700.00	6.72	124.34	5,661.56	-356.16	513.60	-515.15	0.25	-0.25	0.00
5,800.00	6.47	124.34	5,760.90	-362.64	523.08	-524.66	0.25	-0.25	0.00
5,858.47	6.32	124.34	5,819.00	-366.31	528.46	-530.05	0.25	-0.25	0.00
Point Lookout									
5,900.00	6.22	124.34	5,860.28	-368.87	532.21	-533.81	0.25	-0.25	0.00
6,000.00	5.97	124.34	5,959.72	-374.86	540.97	-542.60	0.25	-0.25	0.00
6,100.00	5.72	124.34	6,059.20	-380.60	549.38	-551.03	0.25	-0.25	0.00
6,200.00	5.47	124.34	6,158.72	-386.10	557.42	-559.10	0.25	-0.25	0.00
6,300.00	5.22	124.34	6,258.29	-391.35	565.11	-566.82	0.25	-0.25	0.00
6,331.84	5.14	124.34	6,290.00	-392.97	567.49	-569.20	0.25	-0.25	0.00
Mancos									
6,407.13	4.95	124.34	6,365.00	-396.71	572.95	-574.68	0.25	-0.25	0.00
Start 120.00 hold at 6407.13 MD									

SDT

Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 750H
Company:	Logos Operating LLC	TVD Reference:	6534+30 @ 6564.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6534+30 @ 6564.00usft (H&P 530)
Site:	Rosa Unit 32	North Reference:	True
Well:	Rosa Unit 750H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	DP #1		

