Notice of Intent

Sundry ID: 2653236

Type of Submission: Notice of Intent

Type of Action: Other

Date Sundry Submitted: 01/19/2022

Time Sundry Submitted: 10:14

Date proposed operation will begin: 04/15/2022

Procedure Description: MorningStar requests approval to drill a horizontal sidetrack off of the Carracas 25A14. The proposed lateral will be withing the current lease. Attached are the Proposed Procedure, OCD Form C-102 Plat, WBD, Well Path Plan, Directional Plan, and Anti-Collision Report, Formation Tops.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

Carracas_25A_14_Formation_Tops_20220119101407.pdf

Anti_Collision_Rpt_Carracas_25A_14_20220119101227.pdf

Directional_Plan_Carracas_25A_14_20220119101215.pdf

Well_Path_Plan_Carracas_25A_14_20220119101153.pdf

Carracas_25A_14_WBD_Proposed_Sidetrack_20220119101143.pdf

C102_Plat_CARRACAS_25A_14_20220119101131.pdf

Carracas_25_A_14_Proposed_Procedure_and_Production_Map_20220119101115.pdf

Conditions of Approval

Additional Reviews

20220204_COAs_Carrcas25A14_Sundry_2653236_20220204125836.pdf

Operator Certification

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 submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: CONNIE BLAYLOCK **Signed on:** JAN 19, 2022 10:12 AM

Name: MORNINGSTAR PARTNERS LP

Title: Regulatory Technician

Street Address: 400 W 7th St.

City: Forth Worth **State:** TX

Phone: (817) 334-7882

Email address: CBLAYLOCK@MSPARTNERS.COM

Field Representative

Representative Name: Amy Byars

Street Address:

City: **State:** **Zip:**

Phone:

Email address: abyars@mspartners.com

BLM Point of Contact

BLM POC Name: DAVE J MANKIEWICZ **BLM POC Title:** AFM-Minerals

BLM POC Phone: 5055647761 **BLM POC Email Address:** DMANKIEW@BLM.GOV

Disposition: Approved **Disposition Date:** 02/07/2022

Signature: Dave Mankiewicz

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-27588	71629	BASIN FRIUTLAND COAL

[4] Property Code	[5] Property Name	[6] Well Number
329025	CARRACAS 25A	14-1ST

[7] OGRID No.	[8] Operator Name	[9] Elevation
330132	MORNINGSTAR OPERATING LLC	7163'

[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
N	25	32N	5W		863'	SOUTH	1502'	WEST	RIO ARRIBA

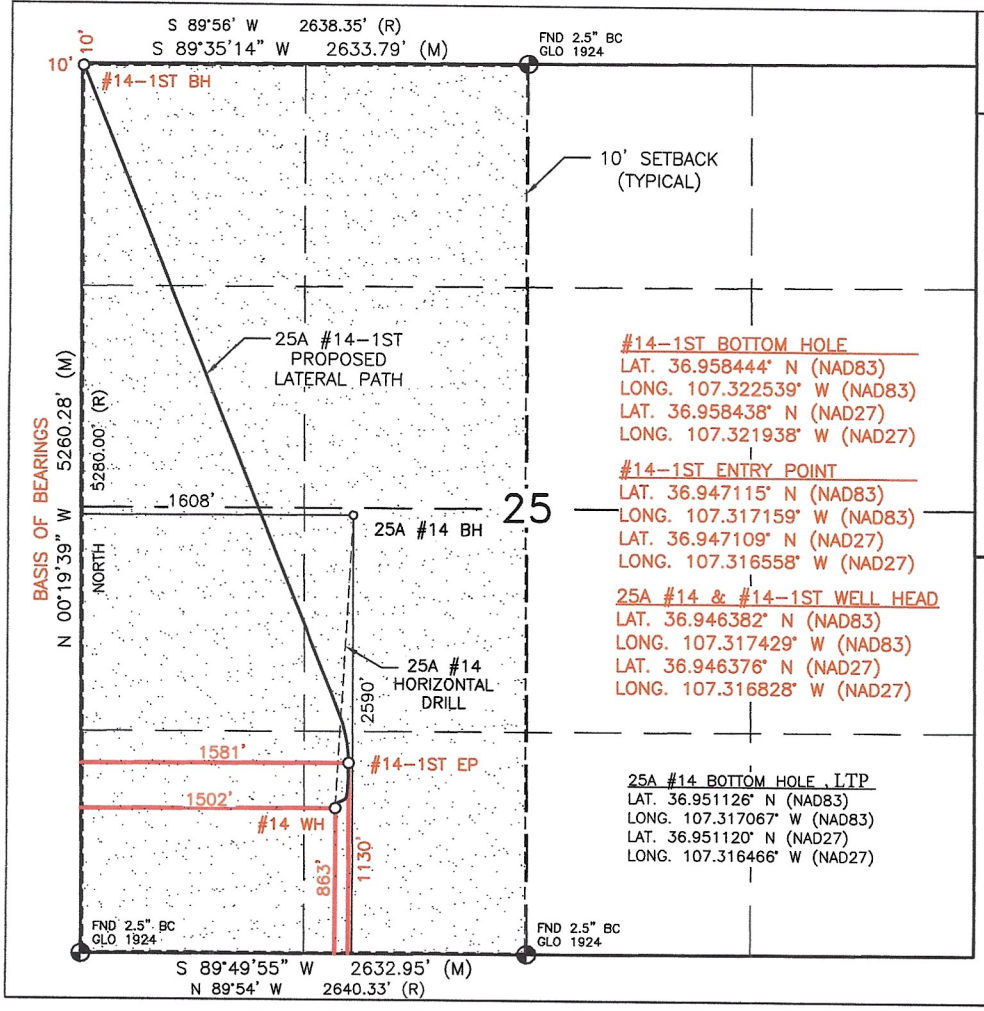
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	25	32N	5W		10'	NORTH	10'	WEST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
W/2 SEC. 25 320.00 ACRES			R-13119

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

16



#14-1ST BOTTOM HOLE
LAT. 36.958444° N (NAD83)
LONG. 107.322539° W (NAD83)
LAT. 36.958438° N (NAD27)
LONG. 107.321938° W (NAD27)

#14-1ST ENTRY POINT
LAT. 36.947115° N (NAD83)
LONG. 107.317159° W (NAD83)
LAT. 36.947109° N (NAD27)
LONG. 107.316558° W (NAD27)

25A #14 & #14-1ST WELL HEAD
LAT. 36.946382° N (NAD83)
LONG. 107.317429° W (NAD83)
LAT. 36.946376° N (NAD27)
LONG. 107.316828° W (NAD27)

25A #14 BOTTOM HOLE, LTP
LAT. 36.951126° N (NAD83)
LONG. 107.317067° W (NAD83)
LAT. 36.951120° N (NAD27)
LONG. 107.316466° W (NAD27)

18

[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.

Connie Blaylock 1/18/22
Signature Date

Connie Blaylock
Printed Name

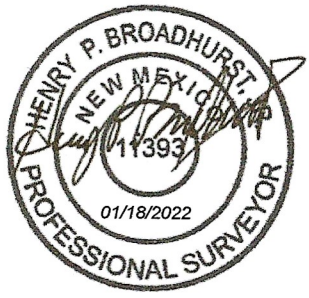
cblaylock@mspartners.com
E-mail Address

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.

JANUARY 18, 2022
Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number 11393

Carracas 25 A 14 Sidetrack Proposed Procedure

1. Prepare existing well for drilling operations with a Pulling Unit
2. Pull tubing and rods
3. PU Mill and TIH to verify casing is clean
4. Set bottom Bridge Plug at approximately 3,900', above open Liner
5. Roll hole and pressure test casing
6. Set top Bridge Plug at approximately 3,827' below proposed window area
7. Release Pulling Unit
8. MIRU drilling rig
9. RU BOP and test
10. PU whipstock and casing mill assembly and set whipstock for casing exit at 3,807' MD
11. Release whip and mill window f/ 3,801' – 3,807'
12. TOOH for curve BHA and drill sidetrack
13. Planned exit at 3,807' MD / 3,745' TVD (directional pilot well)
14. Drill 6-1/4" curve and lateral from 3,807' MD / 3,745' TVD to 8,260' MD / 3,799' TVD at 91.05° Inc, 338.39° azimuth
15. TOOH and run 4-1/2" liner from approximately 3,810' MD to 8,260' MD, every other joint in lateral will be perforated.
16. Rig down and release drilling rig.
17. MIRU Pulling Unit.
18. RIH and retrieve whipstock w/ work string and jars.
19. Retrieve or drill out upper Bridge Plug at 3,827'.
20. LD work string.
21. Run production tubing and equipment to test lateral completion.
22. Secure well, rig down and move off location.

CARRACAS 21A 1-1ST

CARRACAS 23A 4-1ST

CARRACAS 25A 14-1ST

CARRACAS 32B 7-1ST

32N-5W

32N-4W

MorningStar Operating, LLC

Carracas Canyon Production Area

Order: R-13119

0 2,000 4,000 6,000

FEET

January 14, 2022

Carracas 25A 14-1ST : Projected Formation Tops

FORMATION:	TVD	MD
NACIMIENTO	2185	2187
OJO ALAMO	3310	3312
KIRTLAND	3405	3407
FRUITLAND*	3674	3708

*The Fruitland top is being updated.

MorningStar Operating, LLC

Sidetrack Proposal

Prepared by: B.Savage
Date: 08/26/2020
Proposed: J Marschall 01/17/2022

KB = 18 ft
GL = 7,163 ft
API# 30-039-27588

Spud Date: 06/02/2006

Carracas 25A-14
Rio Arriba County, NM

TD – 5,300' MD; 3,873' TVD

12 1/4" hole to 258'
Csg: 5 jts – 9 5/8" 32.3# H-40 ST&C
Setting Depth: 251 ft

Cement
110 sx Class G
(130 ft^3), circ. 5 bbls cmt to surface

8 3/4" hole to 4355'
Csg: 94 jts – 7" 23# J-55 LT&C
Setting Depth: 4314 ft

Cement
Lead: 500 sx 65/35 Class G
Tail: 100 sx Class G
(1104 ft^3), circ. 20 bbls cmt to surface

6 ¼" Upper Sidetrack hole to 8,260'
Liner: 96 jts- 4 ½" 11.6# J-55
Setting Depth: 8,250' MD; 3,799' TVD
TOL: 3,810' MD
No cement

6 ¼" Lower Lateral hole to *5,728'*
Set OH-PKR at 5335' MD
***Cmt Plug 25sx- tag* 5300'md new TD**
Liner: 24 jts- 4 ½" 11.6# J-55
Setting Depth: 5,298'
TOL: 4,287'
No cement

Tbg Detail 08/25/2020:
2 3/8 MSC PS, 1.780" SN, 68 new jts, 60jts re-run yb, and 1 new jt.
SS capstring was accidentaly ran back in hole.
Total of 129 JTS 2 3/8 4.7# J-55 TBG
EOT @ 4170'; SN @ 4161' (~87°)

Proposed Set 3-Slip @ 3950' (60°) w/ BHBS and Plunger

Upper ST Perforations:
Pre-Perforated Liner
Est. 4,176' – 8,250' = 4,074'
Est. 12,096 holes @ 6 jspf
Est 48 jts per'd (every other)

Sidetrack Window
f/ 3,800 -3,807' MD

Whipstock @ 3,807'
~ 47°

BP @ 3,827'
~ 49°

TD – 8,260' MD; 3,799' TVD

4.5" Liner Top 4,287'

BP @ 3,900'
~ 58°

X

Lower Pre-Perforated Liner
4329'-5254', 4,536 – ½" holes @ 6 spf

7" Set @ 4,314' MD

Packer set @ 5,335' MD; 3,873' TVD

Company: MorningStar Partners
Field: Rio Arriba County, NM (NAD 27 - True North)
Site Name: Carracas 25A 14
Well Name: Carracas 25A 14
Wellbore: ST01
Plan: Plan 1
GL: GL: 7163' + 18' KB @ 7181.00usft

Azimuths to True North
Magnetic North: 8.65°

Magnetic Field
Strength: 49710.5nT
Dip Angle: 63.42°
Date: 12/29/2021
Model: IGRF2020

To convert a Magnetic Direction to a True Direction, Add 8.65° East

PROJECT DETAILS: Rio Arriba County, NM (NAD 27 - True North)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico West 3003
System Datum: Mean Sea Level

