

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

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.

RECEIVED

MAY 20 2010

SUBMIT IN TRIPLICATE - Other instructions on page 12 of Land Management

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Energen Resources Corporation

3a. Address

2010 Afton Place, Farmington, NM 87401

3b. Phone No. (include area code)

(505) 325-6800

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

SHL: (D) Sec.9, T30N, R04W 1155'FNL & 645'FWL

BHL: (C) Sec.10, T30N, R04W 1000'FNL & 1880'FWL

5. Lease Serial No.

NMSF079484A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No
NMNM78418A

8. Well Name and No.

San Juan 30-4 Unit # 58 H

9. API Well No.

30-039-30681

10. Field and Pool, or Exploratory Area

Pictured Cliffs

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

- ☒
- Notice of Intent
-
- ☐
- Subsequent Report
-
- ☐
- Final Abandonment Notice

TYPE OF ACTION

- | | | | |
|--|---|--|---|
| ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Alter Casing | ☐ Fracture Treat | ☐ Reclamation | ☐ Well Integrity |
| ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☐ Other _____ |
| ☒ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| ☐ 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 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 would like to make the following changes to the San Juan 30-4 #58H. The changes will be as follows:

- * Change well name to the San Juan 30-4 Unit #58H (per NMOCD)
- * Change kick-off point to 2550' MD
- * Set 13-3/8" conductor casing to 100' MD and cement with 107 sx
- * Change surface casing setting depth to 1800' MD and cement with lead of 425 sx and tail with 135 sx
- * Change int. casing depth to 5576' MD and cement 1st stage w/35 sx lead followed by 50 sx tail. Cement 2nd stage w/375 sx lead followed by 50 sx tail.
- * Change the TD of the well to 10002' (MD) and run the 4 1/2" liner to this depth with a new liner top of 5500' MD.
- * Change production hole size to 6-1/8" (previously 6-1/4")

Attached is a revised directional drilling and operations plan. ✓

PRIORITY AZTEC JCD 24 FMS.

PRIOR TO CASING & CEMENT

Hold C104

For Directional Survey
and "As Drilled" plat

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations.

14. I hereby certify that the foregoing is true and correct

Name (Printed/Typed)

Jason Kincaid

Title Drilling Engineer

Signature

Date 3/17/2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Troy L. Salvers

Title

Petroleum Engineer

Date

5/24/2010

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

NMOCD

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.

5/17/2010



OPERATIONS PLAN

WELL NAME.....San Juan 30-4 Unit #58H
JOB TYPE.....Horizontal PC Upper Sand
DEPT.....Drilling and Completions

GENERAL INFORMATION

Surface Location	1155 FNL 645 FWL
S-T-R	(D) Sec.9, T30N, R04W
Bottom Hole Location	100 FNL 1880 FWL
S-T-R	(C) Sec.10, T30N, R04W
County, State	Rio Arriba, New Mexico
Elevations	7455' GL
Total Depth	10,002' +/- (MD); 4,313' (TVD)
Formation Objective	Pictured Cliffs

FORMATION TOPS

San Jose	Surface
Nacimiento	2681' (TVD)
Ojo Alamo Ss	3511' (TVD)
Kirtland Sh	3828' (TVD)
Fruitland Fm	4130' (TVD)
Pictured Cliffs	4268' (TVD) 5139'MD
Target Upper PC	4313' (TVD) 5576'MD
Lower PC	4468' (TVD)
Total Depth	4313' (TVD), 10002' (MD) ✓

DRILLING

Conductor: 17-1/2" wellbore will be drilled with a freshwater mud system (spud mud)

Surface: 12-1/4" wellbore will be drilled with a LSD mud system.

Intermediate: 8-3/4" wellbore will be drilled with a LSD mud system. Weighting materials will be drill cuttings and if needed barite. Mud density is expected to range from 8.4 ppg to 9.0 ppg.

Production: 6-1/8" wellbore will be drilled with a fresh water or brine water system depending on reservoir characteristics. Anticipated BHP can be as high as 800 psi. ✓

Projected KOP is 2550' TVD with 3.71°/100' doglegs.

