

30-015 38313

DEVON ENERGY

Tamano

Eddy County, NM

Serene Sisters 25 Federal #2H

VH - Job #32K0811728

Survey: Actual

SDI Standard Survey Report

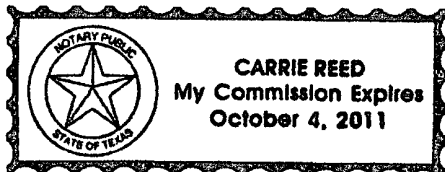
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notarized this date 2nd of September, 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 #2H
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 #2H	North Reference:	Grid
Wellbore:	VH - Job #32K0811728	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0811728	Database:	EDM-Regulatory

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

Site:	Eddy County, NM		
Site Position:		Northing:	627,983 43 usft
From:	Lat/Long	Easting:	699,925 80 usft
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 43' 31 099 N
		Longitude:	103° 49' 3 506 W
		Grid Convergence:	0 28 °

Well:	Serene Sisters 25 Federal #2H, Directional (Pathfinder)					
Well Position	+N/-S	0 0 usft	Northing:	627,982 98 usft	Latitude:	32° 43' 31 097 N
	+E/-W	0 0 usft	Easting:	699,875 83 usft	Longitude:	103° 49' 4 091 W
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level:	0 0 usft

Wellbore	VH - Job #32K0811728				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/1/2011	7 72	60 61	48,904

Design	VH - Job #32K0811728			
Audit Notes:				
Version:	10	Phase:	ACTUAL	Tie On Depth: 00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	00	00	00	187.62

Survey Program	Date	10/13/2011		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
100 0	7,522 0	Actual (VH - Job #32K0811728)	Keeper	Keeper Gyro

Survey								
Measured Depth	Inclination	Azimuth	True Vertical	North/South	East/West	Closure Azimuth	Closure Distance	
(usft)	(°)	(°)	Depth	(usft)	(usft)	(°)	(usft)	
0 0	0 00	0 00	0 0	0 0	0 0	0 00	0 0	
100 0	0 16	240 57	100 0	-0 1	-0 1	240 57	0 1	
200 0	0 27	252 93	200 0	-0 2	-0 5	246 22	0 5	
300 0	0 26	227 08	300 0	-0 4	-0 9	243 43	1 0	
400 0	0 26	228 97	400 0	-0 7	-1 2	238 50	1 4	
500 0	0 29	231 41	500 0	-1 0	-1 6	236 41	1 9	
600 0	0 39	245 18	600 0	-1 3	-2 1	237 10	2 5	
700 0	0 59	256 07	700 0	-1 6	-2 9	240 84	3 3	
800 0	0 59	256 47	800 0	-1 9	-3 9	244 49	4 3	
900 0	0 63	270 83	900 0	-2 0	-4 9	248 28	5 3	
1,000 0	0 27	339 06	1,000 0	-1 7	-5 6	252 67	5 8	
1,100 0	0 21	5 21	1,100 0	-1 3	-5 6	256 68	5 8	

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SDI Standard Survey Report



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Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Serene Sisters 25 Federal #2H	North Reference:	Grid
Wellbore:	VH - Job #32K0811728	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0811728	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 40	5 08	1,200 0	-0 8	-5 6	261 81	5 6	
1,300 0	0 39	2 16	1,300 0	-0 1	-5 5	268 80	5 5	
1,400 0	0 45	36 63	1,400 0	0 5	-5 3	275 81	5 3	
1,500 0	0 41	40 98	1,500 0	1 1	-4 8	283 11	5 0	
1,600 0	0 51	36 59	1,600 0	1 8	-4 3	292 04	4 7	
1,700 0	0 54	32 46	1,700 0	2 5	-3 8	303 36	4 6	
1,800 0	0 51	36 14	1,800 0	3 3	-3 3	314 75	4 6	
1,900 0	0 57	52 38	1,900 0	3 9	-2 6	326 13	4 7	
2,000 0	0 74	50 63	1,999 9	4 6	-1 7	339 41	5 0	
2,100 0	1 18	51 56	2,099 9	5 7	-0 4	355 61	5 7	
2,200 0	1 32	51 52	2,199 9	7 0	1 3	10 22	7 2	
2,300 0	1 24	47 85	2,299 9	8 5	3 0	19 31	9 0	
2,400 0	1 07	42 59	2,399 9	9 9	4 4	24 00	10 8	
2,500 0	0 76	18 80	2,499 8	11 2	5 3	25 10	12 4	
2,600 0	0 73	3 21	2,599 8	12 5	5 5	23 79	13 6	
2,700 0	0 78	338 23	2,699 8	13 8	5 3	21 03	14 7	
2,800 0	0 73	337 37	2,799 8	15 0	4 8	17 74	15 7	
2,900 0	0 65	324 51	2,899 8	16 0	4 2	14 74	16 6	
3,000 0	0 54	327 76	2,999 8	16 9	3 6	12 15	17 3	
3,100 0	0 32	315 48	3,099 8	17 5	3 2	10 33	17 8	
3,200 0	0 40	309 74	3,199 8	17 9	2 7	8 65	18 1	
3,300 0	0 35	339 81	3,299 8	18 4	2 3	7 27	18 6	
3,400 0	0 32	325 51	3,399 8	18 9	2 1	6 29	19 0	
3,500 0	0 41	342 31	3,499 8	19 5	1 8	5 33	19 6	
3,600 0	0 52	339 96	3,599 8	20 3	1 6	4 39	20 3	
3,700 0	0 64	346 23	3,699 8	21 2	1 3	3 41	21 3	
3,800 0	0 75	335 83	3,799 8	22 4	0 9	2 21	22 4	
3,900 0	0 76	336 12	3,899 8	23 6	0 3	0 80	23 6	
4,000 0	0 86	338 60	3,999 8	24 9	-0 2	359 51	24 9	
4,100 0	0 84	334 54	4,099 8	26 2	-0 8	358 25	26 3	
4,200 0	0 88	334 26	4,199 7	27 6	-1 5	356 99	27 6	
4,300 0	0 87	339 06	4,299 7	29 0	-2 1	355 94	29 1	
4,400 0	0 93	339 78	4,399 7	30 5	-2 6	355 11	30 6	
4,500 0	0 95	334 81	4,499 7	32 0	-3 2	354 21	32 1	
4,600 0	0 96	336 63	4,599 7	33 5	-3 9	353 32	33 7	
4,700 0	1 10	348 76	4,699 7	35 2	-4 4	352 80	35 5	
4,800 0	1 14	342 23	4,799 7	37 1	-4 9	352 42	37 4	
4,900 0	1 17	347 90	4,899 6	39 0	-5 5	352 05	39 4	
5,000 0	1 28	351 25	4,999 6	41 1	-5 8	351 92	41 6	
5,100 0	1 29	349 19	5,099 6	43 4	-6 2	351 84	43 8	
5,200 0	1 23	347 85	5,199 6	45 5	-6 7	351 68	46 0	
5,300 0	1 04	353 15	5,299 5	47 5	-7 0	351 62	48 0	
5,400 0	0 98	354 57	5,399 5	49 2	-7 2	351 70	49 7	
5,500 0	0 93	358 97	5,499 5	50 9	-7 3	351 86	51 4	

