

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: 3003931461	Operator: LOGOS OPERATING LLC	

Notice of Intent

Sundry ID: 2799939

Type of Submission: Notice of Intent

Type of Action: Other

Date Sundry Submitted: 07/10/2024

Time Sundry Submitted: 03:49

Date proposed operation will begin: 07/10/2024

Procedure Description: LOGOS Operating request a change in plans for the following (based on KB elevation): Original TD @ 16,632' (MD) 7,072' (TVD) to new TD @ 17,382' (MD) 7,072' (TVD). Geology tops have been updated per changes. Original KOP @ 6,494' MD 6,480' TVD to new KOP @ 6,527' MD 6,485' TVD Original 9,625" casing Intermediate @ 6,378' MD to new 9,625" Intermediate casing @ 6,407' MD Original 5.5" casing Production casing @ 16,632' MD to new 5.5" Production casing @ 17,382' MD All cementing bbls and sacks have been updated per casing depth changes. Attached: New C102, Operation and Directional Drill plans.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

3160_005_Rosa_Unit_750H_Change_in_Plan_8__20240710_20240710154848.pdf

Well Name: ROSA UNIT

Well Location: T31N / R5W / SEC 33 /
NWSW / 36.856086 / -107.373408County 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: 3003931461

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: JUL 10, 2024 03:49 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: 07/10/2024

Signature: Kenneth Rennick

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

5. Lease Serial No.
NMSF078773

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator
LOGOS OPERATING, LLC

3a. Address 2010 AFTON PLACE
FARMINGTON, NM 87401

3b. Phone No. (include area code)
(505) 278-8720

4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)
UNIT E SEC 33 T31N 5W 2586' FNL 949' FWL

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

8. Well Name and No.
ROSA UNIT 750H

9. API Well No.
30-039-31461

10. Field and Pool or Exploratory Area
BASIN MANCOS

11. Country or Parish, State
RIO ARRIBA, NEW MEXICO

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

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

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

LOGOS Operating request a change in plans for the following (based on KB elevation):

Original TD @ 16,632' (MD) 7,072' (TVD) to **new TD @ 17,382' (MD) 7,072' (TVD).**

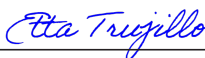
Geology tops have been updated per changes.
Original KOP @ 6,494' MD 6,480' TVD to **new KOP @ 6,527' MD 6,485' TVD**

Original 9.625" casing Intermediate @ 6,378' MD to **new 9.625" Intermediate casing @ 6,407' MD**
Original 5.5" casing Production casing @ 16,632' MD to **new 5.5" Production casing @ 17,382' MD**

All cementing bbls and sacks have been updated per casing depth changes.
Attached: New C102, Operation and Directional Drill plans.

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

Title
Regulatory Specialist

Signature


Date
7/10/2024

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

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

Office

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

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

☒ AMENDED REPORT

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

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

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. E	Section 33	Township 31N	Range 5W	Lot Idn	Feet from the 2586	North/South line NORTH	Feet from the 949	East/West line WEST	County RIO ARriba
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. K	Section 31	Township 31N	Range 5W	Lot Idn 3	Feet from the 2303	North/South line SOUTH	Feet from the 158	East/West line WEST	County RIO ARriba
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¹² Dedicated Acres 872.99	¹³ Joint or Infill S/2 - Sections 31, 32, 33	¹⁴ Consolidation Code	¹⁵ Order No. R-13457
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

