

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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

1. Type of Well ☐ Oil Well ☒ Gas Well ☐ Other		7. If Unit or CA/Agreement, Name and/or No. NMN 59696
2. Name of Operator Energen Resources Corporation		8. Well Name and No. Carracas 34A #7
3a. Address 2198 Bloomfield Highway, Farmington, NM 87401	3b. Phone No. (include area code) 505.325.6800	9. API Well No. 30-039-29342
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Surface: 1980' ENL, 2620' FEL SWNE S34, T32N, R5W Bottom: 110' ENL, 700' FEL NENE S34, T32N, R5W		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	☐ 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	

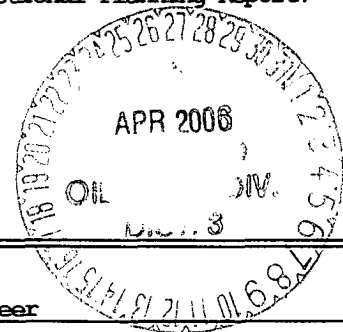
13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths 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 change the Carracas 34A #7 from a vertical drill and cavitation well to a horizontal drill and open hole completion well with the following information:

- *Change the 7" casing setting depth to 3686' (MD), 3215' (TVD).
- *Change the setting depth of the liner to 5623' (MD), 3217' (TVD).
- *Change the production liner to a 4 1/2" 11.6 ppf pre-drilled liner.
- *Cement the 7" casing with 500 sks (980 cuft) lead and 100 sks (124 cuft) tail.

Changes are noted on the attached revised C-102, Operations Plan, and Directional Planning Report.

READ C-102 FOR Directional Survey



14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Nathan Smith	Title Drilling Engineer
<i>Nathan Smith</i>	Date 4/21/06

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by <i>Jim Lohs</i>	Title Petr Eng	Date 4/25/06
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.		

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.

NMOCB

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

Form C-102
Revised June 10, 2003

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

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies
2006 APR 21 AM 10:31

RECEIVED AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-29342	² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code	⁵ Property Name Carracas	⁶ Well Number 34A-7
⁷ OGRID No. 162928	⁸ Operator Name Energen Resources Corporation	⁹ Elevation

¹⁰ Surface Location

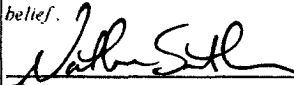
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	34	32N	5W		1980	North	2620	East	Rio Arriba

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
A	34	32N	5W		110	North	700	East	Rio Arriba

¹² Dedicated Acres 320.0 N/2	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

¹⁶ 2638.02'		2638.02'	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  Signature Nathan Smith Printed Name Drilling Engineer Title and E-mail Address 4/6/06 Date
	N/2	1980'	
	SHL	2620'	
5280.00'	34	5280.00'	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. August 25, 2005 Date of Survey Signature and Seal of Professional Surveyor: Original survey conducted by Jason Edwards, NCE Surveys NM Surveyor # 15259 Certificate Number
		5280.00'	

Operations Plan

Revised April 21, 2006

Carracas # 34A-7

General Information

Location	SHL: 1980' fnl, 2620' fel BHL: 110' fnl, 700' fel S34, T32N, R5W Rio Arriba County, New Mexico
Elevations	6472' GL
Total Depth	3217' (TVD), 5623' (MD)
Formation Objective	Basin Fruitland Coal

Formation Tops

San Jose	Surface
Nacimiento	1299'
Ojo Alamo Ss	2574'
Kirtland Sh	2709' (TVD), 2710' (MD)
Fruitland Fm	3079' (TVD), 3120' (MD)
Top Coal	3193' (TVD), 3490' (MD)
Bottom Coal	3219' (TVD), 3586' (MD)
Pictured Cliffs Ss	3249' (TVD)
Total Depth	3217' (TVD), 5623' (MD)

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 (KOP) will be at 2579' (TVD).