WELL DETAILS: Carracas 25A 14

GL: 7163' + 18' KB @ 7181.00usft 7163.00

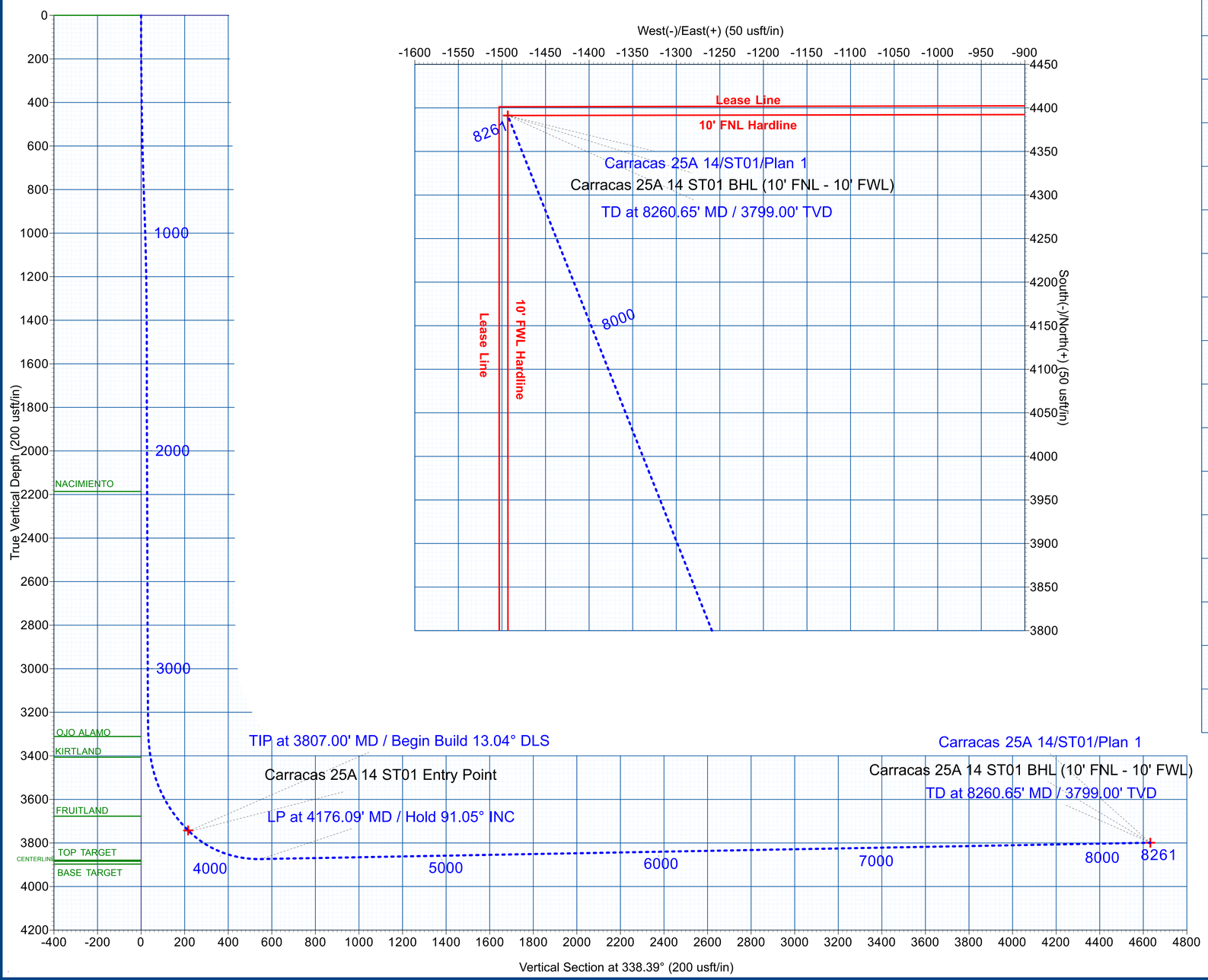
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	2164156.31	650933.85	36.946376	-107.316828

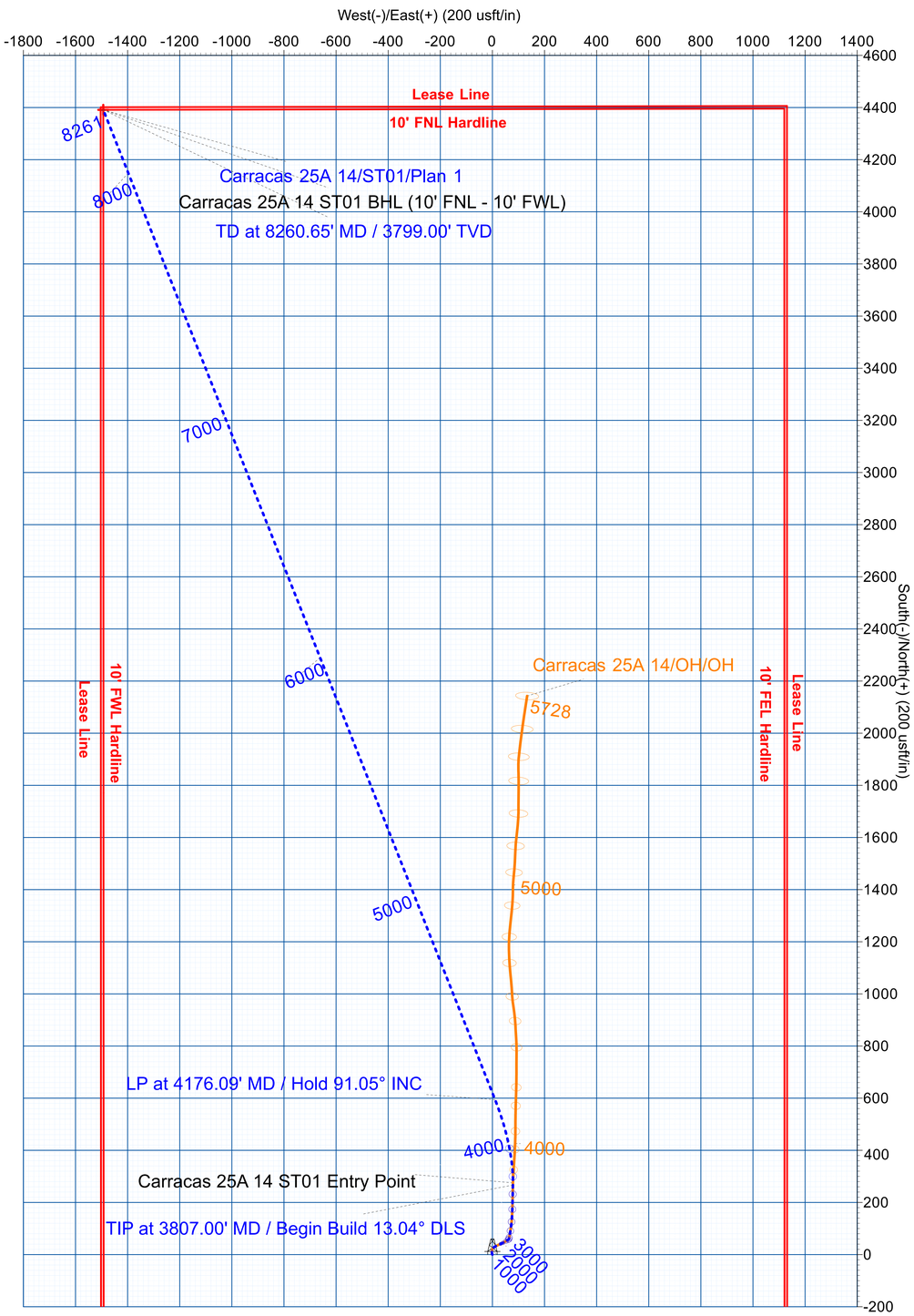
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
3807.00	47.69	1.53	3745.51	266.89	78.84	0.00	0.00	219.10	TIP at 3807.00' MD / Begin Build 13.04° DLS
4176.09	91.05	338.39	3874.00	594.34	10.47	13.04	-31.84	548.71	LP at 4176.09' MD / Hold 91.05° INC
8260.65	91.05	338.39	3799.00	4391.28	-1493.27	0.00	0.00	4632.58	TD at 8260.65' MD / 3799.00' TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Carracas 25A 14 ST01 Entry Point	3768.37	293.80	78.81	2164450.54	651011.06	36.947183	-107.316558
Carracas 25A 14 ST01 BHL (10' FNL - 10' FWL)	3799.00	4391.28	-1493.27	2168539.43	649416.80	36.958438	-107.321938





FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2185.49	2187.15	Nacimiento
3310.39	3312.31	Ojo Alamo
3405.20	3407.94	Kirtland
3674.13	3708.40	Fruitland
3870.21	4106.53	Top Target
3874.08	4168.72	Centerline

Plan: Plan 1 (Carracas 25A 14/ST01)
Created By: Katherine Edwards Date: 22:18, December 29 2021

MorningStar Partners

Rio Arriba County, NM (NAD 27 - True North)
Carracas 25A 14
Carracas 25A 14

ST01

Plan: Plan 1

Standard Survey Report

29 December, 2021

LEGACY DIRECTIONAL

Legacy Directional

Survey Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 25A 14
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Site:	Carracas 25A 14	**MD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Well:	Carracas 25A 14	**North Reference:**	True
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	EDM 5000.14 Single User Db

Project Rio Arriba County, NM (NAD 27 - True North)

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		

Site Carracas 25A 14

Site Position:		**Northing:**	2,164,156.31 usft	**Latitude:**	36.946376
From:	Lat/Long	**Easting:**	650,933.85 usft	**Longitude:**	-107.316828
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "		

Well Carracas 25A 14

Well Position	**+N/-S**	0.00 usft	**Northing:**	2,164,156.31 usft	**Latitude:**	36.946376
	+E/-W	0.00 usft	**Easting:**	650,933.85 usft	**Longitude:**	-107.316828
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	7,163.00 usft
Grid Convergence:		0.31 °				

Wellbore ST01

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	12/29/2021	8.65	63.42	49,710.45206027

Design Plan 1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	3,807.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	338.39

Survey Tool Program **Date** 12/29/2021

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	3,807.00	Energen Resources MWD Surveys (OH)	MWD+IGRF	OWSG MWD + IGRF or WMM
3,807.00	8,260.65	Plan 1 (ST01)	MWD+IGRF	OWSG MWD + IGRF or WMM

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	0.20	339.83	100.00	0.16	-0.06	0.17	0.20	0.20	0.00
200.00	0.40	339.83	200.00	0.66	-0.24	0.70	0.20	0.20	0.00
300.00	0.60	339.83	299.99	1.47	-0.54	1.57	0.20	0.20	0.00
400.00	0.80	339.83	399.99	2.62	-0.96	2.79	0.20	0.20	0.00
442.00	0.88	339.83	441.98	3.20	-1.18	3.41	0.19	0.19	0.00
500.00	1.06	346.52	499.97	4.14	-1.45	4.38	0.37	0.31	11.53
600.00	1.39	353.81	599.95	6.24	-1.80	6.47	0.36	0.33	7.29
700.00	1.74	358.25	699.91	8.97	-1.98	9.07	0.37	0.35	4.44

Legacy Directional

Survey Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 25A 14
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Site:	Carracas 25A 14	**MD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Well:	Carracas 25A 14	**North Reference:**	True
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	EDM 5000.14 Single User Db

