

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 87240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103

June 19, 2008

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

WELL API NO. 30-045-35641
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name: Crow Mesa 24-08 2
8. Well Number 4H
9. OGRID Number 162928
10. Pool name or Wildcat Dufers Point-Gallup Dakota
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 7318' GL

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other
2. Name of Operator ENERGEN RESOURCES CORPORATION
3. Address of Operator 2010 Afton Place, Farmington NM 87401
4. Well Location Unit Letter I : 1370 feet from the South line and 507 feet from the East line Section 2 Township 24N Range 8W NMPM County San Juan
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 7318' GL

12. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☒
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OIL CONS. DIV DIST. 3

SEP 16 2015

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Energgen Resources would like to request additional changes to the drilling plans.

-Change the set depth of the 7" intermediate to 6937' (MD); 6273' (TVD) and change cement volumes to 745 sks lead/105 sks tail.

-Change the set depth of the 4.50' liner to 6737'-11600' (MD); 6240'-6233' (TVD) and change the cement volume to 440 sks. Liner slurry will not be foam cmt.

-Change the 6.25" hole diameter to 6.125".

-Change the BHL footages from 380' FSL, 380' FWL to 380' FSL, 330' FWL. Attached is an amended C-102 and directional plan depicting this change.

Spud Date:

8/10/15

Rig Release Date:

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

SIGNATURE Anna Stotts TITLE Regulatory Analyst DATE 9/14/15

astotts@energgen.com

Type or print name Anna Stotts E-mail address: astotts@energgen.com PHONE 505-324-4154

For State Use Only

APPROVED BY Charles Lee TITLE SUPERVISOR DISTRICT #3 DATE SEP 24 2015

Conditions of Approval (if any):

HOLD C104 FOR NSC

Hold C104
for Directional Survey
and "As Drilled" plat

2 NSL

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DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6181 Fax: (575) 393-0720

DISTRICT II
911 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) 478-3480 Fax: (505) 478-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35641	² Pool Code 19859	³ Pool Name Duffers Point - Gallup Dakota
⁴ Property Code 314190	⁵ Property Name CROW MESA 24-08 2	⁶ Well Number 4H
⁷ OGRID No. 162928	⁸ Operator Name ENERGEN RESOURCES CORPORATION	⁹ Elevation 7318'

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
I	2	24N	8W		1370'	SOUTH	507'	EAST	SAN JUAN

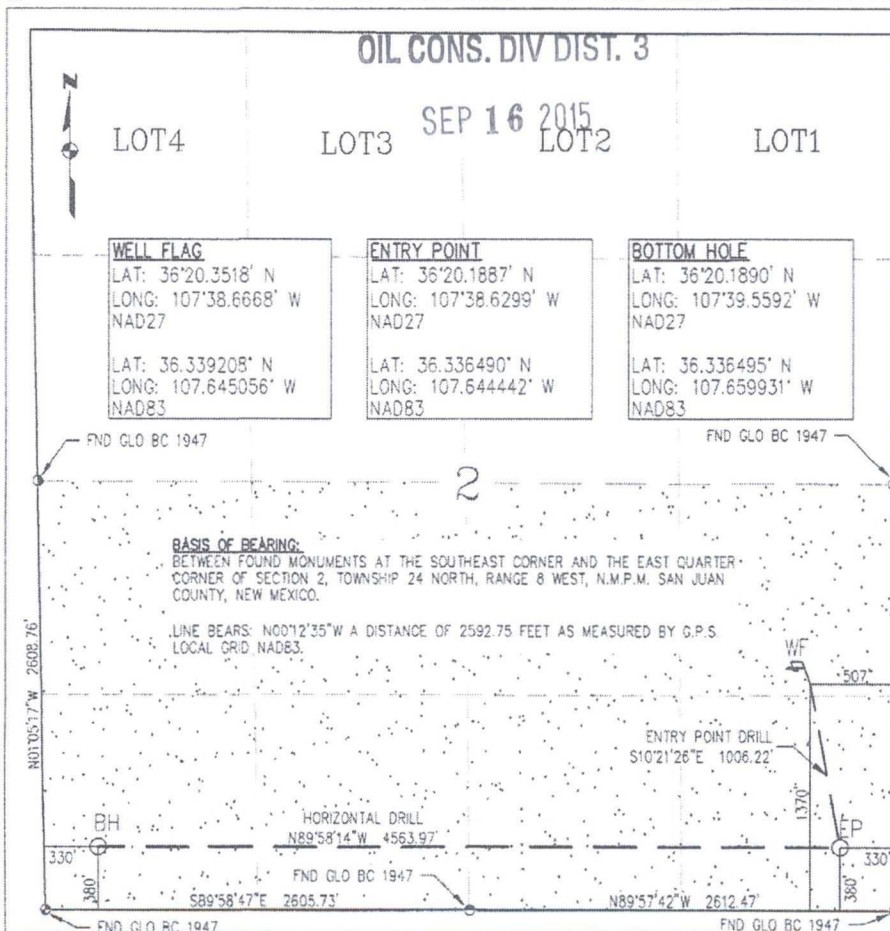
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	2	24N	8W		380'	SOUTH	330'	WEST	SAN JUAN

