U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Sundry Print Report

10/21/2022

Well Name: CARRACAS 23A

Well Location: T32N / R5W / SEC 23 / NWNW / 36.970099 / -107.336641

County or Parish/State: RIO ARRIBA / NM

Well Number: 4

Type of Well: OTHER

Allottee or Tribe Name:

Lease Number: NMNM59704

Unit or CA Name: N/2

Unit or CA Number: NMNM99455

US Well Number: 300392755000S1

Well Status: Producing Gas Well

Operator: MORNINGSTAR OPERATING LLC

Subsequent Report

Sundry ID: 2698923

Type of Submission: Subsequent Report

Type of Action: Drilling Operations

Date Sundry Submitted: 10/20/2022

Time Sundry Submitted: 09:21

Date Operation Actually Began: 09/17/2022

Actual Procedure: MorningStar Operating has drilled and completed a horizontal sidetrack on the Carracas 23A 4. Attached are the 3160-4 Completion Form, C-102 As Drilled Plat, Subsequent Procedure, WBD, and Directional Survey.

SR Attachments

PActual Procedure

CARR_23A4_C_102__Procedure__WBD__Dir_Survey_20221020092051.pdf

3160_4_CARRACAS_23A4_ST1_20221020092033.pdf

Well Name: CARRACAS 23A

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Well Number: 4

Type of Well: OTHER

Allottee or Tribe Name:

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Unit or CA Name: N/2

Unit or CA Number: NMNM99455

US Well Number: 300392755000S1

Well Status: Producing Gas Well

Operator: MORNINGSTAR OPERATING LLC

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: CONNIE BLAYLOCK

Signed on: OCT 20, 2022 09:21 AM

Name: MORNINGSTAR OPERATING LLC

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 Name: Amy Byars

Street Address:

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

Phone:

Email address: abyars@mspartners.com

BLM Point of Contact

BLM POC Name: KENNETH G RENNICK

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5055647742

BLM POC Email Address: krennick@blm.gov

Disposition: Accepted

Disposition Date: 10/21/2022

Signature: Kenneth Rennick

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
☒ AS-DRILLED

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-27550	71629	BASIN FRIUTLAND COAL

[4] Property Code	[5] Property Name	[6] Well Number
329022	CARRACAS 23A	4-1ST

[7] OGRID No.	[8] Operator Name	[9] Elevation
330132	MORNINGSTAR OPERATING LLC	7339'

[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
D	23	32N	5W		1066'	NORTH	1202'	WEST	RIO ARRIBA

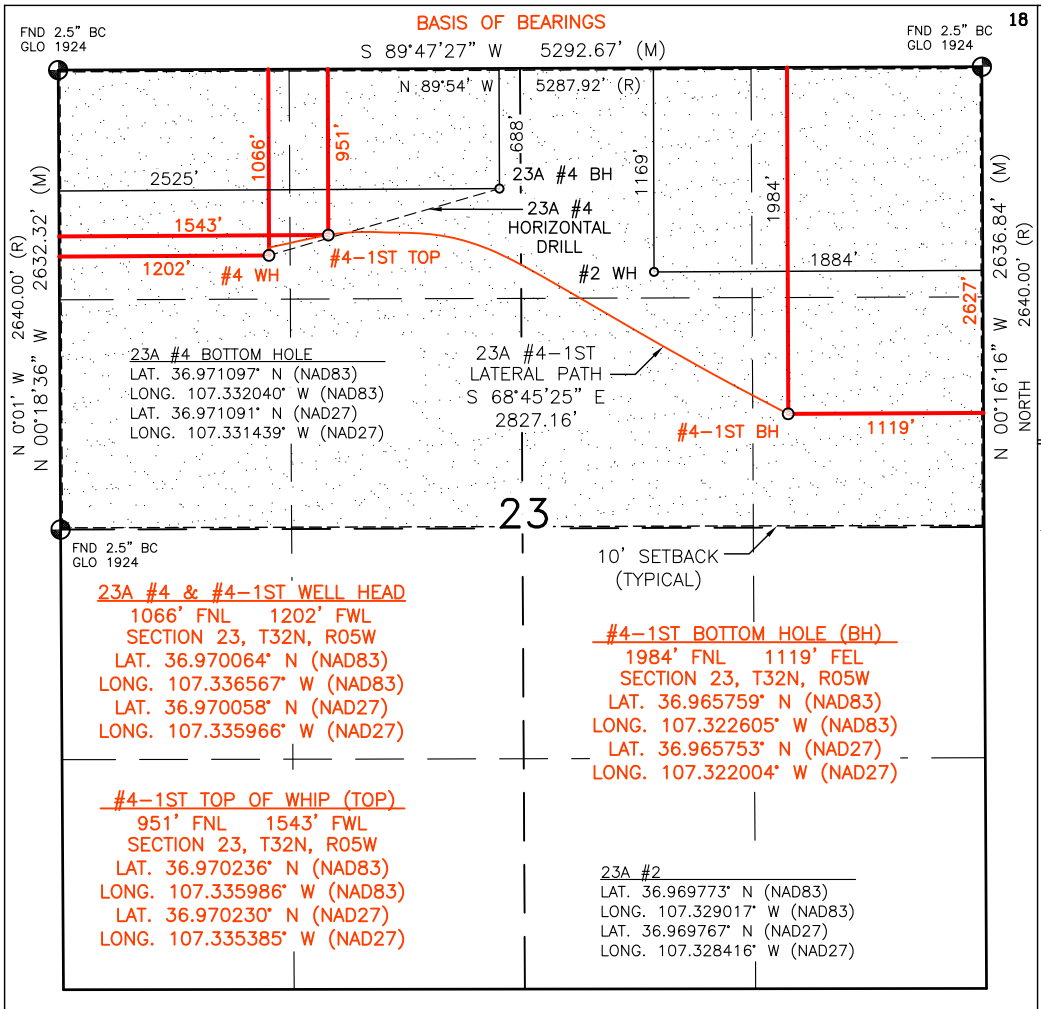
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	23	32N	5W		1984'	NORTH	1119'	EAST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
N/2 SEC. 23 320.00 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