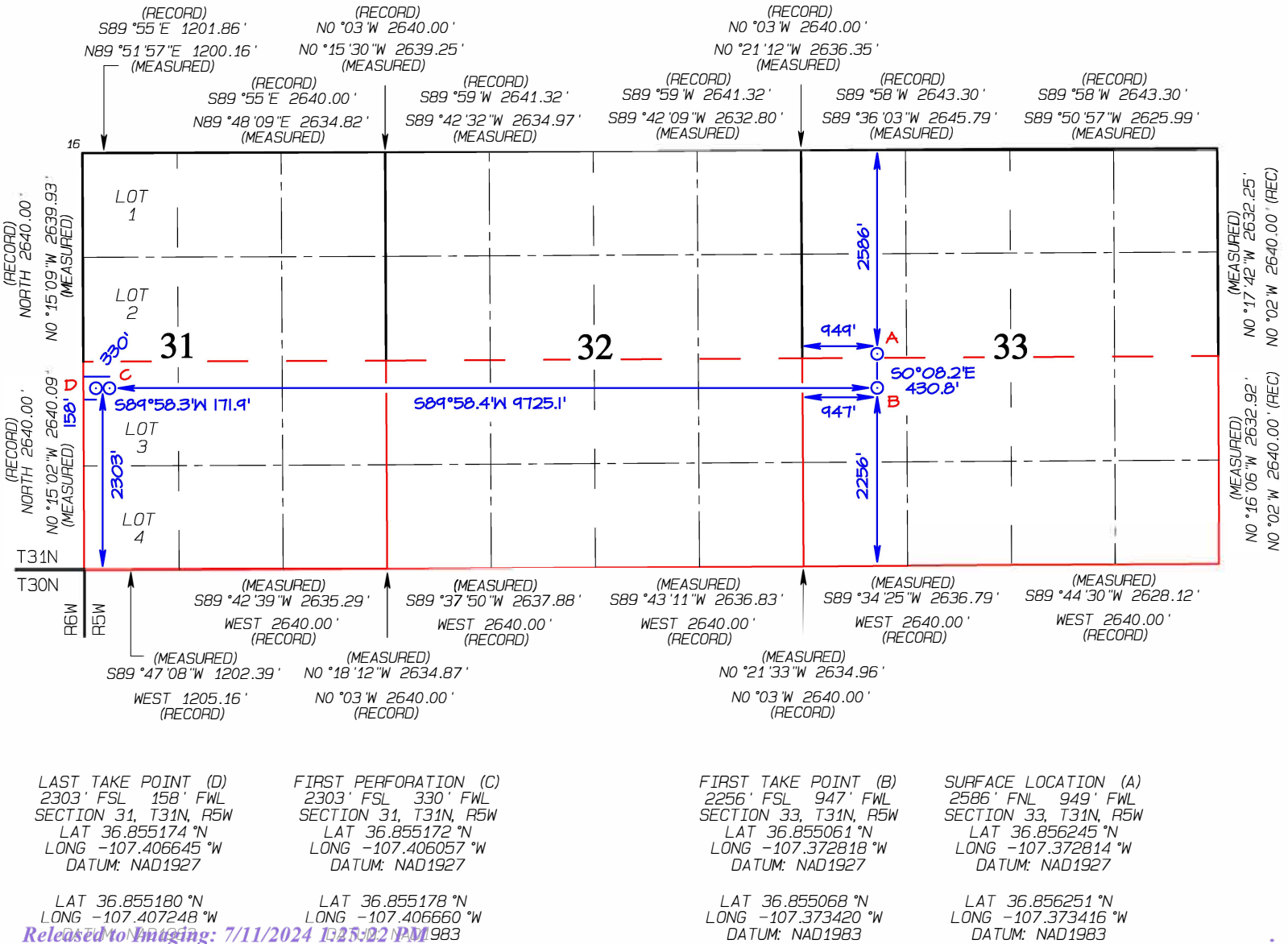
18 SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

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

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269





LOGOS Operating, LLC Operations Plan

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

Date:	July 10, 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 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 26"/24" 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	OHSIZE (IN)	DEPTH (MD)	CSG SIZE	WEIGHT	GRADE	CONN
SURFACE	26" or 24"	350' or greater	20"	94 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:

- SURFACE CASING:** 20" 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.
- 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.
- 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**: Casing Has Been preset at shall be set at ~ 349' and cemented to surface. TOC at Surface.
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" 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	5,907	500	0.3132	1.3	221	39	1.10	201	15.8
Stage 1 Lead	4,852	1,055	0.3132	1.3	430	77	1.90	226	12.4
					651	116		427	
Stage 2 Tail	4,252	600	0.3132	1.3	244	44	1.58	155	13.2
Stage 2 Lead	3,276	976	0.3132	1.3	397	71	1.90	209	12.4
					642	114		364	
Stage 3 Tail	2,626	650	0.3132	1.3	265	47	1.58	168	13.2
Stage 3 Lead	350	2,276	0.3132	1.3	927	165	1.58	587	12.4
Stage 3 Lead	-	350	1.4895	0.2653	1	521	93	1.90	274
					1,713	305		1028	
					3,005	535		1,819	

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"	Top	ft	Cement (ft3/ft) Annular Capacity	Excess (15%)	Total (ft3)	Total (bbl)	Slurry Yield (ft3/sk)	Sacks Cement	Density (PPG)
Cased hole Tail	6,307	100	0.2531	1	25	5	1.59	16	13.2
Open Hole Tail	6,407	10,975	0.2291	1.15	2,902	517	1.59	1,825	13.2
					2,927	521		1,841	
Set Depth, ft RKB	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

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.

