



PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

April 10, 2013

15-39866

Devon Energy Production Co., LP
333 West Sheridan Ave
Oklahoma City, Oklahoma 73102-5010



Attn: Patti Riechers

Re: **Snapping 10 Federal No 003H**

Please find enclosed a copy of the survey from 0' to 10,285.02' ran on the above referenced well.

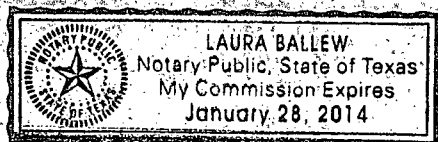
If I can be of any further service, please do not hesitate to call me at 800-606-4976

Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 10th day of April, A.D., 2013, by Keith Havelka.

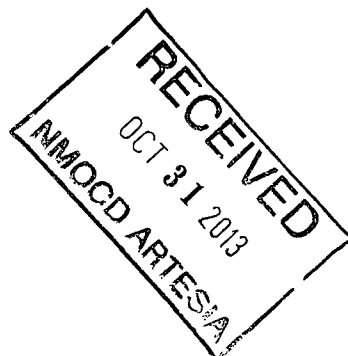


Laura Ballew
Notary Public, State of Texas

Company: Devon Energy Production Co., LP
Lease/Well: Snapping 10 Federal/No 003H



Rig Name: Cactus 105
State/County: New Mexico/Eddy
Latitude: 32.05, Longitude: -103.77
GRID North is 0.30 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB= 28'

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 4/10/2013 / 10:57

Vaughn Energy Services
Midland, Texas
432-563-5444

Surveyor: Tim Dillon
Snapping 10 Federal No 003H / API 30-015-39866

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
16.38	0.69	130.33	16.38	-0.06	0.07	-0.06	0.10	130.33	4.20
111.46	0.77	125.65	111.45	-0.81	1.03	-0.81	1.31	128.04	0.11
206.54	0.90	121.86	206.52	-1.57	2.19	-1.57	2.69	125.76	0.14
301.62	0.99	120.04	301.59	-2.38	3.53	-2.38	4.26	123.98	0.10
396.70	1.73	128.48	396.64	-3.68	5.36	-3.68	6.51	124.47	0.80
491.78	2.25	125.17	491.66	-5.65	8.01	-5.65	9.80	125.19	0.56
586.86	2.47	130.16	586.66	-8.05	11.10	-8.05	13.71	125.93	0.32
681.94	2.52	126.97	681.65	-10.62	14.34	-10.62	17.85	126.53	0.15
777.02	2.63	134.67	776.64	-13.41	17.56	-13.41	22.09	127.38	0.38
872.10	2.33	145.22	871.63	-16.54	20.21	-16.54	26.12	129.29	0.57
967.18	2.16	142.67	966.64	-19.55	22.40	-19.55	29.74	131.11	0.21
1062.26	1.91	134.21	1061.66	-22.08	24.62	-22.08	33.07	131.88	0.41
1157.34	1.76	145.00	1156.69	-24.37	26.59	-24.37	36.07	132.51	0.39
1252.42	1.88	153.93	1251.72	-26.97	28.11	-26.97	38.96	133.81	0.33
1347.50	1.11	173.91	1346.77	-29.28	28.90	-29.28	41.14	135.38	0.97
1442.58	0.42	209.76	1441.84	-30.50	28.82	-30.50	41.96	136.63	0.85
1537.66	0.33	223.38	1536.92	-31.01	28.46	-31.01	42.09	137.46	0.14
1632.74	0.39	235.06	1632.00	-31.39	28.00	-31.39	42.07	138.27	0.10