The 6 ¼" wellbore will be drilled with a produced water and cross linked gel system.

Blowout Control Specifications:

An 11" 2000 psi minimum double gate BOP stack (figure 1) 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 stack. A 2" nominal, 2000 psi minimum choke manifold will also be used. An upper Kelly Cock valve handle available and drill string valve to fit each drill string will be available on the rig floor during drilling operations.

Logging Program:

Open hole logs: Gamma Ray

Mud logs: From 3290' (MD) to total depth 5623' (MD)

Surveys: Every 500' while vertical, and at least 250' while drilling directionally

Tubulars

Casing, Tubing, & Casing Equipment:

String	Interval	Wellbore	Casing	Csg Wt	Grade
Surface	0'-300'	12 1/4"	9 5/8"	32.3 ppf	H-40 ST&C
Intermediate	0'-3686' (MD) 0-3215' (TVD)	8 3/4"	7"	23.0 ppf	J-55 LT&C
Production	3686'-5623' (MD) 3196-3217' (TVD)	6 1/4"	4 1/2"	11.6 ppf	J-55 LT&C
Tubing	0'-3600'		2 3/8"	4.7 ppf	J-55

Casing Equipment:

Surface Casing: Texas Pattern Guide Shoe on bottom. 4 bow spring centralizers spaced every other joint from bottom.

Intermediate Casing: Cement nose guide shoe with self fill insert float collar on top of bottom joint. 10 bow spring centralizers spaced every 2nd joint off bottom. Two turbolating centralizers at the base of the Ojo Alamo.

Liner: Pre-Drilled liner with a bull nose guide shoe on end.

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: 175 sks Std (class B) with 2.0 % CaCl₂ and 1/4 #/sk Flocele (15.6 ppg, 1.18 ft³/sk 206 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 1/2 hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 500 sks 65/35 Std (class B) with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and 1/2 #/sk Flocele (12.3 ppg, 1.96 ft³/sk) and a tail of 100 sks Sks (class B) with 5 #/sk Gilsonite and 1/4 #/sk Flocele (15.2 ppg, 1.24 ft³/sk). (1104 ft³ of slurry, 100 % excess to circulate to surface).

Liner: Open hole completion, no cement.