C. STIMULATION

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

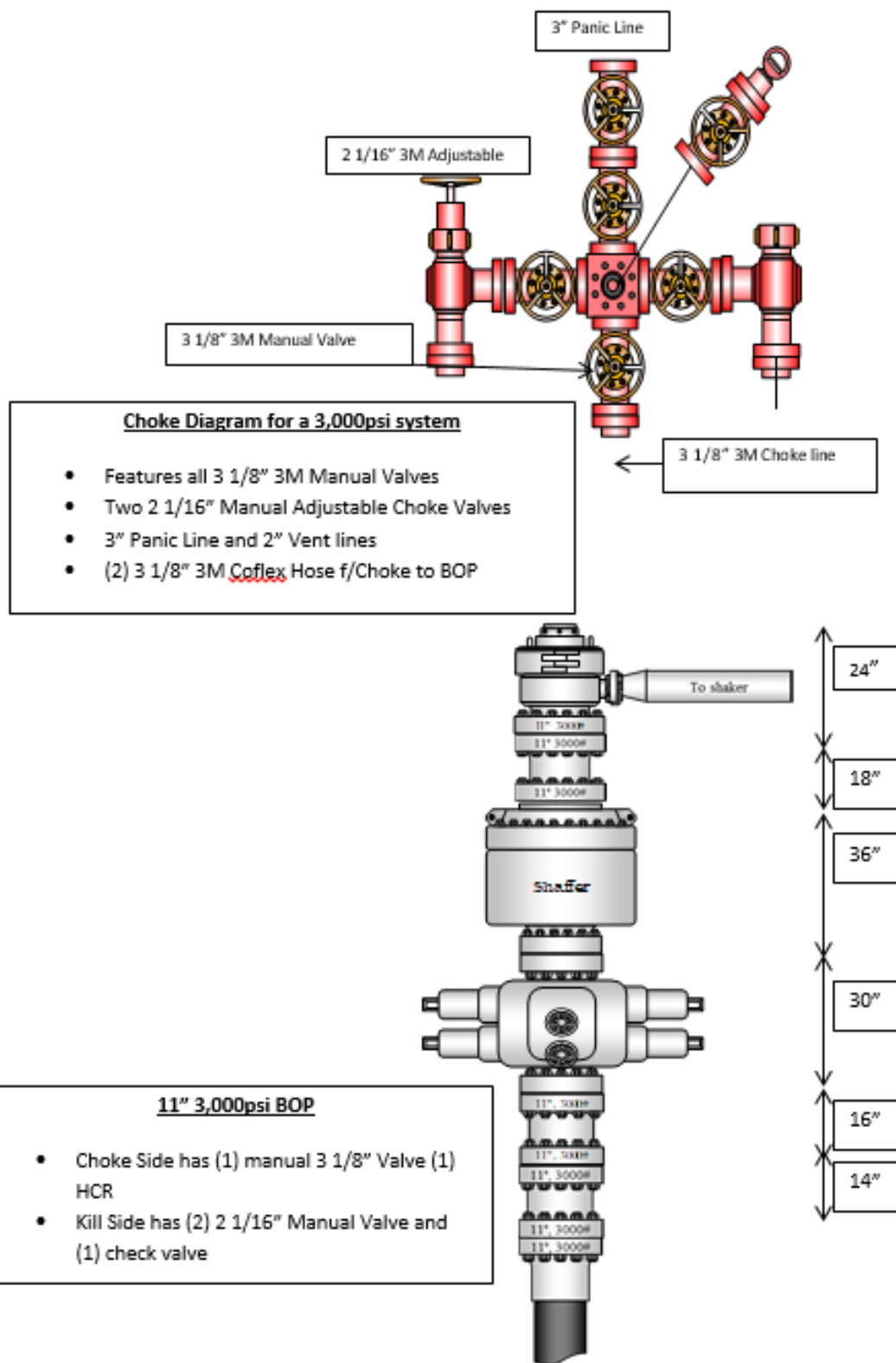
D. PRODUCTION TUBING

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



Logos Operating LLC

Rio Arriba, NM (NAD83)

Rosa Unit 32

Rosa Unit 750H

OH

Plan: Plan #8

Standard Planning Report

28 June, 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:	Plan #8		

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)
	IGRF2015	11/21/2022	8.56	63.43	49,565.73905395

Design	Plan #8				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
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	6/28/2024			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	17,381.71 Plan #8 (OH)	MWD+HRGM+MS	MWD + HRGM + Multi-Station	

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
857.55	7.15	124.70	856.62	-12.69	18.32	2.00	2.00	0.00	124.70	
5,537.33	7.15	124.70	5,500.00	-344.33	497.27	0.00	0.00	0.00	0.00	
6,407.25	4.98	124.70	6,365.00	-396.63	572.81	0.25	-0.25	0.00	180.00	
6,527.25	4.98	124.70	6,484.55	-402.56	581.37	0.00	0.00	0.00	0.00	
7,484.65	90.20	270.25	7,107.07	-430.82	-1.01	9.85	8.90	15.20	145.44	
17,381.81	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:	Plan #8		

