

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 30-039-30469	² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code 35654	⁵ Property Name Carracas 15A	⁶ Well Number 11
⁷ OGRID No 162928	⁸ Operator Name Energen Resources Corporation	⁹ Elevation 7227'

¹⁰ Surface Location

UL or lot no P	Section 15	Township 32N	Range 05W	Lot 1dn	Feet from the 120	North/South line South	Feet from the 440	East/West line East	County Rio Arriba
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no M	Section 15	Township 32N	Range 05W	Lot 1dn	Feet from the 888	North/South line South	Feet from the 58	East/West line West	County Rio Arriba
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¹² Dedicated Acres 320 S/2	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No
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RCVD JUL 15 '09
OIL CONS. DIV.

DIST. 3

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: 07/14/09 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 October 13, 2005 Date of Survey Signature and Seal of Professional Surveyer Original Survey conducted and recorded by: David A. Russell
				Certificate Number 10201

2637.83'

2638.13'

87/21

Energen Resources

Rio Arriba County, NM
Sec. 15 T32N R5W
Carracas 15A #11

Wellbore #1

Design: Actual Field Surveys

Sperry Drilling Services Standard Report

23 June, 2009

Well Coordinates: 2,175,415.92 N, 1,321,379.80 E (36° 58' 23.99" N, 107° 20' 31.85" W)
Ground Level: 7,227.00 ft

Local Coordinate Origin:	Centered on Well Carracas 15A #11
Viewing Datum:	KB @ 7242.0ft (Original Well Elev)
TVDs to System:	N
North Reference:	True
Unit System:	API- Alt
Geodetic Scale Factor Applied	
Version 2003.16 Build: 43I	

HALLIBURTON

Project: Rio Arriba County, NM
 Site: Sec. 15 T32N R5W
 Well: Carracas 15A #11
 Wellbore: Wellbore #1
 Plan: Actual Field Surveys

Energen Resources

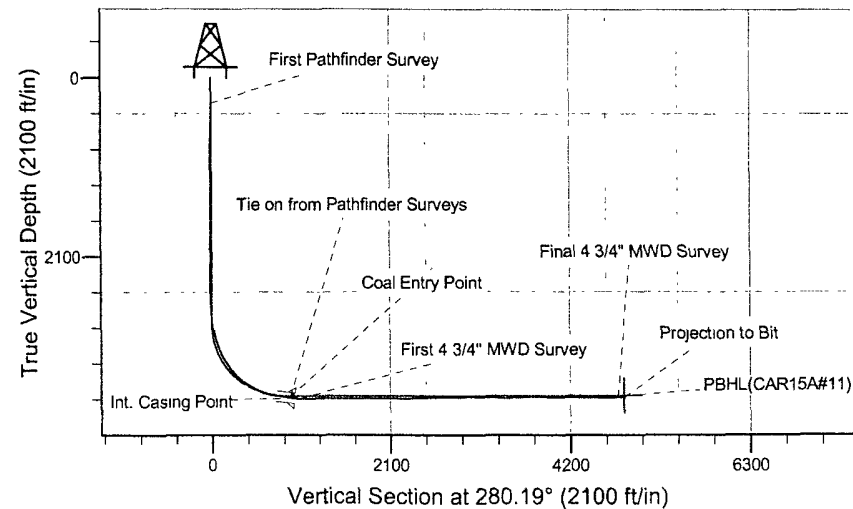
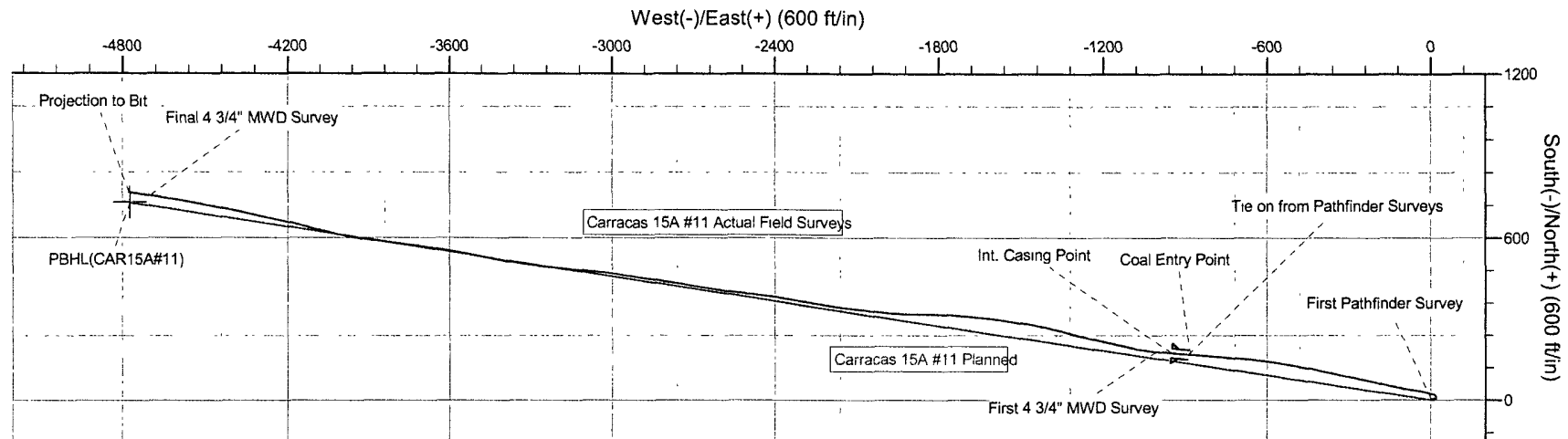
HALLIBURTON
 Drilling and Formation
 Evaluation