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SDI Standard Survey Report



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Well:	Serene Sisters 25 Federal #2H	North Reference:	Grid
Wellbore:	VH - Job #32K0811728	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0811728	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	0 93	2 62	5,599 5	52 5	-7 3	352 13	53 0	
5,700 0	1 01	358 96	5,699 5	54 2	-7 2	352 40	54 7	
5,800 0	0 98	4 41	5,799 5	55 9	-7 2	352 68	56 4	
5,900 0	0 95	4 47	5,899 5	57 6	-7 1	353 02	58 0	
6,000 0	1 09	19 28	5,999 4	59 3	-6 7	353 58	59 7	
6,100 0	1 28	29 24	6,099 4	61 2	-5 8	354 57	61 5	
6,200 0	1 42	38 85	6,199 4	63 1	-4 5	355 93	63 3	
6,300 0	1 48	27 14	6,299 4	65 3	-3 1	357 26	65 3	
6,400 0	1 51	23 08	6,399 3	67 6	-2 0	358 29	67 6	
6,500 0	1 24	16 64	6,499 3	69 9	-1 2	359 02	69 9	
6,600 0	1 11	14 98	6,599 3	71 8	-0 6	359 50	71 8	
6,700 0	1 23	12 81	6,699 3	73 8	-0 1	359 89	73 8	
6,800 0	1 37	15 18	6,799 2	76 0	0 4	0 31	76 0	
6,900 0	1 53	3 21	6,899 2	78 5	0 8	0 58	78 5	
7,000 0	1 56	353 52	6,999 2	81 2	0 7	0 51	81 2	
7,100 0	1 65	339 94	7,099 1	83 9	0 1	0 05	83 9	
7,200 0	1 72	331 97	7,199 1	86 6	-1 1	359 25	86 6	
7,300 0	1 82	329 43	7,299 0	89 3	-2 6	358 30	89 3	
7,400 0	1 62	328 89	7,399 0	91 8	-4 2	357 39	91 9	
7,500 0	1 44	339 69	7,499 0	94 2	-5 3	356 75	94 4	
7,522 0	1 38	328 70	7,520 9	94 7	-5 6	356 63	94 9	



Scientific Drilling
Directional Drilling Operations

Project: Tamano
Eddy County, NM
Well: Serene Sisters 25 Federal #2H
Wellbore: VH - Job #32K0811728
Design: VH - Job #32K0811728