Blowout Control Specifications:

A 3000 psi minimum double ram or annulus BOP stack will be used following nipple up of casing head. 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. **Pressure test BOP to 250 psi for 15 min and 2000 psi for 15 min.** ✓

Logging Program:

Open hole logs: none.

Mudlogs: 1800' TVD to TD

Surveys: Surface to KOP every 500' and a minimum of every 200' for directional.

5/17/2010



CASING, TUBING & CASING EQUIPMENT

String	Start Depth	End Depth	Wellbore	Size	Wt	Grade
Conductor	0	100	17-1/2"	13-3/8"	48 lb/ft	H-40 ST&C
Surface	0	1800	12-1/4"	9-5/8"	36 lb/ft	H-40 ST&C
Intermediate TVD	0 0	5576 4313	8-3/4"	7"	23 lb/ft	J-55 LT&C
Prod. Liner TVD	5500 4311	10002 4313	6-1/4" 6.125"	4-1/2"	11.6 lb/ft	L/N-80 LT&C
Tubing	0	5400	none	2-3/8"	4.7 lb/ft	J-55

Conductor Casing: Texas Pattern Guide Shoe on bottom of first joint and an insert float valve on top of first joint. Casing centralization with a minimum of 3 standard bow spring centralizers to achieve optimal standoff.

Surface Casing: Texas Pattern Guide Shoe on bottom of first joint and an insert float valve on top of first joint. Casing centralization with a minimum of 3 standard bow spring centralizers to achieve optimal standoff.

Intermediate Casing: Self fill float shoe with self fill float collar on bottom and top of first joint. Casing centralization with double bow spring and centralizers to optimize standoff.

Production Liner: Bull nose guide shoe on bottom of first joint,

WELLHEAD

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

CEMENTING

Conductor Casing: 107 sks Type V with 2.0 % CaCl₂ and ¼ #/sk Flocele (15.6 ppg, 1.18 ft³/sk ~~50 ft³~~ of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test conductor casing to 750 psi for 30 min.

Surface Casing: Pre-flush with 5 bbls H₂O + 20 bbls Mud Flush + 5 bbls H₂O and follow with lead of 425 sks San Juan PRB II with 5#/sk Gilsonite and ¼ #/sk Flocele (12.3 ppg, 2.27 ft³/sk 965 ft³ of slurry, 100% excess to circulate to surface) and tail of 135 sks Type V with 2% CaCl₂ and ¼ #/sk Flocele (15.6 ppg, 1.18 ft³/sk 159 ft³ of slurry) WOC 12 hours. Pressure test surface casing to 750 psi for 30 min. ✓

Intermediate Casing: Circulate hole at least 1-1/2 hole volumes of mud and reduce funnel viscosity to aid in hole cleanout. Stage 1 to begin at (Fruitland Sand 4700') - 5576'.

First Stage: Pre-flush with 5 bbls H₂O + 20 bbls Mud Flush + 5 bbls H₂O and follow with Lead of 35 sks San Juan PRB II with 5#/sk Gilsonite and ¼ #/sk Flocele (12.3 ppg, 2.27 ft³/sk, 81 ft³) and a tail of 50 sks San Juan PRB II with 5#/sk Gilsonite and ¼ #/sk Flocele (13.5 ppg, 1.81 ft³/sk, 90.5 ft³) (171 ft³ of slurry, 30% excess to circulate off the hydraulic stage tool). Circulated 4-5 hours between stages at time plug down on first stage.

125 ft³

5/17/2010



Second Stage: Lead with 375 sks San Juan PRB II with 5#/sk Gilsonite and ¼ #/sk Flocele (12.3 ppg, 2.27 ft³/sk, 854 ft³ of slurry, 40% excess to circulate to surface) and a tail of 50 sks San Juan PRB II with 5#/sk Gilsonite and ¼ #/sk Flocele (13.5 ppg, 1.81 ft³/sk, 90.5 ft³) WOC 12 hours. Test BOP as outlined in 'Drilling' section. Test manifold as outlined in 'Drilling' section. Test casing to 1500 psi for 30 min. ✓

Production Liner: NO CEMENT

Set slips with full string weight

If cement does not circulate, run temperature survey in 8 hrs. to determine TOC. ✓

OTHER INFORMATION ✓

- 1) This well will be a frac completion lined with an uncemented liner and packer system.
- 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.
- 5) This gas is dedicated.