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)
800.00	2.09	1.21	799.86	12.31	-1.99	12.17	0.36	0.35	2.96
878.00	2.37	2.90	877.80	15.34	-1.87	14.95	0.37	0.36	2.17
900.00	2.37	7.23	899.78	16.25	-1.79	15.76	0.81	0.00	19.68
1,000.00	2.52	26.08	999.69	20.27	-0.57	19.06	0.81	0.15	18.85
1,100.00	2.90	41.38	1,099.58	24.14	2.07	21.68	0.81	0.38	15.30
1,200.00	3.44	52.53	1,199.43	27.87	6.13	23.65	0.82	0.54	11.15
1,300.00	4.06	60.47	1,299.21	31.44	11.59	24.96	0.81	0.62	7.94
1,310.00	4.13	61.13	1,309.19	31.79	12.21	25.06	0.84	0.70	6.60
1,400.00	3.67	62.46	1,398.98	34.68	17.60	25.76	0.52	-0.51	1.48
1,500.00	3.16	64.40	1,498.80	37.35	22.93	26.29	0.52	-0.51	1.94
1,600.00	2.65	67.08	1,598.67	39.45	27.54	26.53	0.53	-0.51	2.68
1,700.00	2.15	71.01	1,698.58	40.96	31.44	26.50	0.53	-0.50	3.93
1,745.00	1.93	73.44	1,743.56	41.45	32.97	26.39	0.53	-0.49	5.40
1,776.00	1.93	62.19	1,774.54	41.84	33.93	26.40	1.22	0.00	-36.29
1,800.00	1.91	62.15	1,798.53	42.21	34.64	26.49	0.08	-0.08	-0.17
1,900.00	1.84	61.99	1,898.47	43.75	37.53	26.85	0.07	-0.07	-0.16
2,000.00	1.77	61.82	1,998.42	45.23	40.31	27.20	0.07	-0.07	-0.17
2,100.00	1.69	61.63	2,098.38	46.66	42.97	27.56	0.08	-0.08	-0.19
2,187.15	1.63	61.45	2,185.49	47.86	45.19	27.86	0.07	-0.07	-0.21
Nacimiento									
2,200.00	1.62	61.42	2,198.33	48.04	45.51	27.90	0.07	-0.07	-0.22
2,300.00	1.55	61.19	2,298.30	49.36	47.94	28.24	0.07	-0.07	-0.23
2,400.00	1.47	60.94	2,398.26	50.64	50.24	28.58	0.08	-0.08	-0.25
2,500.00	1.40	60.67	2,498.23	51.86	52.43	28.91	0.07	-0.07	-0.27
2,607.00	1.32	60.34	2,605.20	53.11	54.64	29.26	0.08	-0.07	-0.31
2,700.00	1.18	59.02	2,698.18	54.13	56.39	29.56	0.15	-0.15	-1.42
2,800.00	1.04	57.23	2,798.16	55.16	58.04	29.90	0.14	-0.14	-1.79
2,900.00	0.89	54.85	2,898.15	56.09	59.43	30.26	0.16	-0.15	-2.38
3,000.00	0.75	51.56	2,998.13	56.95	60.58	30.63	0.15	-0.14	-3.29
3,036.00	0.70	49.97	3,034.13	57.24	60.93	30.77	0.15	-0.14	-4.42
3,100.00	0.76	45.50	3,098.13	57.78	61.54	31.06	0.13	0.09	-6.98
3,200.00	0.84	39.52	3,198.12	58.81	62.48	31.67	0.12	0.08	-5.98
3,238.00	0.88	37.58	3,236.11	59.26	62.83	31.96	0.13	0.11	-5.11
3,265.00	1.06	38.28	3,263.11	59.62	63.11	32.19	0.67	0.67	2.59
3,296.00	2.20	19.29	3,294.10	60.41	63.49	32.78	4.02	3.68	-61.26
3,300.00	2.50	17.51	3,298.09	60.56	63.54	32.91	7.72	7.50	-44.50
3,312.31	3.43	14.00	3,310.39	61.18	63.71	33.41	7.72	7.58	-28.52
Ojo Alamo									
3,326.00	4.48	11.82	3,324.04	62.10	63.92	34.19	7.72	7.64	-15.92
3,350.00	6.33	10.59	3,347.94	64.32	64.35	36.10	7.72	7.71	-5.13
3,358.00	6.95	10.33	3,355.88	65.23	64.52	36.88	7.76	7.75	-3.25
3,388.00	9.41	10.95	3,385.57	69.42	65.31	40.49	8.21	8.20	2.07
3,400.00	10.30	10.91	3,397.40	71.44	65.70	42.22	7.42	7.42	-0.33

Legacy Directional

Survey Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 25A 14
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Site:	Carracas 25A 14	**MD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Well:	Carracas 25A 14	**North Reference:**	True
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	EDM 5000.14 Single User Db

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)
3,407.94	10.89	10.89	3,405.20	72.87	65.98	43.45	7.40	7.40	-0.27
Kirtland									
3,420.00	11.78	10.86	3,417.03	75.20	66.42	45.45	7.40	7.40	-0.24
3,450.00	14.77	9.98	3,446.22	81.97	67.66	51.29	9.99	9.97	-2.93
3,482.00	17.94	9.36	3,476.92	90.86	69.17	58.99	9.92	9.91	-1.94
3,500.00	19.77	8.60	3,493.96	96.60	70.08	64.00	10.26	10.17	-4.22
3,513.00	21.10	8.13	3,506.14	101.09	70.74	67.93	10.31	10.23	-3.62
3,543.00	24.09	7.43	3,533.83	112.51	72.29	77.98	10.01	9.97	-2.33
3,550.00	24.76	6.91	3,540.21	115.38	72.66	80.52	10.05	9.57	-7.43
3,574.00	27.08	5.32	3,561.79	125.81	73.77	89.80	10.09	9.67	-6.63
3,600.00	29.30	4.16	3,584.70	138.05	74.78	100.81	8.79	8.54	-4.46
3,606.00	29.81	3.91	3,589.92	141.01	74.99	103.48	8.74	8.50	-4.17
3,636.00	32.62	2.77	3,615.58	156.52	75.88	117.58	9.57	9.37	-3.80
3,650.00	33.93	2.36	3,627.28	164.20	76.23	124.58	9.49	9.36	-2.93
3,667.00	35.53	1.89	3,641.25	173.88	76.59	133.45	9.54	9.41	-2.76
3,697.00	38.25	1.45	3,665.25	191.87	77.11	149.99	9.11	9.07	-1.47
3,700.00	38.52	1.44	3,667.60	193.74	77.16	151.70	9.00	9.00	-0.33
3,708.40	39.28	1.42	3,674.13	199.01	77.29	156.56	9.04	9.04	-0.27
Fruitland									
3,727.00	40.96	1.37	3,688.36	210.99	77.58	167.59	9.04	9.04	-0.26
3,750.00	42.94	1.23	3,705.46	226.36	77.93	181.75	8.62	8.61	-0.61
3,758.00	43.62	1.19	3,711.29	231.85	78.04	186.81	8.51	8.50	-0.50
3,790.00	46.34	1.28	3,733.92	254.46	78.53	207.65	8.50	8.50	0.28
3,800.00	47.13	1.43	3,740.77	261.74	78.70	214.35	7.98	7.90	1.50
3,807.00	47.69	1.53	3,745.51	266.89	78.84	219.10	8.02	7.95	1.41
TIP at 3807.00' MD / Begin Build 13.04° DLS									
3,825.00	49.69	359.91	3,757.39	280.41	79.00	231.60	13.04	11.14	-9.02
3,850.00	52.51	357.80	3,773.09	299.86	78.61	249.83	13.04	11.28	-8.40
3,875.00	55.37	355.86	3,787.81	320.03	77.48	269.00	13.04	11.42	-7.79
3,900.00	58.25	354.04	3,801.49	340.87	75.64	289.05	13.04	11.53	-7.27
3,925.00	61.16	352.33	3,814.10	362.30	73.07	309.92	13.04	11.63	-6.83
3,950.00	64.09	350.72	3,825.60	384.25	69.80	331.54	13.04	11.71	-6.45
3,975.00	67.03	349.19	3,835.94	406.66	65.82	353.83	13.04	11.78	-6.14
4,000.00	69.99	347.72	3,845.10	429.44	61.16	376.73	13.04	11.84	-5.88
4,025.00	72.96	346.30	3,853.04	452.54	55.83	400.17	13.04	11.88	-5.66
4,050.00	75.94	344.93	3,859.74	475.86	49.85	424.06	13.04	11.92	-5.48
4,075.00	78.93	343.60	3,865.18	499.35	43.23	448.33	13.04	11.95	-5.34
4,100.00	81.92	342.29	3,869.34	522.91	36.00	472.90	13.04	11.97	-5.23
4,106.53	82.70	341.95	3,870.21	529.07	34.01	479.36	13.04	11.99	-5.18
Top Target									
4,125.00	84.92	341.00	3,872.20	546.48	28.18	497.69	13.04	11.99	-5.15
4,150.00	87.92	339.72	3,873.77	569.97	19.79	522.62	13.04	12.00	-5.11
4,168.72	90.17	338.77	3,874.08	587.47	13.16	541.33	13.04	12.00	-5.09
Centerline									
4,176.09	91.05	338.39	3,874.00	594.34	10.47	548.71	13.04	12.00	-5.09

Legacy Directional

Survey Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 25A 14
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Site:	Carracas 25A 14	**MD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Well:	Carracas 25A 14	**North Reference:**	True
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	EDM 5000.14 Single User Db

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)
LP at 4176.09' MD / Hold 91.05° INC									
4,200.00	91.05	338.39	3,873.56	616.56	1.67	572.61	0.00	0.00	0.00
4,300.00	91.05	338.39	3,871.72	709.52	-35.15	672.59	0.00	0.00	0.00
4,400.00	91.05	338.39	3,869.89	802.48	-71.96	772.58	0.00	0.00	0.00
4,500.00	91.05	338.39	3,868.05	895.44	-108.78	872.56	0.00	0.00	0.00
4,600.00	91.05	338.39	3,866.22	988.40	-145.59	972.54	0.00	0.00	0.00
4,700.00	91.05	338.39	3,864.38	1,081.35	-182.41	1,072.53	0.00	0.00	0.00
4,800.00	91.05	338.39	3,862.54	1,174.31	-219.22	1,172.51	0.00	0.00	0.00
4,900.00	91.05	338.39	3,860.71	1,267.27	-256.04	1,272.49	0.00	0.00	0.00
5,000.00	91.05	338.39	3,858.87	1,360.23	-292.86	1,372.48	0.00	0.00	0.00
5,100.00	91.05	338.39	3,857.04	1,453.19	-329.67	1,472.46	0.00	0.00	0.00
5,200.00	91.05	338.39	3,855.20	1,546.15	-366.49	1,572.44	0.00	0.00	0.00
5,300.00	91.05	338.39	3,853.36	1,639.10	-403.30	1,672.43	0.00	0.00	0.00
5,400.00	91.05	338.39	3,851.53	1,732.06	-440.12	1,772.41	0.00	0.00	0.00
5,500.00	91.05	338.39	3,849.69	1,825.02	-476.93	1,872.39	0.00	0.00	0.00
5,600.00	91.05	338.39	3,847.85	1,917.98	-513.75	1,972.38	0.00	0.00	0.00
5,700.00	91.05	338.39	3,846.02	2,010.94	-550.56	2,072.36	0.00	0.00	0.00
5,800.00	91.05	338.39	3,844.18	2,103.90	-587.38	2,172.34	0.00	0.00	0.00
5,900.00	91.05	338.39	3,842.35	2,196.86	-624.19	2,272.33	0.00	0.00	0.00
6,000.00	91.05	338.39	3,840.51	2,289.81	-661.01	2,372.31	0.00	0.00	0.00
6,100.00	91.05	338.39	3,838.67	2,382.77	-697.82	2,472.29	0.00	0.00	0.00
6,200.00	91.05	338.39	3,836.84	2,475.73	-734.64	2,572.27	0.00	0.00	0.00
6,300.00	91.05	338.39	3,835.00	2,568.69	-771.45	2,672.26	0.00	0.00	0.00
6,400.00	91.05	338.39	3,833.17	2,661.65	-808.27	2,772.24	0.00	0.00	0.00
6,500.00	91.05	338.39	3,831.33	2,754.61	-845.08	2,872.22	0.00	0.00	0.00
6,600.00	91.05	338.39	3,829.49	2,847.56	-881.90	2,972.21	0.00	0.00	0.00
6,700.00	91.05	338.39	3,827.66	2,940.52	-918.71	3,072.19	0.00	0.00	0.00
6,800.00	91.05	338.39	3,825.82	3,033.48	-955.53	3,172.17	0.00	0.00	0.00
6,900.00	91.05	338.39	3,823.98	3,126.44	-992.34	3,272.16	0.00	0.00	0.00
7,000.00	91.05	338.39	3,822.15	3,219.40	-1,029.16	3,372.14	0.00	0.00	0.00
7,100.00	91.05	338.39	3,820.31	3,312.36	-1,065.98	3,472.12	0.00	0.00	0.00
7,200.00	91.05	338.39	3,818.48	3,405.31	-1,102.79	3,572.11	0.00	0.00	0.00
7,300.00	91.05	338.39	3,816.64	3,498.27	-1,139.61	3,672.09	0.00	0.00	0.00
7,400.00	91.05	338.39	3,814.80	3,591.23	-1,176.42	3,772.07	0.00	0.00	0.00
7,500.00	91.05	338.39	3,812.97	3,684.19	-1,213.24	3,872.06	0.00	0.00	0.00
7,600.00	91.05	338.39	3,811.13	3,777.15	-1,250.05	3,972.04	0.00	0.00	0.00
7,700.00	91.05	338.39	3,809.30	3,870.11	-1,286.87	4,072.02	0.00	0.00	0.00
7,800.00	91.05	338.39	3,807.46	3,963.07	-1,323.68	4,172.00	0.00	0.00	0.00
7,900.00	91.05	338.39	3,805.62	4,056.02	-1,360.50	4,271.99	0.00	0.00	0.00
8,000.00	91.05	338.39	3,803.79	4,148.98	-1,397.31	4,371.97	0.00	0.00	0.00
8,100.00	91.05	338.39	3,801.95	4,241.94	-1,434.13	4,471.95	0.00	0.00	0.00
8,200.00	91.05	338.39	3,800.11	4,334.90	-1,470.94	4,571.94	0.00	0.00	0.00
8,260.65	91.05	338.39	3,799.00	4,391.28	-1,493.27	4,632.58	0.00	0.00	0.00