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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
600.00	2.00	124.70	599.98	-0.99	1.43	-1.44	2.00	2.00	0.00
700.00	4.00	124.70	699.84	-3.97	5.74	-5.75	2.00	2.00	0.00
800.00	6.00	124.70	799.45	-8.93	12.90	-12.94	2.00	2.00	0.00
857.55	7.15	124.70	856.62	-12.69	18.32	-18.38	2.00	2.00	0.00
Start 4679.78 hold at 857.55 MD									
900.00	7.15	124.70	898.74	-15.69	22.66	-22.73	0.00	0.00	0.00
1,000.00	7.15	124.70	997.96	-22.78	32.90	-33.00	0.00	0.00	0.00
1,100.00	7.15	124.70	1,097.19	-29.87	43.13	-43.26	0.00	0.00	0.00
1,200.00	7.15	124.70	1,196.41	-36.95	53.37	-53.53	0.00	0.00	0.00
1,300.00	7.15	124.70	1,295.63	-44.04	63.60	-63.79	0.00	0.00	0.00
1,400.00	7.15	124.70	1,394.85	-51.13	73.84	-74.06	0.00	0.00	0.00
1,500.00	7.15	124.70	1,494.08	-58.21	84.07	-84.32	0.00	0.00	0.00
1,600.00	7.15	124.70	1,593.30	-65.30	94.31	-94.59	0.00	0.00	0.00
1,700.00	7.15	124.70	1,692.52	-72.39	104.54	-104.86	0.00	0.00	0.00
1,800.00	7.15	124.70	1,791.74	-79.47	114.77	-115.12	0.00	0.00	0.00
1,900.00	7.15	124.70	1,890.96	-86.56	125.01	-125.39	0.00	0.00	0.00
2,000.00	7.15	124.70	1,990.19	-93.65	135.24	-135.65	0.00	0.00	0.00
2,100.00	7.15	124.70	2,089.41	-100.73	145.48	-145.92	0.00	0.00	0.00
2,200.00	7.15	124.70	2,188.63	-107.82	155.71	-156.18	0.00	0.00	0.00
2,300.00	7.15	124.70	2,287.85	-114.91	165.95	-166.45	0.00	0.00	0.00
2,400.00	7.15	124.70	2,387.07	-121.99	176.18	-176.71	0.00	0.00	0.00
2,500.00	7.15	124.70	2,486.30	-129.08	186.42	-186.98	0.00	0.00	0.00
2,600.00	7.15	124.70	2,585.52	-136.17	196.65	-197.24	0.00	0.00	0.00
2,700.00	7.15	124.70	2,684.74	-143.25	206.88	-207.51	0.00	0.00	0.00
2,717.39	7.15	124.70	2,702.00	-144.49	208.67	-209.29	0.00	0.00	0.00
Ojo Alamo									
2,800.00	7.15	124.70	2,783.96	-150.34	217.12	-217.77	0.00	0.00	0.00
2,863.53	7.15	124.70	2,847.00	-154.84	223.62	-224.29	0.00	0.00	0.00
Kirtland									
2,900.00	7.15	124.70	2,883.19	-157.43	227.35	-228.04	0.00	0.00	0.00
3,000.00	7.15	124.70	2,982.41	-164.51	237.59	-238.30	0.00	0.00	0.00
3,100.00	7.15	124.70	3,081.63	-171.60	247.82	-248.57	0.00	0.00	0.00
3,200.00	7.15	124.70	3,180.85	-178.69	258.06	-258.83	0.00	0.00	0.00
3,226.35	7.15	124.70	3,207.00	-180.55	260.75	-261.54	0.00	0.00	0.00
Fruitland									
3,296.90	7.15	124.70	3,277.00	-185.55	267.97	-268.78	0.00	0.00	0.00
T/Coals									
3,300.00	7.15	124.70	3,280.07	-185.77	268.29	-269.10	0.00	0.00	0.00
3,400.00	7.15	124.70	3,379.30	-192.86	278.53	-279.36	0.00	0.00	0.00
3,428.93	7.15	124.70	3,408.00	-194.91	281.49	-282.33	0.00	0.00	0.00
B/Coals									
3,500.00	7.15	124.70	3,478.52	-199.95	288.76	-289.63	0.00	0.00	0.00
3,591.19	7.15	124.70	3,569.00	-206.41	298.09	-298.99	0.00	0.00	0.00
Pictured Cliffs									
3,600.00	7.15	124.70	3,577.74	-207.03	298.99	-299.90	0.00	0.00	0.00
3,700.00	7.15	124.70	3,676.96	-214.12	309.23	-310.16	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:	Plan #8		