RCVD MAY 25 '10

OIL CONS. DIV.

DIST. 3

Energen Resources Corp.

Carson National Forest Sec.09-T30N-R04W

American Mesa

HZ UPP PC

San Juan 30-4 Unit #58H ✓

Plan: Plan #1

Directional Plan

13 May, 2010 ✓

Prepared By: Jason L. Kincaid



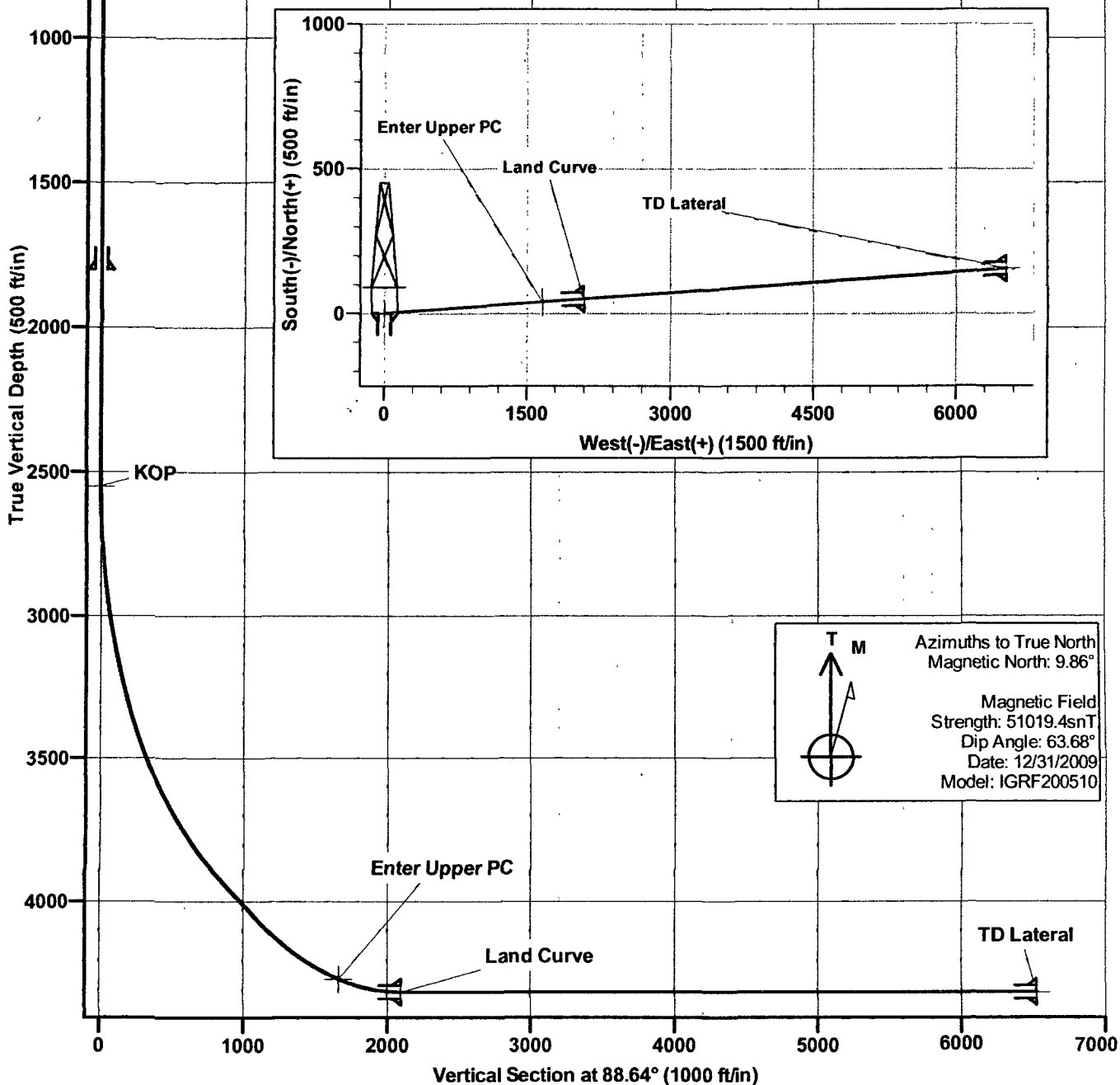
Project: Carson National Forest Sec.09-T30N-R04W
 Site: American Mesa
 Well: HZ UPP PC
 Wellbore: San Juan 30-4 Unit #58H
 Design: Plan #1