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[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 10/14/2022
Signature Date

Connie Blaylock
Printed Name

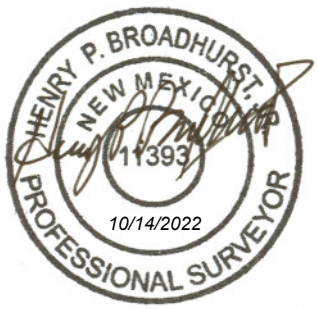
cblaylock@mspartners.com
E-mail Address

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.

OCTOBER 13, 2022
Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number 11393

Form 3160-4
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: October 31, 2021

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. NMNM59704

1a. Type of Well ☐ Oil Well ☒ Gas Well ☐ Dry ☐ Other
b. Type of Competion ☐ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Zones ☐ Hydraulic Fracturing
Other: DRILLED SIDETRACK

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No. NMNM99455

2. Name of Operator: MORNINGSTAR OPERATING LLC

8. Lease Name and Well No. CARRACAS 23A 4-1ST

3. Address: 400 W 7TH ST, FORT WORTH, TX 76102

3a. Phone No. *(Include area code)*: 817-334-7882

9. API Well No. 30-039-27550

4. Location of Well *(Report location clearly and in accordance with Federal requirements)**

At surface: 1066; FNL, 1202' FWL

At top prod. interval reported below: 951' FNL, 1543' FWL

At total depth: 1984' FNL, 1119' FEL

10. Field and Pool or Exploratory: BASIN FRUITLAND COAL

11. Sec., T., R., M., on Block and Survey or Area: SEC 23/T32N/R5W

12. County or Parish: RIO ARRIBA

13. State: NM

14. Date Spudded

15. Date T.D. Reached: 09/25/2022

16. Date Completed: 10/19/2022 ☐ D & A ☒ Ready to Prod.

17. Elevations (DF, RKB, RT, GL)*: 7339' GL

18. Total Depth: MD 6937' TVD 3912'

19. Plug Back T.D.: MD 6899' TVD 3912'

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit report)
Directional Survey? ☐ No ☒ Yes (Submit copy)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
12 1/4	9 5/8 H-40	32.3	0	251		120 SX, B		0	7
8 3/4	7 J-55	23	0	4159		685 SX, B		0	70
6 1/8	4.5 J-55	11.6	4037	6899		0			
6 1/4	4.5 J-55	11.6	4105	5165		0			

24. Tubing Record

Size	Dept Set (MD)	Packer Dept (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2 3/8	4104'							

25. Producing Intervals / 26. Perforation Record

	Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A)	FRUITLAND COAL	4037	6899	4037-6899		4224	OPEN
B)	FRUITLAND COAL	4147	5121	4147-5121	.5		OPEN
C)							
D)							

27. Acid, Fracture, Treatment, Cement Squeeze, Post hydraulic fracturing chemical disclosures on FracFocus.org when required by state or federal regulation

Depth Interval	Amount, Type of Material and Date of Chemical Disclosure upload on FracFocus.org as applicable

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API.	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API.	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status

*(See instructions and spaces for additional data on page 2)

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API.	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API.	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status

29. Disposition of Gas *(Solid, used for fuel, vented, etc.)*

SI, READY FOR SALE

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth

32. Additional remarks (include plugging procedure).

33. Indicate which items have been attached by placing a check in the appropriate boxes:

☐ Electrical/Mechanical Logs (1 full set req'd.) ☐ Geologic Report ☐ DST Report ☐ Directional Survey

☐ Sundry Notice for plugging and cement verification ☐ Core Analysis ☐ Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name *(please print)* CONNIE BLAYLOCK Title REGULATORY ANALYST

Signature Connie Blaylock Date 10/19/2022

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.