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL(CAR15A#11)	730.0	730.0	-4776.0	36° 58' 31.202 N	107° 21' 30.704 W	Point

WELL DETAILS: Carracas 15A #11

+N/-S	+E/-W	Northing	Easting	Ground Level:	Latitude	Longitude
0.0	0.0	2175415.92	1321379.80	7227.0	36° 58' 23.988 N	107° 20' 31.848 W



HALLIBURTON**Design Report for Carracas 15A #11 - Actual Field Surveys**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.0	0.00	0.000	0.0	0.0	0.0	0.0	0.00
293.0	0.88	16.750	293.0	2.2	0.6	-0.3	0.30
First Pathfinder Survey							
385.0	1.14	28.900	385.0	3.6	1.3	-0.6	0.36
477.0	1.32	70.080	477.0	4.8	2.7	-1.8	0.96
567.0	1.41	96.880	566.9	5.0	4.8	-3.8	0.71
659.0	1.14	125.680	658.9	4.3	6.7	-5.8	0.75
748.0	0.26	127.400	747.9	3.7	7.6	-6.8	0.99
839.0	0.18	177.700	838.9	3.4	7.7	-7.0	0.22
933.0	0.53	147.700	932.9	2.9	8.0	-7.3	0.41
1,024.0	0.18	246.250	1,023.9	2.5	8.1	-7.5	0.64
1,115.0	0.26	171.880	1,114.9	2.2	8.0	-7.4	0.30
1,205.0	0.18	140.280	1,204.9	1.9	8.1	-7.6	0.16
1,296.0	0.18	171.600	1,295.9	1.7	8.2	-7.8	0.11
1,387.0	0.09	223.710	1,386.9	1.5	8.2	-7.8	0.16
1,479.0	0.26	48.720	1,478.9	1.6	8.3	-7.9	0.38
1,570.0	0.18	223.930	1,569.9	1.6	8.3	-7.9	0.48
1,659.0	0.26	173.150	1,658.9	1.3	8.2	-7.9	0.23
1,751.0	0.70	83.330	1,750.9	1.2	8.8	-8.5	0.81
1,842.0	0.88	88.960	1,841.9	1.2	10.1	-9.7	0.22
1,934.0	0.70	77.410	1,933.9	1.4	11.3	-10.9	0.26
2,027.0	0.70	38.870	2,026.9	1.9	12.2	-11.7	0.50
2,120.0	0.88	21.030	2,119.9	3.1	12.9	-12.1	0.33
2,213.0	1.23	48.110	2,212.8	4.4	13.9	-12.9	0.64
2,306.0	1.85	38.410	2,305.8	6.2	15.5	-14.2	0.72
2,400.0	2.11	14.620	2,399.8	9.1	16.9	-15.0	0.91
2,493.0	3.08	344.430	2,492.7	13.2	16.7	-14.1	1.77
2,587.0	3.43	315.530	2,586.5	17.6	14.0	-10.7	1.76
2,679.0	3.08	293.540	2,678.4	20.5	9.8	-6.0	1.40
2,773.0	3.69	284.110	2,772.2	22.3	4.6	-0.6	0.88
2,803.0	3.87	278.550	2,802.1	22.7	2.6	1.4	1.36
2,835.0	4.57	276.630	2,834.1	23.0	0.3	3.8	2.23
2,866.0	5.89	279.880	2,864.9	23.4	-2.5	6.6	4.36
2,897.0	7.30	281.270	2,895.7	24.1	-6.0	10.1	4.58
2,926.0	9.50	285.840	2,924.4	25.1	-10.1	14.4	7.92
2,956.0	11.43	286.370	2,953.9	26.6	-15.3	19.8	6.44
2,987.0	12.84	283.960	2,984.2	28.3	-21.6	26.3	4.83
3,018.0	14.07	284.080	3,014.4	30.0	-28.6	33.5	3.97
3,049.0	15.21	282.040	3,044.4	31.8	-36.2	41.3	4.04
3,080.0	16.00	279.180	3,074.2	33.3	-44.4	49.6	3.56
3,111.0	17.06	277.710	3,103.9	34.6	-53.2	58.5	3.68
3,142.0	18.29	276.820	3,133.5	35.8	-62.5	67.9	4.06
3,173.0	20.40	278.400	3,162.7	37.2	-72.7	78.1	7.01
3,208.0	22.60	279.340	3,195.3	39.2	-85.3	90.9	6.36
3,288.0	27.44	281.530	3,267.8	45.3	-118.6	124.7	6.16
3,388.0	32.89	283.490	3,354.2	56.3	-167.6	174.9	5.54
3,439.0	35.88	283.590	3,396.3	63.0	-195.6	203.7	5.86
3,481.0	37.64	283.280	3,429.9	68.9	-220.1	228.8	4.21
3,510.0	39.39	282.800	3,452.6	72.9	-237.7	246.8	6.12
3,541.0	40.89	282.380	3,476.3	77.3	-257.2	266.8	4.92