Other Information

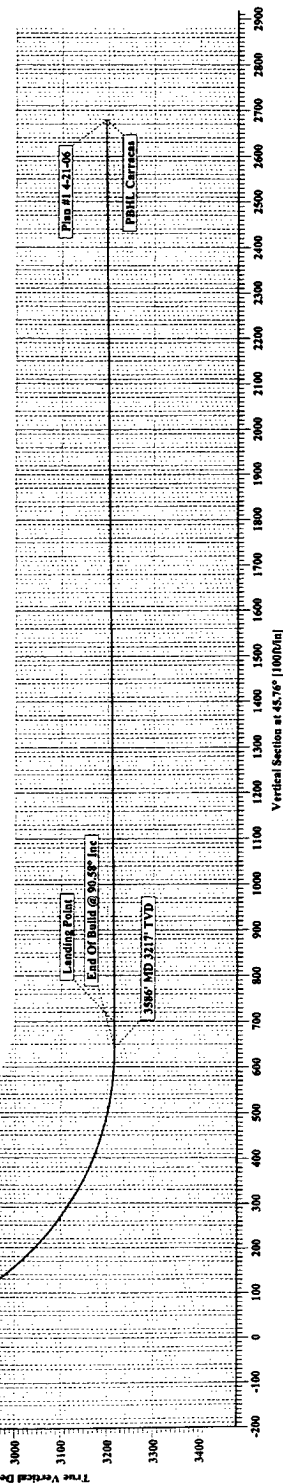
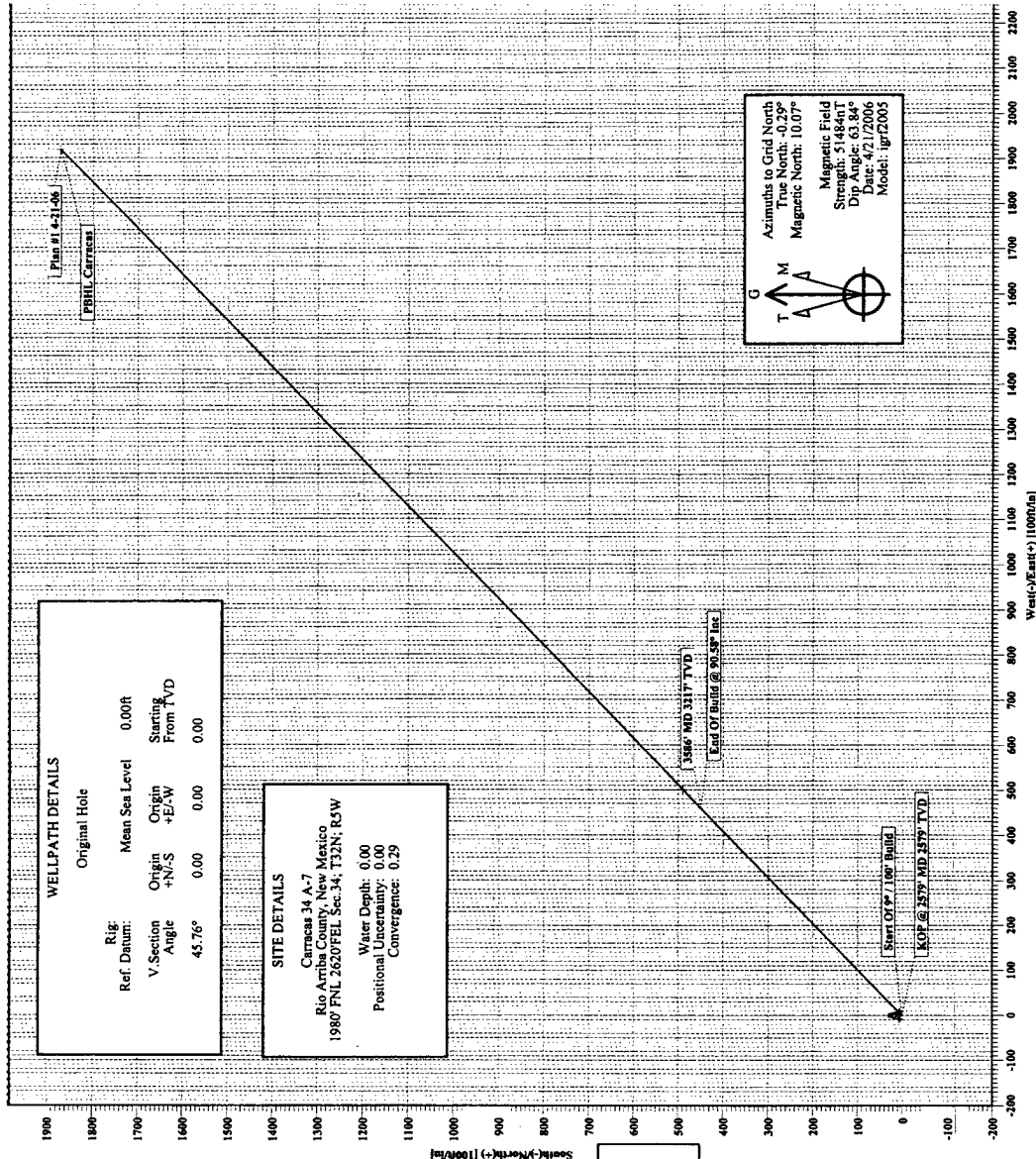
- 1) This well will be drilled horizontally and the coal left for open hole completion with an uncemented liner.
- 2) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control. The intermediate string may need to be cemented in multiple stages with a 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. This gas is dedicated. ABHP is 1000 psi.