PROJECT DETAILS:

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Central Zone

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2550.0	0.00	0.00	2550.0	0.0	0.0	0.00	0.00	0.0	KOP
3	4218.2	61.88	88.65	3912.3	19.2	816.3	3.71	88.65	816.6	
4	4539.0	61.88	88.65	4063.5	25.8	1099.2	0.00	0.00	1099.5	
5	5576.2	90.00	88.60	4313.0	49.7	2095.0	2.71	-0.11	2095.6	Land Curve
6	10002.2	90.00	88.67	4313.0	155.0	6519.7	0.00	90.00	6521.6	TD Lateral



Company: Energen Resources Corp.
Project: Carson National Forest Sec.09-T30N-R04W
Site: American Mesa
Well: HZ UPP PC
Wellbore: San Juan 30-4 Unit #58H
Design: Plan #1

Local Co-ordinate Reference: Well HZ UPP PC
TVD Reference: KB @ 7468.0ft (Drilling Rig)
MD Reference: KB @ 7468.0ft (Drilling Rig)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Project	Carson National Forest Sec.09-T30N-R04W,		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	American Mesa		
Site Position:		Northing:	2,123,088.98 ft
From:	Lat/Long	Easting:	1,342,742.24 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	36° 49' 48.972 N
		Longitude:	107° 16' 1 740 W
		Grid Convergence:	-0.61 °

Well	HZ UPP PC		
Well Position	+N/-S	0.0 ft	Northing: 2,123,088.98 ft
	+E/-W	0.0 ft	Easting: 1,342,742.24 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	7,455.0 ft
		Latitude:	36° 49' 48.972 N
		Longitude:	107° 16' 1.740 W
		Ground Level:	7,455.0 ft

Wellbore	San Juan 30-4 Unit #58H		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF200510	12/31/2009	9.86
			Dip Angle (°) 63.68
			Field Strength (nT) 51,019

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)
	0.0	0.0	0.0
			Direction (°) 88.64

Survey Tool Program	Date 5/13/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
0.0	10,002.2	Plan #1 (San Juan 30-4 Unit #58H)	MWD
			Description MWD - Standard

Planned Survey							
MD (ft)	TVD (ft)	Inc (°)	Azi (°)	Build (°/100ft)	N/S (ft)	E/W (ft)	V. Sec (ft)
0.0	0.0	0.00	0.00	0.00	0.0	0.0	0.0
100.0	100.0	0.00	0.00	0.00	0.0	0.0	0.0
200.0	200.0	0.00	0.00	0.00	0.0	0.0	0.0
300.0	300.0	0.00	0.00	0.00	0.0	0.0	0.0
400.0	400.0	0.00	0.00	0.00	0.0	0.0	0.0
500.0	500.0	0.00	0.00	0.00	0.0	0.0	0.0
600.0	600.0	0.00	0.00	0.00	0.0	0.0	0.0
700.0	700.0	0.00	0.00	0.00	0.0	0.0	0.0
800.0	800.0	0.00	0.00	0.00	0.0	0.0	0.0
900.0	900.0	0.00	0.00	0.00	0.0	0.0	0.0
1,000.0	1,000.0	0.00	0.00	0.00	0.0	0.0	0.0
1,100.0	1,100.0	0.00	0.00	0.00	0.0	0.0	0.0