¹² Dedicated Acres S/2 SEC 2 320 ACRES	PROJECT AREA	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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

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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.

Anna Stotts 9/15/15
Signature Date

ANNA STOTTS
Printed Name

astotts@energen.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.

SEPTEMBER 8, 2015
Date of Survey

Signature and Seal of Professional Surveyor:



GLEN W. RUSSELL

Certificate Number 15703



Energen Resources Corp.

San Juan County, NM (NAD83)

Crow Mesa

Crow Mesa 24-08 2 #4H

OH

Plan: Plan #1 Final

Standard Planning Report

11 September, 2015



Scientific Drilling

www.scientificdrilling.com





Company: Energen Resources Corp.
Project: San Juan County, NM (NAD83)
Site: Crow Mesa
Well: Crow Mesa 24-08 2 #4H
Wellbore: OH
Design: Plan #1 Final

PROJECT DETAILS: San Juan County, 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 Nor
Magnetic North: 9.0

Magnetic Field
Strength: 49920.0s
Dip Angle: 63.0
Date: 9/3/20
Model: HDG

WELL DETAILS: Crow Mesa 24-08 2 #4H

GL 7318' & RKB 17' @ 7335.00ft (Key 881)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1942826.50	2778542.29	36.3392080	-107.6450560

Plan: Plan #1 Final (Crow Mesa 24-08 2 #4H/OH)

