

District I
1625 N French Dr, Hobbs, NM 88240
Phone: (575) 393-6161 Fax (575) 393-0720
District II
811 S First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax (505) 334-6170
District IV
1220 S St Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☒ AMENDED REPORT
"AS DRILLED"

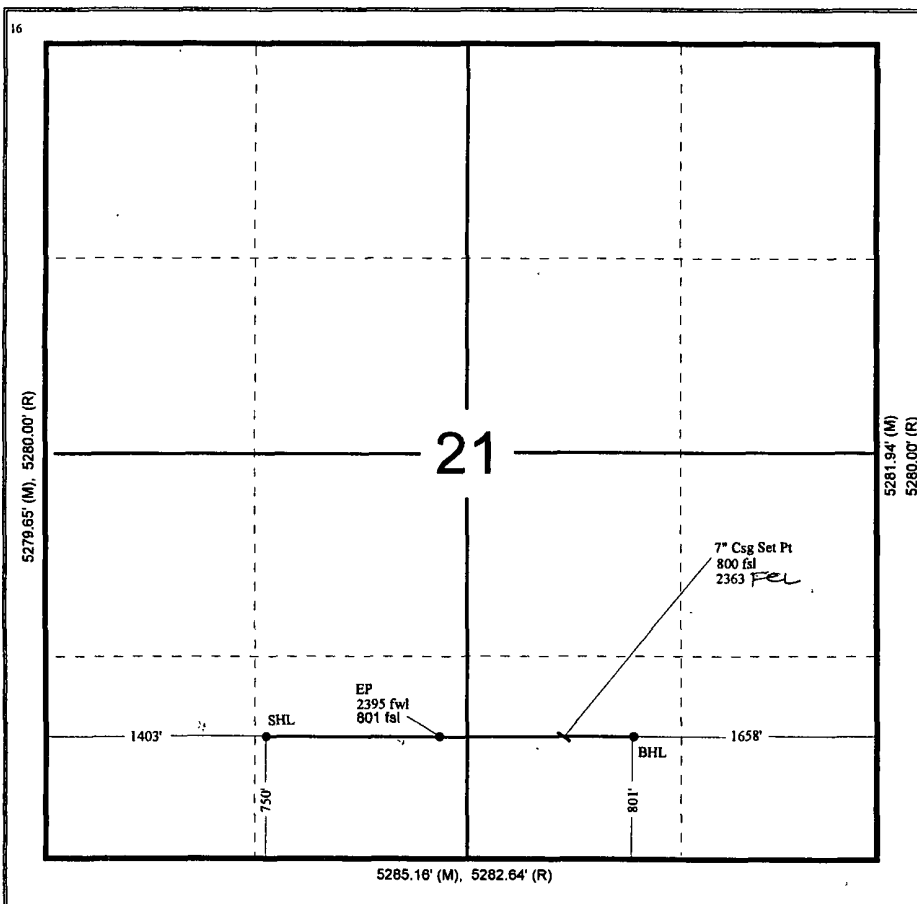
WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-30897	² Pool Code 72400	³ Pool Name Blanco Pictured Cliffs
⁴ Property Code 21994	⁵ Property Name San Juan 30-4 Unit	⁶ Well Number 64H
⁷ OGRID No. 162928	⁸ Operator Name Energen Resources Corporation	⁹ Elevation 7554' GL

¹⁰ Surface Location									
UL or lot no. N	Section 21	Township 30N	Range 4W	Lot Idn	Feet from the 750	North/South line South	Feet from the 1403	East/West line West	County Rio Arriba

¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. O	Section 21	Township 30N	Range 4W	Lot Idn	Feet from the 801	North/South line South	Feet from the 1658	East/West line East	County Rio Arriba
¹² Dedicated Acres SW ¼ 160 Sec 22 "Project Area"	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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

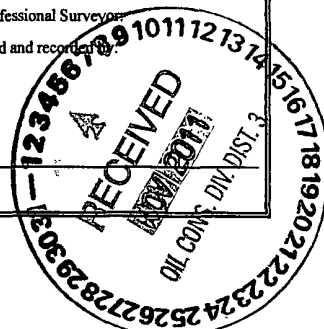


¹⁷ OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to 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: Nathan Smith Date: 10/13/2011
Printed Name: Nathan Smith
E-mail Address: nsmith@energen.com

