Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
MAR 23 2010
Bureau of Land Management
Farmington Field Office

FORM 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.

***SUBMIT IN TRIPLICATE** - Other instructions on page 2*

5. Lease Serial No.
NMSF 079486

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.
Carson # 408 H

2. Name of Operator
Energen Resources Corporation

9. API Well No.
30-039-30555

3a. Address
2010 Afton Place, Farmington, NM 87401

3b. Phone No. *(include area code)*
(505) 325-6800

10. Field and Pool, or Exploratory Area
E. Blanco Pictured Cliffs

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
SHL: (E) Sec.35, T30N, R04W 1680'FNL & 895'FWL
BHL: (L) Sec.34, T30N, R04W 1600'FSL & 760'FWL

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	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ 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 recomplete 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 recompletion 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 Carson #408. The changes will be as follows:

* Change kick-off point to 2300'MD
* Set 13-3/8" conductor casing to 100' and cement with 107 sks
* Change surf. casing setting depth to 2000'MD and cement with 1062 sks and change casing wt. to 36.0#
* Change int. casing setting depth to 5891'MD and cement 1st stage with 135 sks lead followed by 150 sks tail. Cement 2nd stage with 445 sks lead followed by 150 sks tail
* Change the TD of the well to 9652' (MD) and run the 4 1/2" liner to this depth with a new liner top of 5841' (MD).
* Change the bottom hole footage location to 1600'FSL 760'FWL
* Modify pit permit to closed-loop system with drying pad. (Previously permitted as closed-loop w/o drying pad)

Attached is a revised C-102, directional drilling, operations plan and C-144.

RCVD MAR 31'10
OIL CONS. DIV.
DIST. 3

Hold C104
for Directional Survey
and "As Drilled" plat

14. I hereby certify that the foregoing is true and correct
Name *(Printed/Typed)* Jason Kincaid Title Drilling Engineer

Signature Date 3/23/2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by Troy L. Salyers Title Petroleum Engineer Date 3/30/2010

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 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, NM 88240
District II
1301 W. Grand Avenue, 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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-30555	72400	E. Blanco Pictured Cliff

[4] Property Code	[5] Property Name	[6] Well Number
21185	CARSON	408 H

[7] OGRID No.	[8] Operator Name	[9] Elevation
162928	ENERGEN RESOURCES CORPORATION	7156'

[10] Surface Location

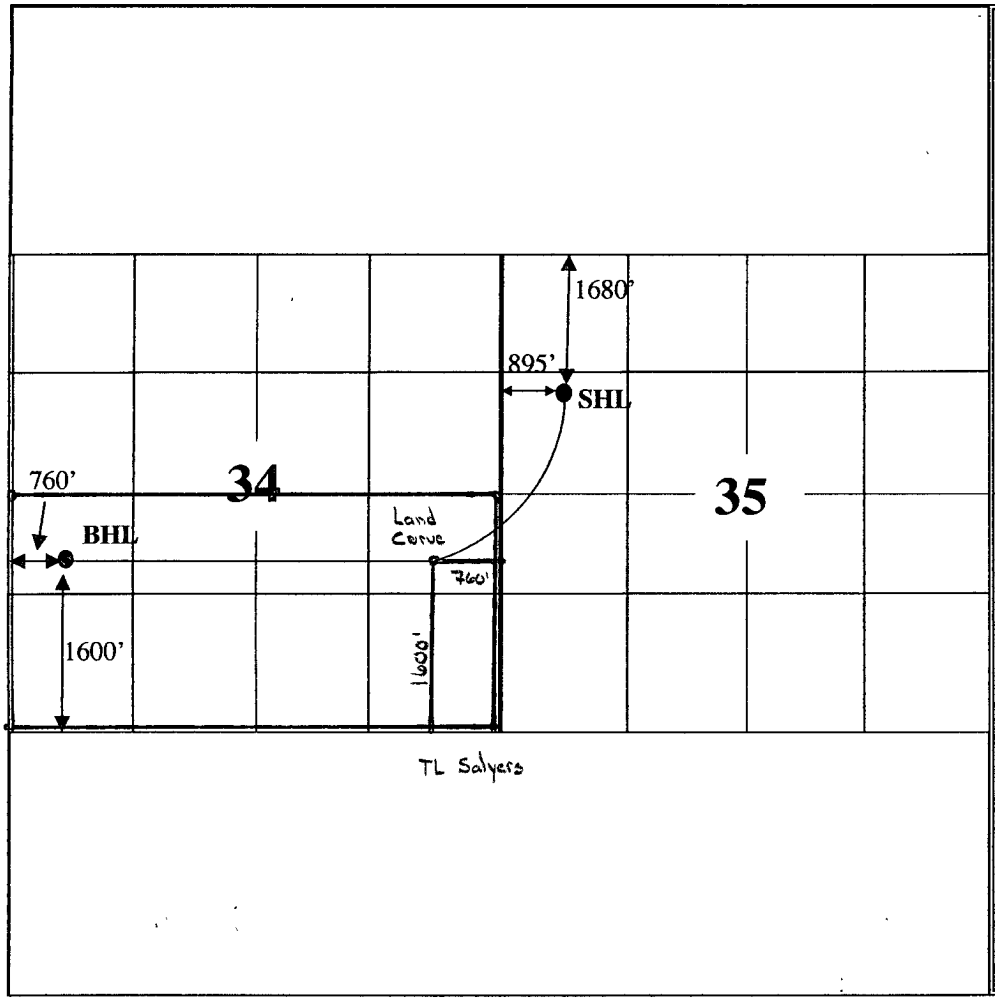
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	35	30N	4W		1680	NORTH	895	WEST	RIO ARRIBA