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)
3,701.05	7.15	124.70	3,678.00	-214.19	309.34	-310.27	0.00	0.00	0.00
Lewis									
3,800.00	7.15	124.70	3,776.18	-221.21	319.46	-320.43	0.00	0.00	0.00
3,900.00	7.15	124.70	3,875.41	-228.29	329.70	-330.69	0.00	0.00	0.00
4,000.00	7.15	124.70	3,974.63	-235.38	339.93	-340.96	0.00	0.00	0.00
4,100.00	7.15	124.70	4,073.85	-242.47	350.17	-351.22	0.00	0.00	0.00
4,200.00	7.15	124.70	4,173.07	-249.55	360.40	-361.49	0.00	0.00	0.00
4,300.00	7.15	124.70	4,272.30	-256.64	370.64	-371.75	0.00	0.00	0.00
4,400.00	7.15	124.70	4,371.52	-263.73	380.87	-382.02	0.00	0.00	0.00
4,500.00	7.15	124.70	4,470.74	-270.81	391.10	-392.28	0.00	0.00	0.00
4,600.00	7.15	124.70	4,569.96	-277.90	401.34	-402.55	0.00	0.00	0.00
4,700.00	7.15	124.70	4,669.18	-284.99	411.57	-412.81	0.00	0.00	0.00
4,777.42	7.15	124.70	4,746.00	-290.47	419.50	-420.76	0.00	0.00	0.00
Chacra									
4,800.00	7.15	124.70	4,768.41	-292.07	421.81	-423.08	0.00	0.00	0.00
4,900.00	7.15	124.70	4,867.63	-299.16	432.04	-433.34	0.00	0.00	0.00
5,000.00	7.15	124.70	4,966.85	-306.25	442.28	-443.61	0.00	0.00	0.00
5,100.00	7.15	124.70	5,066.07	-313.33	452.51	-453.87	0.00	0.00	0.00
5,200.00	7.15	124.70	5,165.29	-320.42	462.75	-464.14	0.00	0.00	0.00
5,286.38	7.15	124.70	5,251.00	-326.54	471.59	-473.01	0.00	0.00	0.00
U/Cliff House									
5,300.00	7.15	124.70	5,264.52	-327.51	472.98	-474.40	0.00	0.00	0.00
5,400.00	7.15	124.70	5,363.74	-334.59	483.21	-484.67	0.00	0.00	0.00
5,500.00	7.15	124.70	5,462.96	-341.68	493.45	-494.94	0.00	0.00	0.00
5,537.33	7.15	124.70	5,500.00	-344.33	497.27	-498.77	0.00	0.00	0.00
Start DLS 0.25 TFO 180.00									
5,600.00	6.99	124.70	5,562.19	-348.72	503.61	-505.13	0.25	-0.25	0.00
5,615.92	6.95	124.70	5,578.00	-349.82	505.20	-506.72	0.25	-0.25	0.00
Cliff House									
5,644.13	6.88	124.70	5,606.00	-351.75	508.00	-509.53	0.25	-0.25	0.00
Menefee									
5,700.00	6.74	124.70	5,661.48	-355.53	513.45	-514.99	0.25	-0.25	0.00
5,800.00	6.49	124.70	5,760.81	-362.09	522.92	-524.50	0.25	-0.25	0.00
5,858.56	6.35	124.70	5,819.00	-365.82	528.31	-529.90	0.25	-0.25	0.00
Point Lookout									
5,900.00	6.24	124.70	5,860.19	-368.41	532.04	-533.65	0.25	-0.25	0.00
6,000.00	5.99	124.70	5,959.62	-374.47	540.81	-542.44	0.25	-0.25	0.00
6,100.00	5.74	124.70	6,059.10	-380.29	549.22	-550.87	0.25	-0.25	0.00
6,200.00	5.49	124.70	6,158.62	-385.87	557.27	-558.94	0.25	-0.25	0.00
6,300.00	5.24	124.70	6,258.18	-391.20	564.96	-566.66	0.25	-0.25	0.00
6,331.95	5.16	124.70	6,290.00	-392.85	567.34	-569.05	0.25	-0.25	0.00
Mancos									
6,407.25	4.98	124.70	6,365.00	-396.63	572.81	-574.54	0.25	-0.25	0.00
Start 120.00 hold at 6407.25 MD									
6,500.00	4.98	124.70	6,457.40	-401.21	579.43	-581.17	0.00	0.00	0.00
6,527.25	4.98	124.70	6,484.55	-402.56	581.37	-583.12	0.00	0.00	0.00
Start DLS 9.85 TFO 145.44									
6,550.00	3.38	146.81	6,507.24	-403.68	582.55	-584.30	9.85	-7.02	97.20
6,600.00	4.16	227.65	6,557.16	-406.14	582.01	-583.78	9.85	1.57	161.68
6,650.00	8.47	250.92	6,606.85	-408.57	577.19	-578.97	9.85	8.61	46.53
6,700.00	13.21	258.13	6,655.95	-410.95	568.11	-569.90	9.85	9.49	14.42
6,750.00	18.05	261.54	6,704.09	-413.27	554.85	-556.64	9.85	9.68	6.84
6,800.00	22.93	263.55	6,750.91	-415.50	537.49	-539.30	9.85	9.75	4.01