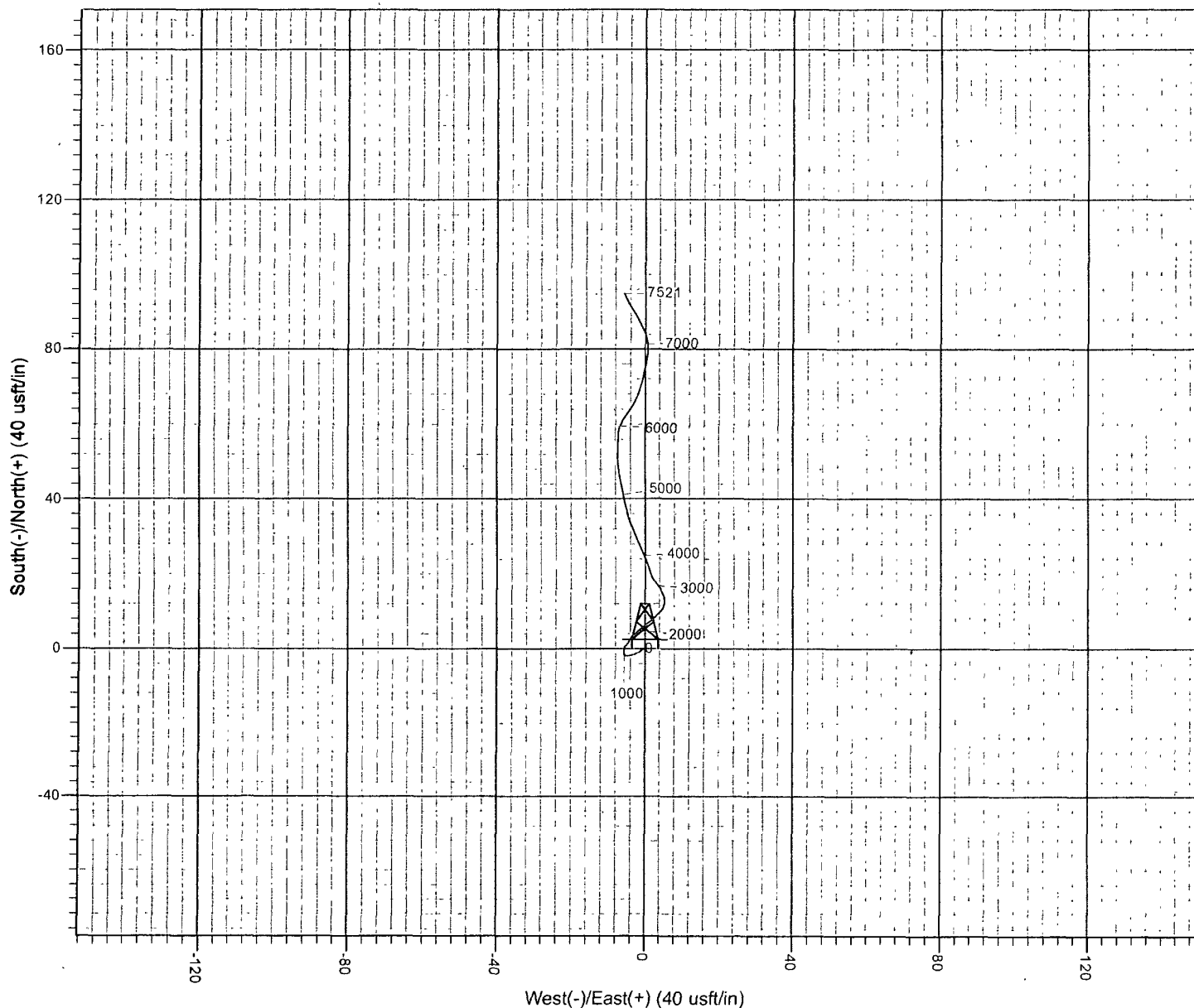
Azimuths to Grid North
True North -0.28°
Magnetic North 7.45°

Magnetic Field
Strength 48904.5nT
Dip Angle 60.61°
Date 8/1/2011
Model IGRF2010

WELL DETAILS: Serene Sisters 25 Federal #2H
WELL @ 0.0usft (Original Well Elev)

Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	627982.98	699875.83	32° 43' 31.097 N	103° 49' 4.091 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

Pathfinder

6213 WCR, 112
Midland, Texas 79706
Tel (432)687-1647
Fax (432)687-1544



August 22, 2011

Devon Energy
20 N. Broadway
Oklahoma City, OK

RE: Devon Energy
Serene Sisters 25 Federal #2H
API: 30-015-38313
Eddy County, NM
RIG: H&P 300
FIELD: Hackberry; Bone Spring
PES FILE NO.: 700003158-WT-WT

To whom it may concern:

We hereby certify that the enclosed Original Field Survey Data contained in this report represents to the best of our knowledge, a true and accurate survey of the well at the time the survey was run.

DIRECTIONAL SURVEY DATA
1 – Original survey report
2 – Survey report copies

We appreciate the opportunity to work with you and we look forward to your business support. If you have any questions, I can be reached at (432) 687-1647

Sincerely,

A handwritten signature in black ink, appearing to read "Francisco Sinisterra".

FRANCISCO SINISTERRA
M/LWD Service Coordinator
PathFinder Energy Services

ML:sh



A Schlumberger Company

DIRECTIONAL SURVEY REPORT

DEVON ENERGY

SERENE SISTERS 25 FEDERAL #2H

EDDY COUNTY, NEW MEXICO

PREPARED BY: FRANCISCO SINISTERRA

Pathfinder

6213 WCF 112
Midland, Texas 79706
Tel (432)687-1647
Fax (432)697-1544



DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) CHARLIE SANDIFER
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 08-01-11 TO 08-10-11
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

DEVON ENERGY
SERENE SISTERS 25 FEDERAL #2H
EDDY COUNTY, NM
RIG: H&P 300

9. SURVEY CERTIFIED FROM: 7593 TO 12803 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 4710.29 FEET ON A BEARING OF 186.91 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 12865 FEET,
ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.