[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
L	34	30N	4W		1600	SOUTH	760	WEST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
302.56 S/2 Sec. 34			"Project Area"

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, 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

3/23/2010

Signature Date

JASON KINCAID
Printed Name

[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.

OCTOBER 31, 2007
Date of Survey

Original Survey Conducted and Recorded By. David R Russell

10201
Certificate Number

3/23/2010

ENERGEN RESOURCES

OPERATIONS PLAN

WELL NAME.....Carson #408H
JOB TYPE.....Horizontal PC Lower Sand
DEPT.....Drilling and Completions

GENERAL INFORMATION

Surface Location	1680 FNL 895 FWL
S-T-R	(E) Sec.35, T30N, R04W
Bottom Hole Location	1600 FSL 760 FWL
S-T-R	(L) Sec.34, T30N, R04W
County, State	Rio Arriba, New Mexico
Elevations	7156' GL
Total Depth	9652' +/- (MD); 4083' (TVD)
Formation Objective	Pictured Cliffs

FORMATION TOPS

San Jose	Surface
Nacimiento	2384' (TVD)
Ojo Alamo Ss	3384' (TVD)
Kirtland Sh	3434' (TVD)
Fruitland Fm	3638' (TVD)
Pictured Cliffs	3823' (TVD) 4592'MD
Top Target PC	4083' (TVD) 5891'MD
Base Target PC	4143' (TVD)
Total Depth	**4083' (TVD), 9652' (MD)**

DRILLING

Conductor: 15" wellbore will be drilled with a freshwater mud system (spud mud)
Surface: 12-1/4" wellbore will be drilled with a fresh water mud system (spud mud).
Intermediate: 8-3/4" wellbore will be drilled with a LSND 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: 6-1/4" 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 2300' TVD with 4.39°/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: 3600' TVD, 4000' MD to TD
Surveys: Surface to KOP every 500' and a minimum of every 200' for directional.

3/23/2010

ENERGEN RESOURCES

CASING, TUBING & CASING EQUIPMENT

String	Start Depth	End Depth	Wellbore	Size	Wt	Grade
Conductor	0	100	15"	13-3/8"	48 lb/ft	H-40 ST&C
Surface	0	2000	12-1/4"	9-5/8"	36 lb/ft	H-40 ST&C
Intermediate TVD	0 0	5891 4083	8-3/4"	7"	23 lb/ft	J-55 LT&C
Prod. Liner TVD	5841 4081	9652 4083	6-1/4"	4-1/2"	11.6 lb/ft	J-55 LT&C
Tubing	0	5800	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, H-Latch liner drop off tool on top of last 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 % $CaCl_2$ and ¼ #/sk Flocele (15.6 ppg, 1.18 ft^3/sk 125 ft^3 of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test conductor casing to 750 psi for 30 min. ✓

Surface Casing: 1062 sks Type V with 2.0 % $CaCl_2$ and ¼ #/sk Flocele (15.6 ppg, 1.18 ft^3/sk 1250 ft^3 of slurry, 100% excess to circulate to surface). 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 4300'-5638'.

