

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 October 12, 2005

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-30167	² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code 35660	⁵ Property Name Carracas 21A	⁶ Well Number 1
⁷ OGRID No 162928	⁸ Operator Name Energen Resources Corporation	⁹ Elevation 7065'

¹⁰ Surface Location

UL or lot no	Section	Township	Range	Lot 1dn	Feet from the	North/South line	Feet from the	East/West line	County
O	21	32N	05W		690	South	2020	East	Rio Arriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. 1dn	Feet from the	North/South line	Feet from the	East/West line	County
A	21	32N	05W		1025	North	759	East	Rio Arriba

¹² Dedicated Acres 319.51	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		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 Signature: Vicki Donaghey Date: 11/20/08 Printed Name: Vicki Donaghey
		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 Date of Survey: April 24, 2008 Signature and Seal of Professional Surveyor: original survey conducted and recorded by: David R. Russell Certificate Number: 10201

8 1/25

RCVD NOV 21 2008

OIL CONS. DIV.

DIST. 3

Carracas

Carson Natl Forest - NE Sec 21, T32N R5W

Middle Mesa

Carracas 21 A #1

EOW Report

Plan: Final Survey

Planned Wellpath

27 October, 2008

Project: Carson Natl Forest - NE Sec 21, T32N R5W
 Site: Middle Mesa
 Well: Carracas 21 A #1
 Wellbore: EOW Report
 Plan: Final Survey (Carracas 21 A #1/EOW Report)

PROJECT DETAILS: Carson Natl Forest - NE Sec 21, T32N R5W

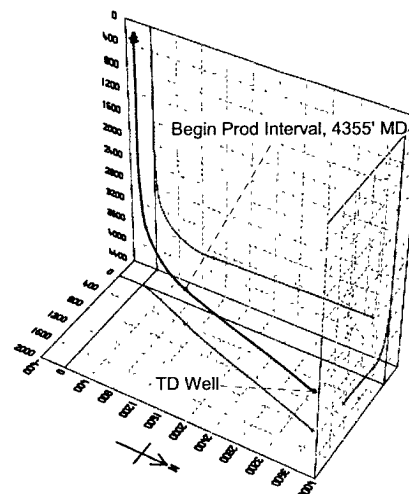
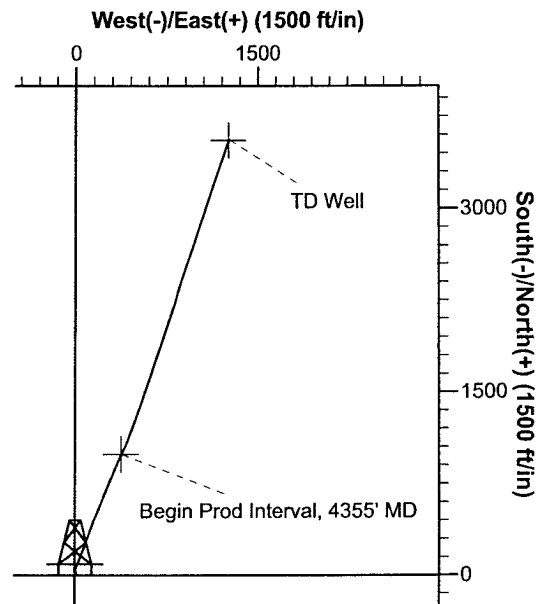
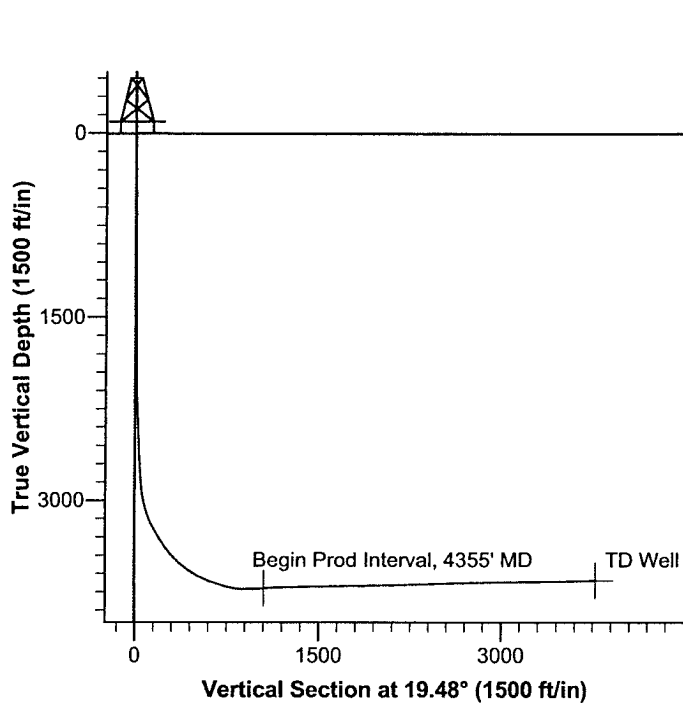
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Central Zone