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Planned Survey

MD (ft)	TVD (ft)	Inc (°)	Azi (°)	Build (°/100ft)	N/S (ft)	E/W (ft)	V. Sec (ft)
1,200.0	1,200.0	0.00	0.00	0.00	0.0	0.0	0.0
1,300.0	1,300.0	0.00	0.00	0.00	0.0	0.0	0.0
1,400.0	1,400.0	0.00	0.00	0.00	0.0	0.0	0.0
1,500.0	1,500.0	0.00	0.00	0.00	0.0	0.0	0.0
1,600.0	1,600.0	0.00	0.00	0.00	0.0	0.0	0.0
1,700.0	1,700.0	0.00	0.00	0.00	0.0	0.0	0.0
1,800.0	1,800.0	0.00	0.00	0.00	0.0	0.0	0.0
1,900.0	1,900.0	0.00	0.00	0.00	0.0	0.0	0.0
2,000.0	2,000.0	0.00	0.00	0.00	0.0	0.0	0.0
2,100.0	2,100.0	0.00	0.00	0.00	0.0	0.0	0.0
2,200.0	2,200.0	0.00	0.00	0.00	0.0	0.0	0.0
2,300.0	2,300.0	0.00	0.00	0.00	0.0	0.0	0.0
2,400.0	2,400.0	0.00	0.00	0.00	0.0	0.0	0.0
2,500.0	2,500.0	0.00	0.00	0.00	0.0	0.0	0.0
2,550.0	2,550.0 ✓	0.00	0.00	0.00	0.0	0.0	0.0
KOP ✓							
2,600.0	2,600.0	1.85	88.65	3.71 ✓	0.0	0.8	0.8
2,681.2	2,681.0	4.87	88.65	3.71	0.1	5.6	5.6
Nacimiento							
2,700.0	2,699.8	5.56	88.65	3.71	0.2	7.3	7.3
2,800.0	2,798.9	9.27	88.65	3.71	0.5	20.2	20.2
2,900.0	2,897.0	12.98	88.65	3.71	0.9	39.5	39.5
3,000.0	2,993.7	16.69	88.65	3.71	1.5	65.1	65.1
3,100.0	3,088.5	20.40	88.65	3.71	2.3	96.9	96.9
3,200.0	3,181.0	24.11	88.65	3.71	3.2	134.7	134.8
3,300.0	3,270.9	27.82	88.65	3.71	4.2	178.5	178.5
3,400.0	3,357.7	31.53	88.65	3.71	5.4	228.0	228.0
3,500.0	3,441.2	35.24	88.65	3.71	6.6	283.0	283.0
3,587.2	3,511.0	38.47	88.65	3.71	7.9	335.3	335.3
Ojo Alamo							
3,600.0	3,521.0	38.95	88.65	3.71	8.1	343.3	343.3
3,700.0	3,596.7	42.66	88.65	3.71	9.6	408.6	408.7
3,800.0	3,668.0	46.37	88.65	3.71	11.2	478.6	478.8
3,900.0	3,734.6	50.08	88.65	3.71	13.0	553.2	553.3
4,000.0	3,796.2	53.79	88.65	3.71	14.8	631.9	632.0
4,055.1	3,828.0	55.83	88.65	3.71	15.9	676.9	677.1
Kirtland							
4,100.0	3,852.7	57.49	88.65	3.71	16.8	714.4	714.6
4,200.0	3,903.6	61.20	88.65	3.71	18.8	800.4	800.6
4,218.2	3,912.3	61.88	88.65	3.71	19.2	816.3	816.6
4,300.0	3,950.9	61.88	88.65	0.00	20.9	888.5	888.7
4,400.0	3,998.0	61.88	88.65	0.00	23.0	976.7	976.9
4,500.0	4,045.1	61.88	88.65	0.00	25.0	1,064.8	1,065.1
4,539.0	4,063.5	61.88	88.65	0.00	25.8	1,099.2	1,099.5
4,600.0	4,091.5	63.53	88.65	2.71	27.1	1,153.4	1,153.7

Company: Energen Resources Corp.
Project: Carson National Forest Sec.09-T30N-R04W
Site: American Mesa
Well: HZ UPP PC
Wellbore: San Juan 30-4 Unit #58H
Design: Plan #1

Local Co-ordinate Reference: Well HZ UPP PC
TVD Reference: KB @ 7468.0ft (Drilling Rig)
MD Reference: KB @ 7468.0ft (Drilling Rig)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Planned Survey