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1727.82	0.23	241.71	1727.07	-31.67	27.57	-31.67	41.99	138.95	0.19
1822.90	0.42	231.49	1822.15	-31.97	27.14	-31.97	41.93	139.68	0.21
1917.98	0.90	241.56	1917.23	-32.54	26.21	-32.54	41.78	141.15	0.52
2013.06	1.61	238.48	2012.28	-33.59	24.42	-33.59	41.53	143.99	0.75
2108.14	2.54	234.04	2107.30	-35.53	21.57	-35.53	41.57	148.73	0.99
2203.22	2.39	233.61	2202.29	-37.94	18.27	-37.94	42.11	154.28	0.16
2298.30	2.44	252.80	2297.29	-39.72	14.74	-39.72	42.36	159.63	0.85
2393.38	2.42	256.79	2392.28	-40.77	10.85	-40.77	42.19	165.10	0.18
2488.46	2.36	275.56	2487.28	-41.04	6.94	-41.04	41.63	170.40	0.82
2583.54	2.17	275.25	2582.29	-40.69	3.20	-40.69	40.82	175.50	0.21
2678.62	2.20	264.91	2677.30	-40.69	-0.41	-40.69	40.69	180.57	0.41
2773.70	2.06	280.64	2772.31	-40.53	-3.90	-40.53	40.72	185.49	0.63
2868.78	1.86	285.05	2867.34	-39.82	-7.07	-39.82	40.44	190.06	0.26
2963.86	1.99	292.14	2962.36	-38.79	-10.09	-38.79	40.08	194.58	0.29
3058.94	1.99	290.96	3057.39	-37.58	-13.17	-37.58	39.82	199.31	0.04
3154.02	2.34	296.14	3152.40	-36.13	-16.45	-36.13	39.70	204.48	0.42
3249.10	2.12	292.95	3247.41	-34.59	-19.81	-34.59	39.86	209.80	0.27
3344.18	1.57	297.24	3342.44	-33.31	-22.58	-33.31	40.25	214.14	0.59
3439.26	1.23	235.86	3437.49	-33.29	-24.59	-33.29	41.39	216.45	1.53
3534.34	1.71	162.36	3532.55	-35.21	-25.01	-35.21	43.19	215.38	1.89
3629.42	1.95	135.72	3627.58	-37.72	-23.45	-37.72	44.41	211.87	0.92
3724.50	3.74	137.15	3722.54	-41.15	-20.21	-41.15	45.85	206.16	1.89
3819.58	5.44	140.70	3817.31	-46.91	-15.25	-46.91	49.33	198.01	1.81
3914.66	4.28	139.79	3912.05	-53.11	-10.10	-53.11	54.06	190.77	1.21
4009.74	3.15	141.02	4006.93	-57.86	-6.16	-57.86	58.18	186.08	1.19
4104.82	2.21	128.84	4101.90	-61.04	-3.09	-61.04	61.12	182.90	1.15
4199.90	2.16	134.31	4196.91	-63.44	-0.38	-63.44	63.44	180.34	0.22
4294.98	1.94	126.11	4291.93	-65.64	2.20	-65.64	65.68	178.08	0.39
4390.06	1.46	142.48	4386.97	-67.55	4.24	-67.55	67.68	176.41	0.71
4485.14	1.76	139.55	4482.01	-69.62	5.92	-69.62	69.87	175.14	0.33
4580.22	1.55	143.13	4577.06	-71.75	7.64	-71.75	72.16	173.92	0.24
4675.30	1.49	149.73	4672.10	-73.85	9.03	-73.85	74.40	173.03	0.20
4770.38	1.48	144.40	4767.15	-75.91	10.37	-75.91	76.62	172.22	0.15
4865.46	1.36	142.19	4862.20	-77.80	11.78	-77.80	78.69	171.39	0.14
4960.54	1.20	136.70	4957.26	-79.42	13.15	-79.42	80.50	170.60	0.21
5055.62	1.36	163.28	5052.31	-81.23	14.16	-81.23	82.45	170.11	0.64
5150.70	1.16	155.16	5147.37	-83.18	14.89	-83.18	84.51	169.85	0.28
5245.78	2.23	152.41	5242.41	-85.70	16.15	-85.70	87.21	169.33	1.12
5340.86	1.03	153.68	5337.45	-88.11	17.39	-88.11	89.81	168.84	1.26