System Datum: Mean Sea Level



Azimuths to True North
 Magnetic North: 10.06°

Magnetic Field
 Strength: 51196.6snT
 Dip Angle: 63.80°
 Date: 10/27/2008
 Model: IGRF200510



Energen Planned Wellpath

Company:	Carracas	Local Co-ordinate Reference:	Well Carracas 21 A #1
Project:	Carson Natl Forest - NE Sec 21, T32N R5W	TVD Reference:	KB @ 7079.0ft (L&W #1)
Site:	Middle Mesa	MD Reference:	KB @ 7079.0ft (L&W #1)
Well:	Carracas 21 A #1	North Reference:	True
Wellbore:	EOW Report	Survey Calculation Method:	Minimum Curvature
Design:	Final Survey	Database:	EDM 2003.16 Single User Db

Project	Carson Natl Forest - NE Sec 21, T32N R5W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Middle Mesa		
Site Position:		Northing:	2,170,795.00 ft
From:	Lat/Long	Easting:	1,314,477.46 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	36° 57' 37.512 N
		Longitude:	107° 21' 56.232 W
		Grid Convergence:	-0.67 °

Well	Carracas 21 A #1		
Well Position	+N/-S	0.0 ft	Northing: 2,170,795.00 ft
	+E/-W	0.0 ft	Easting: 1,314,477.46 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	7,065.0 ft
		Latitude:	36° 57' 37.512 N
		Longitude:	107° 21' 56.232 W
		Ground Level:	7,065.0 ft

Wellbore	EOW Report				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF200510	10/27/2008	(°)	(°)	(nT)
			10.06	63.80	51,197

Design	Final Survey			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	19.48

Survey Tool Program	Date 10/27/2008			
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
0.0	7,080.0	Final Survey (EOW Report)		

Planned Survey								
MD	TVD	Inc	Azi	Build	V. Sec	N/S	E/W	
(ft)	(ft)	(°)	(°)	(°/100ft)	(ft)	(ft)	(ft)	
0.0	0.0	0.00	0.00	0.00	0.0	0.0	0.0	
100.0	100.0	0.11	356.15	0.11	0.1	0.1	0.0	
200.0	200.0	0.22	356.15	0.11	0.3	0.4	0.0	
300.0	300.0	0.32	356.15	0.11	0.8	0.8	-0.1	
400.0	400.0	0.43	356.15	0.11	1.4	1.5	-0.1	
492.0	492.0	0.53	356.15	0.11	2.1	2.3	-0.2	
500.0	500.0	0.52	356.91	-0.09	2.2	2.3	-0.2	
600.0	600.0	0.44	8.48	-0.08	3.0	3.2	-0.1	
700.0	700.0	0.38	24.38	-0.06	3.7	3.9	0.1	
800.0	800.0	0.36	43.80	-0.02	4.3	4.4	0.4	
900.0	900.0	0.39	63.03	0.02	4.8	4.8	0.9	
992.0	992.0	0.44	77.50	0.06	5.2	5.0	1.6	

Energen

Planned Wellpath

Company:	Carracas	Local Co-ordinate Reference:	Well Carracas 21 A #1
Project:	Carson Nati Forest - NE Sec 21, T32N R5W	TVD Reference:	KB @ 7079.0ft (L&W #1)
Site:	Middle Mesa	MD Reference:	KB @ 7079.0ft (L&W #1)
Well:	Carracas 21 A #1	North Reference:	True
Wellbore:	EOW Report	Survey Calculation Method:	Minimum Curvature
Design:	Final Survey	Database:	EDM 2003.16 Single User Db