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)
6,500.00	4.95	124.34	6,457.52	-401.23	579.57	-581.32	0.00	0.00	0.00
6,527.13	4.95	124.34	6,484.55	-402.55	581.50	-583.26	0.00	0.00	0.00
Start DLS 9.84 TFO 145.80									
6,550.00	3.34	146.63	6,507.36	-403.66	582.69	-584.44	9.85	-7.06	97.49
6,600.00	4.15	228.17	6,557.28	-406.08	582.14	-583.91	9.85	1.62	163.08
6,650.00	8.47	251.19	6,606.98	-408.47	577.31	-579.08	9.85	8.64	46.05
6,700.00	13.21	258.30	6,656.07	-410.82	568.22	-570.01	9.85	9.49	14.21
6,750.00	18.05	261.67	6,704.21	-413.11	554.95	-556.75	9.85	9.68	6.74
6,800.00	22.93	263.64	6,751.03	-415.31	537.60	-539.41	9.85	9.75	3.95
6,850.00	27.82	264.95	6,796.20	-417.41	516.29	-518.10	9.85	9.78	2.62
6,900.00	32.72	265.90	6,839.37	-419.41	491.17	-493.00	9.85	9.80	1.89
6,950.00	37.62	266.62	6,880.23	-421.27	462.44	-464.28	9.85	9.81	1.45
7,000.00	42.53	267.20	6,918.48	-423.00	430.31	-432.15	9.85	9.82	1.16
7,014.45	43.95	267.35	6,929.00	-423.47	420.42	-422.27	9.85	9.82	1.02
Black Top									
7,050.00	47.44	267.68	6,953.83	-424.57	395.01	-396.86	9.85	9.82	0.93
7,100.00	52.35	268.09	6,986.03	-425.98	356.80	-358.66	9.85	9.83	0.82
7,150.00	57.27	268.45	7,014.83	-427.21	315.97	-317.83	9.85	9.83	0.72
7,200.00	62.18	268.77	7,040.03	-428.26	272.82	-274.68	9.85	9.83	0.64
7,250.00	67.10	269.06	7,061.44	-429.11	227.66	-229.53	9.85	9.83	0.59
7,300.00	72.01	269.33	7,078.90	-429.77	180.82	-182.70	9.85	9.83	0.54
7,350.00	76.93	269.59	7,092.29	-430.22	132.67	-134.54	9.85	9.83	0.51
7,400.00	81.85	269.84	7,101.49	-430.46	83.54	-85.41	9.85	9.83	0.49
7,450.00	86.76	270.08	7,106.45	-430.50	33.80	-35.68	9.85	9.83	0.48
7,485.01	90.20	270.25	7,107.38	-430.40	-1.19	-0.69	9.85	9.83	0.48
Start 9896.98 hold at 7485.01 MD									
7,500.00	90.20	270.25	7,107.32	-430.34	-16.18	14.30	0.00	0.00	0.00
7,600.00	90.20	270.25	7,106.97	-429.91	-116.18	114.30	0.00	0.00	0.00
7,700.00	90.20	270.25	7,106.61	-429.48	-216.18	214.30	0.00	0.00	0.00
7,800.00	90.20	270.25	7,106.25	-429.05	-316.18	314.30	0.00	0.00	0.00
7,900.00	90.20	270.25	7,105.89	-428.63	-416.18	414.30	0.00	0.00	0.00
8,000.00	90.20	270.25	7,105.54	-428.20	-516.17	514.30	0.00	0.00	0.00
8,100.00	90.20	270.25	7,105.18	-427.77	-616.17	614.30	0.00	0.00	0.00
8,200.00	90.20	270.25	7,104.82	-427.34	-716.17	714.30	0.00	0.00	0.00
8,300.00	90.20	270.25	7,104.46	-426.92	-816.17	814.30	0.00	0.00	0.00
8,400.00	90.20	270.25	7,104.11	-426.49	-916.17	914.30	0.00	0.00	0.00
8,500.00	90.20	270.25	7,103.75	-426.06	-1,016.17	1,014.30	0.00	0.00	0.00
8,600.00	90.20	270.25	7,103.39	-425.63	-1,116.17	1,114.30	0.00	0.00	0.00
8,700.00	90.20	270.25	7,103.03	-425.20	-1,216.16	1,214.30	0.00	0.00	0.00
8,800.00	90.20	270.25	7,102.68	-424.78	-1,316.16	1,314.30	0.00	0.00	0.00
8,900.00	90.20	270.25	7,102.32	-424.35	-1,416.16	1,414.30	0.00	0.00	0.00
9,000.00	90.20	270.25	7,101.96	-423.92	-1,516.16	1,514.30	0.00	0.00	0.00
9,100.00	90.20	270.25	7,101.61	-423.49	-1,616.16	1,614.29	0.00	0.00	0.00
9,200.00	90.20	270.25	7,101.25	-423.07	-1,716.16	1,714.29	0.00	0.00	0.00
9,300.00	90.20	270.25	7,100.89	-422.64	-1,816.15	1,814.29	0.00	0.00	0.00
9,400.00	90.20	270.25	7,100.53	-422.21	-1,916.15	1,914.29	0.00	0.00	0.00
9,500.00	90.20	270.25	7,100.18	-421.78	-2,016.15	2,014.29	0.00	0.00	0.00
9,600.00	90.20	270.25	7,099.82	-421.35	-2,116.15	2,114.29	0.00	0.00	0.00
9,700.00	90.20	270.25	7,099.46	-420.93	-2,216.15	2,214.29	0.00	0.00	0.00
9,800.00	90.20	270.25	7,099.10	-420.50	-2,316.15	2,314.29	0.00	0.00	0.00
9,900.00	90.20	270.25	7,098.75	-420.07	-2,416.15	2,414.29	0.00	0.00	0.00
10,000.00	90.20	270.25	7,098.39	-419.64	-2,516.14	2,514.29	0.00	0.00	0.00
10,100.00	90.20	270.25	7,098.03	-419.22	-2,616.14	2,614.29	0.00	0.00	0.00

SDT

Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 750H
Company:	Logos Operating LLC	TVD Reference:	6534+30 @ 6564.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6534+30 @ 6564.00usft (H&P 530)
Site:	Rosa Unit 32	North Reference:	True
Well:	Rosa Unit 750H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	DP #1		

