

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE - Other instructions on reverse side

RECEIVED

FARMINGTON NM

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Energen Resources Corporation

3a. Address

2198 Bloomfield Highway, Farmington, NM 87401

3b. Phone No. (include area code)

505.325.6800

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1060' FNL, 1170' FWL, Sec.23, T32N, R05W, N.M.P.M.
NW/SE

5. Lease Serial No.

NMM 59704

6. If Indian, Allottee or Tribe Name

51

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

8. Well Name and No.

Carracas 23A 4

9. API Well No.

30-039-27550

10. Field and Pool, or Exploratory Area

Basin Fruitland Coal

11. County or Parish, State

Rio Arriba NM

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

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment Notice

☐ Acidize

☐ Alter Casing

☐ Casing Repair

☒ Change Plans

☐ Convert to Injection

☐ Deepen

☐ Fracture Treat

☐ New Construction

☐ Plug and Abandon

☐ Plug Back

☐ Production (Start/Resume)

☐ Reclamation

☐ Recomplete

☐ Temporarily Abandon

☐ Water Disposal

☐ Water Shut-Off

☐ Well Integrity

☐ Other

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

Energen Resources plans to make the following changes to the Carracas 23A #4 well:

* Change from a vertical drill plan to a horizontal drill plan as indicated on the attached C-102 and directional survey.

* Change the setting depth of the 7" intermediate string from 3859' (TVD) to 3909' (TVD), 4160' (MD) and cement with 560 sks of lead followed by 125 sks of tail (1253 cu.ft.)

* Change the 5-1/2" production liner to 4-1/2", 11.6#, J-55 LT&C production liner, and set to 3909' (TVD), 5315' (MD).

HOLD C104 FOR Directional Survey

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

Vicki Donaghey

Title

Regulatory Analyst

Date

06/03/05

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Pet. Eng

Date

6/23/05

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

Office

FFO

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes 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.

NMOCD

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 15, 2000

DISTRICT II
811 South First, Artesia, N.M. 88210

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

2005 JUN 22 PM 8 51

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code 71629	Pool Name 070 FARM BASIN FRUITLAND COAL
Property Code	Property Name CARRACAS CANYON UNIT 23A		Well Number 23A-4
GRID No. 162928	Operator Name ENERGEN RESOURCES CORPORATION		Elevation 7339'

10 Surface Location

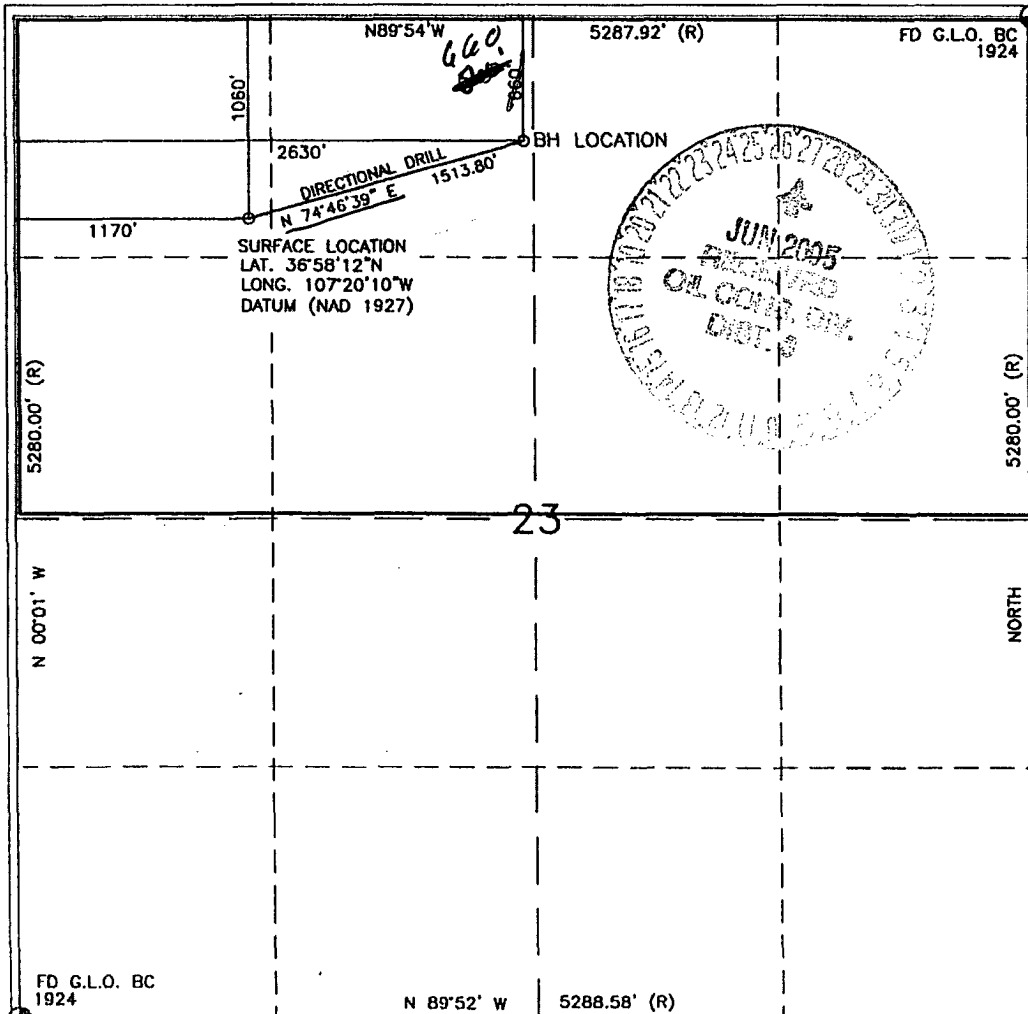
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	23	32N	5W		1060'	NORTH	1170'	WEST	RIO ARRIBA