Design Report for Carracas 15A #11 - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate ("/100ft)
3,572.0	43.35	281.450	3,499.3	81.6	-277.5	287.6	8.19
3,604.0	45.99	280.320	3,522.0	85.8	-299.6	310.0	8.62
3,667.0	51.35	281.650	3,563.6	94.9	-346.0	357.3	8.65
3,697.0	53.38	281.890	3,582.0	99.7	-369.3	381.1	6.80
3,729.0	55.31	281.940	3,600.6	105.1	-394.7	407.1	6.03
3,760.0	57.51	281.980	3,617.8	110.4	-420.0	432.9	7.10
3,791.0	59.71	281.800	3,633.9	115.9	-445.9	459.3	7.11
3,823.0	61.82	281.750	3,649.5	121.6	-473.2	487.2	6.60
3,854.0	63.75	281.070	3,663.7	127.0	-500.2	514.8	6.52
3,886.0	65.60	280.030	3,677.4	132.3	-528.6	543.7	6.48
3,917.0	67.88	278.850	3,689.6	137.0	-556.7	572.2	8.14
3,949.0	70.43	277.870	3,701.0	141.3	-586.3	602.1	8.47
4,012.0	76.15	276.070	3,719.1	148.6	-646.2	662.3	9.48
4,074.0	81.16	274.770	3,731.3	154.4	-706.7	722.9	8.34
4,106.0	81.16	274.780	3,736.2	157.0	-738.2	754.3	0.03
4,137.0	81.34	275.070	3,741.0	159.6	-768.7	784.8	1.09
4,168.0	80.99	274.730	3,745.7	162.3	-799.2	815.3	1.57
4,200.0	80.20	274.420	3,750.9	164.8	-830.7	846.8	2.65
4,231.0	80.11	274.190	3,756.2	167.1	-861.2	877.1	0.79
4,255.0	81.13	273.710	3,760.2	168.7	-884.8	900.7	4.69
Coal Entry Point							
4,262.0	81.43	273.570	3,761.2	169.1	-891.7	907.6	4.69
Tie on from Pathfinder Surveys							
<u>4,323.0</u>	84.36	275.217	<u>3,768.8</u>	<u>173.8</u>	<u>-952.0</u>	967.8	5.50
Int. Casing Point							
4,380.0	87.10	276.740	3,773.0	179.7	-1,008.6	1,024.5	5.50
First 4 3/4" MWD Survey							
4,412.0	87.35	277.250	3,774.6	183.6	-1,040.3	1,056.4	1.77
4,476.0	91.92	282.500	3,775.0	194.6	-1,103.3	1,120.3	10.87
4,508.0	92.41	283.340	3,773.8	201.7	-1,134.5	1,152.3	3.04
4,572.0	92.59	283.470	3,771.0	216.5	-1,196.7	1,216.1	0.35
4,603.0	91.54	282.550	3,769.8	223.5	-1,226.9	1,247.0	4.50
4,635.0	90.19	283.440	3,769.4	230.7	-1,258.0	1,279.0	5.05
4,666.0	90.62	285.120	3,769.1	238.3	-1,288.1	1,309.9	5.59
4,698.0	89.88	284.750	3,769.0	246.6	-1,319.0	1,341.8	2.59
4,729.0	88.09	284.440	3,769.6	254.4	-1,349.0	1,372.7	5.86
4,761.0	88.58	283.490	3,770.5	262.1	-1,380.0	1,404.6	3.34
4,793.0	88.89	282.980	3,771.2	269.4	-1,411.2	1,436.6	1.86
4,825.0	90.31	281.330	3,771.4	276.2	-1,442.4	1,468.6	6.80
4,857.0	89.94	278.720	3,771.3	281.8	-1,474.0	1,500.6	8.24
4,889.0	90.25	278.780	3,771.3	286.6	-1,505.6	1,532.5	0.99
4,921.0	90.25	279.340	3,771.2	291.7	-1,537.2	1,564.5	1.75
4,952.0	90.74	279.460	3,770.9	296.7	-1,567.8	1,595.5	1.63
4,983.0	90.62	277.500	3,770.5	301.3	-1,598.4	1,626.5	6.33
5,013.0	91.11	276.080	3,770.1	304.8	-1,628.2	1,656.5	5.01
5,044.0	90.68	274.870	3,769.6	307.8	-1,659.1	1,687.3	4.14
5,075.0	90.56	274.280	3,769.2	310.3	-1,690.0	1,718.2	1.94
5,105.0	90.80	274.480	3,768.9	312.6	-1,719.9	1,748.0	1.04
5,136.0	91.67	274.840	3,768.2	315.1	-1,750.8	1,778.9	3.04
5,166.0	90.62	272.940	3,767.6	317.1	-1,780.7	1,808.7	7.23
5,197.0	90.74	272.280	3,767.3	318.5	-1,811.7	1,839.4	2.16