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
9144.06	1.57	159.31	9139.17	-179.63	51.55	-179.63	186.88	163.99	0.42
9239.14	1.73	170.43	9234.21	-182.26	52.25	-182.26	189.60	164.00	0.38
9334.22	1.66	171.68	9329.25	-185.04	52.69	-185.04	192.39	164.11	0.08
9429.30	1.74	176.48	9424.29	-187.83	52.98	-187.83	195.16	164.25	0.17
9524.38	1.80	178.75	9519.32	-190.76	53.10	-190.76	198.01	164.45	0.10
9619.46	2.11	146.90	9614.35	-193.71	54.09	-193.71	201.12	164.40	1.17
9714.54	2.04	122.83	9709.37	-196.09	56.46	-196.09	204.06	163.94	0.91
9809.62	1.00	98.94	9804.42	-197.14	58.71	-197.14	205.70	163.42	1.26
9904.70	0.75	96.66	9899.49	-197.34	60.15	-197.34	206.30	163.05	0.27
9999.78	0.52	133.56	9994.56	-197.71	61.07	-197.71	206.93	162.83	0.48
10094.86	0.64	161.17	10089.64	-198.51	61.56	-198.51	207.84	162.77	0.32
10189.94	0.69	156.14	10184.71	-199.54	61.96	-199.54	208.94	162.75	0.08
10285.02	1.24	173.30	10279.78	-201.08	62.31	-201.08	210.52	162.78	0.65

DEVON ENERGY

Project: Eddy County, NM (NAD-83)
Site: Snapping
Well: 10 Federal 3H
Wellbore: ST01
Design: ST01



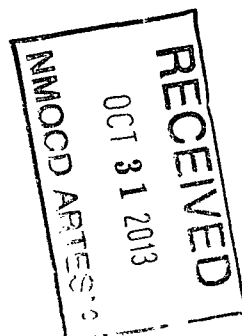
Azimuths to Grid North
True North: -0.30°
Magnetic North: 7.14°

Magnetic Field
Strength: 48310.8snT
Dip Angle: 59.95°
Date: 04/06/2013
Model: IGRF2010