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
C	23	32N	5W		660'	NORTH	2630'	WEST	RIO ARRIBA

Dedicated Acres 320.00 Acres - (N/2)	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Nathan Smith
Signature
Nathan Smith
Printed Name
Drilling Engineer
Title
6/22/05
Date

18 SURVEYOR CERTIFICATION

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

JUNE 14, 2005

Date of Survey

Signature and Seal of Professional Surveyor:

DAVID RUSSELL
Signature
13281
Certificate Number
10201

Operations Plan

Revised June 2, 2005

Carracas 23A #4

General Information

Location	1160' fnl, 1170' fwl nwnw S23, T32N, R5W Rio Arriba County, New Mexico
Elevations	7339' GL
Total Depth	5315' (MD), 3909' (TVD)
Formation Objective	Basin Fruitland Coal

Formation Tops

San Jose	Surface
Nacimiento	1939' (TVD)
Ojo Alamo Ss	3264' (TVD)
Kirtland Sh	3394' (TVD)
Fruitland Fm	3799' (TVD), 3720' (MD)
Top Coal	3899' (TVD), 3900' (MD)
Bottom Coal	3'919TVD, 3925' (MD)
Total Depth	3909' (TVD), 5315' (MD)
Pictured Cliffs Ss	3979' (TVD)

Drilling

The 12 ¼" wellbore will be drilled with a fresh water mud system.

The 8 ¾" wellbore will be drilled with a low solids fresh water/polymer mud system. Weighting materials will be drill cuttings and if needed barite. Mud density is expected to range from 8.9 ppg to 9.5 ppg. Kick off point is 3590' TVD.

The 6 ¼" wellbore will be drilled with a fresh water or brine water system depending on reservoir characteristics.

Blowout Control Specifications:

A 2000 psi minimum double ram or annulus BOP stack will be used following nipple up of casing head. During air drilling operations, a Shaffer Type 50 or equivalent rotating head will be installed on top of the stack. A 2" nominal, 2000 psi minimum choke manifold will also be used. An upper Kelly Cock valve handle and drill string valve should be available to fit each drill string and be available on the rig floor during drilling operations.

Logging Program:

Open hole logs: MWD gamma ray

Mud logs: From kick off point to TD

Natural Gauges: Surface and/or as needed for directional drilling

Tubulars

Casing, Tubing, & Casing Equipment:

String	Interval	Wellbore	Casing	Csg Wt	Grade
Surface	0'-200'	12 ¼"	9 5/8"	32.3 ppf	H-40 ST&C
Intermediate	0'-3909' (TVD) 4160' (MD)	8 ¾"	7"	23.0 ppf	J-55 LT&C
Production	3909'-3909' (TVD) 4100'-5315' (MD)	6 ¼"	4 ½"	11.6 ppf	J-55 LT&C
Tubing	0'-3975'		2 3/8"	4.7 ppf	J-55

Casing Equipment:

Surface Casing: Depending on wellbore conditions, a Texas Pattern Guide Shoe on bottom. Casing centralization with standard bow spring centralizers to achieve optimal standoff.