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:	Plan #8		

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)
6,850.00	27.82	264.88	6,796.07	-417.64	516.18	-518.00	9.85	9.78	2.66
6,900.00	32.72	265.84	6,839.24	-419.66	491.06	-492.89	9.85	9.80	1.92
6,950.00	37.63	266.57	6,880.10	-421.56	462.33	-464.17	9.85	9.81	1.47
7,000.00	42.54	267.16	6,918.34	-423.31	430.19	-432.04	9.85	9.82	1.17
7,014.64	43.98	267.31	6,929.00	-423.79	420.17	-422.02	9.85	9.82	1.03
Black Top									
7,050.00	47.45	267.65	6,953.69	-424.90	394.89	-396.74	9.85	9.83	0.95
7,100.00	52.37	268.06	6,985.87	-426.33	356.67	-358.53	9.85	9.83	0.83
7,150.00	57.28	268.42	7,014.67	-427.58	315.83	-317.70	9.85	9.83	0.73
7,200.00	62.20	268.75	7,039.85	-428.64	272.67	-274.54	9.85	9.83	0.65
7,250.00	67.12	269.05	7,061.25	-429.51	227.50	-229.38	9.85	9.84	0.59
7,300.00	72.04	269.32	7,078.69	-430.17	180.67	-182.54	9.85	9.84	0.55
7,350.00	76.96	269.58	7,092.05	-430.63	132.50	-134.38	9.85	9.84	0.52
7,400.00	81.87	269.83	7,101.23	-430.88	83.37	-85.25	9.85	9.84	0.50
7,450.00	86.79	270.08	7,106.17	-430.92	33.63	-35.51	9.85	9.84	0.49
7,484.65	90.20	270.25	7,107.07	-430.82	-1.01	-0.87	9.85	9.84	0.49
Start 9897.16 hold at 7484.65 MD									
7,500.00	90.20	270.25	7,107.02	-430.75	-16.35	14.47	0.00	0.00	0.00
7,600.00	90.20	270.25	7,106.66	-430.32	-116.35	114.47	0.00	0.00	0.00
7,700.00	90.20	270.25	7,106.31	-429.89	-216.35	214.47	0.00	0.00	0.00
7,800.00	90.20	270.25	7,105.96	-429.46	-316.35	314.47	0.00	0.00	0.00
7,900.00	90.20	270.25	7,105.60	-429.02	-416.35	414.47	0.00	0.00	0.00
8,000.00	90.20	270.25	7,105.25	-428.59	-516.35	514.47	0.00	0.00	0.00
8,100.00	90.20	270.25	7,104.89	-428.16	-616.35	614.47	0.00	0.00	0.00
8,200.00	90.20	270.25	7,104.54	-427.73	-716.34	714.47	0.00	0.00	0.00
8,300.00	90.20	270.25	7,104.18	-427.30	-816.34	814.47	0.00	0.00	0.00
8,400.00	90.20	270.25	7,103.83	-426.86	-916.34	914.47	0.00	0.00	0.00
8,500.00	90.20	270.25	7,103.48	-426.43	-1,016.34	1,014.47	0.00	0.00	0.00
8,600.00	90.20	270.25	7,103.12	-426.00	-1,116.34	1,114.47	0.00	0.00	0.00
8,700.00	90.20	270.25	7,102.77	-425.57	-1,216.34	1,214.47	0.00	0.00	0.00
8,800.00	90.20	270.25	7,102.41	-425.14	-1,316.33	1,314.47	0.00	0.00	0.00
8,900.00	90.20	270.25	7,102.06	-424.71	-1,416.33	1,414.47	0.00	0.00	0.00
9,000.00	90.20	270.25	7,101.70	-424.27	-1,516.33	1,514.47	0.00	0.00	0.00
9,100.00	90.20	270.25	7,101.35	-423.84	-1,616.33	1,614.46	0.00	0.00	0.00
9,200.00	90.20	270.25	7,100.99	-423.41	-1,716.33	1,714.46	0.00	0.00	0.00
9,300.00	90.20	270.25	7,100.64	-422.98	-1,816.33	1,814.46	0.00	0.00	0.00
9,400.00	90.20	270.25	7,100.29	-422.55	-1,916.32	1,914.46	0.00	0.00	0.00
9,500.00	90.20	270.25	7,099.93	-422.11	-2,016.32	2,014.46	0.00	0.00	0.00
9,600.00	90.20	270.25	7,099.58	-421.68	-2,116.32	2,114.46	0.00	0.00	0.00
9,700.00	90.20	270.25	7,099.22	-421.25	-2,216.32	2,214.46	0.00	0.00	0.00
9,800.00	90.20	270.25	7,098.87	-420.82	-2,316.32	2,314.46	0.00	0.00	0.00
9,900.00	90.20	270.25	7,098.51	-420.39	-2,416.32	2,414.46	0.00	0.00	0.00
10,000.00	90.20	270.25	7,098.16	-419.95	-2,516.32	2,514.46	0.00	0.00	0.00
10,100.00	90.20	270.25	7,097.81	-419.52	-2,616.31	2,614.46	0.00	0.00	0.00
10,200.00	90.20	270.25	7,097.45	-419.09	-2,716.31	2,714.46	0.00	0.00	0.00
10,300.00	90.20	270.25	7,097.10	-418.66	-2,816.31	2,814.46	0.00	0.00	0.00
10,400.00	90.20	270.25	7,096.74	-418.23	-2,916.31	2,914.46	0.00	0.00	0.00
10,500.00	90.20	270.25	7,096.39	-417.79	-3,016.31	3,014.46	0.00	0.00	0.00
10,600.00	90.20	270.25	7,096.03	-417.36	-3,116.31	3,114.46	0.00	0.00	0.00
10,700.00	90.20	270.25	7,095.68	-416.93	-3,216.30	3,214.45	0.00	0.00	0.00
10,800.00	90.20	270.25	7,095.32	-416.50	-3,316.30	3,314.45	0.00	0.00	0.00
10,900.00	90.20	270.25	7,094.97	-416.07	-3,416.30	3,414.45	0.00	0.00	0.00
11,000.00	90.20	270.25	7,094.62	-415.63	-3,516.30	3,514.45	0.00	0.00	0.00
11,100.00	90.20	270.25	7,094.26	-415.20	-3,616.30	3,614.45	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:	Plan #8		