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)	
10,200.00	90.20	270.25	7,097.67	-418.79	-2,716.14	2,714.29	0.00	0.00	0.00	
10,300.00	90.20	270.25	7,097.32	-418.36	-2,816.14	2,814.29	0.00	0.00	0.00	
10,400.00	90.20	270.25	7,096.96	-417.93	-2,916.14	2,914.29	0.00	0.00	0.00	
10,500.00	90.20	270.25	7,096.60	-417.51	-3,016.14	3,014.29	0.00	0.00	0.00	
10,600.00	90.20	270.25	7,096.24	-417.08	-3,116.13	3,114.29	0.00	0.00	0.00	
10,700.00	90.20	270.25	7,095.89	-416.65	-3,216.13	3,214.28	0.00	0.00	0.00	
10,800.00	90.20	270.25	7,095.53	-416.22	-3,316.13	3,314.28	0.00	0.00	0.00	
10,900.00	90.20	270.25	7,095.17	-415.79	-3,416.13	3,414.28	0.00	0.00	0.00	
11,000.00	90.20	270.25	7,094.81	-415.37	-3,516.13	3,514.28	0.00	0.00	0.00	
11,100.00	90.20	270.25	7,094.46	-414.94	-3,616.13	3,614.28	0.00	0.00	0.00	
11,200.00	90.20	270.25	7,094.10	-414.51	-3,716.13	3,714.28	0.00	0.00	0.00	
11,300.00	90.20	270.25	7,093.74	-414.08	-3,816.12	3,814.28	0.00	0.00	0.00	
11,400.00	90.20	270.25	7,093.38	-413.66	-3,916.12	3,914.28	0.00	0.00	0.00	
11,500.00	90.20	270.25	7,093.03	-413.23	-4,016.12	4,014.28	0.00	0.00	0.00	
11,600.00	90.20	270.25	7,092.67	-412.80	-4,116.12	4,114.28	0.00	0.00	0.00	
11,700.00	90.20	270.25	7,092.31	-412.37	-4,216.12	4,214.28	0.00	0.00	0.00	
11,800.00	90.20	270.25	7,091.95	-411.95	-4,316.12	4,314.28	0.00	0.00	0.00	
11,900.00	90.20	270.25	7,091.60	-411.52	-4,416.11	4,414.28	0.00	0.00	0.00	
12,000.00	90.20	270.25	7,091.24	-411.09	-4,516.11	4,514.28	0.00	0.00	0.00	
12,100.00	90.20	270.25	7,090.88	-410.66	-4,616.11	4,614.28	0.00	0.00	0.00	
12,200.00	90.20	270.25	7,090.52	-410.23	-4,716.11	4,714.27	0.00	0.00	0.00	
12,300.00	90.20	270.25	7,090.17	-409.81	-4,816.11	4,814.27	0.00	0.00	0.00	
12,400.00	90.20	270.25	7,089.81	-409.38	-4,916.11	4,914.27	0.00	0.00	0.00	
12,500.00	90.20	270.25	7,089.45	-408.95	-5,016.11	5,014.27	0.00	0.00	0.00	
12,600.00	90.20	270.25	7,089.09	-408.52	-5,116.10	5,114.27	0.00	0.00	0.00	
12,700.00	90.20	270.25	7,088.74	-408.10	-5,216.10	5,214.27	0.00	0.00	0.00	
12,800.00	90.20	270.25	7,088.38	-407.67	-5,316.10	5,314.27	0.00	0.00	0.00	