Intermediate Casing: Depending on wellbore conditions, a Cement nose guide shoe with self fill insert float collar on top of bottom joint and casing centralization with standard bow spring and rigid centralizers to optimize standoff. Two turbolating centralizers at the base of the Ojo Alamo are recommended.

Liner: Cement nose guide shoe on bottom of first joint. No centralizers.

Wellhead

3000 psi 11" x 9 5/8" casing head. 9 5/8" x 7"x 2 3/8" 3000 psi Flanged Wellhead .

Cementing

Surface Casing: 110 sks Std (class B) with 2.0 % CaCl₂ and ¼ #/sk Flocele (15.6 ppg, 1.18 ft³/sk 130 ft³ of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 1000 psi for 30 min.

Intermediate Casing: Before cementing, circulate hole at least 1 ½ hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 560 sks 65/35 Std (class B) with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and ½ #/sk Flocele (12.3 ppg, 1.96 ft³/sk) and a tail of 125 sks Sts (class B) with ¼ #/sk Flocele (15.6 ppg, 1.18 ft³/sk). (1253 ft³ of slurry, 100 % excess to circulate to surface). Test casing to 1200 psi for 30 min.

Other Information

- 1) This well will be an open hole completion.
- 2) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control. The intermediate string may need to be cemented in multiple stages with a slurry design deviated from that listed above.
- 3) If high reservoir pressures or water flows are encountered slurry design may need to be deviated to from those listed above to satisfy wellbore and formation conditions.
- 4) No abnormal temperatures or pressures are anticipated. This gas is dedicated.



Field: Rio Arriba, NM
Site: Carracas Canyon
Well: Carracas 23A#4
Wellpath: 1
Plan: Plan #2

ENERGEN

SECTION DETAILS

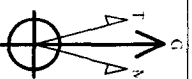
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3590.00	0.00	0.00	3590.00	0.00	0.00	0.00	0.00	0.00	
3	4091.08	90.00	71.10	3909.00	103.33	301.80	17.36	71.10	319.00	
4	5315.33	90.00	71.10	3909.00	499.88	1460.04	0.00	0.00	1543.24	#23A#4

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Carracas 23A#4	0.00	0.00	2172726.94	645254.81	36°58'12.000"N	107°20'09.990"W	N/A

TARGET DETAILS

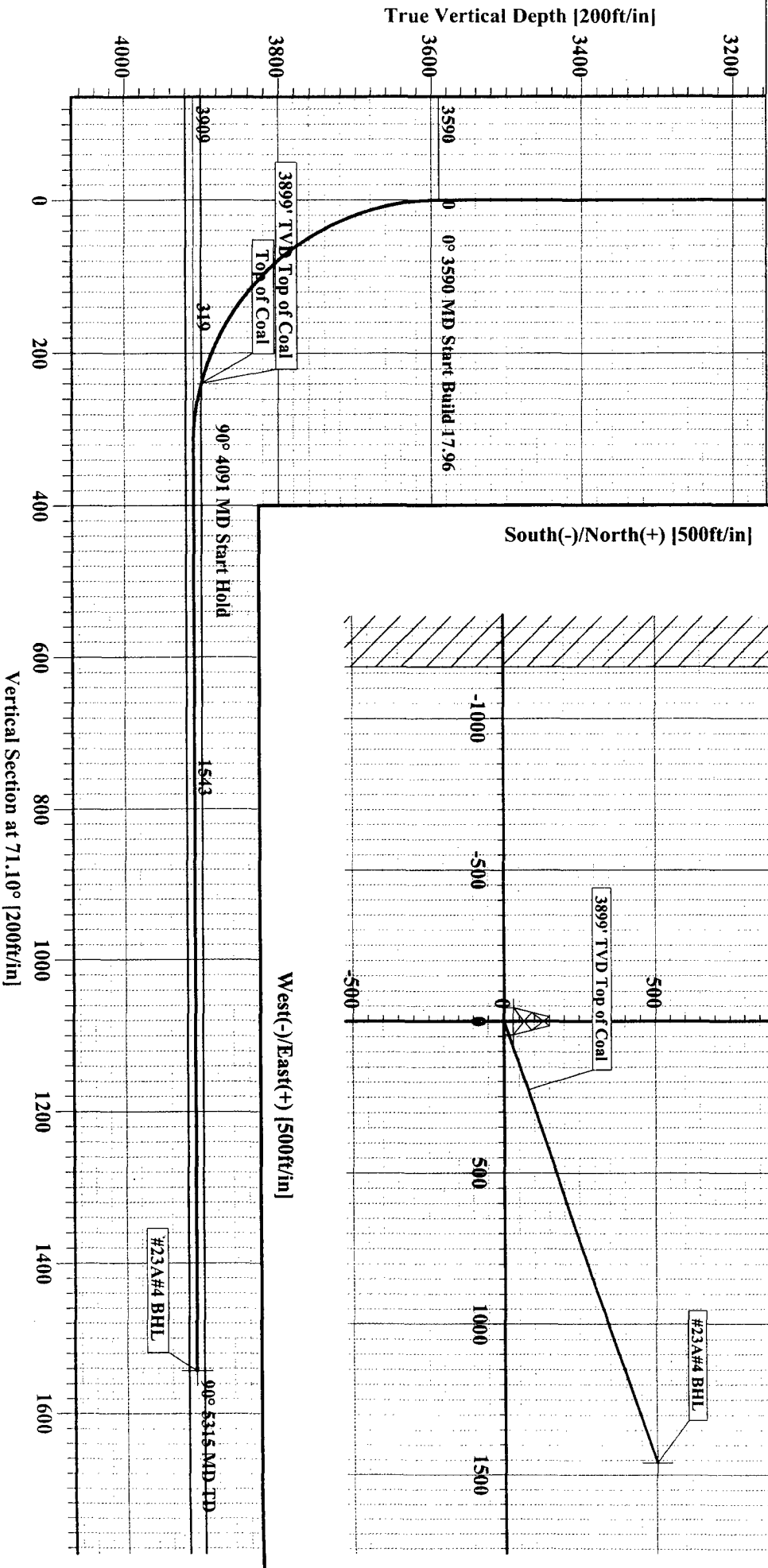
Name	TVD	+N/-S	+E/-W	Shape
#23A#4	3909.00	500.00	1460.00	Point