(Continued on page 3)

INSTRUCTIONS

GENERAL: This form is designed for submitting a complete and correct well completion/recompletion report and log on all types of wells on Federal and Indian leases to a Federal agency, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal office.
If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, and all types electric), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal laws and regulations. All attachments should be listed on this form, see item 33.
ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal office for specific instructions.
ITEM 17: Indicate which reported elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.
ITEM 23: Show how reported top(s) of cement were determined, i.e. circulated (CIR), or calculated (CAL), or cement bond log (CBL), or temperature survey (TS).

NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48 (d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. et seq.; 43 CFR 3160.
PRINCIPAL PURPOSE: The information is to be used to evaluate the actual operations performed in the drilling, completing and testing of a well on a Federal or Indian lease.
ROUTINE USES: (1) Evaluate the equipment and procedures used during the drilling and completing/recompleting of a well. (2) The review of geologic zones and formation encountered during drilling. (3) Analyze future applications to drill in light of data obtained and methods used. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this report and disclosure of the information is mandatory once a well drilled on a Federal or Indian lease is completed/recompleted.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to allow evaluation of the technical, safety, and environmental factors involved with drilling and completing/recompleting wells on Federal and Indian oil and gas leases.
This information will be used to analyze operations and to compare equipment and procedures actually used with those proposed and approved.
Response to this request is mandatory only if the operator elects to initiate drilling and completing/recompleting operations on an oil and gas lease.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

SUBSEQUENT PROCEDURE – CARRACAS 23A 4

8/09/2022: Pressure test csg 2000psig 15min, good. Ran GR CCL.

9/17/2022: MIRU Drilling Rig.

Set RBP at 4042'. Set Whipstock. Cut window 4,023'-4,031'.

Drill to TD 6937'md. Drop 4.5" pre-perf liner.

Liner top at 4037'. Liner btm at 6899'. Perfs 4037'-6899'. Set RBP at 3500'.

9/26/2022: RDMO Drilling Rig.

10/10/2022: MIRU WOR.

Pull RBP, Whipstock and RBP.

RIH Prod tbg. Swab well cleaning up.

Not approved for gas sales during completion so swabbed while building csg pressure.

Install rods and pump.

10/19/2022: RDMO WOR.

MorningStar Operating, LLC

Carracas 23A-4
Rio Arriba County, NM

Prepared by: CArnold
Date: 08/07/2017
Updated: J Marschall 01/04/2022
Updated: B.Savage 10/20/2022

KB = 15 ft
GL = 7,339 ft
API# 30-039-27550

Spud Date: 07/24/2005
Well First Delivered: 09/17/2005
Sidetrack First Delivered: xx/xx/xxxx

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

Cement
120 sx Class B (142 ft^3)
Circulate 7 bbls to surface

8 3/4" hole to 4,160' MD
Intermediate Csg: 94 jts 7" 23# J-55
Setting Depth: 4,159' MD

Cement
Lead: 560sx 65/35 Class B
Tail: 125sx Class B
Total cmt (1,246 ft^3)
Circulate 70 bbls to surface

6 1/4" Upper Sidetrack hole to 6,937'
Prod Liner: 68 jts 4.5" 11.6# J-55 LT&C
every other jt perf'd (33 out of 68) 4spf
90deg phasing, 4' blank on each end. ~4,224 holes
Setting Depth: 6,899' MD; 3,913' TVD
TOL: 4,037' MD
Window 4,023' – 4,031'
No cement

6 1/4" Lower Lateral hole to 5,165'
Prod Liner: 24 jts 4.5" 11.6# J-55 LT&C
Perfs: 4147'-4418' ; 4501'-4772' ; 4850-5121'
6 jspf, 0.50" dia
Setting Depth: 5,165' MD; 3,888' TVD
TOL: 4,105' MD
No cement

Lufkin M-160D-173-74
PU 695; SN#209009

Tbg Install 10/17/2022:
2-3/8" 4.7# J-55 Prod Tbg:
32' CSMJ, new 1.78"id SN, 8' PerfSub,
new 1.78" ID SN,
129 Jts (55 DHPS yb, 74jts MSO yb)
EOT @ 4,104.26'kb ; SN @ 4,061.60'kb

Rods and Pump 10/19/2022:
2"x1.5"x16' RWAC pump shurflow valve with
1"x8'sandscreen (12slot)
4 > 4' Stabilizer subs
2165' of 13/16" Co-Rod
12 > 7/8" D rods
63 > 3/4" D rods
4' x 3/4" pony
22'x1.25' polish rod w/ 1.5"x12' liner

