

30-015-38312

DEVON ENERGY

Tamano
Eddy County, NM
Serene Sisters 25 Federal #4H
VH - Job #32K0911940

Survey: Actual

SDI Standard Survey Report

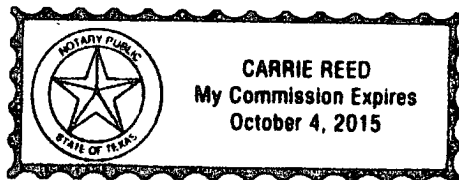
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notarized this date 15th of November, 2011.

[Signature]

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Serene Sisters 25 Federal #4H
Project:	Tamano	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K0911940	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0911940	Database:	EDM-Regulatory

Project		Tamano	
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:		Eddy County, NM			
Site Position:		Northing:	627,983.43 usft	Latitude:	32° 43' 31.099 N
From:	Lat/Long	Easting:	699,925.80 usft	Longitude:	103° 49' 33.506 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.28 °

Well	Serene Sisters 25 Federal #4H, Directional (Pathfinder)					
Well Position	+N/-S	0 0 usft	Northing:	623,082 06 usft	Latitude:	32° 42' 42 720 N
	+E/-W	0 0 usft	Easting:	697,423 46 usft	Longitude:	103° 49' 33 073 W
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level:	0 0 usft

Wellbore		VH - Job #32K0911940			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/30/2011	7 71	60 59	48,879

Design:		VH - Job #32K0911940			
Audit Notes:					
Version:		1 0	Phase:		ACTUAL
			Tie On Depth:		0 0
Vertical Section:		Depth From (TVD)		+N/-S	+E/-W
		(usft)		(usft)	(usft)
		0 0		0 0	0 0
					Direction
					(°)
					343 66

Survey Program		Date: 11/15/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100 0	7,430 0	Actual (VH - Job #32K0911940)	Keeper	Keeper Gyro

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
0 0	0 00	0 00	0 0	0 0	0 0	0 00	0 0
100 0	0 35	29 11	100 0	0 3	0 1	29 11	0 3
200 0	0 37	24 21	200 0	0 8	0 4	27 42	0 9
300 0	0 35	31 87	300 0	1 4	0 7	27 62	1 6
400 0	0 35	25 09	400 0	1 9	1 0	27 86	2 2
500 0	0 38	34 26	500 0	2 5	1 3	28 32	2 8
600 0	0 32	347 70	600 0	3 0	1 5	25 79	3 3
700 0	0 41	356 19	700 0	3 6	1 4	20 65	3 9
800 0	0 40	343 84	800 0	4 3	1 3	16 11	4 5
900 0	0 42	334 29	900 0	5 0	1 0	11 27	5 1
1,000 0	0 46	343 68	1,000 0	5 7	0 7	7 23	5 8
1,100 0	0 33	321 80	1,100 0	6 3	0 4	3 93	6 3

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SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Serene Sisters 25 Federal #4H
Project:	Tamano	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K0911940	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0911940	Database:	EDM-Regulatory

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
1,200.0	0 33	338.70	1,200.0	6.8	0.2	1 27	6.8	
1,300.0	0 28	348.04	1,300.0	7.3	0.0	359 97	7.3	
1,400.0	0 34	12.54	1,400.0	7.9	0.0	0 07	7.9	
1,500.0	0 46	29.46	1,500.0	8.5	0.3	1 83	8.5	
1,600.0	0 48	47.78	1,600.0	9.1	0.8	4 88	9.2	
1,700.0	0 76	55.27	1,700.0	9.8	1.6	9 48	9.9	
1,800.0	0 72	55.70	1,800.0	10.5	2.7	14 39	10.9	
1,900.0	0 75	51.13	1,899.9	11.3	3.7	18 28	11.9	
2,000.0	0 80	49.79	1,999.9	12.1	4.8	21 44	13.1	
2,100.0	0 92	49.94	2,099.9	13.1	5.9	24 29	14.4	
2,200.0	1 04	48.94	2,199.9	14.2	7.2	26 89	16.0	
2,300.0	1 09	47.52	2,299.9	15.5	8.6	29 08	17.7	
2,400.0	0 78	42.99	2,399.9	16.6	9.8	30 46	19.3	
2,500.0	0 37	34.43	2,499.9	17.4	10.4	30 94	20.3	
2,600.0	0 31	31.26	2,599.9	17.9	10.7	31.00	20.8	
2,700.0	0 16	320.20	2,699.9	18.2	10.8	30 65	21.2	
2,800.0	0 16	308.31	2,799.9	18.4	10.6	29 92	21.2	
2,900.0	0 21	288.48	2,899.9	18.5	10.3	29 06	21.2	
3,000.0	0 24	272.42	2,999.9	18.6	9.9	28 06	21.1	
3,100.0	0 42	279.52	3,099.9	18.7	9.4	26 59	20.9	
3,200.0	0 47	294.60	3,199.9	18.9	8.6	24 50	20.8	
3,300.0	0 53	308.40	3,299.9	19.4	7.9	22 14	20.9	
3,400.0	0 57	310.26	3,399.9	20.0	7.1	19 67	21.2	
3,500.0	0 76	296.79	3,499.8	20.6	6.2	16 67	21.5	
3,600.0	0 78	315.87	3,599.8	21.4	5.1	13 42	22.0	
3,700.0	0 50	308.88	3,699.8	22.2	4.3	10 96	22.6	
3,800.0	0 31	307.78	3,799.8	22.6	3.7	9 39	22.9	
3,900.0	0 42	301.98	3,899.8	23.0	3.2	7 97	23.2	
4,000.0	0 41	299.48	3,999.8	23.3	2.6	6 34	23.5	
4,100.0	0 39	293.58	4,099.8	23.6	2.0	4.75	23.7	
4,200.0	0 36	292.32	4,199.8	23.9	1.4	3 27	23.9	
4,300.0	0 49	298.78	4,299.8	24.2	0.7	1 65	24.2	
4,400.0	0 74	287.27	4,399.8	24.6	-0.3	359 32	24.6	
4,500.0	0 60	299.12	4,499.8	25.1	-1.4	356.88	25.1	
4,600.0	0 81	287.90	4,599.8	25.5	-2.5	354.41	25.7	
4,700.0	0 80	295.41	4,699.8	26.0	-3.8	351.70	26.3	
4,800.0	0 72	289.10	4,799.8	26.6	-5.0	349.28	27.0	
4,900.0	0 85	282.27	4,899.8	26.9	-6.3	346.74	27.7	
5,000.0	0 96	276.19	4,999.8	27.2	-7.9	343.78	28.3	
5,100.0	1 04	268.06	5,099.7	27.2	-9.6	340.50	28.9	
5,200.0	1 12	273.95	5,199.7	27.3	-11.5	337.08	29.6	
5,300.0	1 09	275.59	5,299.7	27.4	-13.4	333.88	30.5	
5,400.0	1 15	273.90	5,399.7	27.6	-15.4	330.83	31.6	
5,500.0	1 24	280.14	5,499.7	27.8	-17.5	327.91	32.9	

