

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

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

¹ API Number 30-039-30135	² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code 35650	⁵ Property Name Carracas 10A	⁶ Well Number 5
⁷ OGRID No. 162928	⁸ Operator Name Energen Resources Corporation	⁹ Elevation 7585'

UL or lot no	Section	Township	Range	Lot. Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	10	32N	05W		755	North	620	East	Rio Arriba

UL or lot no	Section	Township	Range	Lot. Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	10	32N	05W		941'	North	1583'	West	Rio Arriba

12 Dedicated Acres 236.72	13 Joint or Infill	14 Consolidation Code	15 Order No	RCVD AUG 25 '08 BY CONC DIV
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RCVD AUG 25 '08
OIL CONS. DIV.
DIST. 3

ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16	Colorado New Mexico	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 <u>Vicki Donaghey</u> 08/22/08 Signature Date <u>Vicki Donaghey</u> Printed Name
	Sec. 10	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 12/07/06 Date of Survey Signature and Seal of Professional Surveyer <u>original survey conducted and recorded by: DAVID R. RUSSELL</u> 10201 Certificate Number

8



RCVD AUG 25 '08

OIL CONS. DIV.
DIST. 3

Energen Resources

Carson National Forest; NW S10,T32N,R5W
Carracas Mesa
Carracas 10 A#5
Motherbore

Survey: Survey #1

X and Y report

04 August, 2008

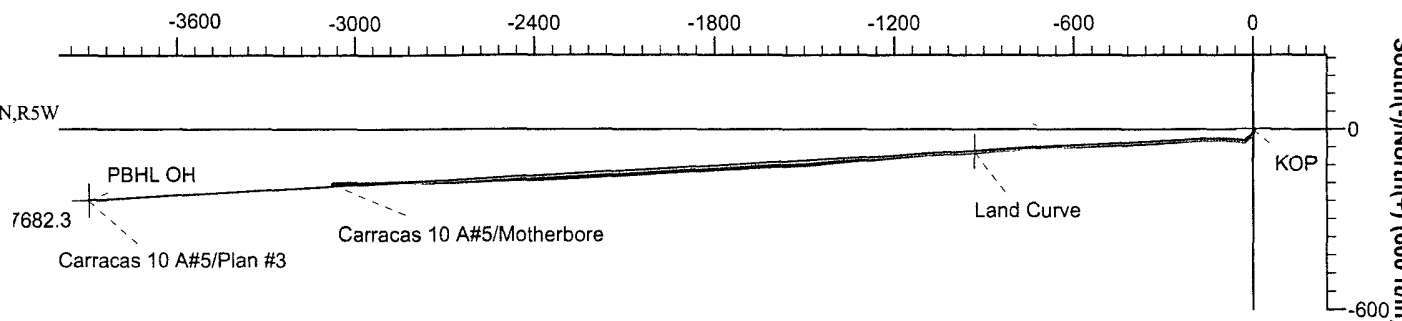


PROJECT DETAILS: Carson National Forest; NW S10,T32N,R5W

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Central Zone
 Magnetic Model: IGRF200510
 System Datum: Mean Sea Level
 Local North: True

West(-)/East(+) (600 ft/in)

South(-)/North(+) (600 ft/in)



WELL DETAILS: Carracas 10 A#5

Ground Elevation: 7585.0
 RKB Elevation: WELL @ 7600.0ft (AWS #222)
 Rig Name: AWS #222