Planned Survey

MD (ft)	TVD (ft)	Inc (°)	Azi (°)	Build (°/100ft)	V. Sec (ft)	N/S (ft)	E/W (ft)
1,000.0	1,000.0	0.44	78.02	0.04	5.3	5.0	1.6
1,100.0	1,100.0	0.49	83.83	0.05	5.6	5.1	2.4
1,200.0	1,200.0	0.54	88.60	0.05	6.0	5.2	3.3
1,300.0	1,300.0	0.59	92.54	0.05	6.3	5.2	4.3
1,400.0	1,400.0	0.65	95.82	0.06	6.6	5.1	5.4
1,490.0	1,490.0	0.70	98.32	0.06	6.8	5.0	6.4
1,500.0	1,500.0	0.69	96.84	-0.15	6.9	5.0	6.6
1,600.0	1,599.9	0.57	78.25	-0.12	7.2	5.0	7.6
1,700.0	1,699.9	0.53	54.07	-0.03	7.9	5.4	8.5
1,800.0	1,799.9	0.60	31.07	0.06	8.8	6.1	9.1
1,900.0	1,899.9	0.73	14.51	0.14	9.9	7.1	9.6
1,986.0	1,985.9	0.88	4.96	0.17	11.1	8.3	9.8
2,000.0	1,999.9	0.94	3.97	0.42	11.3	8.5	9.8
2,100.0	2,099.9	1.36	359.38	0.43	13.2	10.6	9.8
2,200.0	2,199.9	1.79	356.99	0.43	15.8	13.3	9.7
2,300.0	2,299.8	2.23	355.52	0.43	19.0	16.8	9.5
2,400.0	2,399.7	2.66	354.53	0.43	22.9	21.1	9.1
2,476.0	2,475.6	2.99	353.97	0.43	26.3	24.8	8.8
2,500.0	2,499.6	3.13	352.04	0.58	27.4	26.1	8.6
2,600.0	2,599.4	3.74	345.59	0.61	32.6	31.9	7.4
2,660.0	2,659.3	4.13	342.66	0.64	35.9	35.9	6.3
2,690.0	2,689.2	3.93	343.80	-0.67	37.6	37.9	5.7
2,700.0	2,699.2	4.02	344.08	0.93	38.2	38.6	5.5
2,721.0	2,720.1	4.22	344.64	0.94	39.4	40.0	5.1
2,751.0	2,750.0	3.96	353.34	-0.87	41.3	42.1	4.7
2,782.0	2,781.0	3.52	8.11	-1.42	43.1	44.1	4.7
2,800.0	2,798.9	3.74	17.33	1.25	44.3	45.2	4.9
2,813.0	2,811.9	3.96	23.24	1.66	45.1	46.0	5.2
2,844.0	2,842.8	4.13	26.00	0.55	47.3	48.0	6.1
2,874.0	2,872.7	5.19	28.60	3.53	49.7	50.2	7.3
2,905.0	2,903.6	6.95	27.67	5.68	53.0	53.1	8.8
2,937.0	2,935.3	8.71	26.44	5.50	57.3	57.0	10.8
2,969.0	2,966.8	9.94	19.91	3.84	62.5	61.7	12.8
3,000.0	2,997.3	11.34	19.82	4.52	68.2	67.1	14.7
3,032.0	3,028.6	13.28	18.89	6.06	75.0	73.6	17.0
3,063.0	3,058.6	15.04	18.84	5.68	82.6	80.7	19.4
3,095.0	3,089.4	16.80	20.54	5.50	91.4	89.0	22.4
3,100.0	3,094.2	17.16	20.57	7.12	92.8	90.4	22.9
3,127.0	3,119.8	19.08	20.72	7.13	101.2	98.2	25.9
3,150.0	3,141.5	20.65	20.20	6.81	109.0	105.5	28.6
3,158.0	3,148.9	21.19	20.04	6.81	111.9	108.2	29.6
3,190.0	3,178.6	23.21	20.14	6.31	124.0	119.6	33.8
3,200.0	3,187.7	23.95	20.10	7.44	128.0	123.3	35.1
3,222.0	3,207.7	25.59	20.01	7.44	137.2	132.0	38.3

Energen

Planned Wellpath

Company:	Carracas	Local Co-ordinate Reference:	Well Carracas 21.A #1
Project:	Carson Natl Forest - NE Sec 21, T32N R5W	TVD Reference:	KB @ 7079.0ft (L&W #1)
Site:	Middle Mesa	MD Reference:	KB @ 7079.0ft (L&W #1)
Well:	Carracas 21 A #1	North Reference:	True
Wellbore:	EOW Report	Survey Calculation Method:	Minimum Curvature
Design:	Final Survey	Database:	EDM 2003:16 Single User Db