MD (ft)	TVD (ft)	Inc (°)	Azi (°)	Build (°/100ft)	N/S (ft)	E/W (ft)	V. Sec (ft)
4,690.3	4,130.0	65.98	88.64	2.71	29.0	1,235.1	1,235.4
Fruitland							
4,700.0	4,133.9	66.24	88.64	2.71	29.2	1,243.9	1,244.3
4,800.0	4,172.0	68.95	88.64	2.71	31.4	1,336.3	1,336.7
4,900.0	4,205.7	71.67	88.63	2.71	33.7	1,430.5	1,430.9
4,930.1	4,215.0	72.48	88.63	2.71	34.4	1,459.1	1,459.5
Fruitland Coal							
5,000.0	4,234.9	74.38	88.63	2.71	36.0	1,526.1	1,526.5
5,100.0	4,259.6	77.09	88.62	2.71	38.3	1,622.9	1,623.4
5,139.3	4,268.0	78.15	88.62	2.71	39.2	1,661.4	1,661.8
Upper PC							
5,200.0	4,279.6	79.80	88.62	2.71	40.6	1,720.9	1,721.4
5,300.0	4,295.0	82.51	88.61	2.71	43.0	1,819.7	1,820.2
5,400.0	4,305.7	85.22	88.61	2.71	45.4	1,919.0	1,919.6
5,500.0	4,311.6	87.93	88.60	2.71	47.9	2,018.8	2,019.4
5,576.2	4,313.0	90.00	88.60	2.71	49.7	2,095.0	2,095.6
Land Curve							
5,600.0	4,313.0	90.00	88.60	0.00	50.3	2,118.8	2,119.4
5,700.0	4,313.0	90.00	88.60	0.00	52.8	2,218.7	2,219.4
5,800.0	4,313.0	90.00	88.60	0.00	55.2	2,318.7	2,319.4
5,900.0	4,313.0	90.00	88.61	0.00	57.6	2,418.7	2,419.4
6,000.0	4,313.0	90.00	88.61	0.00	60.1	2,518.7	2,519.4
6,100.0	4,313.0	90.00	88.61	0.00	62.5	2,618.6	2,619.4
6,200.0	4,313.0	90.00	88.61	0.00	64.9	2,718.6	2,719.4
6,300.0	4,313.0	90.00	88.61	0.00	67.3	2,818.6	2,819.4
6,400.0	4,313.0	90.00	88.61	0.00	69.8	2,918.5	2,919.4
6,500.0	4,313.0	90.00	88.62	0.00	72.2	3,018.5	3,019.4
6,600.0	4,313.0	90.00	88.62	0.00	74.6	3,118.5	3,119.4
6,700.0	4,313.0	90.00	88.62	0.00	77.0	3,218.5	3,219.4
6,800.0	4,313.0	90.00	88.62	0.00	79.4	3,318.4	3,319.4
6,900.0	4,313.0	90.00	88.62	0.00	81.8	3,418.4	3,419.4
7,000.0	4,313.0	90.00	88.62	0.00	84.2	3,518.4	3,519.4
7,100.0	4,313.0	90.00	88.63	0.00	86.6	3,618.3	3,619.4
7,200.0	4,313.0	90.00	88.63	0.00	89.0	3,718.3	3,719.4
7,300.0	4,313.0	90.00	88.63	0.00	91.4	3,818.3	3,819.4
7,400.0	4,313.0	90.00	88.63	0.00	93.8	3,918.3	3,919.4
7,500.0	4,313.0	90.00	88.63	0.00	96.2	4,018.2	4,019.4
7,600.0	4,313.0	90.00	88.63	0.00	98.6	4,118.2	4,119.4
7,700.0	4,313.0	90.00	88.64	0.00	101.0	4,218.2	4,219.4
7,800.0	4,313.0	90.00	88.64	0.00	103.3	4,318.1	4,319.4
7,900.0	4,313.0	90.00	88.64	0.00	105.7	4,418.1	4,419.4
8,000.0	4,313.0	90.00	88.64	0.00	108.1	4,518.1	4,519.4
8,100.0	4,313.0	90.00	88.64	0.00	110.5	4,618.1	4,619.4
8,200.0	4,313.0	90.00	88.64	0.00	112.8	4,718.0	4,719.4
8,300.0	4,313.0	90.00	88.65	0.00	115.2	4,818.0	4,819.4

Company: Energen Resources Corp.
Project: Carson National Forest Sec.09-T30N-R04W
Site: American Mesa
Well: HZ UPP PC
Wellbore: San Juan 30-4 Unit #58H
Design: Plan #1