Legacy Directional
Survey Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 25A 14
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Site:	Carracas 25A 14	**MD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Well:	Carracas 25A 14	**North Reference:**	True
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	EDM 5000.14 Single User Db

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)
TD at 8260.65' MD / 3799.00' TVD									

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
Carracas 25A 14 ST01 E - plan hits target center - Point	0.00	0.00	3,768.37	293.80	78.81	2,164,450.53	651,011.07	36.947183	-107.316559
Carracas 25A 14 ST01 E - plan hits target center - Point	0.00	0.00	3,799.00	4,391.28	-1,493.27	2,168,539.43	649,416.81	36.958438	-107.321939

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,187.15	2,185.49	Nacimiento		-1.05	338.39
3,312.31	3,310.39	Ojo Alamo		-1.05	338.39
3,407.94	3,405.20	Kirtland		-1.05	338.39
3,708.40	3,674.13	Fruitland		-1.05	338.39
4,106.53	3,870.21	Top Target		-1.05	338.39
4,168.72	3,874.08	Centerline		-1.05	338.39

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
3807	3746	267	79	TIP at 3807.00' MD / Begin Build 13.04° DLS
4176	3874	594	10	LP at 4176.09' MD / Hold 91.05° INC
8261	3799	4391	-1493	TD at 8260.65' MD / 3799.00' TVD

Checked By: _____ Approved By: _____ Date: _____

MorningStar Partners

Rio Arriba County, NM (NAD 27 - True North)
Carracas 25A 14
Carracas 25A 14

ST01
Plan 1

Anticollision Report

29 December, 2021

LEGACY DIRECTIONAL

Legacy Directional
Anticollision Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 25A 14
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Reference Site:	Carracas 25A 14	**MD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Site Error:	0.00 usft	**North Reference:**	True
Reference Well:	Carracas 25A 14	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ST01	**Database:**	EDM 5000.14 Single User Db
Reference Design:	Plan 1	**Offset TVD Reference:**	Offset Datum

Reference Plan 1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum centre distance of 10,000.00usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 12/29/2021

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	3,807.00	Energen Resources MWD Surveys (OH)	MWD+IGRF	OWSG MWD + IGRF or WMM
3,807.00	8,260.65	Plan 1 (ST01)	MWD+IGRF	OWSG MWD + IGRF or WMM

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Carracas 25A 14						
Carracas 25A 14 - OH - OH	4,200.00	4,193.56	91.01	83.95	12.905	CC, ES
Carracas 25A 14 - OH - OH	4,700.00	4,682.98	250.29	227.20	10.839	SF

Offset Design: Carracas 25A 14 - Carracas 25A 14 - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 100-MWD+IGRF — **Rule Assigned:** — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
3,807.00	3,745.50	3,807.00	3,745.51	0.00	0.00	111.99	266.89	78.84	0.03	0.03	0.00	N/A	
3,900.00	3,801.49	3,899.67	3,803.08	0.73	0.73	111.06	339.32	82.39	7.10	5.85	1.25	5.673	
4,000.00	3,845.10	3,998.93	3,851.63	1.32	1.68	110.67	425.58	87.32	27.23	24.37	2.86	9.514	
4,100.00	3,869.34	4,097.98	3,882.22	2.32	2.76	107.41	519.61	88.78	54.43	49.58	4.84	11.243	
4,200.00	3,873.56	4,193.56	3,890.84	5.03	3.91	101.44	614.43	90.99	91.01	83.95	7.05	12.905	CC, ES
4,300.00	3,871.72	4,289.40	3,882.85	7.20	5.17	94.94	709.91	92.54	128.18	118.31	9.87	12.986	
4,400.00	3,869.89	4,387.26	3,874.72	9.11	6.55	91.41	807.41	92.47	164.58	151.62	12.96	12.696	
4,500.00	3,868.05	4,498.83	3,871.74	10.99	8.22	90.84	918.69	85.18	195.39	178.45	16.93	11.538	
4,600.00	3,866.22	4,584.23	3,869.05	12.86	9.55	90.43	1,003.43	75.19	221.32	201.72	19.60	11.294	
4,700.00	3,864.38	4,682.98	3,867.37	14.75	11.17	90.40	1,101.81	67.03	250.29	227.20	23.09	10.839	SF
4,800.00	3,862.54	4,761.00	3,867.22	16.66	12.47	90.62	1,179.73	63.54	282.85	257.39	25.46	11.110	
4,900.00	3,860.71	4,822.93	3,867.88	18.59	13.51	90.90	1,241.57	66.51	323.66	296.93	26.72	12.111	
5,000.00	3,858.87	4,906.82	3,867.29	20.55	14.93	90.93	1,325.02	74.93	369.56	340.00	29.56	12.503	
5,100.00	3,857.04	5,008.39	3,866.88	22.53	16.70	91.02	1,426.44	79.79	410.45	376.79	33.66	12.194	
5,200.00	3,855.20	5,113.87	3,869.03	24.52	18.55	91.45	1,531.59	87.57	454.50	416.57	37.93	11.984	
5,300.00	3,853.36	5,175.00	3,870.60	26.54	19.64	91.69	1,592.56	91.40	497.19	457.62	39.57	12.566	
5,400.00	3,851.53	5,316.59	3,873.89	28.57	22.20	92.13	1,733.70	100.01	540.59	494.70	45.89	11.780	
5,500.00	3,849.69	5,423.85	3,873.61	30.61	24.16	92.14	1,840.93	100.48	578.13	527.95	50.18	11.520	
5,600.00	3,847.85	5,475.00	3,871.62	32.66	25.10	91.96	1,892.03	100.22	614.98	563.30	51.68	11.900	
5,700.00	3,846.02	5,517.87	3,869.95	34.72	25.88	91.80	1,934.68	104.11	659.54	607.07	52.46	12.572	
5,800.00	3,844.18	5,600.00	3,866.46	36.80	27.37	91.48	2,016.07	114.50	707.70	652.15	55.54	12.742	
5,900.00	3,842.35	5,667.47	3,865.19	38.88	28.60	91.39	2,082.83	124.19	757.37	699.62	57.75	13.115	
6,000.00	3,840.51	5,728.00	3,866.10	40.97	29.70	91.48	2,142.65	133.30	808.23	748.70	59.53	13.577	
6,100.00	3,838.67	5,728.00	3,866.10	43.07	29.70	91.48	2,142.65	133.30	865.55	808.36	57.19	15.134	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Legacy Directional

Anticollision Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 25A 14
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Reference Site:	Carracas 25A 14	**MD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Site Error:	0.00 usft	**North Reference:**	True
Reference Well:	Carracas 25A 14	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ST01	**Database:**	EDM 5000.14 Single User Db
Reference Design:	Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Carracas 25A 14 - Carracas 25A 14 - OH - OH

Offset Site Error: 0.00 usft

Survey Program: 100-MWD+IGRF

Rule Assigned:

Offset Well Error: 0.00 usft

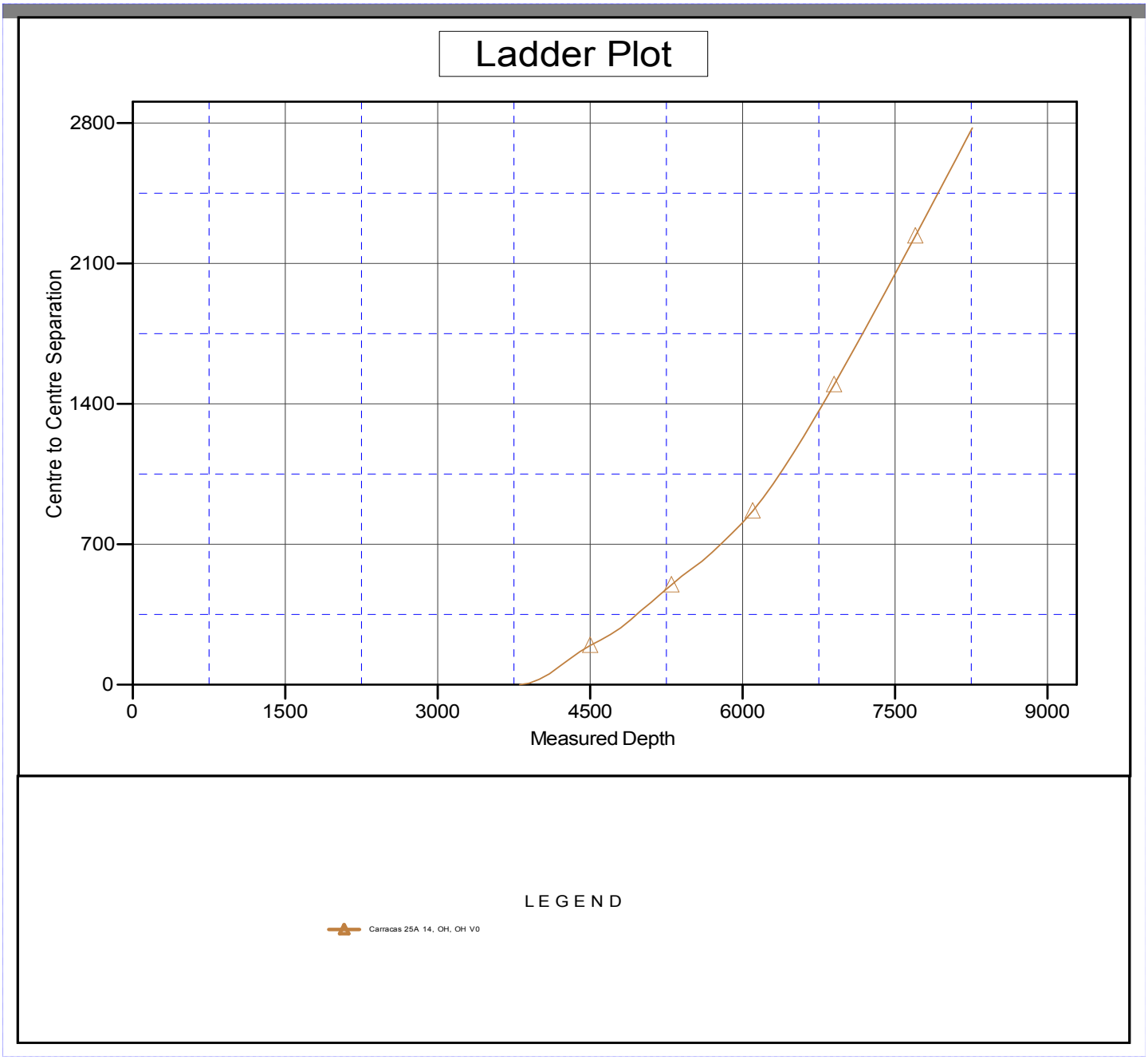
Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,200.00	3,836.84	5,728.00	3,866.10	45.17	29.70	91.48	2,142.65	133.30	930.12	875.65	54.46	17.078	
6,300.00	3,835.00	5,728.00	3,866.10	47.28	29.70	91.48	2,142.65	133.30	1,000.53	949.01	51.52	19.421	
6,400.00	3,833.17	5,728.00	3,866.10	49.40	29.70	91.48	2,142.65	133.30	1,075.64	1,027.19	48.45	22.200	
6,500.00	3,831.33	5,728.00	3,866.10	51.52	29.70	91.48	2,142.65	133.30	1,154.53	1,109.22	45.31	25.483	
6,600.00	3,829.49	5,728.00	3,866.10	53.64	29.70	91.48	2,142.65	133.30	1,236.48	1,194.41	42.07	29.391	
6,700.00	3,827.66	5,728.00	3,866.10	55.77	29.70	91.48	2,142.65	133.30	1,320.91	1,282.24	38.68	34.154	
6,800.00	3,825.82	5,728.00	3,866.10	57.90	29.70	91.48	2,142.65	133.30	1,407.39	1,372.44	34.95	40.272	
6,900.00	3,823.98	5,728.00	3,866.10	60.04	29.70	91.48	2,142.65	133.30	1,495.56	1,465.22	30.33	49.303	
7,000.00	3,822.15	5,728.00	3,866.10	62.18	29.70	91.48	2,142.65	133.30	1,585.13	1,557.67	27.46	57.732	
7,100.00	3,820.31	5,728.00	3,866.10	64.32	29.70	91.48	2,142.65	133.30	1,675.88	1,644.34	31.54	53.133	
7,200.00	3,818.48	5,728.00	3,866.10	66.46	29.70	91.48	2,142.65	133.30	1,767.63	1,733.76	33.87	52.194	
7,300.00	3,816.64	5,728.00	3,866.10	68.61	29.70	91.48	2,142.65	133.30	1,860.23	1,824.66	35.57	52.296	
7,400.00	3,814.80	5,728.00	3,866.10	70.76	29.70	91.48	2,142.65	133.30	1,953.56	1,916.62	36.93	52.894	
7,500.00	3,812.97	5,728.00	3,866.10	72.91	29.70	91.48	2,142.65	133.30	2,047.52	2,009.44	38.08	53.772	
7,600.00	3,811.13	5,728.00	3,866.10	75.06	29.70	91.48	2,142.65	133.30	2,142.02	2,102.95	39.07	54.826	
7,700.00	3,809.30	5,728.00	3,866.10	77.21	29.70	91.48	2,142.65	133.30	2,237.01	2,197.06	39.95	55.996	
7,800.00	3,807.46	5,728.00	3,866.10	79.37	29.70	91.48	2,142.65	133.30	2,332.41	2,291.67	40.74	57.246	
7,900.00	3,805.62	5,728.00	3,866.10	81.53	29.70	91.48	2,142.65	133.30	2,428.18	2,386.71	41.47	58.550	
8,000.00	3,803.79	5,728.00	3,866.10	83.69	29.70	91.48	2,142.65	133.30	2,524.29	2,482.14	42.15	59.892	
8,100.00	3,801.95	5,728.00	3,866.10	85.85	29.70	91.48	2,142.65	133.30	2,620.68	2,577.90	42.78	61.262	
8,200.00	3,800.11	5,728.00	3,866.10	88.01	29.70	91.48	2,142.65	133.30	2,717.33	2,673.96	43.37	62.649	
8,260.65	3,799.00	5,728.00	3,866.10	89.32	29.70	91.48	2,142.65	133.30	2,776.07	2,732.35	43.72	63.497	