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Project:	Tamano	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K0911940	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0911940	Database:	EDM-Regulatory

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
5,600.0	1.26	274.52	5,599.6	28.1	-19.6	325.09	34.3	
5,700.0	1.21	271.77	5,699.6	28.2	-21.8	322.36	35.7	
5,800.0	1.33	281.21	5,799.6	28.5	-24.0	319.93	37.2	
5,900.0	1.23	278.74	5,899.6	28.9	-26.2	317.83	39.0	
6,000.0	1.29	279.70	5,999.5	29.2	-28.3	315.90	40.7	
6,100.0	1.35	276.29	6,099.5	29.6	-30.6	313.99	42.6	
6,200.0	1.37	280.90	6,199.5	29.9	-33.0	312.22	44.5	
6,300.0	1.30	280.16	6,299.5	30.3	-35.3	310.71	46.5	
6,400.0	1.42	277.91	6,399.4	30.7	-37.6	309.24	48.5	
6,500.0	1.42	270.85	6,499.4	30.9	-40.1	307.64	50.6	
6,600.0	1.60	273.74	6,599.4	31.0	-42.7	305.99	52.8	
6,700.0	1.72	269.72	6,699.3	31.1	-45.6	304.29	55.2	
6,800.0	1.86	272.57	6,799.3	31.2	-48.7	302.60	57.8	
6,900.0	1.92	286.80	6,899.2	31.7	-51.9	301.41	60.8	
7,000.0	2.05	302.72	6,999.2	33.2	-55.0	301.07	64.3	
7,100.0	2.12	295.75	7,099.1	34.9	-58.2	300.97	67.9	
7,200.0	2.04	288.60	7,199.0	36.3	-61.6	300.53	71.5	
7,300.0	2.32	286.53	7,299.0	37.4	-65.2	299.87	75.2	
7,400.0	2.21	276.61	7,398.9	38.2	-69.0	298.98	78.9	
7,430.0	2.18	272.99	7,428.9	38.3	-70.2	298.64	80.0	



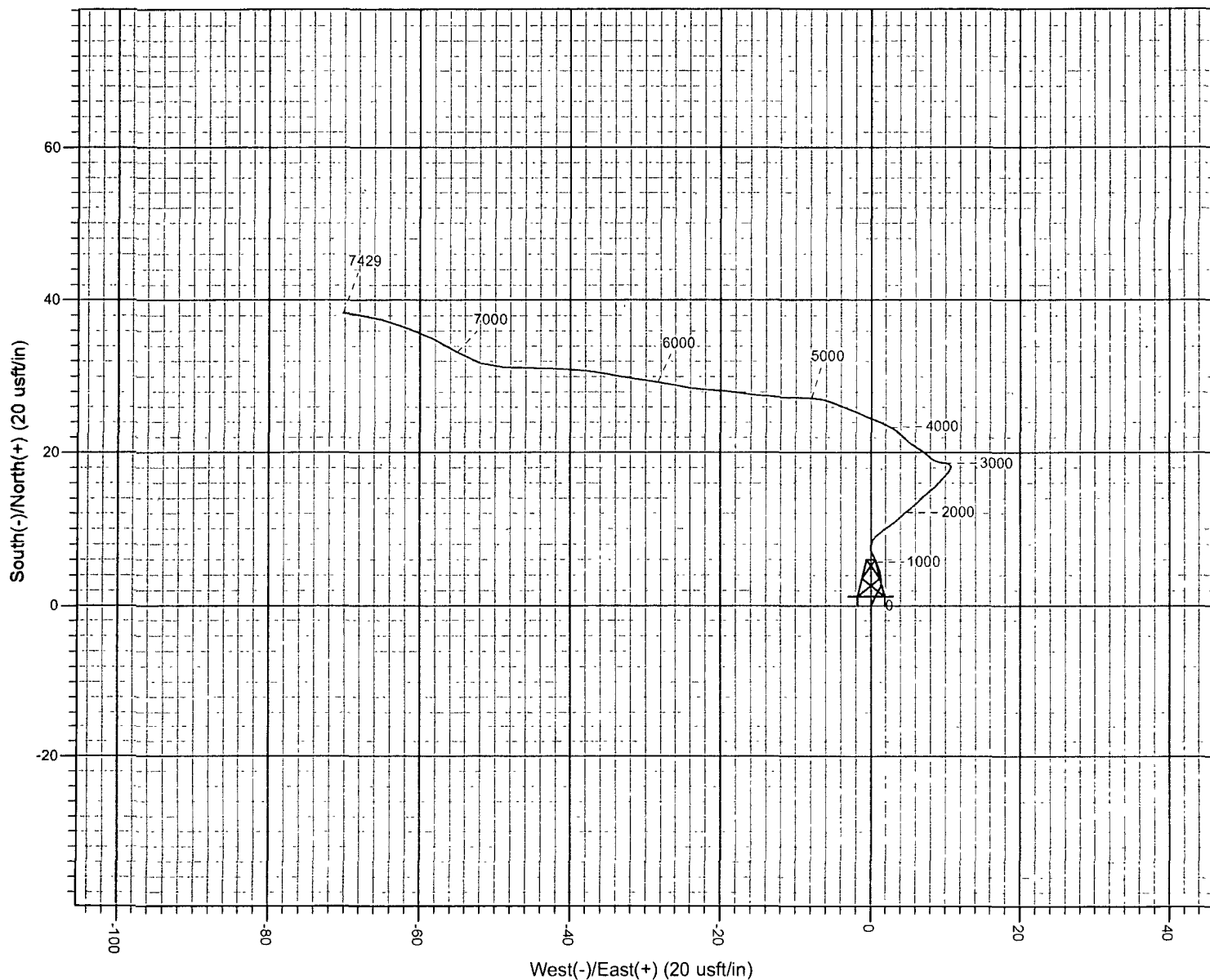
Project: Tamano
Eddy County, NM
Well: Serene Sisters 25 Federal #4H
Wellbore: VH - Job #32K0911940
Design: VH - Job #32K0911940



Azimuths to Grid North
True North -0 27°
Magnetic North 7 43°
Magnetic Field
Strength 48879 0snT
Dip Angle 60 59°
Date 9/30/2011
Model IGRF2010

WELL DETAILS: Serene Sisters 25 Federal #4H
WELL @ 0.0usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	623082.06	697423.46	32° 42' 42.720 N	103° 49' 33.073 W	



PROJECT DETAILS: Tamano
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

SITE DETAILS: Eddy County, NM
Site Centre Latitude: 32° 43' 31.099 N
Longitude: 103° 49' 3.506 W
Positional Uncertainty: 0.0
Convergence: 0.28
Local North: Grid

DEVON ENERGY

Tamano
Eddy County, NM
Serene Sisters 25 Federal #4H
VH - Job #32K11111122

Survey: Gyro

SDI Standard Survey Report

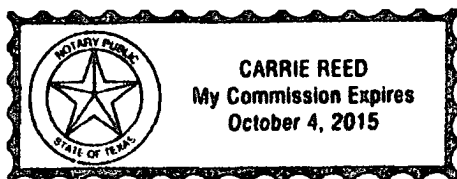
This survey is correct to the best of my knowledge and is supported by actual field data.