Adjustments to Grid North
True North: 0.30°
Magnetic North: 10.17°
Magnetic Field
Strength: 51589mT
Dip: Angle: 63.89°
Date: 2005-05-31
Model: 1972005

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	3899.00	4011.00	Top of Coal





Date: 2005-06-01 Time: 10:18:52 Page: 1
Co-ordinate(NE) Reference: Well: Carracas 23A#4, Grid North
Vertical (TVD) Reference: GL 7339.0
Section (VS) Reference: Well (0.00N,0.00E,71.10Azi)
Plan: Plan #2

Map System: US State Plane Coordinate System 1927
Geo Datum: NAD27 (Clarke 1866)
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Western Zone
Coordinate System: Well Centre
Geomagnetic Model: igrf2005

Site Position:		Northing:	ft	Latitude:	
From:	Lease Line	Easting:	ft	Longitude:	
Position Uncertainty:	0.00 ft			North Reference:	Grid
Ground Level:	0.00 ft			Grid Convergence:	0.30 deg

Well:	Carracas 23A#4				Slot Name:			
Well Position:	+N/-S	0.00 ft	Northing:	2172726.94 ft	Latitude:	36	58	12.000 N
	+E/-W	0.00 ft	Easting :	645254.81 ft	Longitude:	107	20	9.990 W
Position Uncertainty:		0.00 ft						

Wellpath: 1		Drilled From:	Surface
Current Datum:	GL	Tie-on Depth:	0.00 ft
Magnetic Data:	2005-05-31	Above System Datum:	Mean Sea Level
Field Strength:	51589 nT	Declination:	10.47 deg
Vertical Section:	Depth From (TVD)	Mag Dip Angle:	63.89 deg
	ft	+N/-S	Direction
		ft	deg
	0.00	0.00	71.10

Plan:	Plan #2	Date Composed:	2005-05-31
		Version:	1
Principal:	Yes	Tied-to:	From Surface

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3590.00	0.00	0.00	3590.00	0.00	0.00	0.00	0.00	0.00	0.00	
4091.08	90.00	71.10	3909.00	103.33	301.80	17.96	17.96	0.00	71.10	
5315.33	90.00	71.10	3909.00	499.88	1460.04	0.00	0.00	0.00	0.00	#23A#4 BHL

[illegible]



Scientific Drilling Planning Report

Company: ENERGEN
Field: Rio Arriba, NM
Site: Carracas Canyon
Well: Carracas 23A#4
Wellpath: 1