Legacy Directional
Anticollision Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 25A 14
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Reference Site:	Carracas 25A 14	**MD Reference:**	GL: 7163' + 18' KB @ 7181.00usft
Site Error:	0.00 usft	**North Reference:**	True
Reference Well:	Carracas 25A 14	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	ST01	**Database:**	EDM 5000.14 Single User Db
Reference Design:	Plan 1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to GL: 7163' + 18' KB @ 7181.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -107.833334

Coordinates are relative to: Carracas 25A 14
Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30
Grid Convergence at Surface is: 0.31°



CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Legacy Directional
Anticollision Report

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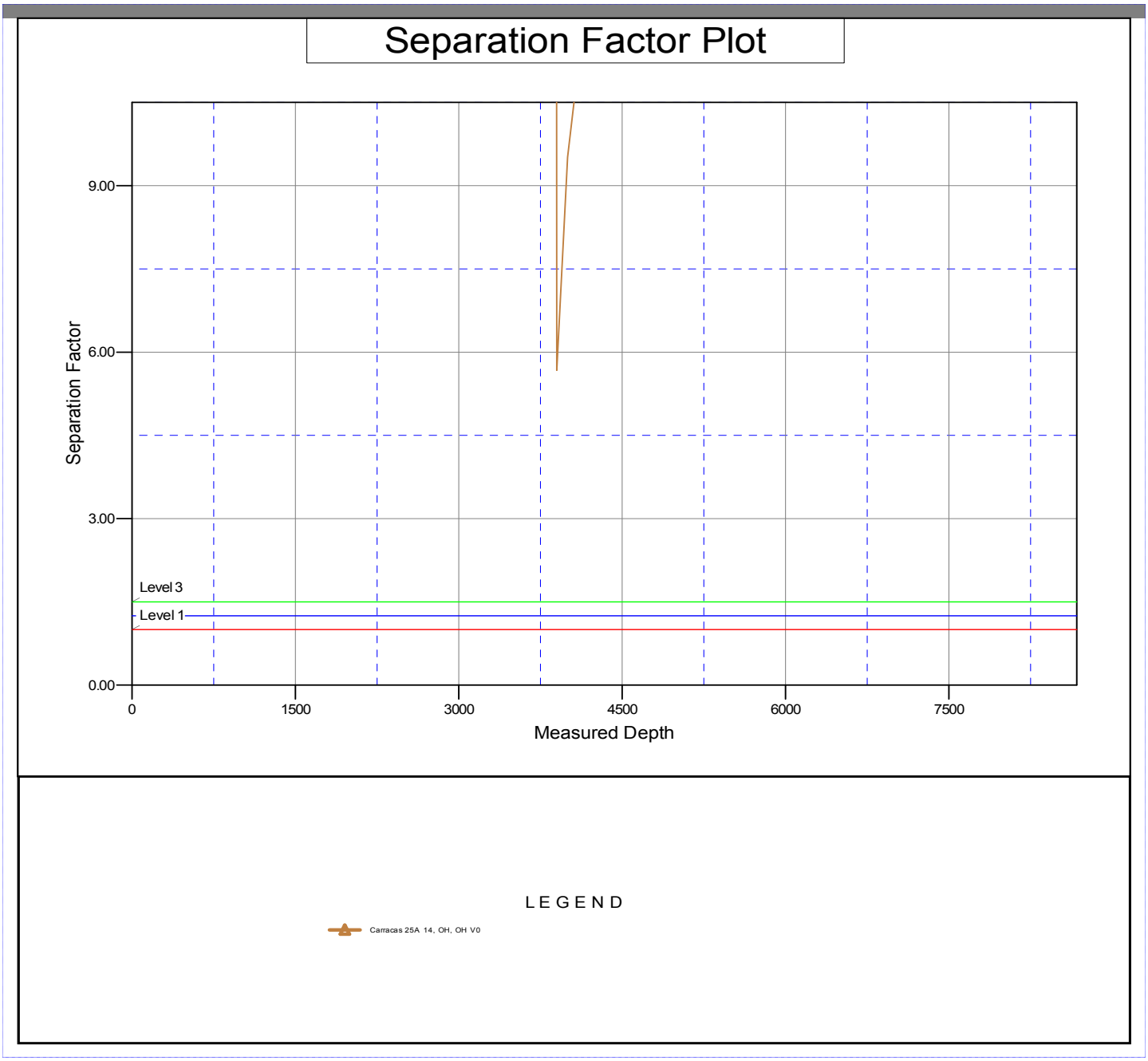


CARSON NATIONAL FOREST
JICARILLA RANGER DISTRICT

CONDITIONS OF APPROVAL

☐ Application for Permit to Drill (APD)
☒ Sundry Notice: **Sundry ID: 2653236**

Date:	**02/04/2022**
Operator:	**MORNINGSTAR PARTNERS LP**
Well Name:	**Carracas 25A #14**
API Number:	**30-039-27588**

Legal Description:

Surface Location:
Section: **25** Township: **32N** Range: **5W**, NMPM.
Footages: **870 FSL, 1510 FWL**

Bottom Hole Location (If different):
Section: Township: Range:, NMPM.
Footages:

The following conditions of approval (COAs) will apply to this location and all associated activities and facilities on National Forest System (NFS) lands. COAs remain in effect until final abandonment and reclamation is accepted by the Forest Service Authorized Officer.

SITE SPECIFIC CONDITIONS OF APPROVAL

A. Pre-Construction

☒ **The operator or their representative will contact and schedule an on-site pre-construction meeting with the Authorized Officer, (505) 632-2956. At the time of the pre-construction meeting all access/pipeline route stakes, location stakes, well bore stake, and any archeological protective barrier(s), if applicable, will be properly located and easily identifiable. It is recommended that, at a minimum, the operator representative and the construction contractor attend the pre-construction meeting.**

☒ **The operator will ensure that a complete copy of the APD, including the surface use plan of operations (SUPO) with COAs, is readily available to all persons at all times at the project area.**

B. Gates

☐ A locked gate will be required in a location on the access road to this well as determined by the Authorized Officer. Refer to the Roads/Access section for gate design and construction specifications.

☒ **The existing gate on Forest Road 218C will be in functioning condition when drilling and completion are done. Refer to the Roads/Access section for existing gate requirements. The operator will be responsible for gate maintenance for the life of the well.**

C. Required Seed Mixture

Seed Mixture: See attached BLM-FFO pinyon-juniper community guidelines for seed mixture and specifications. Mulching and the sterile cover crop option is required. These requirements apply to pad and pipeline seeding.

GENERAL CONDITIONS OF APPROVAL

A. Construction, Drilling, and Interim Reclamation

1. Location Development

A. No ground disturbing activities or vehicle/equipment use is authorized outside of the approved project area.

B. The operator will follow all the design features, best management practices, and mitigation measures as contained in the National Environmental Policy Act project record and decision for this project. A copy of the project record may be obtained from the Authorized Officer.

C. Road building, location construction, drilling, and completion activities are permitted from April 1st through October 31st of each year. Approval of activities between November 1st and March 31st may be granted on a case by case basis by the Authorized Officer.

D. Unless otherwise specified all trees will be utilized for erosion control where possible. Trees are to be cut into 8-10 foot sections and stockpiled until reclamation. Upon reclamation they are to be distributed around the location or access road in such a way as to help reduce erosion or create wildlife habitat but not create an unnecessary fire hazard. Small diameter trees and slash may be mulched or chipped and stripped with the topsoil. Slash may be chipped, mulched, or stockpiled for placement on seeded areas. Excess wood will be purchased by the operator and removed under commercial wood permit or left stockpiled in an area approved by the Authorized Officer and accessible to the public by motor vehicle. Trees left for reclamation, in areas behind locked gates, will be protected from theft by means such as fencing or signage. For project areas that are accessible by motor vehicle to the public the Authorized Officer may require the operator to temporarily stockpile trees behind a locked gate, in an area approved by the Authorized Officer, to ensure an adequate amount remains for reclamation.

E. No burning of trees or slash is authorized.

F. Company signs will be allowed on NFS lands during the construction, drilling, completion, and work-over. These signs are not to be attached to any trees by any means are are to be immdeiately removed upon project completion.

2. Slope Ratios

A. The final cut slope will not exceed a 4:1 ratio. The final fill slope will not exceed a 4:1 ratio. To obtain this ratio, pits and slopes will be back sloped into the pad upon completion of drilling and prior to setting production equipment. Construction slopes can be much steeper during drilling, but will be contoured to the above final slopes upon pit reclamation. Any final slope that exceeds a 4:1 ratio must be approved by the Authorized Officer. Steeper slopes may require additional mitigation measures, such as seed matting, to ensure soil stabilization and reclamation. Slopes will be contour ripped, pocked, or water barred to prevent erosion on the location and erosion control will be designed in a manner that excessive erosion does not occur off-site.

B. The pad will be designed, constructed, and maintained in such a manner that water does not pool in the working area of the location. Location drainage must be designed and maintained in such a manner that rilling, gullying, or excessive erosion does not take place. Mitigation measures such as road surfacing or re-contouring of the location may be required if adequate location drainage is not achieved.

3. Topsoil Recovery

A. Topsoil will be stripped from the project area (minimum 6 inches deep, or all that is available if less than 6 inches), including access road, and be deposited in storage piles apart from other excavated material. It will be kept separate and protected, either in piles or windrowed. Upon reclamation the stored topsoil will be evenly spread over all areas outside the working area of the pad. Along access roads it is to be distributed over final cut and fill slopes. Only subsurface soil and material shall be utilized in the contouring of the cut and fill slopes. Under no circumstances shall topsoil be utilized as substrate material for contouring of cut and fill slopes.

B. If the ground is saturated and topsoil recovery is not possible all construction is to cease until conditions dry to the point that topsoil can be stripped and recovered. Any snow is to be stripped and stored separately from the topsoil.

C. When work-over activities or other surface disturbances are required during production, topsoil that was previously salvaged and redistributed must be stripped off and salvaged. The topsoil must be kept separate and protected from other spoil or equipment activities. After the work-over or other operation that required the surface disturbance is completed, the stripped topsoil must be evenly spread over the exposed subsoil and the disturbed area will be promptly reclaimed following the reclamation section requirements.

4. Reserve Pit

A. The reserve pit will be approved, consructed, operated, maintained, and closed pursuant to all applicable federal, state, and local laws and regulations.

B. The operator will ensure the reserve pit is adequately fenced at all times to prevent unauthorized access and take all reasonable measures to protect public safety, wildlife, and livestock. The operator will maintain the fence in good repair. Minimum fence standards include a four foot woven wire fence with a top rail or barbed top wire and H-braced corners.

C. The operator should plan to have the reserve pit closed prior to November 1st .

5. Equipment and Vehicles

A. All vehicles and equipment will be kept free of leaks. Any leaks/spills will be appropriately contained, and the vehicle/equipment repaired or removed from the construction, production, or lease area in such a way as to prevent further spills. Any contaminated soil will be removed and disposed of properly. Fluids from routine vehicle/equipment maintenance will be removed and disposed of properly.

B. All vehicles and equipment should be properly cleaned/inspected prior to entering NFS lands to prevent spills/leaks and/or weed contamination.

C. Vehicle and equipment use is only authorized in the approved project area and on designated roads.

D. Vehicles and all equipment associated with lease operations must be driven and operated in a safe and responsible manner.