Richard

Notarized this date 12th of December, 2011.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Serene Sisters 25 Federal #4H
Project:	Tamano	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K0911940	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0911940	Database:	EDM-Regulatory

Project: Tamano	
Map System:	US State Plane 1983
Geo Datum:	North American Datum 1983
Map Zone:	New Mexico Eastern Zone
System Datum:	Mean Sea Level

Site		Eddy County, NM			
Site Position:		Northing:	627,983.43 usft	Latitude:	32° 43' 31.099 N
From:	Lat/Long	Easting:	699,925.80 usft	Longitude:	103° 49' 3.506 W
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0 28 °

Well	Serene Sisters 25 Federal #4H, Directional (Pathfinder)					
Well Position	+N/-S	0.0 usft	Northing:	623,082.06 usft	Latitude:	32° 42' 42.720 N
	+E/-W	0.0 usft	Easting:	697,423.46 usft	Longitude:	103° 49' 33.073 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore: VH - Job #32K0911940					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/30/2011	7 71	60.59	48,879

Design		VH - Job #32K0911940			
Audit Notes:					
Version:		1 0	Phase:		ACTUAL
			Tie On Depth:		0 0
Vertical Section:		Depth From (TVD)		+N/-S	+E/-W
		(usft)		(usft)	(usft)
		0 0		0 0	0.0
					343 66

Survey Program		Date 11/15/2011		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
100 0	7,430 0	Actual (VH - Job #32K0911940)	Keeper	Keeper Gyro

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure/Azimuth (°)	Closure Distance (usft)
0 0	0 00	0 00	0.0	0 0	0 0	0 00	0 0
100.0	0 35	29 11	100 0	0 3	0 1	29 11	0 3
200 0	0 37	24 21	200 0	0 8	0 4	27 42	0 9
300 0	0 35	31 87	300 0	1 4	0 7	27.62	1 6
400 0	0 35	25 09	400 0	1 9	1 0	27 86	2 2
500.0	0 38	34 26	500 0	2 5	1 3	28 32	2 8
600 0	0 32	347 70	600 0	3 0	1 5	25 79	3 3
700 0	0 41	356 19	700.0	3 6	1 4	20 65	3 9
800 0	0 40	343 84	800 0	4 3	1 3	16 11	4 5
900 0	0 42	334 29	900 0	5 0	1 0	11 27	5 1
1,000 0	0 46	343 68	1,000 0	5 7	0 7	7 23	5 8
1,100.0	0 33	321 80	1,100.0	6 3	0 4	3 93	6 3

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Serene Sisters 25 Federal #4H
Project:	Tamano	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K0911940	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0911940	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200.0	0.33	338.70	1,200.0	6.8	0.2	1.27	6.8
1,300.0	0.28	348.04	1,300.0	7.3	0.0	359.97	7.3
1,400.0	0.34	12.54	1,400.0	7.9	0.0	0.07	7.9
1,500.0	0.46	29.46	1,500.0	8.5	0.3	1.83	8.5
1,600.0	0.48	47.78	1,600.0	9.1	0.8	4.88	9.2
1,700.0	0.76	55.27	1,700.0	9.8	1.6	9.48	9.9
1,800.0	0.72	55.70	1,800.0	10.5	2.7	14.39	10.9
1,900.0	0.75	51.13	1,899.9	11.3	3.7	18.28	11.9
2,000.0	0.80	49.79	1,999.9	12.1	4.8	21.44	13.1
2,100.0	0.92	49.94	2,099.9	13.1	5.9	24.29	14.4
2,200.0	1.04	48.94	2,199.9	14.2	7.2	26.89	16.0
2,300.0	1.09	47.52	2,299.9	15.5	8.6	29.08	17.7
2,400.0	0.78	42.99	2,399.9	16.6	9.8	30.46	19.3
2,500.0	0.37	34.43	2,499.9	17.4	10.4	30.94	20.3
2,600.0	0.31	31.26	2,599.9	17.9	10.7	31.00	20.8
2,700.0	0.16	320.20	2,699.9	18.2	10.8	30.65	21.2
2,800.0	0.16	308.31	2,799.9	18.4	10.6	29.92	21.2
2,900.0	0.21	288.48	2,899.9	18.5	10.3	29.06	21.2
3,000.0	0.24	272.42	2,999.9	18.6	9.9	28.06	21.1
3,100.0	0.42	279.52	3,099.9	18.7	9.4	26.59	20.9
3,200.0	0.47	294.60	3,199.9	18.9	8.6	24.50	20.8
3,300.0	0.53	308.40	3,299.9	19.4	7.9	22.14	20.9
3,400.0	0.57	310.26	3,399.9	20.0	7.1	19.67	21.2
3,500.0	0.76	296.79	3,499.8	20.6	6.2	16.67	21.5
3,600.0	0.78	315.87	3,599.8	21.4	5.1	13.42	22.0
3,700.0	0.50	308.88	3,699.8	22.2	4.3	10.96	22.6
3,800.0	0.31	307.78	3,799.8	22.6	3.7	9.39	22.9
3,900.0	0.42	301.98	3,899.8	23.0	3.2	7.97	23.2
4,000.0	0.41	299.48	3,999.8	23.3	2.6	6.34	23.5
4,100.0	0.39	293.58	4,099.8	23.6	2.0	4.75	23.7
4,200.0	0.36	292.32	4,199.8	23.9	1.4	3.27	23.9
4,300.0	0.49	298.78	4,299.8	24.2	0.7	1.65	24.2
4,400.0	0.74	287.27	4,399.8	24.6	-0.3	359.32	24.6
4,500.0	0.60	299.12	4,499.8	25.1	-1.4	356.88	25.1
4,600.0	0.81	287.90	4,599.8	25.5	-2.5	354.41	25.7
4,700.0	0.80	295.41	4,699.8	26.0	-3.8	351.70	26.3
4,800.0	0.72	289.10	4,799.8	26.6	-5.0	349.28	27.0
4,900.0	0.85	282.27	4,899.8	26.9	-6.3	346.74	27.7
5,000.0	0.96	276.19	4,999.8	27.2	-7.9	343.78	28.3
5,100.0	1.04	268.06	5,099.7	27.2	-9.6	340.50	28.9
5,200.0	1.12	273.95	5,199.7	27.3	-11.5	337.08	29.6
5,300.0	1.09	275.59	5,299.7	27.4	-13.4	333.88	30.5
5,400.0	1.15	273.90	5,399.7	27.6	-15.4	330.83	31.6
5,500.0	1.24	280.14	5,499.7	27.8	-17.5	327.91	32.9