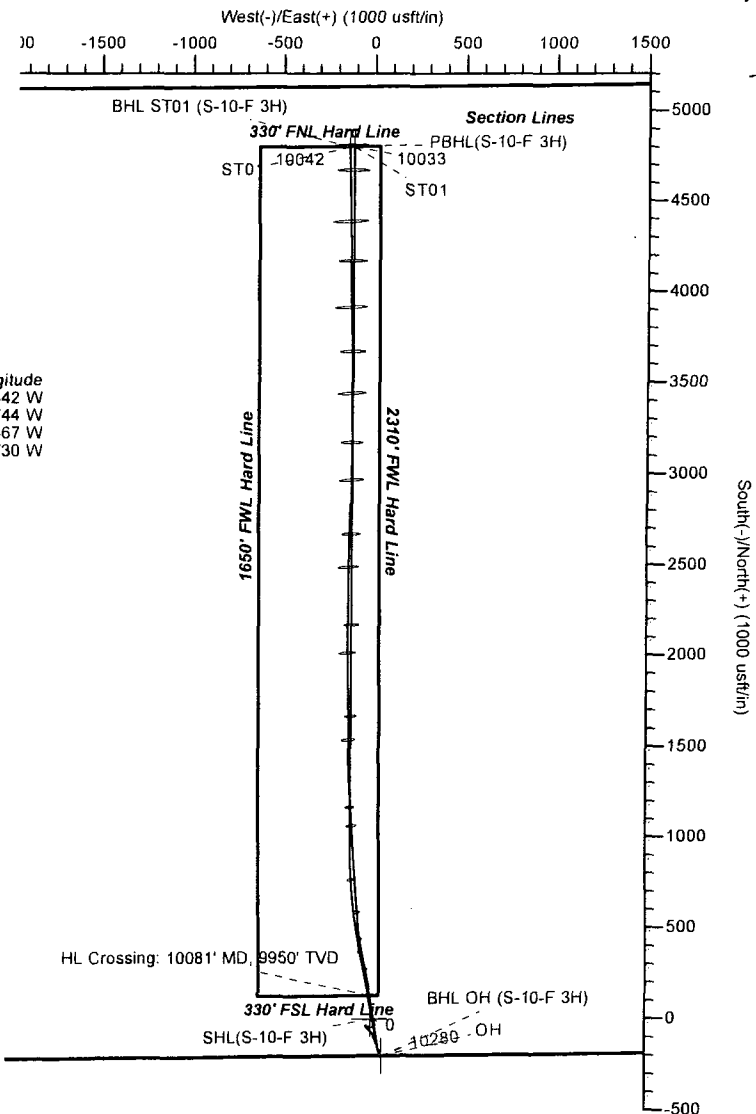
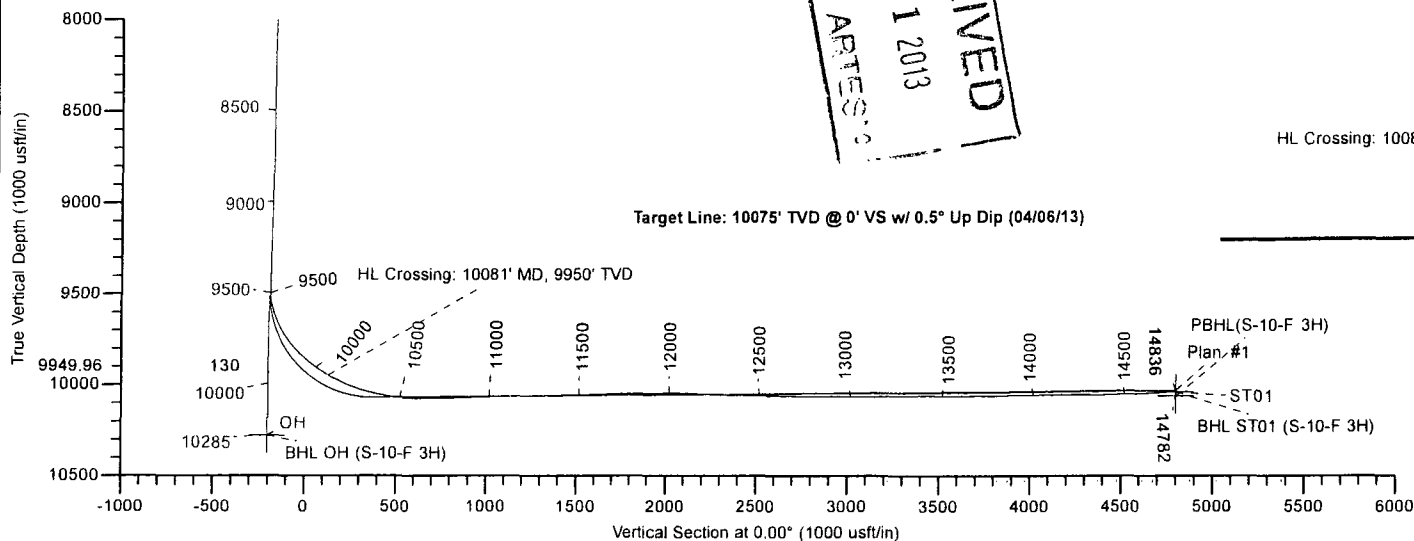
devon

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL(S-10-F 3H)	0.00	0.00	0.00	382635.86	716691.80	32° 3' 2.457 N	103° 46' 2.442 W
BHL ST01 (S-10-F 3H)	10042.41	4800.00	-137.22	387435.86	716554.58	32° 3' 49.964 N	103° 46' 3.744 W
PBHL(S-10-F 3H)	10065.00	4800.46	-113.40	387436.32	716578.40	32° 3' 49.967 N	103° 46' 3.467 W
BHL OH (S-10-F 3H)	10279.77	-201.17	62.33	382434.69	716754.13	32° 3' 0.463 N	103° 46' 1.730 W



Target Line: 10075' TVD @ 0° VS w/ 0.5° Up Dip (04/06/13)



LEAM DRILLING SYSTEMS LLC
2010 East Davis, Conroe, Texas 77301
Phone: 936/756-7577, Fax 936/756-7595