First Stage: Lead with 135 sks 50/50 with 2.0% Bentonite, 0.30 % Halad – 344, 0.10 % CFR – 3, 5 #/sk Gilsonite, ¼ #/sk Flocele. (13.0 ppg, 1.35 ft^3/sk, 182 ft^3) and a tail of 150 sks Class G with 1.0 % $CaCl_2$ and ¼ #/sk Flocele. (15.6 ppg, 1.18 ft^3/sk, 177 ft^3) (360 ft^3 of slurry, 50% excess to circulate off the stage tool). Circulated 4-5 hours between stages at time plug down on first stage. ✓

Second Stage: Lead with 445 sks 65/35 with 6.0 % Bentonite, 2.0 % $CaCl_2$, 10 #/sk Gilsonite, and ½ #/sk Flocele (12.3 ppg, 1.93 ft^3/sk) and a tail of 150 sks Class G with ¼ #/sk Flocele (15.6

ppg, 1.18 ft^3/sk). 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 an open hole completion lined with an uncemented pre-drilled liner.
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.

ENERGEN
RESOURCES

Energen Resources Corp.

Carson National Forest Sec.35-T30N-R04W ✓
Ruben Canyon
HZ LWR PC
Carson #408

Plan: Preliminary Plan #1

Directional Plan

23 March, 2010

Land Curve:

Y→ [(2642.48 + 2528.77) - (1680 + 1891.3)] Ft => 1600' FSL Sec. 34

X→ (1655 - 895) Ft => 760' FEL Sec 34

TL Salyers

ENERGEN RESOURCES

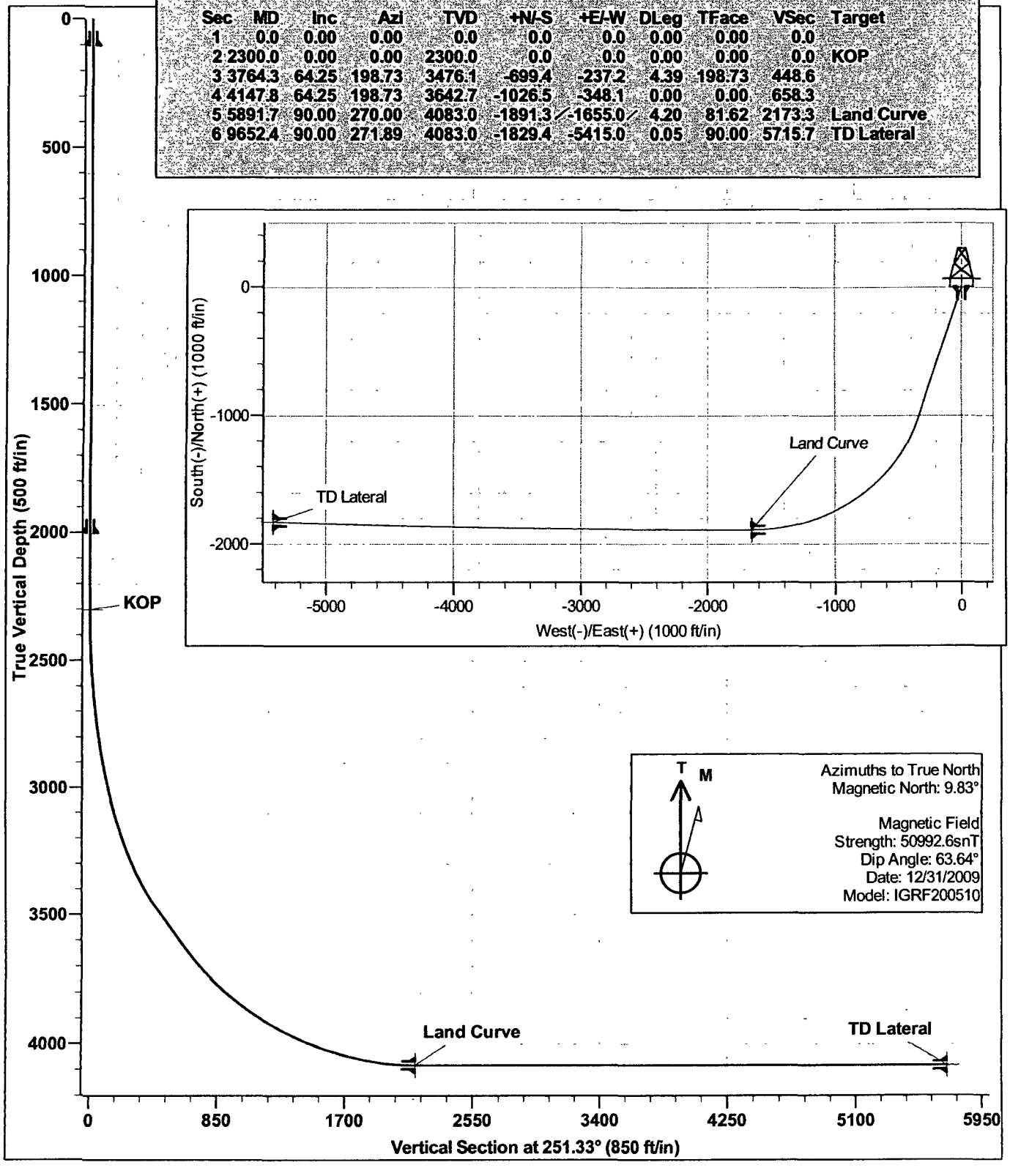
Project: Carson National Forest Sec.35-T30N-R04W
Site: Ruben Canyon
Well: HZ LWR PC
Wellbore: Carson #408H
Design: Preliminary Plan #1