FRANCISCO SINISTERRA
M/LWD SERVICE COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 08/01/2011
Date Completed: 08/10/2011

DEVON ENERGY CORPORATION**SERENE SISTERS 25 FED #2H****EDDY COUNTY, NM****Rig:H&P 300****PathFinder Office Supervisor: Francisco Sinisterra****PathFinder Field Engineers:Charlie Sandifer****Saul Carrillo****Survey Horiz. Reference:WELLHEAD****Ref Coordinates: LAT:32.43.30.3763 N LON:103.49.3.5104 W****GRID Reference:NAD83 new mexico east Transverse Mercator****Ref GRID Coord: X: 699925.7800 Y: 627910.3900****North Aligned To:GRID NORTH****Total Magnetic Correction: 7.45° EAST TO GRID****Vertical Section Plane: 186.80****Survey Vert. Reference: 26.00' Rotary Table To Ground****Altitude:3699.70' Ground To MSL**

Measured Depth	12865.00	(feet)
Inclination	90.57	(deg)
Azimuth	177.96	(deg)
True Vertical Depth	8225.93	(feet)
Vertical Section	4710.28	(feet)
Survey X cord	699359.07	(feet)
Survey Y cord	623234.32	(feet)
Survey Lat	32.71225954 N	(deg)
Survey Lon	103.81955823 W	(deg)
Rectangular Corr. N/S	4676.07 S	(feet)
Rectangular Corr. E/W	566.71 W	(feet)
Closure Distance	4710.29	(feet)
Direction of Closure	186.91	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY CORPORATION

SERENE SISTERS 25 FED #2H

EDDY COUNTY, NM

Rig:H&P 300

PathFinder Office Supervisor: Francisco Sinisterra

PathFinder Field Engineers: Charlie Sandifer

Saul Carrillo

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:32.43.30.3763 N LON:103.49.3.5104 W

GRID Reference:NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 699925.7800 Y: 627910.3900

North Aligned To:GRID NORTH

Total Magnetic Correction: 7.45° EAST TO GRID

Vertical Section Plane: 186.80

Survey Vert. Reference: 26.00' Rotary Table To Ground

Altitude:3699.70' Ground To MSL

Survey Calculations by RX5 V6.03E using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
TIED-IN TO SCIENTIFIC DATA GYRO SURVEY @ 7522' MD.										
7522.00	1.38	328.70	7520.95	0.00	-93.39	94.72 N	5.58 W	94.88@	356.63	0.00
THE FOLLOWING ARE PATHFINDER MWD SUREVEYS										
7593.00	0.97	293.53	7591.94	71.00	-94.24	95.69 N	6.58 W	95.92@	356.07	1.14
7625.00	3.43	230.08	7623.91	32.00	-93.62	95.18 N	7.56 W	95.48@	355.46	9.75
7656.00	7.47	220.76	7654.77	31.00	-91.27	93.06 N	9.59 W	93.55@	354.12	13.30
7688.00	11.17	219.62	7686.34	32.00	-86.94	89.10 N	12.92 W	90.03@	351.75	11.58
7719.00	14.42	218.30	7716.57	31.00	-81.12	83.75 N	17.23 W	85.51@	348.38	10.53
7751.00	16.88	214.87	7747.38	32.00	-73.63	76.81 N	22.36 W	80.00@	343.77	8.21
7782.00	19.70	213.03	7776.81	31.00	-64.97	68.74 N	27.78 W	74.14@	338.00	9.28
7813.00	22.51	214.26	7805.73	31.00	-55.01	59.45 N	33.97 W	68.47@	330.26	9.18
7845.00	24.45	215.84	7835.08	32.00	-43.79	49.02 N	41.30 W	64.10@	319.89	6.37
7877.00	26.47	215.93	7863.97	32.00	-31.76	37.88 N	49.36 W	62.22@	307.50	6.31
7907.00	28.67	214.43	7890.56	30.00	-19.55	26.52 N	57.35 W	63.19@	294.82	7.69
7940.00	31.83	213.03	7919.06	33.00	-4.72	12.70 N	66.57 W	67.77@	280.80	9.81
7971.00	34.56	212.76	7945.00	31.00	10.52	1.55 S	75.79 W	75.80@	268.82	8.82
8002.00	37.37	212.68	7970.09	31.00	26.89	16.87 S	85.63 W	87.27@	258.85	9.07
8034.00	40.10	212.41	7995.05	32.00	44.92	33.75 S	96.40 W	102.13@	250.71	8.55
8066.00	42.38	212.50	8019.11	32.00	63.94	51.55 S	107.72 W	119.42@	244.43	7.13
8097.00	44.32	212.94	8041.65	31.00	83.08	69.45 S	119.22 W	137.97@	239.78	6.33
8129.00	46.96	213.55	8064.02	32.00	103.56	88.58 S	131.76 W	158.77@	236.09	8.36
8160.00	50.56	214.26	8084.45	31.00	124.30	107.92 S	144.77 W	180.57@	233.30	11.74
8192.00	53.46	214.61	8104.15	32.00	146.64	128.72 S	159.03 W	204.59@	231.01	9.10
8223.00	57.16	213.99	8121.79	31.00	169.25	149.77 S	173.39 W	229.12@	229.18	12.05
8254.00	60.85	213.29	8137.75	31.00	192.96	171.89 S	188.10 W	254.81@	227.58	12.06
8286.00	64.90	212.76	8152.34	32.00	218.50	195.77 S	203.62 W	282.47@	226.13	12.74