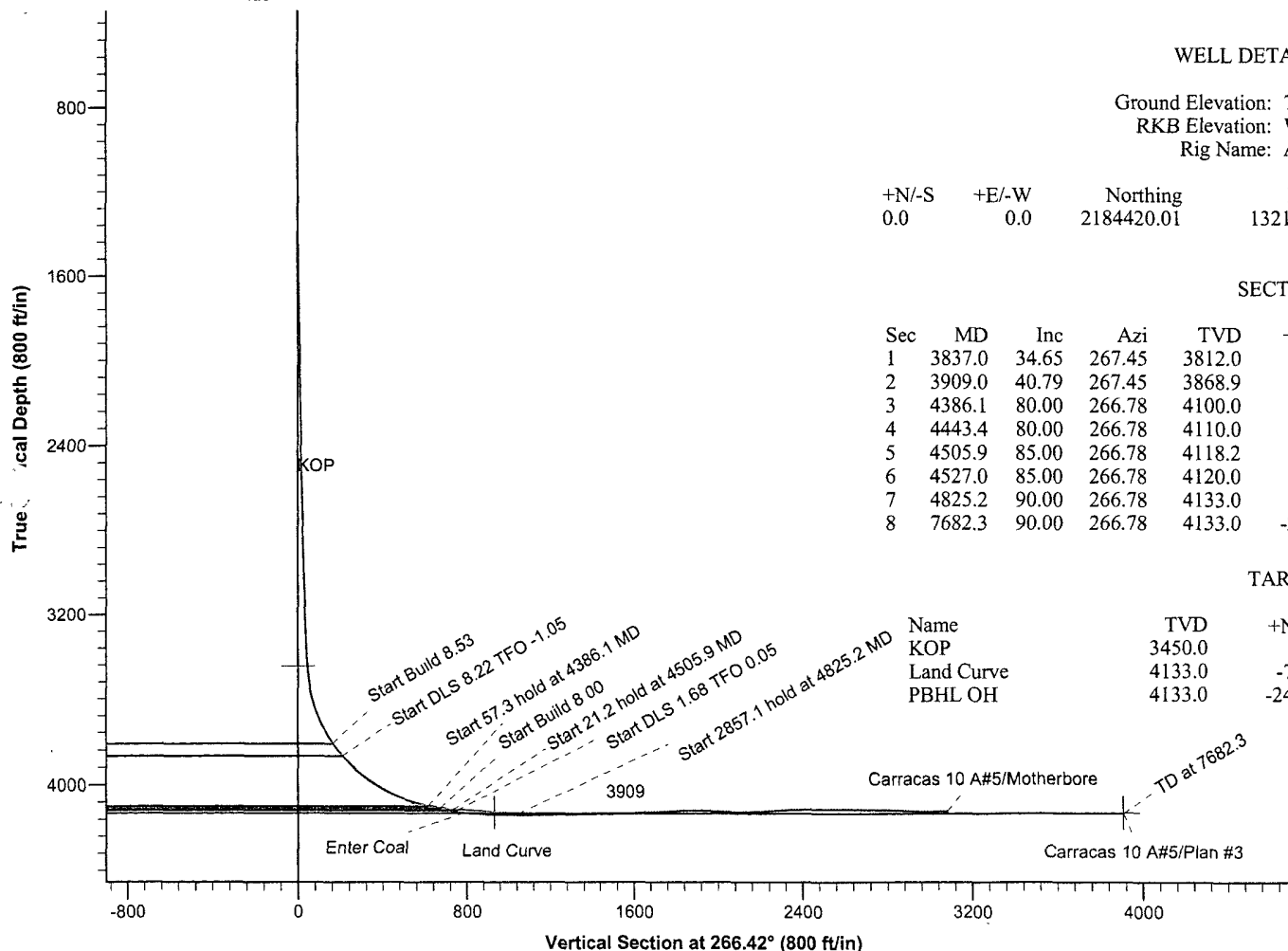
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	2184420.01	1321308.49	36° 59' 53.000 N	107° 20' 34.000 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	3837.0	34.65	267.45	3812.0	-35.8	-161.9	0.00	0.00	163.9	
2	3909.0	40.79	267.45	3868.9	-37.8	-205.9	8.53	0.00	207.9	
3	4386.1	80.00	266.78	4100.0	-58.7	-612.1	8.22	-1.05	614.6	
4	4443.4	80.00	266.78	4110.0	-61.9	-668.5	0.00	0.00	671.0	
5	4505.9	85.00	266.78	4118.2	-65.4	-730.3	8.00	0.00	733.0	
6	4527.0	85.00	266.78	4120.0	-66.6	-751.4	0.00	0.00	754.1	
7	4825.2	90.00	266.78	4133.0	-83.3	-1048.7	1.68	0.05	1051.8	
8	7682.3	90.00	266.78	4133.0	-243.8	-3901.3	0.00	0.00	3908.9	PBHL OH