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: October 14, 2009
Signature and Seal of Professional Surveyor: David R. Russell
Original survey conducted and recorded by: David R. Russell
Certificate Number: 10201



D & J DRILLING, LLC
P. O. BOX 49
FARMINGTON, NM 87499

ORIGINAL

DATE: 08/13/10

TO: ENERGEN RESOURCES CORPORATION
2010 AFTON PLACE
FARMINGTON, NM 87401

ATTN: MR. DOUG THOMAS

THIS LETTER IS TO CERTIFY THAT D & J DRILLING, DID RUN DEVIATION SURVEYS AT
THE LISTED DEPTH ON YOUR SAN JUAN 30-4 #64H, IN SEC21-T30N-R04W, IN RIO ARriba COUNTY,
NEW MEXICO. API WELL NUMBER - 30-039-30897

DEPTH	DEGREE DEVIATION
80 '	1/4
175 '	1
524 '	3/4
1035 '	2 1/2
1126 '	1 1/2
1339 '	3
1521 '	3
1705 '	3
1991 '	3

TO THE BEST OF MY KNOWLEDGE, I SWEAR THIS INFORMATION TO BE TRUE.

STATE OF NEW MEXICO
COUNTY OF SAN JUAN

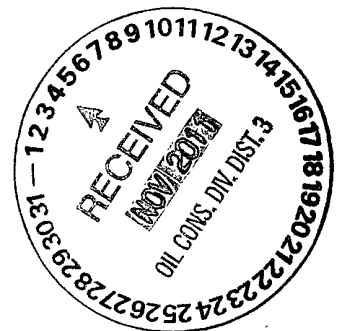
L. Nanette Rahm

NOTARY PUBLIC, L. NANETTE RAHM

SINCERELY,

Clarence D. Keenom

OWNER/PARTNER- CLARENCE D. KEENOM



H

Energen Resources

Rio Arriba County

Manual Canyon

San Juan 30-4 Unit #64

Wellbore #1

Design: Wellbore #1

Standard Survey Report

27 October, 2011

RCVD OCT 28 '11

OIL CONS. DIV.