Design Report for Carracas 15A #11 - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5,228.0	88.02	270.660	3,767.6	319.3	-1,842.6	1,870.1	10.21
5,259.0	87.34	269.970	3,768.8	319.5	-1,873.6	1,900.6	3.12
5,289.0	87.41	269.550	3,770.2	319.4	-1,903.6	1,930.0	1.42
5,320.0	89.44	272.260	3,771.1	319.9	-1,934.6	1,960.6	10.92
5,349.0	90.25	273.600	3,771.1	321.3	-1,963.5	1,989.4	5.40
5,380.0	92.04	275.680	3,770.5	323.8	-1,994.4	2,020.2	8.85
5,411.0	93.34	277.600	3,769.1	327.4	-2,025.2	2,051.1	7.47
5,442.0	90.93	277.240	3,767.9	331.4	-2,055.9	2,082.1	7.86
5,472.0	88.46	275.770	3,768.1	334.8	-2,085.7	2,112.0	9.58
5,502.0	86.48	276.610	3,769.4	338.1	-2,115.5	2,141.9	7.17
5,531.0	85.99	276.930	3,771.3	341.5	-2,144.2	2,170.8	2.02
5,561.0	87.22	278.220	3,773.1	345.4	-2,173.9	2,200.7	5.94
5,592.0	87.72	279.550	3,774.5	350.2	-2,204.5	2,231.7	4.58
5,622.0	89.88	279.640	3,775.1	355.2	-2,234.1	2,261.7	7.21
5,653.0	91.30	279.450	3,774.8	360.3	-2,264.6	2,292.7	4.62
5,683.0	93.52	279.200	3,773.5	365.2	-2,294.2	2,322.6	7.45
5,713.0	95.26	279.810	3,771.2	370.1	-2,323.7	2,352.5	6.14
5,744.0	93.52	279.510	3,768.8	375.3	-2,354.2	2,383.4	5.70
5,775.0	92.78	279.140	3,767.1	380.3	-2,384.7	2,414.4	2.67
5,805.0	90.86	277.520	3,766.2	384.7	-2,414.4	2,444.4	8.37
5,836.0	90.56	276.730	3,765.8	388.5	-2,445.1	2,475.3	2.73
5,866.0	90.31	276.310	3,765.6	391.9	-2,475.0	2,505.2	1.63
5,896.0	90.99	276.480	3,765.2	395.3	-2,504.8	2,535.2	2.34
5,927.0	91.30	276.210	3,764.6	398.7	-2,535.6	2,566.1	1.33
5,958.0	92.35	278.110	3,763.6	402.6	-2,566.3	2,597.0	7.00
5,989.0	93.15	278.760	3,762.1	407.1	-2,596.9	2,628.0	3.32
6,020.0	93.65	278.560	3,760.3	411.8	-2,627.5	2,658.9	1.74
6,050.0	91.30	279.050	3,759.0	416.3	-2,657.1	2,688.9	8.00
6,081.0	90.43	279.240	3,758.5	421.3	-2,687.7	2,719.9	2.87
6,112.0	89.38	279.040	3,758.6	426.2	-2,718.4	2,750.9	3.45
6,143.0	88.89	278.850	3,759.0	431.0	-2,749.0	2,781.9	1.70
6,174.0	89.07	278.830	3,759.6	435.8	-2,779.6	2,812.8	0.58
6,204.0	90.62	278.800	3,759.7	440.4	-2,809.2	2,842.8	5.17
6,235.0	91.48	278.940	3,759.1	445.2	-2,839.9	2,873.8	2.81
6,266.0	91.91	278.680	3,758.2	449.9	-2,870.5	2,904.8	1.62
6,296.0	92.10	278.330	3,757.1	454.3	-2,900.1	2,934.8	1.33
6,327.0	92.59	278.200	3,755.9	458.8	-2,930.8	2,965.7	1.64
6,358.0	91.61	278.380	3,754.7	463.3	-2,961.5	2,996.7	3.21
6,389.0	91.42	278.170	3,753.9	467.7	-2,992.1	3,027.7	0.91
6,419.0	88.64	277.220	3,753.9	471.7	-3,021.8	3,057.6	9.79
6,450.0	87.16	276.080	3,755.0	475.3	-3,052.6	3,088.5	6.02
6,481.0	86.79	275.240	3,756.7	478.4	-3,083.4	3,119.4	2.96
6,512.0	87.03	275.160	3,758.3	481.2	-3,114.2	3,150.2	0.82
6,542.0	88.83	275.160	3,759.4	483.9	-3,144.1	3,180.1	6.00
6,572.0	90.25	275.540	3,759.7	486.7	-3,174.0	3,210.0	4.90
6,602.0	90.49	276.050	3,759.5	489.7	-3,203.8	3,239.9	1.88
6,633.0	88.46	276.270	3,759.8	493.0	-3,234.6	3,270.8	6.59
6,663.0	86.30	277.300	3,761.1	496.6	-3,264.4	3,300.7	7.98
6,694.0	85.92	278.000	3,763.2	500.7	-3,295.0	3,331.6	2.56
6,725.0	86.66	278.530	3,765.2	505.1	-3,325.7	3,362.6	2.93
6,756.0	88.21	278.760	3,766.6	509.8	-3,356.3	3,393.5	5.05