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
KOP	3450.0	0.0	0.0	2184420.01	1321308.49	Point
Land Curve	4133.0	-76.8	-932.1	2184353.92	1320375.57	Point
PBHL OH	4133.0	-245.0	-3901.2	2184219.81	1317404.74	Point



Company: Energen Resources
Project: Carson National Forest; NW S10,T32N,R5W
Site: Carracas Mesa
Well: Carracas 10 A#5
Wellbore: Motherbore
Design: Motherbore

Local Co-ordinate Reference: Well Carracas 10 A#5
TVD Reference: WELL @ 7600.0ft (AWS #222)
MD Reference: WELL @ 7600 0ft (AWS #222)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: 200316 NWDB

Project Carson National Forest; NW S10,T32N,R5W

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Central Zone

System Datum: Mean Sea Level

Site Carracas Mesa

Site Position:	Northing:	2,184,420.01 ft	Latitude:	36° 59' 53.000 N
From: Lat/Long	Easting:	1,321,308.49 ft	Longitude:	107° 20' 34.000 W
Position Uncertainty: 0.0 ft	Slot Radius:	"	Grid Convergence:	-0.66 °

Well Carracas 10 A#5

Well Position	+N/-S	0.0 ft	Northing:	2,184,420.01 ft	Latitude:	36° 59' 53.000 N
	+E/-W	0.0 ft	Easting:	1,321,308.49 ft	Longitude:	107° 20' 34.000 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	7,585.0 ft	Ground Level:	7,585.0 ft

Wellbore Motherbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/22/2008	10.11	63.85	51,259

Design: Motherbore

Audit Notes:

Version: 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	257.53

Survey Program **Date** 8/4/2008

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
300.0	6,859.0	Survey #1 (Motherbore)	MWD	MWD - Standard

Company: Energen Resources
 Project: Carson National Forest; NW S10,T32N,R5W
 Site: Carracas Mesa
 Well: Carracas 10 A#5
 Wellbore: Motherbore
 Design: Motherbore

Local Co-ordinate Reference: Well Carracas 10 A#5
 TVD Reference: WELL @ 7600.0ft (AWS #222)
 MD Reference: WELL @ 7600.0ft (AWS #222)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: 200316 NWDB

