

NMOCD

RECEIVED

Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

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.

5. Lease Serial No. NMNM18463

6. Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

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

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No. ATHENA 2308 14L 2H

2. Name of Operator LOGOS Operating, LLC

9. API Well No. 30-045-35633

3a. Address 2010 Afton Place
Farmington, NM 87401

3b. Phone No. (include area code)
(505) 324-4145

10. Field and Pool or Exploratory Area
Basin Mancos

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
2151 FSL & 566 FWL, NW/SW, L Sec 14 T23N R08W

11. Country or Parish, State
San Juan County, NM

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

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

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or 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 must 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 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

2/23/18 Skid AZ920 f/Athena 2308 14L 1H. NU BOP, PT BOP choke lines & WH Flange at 250psi & 3000psi, good test. PT 9-5/8" csg @ 1500psi/30min, good test. Drill mousehole. PU MU directional tools, TIH w/8-3/4" bit, tag cmt @ 314' KB. DO cmt, FC & shoe to 345' KB. 2/24/18 Drill ahead on 8-3/4" hole to 4672'. circ hole clean. 2/25/18 TOOH, PU curve assbly. Wash & ream. Start drilling curve section at 4950' and TD interm hole @ 6168' MD, 5154' VD on 2/26/18. Circ sweeps, CO bridges. TOOH w/bit & LD. 2/27/18 RIH w/7" csg, stuck @ 5874' & 5921', spot lube & circ. Stuck @ 5921'. Verbal with Ray Espinosa/BLM to cmt 7" at 5921' (approx 204' short of drilling plan), left message with Brandon Powell/OCD.

2/27/18 Land 140jts total 7" csg; string is 27jts 26# P110, 41jts 23# L80, 72jts 23# J55 (on top) & set @ 5923' MD w/FC @ 5877'. RU Halliburton to cement. Preflush w/10bbls FW, 30bbls Tuned Spacer. Lead w/562sx(195bbls, 1061cf) Halcem cmt. Tail w/177sx(41bbls, 292cf) Varicem cmt. Drop plug & displace w/232bbls FW. Bump plug @ 02:55hr on 2/28/18 14:26hr. Circ 50bbls cmt to surface. RD Halliburton. WOC. PT piperams & broken flanges 250psi/5min & 3000/30min, good test. PU BHA#3, TIH circ hole w/new mud. 2/28/18 18:30hr PT 7" csg @ 1500psi for 30mins, good test. ✓

3/1/18 NMOCD conversations with Monica Kuehling and Charlie Perrin. Brandon was out of office & did not receive message, Charlie should have been contacted for permission to proceed with 7" cementing. Rig crew was notified of any further changes in approved plans that both BLM & OCD need to be notified and approvals received. Attached is the updated directional drill plan. The drill trajectory of the 6 1/8" hole will continue as originally planned into the targeted zone.

ACCEPTED FOR RECORD
MAR 07 2018
FARMINGTON FIELD OFFICE

By: _____

Regulatory Specialist

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

Tamra Sessions

Title

Signature

Date

03/01/2018

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

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

Office

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

(Instructions on page 2)

NMOCD



Logos Operating LLC

San Juan, NM NAD83

Athena 2308-14L

Athena 2308-14L 2H

OH

Plan: Plan #4

Standard Planning Report

28 February, 2018



www.scientificdrilling.com



Company: Logos Operating LLC
Project: San Juan, NM NAD83
Site: Athena 2308-14L
Well: Athena 2308-14L 2H
Wellbore: OH
Design: Plan #4

PROJECT DETAILS: San Juan, NM NAD83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Western Zone
System Datum: Mean Sea Level
Local North: True



Azimuths to True North
Magnetic North: 8.92°

Magnetic Field
Strength: 49576.7nT
Dip Angle: 62.85°
Date: 1/18/2018
Model: HDGM

WELL DETAILS: Athena 2308-14L 2H

GL 6878' & RKB 14' @ 6892.00usft (Aztec 920)
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 1901464.44 2774721.49 36.2256040 -107.6582830