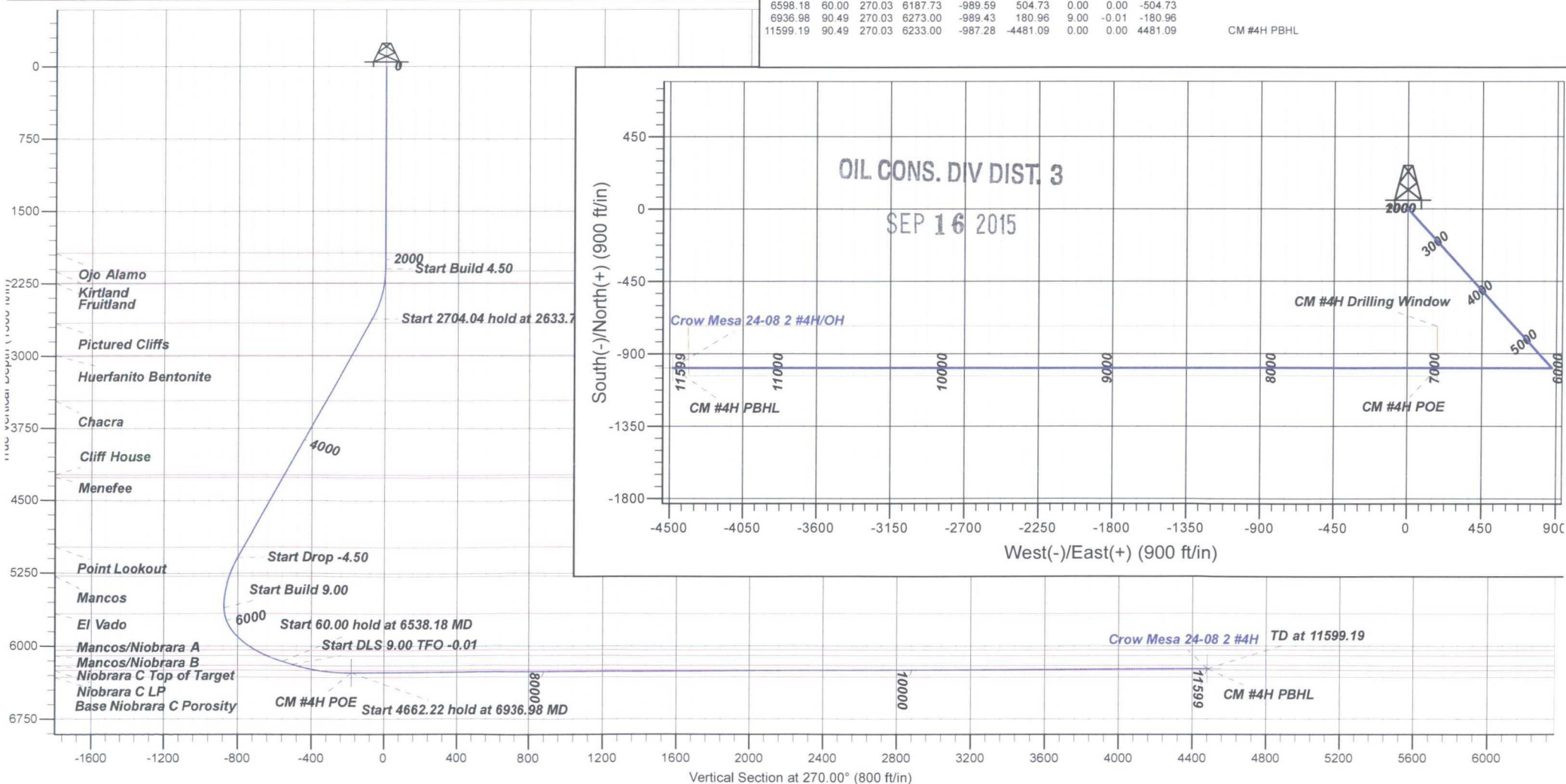
Created By: Janie Collins Date: 15:39, September 11 2015

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
CM #4H PBHL	6233.00	-987.28	-4481.09	1941830.50	2774063.14	36.3364950	-107.6602705
CM #4H POE	6273.00	-989.43	180.84	1941837.42	2778725.05	36.3364900	-107.6444420

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation
0.00	0.00	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		
2633.73	24.02	138.52	2618.24	-82.59	73.02	4.50	138.52	-73.02		
5337.78	24.02	138.52	5088.16	-907.19	801.98	0.00	0.00	-801.98		
5871.51	0.00	0.00	5606.40	-989.78	875.00	4.50	180.00	-875.00		
6538.18	60.00	270.03	6157.73	-989.61	556.69	9.00	270.03	-556.69		
6598.18	60.00	270.03	6187.73	-989.59	504.73	0.00	0.00	-504.73		
6936.98	90.49	270.03	6273.00	-989.43	180.96	9.00	-0.01	-180.96		
11599.19	90.49	270.03	6233.00	-987.28	-4481.09	0.00	0.00	4481.09	CM #4H PBHL	