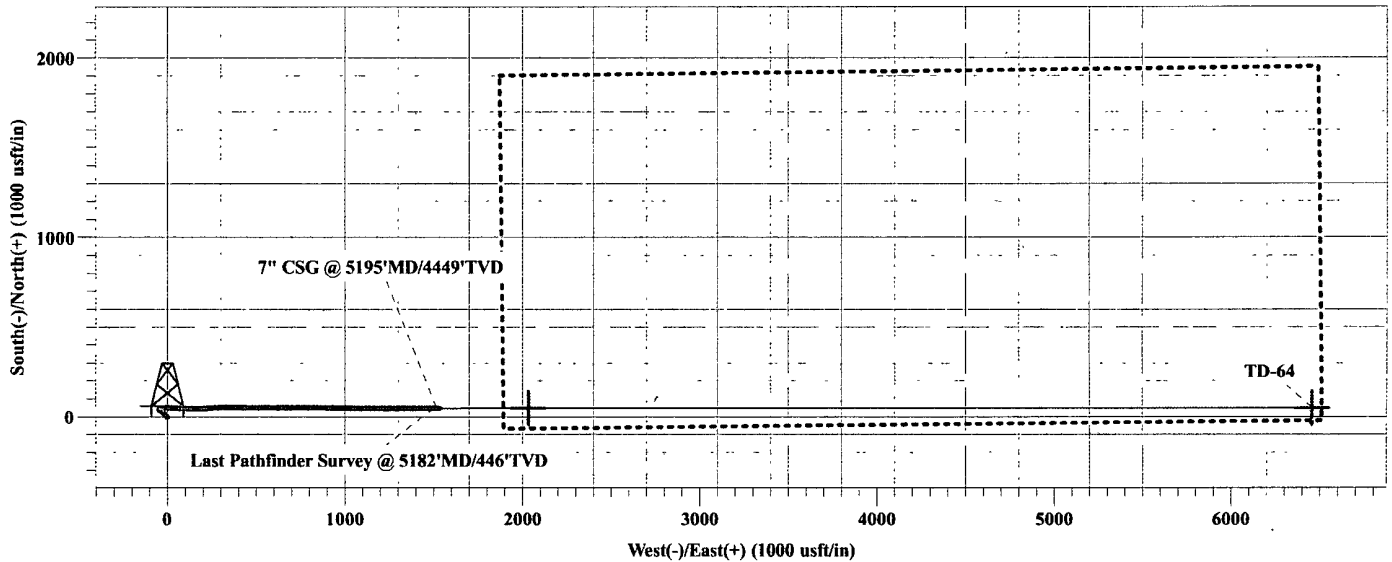
DIST. 3

San Juan 30-4 Unit #64
Manual Canyon
Rio Arriba Co NM
GE: 7554' / KB: 20'



WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape Point
LAND-64	4515.0	50.7	2036.4	2109162.41	1345403.66	Point
TD-64	4515.0	50.7	6456.4	2109115.54	1349823.41	Point

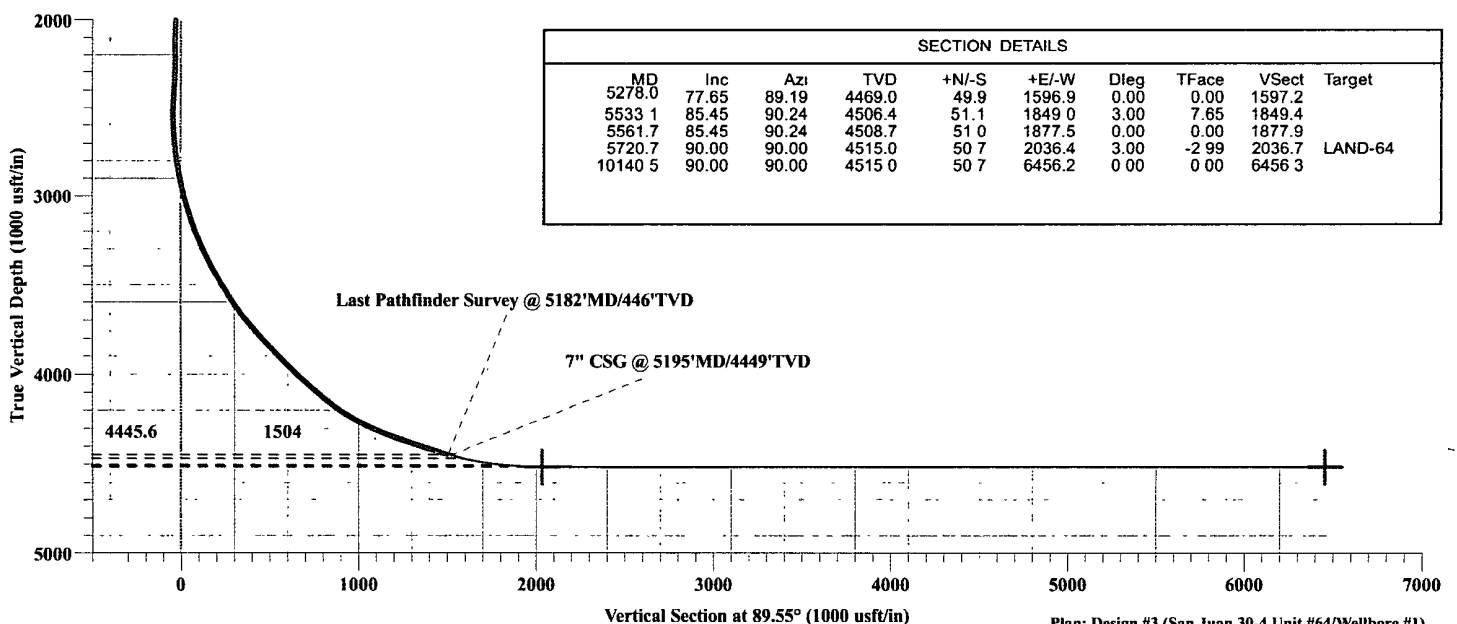


WELL DETAILS: San Juan 30-4 Unit #64

Northing	Easting	7554.0 Latitude	Longitude
2109133.35	1343366.89	36° 47' 31.056 N	107° 15' 52.236 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
5278.0	77.65	89.19	4469.0	49.9	1596.9	0.00	0.00	1597.2	
5533.1	85.45	90.24	4506.4	51.1	1849.0	3.00	7.65	1849.4	
5561.7	85.45	90.24	4508.7	51.0	1877.5	0.00	0.00	1877.9	
5720.7	90.00	90.00	4515.0	50.7	2036.4	3.00	-2.99	2036.7	LAND-64
10140.5	90.00	90.00	4515.0	50.7	6456.2	0.00	0.00	6456.3	