Design Report for Carracas 15A #11 - Actual Field Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
6,787.0	88.02	278.800	3,767.7	514.5	-3,386.9	3,424.5	0.63
6,819.0	90.80	280.560	3,768.0	519.9	-3,418.4	3,456.5	10.28
6,850.0	92.22	281.740	3,767.2	525.9	-3,448.8	3,487.5	5.95
6,882.0	93.27	281.680	3,765.6	532.4	-3,480.1	3,519.4	3.29
6,914.0	94.14	281.280	3,763.6	538.7	-3,511.4	3,551.3	2.99
6,946.0	93.46	279.470	3,761.4	544.5	-3,542.8	3,583.3	6.03
6,977.0	94.08	279.110	3,759.4	549.5	-3,573.4	3,614.2	2.31
7,009.0	92.97	278.880	3,757.4	554.5	-3,604.9	3,646.1	3.54
7,041.0	92.78	278.820	3,755.8	559.4	-3,636.5	3,678.1	0.62
7,073.0	91.11	278.670	3,754.7	564.2	-3,668.1	3,710.1	5.24
7,104.0	91.24	278.190	3,754.1	568.8	-3,698.8	3,741.0	1.60
7,136.0	89.51	277.270	3,753.9	573.1	-3,730.5	3,773.0	6.12
7,168.0	89.44	277.150	3,754.2	577.1	-3,762.2	3,805.0	0.43
7,199.0	88.95	276.930	3,754.6	580.9	-3,793.0	3,835.9	1.73
7,231.0	89.38	276.940	3,755.1	584.8	-3,824.7	3,867.8	1.34
7,263.0	87.47	276.930	3,756.0	588.6	-3,856.5	3,899.8	5.97
7,295.0	87.16	277.110	3,757.5	592.5	-3,888.2	3,931.7	1.12
7,327.0	86.54	277.890	3,759.2	596.7	-3,919.9	3,963.6	3.11
7,358.0	87.03	280.020	3,761.0	601.5	-3,950.5	3,994.6	7.04
7,390.0	88.21	281.030	3,762.3	607.4	-3,981.9	4,026.5	4.85
7,422.0	88.89	281.930	3,763.1	613.7	-4,013.2	4,058.5	3.52
7,454.0	89.69	282.910	3,763.5	620.6	-4,044.5	4,090.5	3.95
7,485.0	90.56	283.540	3,763.4	627.7	-4,074.7	4,121.4	3.46
7,517.0	91.92	284.200	3,762.7	635.4	-4,105.7	4,153.4	4.72
7,549.0	92.90	284.040	3,761.4	643.2	-4,136.7	4,185.3	3.10
7,581.0	91.17	284.150	3,760.3	651.0	-4,167.7	4,217.2	5.42
7,612.0	89.38	282.850	3,760.1	658.2	-4,197.9	4,248.1	7.14
7,644.0	88.70	282.440	3,760.7	665.2	-4,229.1	4,280.1	2.48
7,675.0	88.46	281.940	3,761.4	671.7	-4,259.4	4,311.0	1.79
7,707.0	88.58	282.030	3,762.2	678.4	-4,290.7	4,343.0	0.47
7,739.0	88.39	282.300	3,763.1	685.1	-4,322.0	4,375.0	1.03