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Crow Mesa 24-08 2 #4H
Company:	Energen Resources Corp.	TVD Reference:	GL 7318' & RKB 17' @ 7335.00ft (Key 881)
Project:	San Juan County, NM (NAD83)	MD Reference:	GL 7318' & RKB 17' @ 7335.00ft (Key 881)
Site:	Crow Mesa	North Reference:	True
Well:	Crow Mesa 24-08 2 #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 Final		

Project	San Juan County, 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	Crow Mesa				
Site Position:		Northing:	1,942,876.38 usft	Latitude:	36.3393450
From:	Lat/Long	Easting:	2,778,544.55 usft	Longitude:	-107.6450480
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.11 °

Well	Crow Mesa 24-08 2 #4H					
Well Position	+N/-S	-49.87 ft	Northing:	1,942,826.50 usft	Latitude:	36.3392080
	+E/-W	-2.36 ft	Easting:	2,778,542.29 usft	Longitude:	-107.6450560
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	7,318.00 ft

Wellbore	OH				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/3/2015	9.08	63.03	49,920

Design	Plan #1 Final				
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Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	270.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,633.73	24.02	138.52	2,618.24	-82.59	73.02	4.50	4.50	0.00	138.52	
5,337.78	24.02	138.52	5,088.16	-907.19	801.98	0.00	0.00	0.00	0.00	
5,871.51	0.00	0.00	5,606.40	-989.78	875.00	4.50	-4.50	0.00	180.00	
6,538.18	60.00	270.03	6,157.73	-989.61	556.69	9.00	9.00	0.00	270.03	
6,598.18	60.00	270.03	6,187.73	-989.59	504.73	0.00	0.00	0.00	0.00	
6,936.98	90.49	270.03	6,273.00	-989.43	180.96	9.00	9.00	0.00	-0.01	
11,599.19	90.49	270.03	6,233.00	-987.28	-4,481.09	0.00	0.00	0.00	0.00	CM #4H PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well Crow Mesa 24-08 2 #4H
Company:	Energen Resources Corp.	TVD Reference:	GL 7318' & RKB 17' @ 7335.00ft (Key 881)
Project:	San Juan County, NM (NAD83)	MD Reference:	GL 7318' & RKB 17' @ 7335.00ft (Key 881)
Site:	Crow Mesa	North Reference:	True
Well:	Crow Mesa 24-08 2 #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 Final		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,934.00	0.00	0.00	1,934.00	0.00	0.00	0.00	0.00	0.00	0.00
Ojo Alamo									
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,124.00	1.08	138.52	2,124.00	-0.17	0.15	-0.15	4.50	4.50	0.00
Kirtland									
2,200.00	4.50	138.52	2,199.90	-2.94	2.60	-2.60	4.50	4.50	0.00
2,245.32	6.54	138.52	2,245.00	-6.21	5.49	-5.49	4.50	4.50	0.00
Fruitland									
2,300.00	9.00	138.52	2,299.18	-11.74	10.38	-10.38	4.50	4.50	0.00