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	2,184,420.01	1,321,308.49
300.0	0.53	83.34	300.0	0.2	1.4	-1.4	0.18	2,184,420.16	1,321,309.87
740.0	0.44	210.48	740.0	-1.1	2.5	-2.3	0.20	2,184,418.92	1,321,311.02
1,170.0	1.32	196.25	1,169.9	-7.2	0.3	1.3	0.21	2,184,412.77	1,321,308.72
1,601.0	1.23	199.14	1,600.8	-16.4	-2.6	6.1	0.03	2,184,403.67	1,321,305.71
2,028.0	1.14	236.24	2,027.7	-23.1	-7.6	12.4	0.18	2,184,397.04	1,321,300.60
2,471.0	1.23	231.53	2,470.6	-28.5	-15.0	20.8	0.03	2,184,391.72	1,321,293.15
2,915.0	1.85	231.89	2,914.5	-35.9	-24.4	31.5	0.14	2,184,384.44	1,321,283.70
3,042.0	2.02	231.59	3,041.4	-38.5	-27.7	35.4	0.13	2,184,381.82	1,321,280.30
3,138.0	1.93	246.60	3,137.4	-40.2	-30.6	38.5	0.55	2,184,380.16	1,321,277.47
3,201.0	2.02	269.50	3,200.3	-40.6	-32.6	40.6	1.25	2,184,379.75	1,321,275.38
3,265.0	2.20	274.05	3,264.3	-40.6	-35.0	42.9	0.38	2,184,379.85	1,321,273.03
3,329.0	2.11	276.18	3,328.2	-40.3	-37.4	45.2	0.19	2,184,380.10	1,321,270.64
3,392.0	2.37	279.78	3,391.2	-40.0	-39.8	47.5	0.47	2,184,380.47	1,321,268.20
3,424.0	2.90	279.80	3,423.1	-39.8	-41.3	48.9	1.66	2,184,380.74	1,321,266.76
3,448.6	3.98	278.54	3,447.7	-39.5	-42.7	50.3	4.42	2,184,380.99	1,321,265.30
KOP									
3,456.0	4.31	278.29	3,455.1	-39.4	-43.3	50.8	4.42	2,184,381.07	1,321,264.77
3,487.0	6.16	276.91	3,486.0	-39.1	-46.1	53.4	5.98	2,184,381.47	1,321,261.97
3,519.0	7.91	275.37	3,517.7	-38.7	-50.0	57.1	5.50	2,184,381.93	1,321,258.08
3,551.0	10.02	274.07	3,549.3	-38.3	-54.9	61.9	6.62	2,184,382.39	1,321,253.12
3,582.0	12.31	274.14	3,579.7	-37.8	-60.9	67.7	7.39	2,184,382.89	1,321,247.14
3,614.0	14.95	274.92	3,610.8	-37.2	-68.4	74.9	8.27	2,184,383.57	1,321,239.63
3,646.0	17.76	274.41	3,641.5	-36.5	-77.4	83.5	8.79	2,184,384.41	1,321,230.66
3,678.0	20.75	273.42	3,671.7	-35.8	-87.9	93.6	9.40	2,184,385.24	1,321,220.14
3,709.0	23.65	271.80	3,700.4	-35.3	-99.6	104.9	9.56	2,184,385.90	1,321,208.45
3,741.0	26.56	270.37	3,729.4	-35.0	-113.2	118.1	9.29	2,184,386.30	1,321,194.88

Company: Energen Resources
Project: Carson National Forest; NW S10,T32N,R5W
Site: Carracas Mesa
Well: Carracas 10 A#5
Wellbore: Motherbore
Design: Motherbore

Local Co-ordinate Reference: Well Carracas 10 A#5
TVD Reference: WELL @ 7600.0ft (AWS #222)
MD Reference: WELL @ 7600.0ft (AWS #222)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: 200316 NWDB