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	2300.0	0.00	0.00	2300.0	0.0	0.0	0.00	0.00	0.0	KOP
3	3764.3	64.25	198.73	3476.1	-699.4	-237.2	4.39	198.73	448.6	
4	4147.8	64.25	198.73	3642.7	-1026.5	-348.1	0.00	0.00	658.3	
5	5891.7	90.00	270.00	4083.0	-1891.3	-1655.0	4.20	81.62	2173.3	Land Curve
6	9652.4	90.00	271.89	4083.0	-1829.4	-5415.0	0.05	90.00	5715.7	TD Lateral



ENERGEN RESOURCES

Energen

Directional Plan

Company:	Energen Resources Corp.	**Local Co-ordinate Reference:**	Well HZ LWR PC
Project:	Carson National Forest Sec.35-T30N-R04W	**TVD Reference:**	KB @ 7168.0ft (Drilling Rig)
Site:	Ruben Canyon	**MD Reference:**	KB @ 7168.0ft (Drilling Rig)
Well:	HZ LWR PC	**North Reference:**	True
Wellbore:	Carson #408	**Survey Calculation Method:**	Minimum Curvature
Design:	Preliminary Plan #1	**Database:**	EDM 2003.16 Single User Db

Project Carson National Forest Sec.35-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 Ruben Canyon

Site Position:		**Northing:**	2,101,317.53 ft	**Latitude:**	36° 46' 14.808 N
From:	Lat/Long	**Easting:**	1,353,351.76 ft	**Longitude:**	107° 13' 48.504 W
Position Uncertainty:	0.0 ft	**Slot Radius:**	"	**Grid Convergence:**	-0.59 °

Well HZ LWR PC

Well Position	**+N/-S**	0.0 ft	**Northing:**	2,101,317.53 ft	**Latitude:**	36° 46' 14.808 N
	+E/-W	0.0 ft	**Easting:**	1,353,351.76 ft	**Longitude:**	107° 13' 48.504 W
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	7,156.0 ft	**Ground Level:**	7,156.0 ft

Wellbore Carson #408

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	12/31/2009	9.83	63.64	50,993

Design Preliminary Plan #1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	0.0	0.0	0.0	251.33	

Survey Tool Program **Date** 3/23/2010

From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
0.0	9,651.7	Preliminary Plan #1 (Carson #408)	MWD	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