E. An approved muffler or spark arrester will be maintained on the exhausts of all vehicles, equipment, or other internal combustion engines.

6. Well Sites Constructed and not Drilled

If this well is constructed and not drilled the location and access road must be reclaimed, per the standards outlined in the Final Reclamation and Abandonment section at the time of APD expiration. If the well is not drilled before November 1st of the year that initial ground disturbance takes place the Authorized Officer may require interim mitigation measures such as seeding, the installation of water bars, or other site specific measures to ensure temporary soil stability and prevent erosion. Unless otherwise approved any archeological protective fencing must be removed and then re-established prior to commencement of activities.

B. Production/Facilities

1. Production Facilities

Design and layout of facilities will be deferred until an onsite with the Authorized Officer is conducted to determine the best location. The operator or their representative will contact the Authorized Officer to schedule a facility layout onsite. No facilities will be installed without prior appoval by the Authorized Officer. Once a design and layout plan is approved by the Authorized Officer any modifications must be approved in advance by the Authorized Officer.

2. General facility requirements

A. Production facilities (including berms) will be placed on cut a minimum of 10 feet from the toe of the cut. If pad location does not allow for facilities to be placed on cut, facilities may be placed, with Authorized Officer approval, on fill. All facilities including berms will be located a minimum of 10 feet from the top of the fill.

B. Production facilities, including any facilities associated with pipeline operations, will be placed on location as not to interfere with reclaiming the cut and fill slopes to their proper ratio. If equipment is found to interfere with the proper reclamation of the slope, the operator will be required to move the equipment so proper re-contouring can occur.

C. All open top permanent production or storage tanks, regardless of diameter, made of fiberglass, steel, or other material used for containment of oil, condensate, produced water, or other production waste will be screened, netted, or otherwise covered to protect migratory birds and other wildlife from access. Exhaust vents/stacks will have devices/screens installed to prevent bird/wildlife access.

D. No weeds or vegetation are allowed on or within secondary containment berms/structures.

E. A "residential style" muffler is required on production engines to reduce noise levels. In noise sensitive areas (NSA) a “hospital grade” muffler is required. Within a noise sensitive area noise levels will comply with BLM guidelines and standards for NSA’s.

F. Compressor engines 300 horsepower or less used during well production must be rated by the manufacturer as emitting NOx at 2 grams per horsepower hour or less to comply with the New Mexico Environmental Department, Air Quality Bureau’s guidance. Compressor units not equipped with a drip pan for containment of fluids will be placed in a containment berm. The bermed area will be lined with an impervious material at least 8 mils thick. The berm will be a minimum of 12 inches tall and graveled to prevent erosion. The compressor will be painted to to match the well facilities. When compressor units are washed, or any equipment associated with the location, the fluids (i.e., scrubber cleaners) will be properly disposed of to avoid ground contamination or hazard to livestock or

wildlife. Fencing and/or exclusion devices may be required to protect birds, wildlife, or livestock.

G. All well and facility locations will be properly identified and signed per applicable laws and regulations. Production tanks and all bulk storage tanks must be labeled to identify contents. All storage tanks/vessels must be labeled/placarded in accordance with all applicable laws and regulations.

H. All above ground surface structures and equipment will be painted a non-glare color as follows: Green, Federal Standard 595a-34127 (Juniper Green). The exception being where applicable laws and/or regulations require other colors or markings. The operator may request different colors or markings if operator safety policies dictate. All facilities must be painted within three months of installation. Periodic repainting of facilities will be required to keep all facilities maintained in an acceptable condition.

I. All above ground appertances and facilities must be approved in advance by the Authorized Officer. The operator must notify the Authorized Officer prior to removing or terminating any pipeline, equipment, storage vessel/tank, or facility. Site mitigation may be required upon facility/equipment removal.

J. Any facility, tank, container, vessel, or equipment not in use for thirty days must be removed from National Forest System (NFS) lands. Authorization to keep unused facilities or equipment on NFS lands beyond thirty days must be obtained from the Authorized Officer. Site mitigation may be required upon facility/equipment removal.

3. Secondary Containment

A. Unless otherwise specified or approved all storage facilities (including produced water tanks) must be contained in a secondary spill containment structure. All containment berms, containment walls, drip pans, or equivalent protection structures are to be constructed and maintained around all storage facilities, including tank batteries. The containment structure must have sufficient volume to contain, at a minimum, the content of the largest storage tank within the facility/battery and sufficient freeboard to contain precipitation, unless more stringent protective requirements are deemed necessary by the Authorized Officer. All chemical and equipment oil/fluid/fuel storage vessels, whether the vessels are permanent or temporary, must be fully contained within a secondary spill containment structure. Secondary containment capacity will be calculated at the lowest point on the structure.

B. All well facilities, tanks, and storage facilities/vessels will prevent birds, wildlife (including wild horses) and livestock from having access to all produced fluids and any other onsite fluids or solids that could be harmful. This may include fencing all production pits/tanks (48 inch height, braced corners, top rail or barbed top wire, and 4 strand wire or woven wire fence.), compressors, tank batteries, and containment troughs. Screens, covered troughs, and drip pan covers may be used where suitable and constructed in such a way that wildlife/birds can not access the contents at its highest

level. Self closing gates or walk-overs are required with any fencing and over containment berms/structures. All gates need to be kept closed and fences should not be affected by flow lines. Fences should be located and maintained to keep all animals a safe distance. All structures, fences, or barriers must be approved, by the Authorized Officer, prior to installation.

C. Gravel or another sufficiently impervious material will be placed on berms to prevent erosion. The berm will be maintained so that it does not erode, ensures adequate containment, and prevents livestock or wildlife from entering the containment structure.

D. Load-out lines must terminate within the bermed area unless otherwise approved by the Authorized Officer.

E. For crude oil, condensate, or produced water lines, either a trucker supplied mobile or permanent catch basin will be installed at the point of hook-up. No pipes, cables, or gas lines are to be routed through the berm itself. An exception may be made by the Authorized Officer on a case by case basis.

4. Roads/Access

A. The operator will be a member, in good standing, of the Carson Forest Road Maintenance Committee (Jicarilla Road Committee), unless otherwise approved by the Authorized Officer. Except for roads designated and accepted for maintenance as part of the Jicarilla Road Committee, the operator is responsible for maintenance of all roads that are designated and authorized for use. The operator is responsible for all road maintenance, if the operator is the only authorized user, or in part if multiple users are authorized.

B. All construction activities, vehicle, and equipment use is to cease if the road surface or ground is saturated to the point that rutting greater than 6 inches occurs. The operator is responsible for any road damage caused by wet weather operation. No mud plowing or the use of equipment to drag/assist other vehicles/equipment will be allowed during wet, snow, or muddy road conditions.

C. **New Gate:** The gate will be constructed of 2 inch pipe in a design that will prohibit unauthorized motorized vehicles from driving under or around it. The gate will be painted green, Federal Standard 595a-34127, and incorporate road closed signs and reflectorized barricade signs that meet Authorized Officer standards. These signs must be installed at the time of gate construction to ensure public safety. A lock box containing enough holes for all authorized user locks plus one hole for a FS lock will be constructed. Wing fencing may be needed on either or both sides of the fence to ensure unauthorized motorized vehicles cannot travel around the gate. Wing fencing must stay within the approved project area. The gate must be constructed before the first big game hunt and then left locked or secured with a gate guard to prevent unauthorized motor vehicle travel. The operator will have routine maintenance responsibility for this gate for the life of the well. The operator will ensure that the gate and any associated wing fencing is functional, all authorized users have access, and all required road closed and

reflective/safety signage is present.

D. **Existing Gate:** The operator will have routine maintenance responsibility for this gate for the life of the well. This operator will ensure that the gate and any associated wing fencing is functional, all authorized users have access, and all required road closed and reflective/safety signage is present.

E. All NFS roads damaged by construction, production, and/or lease activities will be restored to a functional and acceptable condition. This includes, but is not limited to restoring original ditch lines, replacing or repairing any damaged culverts, re-establishing road surfacing where surfacing was lost or contaminated, and restoring effective road drainage.

F. Unless otherwise required or specified, all roads on NFS lands will be designed, constructed, and maintained to Gold Book Standards (United States Department of the Interior and United States Department of Agriculture. 2006. Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development. BLM/WO/ST-06/021+3071. Bureau of Land Management. Denver, Colorado. 84pp. and any revisions thereto) for FS local roads. The driving surface on all access roads will be limited to 14 feet in width, and total disturbance will be limited to 24 feet not including cuts and fills or turnouts. Any access road constructed will be crowned and ditched, in-sloped, or out-sloped where appropriate. This will require installation of culverts and/or armored water bars per Gold Book standards. Additional cross drainage may be required depending upon site specific circumstances. Culvert size will be a minimum of 18", larger culverts will be required where appropriate. Rip-rapping, velocity breaks or other drainage/erosion control measures may be required. Adequate and effective drainage will be constructed and maintained in good working order. Topsoil will be stockpiled and redistributed for reclamation on cut and fill slopes and the cut and fill slopes will be re-vegetated to the same standard as the well pad. All maintenance activities must be approved in advance by the Authorized Officer.

G. If, upon abandonment of the well location, the retention of the access road is not considered necessary by the Authorized Officer, it will be re-contoured to as near natural as possible. The access road and well location will be closed to vehicular travel. Re-vegetation of the affected area will be required. Alternatively, the Authorized Officer may request the road be lightly ripped to eliminate compaction. The road will be water barred, pocked, or contoured ripped where necessary to ensure soil stability and prevent erosion. Construction of a barricade at the entrance to these areas may be required. Re-vegetation of the affected area will be required.

H. If, upon abandonment of the well location, the retention of the access road is considered necessary by the Authorized Officer, then the gate, if any, will remain in place, and it is to be converted by the operator to a single lock locking system.

I. No gravel or other related minerals from new or existing pits on NFS lands will be used in construction of roads, well sites, etc., without prior approval from the Authorized

Officer.

J. Water dips and culverts will be constructed and maintained in working condition on the access road to the well location. The Gold Book standard for maximum recommended culvert spacing will be utilized. Additional cross drainage may be required depending on site specific conditions.

K. Produced water will either be piped or trucked for proper disposal. If trucked, operator will be responsible for any road damage or damge to cattleguards, fences, culverts, drainage structures, and road surface caused by water hauling. The time of day for water hauling may be limited.

L. The operator will keep all road gates locked at all times. During activities that require heavy traffic volume a gate may may left open with a gate guard posted to regulate unauthorized motor vehicle traffic. Motorized vehicle travel on authorized use roads, behind gates, is prohibited except for authorized use by the operator and/or their representatives performing lease activities.

M. The Authorized Officer may restrict vehicle access during wet weather periods to protect roads and resources. The operator is responsible for all road damage caused by wet weather operations. The operator is encouraged to upgrade and maintain roads to an all weather standard.

N. Any road/traffic signs must be approved by the Authorized Officer prior to installation and installed and maintained in accordance with the Manual on Uniform Traffic Control Devices. All signs will be installed on break-away sign posts.

5. Gates/Cattleguards/Fences

A. Fencing of individual facilities, such as the pump jack (including well head), treater, and tank battery with wildlife and livestock proof fencing may be required. The fence around any fluid storage facilities must be constructed on the outside perimeter of the berms to protect them from deterioration due to animals walking over them.

B. All cattle guards must have wings installed on both sides to prevent livestock from stepping around the ends. The cattle guard design and installation must meet all Authorized Officer standards and specifications and a cattleguard warning sign may be required. A 12 foot gate must be installed between the cattle guard and brace assemblies on whichever side of the cattle guard is most convenient. If the gate is made of wire, it must have at least four horizontal strands of barbed wire, with at least four 3 inch diameter vertical wood stays evenly spaced. When the gate is closed the wires must be taut. The operator is responsible for the maintenance of the cattle guard for the life of the project.

C. Prior to crossing any fence located on federal land, or any fence between Federal land and private land, the operator will contact the Authorized Officer. All cut fences are to be

secured to braces prior to cutting. The operator is responsible for repairing any fence damage resulting from their activities. All fences are to be constructed and maintained to Authorized Officer standards.

D. Any cut fence openings will be protected as necessary during construction to prevent the escape of livestock. A temporary closure will be installed on all cut fences the same day the fence is cut.

6. Interim Reclamation Requirements

A. The operator will contact the Authorized Officer at least 48 hours prior to any interim reclamation activities.

B. The operator will conduct a condition survey of the authorized area. The survey will include monitoring for erosion, vegetation reclamation, noxious weeds, unnecessary or excessive environmental impacts, hazardous conditions, facility(s) condition, unauthorized motorized vehicle use, and compliance with the SUPO and COAs. The operator will provide the Authorized Officer a written condition survey report within three years of initial project area disturbance. Mitigation measures may be required for any identified issues.The operator will perform follow-up surveys in such a manner that the authorized project area is surveyed and any necessary reclamation requirements are completed every five years.