2,400.00	13.50	138.52	2,397.23	-26.36	23.30	-23.30	4.50	4.50	0.00
2,500.00	18.00	138.52	2,493.45	-46.69	41.27	-41.27	4.50	4.50	0.00
2,600.00	22.50	138.52	2,587.25	-72.61	64.19	-64.19	4.50	4.50	0.00
2,633.73	24.02	138.52	2,618.24	-82.59	73.02	-73.02	4.50	4.50	0.00
2,680.55	24.02	138.52	2,661.00	-96.87	85.64	-85.64	0.00	0.00	0.00
Pictured Cliffs									
2,700.00	24.02	138.52	2,678.77	-102.80	90.88	-90.88	0.00	0.00	0.00
2,800.00	24.02	138.52	2,770.11	-133.30	117.84	-117.84	0.00	0.00	0.00
2,900.00	24.02	138.52	2,861.45	-163.79	144.80	-144.80	0.00	0.00	0.00
3,000.00	24.02	138.52	2,952.79	-194.29	171.76	-171.76	0.00	0.00	0.00
3,044.02	24.02	138.52	2,993.00	-207.71	183.62	-183.62	0.00	0.00	0.00
Huerfano Bentonite									
3,100.00	24.02	138.52	3,044.13	-224.78	198.71	-198.71	0.00	0.00	0.00
3,200.00	24.02	138.52	3,135.48	-255.28	225.67	-225.67	0.00	0.00	0.00
3,300.00	24.02	138.52	3,226.82	-285.77	252.63	-252.63	0.00	0.00	0.00
3,400.00	24.02	138.52	3,318.16	-316.26	279.59	-279.59	0.00	0.00	0.00
3,500.00	24.02	138.52	3,409.50	-346.76	306.55	-306.55	0.00	0.00	0.00
3,558.57	24.02	138.52	3,463.00	-364.62	322.34	-322.34	0.00	0.00	0.00
Chacra									
3,600.00	24.02	138.52	3,500.84	-377.25	333.51	-333.51	0.00	0.00	0.00
3,700.00	24.02	138.52	3,592.18	-407.75	360.46	-360.46	0.00	0.00	0.00
3,800.00	24.02	138.52	3,683.53	-438.24	387.42	-387.42	0.00	0.00	0.00
3,900.00	24.02	138.52	3,774.87	-468.74	414.38	-414.38	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well Crow Mesa 24-08 2 #4H
Company:	Energen Resources Corp.	TVD Reference:	GL 7318' & RKB 17' @ 7335.00ft (Key 881)
Project:	San Juan County, NM (NAD83)	MD Reference:	GL 7318' & RKB 17' @ 7335.00ft (Key 881)
Site:	Crow Mesa	North Reference:	True
Well:	Crow Mesa 24-08 2 #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 Final		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,000.00	24.02	138.52	3,866.21	-499.23	441.34	-441.34	0.00	0.00	0.00
4,100.00	24.02	138.52	3,957.55	-529.73	468.30	-468.30	0.00	0.00	0.00
4,200.00	24.02	138.52	4,048.89	-560.22	495.26	-495.26	0.00	0.00	0.00
4,300.00	24.02	138.52	4,140.24	-590.72	522.22	-522.22	0.00	0.00	0.00
4,400.00	24.02	138.52	4,231.58	-621.21	549.17	-549.17	0.00	0.00	0.00
4,402.65	24.02	138.52	4,234.00	-622.02	549.89	-549.89	0.00	0.00	0.00
Cliff House									
4,433.31	24.02	138.52	4,262.00	-631.37	558.15	-558.15	0.00	0.00	0.00
Menefee									
4,500.00	24.02	138.52	4,322.92	-651.71	576.13	-576.13	0.00	0.00	0.00
4,600.00	24.02	138.52	4,414.26	-682.20	603.09	-603.09	0.00	0.00	0.00
4,700.00	24.02	138.52	4,505.60	-712.70	630.05	-630.05	0.00	0.00	0.00