Planned Survey							
MD (ft)	TVD (ft)	Inc (°)	Azi (°)	Build (°/100ft)	V. Sec (ft)	N/S (ft)	E/W (ft)
3,254.0	3,236.2	28.14	20.89	7.97	151.7	145.5	43.3
3,286.0	3,264.2	29.99	20.06	5.78	167.2	160.1	48.8
3,300.0	3,276.3	30.79	20.19	5.75	174.3	166.8	51.2
3,318.0	3,291.7	31.83	20.34	5.75	183.6	175.5	54.5
3,349.0	3,317.8	33.41	20.55	5.10	200.3	191.2	60.3
3,381.0	3,344.2	35.00	20.32	4.97	218.3	208.0	66.6
3,400.0	3,359.8	35.36	20.76	1.90	229.3	218.3	70.4
3,413.0	3,370.4	35.61	21.06	1.91	236.8	225.3	73.1
3,445.0	3,396.2	36.76	21.08	3.59	255.7	243.0	79.9
3,450.0	3,400.2	37.06	21.02	6.03	258.7	245.8	81.0
3,477.0	3,421.5	38.69	20.70	6.03	275.3	261.3	86.9
3,508.0	3,445.4	40.10	19.64	4.55	295.0	279.7	93.7
3,540.0	3,469.6	41.94	19.19	5.75	316.0	299.5	100.6
3,550.0	3,477.0	42.60	19.17	6.59	322.7	305.9	102.9
3,572.0	3,493.0	44.05	19.14	6.59	337.8	320.1	107.8
3,604.0	3,515.5	46.69	19.04	8.25	360.5	341.7	115.3
3,636.0	3,536.7	50.21	19.65	11.00	384.5	364.3	123.2
3,650.0	3,545.5	52.06	19.95	13.18	395.4	374.5	126.9
3,668.0	3,556.2	54.43	20.31	13.19	409.8	388.1	131.8
3,700.0	3,574.1	57.77	21.29	10.44	436.4	412.9	141.3
3,731.0	3,590.4	58.92	21.77	3.71	462.7	437.4	151.0
3,763.0	3,606.7	59.62	21.85	2.19	490.2	463.0	161.2
3,795.0	3,622.5	61.11	21.89	4.66	518.0	488.8	171.5
3,800.0	3,624.9	61.58	21.90	9.34	522.4	492.8	173.2
3,827.0	3,637.3	64.10	21.98	9.34	546.4	515.1	182.2
3,850.0	3,646.9	66.38	21.99	9.91	567.2	534.5	190.0
3,859.0	3,650.4	67.27	21.99	9.91	575.5	542.2	193.1
3,891.0	3,662.3	69.12	22.28	5.78	605.2	569.7	204.3
3,900.0	3,665.5	69.51	22.32	4.37	613.6	577.5	207.5
3,923.0	3,673.4	70.52	22.43	4.38	635.2	597.5	215.7
3,955.0	3,683.7	71.67	22.43	3.59	665.4	625.4	227.2
3,988.0	3,693.7	73.25	22.65	4.79	696.8	654.5	239.3
4,000.0	3,697.1	73.88	22.63	5.22	708.3	665.1	243.7
4,020.0	3,702.4	74.92	22.59	5.22	727.6	682.9	251.1
4,052.0	3,710.5	75.89	22.08	3.03	758.5	711.6	262.9
4,083.0	3,717.7	77.29	22.14	4.52	788.6	739.5	274.3
4,100.0	3,721.2	78.97	22.32	9.91	805.2	754.9	280.5
4,115.0	3,723.9	80.46	22.47	9.91	820.0	768.5	286.2
4,125.0	3,725.4	81.67	22.53	12.09	829.8	777.7	289.9
4,147.0	3,728.1	84.33	22.66	12.09	851.6	797.8	298.3
4,150.0	3,728.4	84.73	22.69	13.47	854.6	800.6	299.5
4,177.0	3,730.0	88.37	22.95	13.47	881.5	825.4	309.9
4,200.0	3,730.2	90.52	23.08	9.34	904.5	846.6	318.9
4,209.0	3,730.1	91.36	23.13	9.34	913.5	854.9	322.5