Pump info:
2" X 1-1/2" 16' RWAC-Z W/SHUR FLOW VALVE- W/1" X 8' SAND SCREEN(12s)
PLUNGER TYPE: 4' SMGRV FIT: -.004 B/S: SS/TC
BBLS TYPE: NCPID FIT: +.001 FN: 1.625
METELS: DSV, STV, SMVROD, SS PARTS MAX STROKE: 122"

Sidetrack Window
f/ 4,023' -4,031'

Upper ST Perforations:
4,037' – 6,899' = 2,862'
33 jts of 68 were perf'd
@ 4 jspf for est'd 4,224 holes

SN
SN

TD – 6,937' MD; 3,913' TVD

4.5" Liner Top 4,105' MD

Lower Pre-Perforated Liner:
4147'-4418' ; 4501'-4772' ; 4850-5121' MD
6 jspf, 0.50" dia

7" Set @ 4,159' MD

TD – 5,165' MD; 3,888' TVD

MORNINGSTAR
PARTNERS

MorningStar Partners

Rio Arriba County, NM (NAD 27 - True North)
Carracas 23A 4
Carracas 23A 4

ST01

Design: ST01

Standard Survey Report

26 September, 2022

This survey is correct to the best of my knowledge and is supported by actual field data.

Cameron Stevens

Notarized this date 26th of September, 2022.

Carrie Reed

Notary Signature
County of Midland
State of Texas

NOTARY PUBLIC STATE OF TEXAS
CARRIE REED
Notary ID #126278213
My Commission Expires
November 14, 2023

MORNINGSTAR PARTNERS

Survey Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 23A 4
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7339' + 16' @ 7355.00usft
Site:	Carracas 23A 4	**MD Reference:**	GL: 7339' + 16' @ 7355.00usft
Well:	Carracas 23A 4	**North Reference:**	True
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	ST01	**Database:**	EDM5000

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 23A 4

Site Position:		**Northing:**	2,172,748.27 usft	**Latitude:**	36.970058
From:	Lat/Long	**Easting:**	645,296.28 usft	**Longitude:**	-107.335966
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "		

Well Carracas 23A 4

Well Position	**+N/-S**	0.00 usft	**Northing:**	2,172,748.27 usft	**Latitude:**	36.970058
	+E/-W	0.00 usft	**Easting:**	645,296.28 usft	**Longitude:**	-107.335966
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	7,339.00 usft
Grid Convergence:		0.30 °				

Wellbore ST01

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	9/17/2022	8.59	63.42	49,646.11525098

Design ST01

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	4,020.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	113.31

Survey Program **Date** 9/26/2022

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
251.00	4,020.00	Original Hole Surveys (OH)	MWD+IGRF	OWSG MWD + IGRF or WMM
4,061.00	6,937.00	Legacy MWD (ST01)	MWD+IGRF	OWSG MWD + IGRF or WMM

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
251.00	0.00	0.30	251.00	0.00	0.00	0.00	0.00	0.00	0.00
351.00	0.65	126.31	351.00	-0.34	0.46	0.55	0.65	0.65	0.00
651.00	0.29	88.41	650.99	-1.32	2.59	2.90	0.15	-0.12	-12.63
951.00	0.45	111.69	950.98	-1.74	4.44	4.77	0.07	0.05	7.76
1,251.00	0.74	51.78	1,250.97	-0.97	7.06	6.87	0.22	0.10	-19.97
1,551.00	0.78	47.32	1,550.94	1.61	10.08	8.62	0.02	0.01	-1.49
1,851.00	0.68	51.78	1,850.92	4.09	12.98	10.30	0.04	-0.03	1.49
2,151.00	0.67	331.98	2,150.90	6.74	13.55	9.78	0.29	0.00	-26.60

MORNINGSTAR PARTNERS

Survey Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 23A 4
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7339' + 16' @ 7355.00usft
Site:	Carracas 23A 4	**MD Reference:**	GL: 7339' + 16' @ 7355.00usft
Well:	Carracas 23A 4	**North Reference:**	True
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	ST01	**Database:**	EDM5000