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Serene Sisters 25 Federal #4H
Project:	Tamano	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K0911940	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0911940	Database:	EDM-Regulatory

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
5,600.0	1.26	274.52	5,599.6	28.1	-19.6	325.09	34.3	
5,700.0	1.21	271.77	5,699.6	28.2	-21.8	322.36	35.7	
5,800.0	1.33	281.21	5,799.6	28.5	-24.0	319.93	37.2	
5,900.0	1.23	278.74	5,899.6	28.9	-26.2	317.83	39.0	
6,000.0	1.29	279.70	5,999.5	29.2	-28.3	315.90	40.7	
6,100.0	1.35	276.29	6,099.5	29.6	-30.6	313.99	42.6	
6,200.0	1.37	280.90	6,199.5	29.9	-33.0	312.22	44.5	
6,300.0	1.30	280.16	6,299.5	30.3	-35.3	310.71	46.5	
6,400.0	1.42	277.91	6,399.4	30.7	-37.6	309.24	48.5	
6,500.0	1.42	270.85	6,499.4	30.9	-40.1	307.64	50.6	
6,600.0	1.60	273.74	6,599.4	31.0	-42.7	305.99	52.8	
6,700.0	1.72	269.72	6,699.3	31.1	-45.6	304.29	55.2	
6,800.0	1.86	272.57	6,799.3	31.2	-48.7	302.60	57.8	
6,900.0	1.92	286.80	6,899.2	31.7	-51.9	301.41	60.8	
7,000.0	2.05	302.72	6,999.2	33.2	-55.0	301.07	64.3	
7,100.0	2.12	295.75	7,099.1	34.9	-58.2	300.97	67.9	
7,200.0	2.04	288.60	7,199.0	36.3	-61.6	300.53	71.5	
7,300.0	2.32	286.53	7,299.0	37.4	-65.2	299.87	75.2	
7,400.0	2.21	276.61	7,398.9	38.2	-69.0	298.98	78.9	
7,430.0	2.18	272.99	7,428.9	38.3	-70.2	298.64	80.0	

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Serene Sisters 25 Federal #4H
Project:	Tamano	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K11111122	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K11111122	Database:	EDM-Regulatory

Project:	Tamano		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Eddy County, NM			
Site Position:		Northing:	627,983.43 usft	Latitude:	32° 43' 31.099 N
From:	Lat/Long	Easting:	699,925.80 usft	Longitude:	103° 49' 3.506 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.28 °

Well: Serene Sisters 25 Federal #4H, Directional (Pathfinder)						
Well Position	+N/-S	0.0 usft	Northing:	623,082.06 usft	Latitude:	32° 42' 42.720 N
	+E/-W	0.0 usft	Easting:	697,423.46 usft	Longitude:	103° 49' 33.073 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore	VH - Job #32K1111122				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/16/2011	7 69	60 58	48,866

Design:		VH - Job #32K11111122			
Audit Notes:					
Version:		1 0	Phase:		ACTUAL
			Tie On Depth:		7,400 0
Vertical Section:		Depth From (TVD)		+N/-S	+E/-W
		(usft)		(usft)	(usft)
		0.0		0 0	0 0
				Direction	
				(°)	
				343 66	

Survey Program		Date	12/29/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	7,400.0	Actual (VH - Job #32K0911940)	Keeper	Keeper Gyro	
7,500.0	13,150.0	Gyro (VH - Job #32K1111122)	Keeper	Keeper Gyro	

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
7,400.0	2.21	276.61	7,398.9	38.2	-69.0	298.98	78.9
7,500.0	2.01	270.09	7,498.8	38.5	-72.7	297.88	82.3
7,525.0	2.16	274.24	7,523.8	38.5	-73.6	297.61	83.1
7,550.0	3.65	289.18	7,548.8	38.8	-74.8	297.40	84.3
7,575.0	6.40	296.59	7,573.7	39.7	-76.8	297.31	86.5
7,600.0	9.67	299.61	7,598.4	41.3	-79.9	297.36	90.0
7,625.0	13.26	301.75	7,622.9	43.9	-84.2	297.54	94.9
7,650.0	16.55	302.39	7,647.1	47.3	-89.6	297.83	101.3
7,675.0	18.89	302.62	7,670.9	51.4	-96.0	298.15	108.9
7,700.0	20.49	302.68	7,694.4	55.9	-103.1	298.48	117.3
7,725.0	22.23	303.31	7,717.7	60.9	-110.8	298.80	126.4

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Serene Sisters 25 Federal #4H
Project:	Tamano	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K11111122	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K11111122	Database:	EDM-Regulatory