4,800.00	24.02	138.52	4,596.94	-743.19	657.01	-657.01	0.00	0.00	0.00
4,900.00	24.02	138.52	4,688.29	-773.69	683.97	-683.97	0.00	0.00	0.00
5,000.00	24.02	138.52	4,779.63	-804.18	710.92	-710.92	0.00	0.00	0.00
5,100.00	24.02	138.52	4,870.97	-834.68	737.88	-737.88	0.00	0.00	0.00
5,200.00	24.02	138.52	4,962.31	-865.17	764.84	-764.84	0.00	0.00	0.00
5,221.56	24.02	138.52	4,982.00	-871.74	770.65	-770.65	0.00	0.00	0.00
Point Lookout									
5,300.00	24.02	138.52	5,053.65	-895.67	791.80	-791.80	0.00	0.00	0.00
5,337.78	24.02	138.52	5,088.16	-907.19	801.98	-801.98	0.00	0.00	0.00
5,400.00	21.22	138.52	5,145.59	-925.11	817.83	-817.83	4.50	-4.50	0.00
5,500.00	16.72	138.52	5,240.14	-949.46	839.35	-839.35	4.50	-4.50	0.00
5,544.53	14.71	138.52	5,283.00	-958.50	847.34	-847.34	4.50	-4.50	0.00
Mancos									
5,600.00	12.22	138.52	5,336.94	-968.17	855.90	-855.90	4.50	-4.50	0.00
5,700.00	7.72	138.52	5,435.40	-981.14	867.36	-867.36	4.50	-4.50	0.00
5,800.00	3.22	138.52	5,534.92	-988.28	873.67	-873.67	4.50	-4.50	0.00
5,871.51	0.00	0.00	5,606.40	-989.78	875.00	-875.00	4.50	-4.50	0.00
5,900.00	2.56	270.03	5,634.88	-989.78	874.36	-874.36	9.00	9.00	0.00
5,932.21	5.46	270.03	5,667.00	-989.78	872.11	-872.11	9.00	9.00	0.00
El Vado									
6,000.00	11.56	270.03	5,734.02	-989.77	862.08	-862.08	9.00	9.00	0.00
6,100.00	20.56	270.03	5,830.01	-989.76	834.44	-834.44	9.00	9.00	0.00
6,200.00	29.56	270.03	5,920.50	-989.74	792.12	-792.12	9.00	9.00	0.00
6,300.00	38.56	270.03	6,003.26	-989.71	736.16	-736.16	9.00	9.00	0.00
6,351.24	43.18	270.03	6,042.00	-989.69	702.64	-702.64	9.00	9.00	0.00
Mancos/Niobrara A									
6,400.00	47.56	270.03	6,076.24	-989.67	667.95	-667.95	9.00	9.00	0.00
6,436.36	50.84	270.03	6,100.00	-989.66	640.43	-640.43	9.00	9.00	0.00
Mancos/Niobrara B									
6,500.00	56.56	270.03	6,137.66	-989.63	589.16	-589.16	9.00	9.00	0.00
6,538.18	60.00	270.03	6,157.73	-989.61	556.69	-556.69	9.00	9.00	0.00
6,598.18	60.00	270.03	6,187.73	-989.59	504.73	-504.73	0.00	0.00	0.00
6,600.00	60.16	270.03	6,188.64	-989.59	503.15	-503.15	9.00	9.00	0.00
6,623.61	62.29	270.03	6,200.00	-989.57	482.46	-482.46	9.00	9.00	0.00
Niobrara C Top of Target									
6,700.00	69.16	270.03	6,231.39	-989.54	412.86	-412.86	9.00	9.00	0.00
6,759.79	74.55	270.03	6,250.00	-989.51	356.06	-356.06	9.00	9.00	0.00
Niobrara C LP									
6,800.00	78.16	270.03	6,259.48	-989.49	317.00	-317.00	9.00	9.00	0.00
6,900.00	87.16	270.03	6,272.24	-989.44	217.92	-217.92	9.00	9.00	0.00
6,936.98	90.49	270.03	6,273.00	-989.43	180.96	-180.96	9.00	9.00	0.00