C. All areas of the well pad and access road not needed for production facilities will be re-contoured to blend as nearly as possible with the natural topography. All areas outside the anchor points, not directly adjacent to facilities, or on the designated vehicle route will be reclaimed. These areas will be topsoiled, mulched (certified weed free straw mulch crimped in at 2 tons per acre or excelsior mats or equivalent will be used), and seeded with the required seed mix. Slopes will be contour ripped, pocked, or water barred to prevent erosion on the location and designed in a manner that excessive erosion does not occur off-site. Cut and fill slopes will be top soiled and mulched, as specified above, and revegetated.

D. Seeding will be completed prior to November 1st unless otherwise approved by the Authorized Officer.

E. Reclamation will be approved (minimum timeframe of three growing seasons) when the established native species vegetative cover is equal to 70% of the adjacent undisturbed areas and the soil is stabilized. There should be no indicators of active erosion including rills and gullies or noxious weeds. Seeding should be repeated annually after three growing seasons until reclamation meets the above standard and is accepted by the Authorized Officer. Where vegetation is re-disturbed after establishment it will be reseeded annually until vegetation is re-established.

F. To maintain purity and quality, certified seed is required.

G. The operator will provide verification of seed mixture and weed free mulch certification within 30 days of completion.

H. The operator is required to re-seed any previously seeded areas that have been disturbed from any production, work-over, or maintenance related activities.

I. The operator is responsible for successful reclamation regardless of weather or other factors.

J. The well pad may require fencing to protect or promote reclamation efforts. If reclamation fails due to grazing pressure, the Authorized Officer may require fencing of the location until reclamation is determined to be successful. This will also require the installation of a gate and/or cattleguard at the location access. All fences must be built and maintained to Authorized Officer standards.

7. Noxious Weed Control

A. The operator will survey the authorized area for the presence of noxious weeds prior to initial ground disturbing activities. The operator will perform another survey within three years of initial project area development. Follow-up surveys will then be conducted every five years. The operator will submit the survey findings to the Authorized Officer within thirty days of the survey. Noxious weeds are those listed on the New Mexico Noxious Weed List or USDA's Federal Noxious Weed List. The New Mexico Noxious Weed List or USDA's Noxious Weed List can be updated at any time and should be regularly checked for any changes. Based on survey results a Weed Management Plan may be required.

B. A Pesticide Use Proposal (PUP) must be submitted to and approved by the Authorized Officer prior to application of pesticide. The Authorized Officer can provide assistance in the development of the PUP.

C. All vehicles and equipment should be inspected for noxious weed contaminates and cleaned prior to entering NFS lands. This is especially important on vehicles from out of state or if coming from a weed-infested area.

D. Fill dirt or gravel may be needed for excavation, road construction/repair, or for spill remediation. If fill dirt or gravel will be required, the source shall be noxious weed free and approved by the Authorized Officer.

E. Only pesticides authorized for use on NFS lands will be used and applied by a licensed pesticide applicator. The use of pesticides will comply with all federal and state laws and will be used only in accordance with their registered use and limitations. The operator's licensed applicator will contact the Authorized Officer prior to using any pesticides.

F. Noxious/invasive weed treatments must be reported to the Authorized Officer. A Pesticide Use Report (PUR) is required to report any mechanical, chemical, biological or

cultural treatments used to eradicate, and/or control noxious or invasive species. Reporting will be required quarterly and annually or per request from the Authorized Officer.

G. Bare ground vegetation trim-out: If bare ground vegetation treatment (trim-out) is desired around facility structures, the operator will submit a bare ground/trim-out design. The design will address the vegetation safety concerns of the operator, while minimizing impacts to reclamation efforts. The design must include what structures are to be treated and the buffer distances of trim-out. If pesticides are used for bare ground trim-out, the trim-out will not exceed three feet from the edge of any eligible permanent structure (e.g. doglegs, pig launchers, or tanks). Additional distance/areas may be requested, but must be approved by the Authorized Officer. The additional information below must also be provided to the Authorized Officer:

1. Pesticide use for trim out will require a PUP. A PUP is required prior to any treatment and must be approved by the Authorized Officer. Only pesticides authorized for use on NFS lands will be used and applied by a licensed pesticide applicator. The use of pesticides will comply with all federal and state laws and used only in accordance with their registered use and limitations. The operator's licensed applicator will contact the Authorized Officer prior to using these chemicals and provide PURs post treatment.

2. A PUR or a Biological Use Report (BUR) is required to report any chemical, or biological treatments used to eradicate, or control vegetation on site. Reporting will be required quarterly and annually or per request from the Authorized Officer.

C. Natural/Cultural Resources

1. Wildlife Resources

A. A survey for threatened, endangered or sensitive species will be conducted by the Authorized Officer or by an approved invidual, prior to any construction activities. The Authorized Officer will indicate which species require surveys. Additional measures may be required to mitigate threatened, endangered, or sensitive species concerns.

B. If, during operations the operator discovers any threatened, endangered, or sensitive species, all work in the vicinity of the discovery will be suspended and the discovery promptly reported to the Authorized Officer. The Authorized Officer will then specify what action is to be taken. Failure to notify the Authorized Officer about a discovery may result in civil or criminal penalties in accordance with the Endangered Species Act (as amended).

C. The Authorized Officer will be notified within 24 hours of the discovery of any wildlife, bird, livestock, or wild horse that was trapped, injured, or died as a result of lease operations, activities, or facilities. Mitigation measures may be required to prevent further injury or fatality.

D. If a bird nest containing eggs or young is encountered in the path of construction the operator will cease construction and consult with the Authorized Officer to determine appropriate actions.

2. Cultural and Paleontological Resources

A. Archeologists employed by the operator must be permitted by the Forest Service to conduct an archeological survey on any NFS lands which may be disturbed.

B. The operator and all subcontractors will abide by all of the conditions contained in the Inventory Standards and Accounting Form (IS &A) and Archeological Record or Review (ROR) which is part of and attached to these COAs.

C. If it is deemed necessary, the Authorized Officer may require the operator to perform recovery, excavation, or preservation of the site and its artifacts at the operator's expense. At the option of the Authorized Officer, this authorization may be terminated with no liability by the United States when such termination is deemed necessary to preserve or protect archeological, paleontological, or historic sites and artifacts.

D. Health and Safety

A. The Authorized Officer must be notified immediately of any condition that may result in a public health and/or safety concern, Forest Service road closure or blockage, or potential natural resource damage.

B. The operator will maintain structures, facilities, improvements, and equipment in a safe and orderly manner and will take all appropriate and reasonable measures to protect the public, wildlife, and livestock from hazardous sites, equipment, materials, fire hazards, or unsafe conditions resulting from their operations.

C. Any spill, release, or incident that requires reporting to any federal, state, or local government or regulatory agency will be reported to the Authorized Officer within the same time frame as required by that agency.

D. The operator will immediately notify the Forest Sevice of all serious accidents which occur in connection with lease operations. Additional mitigations measures may be required to prevent further accidents.

E. The operator will provide a chemically treated portable toilet unit when projects or activities require multiple workers for multiple days. Sewage will be properly disposed of in a manner and place specified by applicable laws and regulations. Burying of sewage from chemically treated portable toilets will not be allowed. When chemically treated portable toilets are not required the operator will ensure human waste is disposed of per the recommendations outlined in The "Leave No Trace Seven Principles" (© 1999 by the Leave No Trace Center for Outdoor Ethics: www.LNT.org). Human waste will not be disposed of in any identified natural or cultural area of resource concern.

F. The operator will properly dispose of all trash, garbage, waste, or byproduct. A trash cage must be on location throughout all drilling and completion activities. Burying trash in the reserve pit will not be allowed. Burning of trash will not be allowed.

G. Any waste, byproduct, chemical, or substance that spills or releases must be properly disposed of in accordance with applicable law, regulation, and/or condition of approval. Any contaminated soil must be excavated and removed for disposal or mitigated in accordance with applicable law, regulation, and/or condition of approval. No waste or byproduct will be discharged onto the ground or near a stream/erosional course or channel.

H. If the well is cavitated any coal fines will be immediately washed off contaminated vegetation. Only fresh water may be used.

I. Feeding or allowing wildlife or livestock access to food, garbage, refuse, waste, byproduct, and/or stored materials, etc. is prohibited.

J. Work sites must be kept clear of litter and debris, and left hazard free at the end of every work shift. Any hazards must be clearly identified and isolated with reflective and protective barriers.

K. Permanent protective barriers may be required around any facilities located near a roadway that could possibly become a public safety issue or hazard.

L. The well location will be maintained in a clean, neat, and orderly manner. Trash, debris, unused machinery/equipment, excess equipment/parts, etc., will be removed immediately. No unused items will be stockpiled or stored on a well location or other NFS lands without prior approval of the Authorized Officer.

M. The operator will abide by all applicable laws and regulations concerning hydrogen sulfide (H_2S). The operator will immedialtely notify the Authorized Officer if a location or facility poses an H_2S hazard or is required to be identified for H_2S hazards.

N. The operator will abide by all Forest Service requirements during periods of fire restrictions. The Authorized Officer will make available information concerning current fire restriction levels and specific requirements. The operator is responsible for all damage and costs resulting from fires caused by their operations and activities. The operator will conduct all activities and maintain all facilities in a manner that reduces fire hazards and minimizes threats to facilities from potential wildfires.

E. Environmental Protection

A. The operator will conduct all activities associated with this lease operation in a manner that will avoid or minimize the degradation of air, land, and water quality. In the construction, operation, maintenance, and termination of this lease operation, the operator will perform its activities in accordance with all applicable air and water quality standards, facility siting standards, and applicable laws and regulations.

B. All applicable local, state, and federal laws and regulations concerning the transportation and disposal of produced water will be followed.

F. Surveys and Land Corners

A. The operator will protect, in place, all public land survey monuments, private property corners, and Forest boundary markers. In the event that any such land markers or monuments are destroyed in the exercise of the privileges authorized by this permit, depending on the type of monument destroyed, the operator will see that they are reestablished or referenced in accordance with: the procedures outlined in the "Manual of Instructions for the Survey of the Public Land of the United States," the specification of the county surveyor, or the specification of the Authorized Officer.

B. Further, the operator will ensure any official survey records affected by this activity will be amended as provided by law.

C. Nothing in these stipulations will relieve the operator's liability for the willful destruction or modification of any Government survey marker as provided at 18 U.S.C. 1858.

D. Avoid removal of any bearing trees. If any must be removed they must be replaced according to Authorized Officer specifications.

G. Other Conditions of Approval

A. Explosives

Should the use of explosives be required during construction or lease activities, the operator will comply with all applicable local, state, and federal laws, regulations and requirements involving the storage, handling, preparation, and use of explosives. Prior to the use of any explosives, the operator will prepare an explosive use/blasting plan for Authorized Officer approval.

B. Vandalism

The operator will take reasonable measures to prevent and discourage vandalism or disorderly conduct, and when necessary, call in the appropriate law enforcement agency.

C. Subleasing Requirements

The operator will require all representatives, employees, sub-lessees, contractors, sub-contractors and their employees and representatives comply with the approved APD, including the SUPO and these COAs.

D. Improvements

1. Prior to crossing, using, or paralleling any improvement on NFS lands, the operator will contact the owner of the improvement to obtain mitigation measures to prevent damage to the improvements.
2. Any improvements, developments, facilities, activities, and/or infrastructure not specifically addressed in these COAs or the operator's approved SUPO are prohibited without Authorized Officer approval.

E. Changes in Operator, Company Name, or Address

The operator must notify the Authorized Officer in writing no later than 30 days after a sale or transfer of facilities, a company name change, well name change, or a change in address.

F. Sanitation

The operation and maintenance of all sanitation, food service, and water-supply methods, systems, and facilities will comply with all applicable local, state, and federal laws and regulations.

H. Final Abandonment and Reclamation

A. Prior to abandonment, the operator will notify the Authorized Officer and provide an Abandonment Plan, for Authorized Officer approval, which specifies how the operator intends to reclaim the well pad and access road. The Abandonment Plan will address, but not be limited to:

1. Type and design of well bore marker.
2. Removal of all surface facilities.
3. Flushing/purging and capping/sealing pipelines if applicable.
4. Protecting/salvaging topsoil during location/access re-contouring.
5. Re-contouring of the pad and access road to natural slope.
6. Removal of culverts, gates, and cattleguards if applicable.
7. Soil stabilization.
8. Erosion control.
9. Reseeding/revegetation.
10. Noxious weed control.
11. Vehicle/access barriers.
12. Monitoring schedule to ensure adequate reclamation.
13. Any other site specific issues.

B. The Abandonment Plan must be approved by the Authorized Officer prior to any abandonment work. The operator or their representative will contact and schedule an on-site pre-abandonment meeting with the Authorized Officer prior to conducting any abandonment activities.