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
7,750.0	24 04	302 78	7,740 7	66 3	-119 0	299 11	136 2	
7,775.0	25 99	302.65	7,763 3	72 0	-127 9	299 37	146 8	
7,800.0	27 91	302.88	7,785 6	78 1	-137.4	299 61	158 1	
7,825 0	29 19	302 66	7,807 6	84 6	-147 5	299 83	170 0	
7,850.0	29 87	302.11	7,829 3	91 2	-157 9	300 00	182.3	
7,875 0	30 61	301.17	7,850 9	97 8	-168 6	300.11	194 9	
7,900 0	31.40	300 12	7,872 4	104 3	-179.7	300 14	207 8	
7,925 0	31 75	299 13	7,893 7	110 8	-191 1	300 11	220.9	
7,950 0	32 99	297 32	7,914 8	117 1	-202 9	300 00	234 2	
7,975 0	35.09	295 58	7,935 5	123 4	-215 4	299 80	248 2	
8,000 0	37.92	294.64	7,955 6	129 7	-228 8	299 54	263 0	
8,025 0	40 89	294 02	7,974 9	136 2	-243 3	299 24	278 8	
8,050 0	43 87	294 30	7,993 4	143 1	-258 7	298 95	295 6	
8,075 0	46 56	295 36	8,011 0	150 6	-274 8	298 72	313 3	
8,100 0	48 39	296 25	8,027 9	158 6	-291 4	298 56	331 7	
8,125 0	50 33	297 55	8,044 2	167 2	-308 3	298 47	350 7	
8,150 0	52 50	298 93	8,059 8	176 4	-325 5	298 46	370 2	
8,175 0	55.21	299 52	8,074 5	186 3	-343.1	298 50	390 4	
8,200 0	57 99	299 72	8,088 3	196 6	-361 3	298 55	411 3	
8,225 0	61.33	299 81	8,100 9	207 3	-380 0	298.61	432 8	
8,250.0	64 53	299 85	8,112 3	218 4	-399 3	298 67	455 1	
8,275 0	66 87	299.58	8,122 5	229 7	-419 1	298 72	477 9	
8,300 0	69 30	299 27	8,131 9	241 0	-439 3	298 76	501 1	
8,325 0	71.87	299 07	8,140 2	252 5	-459 9	298 77	524 6	
8,350 0	74 07	298 68	8,147 5	264 1	-480 8	298.78	548 5	
8,375.0	75.66	298 09	8,154 0	275 6	-502 0	298.76	572 7	
8,400 0	77.64	297.79	8,159 8	286 9	-523 5	298.73	597 0	
8,425 0	80 32	298 17	8,164 6	298 5	-545 2	298 70	621 5	
8,450.0	83 58	298 98	8,168 1	310 3	-566 9	298 69	646.3	
8,475 0	87 89	299 59	8,169 9	322.5	-588 7	298 72	671 2	
8,500.0	90 99	300.29	8,170 2	335 0	-610.3	298 76	696 2	
8,525 0	92 36	300 80	8,169 5	347 7	-631 8	298 82	721 2	
8,550.0	92 52	300 72	8,168 4	360 4	-653 3	298 89	746 1	
8,575 0	91 82	299.25	8,167 4	372 9	-674.9	298.92	771 1	
8,600 0	91.67	297 96	8,166.7	384 9	-696 9	298.91	796 1	
8,625.0	91 19	297 57	8,166 1	396 5	-719 0	298.88	821 1	
8,650 0	90 99	297 79	8,165 6	408 1	-741 1	298 84	846 1	
8,675.0	91 10	299 34	8,165 1	420 1	-763 1	298 83	871.1	
8,700 0	91 03	301 05	8,164 7	432 7	-784 7	298.87	896 1	
8,725 0	91 31	301 56	8,164 2	445 7	-806 0	298 94	921 0	
8,750 0	91 62	301.57	8,163 5	458 7	-827 3	299 01	946 0	
8,775.0	91 68	302 91	8,162 8	472 1	-848 5	299 09	970 9	
8,800 0	92 43	304 20	8,161.9	485 9	-869 3	299 20	995 9	
8,825.0	92 77	304 24	8,160 8	499 9	-889 9	299 33	1,020 7	

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Serene Sisters 25 Federal #4H
Project:	Tamano	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K11111122	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K11111122	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
8,850.0	92.72	304.98	8,159.6	514.1	-910.5	299.45	1,045.6
8,875.0	91.87	307.14	8,158.6	528.8	-930.7	299.60	1,070.4
8,900.0	91.30	309.03	8,157.9	544.2	-950.3	299.80	1,095.1
8,925.0	91.10	309.08	8,157.4	560.0	-969.8	300.00	1,119.8
8,950.0	91.29	310.14	8,156.8	575.9	-989.0	300.21	1,144.5
8,975.0	91.27	312.38	8,156.3	592.4	-1,007.8	300.45	1,169.0
9,000.0	90.84	313.36	8,155.8	609.4	-1,026.1	300.71	1,193.4
9,025.0	90.61	313.19	8,155.5	626.5	-1,044.3	300.96	1,217.8
9,050.0	89.82	315.15	8,155.4	643.9	-1,062.3	301.22	1,242.2
9,075.0	89.81	317.19	8,155.5	662.0	-1,079.6	301.52	1,266.4
9,100.0	89.35	317.68	8,155.7	680.4	-1,096.5	301.82	1,290.4
9,125.0	89.01	317.90	8,156.0	698.9	-1,113.3	302.12	1,314.5
9,150.0	89.20	319.78	8,156.4	717.7	-1,129.7	302.43	1,338.4
9,175.0	89.51	321.74	8,156.7	737.1	-1,145.5	302.76	1,362.2
9,200.0	90.12	322.18	8,156.8	756.8	-1,160.9	303.10	1,385.8
9,225.0	90.35	322.74	8,156.7	776.6	-1,176.2	303.44	1,409.4
9,250.0	91.02	324.39	8,156.4	796.7	-1,191.0	303.78	1,432.9
9,275.0	91.44	326.53	8,155.8	817.3	-1,205.2	304.14	1,456.2
9,300.0	91.36	327.56	8,155.2	838.3	-1,218.8	304.52	1,479.2
9,325.0	91.55	328.52	8,154.6	859.5	-1,232.0	304.90	1,502.2
9,350.0	91.88	330.74	8,153.8	881.0	-1,244.6	305.29	1,524.9
9,375.0	91.36	333.22	8,153.1	903.1	-1,256.4	305.71	1,547.3
9,400.0	91.66	334.39	8,152.5	925.5	-1,267.4	306.14	1,569.4
9,425.0	91.58	334.79	8,151.8	948.1	-1,278.1	306.57	1,591.4
9,450.0	91.21	336.43	8,151.2	970.8	-1,288.5	307.00	1,613.3
9,475.0	91.40	337.68	8,150.6	993.9	-1,298.2	307.44	1,635.0
9,500.0	91.66	338.32	8,149.9	1,017.0	-1,307.6	307.88	1,656.5
9,525.0	92.33	340.39	8,149.1	1,040.4	-1,316.4	308.32	1,677.9
9,550.0	92.48	343.09	8,148.0	1,064.1	-1,324.2	308.79	1,698.8
9,575.0	92.58	344.35	8,146.9	1,088.1	-1,331.2	309.26	1,719.3
9,600.0	92.22	344.59	8,145.9	1,112.2	-1,337.9	309.74	1,739.8
9,625.0	92.43	346.38	8,144.8	1,136.4	-1,344.1	310.21	1,760.1
9,650.0	92.87	348.78	8,143.7	1,160.7	-1,349.5	310.70	1,780.0
9,675.0	93.28	350.65	8,142.3	1,185.3	-1,354.0	311.20	1,799.5
9,700.0	92.55	351.78	8,141.1	1,210.0	-1,357.8	311.71	1,818.7
9,725.0	91.35	352.52	8,140.2	1,234.7	-1,361.2	312.21	1,837.8
9,750.0	91.42	352.67	8,139.6	1,259.5	-1,364.4	312.71	1,856.9
9,775.0	91.64	352.49	8,139.0	1,284.3	-1,367.6	313.20	1,876.1
9,800.0	91.44	351.25	8,138.3	1,309.0	-1,371.2	313.67	1,895.7
9,825.0	88.88	349.74	8,138.2	1,333.7	-1,375.3	314.12	1,915.8
9,850.0	88.05	348.99	8,138.9	1,358.2	-1,379.9	314.55	1,936.2
9,875.0	88.33	349.06	8,139.7	1,382.8	-1,384.7	314.96	1,956.9
9,900.0	88.49	350.36	8,140.4	1,407.4	-1,389.1	315.37	1,977.5
9,925.0	88.95	352.08	8,140.9	1,432.1	-1,393.0	315.79	1,997.8
9,950.0	88.58	352.45	8,141.5	1,456.8	-1,396.3	316.21	2,017.9