Plan: Design #3 (San Juan 30-4 Unit #64/Wellbore #1)

Job Number: 700001828-NM-NM
 Company: ENERGEN
 Lease/Well: SAN JUAN 30-4 UNIT #64
 Location: SEC 21-T30N-R04W
 Rig Name: KEY 888
 RKB: 7574
 G.L. or M.S.L.: 7554

State/Country: NM/USA
 Declination: 9.66
 Grid: True
 File name: C:\WINSERVE\ISJ306U64.SVY
 Date/Time: 22-Sep-11 / 13:15
 Curve Name: SJ 30-4 UNIT #64

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 89.55
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead



Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
Tie-in									
5182.00	73.86	90.58	4445.60	49.88	1503.80	1504.15	1504.63	88.10	.00
Interpolated point for casing shoe									
5195.00	74.31	90.77	4449.16	49.73	1516.30	1516.64	1517.12	88.12	3.74
5239.00	75.82	91.39	4460.50	48.93	1558.81	1559.14	1559.57	88.20	3.69
5303.00	78.10	90.58	4474.94	47.86	1621.14	1621.47	1621.85	88.31	3.77
5335.00	79.37	91.13	4481.20	47.39	1652.52	1652.84	1653.20	88.36	4.31
5366.00	80.00	89.47	4486.75	47.23	1683.02	1683.34	1683.68	88.39	5.65
5398.00	80.99	89.27	4492.03	47.58	1714.58	1714.90	1715.24	88.41	3.15
5430.00	82.48	90.34	4496.63	47.69	1746.24	1746.56	1746.89	88.44	5.71
5462.00	83.94	88.38	4500.41	48.04	1778.01	1778.34	1778.66	88.45	7.60
5493.00	85.15	88.68	4503.36	48.83	1808.86	1809.19	1809.52	88.45	4.02
5525.00	86.00	89.07	4505.83	49.46	1840.76	1841.09	1841.42	88.46	2.92
5557.00	86.57	89.50	4507.90	49.86	1872.69	1873.02	1873.35	88.47	2.23
5589.00	87.44	88.75	4509.58	50.35	1904.64	1904.98	1905.31	88.49	3.59
5620.00	88.42	88.60	4510.70	51.06	1935.61	1935.95	1936.29	88.49	3.20
5652.00	89.60	88.45	4511.25	51.89	1967.60	1967.94	1968.28	88.49	3.72
5684.00	90.50	87.71	4511.22	52.96	1999.58	1999.93	2000.28	88.48	3.64
5716.00	91.24	89.04	4510.73	53.87	2031.56	2031.92	2032.28	88.48	4.76
5747.00	91.35	88.96	4510.03	54.41	2062.55	2062.91	2063.27	88.49	.44
5779.00	90.20	90.05	4509.60	54.68	2094.54	2094.91	2095.26	88.50	4.95
5811.00	89.63	91.74	4509.65	54.18	2126.54	2126.90	2127.23	88.54	5.57
5843.00	90.17	91.67	4509.70	53.23	2158.52	2158.88	2159.18	88.59	1.70
5874.00	90.77	91.48	4509.45	52.38	2189.51	2189.85	2190.14	88.63	2.03
5906.00	91.38	91.76	4508.85	51.48	2221.49	2221.83	2222.09	88.67	2.10