Energen

Planned Wellpath

Company: Carracas
Project: Carson Natl Forest - NE Sec 21, T32N R5W
Site: Middle Mesa
Well: Carracas 21 A #1
Wellbore: EOW Report
Design: Final Survey

Local Co-ordinate Reference: Well Carracas 21 A #1
TVD Reference: KB @ 7079.0ft (L&W #1)
MD Reference: KB @ 7079.0ft (L&W #1)
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)	V. Sec (ft)	N/S (ft)	E/W (ft)
4,241.0	3,729.1	92.24	22.91	2.75	945.4	884.3	335.0
4,273.0	3,727.5	93.30	22.75	3.31	977.3	913.8	347.4
4,305.0	3,725.6	93.56	22.45	0.81	1,009.2	943.2	359.6
4,325.0	3,724.4	93.65	22.34	0.45	1,029.1	961.7	367.3
4,350.0	3,722.6	94.36	24.11	2.83	1,054.0	984.6	377.1
4,355.0	3,722.2	94.50	24.47	2.82	1,059.0	989.2	379.1
Begin Prod Interval							
4,375.0	3,720.6	95.06	25.89	2.81	1,078.8	1,007.2	387.6
4,406.0	3,718.2	93.83	26.55	-3.97	1,109.5	1,034.9	401.3
4,436.0	3,716.5	92.68	25.01	-3.83	1,139.3	1,061.9	414.3
4,450.0	3,715.8	92.42	23.77	-1.82	1,153.2	1,074.6	420.1
4,465.0	3,715.2	92.15	22.45	-1.83	1,168.2	1,088.4	426.0
4,497.0	3,713.9	92.68	20.94	1.66	1,200.1	1,118.1	437.8
4,500.0	3,713.8	92.56	20.90	-3.97	1,203.1	1,120.9	438.8
4,528.0	3,712.8	91.45	20.54	-3.97	1,231.1	1,147.1	448.7
4,560.0	3,712.1	90.84	20.19	-1.91	1,263.1	1,177.1	459.9
4,593.0	3,711.7	90.57	20.05	-0.82	1,296.1	1,208.1	471.2
4,600.0	3,711.7	90.55	19.89	-0.28	1,303.1	1,214.6	473.6
4,625.0	3,711.4	90.48	19.31	-0.28	1,328.1	1,238.2	482.0
4,657.0	3,711.2	90.40	18.87	-0.25	1,360.1	1,268.4	492.5
4,688.0	3,710.7	91.54	19.51	3.68	1,391.0	1,297.7	502.7
4,700.0	3,710.3	91.54	19.61	0.00	1,403.0	1,309.0	506.7
4,719.0	3,709.8	91.54	19.78	0.00	1,422.0	1,326.9	513.1
4,751.0	3,708.9	91.63	20.19	0.28	1,454.0	1,357.0	524.0
4,784.0	3,708.1	91.28	18.97	-1.06	1,487.0	1,388.0	535.1
4,800.0	3,707.7	91.37	18.95	0.53	1,503.0	1,403.2	540.3
4,816.0	3,707.3	91.45	18.93	0.53	1,519.0	1,418.3	545.5
4,848.0	3,706.7	90.84	19.22	-1.91	1,551.0	1,448.5	555.9
4,880.0	3,706.3	90.66	18.43	-0.56	1,583.0	1,478.8	566.2
4,900.0	3,706.0	90.88	18.35	1.09	1,603.0	1,497.8	572.5
4,912.0	3,705.8	91.01	18.30	1.09	1,615.0	1,509.2	576.3
4,944.0	3,705.3	90.84	19.11	-0.53	1,647.0	1,539.5	586.6
4,976.0	3,704.8	90.84	18.54	0.00	1,679.0	1,569.8	596.9
5,008.0	3,704.2	91.36	17.95	1.62	1,711.0	1,600.2	606.9
5,040.0	3,703.5	91.10	18.19	-0.81	1,742.9	1,630.6	616.8
5,072.0	3,703.1	90.40	18.13	-2.19	1,774.9	1,661.0	626.8
5,104.0	3,703.0	90.13	18.39	-0.84	1,806.9	1,691.4	636.8
5,137.0	3,702.7	90.84	18.65	2.15	1,839.9	1,722.7	647.3
5,169.0	3,702.1	91.12	18.95	0.87	1,871.9	1,752.9	657.6
5,201.0	3,701.4	91.54	19.37	1.31	1,903.9	1,783.2	668.1
5,233.0	3,700.6	91.28	19.03	-0.81	1,935.9	1,813.4	678.7
5,265.0	3,699.9	91.45	18.89	0.53	1,967.9	1,843.6	689.0
5,297.0	3,698.9	91.80	18.35	1.09	1,999.9	1,873.9	699.3
5,300.0	3,698.9	91.78	18.32	-0.52	2,002.9	1,876.8	700.2
5,330.0	3,698.0	91.63	17.98	-0.52	2,032.8	1,905.3	709.5