Plan: Plan #4 (Athena 2308-14L 2H/OH)

Created By: Janie Collins Date: 14:12, February 28 2018

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
Athena 2H BHL Rev	5098.00	-1755.34	-5629.05	1899698.94	2769095.62

SECTION DETAILS

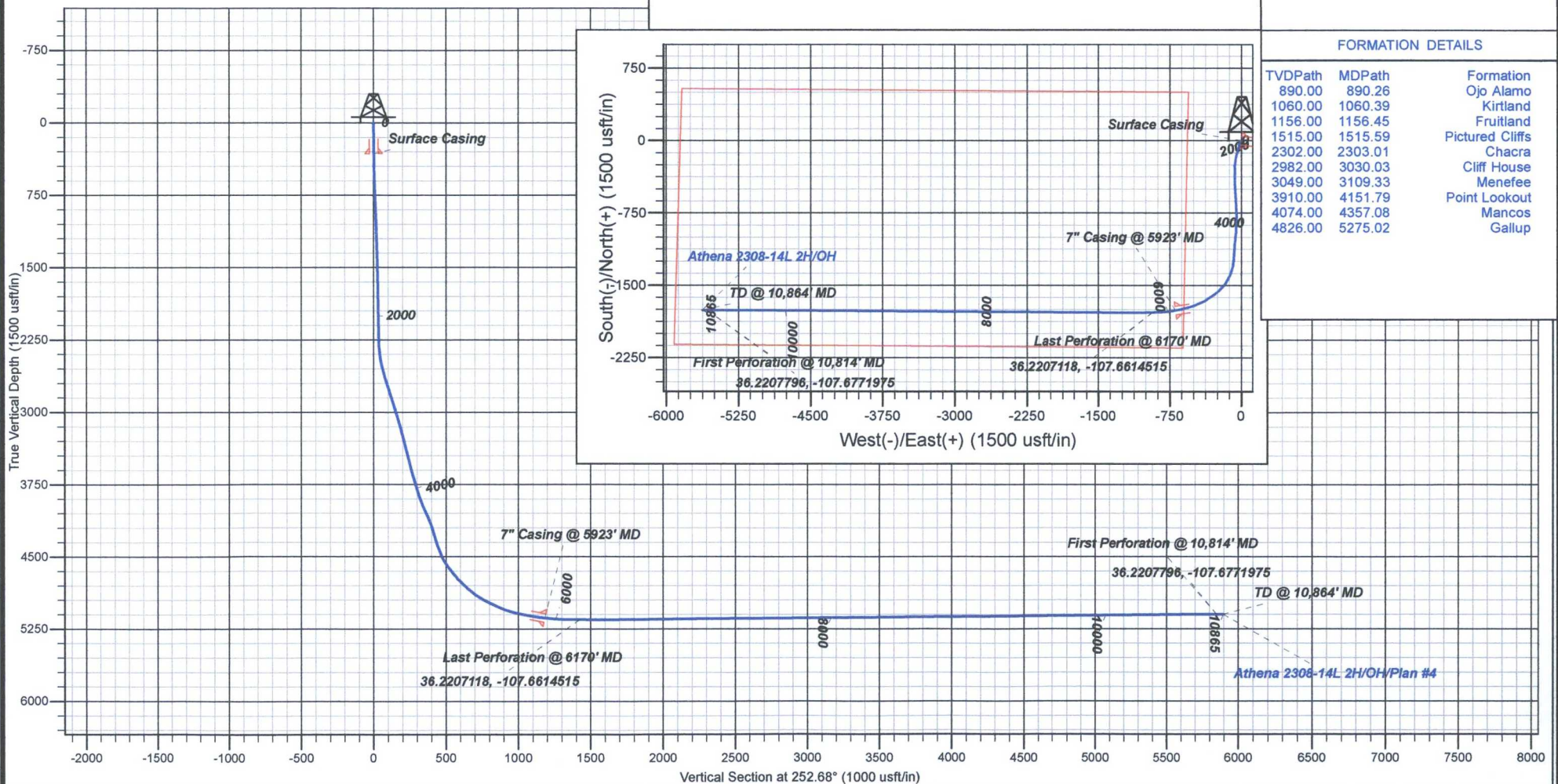
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
6109.00	88.49	267.05	5153.49	-1778.27	-873.66	0.00	0.00	1363.43	
6307.79	90.72	270.35	5154.87	-1782.78	-1072.35	2.00	55.99	1554.46	
10864.93	90.72	270.35	5098.00	-1755.34	-5629.05	0.00	0.00	5896.39	Athena 2H BHL Rev