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)
2,451.00	1.20	316.66	2,450.86	10.58	10.57	5.53	0.19	0.18	-5.11
2,751.00	1.69	310.21	2,750.77	15.72	5.04	-1.59	0.17	0.16	-2.15
3,051.00	2.43	319.98	3,050.57	23.44	-2.43	-11.51	0.27	0.25	3.26
3,351.00	2.25	329.45	3,350.32	33.39	-9.51	-21.95	0.14	-0.06	3.16
3,388.00	2.19	329.31	3,387.29	34.62	-10.24	-23.10	0.16	-0.16	-0.38
3,419.00	1.86	5.87	3,418.28	35.63	-10.49	-23.73	4.22	-1.06	117.94
3,450.00	4.85	64.57	3,449.23	36.69	-9.26	-23.02	13.53	9.65	189.35
3,481.00	9.80	69.28	3,479.96	38.19	-5.60	-20.26	16.07	15.97	15.19
3,509.00	14.66	64.75	3,507.32	40.55	-0.17	-16.20	17.68	17.36	-16.18
3,538.00	19.20	60.93	3,535.06	44.43	7.32	-10.86	16.11	15.66	-13.17
3,568.00	22.18	70.64	3,563.13	48.71	16.98	-3.68	15.12	9.93	32.37
3,600.00	24.94	78.87	3,592.46	52.01	29.31	6.33	13.40	8.63	25.72
3,629.00	28.14	80.35	3,618.41	54.34	42.05	17.12	11.27	11.03	5.10
3,658.00	31.55	79.16	3,643.56	56.92	56.25	29.14	11.93	11.76	-4.10
3,689.00	35.24	78.40	3,669.43	60.24	72.98	43.19	11.98	11.90	-2.45
3,720.00	38.28	77.84	3,694.27	64.06	91.13	58.35	9.87	9.81	-1.81
3,751.00	41.11	76.65	3,718.12	68.44	110.44	74.34	9.45	9.13	-3.84
3,781.00	44.15	77.66	3,740.19	72.95	130.25	90.75	10.39	10.13	3.37
3,812.00	46.92	79.56	3,761.90	77.31	151.93	108.94	9.95	8.94	6.13
3,842.00	49.76	80.57	3,781.84	81.17	174.01	127.69	9.79	9.47	3.37
3,874.00	52.78	80.83	3,801.86	85.21	198.64	148.71	9.46	9.44	0.81
3,906.00	55.80	80.32	3,820.53	89.46	224.27	170.56	9.53	9.44	-1.59
3,937.00	58.81	79.96	3,837.28	93.93	249.97	192.40	9.76	9.71	-1.16
3,968.00	61.85	78.06	3,852.62	99.07	276.41	214.64	11.16	9.81	-6.13
4,000.00	65.71	75.55	3,866.76	105.64	304.34	237.70	13.96	12.06	-7.84
4,020.00	68.42	75.09	3,874.55	110.30	322.16	252.22	13.71	13.55	-2.30
4,061.00	73.30	76.70	3,887.99	119.73	359.72	282.98	12.47	11.90	3.93
4,092.00	76.68	79.69	3,896.02	125.85	389.02	307.47	14.34	10.90	9.65
4,131.00	82.27	87.96	3,903.15	129.94	427.09	340.81	25.29	14.33	21.21
4,163.00	87.28	89.27	3,906.07	130.71	458.94	369.75	16.18	15.66	4.09
4,195.00	90.09	90.42	3,906.80	130.80	490.93	399.10	9.49	8.78	3.59
4,227.00	93.16	89.98	3,905.90	130.69	522.91	428.51	9.69	9.59	-1.38
4,258.00	93.78	89.80	3,904.02	130.75	553.85	456.91	2.08	2.00	-0.58
4,290.00	93.87	90.86	3,901.88	130.56	585.78	486.30	3.32	0.28	3.31
4,322.00	93.78	91.47	3,899.75	129.91	617.70	515.88	1.92	-0.28	1.91
4,353.00	94.09	92.09	3,897.62	128.95	648.61	544.64	2.23	1.00	2.00
4,383.00	94.09	92.09	3,895.48	127.86	678.52	572.54	0.00	0.00	0.00
4,444.00	93.78	92.91	3,891.30	125.21	739.31	629.42	1.43	-0.51	1.34
4,505.00	86.40	91.38	3,891.20	122.93	800.23	686.27	12.36	-12.10	-2.51
4,566.00	88.46	91.91	3,893.94	121.18	861.14	742.90	3.49	3.38	0.87
4,627.00	88.20	96.22	3,895.71	116.86	921.94	800.45	7.08	-0.43	7.07
4,688.00	86.97	99.03	3,898.28	108.77	982.34	859.12	5.02	-2.02	4.61
4,750.00	91.27	101.75	3,899.24	97.59	1,043.30	919.53	8.21	6.94	4.39

MORNINGSTAR PARTNERS

Survey Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 23A 4
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7339' + 16' @ 7355.00usft
Site:	Carracas 23A 4	**MD Reference:**	GL: 7339' + 16' @ 7355.00usft
Well:	Carracas 23A 4	**North Reference:**	True
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	ST01	**Database:**	EDM5000