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	90.20	270.25	7,093.91	-414.77	-3,716.30	3,714.45	0.00	0.00	0.00
11,300.00	90.20	270.25	7,093.55	-414.34	-3,816.30	3,814.45	0.00	0.00	0.00
11,400.00	90.20	270.25	7,093.20	-413.91	-3,916.29	3,914.45	0.00	0.00	0.00
11,500.00	90.20	270.25	7,092.84	-413.48	-4,016.29	4,014.45	0.00	0.00	0.00
11,600.00	90.20	270.25	7,092.49	-413.04	-4,116.29	4,114.45	0.00	0.00	0.00
11,700.00	90.20	270.25	7,092.14	-412.61	-4,216.29	4,214.45	0.00	0.00	0.00
11,800.00	90.20	270.25	7,091.78	-412.18	-4,316.29	4,314.45	0.00	0.00	0.00
11,900.00	90.20	270.25	7,091.43	-411.75	-4,416.29	4,414.45	0.00	0.00	0.00
12,000.00	90.20	270.25	7,091.07	-411.32	-4,516.28	4,514.45	0.00	0.00	0.00
12,100.00	90.20	270.25	7,090.72	-410.88	-4,616.28	4,614.45	0.00	0.00	0.00
12,200.00	90.20	270.25	7,090.36	-410.45	-4,716.28	4,714.45	0.00	0.00	0.00
12,300.00	90.20	270.25	7,090.01	-410.02	-4,816.28	4,814.44	0.00	0.00	0.00
12,400.00	90.20	270.25	7,089.65	-409.59	-4,916.28	4,914.44	0.00	0.00	0.00
12,500.00	90.20	270.25	7,089.30	-409.16	-5,016.28	5,014.44	0.00	0.00	0.00
12,600.00	90.20	270.25	7,088.95	-408.72	-5,116.27	5,114.44	0.00	0.00	0.00
12,700.00	90.20	270.25	7,088.59	-408.29	-5,216.27	5,214.44	0.00	0.00	0.00
12,800.00	90.20	270.25	7,088.24	-407.86	-5,316.27	5,314.44	0.00	0.00	0.00
12,900.00	90.20	270.25	7,087.88	-407.43	-5,416.27	5,414.44	0.00	0.00	0.00
13,000.00	90.20	270.25	7,087.53	-407.00	-5,516.27	5,514.44	0.00	0.00	0.00
13,100.00	90.20	270.25	7,087.17	-406.56	-5,616.27	5,614.44	0.00	0.00	0.00
13,200.00	90.20	270.25	7,086.82	-406.13	-5,716.27	5,714.44	0.00	0.00	0.00
13,300.00	90.20	270.25	7,086.47	-405.70	-5,816.26	5,814.44	0.00	0.00	0.00
13,400.00	90.20	270.25	7,086.11	-405.27	-5,916.26	5,914.44	0.00	0.00	0.00
13,500.00	90.20	270.25	7,085.76	-404.84	-6,016.26	6,014.44	0.00	0.00	0.00
13,600.00	90.20	270.25	7,085.40	-404.40	-6,116.26	6,114.44	0.00	0.00	0.00
13,700.00	90.20	270.25	7,085.05	-403.97	-6,216.26	6,214.44	0.00	0.00	0.00
13,800.00	90.20	270.25	7,084.69	-403.54	-6,316.26	6,314.44	0.00	0.00	0.00
13,900.00	90.20	270.25	7,084.34	-403.11	-6,416.25	6,414.43	0.00	0.00	0.00
14,000.00	90.20	270.25	7,083.98	-402.68	-6,516.25	6,514.43	0.00	0.00	0.00
14,100.00	90.20	270.25	7,083.63	-402.25	-6,616.25	6,614.43	0.00	0.00	0.00
14,200.00	90.20	270.25	7,083.28	-401.81	-6,716.25	6,714.43	0.00	0.00	0.00
14,300.00	90.20	270.25	7,082.92	-401.38	-6,816.25	6,814.43	0.00	0.00	0.00
14,400.00	90.20	270.25	7,082.57	-400.95	-6,916.25	6,914.43	0.00	0.00	0.00
14,500.00	90.20	270.25	7,082.21	-400.52	-7,016.25	7,014.43	0.00	0.00	0.00
14,600.00	90.20	270.25	7,081.86	-400.09	-7,116.24	7,114.43	0.00	0.00	0.00
14,700.00	90.20	270.25	7,081.50	-399.65	-7,216.24	7,214.43	0.00	0.00	0.00
14,800.00	90.20	270.25	7,081.15	-399.22	-7,316.24	7,314.43	0.00	0.00	0.00
14,900.00	90.20	270.25	7,080.80	-398.79	-7,416.24	7,414.43	0.00	0.00	0.00
15,000.00	90.20	270.25	7,080.44	-398.36	-7,516.24	7,514.43	0.00	0.00	0.00
15,100.00	90.20	270.25	7,080.09	-397.93	-7,616.24	7,614.43	0.00	0.00	0.00
15,200.00	90.20	270.25	7,079.73	-397.49	-7,716.23	7,714.43	0.00	0.00	0.00
15,300.00	90.20	270.25	7,079.38	-397.06	-7,816.23	7,814.43	0.00	0.00	0.00
15,400.00	90.20	270.25	7,079.02	-396.63	-7,916.23	7,914.43	0.00	0.00	0.00
15,500.00	90.20	270.25	7,078.67	-396.20	-8,016.23	8,014.42	0.00	0.00	0.00
15,600.00	90.20	270.25	7,078.31	-395.77	-8,116.23	8,114.42	0.00	0.00	0.00
15,700.00	90.20	270.25	7,077.96	-395.33	-8,216.23	8,214.42	0.00	0.00	0.00
15,800.00	90.20	270.25	7,077.61	-394.90	-8,316.23	8,314.42	0.00	0.00	0.00
15,900.00	90.20	270.25	7,077.25	-394.47	-8,416.22	8,414.42	0.00	0.00	0.00
16,000.00	90.20	270.25	7,076.90	-394.04	-8,516.22	8,514.42	0.00	0.00	0.00
16,100.00	90.20	270.25	7,076.54	-393.61	-8,616.22	8,614.42	0.00	0.00	0.00
16,200.00	90.20	270.25	7,076.19	-393.17	-8,716.22	8,714.42	0.00	0.00	0.00
16,300.00	90.20	270.25	7,075.83	-392.74	-8,816.22	8,814.42	0.00	0.00	0.00
16,400.00	90.20	270.25	7,075.48	-392.31	-8,916.22	8,914.42	0.00	0.00	0.00
16,500.00	90.20	270.25	7,075.13	-391.88	-9,016.21	9,014.42	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:	Plan #8		