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY CORPORATION
SERENE SISTERS 25 FED #2H
EDDY COUNTY, NM
RIG:H&P 300

Page 02/03

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
8318.00	68.24	212.94	8165.06	32.00	244.88	220.43 S	219.55 W	311.11@	224.88	10.45
8349.00	70.61	213.55	8175.95	31.00	270.86	244.70 S	235.46 W	339.59@	223.90	7.86
8380.00	73.86	213.82	8185.41	31.00	297.19	269.26 S	251.83 W	368.67@	223.08	10.52
8412.00	76.33	214.08	8193.64	32.00	324.70	294.91 S	269.10 W	399.23@	222.38	7.76
8444.00	78.96	214.43	8200.49	32.00	352.44	320.75 S	286.69 W	430.20@	221.79	8.29
8472.00	82.83	215.58	8204.92	28.00	376.79	343.39 S	302.55 W	457.66@	221.38	14.40
8568.00	90.13	207.93	8210.82	96.00	463.55	424.76 S	352.88 W	552.22@	219.72	11.00
8662.00	91.71	206.35	8209.31	94.00	551.68	508.39 S	395.75 W	644.27@	217.90	2.38
8757.00	90.48	206.26	8207.49	95.00	641.21	593.54 S	437.85 W	737.56@	216.42	1.30
8851.00	90.84	203.62	8206.41	94.00	730.52	678.76 S	477.48 W	829.88@	215.12	2.83
8946.00	90.57	200.90	8205.24	95.00	822.07	766.67 S	513.46 W	922.72@	213.81	2.88
9041.00	91.19	197.82	8203.78	95.00	914.77	856.27 S	544.94 W	1014.97@	212.47	3.31
9135.00	90.66	187.71	8202.26	94.00	1008.13	947.82 S	565.68 W	1103.79@	210.83	10.77
9230.00	90.40	179.28	8201.38	95.00	1102.88	1042.55 S	571.47 W	1188.90@	208.73	8.88
9324.00	89.69	178.93	8201.30	94.00	1196.03	1136.54 S	570.00 W	1271.46@	206.63	0.84
9419.00	89.96	179.54	8201.59	95.00	1290.21	1231.53 S	568.73 W	1356.51@	204.79	0.70
9514.00	90.57	181.21	8201.15	95.00	1384.60	1326.52 S	569.35 W	1443.55@	203.23	1.87
9608.00	88.11	179.19	8202.24	94.00	1477.96	1420.50 S	569.68 W	1530.48@	201.85	3.39
9703.00	88.11	178.40	8205.37	95.00	1571.99	1515.43 S	567.68 W	1618.27@	200.54	0.83
9797.00	89.16	179.54	8207.61	94.00	1665.08	1609.39 S	566.00 W	1706.01@	199.38	1.65
9892.00	89.25	180.51	8208.93	95.00	1759.41	1704.38 S	566.04 W	1795.91@	198.37	1.03
9986.00	89.87	182.35	8209.65	94.00	1852.99	1798.34 S	568.38 W	1886.02@	197.54	2.07
10081.00	89.16	180.42	8210.45	95.00	1947.55	1893.30 S	570.68 W	1977.44@	196.77	2.16
10175.00	89.52	181.30	8211.54	94.00	2041.04	1987.28 S	572.09 W	2067.99@	196.06	1.01
10270.00	90.13	181.12	8211.83	95.00	2135.59	2082.26 S	574.10 W	2159.95@	195.41	0.67
10364.00	90.92	182.70	8210.97	94.00	2229.24	2176.20 S	577.23 W	2251.46@	194.86	1.88
10458.00	91.19	181.30	8209.24	94.00	2322.89	2270.13 S	580.51 W	2343.17@	194.34	1.52
10553.00	90.40	178.05	8207.92	95.00	2417.14	2365.10 S	579.97 W	2435.17@	193.78	3.52