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)
4,811.00	90.48	104.92	3,898.31	83.53	1,102.64	979.59	5.36	-1.30	5.20
4,873.00	90.66	108.61	3,897.69	65.65	1,161.99	1,041.17	5.96	0.29	5.95
4,934.00	88.37	112.92	3,898.20	44.03	1,219.01	1,102.09	8.00	-3.75	7.07
4,995.00	88.20	113.62	3,900.03	19.94	1,275.02	1,163.06	1.18	-0.28	1.15
5,054.00	88.99	115.03	3,901.48	-4.35	1,328.77	1,222.03	2.74	1.34	2.39
5,116.00	89.56	115.29	3,902.26	-30.71	1,384.88	1,284.00	1.01	0.92	0.42
5,177.00	91.89	119.51	3,901.49	-58.77	1,439.02	1,344.82	7.90	3.82	6.92
5,239.00	91.27	120.65	3,899.78	-89.84	1,492.65	1,406.36	2.09	-1.00	1.84
5,299.00	92.20	120.56	3,897.96	-120.37	1,544.26	1,465.85	1.56	1.55	-0.15
5,360.00	91.36	120.30	3,896.07	-151.25	1,596.83	1,526.35	1.44	-1.38	-0.43
5,421.00	90.18	120.83	3,895.25	-182.26	1,649.35	1,586.85	2.12	-1.93	0.87
5,481.00	89.56	121.18	3,895.38	-213.17	1,700.78	1,646.31	1.19	-1.03	0.58
5,543.00	89.08	121.27	3,896.12	-245.31	1,753.79	1,707.71	0.79	-0.77	0.15
5,603.00	88.99	121.27	3,897.13	-276.45	1,805.07	1,767.13	0.15	-0.15	0.00
5,664.00	88.20	120.56	3,898.63	-307.78	1,857.39	1,827.57	1.74	-1.30	-1.16
5,725.00	87.58	122.50	3,900.87	-339.66	1,909.34	1,887.90	3.34	-1.02	3.18
5,785.00	88.77	122.32	3,902.78	-371.80	1,959.97	1,947.12	2.01	1.98	-0.30
5,847.00	90.79	122.67	3,903.02	-405.10	2,012.26	2,008.32	3.31	3.26	0.56
5,910.00	91.19	122.85	3,901.93	-439.19	2,065.23	2,070.45	0.70	0.63	0.29
5,974.00	88.77	121.35	3,901.96	-473.19	2,119.44	2,133.69	4.45	-3.78	-2.34
6,038.00	85.17	118.63	3,905.34	-505.13	2,174.78	2,197.15	7.05	-5.63	-4.25
6,101.00	88.46	116.70	3,908.84	-534.33	2,230.48	2,259.86	6.05	5.22	-3.06
6,165.00	90.18	118.37	3,909.60	-563.91	2,287.23	2,323.68	3.75	2.69	2.61
6,229.00	91.27	115.82	3,908.79	-593.06	2,344.19	2,387.53	4.33	1.70	-3.98
6,293.00	88.99	115.55	3,908.64	-620.80	2,401.86	2,451.47	3.59	-3.56	-0.42
6,356.00	88.68	115.73	3,909.92	-648.05	2,458.65	2,514.41	0.57	-0.49	0.29
6,420.00	89.38	117.49	3,911.01	-676.71	2,515.86	2,578.29	2.96	1.09	2.75
6,484.00	88.29	117.31	3,912.31	-706.16	2,572.67	2,642.11	1.73	-1.70	-0.28
6,547.00	88.59	118.72	3,914.02	-735.74	2,628.26	2,704.87	2.29	0.48	2.24
6,611.00	89.08	120.56	3,915.33	-767.38	2,683.87	2,768.47	2.97	0.77	2.88
6,675.00	90.79	119.07	3,915.40	-799.20	2,739.40	2,832.05	3.54	2.67	-2.33
6,738.00	90.57	119.33	3,914.65	-829.93	2,794.39	2,894.71	0.54	-0.35	0.41
6,801.00	91.19	118.28	3,913.68	-860.29	2,849.59	2,957.42	1.94	0.98	-1.67
6,865.00	90.18	117.57	3,912.92	-890.25	2,906.13	3,021.20	1.93	-1.58	-1.11
6,895.00	89.78	117.05	3,912.93	-904.02	2,932.78	3,051.13	2.19	-1.33	-1.73
6,937.00	89.78	117.05	3,913.09	-923.12	2,970.19	3,093.04	0.00	0.00	0.00
PTB 6937.00' MD/3913.09' TVD									

MORNINGSTAR PARTNERS

Survey Report

Company:	MorningStar Partners	**Local Co-ordinate Reference:**	Well Carracas 23A 4
Project:	Rio Arriba County, NM (NAD 27 - True North)	**TVD Reference:**	GL: 7339' + 16' @ 7355.00usft
Site:	Carracas 23A 4	**MD Reference:**	GL: 7339' + 16' @ 7355.00usft
Well:	Carracas 23A 4	**North Reference:**	True
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	ST01	**Database:**	EDM5000

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
6,937.00	3,913.09	-923.12	2,970.19	PTB 6937.00' MD/3913.09' TVD

Checked By: _____ Approved By: _____ Date: _____

Company: MorningStar Partners
Field: Rio Arriba County, NM (NAD 27 - True North)
Location: Carracas 23A 4
Well Location: Carracas 23A 4
Wellbore: ST01
Plan: Plan 9
GL: GL: 7339' + 16' @ 7355.00usft