Field: Carracas Canyon
Site: Carracas 34 A-7
Well: Carracas 34 A-7
Wellpath: Original Hole
Plan: Plan #1 4-21-06

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/S	+E/W	DLeg	TFace	VSec Target
1	0.00	0.00	45.76	0.00	0.00	0.00	0.00	0.00	0.00
2	2579.99	0.00	45.76	2579.99	0.00	0.00	0.00	0.00	0.00
3	3586.43	90.58	45.76	3216.58	448.68	460.67	9.00	45.76	643.06
4	3643.37	90.58	45.76	3216.00	488.40	501.46	0.00	0.00	700.00
5	5623.64	90.58	45.76	3196.00	1870.00	1920.00	0.00	-180.00	2680.17

ANNOTATIONS			
No.	TVD	MD	Annotation
1	2579.00	KOP @ 2579' MD 2579' TVD	
2	2579.00	Start Of 9" / 100' Build	
3	3216.58	End Of Build @ 90.58° Inc	
4	3216.58	3586' MD 3217' TVD	

WELL DETAILS					
Name	+N/S	+E/W	Northing	Easting	Latitude Longitude Slot
Carracas 34 A-7	0.00	0.00	2161290.77	641443.97	36°56'19.11"N 107°20'57.66"W N/A



COMPANY DETAILS
 Energen Resources Corporation
 2198 Bloomfield Hwy
 Farmington, NM 87401

Calculation Method: Minimum Curvature
 Error System: Systematic Ellipse
 Scale Method: Elongest Approach 3D
 Error Surface: Ellipsoid Conic
 Warning Method: Error Ratio

Pathfinder Energy

Planning Report - Geographic

Company: Energen Resources Corporation Field: Carracas Canyon Site: Carracas 34 A-7 Well: Carracas 34 A-7 Wellpath: Original Hole		Date: 4/21/2006 Co-ordinate(NE) Reference: Well: Carracas 34 A-7, Grid North Vertical (TVD) Reference: System: Mean Sea Level Section (VS) Reference: Well (0.00N,0.00E,45.76Azi) Plan: Plan #1 4-21-06		Time: 11:36:48 Page: 1						
Field: Carracas Canyon Rio Arriba County, NM										
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: Carracas 34 A-7 Rio Arriba County, New Mexico 1980' FNL 2620' FEL Sec.34; T32N; R5W										
Site Position: From: Lease Line Position Uncertainty: 0.00 ft Ground Level: 0.00 ft		Northing: ft Easting: ft Latitude: Longitude: North Reference: Grid Grid Convergence: 0.29 deg								
Well: Carracas 34 A-7										
Slot Name:										
Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft		Northing: 2161290.77 ft Easting: 641443.97 ft Latitude: 36 56 19.111 N Longitude: 107 20 57.666 W								
Wellpath: Original Hole										
Current Datum: Mean Sea Level Magnetic Data: 4/21/2006 Field Strength: 51484 nT Vertical Section: Depth From (TVD) ft		Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 10.36 deg Mag Dip Angle: 63.84 deg +E/-W: Direction deg								
0.00		0.00								
Plan: Plan #1 4-21-06										
Principal: Yes		Date Composed: 4/21/2006 Version: 1 Tied-to: From Surface								
Plan Section Information										
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	45.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2579.99	0.00	45.76	2579.99	0.00	0.00	0.00	0.00	0.00	0.00	
3586.43	90.58	45.76	3216.58	448.68	460.67	9.00	9.00	0.00	45.76	
3643.37	90.58	45.76	3216.00	488.40	501.46	0.00	0.00	0.00	0.00	Landing Point
5623.64	90.58	45.76	3196.00	1870.00	1920.00	0.00	0.00	0.00	-180.00	PBHL Carracas
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
0.00	0.00	45.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2500.00	0.00	45.76	2500.00	0.00	0.00	0.00	0.00	0.00	0.00	45.76
2579.00	0.00	45.76	2579.00	0.00	0.00	0.00	0.00	0.00	0.00	45.76
2579.99	0.00	45.76	2579.99	0.00	0.00	0.00	0.00	0.00	0.00	45.76
Section 2 : Start Build 9.00										
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
2700.00	10.80	45.76	2699.29	7.87	8.08	11.28	9.00	9.00	0.00	0.00
2900.00	28.80	45.76	2886.69	54.95	56.41	78.75	9.00	9.00	0.00	0.00
3100.00	46.80	45.76	3044.07	140.12	143.87	200.83	9.00	9.00	0.00	0.00
3300.00	64.80	45.76	3156.02	255.06	261.88	365.57	9.00	9.00	0.00	0.00
3500.00	82.80	45.76	3211.59	388.52	398.91	556.84	9.00	9.00	0.00	0.00
3586.00	90.54	45.76	3216.58	448.37	460.36	642.63	9.00	9.00	0.00	0.00
3586.43	90.58	45.76	3216.58	448.68	460.67	643.06	9.00	9.00	0.00	0.00