CASING DETAILS

TVD	MD	Name
320.00	320.00	Surface Casing
5137.00	5923.00"	Casing @ 5923' MD

FORMATION DETAILS

TVDPath	MDPath	Formation
890.00	890.26	Ojo Alamo
1060.00	1060.39	Kirtland
1156.00	1156.45	Fruitland
1515.00	1515.59	Pictured Cliffs
2302.00	2303.01	Chacra
2982.00	3030.03	Cliff House
3049.00	3109.33	Menefee
3910.00	4151.79	Point Lookout
4074.00	4357.08	Mancos
4826.00	5275.02	Gallup



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Athena 2308-14L 2H
Company:	Logos Operating LLC	TVD Reference:	GL 6878' & RKB 14' @ 6892.00usft (Aztec 920)
Project:	San Juan, NM NAD83	MD Reference:	GL 6878' & RKB 14' @ 6892.00usft (Aztec 920)
Site:	Athena 2308-14L	North Reference:	True
Well:	Athena 2308-14L 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

Project	San Juan, NM NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	Athena 2308-14L				
Site Position:		Northing:	1,901,483.74 usft	Latitude:	36.225657
From:	Lat/Long	Easting:	2,774,726.48 usft	Longitude:	-107.658266
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.10

Well	Athena 2308-14L 2H					
Well Position	+N/-S	-19.29 usft	Northing:	1,901,464.44 usft	Latitude:	36.225604
	+E/-W	-5.01 usft	Easting:	2,774,721.50 usft	Longitude:	-107.658283
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,878.00 us

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/18/2018	8.92	62.85	49,577

Design	Plan #4			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	6,109.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	252.68

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
6,109.00	88.49	267.05	5,153.49	-1,778.27	-873.66	0.00	0.00	0.00	0.00	
6,307.79	90.72	270.35	5,154.87	-1,782.78	-1,072.35	2.00	1.12	1.66	55.99	
10,864.93	90.72	270.35	5,098.00	-1,755.34	-5,629.05	0.00	0.00	0.00	0.00	Athena 2H BHL Rev



Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Athena 2308-14L 2H
Company:	Logos Operating LLC	TVD Reference:	GL 6878' & RKB 14' @ 6892.00usft (Aztec 920)
Project:	San Juan, NM NAD83	MD Reference:	GL 6878' & RKB 14' @ 6892.00usft (Aztec 920)
Site:	Athena 2308-14L	North Reference:	True
Well:	Athena 2308-14L 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,109.00	88.49	267.05	5,153.49	-1,778.27	-873.66	1,363.43	0.00	0.00	0.00
6,170.00	89.17	268.06	5,154.73	-1,780.87	-934.59	1,422.37	2.00	1.12	1.66
Last Perforation @ 6170' MD - 36.2207118, -107.6614515									
6,200.00	89.51	268.56	5,155.08	-1,781.75	-964.57	1,451.26	2.00	1.12	1.66
6,300.00	90.63	270.22	5,154.96	-1,782.82	-1,064.56	1,547.03	2.00	1.12	1.66
6,307.79	90.72	270.35	5,154.87	-1,782.78	-1,072.35	1,554.46	2.00	1.12	1.66
6,400.00	90.72	270.35	5,153.72	-1,782.23	-1,164.55	1,642.31	0.00	0.00	0.00
6,500.00	90.72	270.35	5,152.47	-1,781.63	-1,264.54	1,737.59	0.00	0.00	0.00
6,600.00	90.72	270.35	5,151.22	-1,781.02	-1,364.53	1,832.87	0.00	0.00	0.00
6,700.00	90.72	270.35	5,149.97	-1,780.42	-1,464.52	1,928.15	0.00	0.00	0.00
6,800.00	90.72	270.35	5,148.73	-1,779.82	-1,564.51	2,023.43	0.00	0.00	0.00
6,900.00	90.72	270.35	5,147.48	-1,779.22	-1,664.50	2,118.70	0.00	0.00	0.00
7,000.00	90.72	270.35	5,146.23	-1,778.62	-1,764.49	2,213.98	0.00	0.00	0.00
7,100.00	90.72	270.35	5,144.98	-1,778.01	-1,864.48	2,309.26	0.00	0.00	0.00
7,200.00	90.72	270.35	5,143.73	-1,777.41	-1,964.47	2,404.54	0.00	0.00	0.00
7,300.00	90.72	270.35	5,142.49	-1,776.81	-2,064.46	2,499.81	0.00	0.00	0.00
7,400.00	90.72	270.35	5,141.24	-1,776.21	-2,164.45	2,595.09	0.00	0.00	0.00
7,500.00	90.72	270.35	5,139.99	-1,775.60	-2,264.45	2,690.37	0.00	0.00	0.00
7,600.00	90.72	270.35	5,138.74	-1,775.00	-2,364.44	2,785.65	0.00	0.00	0.00
7,700.00	90.72	270.35	5,137.50	-1,774.40	-2,464.43	2,880.92	0.00	0.00	0.00
7,800.00	90.72	270.35	5,136.25	-1,773.80	-2,564.42	2,976.20	0.00	0.00	0.00
7,900.00	90.72	270.35	5,135.00	-1,773.20	-2,664.41	3,071.48	0.00	0.00	0.00
8,000.00	90.72	270.35	5,133.75	-1,772.59	-2,764.40	3,166.76	0.00	0.00	0.00
8,100.00	90.72	270.35	5,132.50	-1,771.99	-2,864.39	3,262.03	0.00	0.00	0.00
8,200.00	90.72	270.35	5,131.26	-1,771.39	-2,964.38	3,357.31	0.00	0.00	0.00
8,300.00	90.72	270.35	5,130.01	-1,770.79	-3,064.37	3,452.59	0.00	0.00	0.00
8,400.00	90.72	270.35	5,128.76	-1,770.18	-3,164.36	3,547.87	0.00	0.00	0.00
8,500.00	90.72	270.35	5,127.51	-1,769.58	-3,264.35	3,643.14	0.00	0.00	0.00
8,600.00	90.72	270.35	5,126.26	-1,768.98	-3,364.34	3,738.42	0.00	0.00	0.00
8,700.00	90.72	270.35	5,125.02	-1,768.38	-3,464.33	3,833.70	0.00	0.00	0.00
8,800.00	90.72	270.35	5,123.77	-1,767.78	-3,564.32	3,928.98	0.00	0.00	0.00
8,900.00	90.72	270.35	5,122.52	-1,767.17	-3,664.31	4,024.25	0.00	0.00	0.00
9,000.00	90.72	270.35	5,121.27	-1,766.57	-3,764.30	4,119.53	0.00	0.00	0.00
9,100.00	90.72	270.35	5,120.02	-1,765.97	-3,864.29	4,214.81	0.00	0.00	0.00
9,200.00	90.72	270.35	5,118.78	-1,765.37	-3,964.28	4,310.09	0.00	0.00	0.00
9,300.00	90.72	270.35	5,117.53	-1,764.76	-4,064.27	4,405.37	0.00	0.00	0.00
9,400.00	90.72	270.35	5,116.28	-1,764.16	-4,164.26	4,500.64	0.00	0.00	0.00
9,500.00	90.72	270.35	5,115.03	-1,763.56	-4,264.25	4,595.92	0.00	0.00	0.00
9,600.00	90.72	270.35	5,113.79	-1,762.96	-4,364.24	4,691.20	0.00	0.00	0.00
9,700.00	90.72	270.35	5,112.54	-1,762.36	-4,464.23	4,786.48	0.00	0.00	0.00
9,800.00	90.72	270.35	5,111.29	-1,761.75	-4,564.22	4,881.75	0.00	0.00	0.00
9,900.00	90.72	270.35	5,110.04	-1,761.15	-4,664.21	4,977.03	0.00	0.00	0.00
10,000.00	90.72	270.35	5,108.79	-1,760.55	-4,764.21	5,072.31	0.00	0.00	0.00
10,100.00	90.72	270.35	5,107.55	-1,759.95	-4,864.20	5,167.59	0.00	0.00	0.00
10,200.00	90.72	270.35	5,106.30	-1,759.34	-4,964.19	5,262.86	0.00	0.00	0.00
10,300.00	90.72	270.35	5,105.05	-1,758.74	-5,064.18	5,358.14	0.00	0.00	0.00
10,400.00	90.72	270.35	5,103.80	-1,758.14	-5,164.17	5,453.42	0.00	0.00	0.00
10,500.00	90.72	270.35	5,102.55	-1,757.54	-5,264.16	5,548.70	0.00	0.00	0.00
10,600.00	90.72	270.35	5,101.31	-1,756.94	-5,364.15	5,643.97	0.00	0.00	0.00
10,700.00	90.72	270.35	5,100.06	-1,756.33	-5,464.14	5,739.25	0.00	0.00	0.00
10,800.00	90.72	270.35	5,098.81	-1,755.73	-5,564.13	5,834.53	0.00	0.00	0.00
10,814.93	90.72	270.35	5,098.62	-1,755.64	-5,579.06	5,848.75	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well Athena 2308-14L 2H
Company:	Logos Operating LLC	TVD Reference:	GL 6878' & RKB 14' @ 6892.00usft (Aztec 920)
Project:	San Juan, NM NAD83	MD Reference:	GL 6878' & RKB 14' @ 6892.00usft (Aztec 920)
Site:	Athena 2308-14L	North Reference:	True
Well:	Athena 2308-14L 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

