

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 30-039-24324		² Pool Code 71629		³ Pool Name Basin Fruitland Coal	
⁴ Property Code 34444		⁵ Property Name Carracas 24A			⁶ Well Number 4
⁷ OGRID No. 162928		⁸ Operator Name Energen Resources Corporation			⁹ Elevation 7325'

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
D	24	32N	05W		790	North	1140	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
E	24	32N	05W		1951'	North	884'	West	Rio Arriba

¹² Dedicated Acres 320 W/2	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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RCVD OCT 3 '08
OIL CONS. DIV.

DIST. 2

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

790' 1140' 1951' 884' BHL 24	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: <u>Vicki Donaghey</u> Date: <u>10/02/08</u> Printed Name: <u>Vicki Donaghey</u>	
	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: <u>06/06/1988</u> Signature and Seal of Professional Surveyer: <u>original survey conducted and recorded by: Noble C. Edwards</u> Certificate Number: <u>6857</u>	

ENERGEN

R E S O U R C E S

RCVD OCT 31 08
OIL CONS. DIV.
DIST. 3

Energen Resources

**Carson NAT'l Forest-NW S24, T32N, R5W
Carracas Canyon
Carracas Canyon Unit #24A #4
CCU #24A #4 ST**

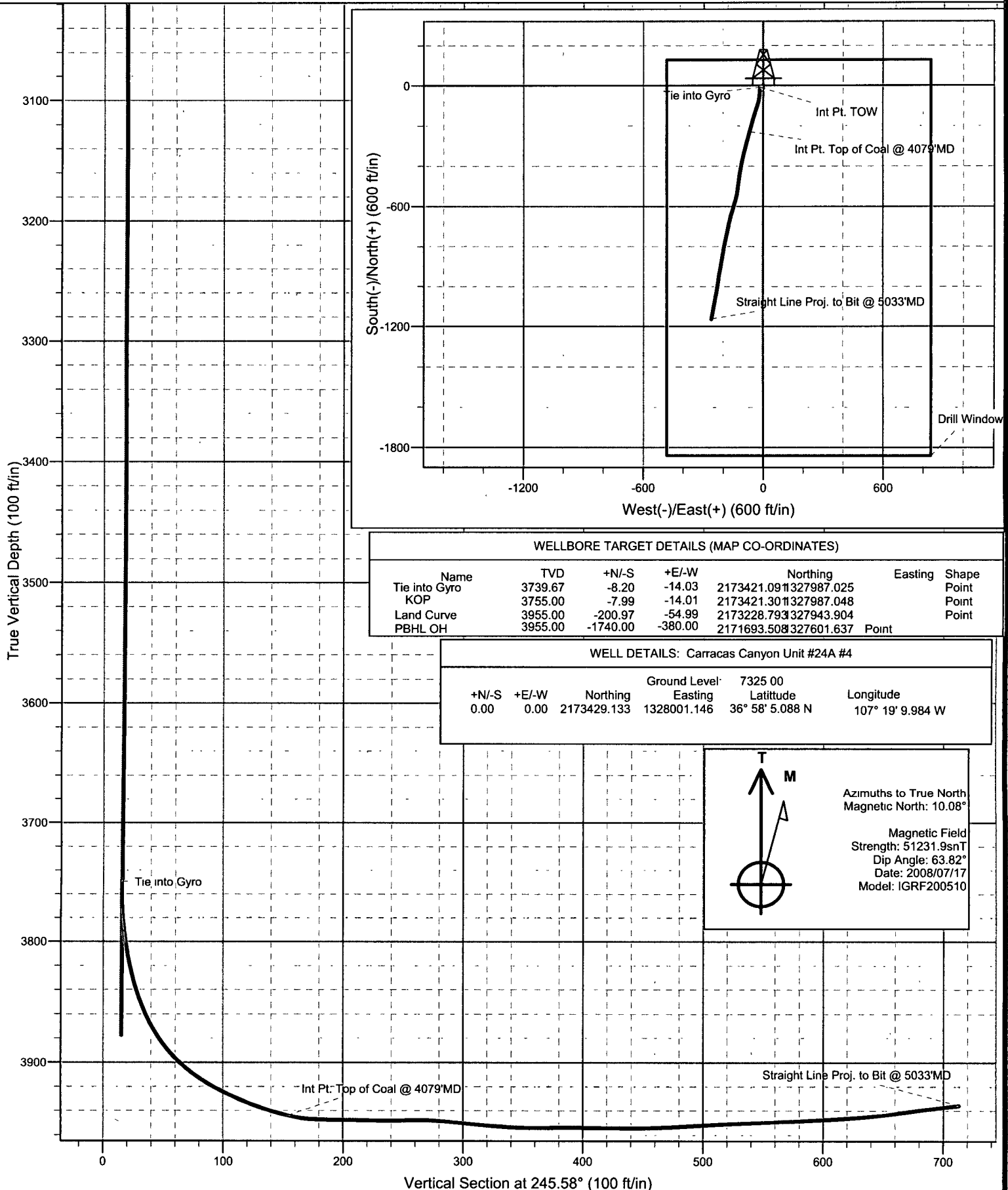
Survey: EOW

End of Well Survey

02 August, 2008

PATHFINDER
ENERGY SERVICES

Survey: EOW (Carracas Canyon Unit #24A #4/CCU #24A #4 ST)



Company:	Energén Resources	Local Co-ordinate Reference:	Well Carracas Canyon Unit #24A #4
Project:	Carson NAT'l Forest-NW S24, T32N, R5W	TVD Reference:	WELL @ 7337.00ft (12' RKB)
Site:	Carracas Canyon	MD Reference:	WELL @ 7337.00ft (12' RKB)
Well:	Carracas Canyon Unit #24A #4	North Reference:	True
Wellbore:	CCU #24A #4 ST	Survey Calculation Method:	Minimum Curvature