Date: 2005-06-01 Time: 10:18:52 Page: 2
Co-ordinate(NE) Reference: Well: Carracas 23A#4, Grid North
Vertical (TVD) Reference: GL 7339.0
Section (VS) Reference: Well (0.00N,0.00E,71.10Azi)
Plan: Plan #2

Section 1 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3590.00	0.00	0.00	3590.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Section 2 : Start Build 17.96

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
3600.00	1.80	71.10	3600.00	0.05	0.15	0.16	17.96	17.96	0.00	0.00
3625.00	6.29	71.10	3624.93	0.62	1.81	1.92	17.96	17.96	0.00	0.00
3650.00	10.78	71.10	3649.65	1.82	5.32	5.63	17.96	17.96	0.00	0.00
3675.00	15.27	71.10	3674.00	3.65	10.65	11.26	17.96	17.96	0.00	0.00
3700.00	19.76	71.10	3697.83	6.08	17.77	18.78	17.96	17.96	0.00	0.00
3725.00	24.25	71.10	3721.01	9.12	26.62	28.14	17.96	17.96	0.00	0.00
3750.00	28.74	71.10	3743.38	12.73	37.17	39.29	17.96	17.96	0.00	0.00
3775.00	33.23	71.10	3764.80	16.89	49.35	52.16	17.96	17.96	0.00	0.00
3800.00	37.72	71.10	3785.16	21.59	63.07	66.66	17.96	17.96	0.00	0.00
3825.00	42.21	71.10	3804.31	26.79	78.26	82.72	17.96	17.96	0.00	0.00
3850.00	46.70	71.10	3822.15	32.46	94.82	100.22	17.96	17.96	0.00	0.00
3875.00	51.19	71.10	3838.57	38.57	112.65	119.07	17.96	17.96	0.00	0.00
3900.00	55.68	71.10	3853.46	45.07	131.64	139.14	17.96	17.96	0.00	0.00
3925.00	60.17	71.10	3866.73	51.93	151.67	160.32	17.96	17.96	0.00	0.00
3950.00	64.66	71.10	3878.31	59.11	172.63	182.47	17.96	17.96	0.00	0.00
3975.00	69.15	71.10	3888.11	66.55	194.38	205.46	17.96	17.96	0.00	0.00
4000.00	73.64	71.10	3896.08	74.23	216.79	229.15	17.96	17.96	0.00	0.00
4025.00	78.13	71.10	3902.18	82.08	239.73	253.39	17.96	17.96	0.00	0.00
4050.00	82.62	71.10	3906.36	90.06	263.04	278.03	17.96	17.96	0.00	0.00
4075.00	87.11	71.10	3908.59	98.12	286.59	302.92	17.96	17.96	0.00	0.00
4091.08	90.00	71.10	3909.00	103.33	301.80	319.00	17.96	17.96	0.00	0.00

Section 3 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
4100.00	90.00	71.10	3909.00	106.22	310.24	327.92	0.00	0.00	0.00	0.00
4200.00	90.00	71.10	3909.00	138.61	404.85	427.92	0.00	0.00	0.00	0.00
4300.00	90.00	71.10	3909.00	171.00	499.45	527.92	0.00	0.00	0.00	0.00
4400.00	90.00	71.10	3909.00	203.39	594.06	627.92	0.00	0.00	0.00	0.00
4500.00	90.00	71.10	3909.00	235.78	688.67	727.92	0.00	0.00	0.00	0.00
4600.00	90.00	71.10	3909.00	268.18	783.28	827.92	0.00	0.00	0.00	0.00
4700.00	90.00	71.10	3909.00	300.57	877.89	927.92	0.00	0.00	0.00	0.00
4800.00	90.00	71.10	3909.00	332.96	972.50	1027.92	0.00	0.00	0.00	0.00
4900.00	90.00	71.10	3909.00	365.35	1067.10	1127.92	0.00	0.00	0.00	0.00
5000.00	90.00	71.10	3909.00	397.74	1161.71	1227.92	0.00	0.00	0.00	0.00
5100.00	90.00	71.10	3909.00	430.14	1256.32	1327.92	0.00	0.00	0.00	0.00
5200.00	90.00	71.10	3909.00	462.53	1350.93	1427.92	0.00	0.00	0.00	0.00
5300.00	90.00	71.10	3909.00	494.92	1445.54	1527.92	0.00	0.00	0.00	0.00
5315.33	90.00	71.10	3909.00	499.88	1460.04	1543.24	0.00	0.00	0.00	0.00