Pathfinder Energy

Planning Report - Geographic

Company: Energen Resources Corporation
Field: Carracas Canyon
Site: Carracas 34 A-7
Well: Carracas 34 A-7
Wellpath: Original Hole

Date: 4/21/2006 **Time:** 11:36:48 **Page:** 2
Co-ordinate(NE) Reference: Well: Carracas 34 A-7, Grid North
Vertical (TVD) Reference: System: Mean Sea Level
Section (VS) Reference: Well (0.00N,0.00E,45.76Azi)
Plan: Plan #1 4-21-06

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
3643.37	90.58	45.76	3216.00	488.40	501.46	700.00	0.00	0.00	0.00	0.00

Section 4 : Start DLS 0.00 TFO -180.00

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
3700.00	90.58	45.76	3215.43	527.91	542.03	756.62	0.00	0.00	0.00	-180.00
3900.00	90.58	45.76	3213.40	667.45	685.29	956.61	0.00	0.00	0.00	-180.00
4100.00	90.58	45.76	3211.38	806.98	828.56	1156.60	0.00	0.00	0.00	-180.00
4300.00	90.58	45.76	3209.36	946.52	971.83	1356.59	0.00	0.00	0.00	-180.00
4500.00	90.58	45.76	3207.34	1086.06	1115.09	1556.58	0.00	0.00	0.00	-180.00
4700.00	90.58	45.76	3205.32	1225.59	1258.36	1756.57	0.00	0.00	0.00	-180.00
4900.00	90.58	45.76	3203.30	1365.13	1401.63	1956.56	0.00	0.00	0.00	-180.00
5100.00	90.58	45.76	3201.28	1504.66	1544.90	2156.55	0.00	0.00	0.00	-180.00
5300.00	90.58	45.76	3199.26	1644.20	1688.16	2356.54	0.00	0.00	0.00	-180.00
5500.00	90.58	45.76	3197.25	1783.74	1831.43	2556.53	0.00	0.00	0.00	-180.00
5623.64	90.58	45.76	3196.00	1870.00	1920.00	2680.17	0.00	0.00	0.00	-180.00