C. Final reclamation must be approved by the Authorized Officer. Reclamation will be approved (minimum timeframe of three growing seasons) when the established native vegetative cover is equal to 70% of the adjacent undisturbed areas, the soil has been stabilized, no excessive erosion exists, there are no noxious/invasive weeds, and there are no signs of unauthorized motor vehicle use. The Authorized Officer may require the operator to submit a report detailing these conditions prior to approval of final abandonment. Additional measures may be required by the Authorized Officer to correct any identified issues.

D. The operator is responsible for successful final reclamation regardless of weather or other factors.

I. Use of Unmanned Aircraft Systems (UAS)

A. Use of any UAS for lease operations or activities requires prior Authorized Officer notification and approval.

B. All UAS operations conducted per Federal Aviation Administration (FAA) compliance within the provisions of Part 107 for commercial use must have:

1. Aircraft registration.
2. Remote pilot certificate with a Small Unmanned Aircraft System (sUAS) rating.

C. All UAS operations conducted outside of FAA compliance within the provisions of Part 107 for commercial use must have:

1. Aircraft registration.
2. Remote Pilot certificate with a sUAS rating.
3. Waiver(s) to the specific aspect of Part 107 to operate outside of OR a 333 exemption and Certificate of Waiver or Authorization (COA) (There is a 400' AGL and below blanket COA that could be used with the separate 333 exemption).

D. Any UAS mishap or accident must be reported per FAA laws and regulations. Also, the Authorized Officer must be notified of any mishap or accident that is reportable to the FAA.

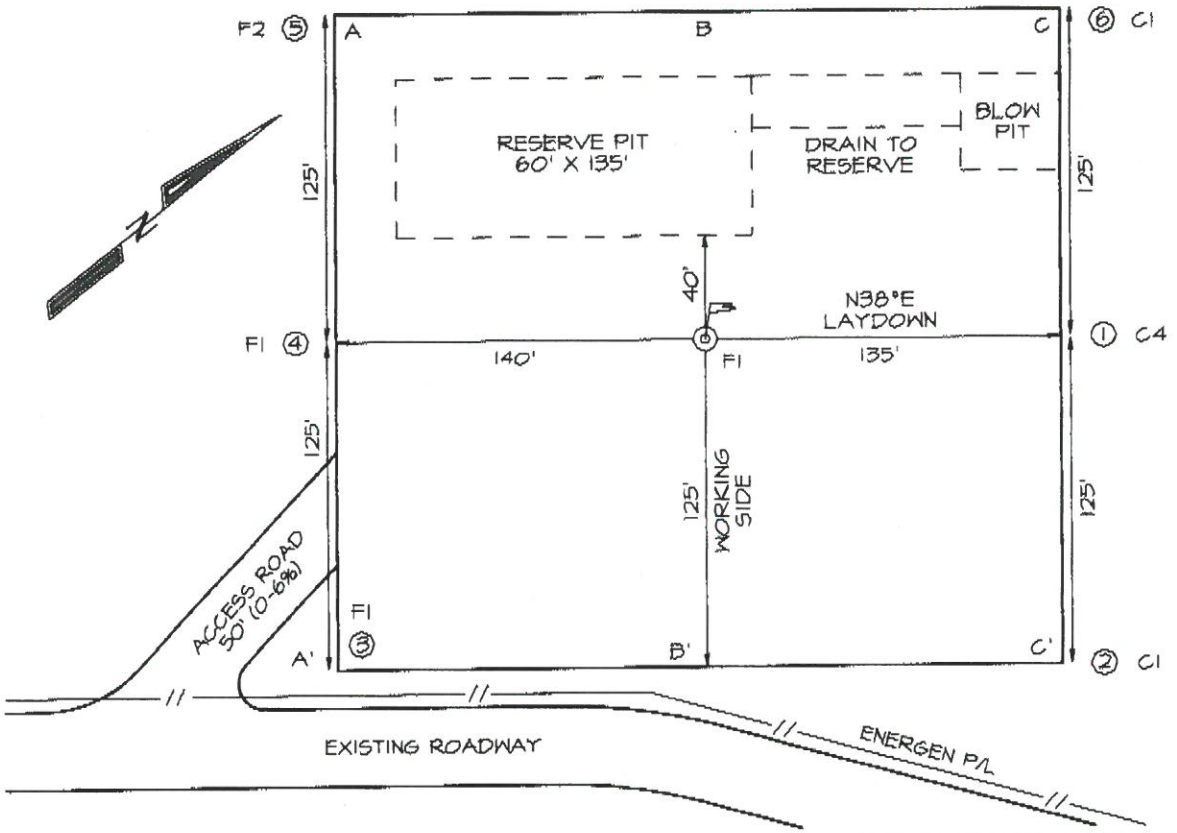
E. The operator is responsible for recovery and retrieval of any hazardous material or equipment lost as a result of UAS operations. Also, the operator is responsible for any damage or liability arising from UAS operations.

J. Inspection, Enforcement, and Compliance

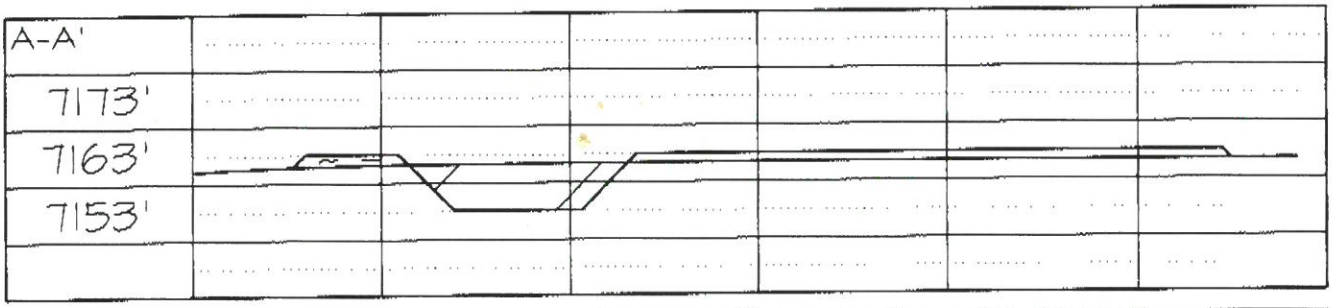
A. All operations on NFS lands may be inspected periodically by the Authorized Officer or other applicable regulatory agencies. Inspections of leasehold operations are made to ensure compliance with applicable laws, regulations, lease terms, the APD and its SUPO with conditions of approval, Onshore Oil and Gas Orders, NTLs, and other written orders of the Authorized Officer. Operators are expected to initiate their own inspection programs, identify noncompliance, and take appropriate corrective actions, rather than relying on outside inspections to identify problems.

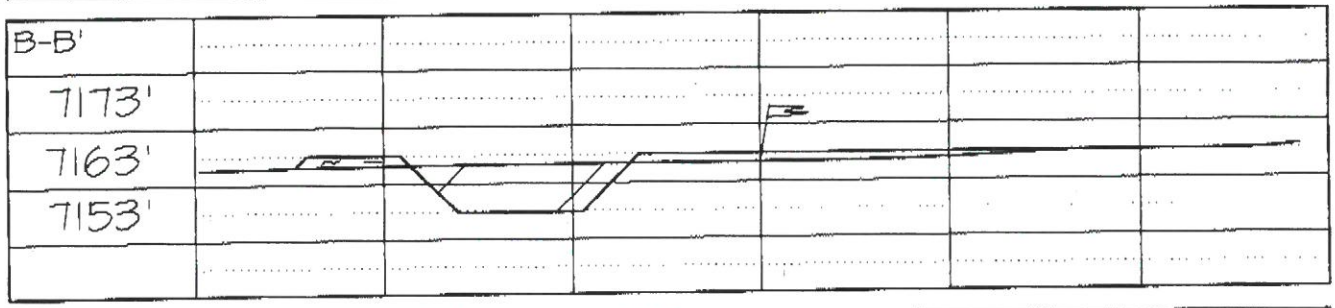
B. The operator will abide by all applicable federal, state, and local laws and regulations while conducting lease activities and operations. It is the responsibility of the operator to obtain any required permit, license, certificate, authorization, etc. required for construction activities, or to conduct lease activities or operations.

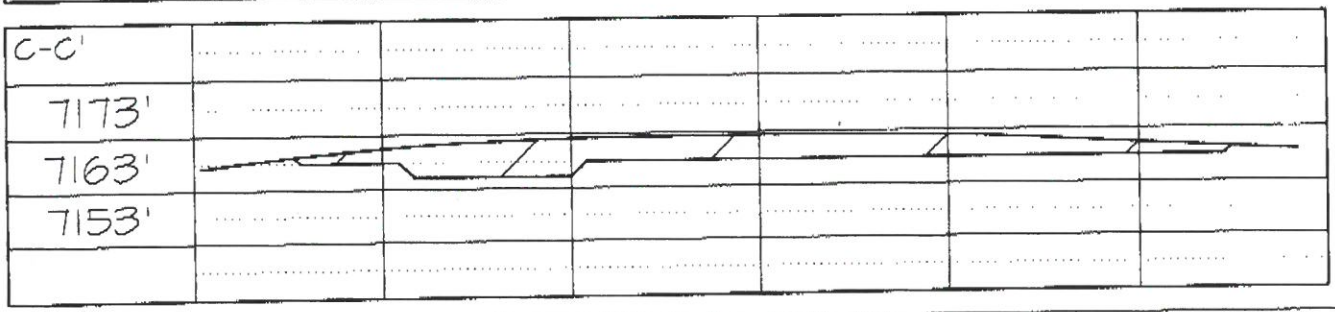
ENERGEN RESOURCES CORPORATION CARRACAS 25A #14
870' FSL & 1510' FWL, SECTION 25, T32N, R5W, NMPM
RIO ARRIBA COUNTY, NEW MEXICO ELEVATION: 7162'



LATITUDE: 36°56'47"
LONGITUDE: 107°19'00"
DATUM: NAD1927







FILENAME: 32525NT	SHEET 2 OF 3	NCE SURVEYS, INC.	DRAWN BY: EDO	CHECKED BY: JCE

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: MORNINGSTAR OPERATING LLC **OGRID:** 330132 **Date:** 01 / 25 / 2022

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
CARRACAS 25A 14	30-039-27588	N 25 32N 05W	870 FNL 1510 FWL	0	1500	40

IV. Central Delivery Point Name: CARRACAS GATHERING SYSTEM [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
CARRACAS 25A 14	30-039-27588	06/02/2006		05/30/2022	SWAB 6/20/22	06/21/22

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☐ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	Connie Blaylock
Printed Name:	Connie Blaylock
Title:	Regulatory Analyst
E-mail Address:	cblaylock@mspartners.com
Date:	01/25/2022
Phone:	817-334-7882

OIL CONSERVATION DIVISION

(Only applicable when submitted as a standalone form)

Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

VI. **Separation Equipment**: Attach a complete description of how Operator will size separation equipment to optimize gas capture.

Surface facilities for the well are located on site. Process equipment includes a 2ph separator and water tanks. Vessels are sized based on historical and predicted well performance and provide adequate time for separation. Natural gas will be sold to the sales pipeline and only vented during emergency/non-scheduled issues. Natural gas is the sole product; consequently, there will every effort to minimize waste.

VII. **Operational Practices**: Attach a complete description of the action Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

- Drilling Operations: Any natural gas produced during drilling operations will be combusted with a flare line. A properly sized flare stack will be located a minimum of 100 feet from the nearest surface hole location. If flaring isn't possible or poses a risk, Operator will vent natural gas to avoid any safety or environmental risks and report natural gas.

- Completion Operations: There is no frac or flowback operations planned for this recompletion. All natural gas production of sufficient pressure will be turned to separation facilities and gathering pipeline for sales.

- Production Operations: Efforts will be made to minimize waste. Process equipment (separators and tanks) is designed for efficient separation and routing produced gas to the sales pipeline. Equipment will be properly maintained with routine inspections and preventative maintenance. Weekly AVOs will be performed at facilities.

VIII. **Best Management Practices**: Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

- Best management practices are used to minimize venting and flaring during downhole operations.
- Flaring will be used in lieu of venting when feasible.
- Adequate well control during completion operations will be employed to minimize oil and gas production.
- Tanks and vessels are isolated from their respective facilities prior to inspection, maintenance, and repairs.
- The preventive maintenance program includes weekly AVO inspections, identification of failures or malfunctions, and repairs as needed.
- Coordinate with third-party gathering and sales operators to minimize downtime and the need for venting/flaring during downstream pipeline and gas plant events.

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

Operator: MorningStar Operating LLC 400 W 7th St Fort Worth, TX 76102	OGRID: 330132
	Action Number: 79184
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD COAs.	5/5/2022