Design:	CCU #24A #4 ST	Database:	EDM 2003.16 Single User Db

Project	Carson NAT'l Forest-NW S24, 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	Carracas Canyon		
Site Position:		Northing:	2,173,429.133 ft
From:	Lat/Long	Easting:	1,328,001.146 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	36° 58' 5.088 N
		Longitude:	107° 19' 9.984 W
		Grid Convergence:	-0.64 °

Well	Carracas Canyon Unit #24A #4		
Well Position	+N/-S	0.00 ft	Northing: 2,173,429.133 ft
	+E/-W	0.00 ft	Easting: 1,328,001.146 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Ground Level:	7,325.00 ft

Wellbore	CCU #24A #4 ST				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2008/07/17	10.08	63.82	51,232

Design	CCU #24A #4 ST			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	245.58

Survey Program	Date	2008/08/02		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
103.00	3,750.00	Gyro (CCU #24A #4 ST)	UNKNOWN	Unknown survey
3,753.10	5,033.00	EOW (CCU #24A #4 ST)	UNKNOWN	Unknown survey

Survey	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	.DLeg (°/100ft)	V. Sec (ft)
	3,750.00	0.79	4.96	3,749.66	-8.10	-14.03	0.00	16.13
Tie into Gyro	3,753.10	0.79	3.89	3,752.76	-8.06	-14.03	0.49	16.11
Int Pt. TOW	3,829.50	27.61	183.32	3,826.32	-25.57	-15.04	37.17	24.26
	3,860.90	39.22	184.77	3,852.49	-42.79	-16.29	37.06	32.52
	3,892.20	48.01	189.06	3,875.13	-64.18	-18.95	29.62	43.79
	3,924.00	55.93	195.29	3,894.72	-88.61	-24.30	29.28	58.75
	3,955.50	64.46	198.12	3,910.36	-114.75	-32.17	28.18	76.73
	3,986.40	70.96	196.97	3,922.08	-142.00	-40.78	21.32	95.83
	4,017.20	74.83	195.96	3,931.14	-170.23	-49.12	12.95	115.09

Company: Energen Resources
Project: Carson Nat'l Forest-NW S24, T32N, R5W
Site: Carracas Canyon
Well: Carracas Canyon Unit #24A #4
Wellbore: CCU #24A #4 ST
Design: CCU #24A #4 ST