Survey Report

Company:	Energen Resources	Local Co-ordinate Reference:	Well San Juan 30-4 Unit #64
Project:	Rio Arriba County	TVD Reference:	WELL @ 7574.0usft (Original Well Elev)
Site:	Manual Canyon	MD Reference:	WELL @ 7574.0usft (Original Well Elev)
Well:	San Juan 30-4 Unit #64	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Rio Arriba County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Manual Canyon				
Site Position:		Northing:	2,109,133.34 usft	Latitude:	36° 47' 31.056 N
From:	Map	Easting:	1,343,366.89 usft	Longitude:	107° 15' 52.236 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.61 °

Well	San Juan 30-4 Unit #64					
Well Position	+N/-S	0.0 usft	Northing:	2,109,133.34 usft	Latitude:	36° 47' 31.056 N
	+E/-W	0.0 usft	Easting:	1,343,366.89 usft	Longitude:	107° 15' 52.236 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	7,554.0 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	08/25/11	(°)	(°)	(nT)
			9.66	63.60	50,803

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	88.15	

Survey Program	Date	10/27/11
From	To	
(usft)	(usft)	
2,045.0	5,215.0	Survey #1 (Wellbore #1)
	Tool Name	MWD
	Description	MWD - Standard

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
2,045.0	2.73	318.94	2,044.2	36.7	-32.0	-30.8	0.13	0.13	0.00
2,108.0	1.06	311.41	2,107.2	38.2	-33.4	-32.2	2.67	-2.65	-11.95
2,172.0	0.26	193.76	2,171.2	38.5	-33.9	-32.6	1.88	-1.25	-183.83
2,236.0	0.09	197.54	2,235.2	38.3	-33.9	-32.7	0.27	-0.27	5.91
2,300.0	1.06	255.59	2,299.2	38.1	-34.5	-33.3	1.59	1.52	90.70
2,332.0	2.55	260.44	2,331.2	37.9	-35.5	-34.3	4.68	4.66	15.16
2,396.0	4.57	275.16	2,395.0	37.9	-39.5	-38.2	3.44	3.16	23.00
2,460.0	4.48	319.88	2,458.9	40.1	-43.6	-42.3	5.38	-0.14	69.88
2,492.0	4.66	340.68	2,490.8	42.2	-44.9	-43.5	5.18	0.56	65.00