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Serene Sisters 25 Federal #4H
Project:	Tamano	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K11111122	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K11111122	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
9,975.0	88.92	352.73	8,142.0	1,481.6	-1,399.5	316.63	2,038.1
10,000.0	89.78	355.33	8,142.3	1,506.5	-1,402.1	317.05	2,058.0
10,025.0	90.55	358.04	8,142.2	1,531.4	-1,403.6	317.49	2,077.3
10,050.0	91.28	359.65	8,141.8	1,556.4	-1,404.1	317.95	2,096.2
10,075.0	91.42	0.32	8,141.2	1,581.4	-1,404.1	318.40	2,114.8
10,100.0	90.95	0.27	8,140.7	1,606.4	-1,404.0	318.85	2,133.5
10,125.0	91.21	0.17	8,140.2	1,631.4	-1,403.9	319.29	2,152.3
10,150.0	91.62	0.15	8,139.6	1,656.4	-1,403.8	319.72	2,171.3
10,175.0	91.28	359.68	8,139.0	1,681.4	-1,403.8	320.14	2,190.4
10,200.0	90.84	359.02	8,138.5	1,706.4	-1,404.1	320.55	2,209.8
10,225.0	90.64	358.46	8,138.2	1,731.4	-1,404.7	320.95	2,229.5
10,250.0	90.78	358.59	8,137.9	1,756.4	-1,405.3	321.34	2,249.4
10,275.0	91.12	358.51	8,137.5	1,781.4	-1,406.0	321.72	2,269.3
10,300.0	91.17	358.47	8,137.0	1,806.3	-1,406.6	322.09	2,289.4
10,325.0	91.24	358.48	8,136.5	1,831.3	-1,407.3	322.46	2,309.6
10,350.0	91.33	358.80	8,135.9	1,856.3	-1,407.9	322.82	2,329.8
10,375.0	91.07	0.43	8,135.4	1,881.3	-1,408.0	323.19	2,349.9
10,400.0	91.02	1.60	8,134.9	1,906.3	-1,407.6	323.56	2,369.7
10,425.0	91.01	1.99	8,134.5	1,931.3	-1,406.8	323.93	2,389.3
10,450.0	91.35	1.93	8,134.0	1,956.3	-1,406.0	324.30	2,409.1
10,475.0	91.54	1.97	8,133.3	1,981.2	-1,405.1	324.66	2,428.9
10,500.0	91.43	1.91	8,132.7	2,006.2	-1,404.3	325.01	2,448.8
10,525.0	91.40	1.81	8,132.1	2,031.2	-1,403.5	325.36	2,468.9
10,550.0	91.16	1.80	8,131.5	2,056.2	-1,402.7	325.70	2,489.0
10,575.0	91.22	1.81	8,131.0	2,081.2	-1,401.9	326.04	2,509.3
10,600.0	90.87	1.72	8,130.5	2,106.1	-1,401.1	326.37	2,529.6
10,625.0	91.19	1.26	8,130.1	2,131.1	-1,400.5	326.69	2,550.1
10,650.0	91.38	0.86	8,129.5	2,156.1	-1,400.0	327.00	2,570.8
10,675.0	91.15	0.76	8,129.0	2,181.1	-1,399.6	327.31	2,591.6
10,700.0	91.14	0.64	8,128.5	2,206.1	-1,399.3	327.61	2,612.5
10,725.0	91.29	0.83	8,127.9	2,231.1	-1,399.0	327.91	2,633.4
10,750.0	91.55	0.75	8,127.3	2,256.1	-1,398.7	328.20	2,654.5
10,775.0	91.01	0.74	8,126.8	2,281.1	-1,398.3	328.49	2,675.6
10,800.0	90.87	0.94	8,126.4	2,306.1	-1,398.0	328.78	2,696.7
10,825.0	91.24	1.11	8,125.9	2,331.1	-1,397.5	329.06	2,717.9
10,850.0	91.45	1.27	8,125.3	2,356.1	-1,397.0	329.33	2,739.1
10,875.0	91.43	1.39	8,124.7	2,381.0	-1,396.4	329.61	2,760.3
10,900.0	91.23	1.29	8,124.1	2,406.0	-1,395.8	329.88	2,781.6
10,925.0	91.56	1.13	8,123.5	2,431.0	-1,395.3	330.15	2,803.0
10,950.0	91.38	0.91	8,122.8	2,456.0	-1,394.9	330.41	2,824.5
10,975.0	91.62	1.14	8,122.2	2,481.0	-1,394.4	330.66	2,846.0
11,000.0	91.31	1.20	8,121.6	2,506.0	-1,393.9	330.92	2,867.6
11,025.0	91.26	1.17	8,121.0	2,531.0	-1,393.4	331.17	2,889.2
11,050.0	90.66	0.98	8,120.6	2,556.0	-1,392.9	331.41	2,910.9

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Serene Sisters 25 Federal #4H
Project:	Tamano	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K1111122	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1111122	Database:	EDM-Regulatory