12,900.00	90.20	270.25	7,088.02	-407.24	-5,416.10	5,414.27	0.00	0.00	0.00	
13,000.00	90.20	270.25	7,087.66	-406.81	-5,516.10	5,514.27	0.00	0.00	0.00	
13,100.00	90.20	270.25	7,087.31	-406.38	-5,616.10	5,614.27	0.00	0.00	0.00	
13,200.00	90.20	270.25	7,086.95	-405.96	-5,716.09	5,714.27	0.00	0.00	0.00	
13,300.00	90.20	270.25	7,086.59	-405.53	-5,816.09	5,814.27	0.00	0.00	0.00	
13,400.00	90.20	270.25	7,086.23	-405.10	-5,916.09	5,914.27	0.00	0.00	0.00	
13,500.00	90.20	270.25	7,085.88	-404.67	-6,016.09	6,014.27	0.00	0.00	0.00	
13,600.00	90.20	270.25	7,085.52	-404.25	-6,116.09	6,114.27	0.00	0.00	0.00	
13,700.00	90.20	270.25	7,085.16	-403.82	-6,216.09	6,214.27	0.00	0.00	0.00	
13,800.00	90.20	270.25	7,084.80	-403.39	-6,316.08	6,314.26	0.00	0.00	0.00	
13,900.00	90.20	270.25	7,084.45	-402.96	-6,416.08	6,414.26	0.00	0.00	0.00	
14,000.00	90.20	270.25	7,084.09	-402.54	-6,516.08	6,514.26	0.00	0.00	0.00	
14,100.00	90.20	270.25	7,083.73	-402.11	-6,616.08	6,614.26	0.00	0.00	0.00	
14,200.00	90.20	270.25	7,083.37	-401.68	-6,716.08	6,714.26	0.00	0.00	0.00	
14,300.00	90.20	270.25	7,083.02	-401.25	-6,816.08	6,814.26	0.00	0.00	0.00	
14,400.00	90.20	270.25	7,082.66	-400.82	-6,916.08	6,914.26	0.00	0.00	0.00	
14,500.00	90.20	270.25	7,082.30	-400.40	-7,016.07	7,014.26	0.00	0.00	0.00	
14,600.00	90.20	270.25	7,081.94	-399.97	-7,116.07	7,114.26	0.00	0.00	0.00	
14,700.00	90.20	270.25	7,081.59	-399.54	-7,216.07	7,214.26	0.00	0.00	0.00	
14,800.00	90.20	270.25	7,081.23	-399.11	-7,316.07	7,314.26	0.00	0.00	0.00	
14,900.00	90.20	270.25	7,080.87	-398.69	-7,416.07	7,414.26	0.00	0.00	0.00	
15,000.00	90.20	270.25	7,080.51	-398.26	-7,516.07	7,514.26	0.00	0.00	0.00	
15,100.00	90.20	270.25	7,080.16	-397.83	-7,616.06	7,614.26	0.00	0.00	0.00	
15,200.00	90.20	270.25	7,079.80	-397.40	-7,716.06	7,714.26	0.00	0.00	0.00	
15,300.00	90.20	270.25	7,079.44	-396.98	-7,816.06	7,814.26	0.00	0.00	0.00	
15,400.00	90.20	270.25	7,079.08	-396.55	-7,916.06	7,914.25	0.00	0.00	0.00	
15,500.00	90.20	270.25	7,078.73	-396.12	-8,016.06	8,014.25	0.00	0.00	0.00	