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)
36.2207796, -107.6771975 - First Perforation @ 10,814' MD									
10,864.00	90.72	270.35	5,098.01	-1,755.35	-5,628.12	5,895.51	0.00	0.00	0.00
TD @ 10,864' MD									
10,864.93	90.72	270.35	5,098.00	-1,755.34	-5,629.05	5,896.39	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Athena 2H BHL Rev	0.00	0.00	5,098.00	-1,755.34	-5,629.05	1,899,698.94	2,769,095.62	36.2207804	-107.6773671
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
320.00	320.00	Surface Casing			
5,923.00	5,137.00	7" Casing @ 5923' MD			

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,151.79	3,910.00	Point Lookout		0.00	0.00
4,357.08	4,074.00	Mancos		0.00	0.00
5,275.02	4,826.00	Gallup		0.00	0.00

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
6,170.00	5,154.73	-1,780.87	-934.59	Last Perforation @ 6170' MD	
6,170.00	5,154.73	-1,780.87	-934.59	36.2207118, -107.6614515	
10,814.93	5,098.62	-1,755.64	-5,579.06	36.2207796, -107.6771975	
10,814.93	5,098.62	-1,755.64	-5,579.06	First Perforation @ 10,814' MD	
10,864.00	5,098.01	-1,755.35	-5,628.12	TD @ 10,864' MD	