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure (usft)	Azimuth (°)	Closure Distance (usft)
11,075.0	90.88	1 01	8,120.2	2,580.9	-1,392.5	331.65		2,932.6
11,100.0	91.29	0 78	8,119.8	2,605.9	-1,392.1	331.89		2,954.5
11,125.0	90.40	0 66	8,119.4	2,630.9	-1,391.8	332.12		2,976.4
11,150.0	89.96	0 43	8,119.3	2,655.9	-1,391.6	332.35		2,998.4
11,175.0	89.92	0 13	8,119.3	2,680.9	-1,391.4	332.57		3,020.5
11,200.0	89.62	359.49	8,119.4	2,705.9	-1,391.5	332.79		3,042.8
11,225.0	88.63	358.85	8,119.8	2,730.9	-1,391.9	332.99		3,065.2
11,250.0	88.56	358.59	8,120.4	2,755.9	-1,392.4	333.19		3,087.7
11,275.0	88.46	358.52	8,121.1	2,780.9	-1,393.1	333.39		3,110.3
11,300.0	88.45	358.54	8,121.8	2,805.9	-1,393.7	333.59		3,132.9
11,325.0	88.89	358.78	8,122.3	2,830.9	-1,394.3	333.78		3,155.6
11,350.0	88.89	358.68	8,122.8	2,855.9	-1,394.8	333.97		3,178.3
11,375.0	89.24	358.73	8,123.2	2,880.8	-1,395.4	334.16		3,201.0
11,400.0	89.24	359.17	8,123.6	2,905.8	-1,395.9	334.34		3,223.7
11,425.0	89.63	359.67	8,123.8	2,930.8	-1,396.1	334.53		3,246.4
11,450.0	90.35	359.86	8,123.8	2,955.8	-1,396.2	334.72		3,269.0
11,475.0	91.06	359.93	8,123.5	2,980.8	-1,396.3	334.90		3,291.6
11,500.0	90.78	359.97	8,123.1	3,005.8	-1,396.3	335.08		3,314.3
11,525.0	90.73	0 00	8,122.8	3,030.8	-1,396.3	335.26		3,337.0
11,550.0	91.07	0 08	8,122.4	3,055.8	-1,396.3	335.44		3,359.7
11,575.0	91.16	0 01	8,121.9	3,080.8	-1,396.3	335.62		3,382.5
11,600.0	91.18	0 00	8,121.4	3,105.8	-1,396.3	335.79		3,405.2
11,625.0	90.86	0 00	8,120.9	3,130.8	-1,396.3	335.96		3,428.0
11,650.0	91.45	0 09	8,120.4	3,155.8	-1,396.2	336.13		3,450.9
11,675.0	91.98	0 16	8,119.7	3,180.8	-1,396.2	336.30		3,473.7
11,700.0	92.53	0 32	8,118.7	3,205.8	-1,396.1	336.47		3,496.6
11,725.0	92.21	0 34	8,117.7	3,230.8	-1,395.9	336.63		3,519.4
11,750.0	92.52	0 22	8,116.6	3,255.7	-1,395.8	336.79		3,542.3
11,775.0	92.36	0 48	8,115.6	3,280.7	-1,395.7	336.95		3,565.2
11,800.0	90.54	0 80	8,114.9	3,305.7	-1,395.4	337.11		3,588.1
11,825.0	90.28	1 00	8,114.8	3,330.7	-1,395.0	337.27		3,611.0
11,850.0	90.54	0 92	8,114.6	3,355.7	-1,394.6	337.43		3,633.9
11,875.0	90.26	0 92	8,114.4	3,380.7	-1,394.2	337.59		3,656.9
11,900.0	90.79	0 98	8,114.2	3,405.7	-1,393.8	337.74		3,679.8
11,925.0	91.16	0 99	8,113.8	3,430.7	-1,393.3	337.90		3,702.8
11,950.0	91.62	1 08	8,113.2	3,455.7	-1,392.9	338.05		3,725.8
11,975.0	90.91	1 09	8,112.6	3,480.6	-1,392.4	338.20		3,748.8
12,000.0	91.04	1 18	8,112.2	3,505.6	-1,391.9	338.34		3,771.9
12,025.0	91.88	1 15	8,111.5	3,530.6	-1,391.4	338.49		3,794.9
12,050.0	91.92	1 52	8,110.7	3,555.6	-1,390.8	338.64		3,817.9
12,075.0	91.99	1 86	8,109.9	3,580.6	-1,390.1	338.78		3,840.9
12,100.0	92.18	1 97	8,108.9	3,605.6	-1,389.2	338.93		3,863.9
12,125.0	91.34	1 27	8,108.2	3,630.5	-1,388.5	339.07		3,887.0
12,150.0	89.04	359.83	8,108.1	3,655.5	-1,388.3	339.20		3,910.3

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Serene Sisters 25 Federal #4H
Project:	Tamano	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #4H	North Reference:	Grid
Wellbore:	VH - Job #32K11111122	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K11111122	Database:	EDM-Regulatory

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
12,175.0	88.72	358.88	8,108.6	3,680.5	-1,388.6	339.33	3,933.7	
12,200.0	88.63	358.40	8,109.2	3,705.5	-1,389.2	339.45	3,957.3	
12,225.0	88.07	357.34	8,109.9	3,730.5	-1,390.1	339.56	3,981.1	
12,250.0	87.97	356.49	8,110.7	3,755.4	-1,391.4	339.67	4,004.9	
12,275.0	88.05	356.33	8,111.6	3,780.4	-1,393.0	339.77	4,028.8	
12,300.0	88.57	356.54	8,112.4	3,805.3	-1,394.6	339.87	4,052.8	
12,325.0	88.20	356.81	8,113.1	3,830.2	-1,396.0	339.97	4,076.7	
12,350.0	88.34	356.86	8,113.8	3,855.2	-1,397.4	340.08	4,100.6	
12,375.0	88.45	357.00	8,114.5	3,880.2	-1,398.7	340.18	4,124.6	
12,400.0	88.28	357.65	8,115.2	3,905.1	-1,399.9	340.28	4,148.5	
12,425.0	88.18	358.10	8,116.0	3,930.1	-1,400.8	340.38	4,172.3	
12,450.0	87.97	358.39	8,116.8	3,955.1	-1,401.6	340.49	4,196.1	
12,475.0	88.12	358.52	8,117.7	3,980.0	-1,402.3	340.59	4,219.8	
12,500.0	88.27	359.04	8,118.5	4,005.0	-1,402.8	340.70	4,243.6	
12,525.0	88.17	359.98	8,119.3	4,030.0	-1,403.0	340.80	4,267.2	
12,550.0	88.66	0.31	8,119.9	4,055.0	-1,402.9	340.92	4,290.8	
12,575.0	88.16	0.42	8,120.6	4,080.0	-1,402.8	341.03	4,314.4	
12,600.0	88.44	0.48	8,121.4	4,105.0	-1,402.6	341.14	4,338.0	
12,625.0	88.91	0.64	8,122.0	4,130.0	-1,402.3	341.24	4,361.6	
12,650.0	89.00	0.80	8,122.4	4,155.0	-1,402.0	341.35	4,385.1	
12,675.0	88.82	0.98	8,122.9	4,180.0	-1,401.6	341.46	4,408.7	
12,700.0	88.86	1.05	8,123.4	4,204.9	-1,401.2	341.57	4,432.3	
12,725.0	88.97	1.19	8,123.9	4,229.9	-1,400.7	341.68	4,455.8	
12,750.0	89.30	1.39	8,124.2	4,254.9	-1,400.1	341.79	4,479.4	
12,775.0	89.36	1.58	8,124.5	4,279.9	-1,399.5	341.89	4,502.9	
12,800.0	89.43	1.64	8,124.8	4,304.9	-1,398.8	342.00	4,526.5	
12,825.0	89.36	1.81	8,125.1	4,329.9	-1,398.0	342.11	4,550.0	
12,850.0	89.41	1.93	8,125.3	4,354.9	-1,397.2	342.21	4,573.5	
12,875.0	89.76	1.88	8,125.5	4,379.9	-1,396.4	342.32	4,597.1	
12,900.0	89.84	2.00	8,125.6	4,404.8	-1,395.6	342.42	4,620.6	
12,925.0	90.08	2.33	8,125.6	4,429.8	-1,394.6	342.52	4,644.2	
12,950.0	89.83	2.57	8,125.6	4,454.8	-1,393.5	342.63	4,667.7	
12,975.0	90.02	2.65	8,125.7	4,479.8	-1,392.4	342.73	4,691.2	
13,000.0	90.33	2.89	8,125.6	4,504.8	-1,391.2	342.84	4,714.7	
13,025.0	90.46	3.11	8,125.4	4,529.7	-1,389.9	342.94	4,738.2	
13,050.0	90.23	3.11	8,125.3	4,554.7	-1,388.5	343.05	4,761.6	
13,075.0	90.40	3.20	8,125.1	4,579.6	-1,387.2	343.15	4,785.1	
13,100.0	90.53	3.39	8,124.9	4,604.6	-1,385.7	343.25	4,808.6	
13,125.0	91.17	3.54	8,124.6	4,629.6	-1,384.2	343.35	4,832.1	
13,150.0	91.51	3.66	8,124.0	4,654.5	-1,382.6	343.46	4,855.5	