ENERGEN RESOURCES

Energen

Directional Plan

Company:	Energen Resources Corp.	**Local Co-ordinate Reference:**	Well HZ LWR PC
Project:	Carson National Forest Sec.35-T30N-R04W	**TVD Reference:**	KB @ 7168.0ft (Drilling Rig)
Site:	Ruben Canyon	**MD Reference:**	KB @ 7168.0ft (Drilling Rig)
Well:	HZ LWR PC	**North Reference:**	True
Wellbore:	Carson #408	**Survey Calculation Method:**	Minimum Curvature
Design:	Preliminary Plan #1	**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)
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
			KOP				
2,384.1	2,384.0	3.69	198.73	4.39	-2.6	-0.9	1.6
			Nacimiento				
2,400.0	2,399.9	4.39	198.73	4.39	-3.6	-1.2	2.3
2,500.0	2,499.2	8.78	198.73	4.39	-14.5	-4.9	9.3
2,600.0	2,597.4	13.16	198.73	4.39	-32.5	-11.0	20.8
2,700.0	2,693.8	17.55	198.73	4.39	-57.6	-19.5	36.9
2,800.0	2,787.9	21.94	198.73	4.39	-89.6	-30.4	57.4
2,900.0	2,879.1	26.33	198.73	4.39	-128.3	-43.5	82.3
3,000.0	2,966.9	30.72	198.73	4.39	-173.5	-58.8	111.3
3,100.0	3,050.9	35.10	198.73	4.39	-224.9	-76.3	144 2
3,200.0	3,130.4	39.49	198.73	4.39	-282.3	-95.7	181.0
3,300.0	3,205.1	43.88	198.73	4.39	-345.3	-117.1	221.4
3,400.0	3,274.4	48.27	198.73	4.39	-413.5	-140.2	265.2
3,500.0	3,338.1	52.66	198.73	4.39	-486.5	-165.0	312.0
3,578.9	3,384.0	56.12	198.73	4.39	-547.2	-185.5	350.9
			Ojo Alamo				
3,600.0	3,395.6	57.04	198.73	4.39	-563.9	-191.2	361.6
3,673.8	3,434.0	60.28	198.73	4.39	-623.6	-211.4	399.9
			Kirtland				
3,700.0	3,446.8	61.43	198.73	4.39	-645.2	-218.8	413.8
3,764.3	3,476.1	64.25	198.73	4.39	-699.4	-237.2	448.6
3,800.0	3,491.6	64.25	198.73	0.00	-729.9	-247.5	468.1
3,900.0	3,535.1	64.25	198.73	0.00	-815.2	-276.4	522.8
4,000.0	3,578.5	64.25	198.73	0.00	-900.5	-305.3	577.5
4,100.0	3,621.9	64.25	198.73	0.00	-985.8	-334.3	632.2
4,137.0	3,638.0	64.25	198.73	0.00	-1,017.3	-345.0	652.4
			Fruitland				
4,147.8	3,642.7	64.25	198.73	0.00	-1,026.5	-348.1	658.3
4,200.0	3,665.2	64.59	201.13	0.65	-1,070.8	-364.1	687.7
4,300.0	3,707.6	65.35	205.69	0.76	-1,153.9	-400.1	748.4
4,400.0	3,748.6	66.24	210.18	0.89	-1,234.5	-442.9	814.7