7,771.0	88.58	282.360	3,763.9	692.0	-4,353.2	4,407.0	0.62
7,802.0	89.57	282.260	3,764.4	698.6	-4,383.5	4,437.9	3.21
7,833.0	90.25	282.180	3,764.5	705.1	-4,413.8	4,468.9	2.21
7,865.0	89.75	280.850	3,764.5	711.5	-4,445.1	4,500.9	4.44
7,895.0	90.43	281.020	3,764.4	717.2	-4,474.6	4,530.9	2.34
7,927.0	90.62	280.990	3,764.1	723.3	-4,506.0	4,562.9	0.60
7,959.0	91.05	280.250	3,763.7	729.2	-4,537.5	4,594.9	2.67
7,991.0	91.48	280.150	3,763.0	734.9	-4,568.9	4,626.9	1.38
8,023.0	91.24	279.820	3,762.2	740.4	-4,600.5	4,658.9	1.27
8,055.0	91.61	279.510	3,761.4	745.8	-4,632.0	4,690.9	1.51
8,124.0	90.19	278.170	3,760.3	756.4	-4,700.2	4,759.8	2.83
Final 4 3/4" MWD Survey							
8,195.3	90.19	278.170	3,760.1	766.5	-4,770.8	4,831.1	0.00
PBHL(CAR15A#11)							
8,202.0	90.19	278.170	3,760.1	767.5	-4,777.4	4,837.8	0.00
Projection to Bit							

Design Report for Carracas 15A #11 - Actual Field Surveys

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
293.0	293.0	2.2	0.6	First Pathfinder Survey
4,255.0	3,760.2	168.7	-884.8	Coal Entry Point
4,262.0	3,761.2	169.1	-891.7	Tie on from Pathfinder Surveys
4,380.0	3,773.0	179.7	-1,008.6	First 4 3/4" MWD Survey
8,124.0	3,760.3	756.4	-4,700.2	Final 4 3/4" MWD Survey
8,202.0	3,760.1	767.5	-4,777.4	Projection to Bit

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
User	No Target (Freehand)	280.193	Slot	0.0	0.0	0.0

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
293.0	4,262.0	Pathfinder SH and Build MWD Surveys	MWD
4,262.0	8,202.0	Sperry Surveys	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
4,323.0	3,768.8	Int. Casing Point		

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL(CAR15A#11)	0.00	0.00	3,743.0	730.0	-4,776.0	2,176,200.67	1,316,612.45	36° 58' 31 202 N	107° 21' 30 704 W
- actual wellpath misses target center by 40.7ft at 8195.3ft MD (3760.1 TVD, 766.5 N, -4770.8 E)									
- Point									