Local Co-ordinate Reference: Well HZ UPP PC
TVD Reference: KB @ 7468.0ft (Drilling Rig)
MD Reference: KB @ 7468.0ft (Drilling Rig)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Planned Survey

MD (ft)	TVD (ft)	Inc (°)	Azi (°)	Build (°/100ft)	N/S (ft)	E/W (ft)	V. Sec (ft)
8,400.0	4,313.0	90.00	88.65	0.00	117.6	4,918.0	4,919.4
8,500.0	4,313.0	90.00	88.65	0.00	119.9	5,017.9	5,019.4
8,600.0	4,313.0	90.00	88.65	0.00	122.3	5,117.9	5,119.4
8,700.0	4,313.0	90.00	88.65	0.00	124.6	5,217.9	5,219.4
8,800.0	4,313.0	90.00	88.65	0.00	127.0	5,317.9	5,319.4
8,900.0	4,313.0	90.00	88.66	0.00	129.3	5,417.8	5,419.4
9,000.0	4,313.0	90.00	88.66	0.00	131.7	5,517.8	5,519.4
9,100.0	4,313.0	90.00	88.66	0.00	134.0	5,617.8	5,619.4
9,200.0	4,313.0	90.00	88.66	0.00	136.3	5,717.7	5,719.4
9,300.0	4,313.0	90.00	88.66	0.00	138.7	5,817.7	5,819.4
9,400.0	4,313.0	90.00	88.66	0.00	141.0	5,917.7	5,919.4
9,500.0	4,313.0	90.00	88.67	0.00	143.3	6,017.7	6,019.4
9,600.0	4,313.0	90.00	88.67	0.00	145.7	6,117.6	6,119.4
9,700.0	4,313.0	90.00	88.67	0.00	148.0	6,217.6	6,219.4
9,800.0	4,313.0	90.00	88.67	0.00	150.3	6,317.6	6,319.4
9,900.0	4,313.0	90.00	88.67	0.00	152.6	6,417.6	6,419.4
10,002.2	4,313.0	90.00	88.67	0.00	155.0	6,519.7	6,521.6

TD Lateral

Company: Energen Resources Corp.
Project: Carson National Forest Sec.09-T30N-R04W
Site: American Mesa
Well: HZ UPP PC
Wellbore: San Juan 30-4 Unit #58H
Design: Plan #1

Local Co-ordinate Reference: Well HZ UPP PC
TVD Reference: KB @ 7468.0ft (Drilling Rig)
MD Reference: KB @ 7468.0ft (Drilling Rig)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TD Lateral - plan hits target - Point	0.00	0.00	4,313.0	155.0	6,519.7	2,123,174.58	1,349,263.26	36° 49' 50.497 N	107° 14' 41.546 W
KOP - plan hits target - Point	0.00	0.00	2,550.0	0.0	0.0	2,123,088.98	1,342,742.24	36° 49' 48.972 N	107° 16' 17.740 W
Enter Upper PC - plan hits target - Point	0.00	0.00	4,268.0	39.3	1,662.7	2,123,110.58	1,344,405.27	36° 49' 49.360 N	107° 15' 41.289 W
Land Curve - plan hits target - Point	0.00	0.00	4,313.0	49.7	2,095.0	2,123,116.41	1,344,837.65	36° 49' 49.463 N	107° 15' 35.971 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
100.0	100.0	Conductor	13-3/8	17-1/2
1,800.0	1,800.0	Surface	9-5/8	12-1/4
5,576.0	4,313.0	Intermediate	7	8-3/4
10,002.0	4,313.0	Liner	4-1/2	6-1/8

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,930.1	4,215.0	Fruitland Coal		0.00	
	4,580.0	Lewis Shale		0.00	
2,681.2	2,681.0	Nacimiento		0.00	
4,690.3	4,130.0	Fruitland		0.00	
5,139.3	4,268.0	Upper PC		0.00	
3,587.2	3,511.0	Ojo Alamo		0.00	
4,055.1	3,828.0	Kirtland		0.00	
	4,468.0	Lower PC		0.00	

Checked By: _____ Approved By: _____ Date: _____