Project: Tamano
Eddy County, NM
Well: Serene Sisters 25 Federal #4H
Wellbore: VH - Job #32K11111122
Design: VH - Job #32K11111122

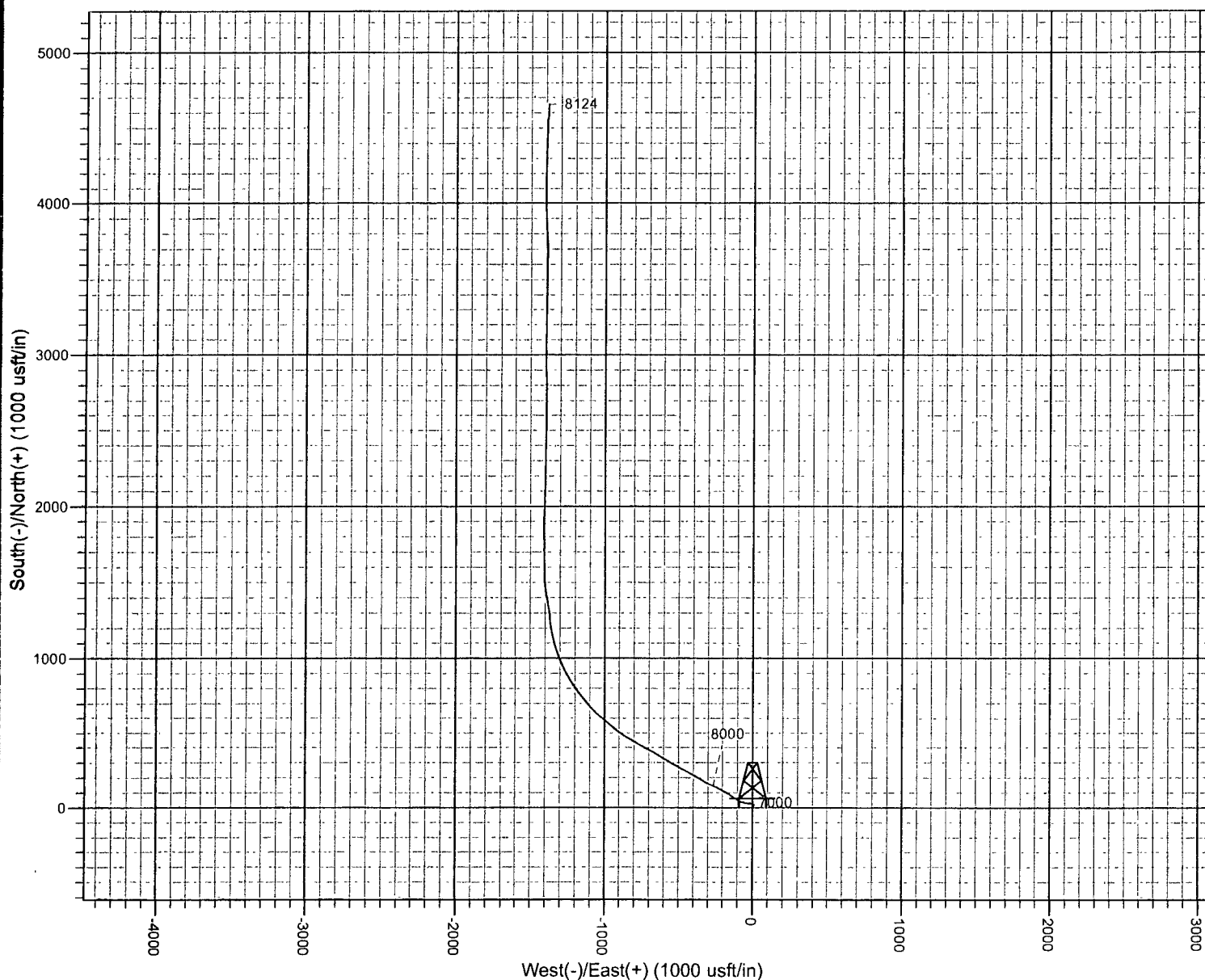


Azimuths to Grid North
True North -0 27°
Magnetic North 7 42°
Magnetic Field
Strength: 48866 0snT
Dip Angle 60 58°
Date: 11/16/2011
Model IGRF2010

WELL DETAILS: Serene Sisters 25 Federal #4H
WELL @ 0.0usft (Original Well Elev)

Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	623082.06	697423.46	32° 42' 42.720 N	103° 49' 33.073 W	



PROJECT DETAILS: Tamano
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

SITE DETAILS: Eddy County, NM
Site Centre Latitude: 32° 43' 31.099 N
Longitude: 103° 49' 3.506 W
Positional Uncertainty: 0.0
Convergence: 0.28
Local North: Grid