Azimuths to True North
Magnetic North: 8.59°

Magnetic Field
Strength: 49646.1nT
Dip Angle: 63.42°
Date: 9/17/2022
Model: IGRF2020

To convert a Magnetic Direction to a True Direction, Add 8.59° 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 23A 4

GL: 7339' + 16' @ 7355.00usft 7339.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	2172748.27	645296.28	36.970058	-107.335966

SECTION DETAILS

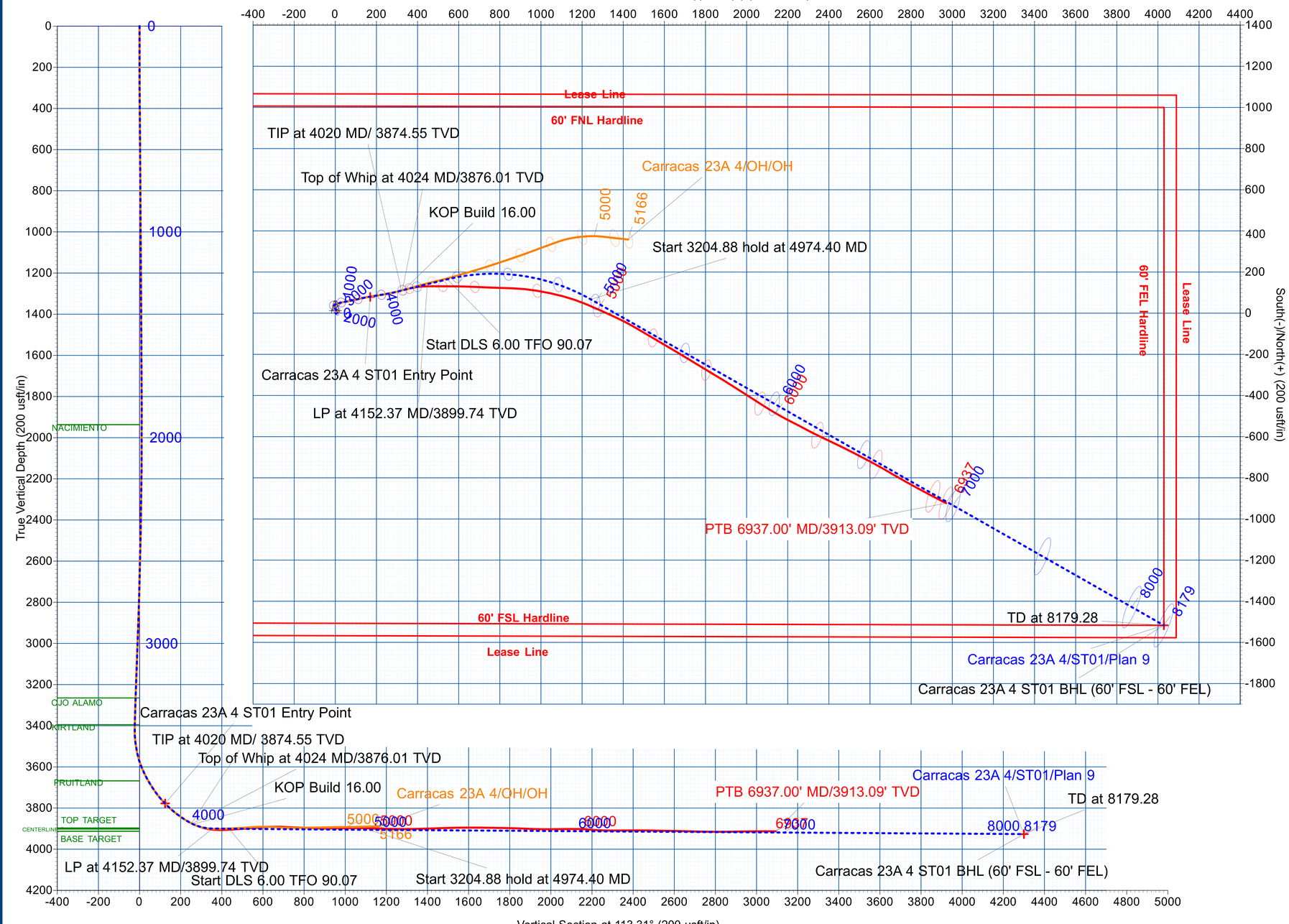
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
4020.00	68.42	75.09	3874.55	110.30	322.16	0.00	0.00	252.22	TIP at 4020 MD/ 3874.55 TVD
4024.00	68.99	74.97	3876.01	111.27	325.76	14.52	-11.04	255.14	Top of Whip at 4024 MD/3876.01 TVD
4032.00	70.30	76.30	3878.79	113.13	333.03	22.61	43.82	261.08	KOP Build 16.00
4152.38	89.56	76.30	3899.74	141.07	447.63	16.00	0.00	355.28	LP at 4152.37 MD/3899.74 TVD
4252.38	89.56	76.30	3900.50	164.75	544.79	0.00	0.00	435.13	Start DLS 6.00 TFO 90.07
4974.40	89.63	119.62	3905.88	67.11	1242.92	6.00	90.07	1114.91	Start 3204.88 hold at 4974.40 MD
8179.28	89.63	119.62	3926.65	-1516.98	4028.86	0.00	0.00	4300.29	TD at 8179.28