SDT

Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 750H
Company:	Logos Operating LLC	TVD Reference:	6534+30 @ 6564.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6534+30 @ 6564.00usft (H&P 530)
Site:	Rosa Unit 32	North Reference:	True
Well:	Rosa Unit 750H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	DP #1		

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)	
15,600.00	90.20	270.25	7,078.37	-395.69	-8,116.06	8,114.25	0.00	0.00	0.00	
15,700.00	90.20	270.25	7,078.01	-395.26	-8,216.06	8,214.25	0.00	0.00	0.00	
15,800.00	90.20	270.25	7,077.66	-394.84	-8,316.05	8,314.25	0.00	0.00	0.00	
15,900.00	90.20	270.25	7,077.30	-394.41	-8,416.05	8,414.25	0.00	0.00	0.00	
16,000.00	90.20	270.25	7,076.94	-393.98	-8,516.05	8,514.25	0.00	0.00	0.00	
16,100.00	90.20	270.25	7,076.58	-393.55	-8,616.05	8,614.25	0.00	0.00	0.00	
16,200.00	90.20	270.25	7,076.23	-393.13	-8,716.05	8,714.25	0.00	0.00	0.00	
16,300.00	90.20	270.25	7,075.87	-392.70	-8,816.05	8,814.25	0.00	0.00	0.00	
16,400.00	90.20	270.25	7,075.51	-392.27	-8,916.04	8,914.25	0.00	0.00	0.00	
16,500.00	90.20	270.25	7,075.15	-391.84	-9,016.04	9,014.25	0.00	0.00	0.00	
16,600.00	90.20	270.25	7,074.80	-391.41	-9,116.04	9,114.25	0.00	0.00	0.00	
16,700.00	90.20	270.25	7,074.44	-390.99	-9,216.04	9,214.25	0.00	0.00	0.00	
16,800.00	90.20	270.25	7,074.08	-390.56	-9,316.04	9,314.25	0.00	0.00	0.00	
16,900.00	90.20	270.25	7,073.72	-390.13	-9,416.04	9,414.24	0.00	0.00	0.00	
17,000.00	90.20	270.25	7,073.37	-389.70	-9,516.04	9,514.24	0.00	0.00	0.00	
17,100.00	90.20	270.25	7,073.01	-389.28	-9,616.03	9,614.24	0.00	0.00	0.00	
17,200.00	90.20	270.25	7,072.65	-388.85	-9,716.03	9,714.24	0.00	0.00	0.00	
17,300.00	90.20	270.25	7,072.29	-388.42	-9,816.03	9,814.24	0.00	0.00	0.00	
17,381.99	90.20	270.25	7,072.00	-388.07	-9,898.01	9,896.23	0.00	0.00	0.00	
TD at 17381.98										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		
- hit/miss target										
- Shape										
RU 750H SHL	0.00	0.00	0.00	0.00	0.00	2,131,322.90	2,857,644.07	36.856251		
- plan hits target center										
- Point										
RU 750H PBHL	0.00	0.00	7,072.00	-388.07	-9,898.01	2,130,887.17	2,847,748.04	36.855180		
- plan hits target center										
- Point										
RU 750H FPP	0.00	0.00	7,075.07	-388.95	-9,726.11	2,130,887.12	2,847,919.95	36.855178		
- plan misses target center by 2.46usft at 17210.07usft MD (7072.61 TVD, -388.81 N, -9726.10 E)										
- Point										
RU 750H POE	0.00	0.00	7,106.62	-430.81	-1.07	2,130,892.09	2,857,645.08	36.855068		
- plan misses target center by 0.86usft at 7484.86usft MD (7107.38 TVD, -430.40 N, -1.05 E)										
- Point										

SDT
Planning Report

Database:	EDM 5000 Multi User Db	Local Co-ordinate Reference:	Well Rosa Unit 750H
Company:	Logos Operating LLC	TVD Reference:	6534+30 @ 6564.00usft (H&P 530)
Project:	Rio Arriba, NM (NAD83)	MD Reference:	6534+30 @ 6564.00usft (H&P 530)
Site:	Rosa Unit 32	North Reference:	True
Well:	Rosa Unit 750H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	DP #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,717.48	2,702.00	Ojo Alamo		0.00		
2,863.61	2,847.00	Kirtland		0.00		
3,226.41	3,207.00	Fruitland		0.00		
3,296.96	3,277.00	T/Coals		0.00		
3,428.98	3,408.00	B/Coals		0.00		
3,591.23	3,569.00	Pictured Cliffs		0.00		
3,701.08	3,678.00	Lewis		0.00		
4,777.39	4,746.00	Chacra		0.00		
5,286.32	5,251.00	U/Cliff House		0.00		
5,615.85	5,578.00	Cliff House		0.00		
5,644.05	5,606.00	Menefee				
5,858.47	5,819.00	Point Lookout				
6,331.84	6,290.00	Mancos				
7,014.45	6,929.00	Black Top				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
333.00	332.99	-1.24	-1.43	Start 150.00 hold at 333.00 MD	
483.00	482.99	-2.40	-1.84	Start DLS 2.00 TFO -78.54	
833.84	832.90	-16.05	15.68	Start 4703.42 hold at 833.84 MD	
5,537.26	5,500.00	-345.10	497.41	Start DLS 0.25 TFO 180.00	
6,407.13	6,365.00	-396.71	572.95	Start 120.00 hold at 6407.13 MD	
6,527.13	6,484.55	-402.55	581.50	Start DLS 9.84 TFO 145.80	
7,485.01	7,107.38	-430.40	-1.19	Start 9896.98 hold at 7485.01 MD	
17,381.99	7,072.00	-388.07	-9,898.01	TD at 17381.98	

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/oed/contact-us>

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

CONDITIONS

Action 404438

CONDITIONS

Operator: LOGOS OPERATING, LLC 2010 Afton Place Farmington, NM 87401	OGRID: 289408
	Action Number: 404438
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	3/28/2025