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
3,773.0	29.11	269.59	3,757.7	-35.0	-128.2	132.7	8.05	2,184,386.46	1,321,179.94
3,805.0	31.92	268.86	3,785.3	-35.2	-144.4	148.6	8.86	2,184,386.43	1,321,163.69
3,837.0	34.65	267.45	3,812.0	-35.8	-161.9	165.9	8.87	2,184,386.05	1,321,146.14
3,869.0	37.72	266.40	3,837.8	-36.8	-180.8	184.5	9.79	2,184,385.25	1,321,127.26
3,901.0	40.63	265.48	3,862.6	-38.3	-201.0	204.5	9.27	2,184,384.05	1,321,107.09
3,932.0	43.26	265.70	3,885.7	-39.9	-221.6	225.0	8.50	2,184,382.69	1,321,086.41
3,964.0	45.99	265.39	3,908.5	-41.6	-244.0	247.3	8.56	2,184,381.20	1,321,063.99
3,996.0	48.63	265.93	3,930.2	-43.4	-267.5	270.5	8.34	2,184,379.69	1,321,040.52
4,028.0	51.35	266.62	3,950.7	-45.0	-291.9	294.8	8.66	2,184,378.39	1,321,016.04
4,059.0	54.17	266.39	3,969.5	-46.5	-316.6	319.1	9.12	2,184,377.16	1,320,991.40
4,091.0	56.63	266.63	3,987.7	-48.1	-342.9	345.2	7.71	2,184,375.86	1,320,965.09
4,123.0	58.65	267.09	4,004.8	-49.6	-369.9	371.8	6.43	2,184,374.69	1,320,938.09
4,155.0	60.67	267.10	4,021.0	-51.0	-397.4	399.1	6.31	2,184,373.61	1,320,910.49
4,187.0	62.52	267.58	4,036.2	-52.3	-425.5	426.8	5.93	2,184,372.63	1,320,882.36
4,218.0	64.63	267.85	4,050.0	-53.4	-453.3	454.1	6.85	2,184,371.84	1,320,854.62
4,249.0	66.65	268.06	4,062.8	-54.4	-481.5	481.9	6.55	2,184,371.16	1,320,826.39
4,281.0	68.76	267.92	4,074.9	-55.4	-511.1	511.0	6.61	2,184,370.46	1,320,796.79
4,313.0	70.79	268.09	4,086.0	-56.5	-541.1	540.5	6.36	2,184,369.76	1,320,766.77
4,344.0	72.72	268.41	4,095.7	-57.4	-570.5	569.5	6.30	2,184,369.20	1,320,737.34
4,375.0	74.74	268.45	4,104.4	-58.2	-600.3	598.7	6.52	2,184,368.72	1,320,707.58
4,407.0	77.21	268.32	4,112.1	-59.1	-631.3	629.2	7.73	2,184,368.20	1,320,676.54
4,438.0	79.76	268.16	4,118.3	-60.0	-661.7	659.0	8.24	2,184,367.62	1,320,646.17
4,470.0	82.04	267.06	4,123.4	-61.3	-693.2	690.1	7.89	2,184,366.66	1,320,614.59
4,502.0	84.50	266.44	4,127.1	-63.1	-725.0	721.5	7.92	2,184,365.23	1,320,582.85
4,533.0	84.77	266.16	4,130.0	-65.1	-755.8	752.0	1.25	2,184,363.59	1,320,552.03
4,558.0	84.97	266.22	4,132.2	-66.8	-780.6	776.6	0.85	2,184,362.22	1,320,527.17

Enter Coal

Company: Energen Resources
 Project: Carson National Forest; NW S10,T32N,R5W
 Site: Carracas Mesa
 Well: Carracas 10 A#5
 Wellbore: Motherbore
 Design: Motherbore

Local Co-ordinate Reference: Well Carracas 10 A#5
 TVD Reference: WELL @ 7600.0ft (AWS #222)
 MD Reference: WELL @ 7600.0ft (AWS #222)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: 200316 NWDB