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec			← Longitude → Deg Min Sec		
2500.00	0.00	45.76	2500.00	0.00	0.00	2161290.77	641443.97	36	56	19.111 N	107	20	57.666 W
2579.00	0.00	45.76	2579.00	0.00	0.00	2161290.77	641443.97	36	56	19.111 N	107	20	57.666 W
2579.99	0.00	45.76	2579.99	0.00	0.00	2161290.77	641443.97	36	56	19.111 N	107	20	57.666 W
2700.00	10.80	45.76	2699.29	7.87	8.08	2161298.64	641452.05	36	56	19.188 N	107	20	57.566 W
2900.00	28.80	45.76	2886.69	54.95	56.41	2161345.72	641500.38	36	56	19.651 N	107	20	56.968 W
3100.00	46.80	45.76	3044.07	140.12	143.87	2161430.89	641587.84	36	56	20.489 N	107	20	55.885 W
3300.00	64.80	45.76	3156.02	255.06	261.88	2161545.84	641705.85	36	56	21.620 N	107	20	54.424 W
3500.00	82.80	45.76	3211.59	388.52	398.91	2161679.29	641842.88	36	56	22.933 N	107	20	52.728 W
3586.00	90.54	45.76	3216.58	448.37	460.36	2161739.15	641904.33	36	56	23.521 N	107	20	51.967 W
3586.43	90.58	45.76	3216.58	448.68	460.67	2161739.45	641904.64	36	56	23.524 N	107	20	51.963 W
3643.37	90.58	45.76	3216.00	488.40	501.46	2161779.17	641945.43	36	56	23.915 N	107	20	51.458 W
3700.00	90.58	45.76	3215.43	527.91	542.03	2161818.68	641985.99	36	56	24.304 N	107	20	50.956 W
3900.00	90.58	45.76	3213.40	667.45	685.29	2161958.22	642129.26	36	56	25.676 N	107	20	49.183 W
4100.00	90.58	45.76	3211.38	806.98	828.56	2162097.75	642272.53	36	56	27.049 N	107	20	47.409 W
4300.00	90.58	45.76	3209.36	946.52	971.83	2162237.29	642415.80	36	56	28.421 N	107	20	45.636 W
4500.00	90.58	45.76	3207.34	1086.06	1115.09	2162376.83	642559.06	36	56	29.794 N	107	20	43.862 W
4700.00	90.58	45.76	3205.32	1225.59	1258.36	2162516.36	642702.33	36	56	31.166 N	107	20	42.088 W
4900.00	90.58	45.76	3203.30	1365.13	1401.63	2162655.90	642845.60	36	56	32.539 N	107	20	40.315 W
5100.00	90.58	45.76	3201.28	1504.66	1544.90	2162795.44	642988.87	36	56	33.911 N	107	20	38.541 W
5300.00	90.58	45.76	3199.26	1644.20	1688.16	2162934.97	643132.13	36	56	35.284 N	107	20	36.768 W
5500.00	90.58	45.76	3197.25	1783.74	1831.43	2163074.51	643275.40	36	56	36.656 N	107	20	34.994 W
5623.64	90.58	45.76	3196.00	1870.00	1920.00	2163160.77	643363.97	36	56	37.505 N	107	20	33.897 W

Targets

Name	Description Dip. Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec			← Longitude → Deg Min Sec		
PBHL Carracas		3196.00	1870.00	1920.00	2163160.77	643363.97	36	56	37.505 N	107	20	33.897 W
Landing Point		3216.00	488.40	501.46	2161779.17	641945.43	36	56	23.915 N	107	20	51.458 W

Pathfinder Energy

Planning Report - Geographic

Company: Energen Resources Corporation
Field: Carracas Canyon
Site: Carracas 34 A-7
Well: Carracas 34 A-7
Wellpath: Original Hole

Date: 4/21/2006 **Time:** 11:36:48 **Page:** 3
Co-ordinate(NE) Reference: Well: Carracas 34 A-7, Grid North
Vertical (TVD) Reference: System: Mean Sea Level
Section (VS) Reference: Well (0.00N,0.00E,45.76Azi)
Plan: Plan #1 4-21-06

Annotation

MD ft	TVD ft	
2579.00	2579.00	KOP @ 2579' MD 2579' TVD
2579.00	2579.00	Start Of 9" / 100' Build
3586.00	3216.58	End Of Build @ 90.58° Inc
3586.00	3216.58	3586' MD 3217' TVD