Design: ST01 (10 Federal 3H/ST01)
Created By: Heber Claros
Date: 14:40, September 19 2013
Approved: _____
Date: _____

Leam Drilling Systems LLC

Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project:	Eddy County, NM (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Snapping			
Site Position:		Northing:	382,635.86 usft	Latitude:	32° 3' 2.457 N
From:	Map	Easting:	716,691.80 usft	Longitude:	103° 46' 2.442 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.30 °

Well	10 Federal 3H					
Well Position	+N-S	0.00 usft	Northing:	382,635.86 usft	Latitude:	32° 3' 2.457 N
	+E-W	0.00 usft	Easting:	716,691.80 usft	Longitude:	103° 46' 2.442 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,240.00 usft

Wellbore:	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	03/19/13	7.45	59.95	48,316

Design:	OH			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.00	0.00	0.00	0.00

Survey Program	Date	04/06/13			
From	To	Survey (Wellbore)	Tool Name	Description	
(usft)	(usft)				
16.38	10,285.02	Survey #1 (OH)	Gyroscope	Gyroscope	

Survey										
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
16.38	0.69	130.33	16.38	-0.06	0.08	-0.06	4.21	4.21	0.00	
111.46	0.77	125.65	111.45	-0.81	1.03	-0.81	0.10	0.08	-4.92	
206.54	0.90	121.86	206.52	-1.57	2.18	-1.57	0.15	0.14	-3.99	
301.62	0.99	120.04	301.59	-2.38	3.53	-2.38	0.10	0.09	-1.91	
396.70	1.73	128.48	396.64	-3.68	5.36	-3.68	0.80	0.78	8.88	
491.78	2.25	125.17	491.66	-5.65	8.01	-5.65	0.56	0.55	-3.48	
586.86	2.47	130.16	586.66	-8.05	11.10	-8.05	0.32	0.23	5.25	
681.94	2.52	126.97	681.65	-10.63	14.34	-10.63	0.16	0.05	-3.36	
777.02	2.63	134.67	776.64	-13.42	17.56	-13.42	0.38	0.12	8.10	