Energen

Planned Wellpath

Company: Carracas
Project: Carson Natl Forest - NE Sec 21, T32N R5W
Site: Middle Mesa
Well: Carracas 21 A #1
Wellbore: EOW Report
Design: Final Survey

Local Co-ordinate Reference: Well Carracas 21 A #1
TVD Reference: KB @ 7079.0ft (L&W #1)
MD Reference: KB @ 7079.0ft (L&W #1)
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)	V_Sec (ft)	N/S (ft)	E/W (ft)
5,362.0	3,697.2	91.19	17.81	-1.37	2,064.8	1,935.7	719.4
5,394.0	3,696.6	90.92	17.64	-0.84	2,096.8	1,966.2	729.1
5,400.0	3,696.5	90.99	17.62	1.13	2,102.8	1,971.9	730.9
5,426.0	3,696.0	91.28	17.52	1.12	2,128.8	1,996.7	738.8
5,458.0	3,695.3	91.28	18.04	0.00	2,160.7	2,027.2	748.5
5,491.0	3,694.4	91.63	18.63	1.06	2,193.7	2,058.5	758.9
5,500.0	3,694.2	91.65	18.78	0.25	2,202.7	2,067.0	761.8
5,523.0	3,693.5	91.71	19.18	0.25	2,225.7	2,088.7	769.3
5,555.0	3,692.4	92.07	19.62	1.12	2,257.7	2,118.9	779.9
5,587.0	3,691.4	91.54	19.15	-1.66	2,289.7	2,149.1	790.5
5,600.0	3,691.1	91.61	18.60	0.53	2,302.7	2,161.4	794.7
5,619.0	3,690.5	91.71	17.79	0.53	2,321.7	2,179.4	800.7
5,652.0	3,689.4	92.07	16.13	1.09	2,354.6	2,211.0	810.3
5,684.0	3,688.1	92.68	16.00	1.91	2,386.5	2,241.7	819.1
5,700.0	3,687.4	92.42	15.81	-1.66	2,402.5	2,257.1	823.5
5,716.0	3,686.7	92.15	15.62	-1.66	2,418.4	2,272.4	827.8
5,747.0	3,685.7	91.71	16.01	-1.42	2,449.3	2,302.3	836.3
5,780.0	3,684.8	91.36	16.04	-1.06	2,482.3	2,334.0	845.4
5,800.0	3,684.4	91.25	16.38	-0.53	2,502.2	2,353.2	851.0
5,812.0	3,684.1	91.19	16.59	-0.53	2,514.2	2,364.7	854.4
5,845.0	3,683.3	91.71	17.56	1.58	2,547.2	2,396.2	864.1
5,876.0	3,682.2	92.42	18.63	2.29	2,578.2	2,425.6	873.7
5,908.0	3,680.9	92.07	18.46	-1.09	2,610.1	2,456.0	883.9
5,940.0	3,679.9	91.54	18.79	-1.66	2,642.1	2,486.3	894.1
5,973.0	3,679.0	91.63	19.15	0.27	2,675.1	2,517.5	904.8
6,005.0	3,678.1	91.36	18.86	-0.84	2,707.1	2,547.7	915.2
6,036.0	3,677.4	91.45	18.77	0.29	2,738.1	2,577.0	925.2
6,069.0	3,676.5	91.54	19.11	0.27	2,771.1	2,608.2	935.9
6,101.0	3,675.8	91.19	18.99	-1.09	2,803.0	2,638.5	946.4
6,133.0	3,675.2	90.66	18.58	-1.66	2,835.0	2,668.8	956.7
6,165.0	3,674.8	91.01	18.25	1.09	2,867.0	2,699.1	966.8
6,197.0	3,674.3	90.75	18.29	-0.81	2,899.0	2,729.5	976.8
6,200.0	3,674.2	90.79	18.30	1.33	2,902.0	2,732.4	977.7
6,230.0	3,673.7	91.19	18.35	1.33	2,932.0	2,760.8	987.2
6,262.0	3,673.1	91.19	18.50	0.00	2,964.0	2,791.2	997.3
6,294.0	3,672.5	90.84	18.28	-1.09	2,996.0	2,821.6	1,007.4
6,300.0	3,672.4	91.00	18.23	2.72	3,002.0	2,827.3	1,009.3
6,326.0	3,671.8	91.71	18.03	2.72	3,028.0	2,852.0	1,017.3
6,358.0	3,670.8	91.98	18.53	0.84	3,059.9	2,882.3	1,027.4
6,400.0	3,669.5	91.41	18.58	-1.35	3,101.9	2,922.1	1,040.7
6,423.0	3,669.0	91.10	18.60	-1.35	3,124.9	2,943.9	1,048.1
6,455.0	3,668.4	90.92	18.81	-0.56	3,156.9	2,974.2	1,058.3
6,487.0	3,668.2	89.96	18.43	-3.00	3,188.9	3,004.5	1,068.5
6,500.0	3,668.2	89.81	18.49	-1.13	3,201.9	3,016.9	1,072.7