Database: Grand Junction District
Company: Energen Resources Corp.
Project: San Juan County, NM (NAD83)
Site: Crow Mesa
Well: Crow Mesa 24-08 2 #4H
Wellbore: OH
Design: Plan #1 Final

Local Co-ordinate Reference: Well Crow Mesa 24-08 2 #4H
TVD Reference: GL 7318' & RKB 17' @ 7335.00ft (Key 881)
MD Reference: GL 7318' & RKB 17' @ 7335.00ft (Key 881)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,937.09	90.49	270.03	6,273.00	-989.43	180.84	-180.84	0.00	0.00	0.00
CM #4H POE									
7,000.00	90.49	270.03	6,272.46	-989.40	117.93	-117.93	0.00	0.00	0.00
7,100.00	90.49	270.03	6,271.60	-989.35	17.94	-17.94	0.00	0.00	0.00
7,200.00	90.49	270.03	6,270.74	-989.31	-82.06	82.06	0.00	0.00	0.00
7,300.00	90.49	270.03	6,269.88	-989.26	-182.05	182.05	0.00	0.00	0.00
7,400.00	90.49	270.03	6,269.02	-989.21	-282.05	282.05	0.00	0.00	0.00
7,500.00	90.49	270.03	6,268.17	-989.17	-382.05	382.05	0.00	0.00	0.00
7,600.00	90.49	270.03	6,267.31	-989.12	-482.04	482.04	0.00	0.00	0.00
7,700.00	90.49	270.03	6,266.45	-989.08	-582.04	582.04	0.00	0.00	0.00
7,800.00	90.49	270.03	6,265.59	-989.03	-682.04	682.04	0.00	0.00	0.00
7,900.00	90.49	270.03	6,264.73	-988.98	-782.03	782.03	0.00	0.00	0.00
8,000.00	90.49	270.03	6,263.88	-988.94	-882.03	882.03	0.00	0.00	0.00
8,100.00	90.49	270.03	6,263.02	-988.89	-982.02	982.02	0.00	0.00	0.00
8,200.00	90.49	270.03	6,262.16	-988.84	-1,082.02	1,082.02	0.00	0.00	0.00
8,300.00	90.49	270.03	6,261.30	-988.80	-1,182.02	1,182.02	0.00	0.00	0.00
8,400.00	90.49	270.03	6,260.45	-988.75	-1,282.01	1,282.01	0.00	0.00	0.00
8,500.00	90.49	270.03	6,259.59	-988.71	-1,382.01	1,382.01	0.00	0.00	0.00
8,600.00	90.49	270.03	6,258.73	-988.66	-1,482.01	1,482.01	0.00	0.00	0.00
8,700.00	90.49	270.03	6,257.87	-988.61	-1,582.00	1,582.00	0.00	0.00	0.00
8,800.00	90.49	270.03	6,257.01	-988.57	-1,682.00	1,682.00	0.00	0.00	0.00
8,900.00	90.49	270.03	6,256.16	-988.52	-1,782.00	1,782.00	0.00	0.00	0.00
9,000.00	90.49	270.03	6,255.30	-988.48	-1,881.99	1,881.99	0.00	0.00	0.00
9,100.00	90.49	270.03	6,254.44	-988.43	-1,981.99	1,981.99	0.00	0.00	0.00
9,200.00	90.49	270.03	6,253.58	-988.38	-2,081.98	2,081.98	0.00	0.00	0.00
9,300.00	90.49	270.03	6,252.72	-988.34	-2,181.98	2,181.98	0.00	0.00	0.00
9,400.00	90.49	270.03	6,251.87	-988.29	-2,281.98	2,281.98	0.00	0.00	0.00
9,500.00	90.49	270.03	6,251.01	-988.24	-2,381.97	2,381.97	0.00	0.00	0.00
9,600.00	90.49	270.03	6,250.15	-988.20	-2,481.97	2,481.97	0.00	0.00	0.00
9,700.00	90.49	270.03	6,249.29	-988.15	-2,581.97	2,581.97	0.00	0.00	0.00
9,800.00	90.49	270.03	6,248.44	-988.11	-2,681.96	2,681.96	0.00	0.00	0.00
9,900.00	90.49	270.03	6,247.58	-988.06	-2,781.96	2,781.96	0.00	0.00	0.00
10,000.00	90.49	270.03	6,246.72	-988.01	-2,881.95	2,881.95	0.00	0.00	0.00