Learn Drilling Systems LLC

Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
872.10	2.33	145.22	871.63	-16.54	20.22	-16.54	0.57	-0.32	11.10
967.18	2.16	142.67	966.64	-19.55	22.40	-19.55	0.21	-0.18	-2.68
1,062.26	1.91	134.21	1,061.66	-22.08	24.63	-22.08	0.41	-0.26	-8.90
1,157.34	1.76	145.00	1,156.69	-24.38	26.60	-24.38	0.40	-0.16	11.35
1,252.42	1.88	153.93	1,251.72	-26.98	28.12	-26.98	0.32	0.13	9.39
1,347.50	1.11	173.91	1,346.77	-29.29	28.91	-29.29	0.97	-0.81	21.01
1,442.58	0.42	209.76	1,441.84	-30.51	28.83	-30.51	0.85	-0.73	37.71
1,537.66	0.33	223.38	1,536.92	-31.01	28.47	-31.01	0.13	-0.09	14.32
1,632.74	0.39	235.06	1,631.99	-31.40	28.02	-31.40	0.10	0.06	12.28
1,727.82	0.23	241.71	1,727.07	-31.67	27.58	-31.67	0.17	-0.17	6.99
1,822.90	0.42	231.49	1,822.15	-31.98	27.14	-31.98	0.21	0.20	-10.75
1,917.98	0.90	241.56	1,917.23	-32.55	26.21	-32.55	0.52	0.50	10.59
2,013.06	1.61	238.48	2,012.28	-33.61	24.42	-33.61	0.75	0.75	-3.24
2,108.14	2.54	234.04	2,107.30	-35.54	21.57	-35.54	0.99	0.98	-4.67
2,203.22	2.39	233.61	2,202.29	-37.96	18.27	-37.96	0.16	-0.16	-0.45
2,298.30	2.44	252.80	2,297.29	-39.73	14.74	-39.73	0.85	0.05	20.18
2,393.38	2.42	256.79	2,392.28	-40.79	10.86	-40.79	0.18	-0.02	4.20
2,488.46	2.36	275.56	2,487.28	-41.06	6.95	-41.06	0.82	-0.06	19.74
2,583.54	2.17	275.25	2,582.29	-40.70	3.21	-40.70	0.20	-0.20	-0.33
2,678.62	2.20	264.91	2,677.30	-40.70	-0.40	-40.70	0.42	0.03	-10.88
2,773.70	2.06	280.64	2,772.31	-40.55	-3.90	-40.55	0.63	-0.15	16.54
2,868.78	1.86	285.05	2,867.34	-39.83	-7.06	-39.83	0.26	-0.21	4.64
2,963.86	1.99	292.14	2,962.36	-38.81	-10.08	-38.81	0.29	0.14	7.46
3,058.94	1.99	290.96	3,057.39	-37.60	-13.15	-37.60	0.04	0.00	-1.24
3,154.02	2.34	296.14	3,152.40	-36.15	-16.44	-36.15	0.42	0.37	5.45
3,249.10	2.12	292.95	3,247.41	-34.61	-19.80	-34.61	0.27	-0.23	-3.36
3,344.18	1.57	297.24	3,342.44	-33.33	-22.58	-33.33	0.60	-0.58	4.51
3,439.26	1.23	235.86	3,437.49	-33.30	-24.58	-33.30	1.53	-0.36	-64.56
3,534.34	1.71	162.36	3,532.55	-35.23	-25.00	-35.23	1.89	0.50	-77.30
3,629.42	1.95	135.72	3,627.58	-37.74	-23.44	-37.74	0.92	0.25	-28.02
3,724.50	3.74	137.15	3,722.54	-41.17	-20.20	-41.17	1.88	1.88	1.50
3,819.58	5.44	140.70	3,817.31	-46.93	-15.23	-46.93	1.81	1.79	3.73
3,914.66	4.28	139.79	3,912.05	-53.13	-10.09	-53.13	1.22	-1.22	-0.96
4,009.74	3.15	141.02	4,006.93	-57.87	-6.15	-57.87	1.19	-1.19	1.29
4,104.82	2.21	128.84	4,101.90	-61.05	-3.08	-61.05	1.15	-0.99	-12.81
4,199.90	2.16	134.31	4,196.91	-63.45	-0.37	-63.45	0.23	-0.05	5.75
4,294.98	1.94	126.11	4,291.93	-65.65	2.21	-65.65	0.39	-0.23	-8.62
4,390.06	1.46	142.48	4,386.97	-67.56	4.25	-67.56	0.71	-0.50	17.22
4,485.14	1.76	139.55	4,482.01	-69.63	5.93	-69.63	0.33	0.32	-3.08
4,580.22	1.55	143.13	4,577.06	-71.77	7.65	-71.77	0.25	-0.22	3.77
4,675.30	1.49	149.73	4,672.10	-73.87	9.05	-73.87	0.19	-0.06	6.94
4,770.38	1.48	144.40	4,767.15	-75.93	10.38	-75.93	0.15	-0.01	-5.61
4,865.46	1.36	142.19	4,862.20	-77.82	11.79	-77.82	0.14	-0.13	-2.32
4,960.54	1.20	136.70	4,957.26	-79.44	13.16	-79.44	0.21	-0.17	-5.77