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
<i>Start</i> 4,565.0	85.03	266.24	4,132.8	-67.2	-787.6	783.5	0.85	2,184,361.84	1,320,520.20
4,597.0	85.82	265.70	4,135.4	-69.5	-819.4	815.0	2.99	2,184,359.96	1,320,488.36
4,629.0	86.97	265.51	4,137.4	-71.9	-851.2	846.7	3.64	2,184,357.88	1,320,456.49
4,660.0	88.02	265.80	4,138.8	-74.3	-882.1	877.3	3.51	2,184,355.89	1,320,425.59
4,692.0	89.43	266.12	4,139.5	-76.5	-914.0	909.0	4.52	2,184,354.00	1,320,393.65
4,709.9	89.25	266.32	4,139.7	-77.7	-931.9	926.7	1.47	2,184,353.03	1,320,375.73
Land Curve									
4,790.0	88.46	267.19	4,141.3	-82.2	-1,011.8	1,005.7	1.47	2,184,349.41	1,320,295.78
4,820.0	89.87	267.83	4,141.7	-83.5	-1,041.8	1,035.3	5.16	2,184,348.45	1,320,265.80
4,850.0	90.31	266.99	4,141.7	-84.9	-1,071.8	1,064.8	3.16	2,184,347.44	1,320,235.82
4,881.0	89.96	265.84	4,141.6	-86.8	-1,102.7	1,095.4	3.88	2,184,345.86	1,320,204.86
4,910.0	90.48	264.90	4,141.5	-89.2	-1,131.6	1,124.2	3.70	2,184,343.85	1,320,175.93
4,941.0	91.63	264.99	4,140.9	-91.9	-1,162.5	1,154.9	3.72	2,184,341.47	1,320,145.02
4,970.0	91.10	264.89	4,140.2	-94.4	-1,191.4	1,183.6	1.86	2,184,339.25	1,320,116.12
5,001.0	91.01	265.02	4,139.7	-97.2	-1,222.2	1,214.4	0.51	2,184,336.87	1,320,085.21
5,031.0	91.28	265.51	4,139.1	-99.6	-1,252.1	1,244.1	1.86	2,184,334.74	1,320,055.30
5,060.0	91.36	265.09	4,138.4	-102.0	-1,281.0	1,272.8	1.47	2,184,332.70	1,320,026.38
5,091.0	91.19	264.61	4,137.7	-104.8	-1,311.9	1,303.6	1.64	2,184,330.27	1,319,995.48
5,121.0	91.28	264.96	4,137.1	-107.5	-1,341.8	1,333.3	1.20	2,184,327.89	1,319,965.58
5,152.0	91.10	264.64	4,136.4	-110.3	-1,372.6	1,364.1	1.18	2,184,325.43	1,319,934.69
5,183.0	90.57	264.60	4,136.0	-113.2	-1,403.5	1,394.8	1.71	2,184,322.88	1,319,903.79
5,214.0	89.87	264.15	4,135.8	-116.3	-1,434.3	1,425.6	2.68	2,184,320.20	1,319,872.91
5,244.0	90.48	265.28	4,135.7	-119.1	-1,464.2	1,455.4	4.28	2,184,317.78	1,319,843.01
5,275.0	90.75	266.76	4,135.4	-121.2	-1,495.1	1,486.0	4.85	2,184,315.98	1,319,812.06
5,306.0	91.98	267.52	4,134.7	-122.7	-1,526.1	1,516.6	4.66	2,184,314.79	1,319,781.10
5,337.0	91.71	267.70	4,133.7	-124.0	-1,557.0	1,547.1	1.05	2,184,313.85	1,319,750.13
5,368.0	92.15	267.48	4,132.6	-125.3	-1,588.0	1,577.6	1.59	2,184,312.91	1,319,719.16