10,100.00	90.49	270.03	6,245.86	-987.97	-2,981.95	2,981.95	0.00	0.00	0.00
10,200.00	90.49	270.03	6,245.00	-987.92	-3,081.95	3,081.95	0.00	0.00	0.00
10,300.00	90.49	270.03	6,244.15	-987.88	-3,181.94	3,181.94	0.00	0.00	0.00
10,400.00	90.49	270.03	6,243.29	-987.83	-3,281.94	3,281.94	0.00	0.00	0.00
10,500.00	90.49	270.03	6,242.43	-987.78	-3,381.94	3,381.94	0.00	0.00	0.00
10,600.00	90.49	270.03	6,241.57	-987.74	-3,481.93	3,481.93	0.00	0.00	0.00
10,700.00	90.49	270.03	6,240.71	-987.69	-3,581.93	3,581.93	0.00	0.00	0.00
10,800.00	90.49	270.03	6,239.86	-987.64	-3,681.93	3,681.93	0.00	0.00	0.00
10,900.00	90.49	270.03	6,239.00	-987.60	-3,781.92	3,781.92	0.00	0.00	0.00
11,000.00	90.49	270.03	6,238.14	-987.55	-3,881.92	3,881.92	0.00	0.00	0.00
11,100.00	90.49	270.03	6,237.28	-987.51	-3,981.91	3,981.91	0.00	0.00	0.00
11,200.00	90.49	270.03	6,236.42	-987.46	-4,081.91	4,081.91	0.00	0.00	0.00
11,300.00	90.49	270.03	6,235.57	-987.41	-4,181.91	4,181.91	0.00	0.00	0.00
11,400.00	90.49	270.03	6,234.71	-987.37	-4,281.90	4,281.90	0.00	0.00	0.00
11,500.00	90.49	270.03	6,233.85	-987.32	-4,381.90	4,381.90	0.00	0.00	0.00
11,599.19	90.49	270.03	6,233.00	-987.28	-4,481.09	4,481.09	0.00	0.00	0.00
CM #4H PBHL									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well Crow Mesa 24-08 2 #4H
Company:	Energen Resources Corp.	TVD Reference:	GL 7318' & RKB 17' @ 7335.00ft (Key 881)
Project:	San Juan County, NM (NAD83)	MD Reference:	GL 7318' & RKB 17' @ 7335.00ft (Key 881)
Site:	Crow Mesa	North Reference:	True
Well:	Crow Mesa 24-08 2 #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 Final		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CM #4H PBHL - plan hits target center - Point	0.00	0.00	6,233.00	-987.28	-4,481.09	1,941,830.50	2,774,063.14	36.3364949	-107.6602706
CM #4H POE - plan misses target center by 0.01ft at 6937.09ft MD (6273.00 TVD, -989.43 N, 180.84 E) - Point	0.00	0.00	6,273.00	-989.43	180.84	1,941,837.42	2,778,725.06	36.3364900	-107.6444420

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
182.00	0.00	Base Niobrara C Porosity		0.00	0.00
1,934.00	753.00	Ojo Alamo		0.00	0.00
2,124.00	943.00	Kirtland		0.00	0.00
2,245.32	1,064.00	Fruitland		0.00	0.00
2,680.55	1,480.00	Pictured Cliffs		0.00	0.00
3,044.02	1,812.00	Huerfanito Bentonite		0.00	0.00
3,558.57	2,282.00	Chacra		0.00	0.00
4,402.65	3,053.00	Cliff House		0.00	0.00
4,433.31	3,081.00	Menefee		0.00	0.00
5,221.56	3,801.00	Point Lookout		0.00	0.00
5,544.53	4,102.00	Mancos		0.00	0.00
5,932.21	4,486.00	El Vado		0.00	0.00
6,351.24	4,861.00	Mancos/Niobrara A		0.00	0.00
6,436.36	4,919.00	Mancos/Niobrara B		0.00	0.00
6,623.61	5,019.00	Niobrara C Top of Target		0.00	0.00
6,759.79	5,069.00	Niobrara C LP		0.00	0.00