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY CORPORATION
SERENE SISTERS 25 FED #2H
EDDY COUNTY, NM
RIG:H&P 300

Page 03/03

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
10647.00	88.64	178.31	8208.70	94.00	2510.07	2459.05 S	576.98 W	2525.83@	193.20	1.89
10742.00	88.64	179.01	8210.96	95.00	2604.08	2554.00 S	574.76 W	2617.87@	192.68	0.74
10837.00	88.37	179.89	8213.44	95.00	2698.27	2648.96 S	573.85 W	2710.40@	192.22	0.97
10931.00	88.37	180.60	8216.11	94.00	2791.62	2742.92 S	574.25 W	2802.39@	191.82	0.75
11026.00	89.43	179.54	8217.94	95.00	2885.94	2837.90 S	574.37 W	2895.44@	191.44	1.58
11120.00	90.40	179.45	8218.07	94.00	2979.18	2931.89 S	573.54 W	2987.46@	191.07	1.04
11215.00	90.84	178.22	8217.05	95.00	3073.25	3026.87 S	571.61 W	3080.37@	190.69	1.37
11310.00	91.89	178.31	8214.78	95.00	3167.17	3121.79 S	568.73 W	3173.18@	190.32	1.11
11404.00	90.92	179.01	8212.48	94.00	3260.20	3215.74 S	566.54 W	3265.26@	189.99	1.27
11498.00	92.95	178.93	8209.30	94.00	3353.26	3309.66 S	564.85 W	3357.52@	189.69	2.16
11593.00	90.66	178.05	8206.31	95.00	3447.21	3404.58 S	562.34 W	3450.71@	189.38	2.58
11687.00	89.25	178.57	8206.39	94.00	3540.18	3498.53 S	559.57 W	3543.00@	189.09	1.60
11782.00	88.55	179.72	8208.21	95.00	3634.31	3593.50 S	558.16 W	3636.59@	188.83	1.42
11876.00	88.20	181.12	8210.88	94.00	3727.69	3687.46 S	558.84 W	3729.57@	188.62	1.54
11971.00	89.25	180.15	8212.99	95.00	3822.11	3782.43 S	559.90 W	3823.64@	188.42	1.51
12065.00	88.64	181.47	8214.72	94.00	3915.58	3876.40 S	561.22 W	3916.82@	188.24	1.55
12160.00	89.08	180.95	8216.61	95.00	4010.11	3971.36 S	563.23 W	4011.10@	188.07	0.72
12254.00	88.72	182.00	8218.42	94.00	4103.69	4065.31 S	565.65 W	4104.47@	187.92	1.18
12349.00	89.60	180.77	8219.81	95.00	4198.25	4160.27 S	567.95 W	4198.86@	187.77	1.59
12443.00	88.55	181.39	8221.33	94.00	4291.77	4254.24 S	569.72 W	4292.22@	187.63	1.30
12538.00	88.46	180.77	8223.80	95.00	4386.26	4349.19 S	571.51 W	4386.58@	187.49	0.66
12633.00	89.08	180.15	8225.84	95.00	4480.66	4444.16 S	572.27 W	4480.86@	187.34	0.92
12727.00	89.78	178.57	8226.78	94.00	4573.86	4538.15 S	571.22 W	4573.96@	187.17	1.84
12803.00	90.57	177.96	8226.55	76.00	4649.02	4614.11 S	568.92 W	4649.05@	187.03	1.31
STRAIGHT LINE PROJECTION TO BIT @ 12,865 MD										
12865.00	90.57	177.96	8225.93	62.00	4710.28	4676.07 S	566.71 W	4710.29@	186.91	0.00



A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	Devon Energy Production Co.		
LEASE / WELL No.:	SERENE SISTERS 25 FEDERAL	2H	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY COUNTY	NM	USA
RIG:	H&P 300		
API WELL No:	30-015-38313		
JOB No:	700003158-WT-WT		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PATHFINDER		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.45	LWD Calculated:	7.45
		Agreed Upon:	7.45
X =	699925.780000	Feet	Y = 627910.390000
			Feet
SITE LATITUDE:	32.725105' N	SITE LONGITUDE:	103.817642' W
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	NEW MEXICO EAST
PROPOSED DRIFT DIRECTION:	187.62		
KELLY BUSHING ELEVATION:	3699.7		
ALTITUDE:	Feet	WATER DEPTH:	N/A
			Feet

TIE-IN SURVEY

MEASURED DEPTH:	7522
DRIFT ANGLE:	1.38
DRIFT DIRECTION:	328.7
TRUE VERTICAL DEPTH:	7520
VERTICAL SECTION:	-93.08
RECTANGULAR COORDINATE (N / S) :	94.66
RECTANGULAR COORDINATE (E / W) :	-5.58
CLOSURE DISTANCE / DIRECTION:	
SURVEY CALCULATION METHOD:	AA ☐ MC ☒ RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	Scientific Gyro
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO

WELL PLAN

KICKOFF DEPTH:	7600'	TOTAL DEPTH:	12754.92
KICKOFF ANGLE:	0	MAX ANGLE:	90

PES Engineers:

C. Sandifer

S. Carrillo

**Signature of both field engineers required if applicable

Directional Driller:

Jordan Williams

DATE: 8-11-11



Scientific Drilling

Gyroscopic Survey Report
for
DEVON ENERGY

Well Location	EDDY COUNTY, NEW MEXICO
Well Name	SERENE SISTERS 25 FED #2H
Rig Name	H&P #300
Survey Date	8/1/2011
Latitude	32.73 deg
North Reference	Grid North
Grid Correction	-0.28 deg
Depth Reference	26' KB
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 187.62Azim (deg)
Definitive Survey	FINAL OUTRUN SURVEY
Operator	A.MADRID