Company: Energen Resources
Project: Carson National Forest; NW S10,T32N,R5W
Site: Carracas Mesa
Well: Carracas 10 A#5
Wellbore: Motherbore
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Local Co-ordinate Reference: Well Carracas 10 A#5
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North Reference: True
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Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
5,398.0	92.68	267.07	4,131.4	-126.8	-1,617.9	1,607.1	2.23	2,184,311.82	1,319,689.21
5,429.0	92.59	266.93	4,129.9	-128.4	-1,648.9	1,637.7	0.54	2,184,310.56	1,319,658.26
5,458.0	92.51	266.95	4,128.7	-129.9	-1,677.8	1,666.3	0.28	2,184,309.34	1,319,629.32
5,488.0	92.51	267.01	4,127.3	-131.5	-1,707.7	1,695.8	0.20	2,184,308.11	1,319,599.37
5,520.0	92.33	267.08	4,126.0	-133.2	-1,739.6	1,727.4	0.60	2,184,306.83	1,319,567.43
5,552.0	92.51	266.61	4,124.6	-134.9	-1,771.6	1,758.9	1.57	2,184,305.43	1,319,535.49
5,585.0	93.83	266.97	4,122.8	-136.8	-1,804.5	1,791.4	4.15	2,184,303.97	1,319,502.57
5,617.0	90.92	266.52	4,121.5	-138.6	-1,836.4	1,823.0	9.20	2,184,302.52	1,319,470.63
5,649.0	89.87	266.41	4,121.3	-140.6	-1,868.3	1,854.6	3.30	2,184,300.91	1,319,438.68
5,681.0	89.69	266.70	4,121.4	-142.5	-1,900.3	1,886.2	1.07	2,184,299.36	1,319,406.71
5,713.0	88.46	267.06	4,121.9	-144.2	-1,932.2	1,917.8	4.00	2,184,297.98	1,319,374.75
5,746.0	85.47	266.34	4,123.7	-146.1	-1,965.1	1,950.3	9.32	2,184,296.46	1,319,341.83
5,778.0	86.88	266.33	4,125.8	-148.2	-1,997.0	1,981.8	4.41	2,184,294.79	1,319,309.95
5,810.0	88.55	266.89	4,127.1	-150.0	-2,028.9	2,013.4	5.50	2,184,293.26	1,319,278.01
5,842.0	88.55	266.65	4,127.9	-151.8	-2,060.8	2,045.0	0.75	2,184,291.83	1,319,246.05
5,874.0	90.22	266.44	4,128.2	-153.8	-2,092.8	2,076.6	5.26	2,184,290.27	1,319,214.10
5,907.0	91.45	266.74	4,127.7	-155.7	-2,125.7	2,109.2	3.84	2,184,288.68	1,319,181.14
5,939.0	91.71	266.88	4,126.9	-157.5	-2,157.6	2,140.7	0.92	2,184,287.27	1,319,149.18
5,971.0	92.77	266.82	4,125.6	-159.3	-2,189.6	2,172.3	3.32	2,184,285.88	1,319,117.24
6,003.0	93.39	266.96	4,123.9	-161.0	-2,221.5	2,203.8	1.99	2,184,284.51	1,319,085.31
6,035.0	93.65	267.36	4,121.9	-162.6	-2,253.4	2,235.3	1.49	2,184,283.29	1,319,053.40
6,067.0	93.21	267.48	4,120.0	-164.0	-2,285.3	2,266.8	1.43	2,184,282.22	1,319,021.47
6,100.0	93.12	267.17	4,118.2	-165.6	-2,318.2	2,299.3	0.98	2,184,281.06	1,318,988.54
6,132.0	91.80	267.65	4,116.8	-167.0	-2,350.1	2,330.7	4.39	2,184,279.99	1,318,956.59
6,164.0	91.45	267.65	4,115.9	-168.3	-2,382.1	2,362.2	1.09	2,184,279.04	1,318,924.62
6,196.0	91.28	268.14	4,115.1	-169.5	-2,414.1	2,393.7	1.62	2,184,278.23	1,318,892.64
6,228.0	91.01	268.13	4,114.5	-170.5	-2,446.0	2,425.2	0.84	2,184,277.56	1,318,860.65

Company: Energen Resources
 Project: Carson National Forest; NW S10,T32N,R5W
 Site: Carracas Mesa
 Well: Carracas 10 A#5
 Wellbore: Motherbore
 Design: Motherbore

Local Co-ordinate Reference: Well Carracas 10 A#5
 TVD Reference: WELL @ 7600.0ft (AWS #222)
 MD Reference: WELL @ 7600.0ft (AWS #222)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: 200316 NWDB