Local Co-ordinate Reference: Well Carracas Canyon Unit #24A #4
TVD Reference: WELL @ 7337.00ft (12' RKB)
MD Reference: WELL @ 7337.00ft (12' RKB)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
4,048.50	78.35	195.42	3,938.39	-199.53	-57.35	11.37	134.70
4,079.00	80.91	195.49	3,943.88	-228.45	-65.35	8.40	153.93
Int Pt. Top of Coal @ 4079'MD							
4,080.00	80.99	195.49	3,944.04	-229.40	-65.61	8.00	154.57
4,111.00	87.85	195.78	3,947.05	-259.09	-73.92	22.15	174.41
4,143.00	89.60	194.76	3,947.77	-289.95	-82.35	6.33	194.84
4,174.00	89.60	194.61	3,947.98	-319.94	-90.20	0.48	214.39
4,205.00	89.16	192.70	3,948.32	-350.06	-97.52	6.32	233.50
4,236.00	91.54	191.73	3,948.13	-380.36	-104.08	8.29	251.99
4,268.00	88.64	190.75	3,948.08	-411.74	-110.32	9.57	270.65
4,299.00	87.05	189.33	3,949.24	-442.24	-115.72	6.87	288.17
4,329.00	86.88	187.28	3,950.83	-471.88	-120.04	6.85	304.36
4,361.00	87.23	187.06	3,952.48	-503.59	-124.03	1.29	321.10
4,392.00	88.02	190.22	3,953.76	-534.21	-128.68	10.50	338.00
4,424.00	89.96	195.27	3,954.33	-565.40	-135.74	16.90	357.32
4,455.00	90.22	196.47	3,954.28	-595.22	-144.22	3.96	377.36
4,487.00	89.78	197.20	3,954.28	-625.85	-153.49	2.66	398.46
4,518.00	89.52	193.96	3,954.47	-655.71	-161.81	10.49	418.38
4,549.00	89.78	192.22	3,954.66	-685.90	-168.83	5.68	437.25
4,580.00	90.92	192.09	3,954.47	-716.20	-175.36	3.70	455.72
4,612.00	91.54	192.47	3,953.78	-747.46	-182.16	2.27	474.84
4,643.00	92.51	192.17	3,952.68	-777.73	-188.77	3.28	493.37
4,674.00	91.80	189.71	3,951.52	-808.14	-194.65	8.25	511.30
4,705.00	91.10	189.17	3,950.73	-838.71	-199.73	2.85	528.56
4,737.00	91.71	190.31	3,949.95	-870.24	-205.15	4.04	546.52
4,768.00	91.19	190.03	3,949.16	-900.74	-210.62	1.90	564.11
4,799.00	91.45	190.28	3,948.45	-931.25	-216.08	1.16	581.70
4,831.00	91.71	187.11	3,947.57	-962.87	-220.92	9.94	599.17
4,862.00	91.98	189.14	3,946.57	-993.54	-225.30	6.60	615.83
4,894.00	92.95	190.86	3,945.19	-1,025.02	-230.85	6.17	633.90
4,925.00	93.91	191.01	3,943.34	-1,055.40	-236.72	3.13	651.81
4,956.00	95.32	190.35	3,940.84	-1,085.77	-242.44	5.02	669.57
4,987.00	93.65	190.19	3,938.42	-1,116.18	-247.95	5.41	687.16
5,033.00	93.65	190.19	3,935.49	-1,161.36	-256.07	0.00	713.23

Straight Line Proj: to Bit @ 5033'MD

Company: Energen Resources
Project: Carson NAT'l Forest-NW S24, T32N, R5W
Site: Carracas Canyon
Well: Carracas Canyon Unit #24A #4
Wellbore: CCU #24A #4 ST
Design: CCU #24A #4 ST

Local Co-ordinate Reference: Well Carracas Canyon Unit #24A #4
TVD Reference: WELL @ 7337.00ft (12' RKB)
MD Reference: WELL @ 7337.00ft (12' RKB)
North Reference: True
Survey Calculation Method: Minimum Curvature
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 - survey misses by 16.34ft at 4052.23ft MD (3939.14 TVD, -203.06 N, -58.32 E) - Point	0.00	0.00	3,955.00	-200.97	-54.99	2,173,228.793	1,327,943.904	36° 58' 3.101 N	107° 19' 10.662 W
PBHL OH - survey misses by 592.08ft at 5033.00ft MD (3935.49 TVD, -1161.36 N, -256.07 E) - Point	0.00	0.00	3,955.00	-1,740.00	-380.00	2,171,693.508	1,327,601.637	36° 57' 47.884 N	107° 19' 14.666 W
Tie into Gyro - survey misses by 9.99ft at 3750.00ft MD (3749.66 TVD, -8.10 N, -14.03 E) - Point	0.00	0.00	3,739.67	-8.20	-14.03	2,173,421.091	1,327,987.025	36° 58' 5.007 N	107° 19' 10.157 W
KOP - survey hits target - Point	0.00	0.00	3,755.00	-7.99	-14.01	2,173,421.301	1,327,987.048	36° 58' 5.009 N	107° 19' 10.157 W

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,750.00	3,749.66	-8.10	-14.03	Tie into Gyro
3,753.10	3,752.76	-8.06	-14.03	Int Pt. TOW
4,079.00	3,943.88	-228.45	-65.35	Int Pt. Top of Coal @ 4079'MD
5,033.00	3,935.49	-1,161.36	-256.07	Straight Line Proj. to Bit @ 5033'MD

Checked By: _____ Approved By: _____ Date: _____