Comments



Survey Report

Well Name:		SERENE SISTERS 25 FED #2H							
Survey:		FINAL OUTRUN SURVEY							
Survey Date:		8/1/2011							
MD	Inc	Azim	TVD	VS	Northing	Easting	DLS	Closure Distance	Closure Angle
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
100.00	0.16	240.57	100.00	0.09	-0.07	-0.12	0.16	0.14	240.57
200.00	0.27	252.93	200.00	0.27	-0.21	-0.47	0.11	0.52	246.14
300.00	0.26	227.08	300.00	0.54	-0.43	-0.86	0.12	0.96	243.45
400.00	0.26	228.97	400.00	0.88	-0.73	-1.19	0.01	1.40	238.57
500.00	0.29	231.41	500.00	1.23	-1.04	-1.56	0.04	1.87	236.45
600.00	0.39	245.18	599.99	1.60	-1.34	-2.07	0.12	2.46	237.12
700.00	0.59	256.07	699.99	1.97	-1.60	-2.87	0.22	3.29	240.84
800.00	0.59	256.47	799.99	2.34	-1.85	-3.87	0.01	4.29	244.49
900.00	0.63	270.83	899.98	2.59	-1.96	-4.92	0.16	5.29	248.28
1000.00	0.27	339.06	999.98	2.45	-1.73	-5.55	0.59	5.81	252.68
1100.00	0.21	5.21	1099.98	2.06	-1.33	-5.62	0.12	5.77	256.66
1200.00	0.40	5.08	1199.97	1.54	-0.81	-5.57	0.19	5.63	261.75
1300.00	0.39	2.16	1299.97	0.86	-0.12	-5.53	0.02	5.53	268.71
1400.00	0.45	36.63	1399.97	0.17	0.53	-5.28	0.26	5.31	275.73
1500.00	0.41	40.98	1499.97	-0.47	1.12	-4.81	0.05	4.94	283.09
1600.00	0.51	36.59	1599.96	-1.16	1.75	-4.31	0.10	4.65	292.06
1700.00	0.54	32.46	1699.96	-1.98	2.50	-3.79	0.05	4.54	303.42
1800.00	0.51	36.14	1799.96	-2.80	3.26	-3.27	0.04	4.62	314.91
1900.00	0.57	52.38	1899.95	-3.54	3.92	-2.62	0.16	4.72	326.29
2000.00	0.74	50.63	1999.94	-4.36	4.63	-1.73	0.18	4.95	339.55
2100.00	1.18	51.56	2099.93	-5.58	5.68	-0.42	0.44	5.70	355.76
2200.00	1.32	51.52	2199.91	-7.15	7.04	1.29	0.14	7.16	10.38
2300.00	1.24	47.85	2299.88	-8.81	8.48	2.99	0.12	9.00	19.43
2400.00	1.07	42.59	2399.86	-10.39	9.89	4.42	0.20	10.84	24.08
2500.00	0.76	18.80	2499.85	-11.80	11.20	5.26	0.48	12.38	25.17
2600.00	0.73	3.21	2599.84	-13.08	12.46	5.51	0.20	13.63	23.86
2700.00	0.78	338.23	2699.83	-14.31	13.73	5.29	0.33	14.71	21.09
2800.00	0.73	337.37	2799.82	-15.45	14.95	4.80	0.05	15.70	17.79
2900.00	0.65	324.51	2899.82	-16.42	16.00	4.22	0.17	16.55	14.78
3000.00	0.54	327.76	2999.81	-17.20	16.86	3.64	0.11	17.25	12.18
3100.00	0.32	315.48	3099.81	-17.73	17.47	3.19	0.24	17.75	10.35
3200.00	0.40	309.74	3199.81	-18.10	17.89	2.72	0.09	18.10	8.64
3300.00	0.35	339.81	3299.80	-18.55	18.40	2.34	0.20	18.55	7.26
3400.00	0.32	325.51	3399.80	-19.03	18.92	2.08	0.09	19.03	6.28
3500.00	0.41	342.31	3499.80	-19.55	19.48	1.82	0.14	19.57	5.33
3600.00	0.52	339.96	3599.80	-20.27	20.24	1.56	0.11	20.30	4.40
3700.00	0.64	346.23	3699.79	-21.18	21.20	1.27	0.14	21.24	3.43
3800.00	0.75	335.83	3799.78	-22.26	22.34	0.87	0.17	22.36	2.23