Survey Report

Company: Energen Resources
Project: Rio Arriba County
Site: Manual Canyon
Well: San Juan 30-4 Unit #64
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well San Juan 30-4 Unit #64
TVD Reference: WELL @ 7574.0usft (Original Well Elev)
MD Reference: WELL @ 7574.0usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 1 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,523.0	4.75	1.94	2,521.7	44.7	-45.2	-43.8	5.60	0.29	68.58
2,555.0	4.92	20.17	2,553.5	47.3	-44.7	-43.2	4.81	0.53	56.97
2,587.0	4.75	37.01	2,585.4	49.7	-43.4	-41.8	4.45	-0.53	52.63
2,618.0	4.48	54.36	2,616.3	51.4	-41.7	-40.0	4.57	-0.87	55.97
2,650.0	4.40	74.48	2,648.2	52.5	-39.5	-37.8	4.85	-0.25	62.88
2,682.0	4.48	90.29	2,680.1	52.8	-37.1	-35.3	3.82	0.25	49.41
2,714.0	5.63	89.93	2,712.0	52.8	-34.2	-32.5	3.60	3.59	-1.13
2,746.0	7.03	88.51	2,743.8	52.8	-30.7	-29.0	4.40	4.38	-4.44
2,777.0	8.09	87.08	2,774.6	53.0	-26.6	-24.9	3.47	3.42	-4.61
2,809.0	9.06	86.44	2,806.2	53.3	-21.9	-20.1	3.05	3.03	-2.00
2,841.0	9.85	87.66	2,837.8	53.5	-16.6	-14.9	2.55	2.47	3.81
2,873.0	10.64	90.67	2,869.3	53.6	-10.9	-9.2	2.98	2.47	9.41
2,905.0	11.08	93.46	2,900.7	53.4	-4.9	-3.2	2.14	1.38	8.72
2,937.0	11.70	93.78	2,932.0	53.0	1.4	3.1	1.95	1.94	1.00
2,969.0	13.28	92.30	2,963.3	52.6	8.3	10.0	5.04	4.94	-4.63
3,001.0	15.04	91.23	2,994.3	52.4	16.1	17.8	5.56	5.50	-3.34
3,032.0	15.56	90.97	3,024.2	52.2	24.3	26.0	1.69	1.68	-0.84
3,064.0	16.09	90.66	3,055.0	52.1	33.0	34.7	1.68	1.66	-0.97
3,096.0	16.62	91.78	3,085.7	51.9	42.1	43.7	1.93	1.66	3.50
3,128.0	17.32	92.00	3,116.3	51.6	51.4	53.0	2.20	2.19	0.69
3,160.0	18.47	91.82	3,146.8	51.3	61.2	62.8	3.60	3.59	-0.56
3,192.0	20.22	92.30	3,177.0	50.9	71.8	73.4	5.49	5.47	1.50
3,224.0	21.37	92.44	3,206.9	50.4	83.2	84.7	3.60	3.59	0.44
3,256.0	22.77	92.13	3,236.5	49.9	95.2	96.7	4.39	4.38	-0.97
3,288.0	24.01	92.48	3,265.9	49.4	107.9	109.4	3.90	3.88	1.09
3,320.0	25.15	92.55	3,295.0	48.8	121.2	122.7	3.56	3.56	0.22
3,352.0	25.76	91.94	3,323.9	48.3	134.9	136.4	2.07	1.91	-1.91
3,384.0	26.38	91.29	3,352.6	47.9	149.0	150.4	2.13	1.94	-2.03
3,416.0	26.82	90.14	3,381.2	47.7	163.3	164.7	2.12	1.38	-3.59
3,447.0	28.05	88.57	3,408.8	47.9	177.6	179.0	4.60	3.97	-5.06
3,479.0	29.63	87.27	3,436.8	48.5	193.0	194.5	5.31	4.94	-4.06
3,511.0	30.60	86.98	3,464.5	49.3	209.0	210.5	3.07	3.03	-0.91
3,543.0	31.04	86.31	3,492.0	50.2	225.4	226.9	1.74	1.38	-2.09
3,575.0	32.01	85.44	3,519.2	51.4	242.1	243.6	3.35	3.03	-2.72
3,607.0	33.41	86.18	3,546.2	52.7	259.3	260.9	4.55	4.38	2.31
3,639.0	33.85	87.11	3,572.8	53.7	277.0	278.6	2.12	1.38	2.91
3,671.0	34.56	88.00	3,599.3	54.5	295.0	296.6	2.71	2.22	2.78
3,703.0	35.26	88.79	3,625.5	55.0	313.3	314.9	2.60	2.19	2.47
3,735.0	35.88	89.31	3,651.5	55.3	331.9	333.5	2.16	1.94	1.63
3,767.0	37.81	89.89	3,677.1	55.5	351.1	352.7	6.13	6.03	1.81
3,798.0	39.66	90.65	3,701.3	55.4	370.5	372.1	6.16	5.97	2.45
3,831.0	40.80	90.95	3,726.5	55.1	391.8	393.4	3.50	3.45	0.91
3,862.0	41.68	91.14	3,749.8	54.7	412.2	413.8	2.87	2.84	0.61
3,893.0	41.77	91.12	3,773.0	54.3	432.9	434.4	0.29	0.29	-0.06

Company: Energen Resources
 Project: Rio Arriba County
 Site: Manual Canyon
 Well: San Juan 30-4 Unit #64
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well San Juan 30-4 Unit #64
 TVD Reference: WELL @ 7567.00ft (Original Well Elev)
 MD Reference: WELL @ 7567.00ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: Midland Database