ENERGEN RESOURCES

Energen

Directional Plan

Company:	Energen Resources Corp.	**Local Co-ordinate Reference:**	Well HZ LWR PC
Project:	Carson National Forest Sec.35-T30N-R04W	**TVD Reference:**	KB @ 7168.0ft (Drilling Rig)
Site:	Ruben Canyon	**MD Reference:**	KB @ 7168.0ft (Drilling Rig)
Well:	HZ LWR PC	**North Reference:**	True
Wellbore:	Carson #408	**Survey Calculation Method:**	Minimum Curvature
Design:	Preliminary Plan #1	**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)
4,403.6	3,750.0	66.28	210.34	0.96	-1,237.3	-444.5	817.1
			Fruitland Coal				
4,500.0	3,788.1	67.26	214.61	1.02	-1,312.0	-492.1	886.1
4,592.4	3,823.0	68.31	218.65	1.14	-1,380.7	-543.1	956.5
			Pictured Cliffs				
4,600.0	3,825.8	68.40	218.98	1.19	-1,386.2	-547.6	962.4
4,700.0	3,861.6	69.66	223.27	1.25	-1,456.5	-609.0	1,043.1
4,800.0	3,895.3	71.01	227.48	1.36	-1,522.6	-676.0	1,127.7
4,900.0	3,926.6	72.46	231.63	1.45	-1,584.2	-748.2	1,215.9
5,000.0	3,955.5	73.99	235.71	1.53	-1,640.8	-825.4	1,307.1
5,100.0	3,981.7	75.60	239.73	1.61	-1,692.4	-906.9	1,400.9
5,200.0	4,005.2	77.28	243.69	1.68	-1,738.4	-992.5	1,496.7
5,300.0	4,025.7	79.01	247.59	1.73	-1,778.8	-1,081.6	1,594.1
5,400.0	4,043.3	80.80	251.45	1.78	-1,813.2	-1,173.9	1,692.4
5,500.0	4,057.7	82.62	255.27	1.82	-1,841.5	-1,268.6	1,791.3
5,600.0	4,068.9	84.48	259.06	1.86	-1,863.6	-1,365.5	1,890.1
5,700.0	4,076.9	86.36	262.82	1.88	-1,879.3	-1,463.9	1,988.4
5,800.0	4,081.6	88.25	266.57	1.90	-1,888.5	-1,563.4	2,085.6
5,891.7	4,083.0	90.00	270.00	1.90	-1,891.3	-1,655.0	2,173.3
			Lower PC Target - Land Curve				
5,900.0	4,083.0	90.00	270.00	0.00	-1,891.2	-1,663.3	2,181.1
6,000.0	4,083.0	90.00	270.05	0.00	-1,891.2	-1,763.3	2,275.8
6,100.0	4,083.0	90.00	270.10	0.00	-1,891.1	-1,863.3	2,370.5
6,200.0	4,083.0	90.00	270.15	0.00	-1,890.8	-1,963.3	2,465.2
6,300.0	4,083.0	90.00	270.20	0.00	-1,890.5	-2,063.3	2,559.8
6,400.0	4,083.0	90.00	270.25	0.00	-1,890.1	-2,163.3	2,654.4
6,500.0	4,083.0	90.00	270.31	0.00	-1,889.6	-2,263.3	2,749.0
6,600.0	4,083.0	90.00	270.36	0.00	-1,889.1	-2,363.3	2,843.6
6,700.0	4,083.0	90.00	270.41	0.00	-1,888.4	-2,463.3	2,938.1
6,800.0	4,083.0	90.00	270.46	0.00	-1,887.6	-2,563.3	3,032.6
6,900.0	4,083.0	90.00	270.51	0.00	-1,886.8	-2,663.3	3,127.1
7,000.0	4,083.0	90.00	270.56	0.00	-1,885.9	-2,763.3	3,221.5
7,100.0	4,083.0	90.00	270.61	0.00	-1,884.9	-2,863.3	3,315.9
7,200.0	4,083.0	90.00	270.66	0.00	-1,883.8	-2,963.3	3,410.3
7,300.0	4,083.0	90.00	270.71	0.00	-1,882.6	-3,063.3	3,504.7
7,400.0	4,083.0	90.00	270.76	0.00	-1,881.3	-3,163.2	3,599.0
7,500.0	4,083.0	90.00	270.81	0.00	-1,879.9	-3,263.2	3,693.3
7,600.0	4,083.0	90.00	270.86	0.00	-1,878.5	-3,363.2	3,787.5
7,700.0	4,083.0	90.00	270.91	0.00	-1,876.9	-3,463.2	3,881.8
7,800.0	4,083.0	90.00	270.96	0.00	-1,875.3	-3,563.2	3,976.0
7,900.0	4,083.0	90.00	271.01	0.00	-1,873.6	-3,663.2	4,070.2
8,000.0	4,083.0	90.00	271.06	0.00	-1,871.8	-3,763.2	4,164.3
8,100.0	4,083.0	90.00	271.11	0.00	-1,869.9	-3,863.2	4,258.4
8,200.0	4,083.0	90.00	271.16	0.00	-1,867.9	-3,963.1	4,352.5
8,300.0	4,083.0	90.00	271.21	0.00	-1,865.9	-4,063.1	4,446.6