Energen

Planned Wellpath

Company: Carracas
Project: Carson Natl Forest - NE Sec 21, T32N R5W
Site: Middle Mesa
Well: Carracas 21 A #1
Wellbore: EOW Report
Design: Final Survey

Local Co-ordinate Reference: Well Carracas 21'A #1
TVD Reference: KB @ 7079.0ft (L&W #1)
MD Reference: KB @ 7079.0ft (L&W #1)
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)	V. Sec (ft)	N/S (ft)	E/W (ft)
6,519.0	3,668.3	89.60	18.59	-1.12	3,220.9	3,034.9	1,078.7
6,552.0	3,668.3	90.57	18.66	2.94	3,253.9	3,066.2	1,089.2
6,583.0	3,668.0	90.48	18.89	-0.29	3,284.9	3,095.5	1,099.2
6,600.0	3,667.8	90.48	18.79	0.00	3,301.9	3,111.6	1,104.7
6,616.0	3,667.7	90.48	18.70	0.00	3,317.9	3,126.8	1,109.8
6,648.0	3,667.5	90.22	18.71	-0.81	3,349.9	3,157.1	1,120.1
6,681.0	3,667.2	90.75	18.12	1.61	3,382.9	3,188.4	1,130.5
6,700.0	3,667.0	90.80	17.82	0.28	3,401.9	3,206.4	1,136.4
6,713.0	3,666.8	90.84	17.62	0.28	3,414.9	3,218.8	1,140.3
6,746.0	3,666.4	90.48	17.48	-1.09	3,447.8	3,250.3	1,150.3
6,778.0	3,666.2	90.40	18.96	-0.25	3,479.8	3,280.7	1,160.3
6,810.0	3,665.8	91.01	20.57	1.91	3,511.8	3,310.8	1,171.1
6,842.0	3,665.0	91.71	20.98	2.19	3,543.8	3,340.7	1,182.5
6,874.0	3,663.9	92.24	20.51	1.66	3,575.8	3,370.6	1,193.8
6,907.0	3,662.8	91.51	19.64	-2.21	3,608.8	3,401.6	1,205.1
6,937.0	3,662.0	91.63	19.34	0.40	3,638.7	3,429.9	1,215.1
6,969.0	3,661.0	91.98	19.05	1.09	3,670.7	3,460.1	1,225.6
7,001.0	3,660.0	91.71	18.39	-0.84	3,702.7	3,490.4	1,235.9
7,019.0	3,659.4	91.63	18.57	-0.44	3,720.7	3,507.4	1,241.6
7,080.0	3,657.7	91.63	18.57	0.00	3,781.7	3,565.2	1,261.0
TD Well							

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 Well - plan hits target - Point	0.00	0.00	3,657.7	3,562.2	1,261.0	2,174,342.19	1,315,780.08	36° 58' 12.732 N	107° 21' 40.694 W
Begin Prod Interval, - plan hits target - Point	0.00	0.00	3,722.2	989.2	379.1	2,171,779.70	1,314,868.12	36° 57' 47.292 N	107° 21' 51.561 W

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,355.0	3,722.2	989.2	379.1	Begin Prod Interval
7,080.0	3,657.7	3,565.2	1,261.0	TD Well

Checked By: _____ Approved By: _____ Date: _____