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
6,261.0	89.87	268.25	4,114.2	-171.6	-2,479.0	2,457.6	3.47	2,184,276.89	1,318,827.66
6,293.0	89.34	268.06	4,114.5	-172.6	-2,511.0	2,489.0	1.76	2,184,276.23	1,318,795.67
6,325.0	89.69	267.89	4,114.7	-173.7	-2,543.0	2,520.5	1.22	2,184,275.47	1,318,763.68
6,357.0	89.69	267.48	4,114.9	-175.0	-2,575.0	2,552.0	1.28	2,184,274.54	1,318,731.69
6,389.0	89.60	267.77	4,115.1	-176.4	-2,606.9	2,583.5	0.95	2,184,273.58	1,318,699.71
6,422.0	89.43	268.43	4,115.4	-177.5	-2,639.9	2,615.9	2.07	2,184,272.87	1,318,666.71
6,454.0	89.08	268.61	4,115.8	-178.3	-2,671.9	2,647.3	1.23	2,184,272.41	1,318,634.72
6,486.0	88.11	268.78	4,116.6	-179.0	-2,703.9	2,678.7	3.08	2,184,272.05	1,318,602.73
6,517.0	88.90	269.31	4,117.4	-179.5	-2,734.9	2,709.1	3.07	2,184,271.89	1,318,571.74
6,549.0	89.69	269.00	4,117.8	-180.0	-2,766.9	2,740.4	2.65	2,184,271.78	1,318,539.75
6,581.0	88.29	268.08	4,118.4	-180.8	-2,798.8	2,771.8	5.23	2,184,271.33	1,318,507.76
6,613.0	88.20	268.12	4,119.3	-181.9	-2,830.8	2,803.3	0.31	2,184,270.64	1,318,475.78
6,645.0	86.88	268.61	4,120.7	-182.8	-2,862.8	2,834.7	4.40	2,184,270.10	1,318,443.81
6,677.0	86.70	268.75	4,122.5	-183.5	-2,894.7	2,866.0	0.71	2,184,269.73	1,318,411.87
6,709.0	88.55	269.51	4,123.8	-184.0	-2,926.7	2,897.4	6.25	2,184,269.61	1,318,379.90
6,742.0	89.69	269.39	4,124.3	-184.3	-2,959.7	2,929.6	3.47	2,184,269.67	1,318,346.90
6,774.0	90.84	268.91	4,124.2	-184.8	-2,991.7	2,961.0	3.89	2,184,269.56	1,318,314.90
6,859.0	90.84	268.91	4,122.9	-186.4	-3,076.6	3,044.3	0.00	2,184,268.92	1,318,229.91

PBHL OH

Company: Energen Resources
Project: Carson National Forest; NW S10,T32N,R5W
Site: Carracas Mesa
Well: Carracas 10 A#5
Wellbore: Motherbore
Design: Motherbore

Local Co-ordinate Reference: Well Carracas 10 A#5
TVD Reference: WELL @ 7600.0ft (AWS #222)
MD Reference: WELL @ 7600.0ft (AWS #222)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: 200316 NWDB

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
KOP - survey misses by 58.2ft at 3448.6ft MD (3447.7 TVD, -39.5 N, -42.7 E) - Point	0.00	0.00	3,450.0	0.0	0.0	2,184,420.01	1,321,308.49	36° 59' 53.000 N	107° 20' 34.000 W
Land Curve - survey misses by 6.7ft at 4709.9ft MD (4139.7 TVD, -77.7 N, -931.9 E) - Point	0.00	0.00	4,133.0	-76.8	-932.1	2,184,353.92	1,320,375.57	36° 59' 52.241 N	107° 20' 45.490 W
PBHL OH - survey misses by 826.7ft at 6859.0ft MD (4122.9 TVD, -186.4 N, -3076.6 E) - Point	0.00	0.00	4,133.0	-245.0	-3,901.2	2,184,219.81	1,317,404.74	36° 59' 50.575 N	107° 21' 22.089 W

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
+N/-S (ft)	+E/-W (ft)			
4,558.0	4,132.2	-66.8	-780.6	Enter Coal

Checked By: _____ Approved By: _____ Date: _____