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	90.20	270.25	7,074.77	-391.45	-9,116.21	9,114.42	0.00	0.00	0.00	
16,700.00	90.20	270.25	7,074.42	-391.01	-9,216.21	9,214.42	0.00	0.00	0.00	
16,800.00	90.20	270.25	7,074.06	-390.58	-9,316.21	9,314.42	0.00	0.00	0.00	
16,900.00	90.20	270.25	7,073.71	-390.15	-9,416.21	9,414.42	0.00	0.00	0.00	
17,000.00	90.20	270.25	7,073.35	-389.72	-9,516.21	9,514.42	0.00	0.00	0.00	
17,100.00	90.20	270.25	7,073.00	-389.29	-9,616.20	9,614.41	0.00	0.00	0.00	
17,200.00	90.20	270.25	7,072.64	-388.86	-9,716.20	9,714.41	0.00	0.00	0.00	
17,300.00	90.20	270.25	7,072.29	-388.42	-9,816.20	9,814.41	0.00	0.00	0.00	
17,381.81	90.20	270.25	7,072.00	-388.07	-9,898.01	9,896.23	0.00	0.00	0.00	
TD at 17381.81										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- 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	-107.373416	
- 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	-107.407248	
- 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	-107.406660	
- plan misses target center by 2.47usft at 17209.90usft 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	-107.373420	
- plan misses target center by 0.45usft at 7484.71usft MD (7107.07 TVD, -430.82 N, -1.07 E)										
- Point										

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,717.39	2,702.00	Ojo Alamo		0.00		
2,863.53	2,847.00	Kirtland		0.00		
3,226.35	3,207.00	Fruitland		0.00		
3,296.90	3,277.00	T/Coals		0.00		
3,428.93	3,408.00	B/Coals		0.00		
3,591.19	3,569.00	Pictured Cliffs		0.00		
3,701.05	3,678.00	Lewis		0.00		
4,777.42	4,746.00	Chacara		0.00		
5,286.38	5,251.00	U/Cliff House		0.00		
5,615.92	5,578.00	Cliff House		0.00		
5,644.13	5,606.00	Menefee				
5,858.56	5,819.00	Point Lookout				
6,331.95	6,290.00	Mancos				
7,014.64	6,929.00	Black Top				

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:	Plan #8		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
500.00	500.00	0.00	0.00	Start Build 2.00	
857.55	856.62	-12.69	18.32	Start 4679.78 hold at 857.55 MD	
5,537.33	5,500.00	-344.33	497.27	Start DLS 0.25 TFO 180.00	
6,407.25	6,365.00	-396.63	572.81	Start 120.00 hold at 6407.25 MD	
6,527.25	6,484.55	-402.56	581.37	Start DLS 9.85 TFO 145.44	
7,484.65	7,107.07	-430.82	-1.01	Start 9897.16 hold at 7484.65 MD	
17,381.81	7,072.00	-388.07	-9,898.01	TD at 17381.81	

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

CONDITIONS

Action 363156

CONDITIONS

Operator: LOGOS OPERATING, LLC 2010 Afton Place Farmington, NM 87401	OGRID: 289408
	Action Number: 363156
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	All original COA's still apply. Additionally, if cement is not circulated to surface during cementing operations, then a CBL is required.	7/11/2024