ENERGEN RESOURCES

Energen

Directional Plan

Company:	Energen Resources Corp.	**Local Co-ordinate Reference:**	Well HZ LWR PC
Project:	Carson National Forest Sec.35-T30N-R04W	**TVD Reference:**	KB @ 7168.0ft (Drilling Rig)
Site:	Ruben Canyon	**MD Reference:**	KB @ 7168.0ft (Drilling Rig)
Well:	HZ LWR PC	**North Reference:**	True
Wellbore:	Carson #408	**Survey Calculation Method:**	Minimum Curvature
Design:	Preliminary Plan #1	**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	4,083.0	90.00	271.26	0.00	-1,863.7	-4,163.1	4,540.6
8,500.0	4,083.0	90.00	271.31	0.00	-1,861.5	-4,263.1	4,634.6
8,600.0	4,083.0	90.00	271.36	0.00	-1,859.2	-4,363.0	4,728.6
8,700.0	4,083.0	90.00	271.41	0.00	-1,856.7	-4,463.0	4,822.5
8,800.0	4,083.0	90.00	271.46	0.00	-1,854.2	-4,563.0	4,916.4
8,900.0	4,083.0	90.00	271.51	0.00	-1,851.6	-4,662.9	5,010.3
9,000.0	4,083.0	90.00	271.56	0.00	-1,849.0	-4,762.9	5,104.1
9,100.0	4,083.0	90.00	271.61	0.00	-1,846.2	-4,862.9	5,198.0
9,200.0	4,083.0	90.00	271.66	0.00	-1,843.4	-4,962.8	5,291.8
9,300.0	4,083.0	90.00	271.71	0.00	-1,840.4	-5,062.8	5,385.5
9,400.0	4,083.0	90.00	271.76	0.00	-1,837.4	-5,162.7	5,479.2
9,500.0	4,083.0	90.00	271.81	0.00	-1,834.3	-5,262.7	5,572.9
9,600.0	4,083.0	90.00	271.86	0.00	-1,831.1	-5,362.6	5,666.6
9,652.4	4,083.0	90.00	271.89	0.00	-1,829.4	-5,415.0	5,715.7

TD Lateral

ENERGEN RESOURCES

Energen

Directional Plan

Company:	Energen Resources Corp.	**Local Co-ordinate Reference:**	Well HZ LWR PC
Project:	Carson National Forest Sec.35-T30N-R04W	**TVD Reference:**	KB @ 7168.0ft (Drilling Rig)
Site:	Ruben Canyon	**MD Reference:**	KB @ 7168.0ft (Drilling Rig)
Well:	HZ LWR PC	**North Reference:**	True
Wellbore:	Carson #408	**Survey Calculation Method:**	Minimum Curvature
Design:	Preliminary Plan #1	**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
Land Curve - plan hits target - Point	0.00	0.00	4,083.0	-1,891.3	-1,655.0	2,099,443.33	1,351,677.48	36° 45' 56.107 N	107° 14' 8.844 W
TD Lateral - plan hits target - Point	0.00	0.00	4,083.0	-1,829.4	-5,415.0	2,099,543.72	1,347,918.31	36° 45' 56.714 N	107° 14' 55.054 W
KOP - plan hits target - Point	0.00	0.00	2,300.0	0.0	0.0	2,101,317.53	1,353,351.76	36° 46' 14.808 N	107° 13' 48.504 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
100.0	100.0	Conductor	13-3/8	15
2,000.0	2,000.0	Surface	9-5/8	12-1/4
5,891.0	4,083.0	Intermediate	7	8-3/4
9,652.0	4,083.0	Liner	4-1/2	6-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,578.9	3,384.0	Ojo Alamo		0.00	
4,592.4	3,823.0	Pictured Cliffs		0.00	
3,673.8	3,434.0	Kirtland		0.00	
5,891.7	4,083.0	Lower PC Target		0.00	
4,403.6	3,750.0	Fruitland Coal		0.00	
4,137.0	3,638.0	Fruitland		0.00	
2,384.1	2,384.0	*Nacimiento*		0.00	

Checked By: _____ Approved By: _____ Date: _____