Well Name:		SERENE SISTERS 25 FED #2H								
Survey:		FINAL OUTRUN SURVEY								
Survey Date:		8/1/2011								
MD	Inc	Azim	TVD	VS	Northing	Easting	DLS	Closure Distance	Closure Angle	
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg	
3900.00	0.76	336.12	3899.78	-23.38	23.54	0.33	0.00	23.55	0.81	
4000.00	0.86	338.60	3999.77	-24.60	24.85	-0.21	0.11	24.85	359.52	
4100.00	0.84	334.54	4099.75	-25.88	26.21	-0.80	0.06	26.23	358.25	
4200.00	0.88	334.26	4199.74	-27.14	27.57	-1.45	0.04	27.61	356.99	
4300.00	0.87	339.06	4299.73	-28.44	28.97	-2.05	0.08	29.04	355.94	
4400.00	0.93	339.78	4399.72	-29.82	30.43	-2.60	0.06	30.54	355.11	
4500.00	0.95	334.81	4499.71	-31.23	31.94	-3.23	0.08	32.10	354.22	
4600.00	0.96	336.63	4599.69	-32.64	33.45	-3.92	0.03	33.68	353.32	
4700.00	1.10	348.76	4699.68	-34.27	35.17	-4.44	0.26	35.44	352.81	
4800.00	1.14	342.23	4799.66	-36.07	37.05	-4.93	0.13	37.38	352.43	
4900.00	1.17	347.90	4899.64	-37.93	38.99	-5.44	0.12	39.37	352.05	
5000.00	1.28	351.25	4999.61	-39.97	41.10	-5.83	0.13	41.52	351.93	
5100.00	1.29	349.19	5099.59	-42.11	43.32	-6.21	0.05	43.76	351.84	
5200.00	1.23	347.85	5199.56	-44.18	45.46	-6.65	0.07	45.95	351.68	
5300.00	1.04	353.15	5299.55	-46.07	47.41	-6.98	0.22	47.92	351.63	
5400.00	0.98	354.57	5399.53	-47.78	49.16	-7.17	0.06	49.68	351.70	
5500.00	0.93	358.97	5499.52	-49.42	50.83	-7.26	0.09	51.34	351.87	
5600.00	0.93	2.62	5599.50	-51.03	52.45	-7.24	0.06	52.95	352.14	
5700.00	1.01	358.96	5699.49	-52.70	54.14	-7.22	0.10	54.62	352.40	
5800.00	0.98	4.41	5799.47	-54.42	55.87	-7.17	0.10	56.33	352.69	
5900.00	0.95	4.47	5899.46	-56.10	57.54	-7.04	0.03	57.97	353.02	
6000.00	1.09	19.28	5999.44	-57.86	59.27	-6.66	0.30	59.64	353.59	
6100.00	1.28	29.24	6099.42	-59.83	61.14	-5.80	0.28	61.42	354.58	
6200.00	1.42	38.85	6199.39	-61.93	63.08	-4.48	0.27	63.24	355.94	
6300.00	1.48	27.14	6299.36	-64.21	65.20	-3.11	0.30	65.27	357.27	
6400.00	1.51	23.08	6399.33	-66.69	67.56	-2.01	0.11	67.59	358.30	
6500.00	1.24	16.64	6499.30	-69.03	69.80	-1.18	0.32	69.81	359.03	
6600.00	1.11	14.98	6599.28	-71.06	71.77	-0.62	0.13	71.78	359.50	
6700.00	1.23	12.81	6699.26	-73.09	73.76	-0.13	0.12	73.76	359.90	
6800.00	1.37	15.18	6799.23	-75.33	75.95	0.42	0.15	75.95	0.31	
6900.00	1.53	3.21	6899.20	-77.85	78.43	0.80	0.34	78.44	0.59	
7000.00	1.56	353.52	6999.16	-80.50	81.12	0.72	0.26	81.12	0.51	
7100.00	1.65	339.94	7099.13	-83.09	83.82	0.08	0.39	83.82	0.05	
7200.00	1.72	331.97	7199.08	-85.59	86.51	-1.13	0.25	86.51	359.25	
7300.00	1.82	329.43	7299.03	-88.07	89.20	-2.64	0.13	89.24	358.30	
7400.00	1.62	328.89	7398.99	-90.42	91.78	-4.18	0.21	91.88	357.39	
7500.00	1.44	339.69	7498.95	-92.63	94.17	-5.35	0.34	94.33	356.75	
7522.00	1.38	328.70	7520.95	-93.08	94.66	-5.58	1.26	94.82	356.63	



PathFinder Energy Services, Inc. Magnetic & Grid Calculations

Devon Energy Production Company, L.P.
Serene Sisters 25 Federal #2H
Eddy County, NM
Rig:HP 300

Fri Jul 22 11:54:52 2011

Coordinates

Latitude:	32.725105 N (32 deg. 43 min. 30.3763 sec.)
Longitude:	103.817642 W (-103 deg. 49 min. 3.5104 sec.)
Elevation:	3725.70 feet.
Calculation Date:	Jul/22/2011

Magnetic Calculations

Model:	IGRF2010
Dip Angle:	60.6058 degrees
Total Magnetic Field:	0.48879 gauss
Magnetic Declination:	7.724719 degrees
Horizontal Intensity:	0.239905 gauss

To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.724719 Degs

Transverse Mercator Grid Calculations NAD83

Grid System:	Transverse Mercator: new mexico east
Ellipsoid:	GRS80
X:	699925.7800 feet
Y:	627910.3900 feet
True to Grid: (convergence)	-0.278793 degrees
Magnetic to Grid:	7.445926 degrees

To Convert a Magnetic Dir. to a GRID dir. Add 7.445926 Degs.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

Mon Aug 01 13:06:38 2011

Coordinates

Latitude: 32.725105 N (32 deg. 43 min. 30.3780 sec.)
Longitude: 103.817642 W (-103 deg. 49 min. 3.5112 sec.)
Elevation: 3725.70 feet.
Calculation Date: Aug/01/2011

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.6051 degrees
Total Magnetic Field: 0.48876 gauss
Magnetic Declination: 7.721362 degrees
Horizontal Intensity: 0.239897 gauss

To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.721362 Degr.

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 699925.7138 feet
Y: 627910.5629 feet
True to Grid: (convergence) -0.278793 degrees
Magnetic to Grid: 7.442569 degrees

To Convert a Magnetic Dir. to a GRID dir. Add 7.442569 Degr.