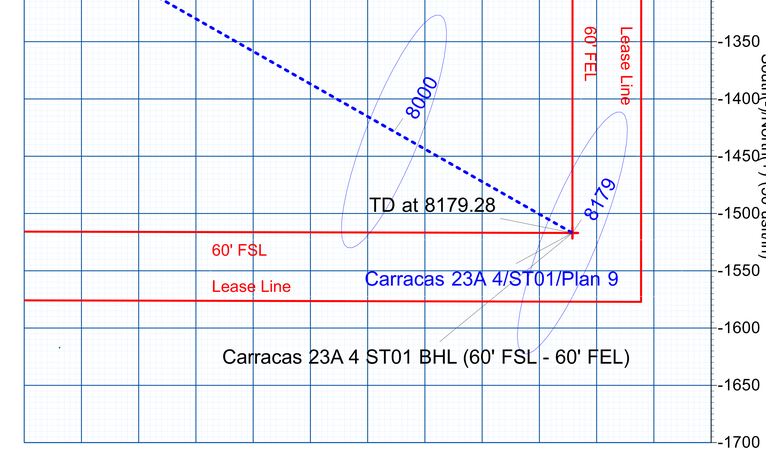
DESIGN TARGET DETAILS

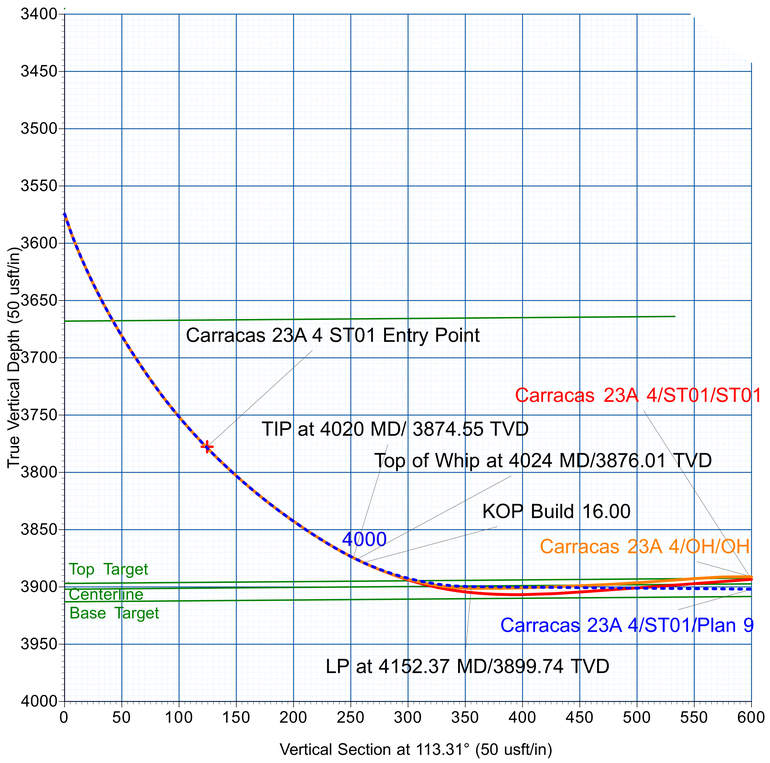
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Carracas 23A 4 ST01 Entry Point	3777.66	79.07	169.73	2172828.23	645465.59	36.970275	-107.335385
Carracas 23A 4 ST01 BHL (60' FSL - 60' FEL)	3926.65	-1516.98	4028.86	2171252.35	649333.01	36.965890	-107.322176

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1936.92	1937.01	Nacimiento
3265.15	3265.76	Ojo Alamo
3395.18	3395.89	Kirtland
3667.68	3686.86	Fruitland
3894.64	4094.58	Top Target
3899.37	4138.76	Centerline
3905.22	4876.66	Base Target







Plan: Plan 9 (Carracas 23A 4/ST01)
Created By: Kurt Otto Date: 6:26, September 26 2022

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 152670

CONDITIONS

Operator: MorningStar Operating LLC 400 W 7th St Fort Worth, TX 76102	OGRID: 330132
	Action Number: 152670
	Action Type: [C-103] Sub. Drilling (C-103N)

CONDITIONS

Created By	Condition	Condition Date
jagarcia	None	10/24/2022