Survey								
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)	
3,989.00	43.62	90.22	3,843.59	53.60	497.88	2.23	498.28	
4,021.00	44.15	89.65	3,866.65	53.63	520.06	2.07	520.47	
4,053.00	44.32	89.61	3,889.58	53.77	542.38	0.54	542.79	
4,085.00	44.67	89.66	3,912.40	53.92	564.81	1.10	565.22	
4,117.00	45.37	89.72	3,935.02	54.04	587.44	2.19	587.85	
4,149.00	46.25	89.99	3,957.33	54.10	610.39	2.82	610.80	
4,181.00	46.96	89.87	3,979.31	54.12	633.64	2.24	634.05	
4,212.00	47.57	90.24	4,000.35	54.10	656.41	2.15	656.82	
4,245.00	47.66	90.14	4,022.60	54.02	680.79	0.35	681.19	
4,277.00	47.84	90.34	4,044.11	53.92	704.47	0.73	704.87	
4,308.00	47.84	90.14	4,064.92	53.83	727.45	0.48	727.85	
4,340.00	47.92	89.73	4,086.38	53.85	751.19	0.98	751.59	
4,371.00	49.68	89.62	4,106.80	53.98	774.51	5.68	774.91	
4,403.00	51.09	89.73	4,127.20	54.12	799.16	4.41	799.56	
4,435.00	52.06	90.03	4,147.09	54.18	824.23	3.12	824.63	
4,467.00	53.20	90.36	4,166.51	54.09	849.66	3.66	850.06	
4,499.00	55.13	90.42	4,185.25	53.91	875.60	6.03	876.00	
4,531.00	56.72	90.58	4,203.17	53.68	902.11	4.99	902.50	
4,563.00	58.65	91.20	4,220.28	53.26	929.14	6.25	929.53	
4,594.00	60.32	91.44	4,236.02	52.64	955.84	5.43	956.23	
4,626.00	61.38	91.86	4,251.61	51.84	983.78	3.51	984.15	
4,657.00	62.43	91.49	4,266.21	51.04	1,011.11	3.55	1,011.48	
4,689.00	64.02	90.77	4,280.62	50.48	1,039.68	5.36	1,040.04	
4,721.00	65.42	90.46	4,294.29	50.17	1,068.61	4.46	1,068.97	
4,751.00	66.92	90.02	4,306.41	50.05	1,096.05	5.18	1,096.41	
4,784.00	68.59	89.91	4,318.90	50.07	1,126.59	5.07	1,126.95	
4,815.00	69.56	89.69	4,329.97	50.17	1,155.55	3.20	1,155.91	
4,847.00	70.08	89.74	4,341.01	50.32	1,185.58	1.63	1,185.94	
4,878.00	70.87	89.28	4,351.37	50.57	1,214.80	2.91	1,215.16	
4,910.00	71.75	89.77	4,361.63	50.82	1,245.11	3.11	1,245.47	
4,942.00	71.84	90.11	4,371.62	50.86	1,275.51	1.05	1,275.87	
4,974.00	72.02	90.42	4,381.55	50.71	1,305.93	1.08	1,306.29	
5,006.00	71.74	90.24	4,391.50	50.54	1,336.34	1.03	1,336.70	
5,038.00	71.40	90.26	4,401.62	50.41	1,366.70	1.06	1,367.05	
5,069.00	71.31	90.37	4,411.53	50.25	1,396.07	0.44	1,396.42	
5,101.00	71.67	89.81	4,421.69	50.20	1,426.42	2.00	1,426.77	
5,133.00	72.55	90.23	4,431.52	50.19	1,456.87	3.02	1,457.22	
5,165.00	73.60	90.39	4,440.83	50.02	1,487.48	3.32	1,487.83	
5,182.00	73.86	90.58	4,445.60	49.88	1,503.80	1.87	1,504.15	
5,215.00	75.27	90.28	4,454.38	49.64	1,535.61	4.36	1,535.95	
5,247.00	76.77	89.82	4,462.11	49.62	1,566.66	4.89	1,567.00	
5,278.00	77.65	89.19	4,468.97	49.88	1,596.89	3.46	1,597.23	
5,310.00	79.23	89.05	4,475.38	50.36	1,628.24	4.96	1,628.58	
5,417.00	79.23	89.05	4,495.38	52.10	1,733.34	0.00	1,733.69	

Survey Report

Company:	Energen Resources	Local Co-ordinate Reference:	Well San Juan 30-4 Unit #64
Project:	Rio Arriba County	TVD Reference:	WELL @ 7574.0usft (Original Well Elev)
Site:	Manual Canyon	MD Reference:	WELL @ 7574.0usft (Original Well Elev)
Well:	San Juan 30-4 Unit #64	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7" CSG @ 5195'MD/4449'TVD									
5,215.0	75.27	90.28	4,454.4	49.6	1,535.6	1,536.4	4.36	4.27	-0.91

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,182.0	4,445.6	49.9	1,503.8	Last Pathfinder Survey @ 5182'MD/446'TVD
5,195.0	4,449.1	49.8	1,516.3	7" CSG @ 5195'MD/4449'TVD

Checked By: _____	Approved By: _____	Date: _____
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SJ30664.TXT



Job Number: 33ef11091125

State/Country: NM/USA

Company: Energen Resources
Lease/Well: San Juan 30-4 Unit #64
Location: Sec 21-T30N-R4W
Rig Name: Key 888
RKB: 7574
G.L. or M.S.L.: 7554

Declination: 9.66
Grid: True
File name: D:\DOCUME~1\USER\DESKTOP\151275.SVY
Date/Time: 03-Nov-11 / 15:25
Curve Name: D:\DOCUME~1\USER\DESKTOP\#64H.TXT

Scientific Drilling

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 89.55
Vertical Section Referenced to offset from Wellhead: EW =.00 Ft , NS=.00 Ft
Rectangular Coordinates Referenced to wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	CLOSURE Direction Deg	Dogleg Severity Deg/100
Tie-In 5182.00	73.86	90.58	4445.60	49.88	1503.80	1504.15	1504.63	88.10	
.00 Interpolated point for casing shoe									
5195.00	74.31	90.77	4449.16	49.73	1516.30	1516.64	1517.12	88.12	
3.74 5239.00	75.82	91.39	4460.50	48.93	1558.81	1559.14	1559.57	88.20	
3.69 5303.00	78.10	90.58	4474.94	47.86	1621.14	1621.47	1621.85	88.31	
3.77 5335.00	79.37	91.13	4481.20	47.39	1652.52	1652.84	1653.20	88.36	
4.31 5366.00	80.00	89.47	4486.75	47.23	1683.02	1683.34	1683.68	88.39	
5.65									

				SJ30664.TXT					
3.15	5398.00	80.99	89.27	4492.03	47.58	1714.58	1714.90	1715.24	88.41
5.71	5430.00	82.48	90.34	4496.63	47.69	1746.24	1746.56	1746.89	88.44
7.60	5462.00	83.94	88.38	4500.41	48.04	1778.01	1778.34	1778.66	88.45
4.02	5493.00	85.15	88.68	4503.36	48.83	1808.86	1809.19	1809.52	88.45
2.92	5525.00	86.00	89.07	4505.83	49.46	1840.76	1841.09	1841.42	88.46
2.23	5557.00	86.57	89.50	4507.90	49.86	1872.69	1873.02	1873.35	88.47
3.59	5589.00	87.44	88.75	4509.58	50.35	1904.64	1904.98	1905.31	88.49
3.20	5620.00	88.42	88.60	4510.70	51.06	1935.61	1935.95	1936.29	88.49
3.72	5652.00	89.60	88.45	4511.25	51.89	1967.60	1967.94	1968.28	88.49
3.64	5684.00	90.50	87.71	4511.22	52.96	1999.58	1999.93	2000.28	88.48
4.76	5716.00	91.24	89.04	4510.73	53.87	2031.56	2031.92	2032.28	88.48
.44	5747.00	91.35	88.96	4510.03	54.41	2062.55	2062.91	2063.27	88.49
4.95	5779.00	90.20	90.05	4509.60	54.68	2094.54	2094.91	2095.26	88.50
5.57	5811.00	89.63	91.74	4509.65	54.18	2126.54	2126.90	2127.23	88.54
1.70	5843.00	90.17	91.67	4509.70	53.23	2158.52	2158.88	2159.18	88.59
2.03	5874.00	90.77	91.48	4509.45	52.38	2189.51	2189.85	2190.14	88.63
2.10	5906.00	91.38	91.76	4508.85	51.48	2221.49	2221.83	2222.09	88.67
	Projection to bit								

SJ30664.TXT

Measured	Incl	Drift	True			Vertical	CLOSURE	CLOSURE	Dogleg
Depth	Angle	Direction	Vertical	N-S	E-W	Section	Distance	Direction	Severity
FT	Deg	Deg	Depth	FT	FT	FT	FT	Deg	Deg/100
5972.00	91.38	91.76	4507.26	49.45	2287.44	2287.76	2287.98	88.76	

.00