Leam Drilling Systems LLC

Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping.	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
5,055.62	1.36	163.28	5,052.31	-81.25	14.17	-81.25	0.64	0.17	27.96
5,150.70	1.16	155.16	5,147.37	-83.20	14.90	-83.20	0.28	-0.21	-8.54
5,245.78	2.23	152.41	5,242.41	-85.71	16.16	-85.71	1.13	1.13	-2.89
5,340.86	1.03	153.68	5,337.45	-88.12	17.40	-88.12	1.26	-1.26	1.34
5,435.94	1.04	155.64	5,432.51	-89.67	18.13	-89.67	0.04	0.01	2.06
5,531.02	1.14	158.87	5,527.58	-91.34	18.83	-91.34	0.12	0.11	3.40
5,626.10	1.09	164.80	5,622.64	-93.09	19.41	-93.09	0.13	-0.05	6.24
5,721.18	1.19	176.55	5,717.70	-94.95	19.70	-94.95	0.27	0.11	12.36
5,816.26	1.23	169.37	5,812.76	-96.94	19.95	-96.94	0.16	0.04	-7.55
5,911.34	1.17	162.86	5,907.82	-98.87	20.43	-98.87	0.16	-0.06	-6.85
6,006.42	1.10	155.36	6,002.88	-100.63	21.09	-100.63	0.17	-0.07	-7.89
6,101.50	1.31	157.93	6,097.94	-102.46	21.88	-102.46	0.23	0.22	2.70
6,196.58	1.28	151.61	6,192.99	-104.41	22.79	-104.41	0.15	-0.03	-6.65
6,291.66	1.22	146.64	6,288.05	-106.19	23.86	-106.19	0.13	-0.06	-5.23
6,386.74	0.90	140.08	6,383.11	-107.60	24.89	-107.60	0.36	-0.34	-6.90
6,481.82	0.87	156.93	6,478.18	-108.84	25.65	-108.84	0.27	-0.03	17.72
6,576.90	1.00	161.31	6,573.25	-110.29	26.20	-110.29	0.16	0.14	4.61
6,671.98	1.12	171.64	6,668.31	-112.00	26.60	-112.00	0.24	0.13	10.86
6,767.06	1.37	164.64	6,763.37	-114.01	27.04	-114.01	0.31	0.26	-7.36
6,862.14	1.32	169.37	6,858.42	-116.18	27.54	-116.18	0.13	-0.05	4.97
6,957.22	1.93	145.98	6,953.47	-118.59	28.64	-118.59	0.94	0.64	-24.60
7,052.30	1.61	158.24	7,048.50	-121.15	30.03	-121.15	0.52	-0.34	12.89
7,147.38	1.80	153.56	7,143.54	-123.73	31.19	-123.73	0.25	0.20	-4.92
7,242.46	2.08	157.36	7,238.57	-126.66	32.52	-126.66	0.32	0.29	4.00
7,337.54	2.08	157.32	7,333.58	-129.85	33.85	-129.85	0.00	0.00	-0.04
7,432.62	2.57	155.98	7,428.58	-133.39	35.38	-133.39	0.52	0.52	-1.41
7,527.70	2.55	161.28	7,523.57	-137.34	36.93	-137.34	0.25	-0.02	5.57
7,622.78	2.47	166.06	7,618.56	-141.33	38.10	-141.33	0.24	-0.08	5.03
7,717.86	2.37	166.50	7,713.55	-145.23	39.05	-145.23	0.11	-0.11	0.46
7,812.94	2.39	163.07	7,808.55	-149.04	40.09	-149.04	0.15	0.02	-3.61
7,908.02	2.39	164.66	7,903.55	-152.84	41.19	-152.84	0.07	0.00	1.67
8,003.10	2.27	166.20	7,998.55	-156.58	42.17	-156.58	0.14	-0.13	1.62
8,098.18	2.00	164.67	8,093.56	-160.01	43.05	-160.01	0.29	-0.28	-1.61
8,193.26	2.07	156.54	8,188.58	-163.19	44.18	-163.19	0.31	0.07	-8.55
8,288.34	1.42	149.58	8,283.62	-165.78	45.46	-165.78	0.72	-0.68	-7.32
8,383.42	1.03	168.35	8,378.68	-167.63	46.23	-167.63	0.58	-0.41	19.74
8,478.50	1.18	118.88	8,473.74	-168.94	47.26	-168.94	0.98	0.16	-52.03
8,573.58	1.08	97.00	8,568.80	-169.52	49.00	-169.52	0.46	-0.11	-23.01
8,668.66	0.94	147.25	8,663.87	-170.29	50.31	-170.29	0.91	-0.15	52.85
8,763.74	0.97	200.72	8,758.94	-171.70	50.45	-171.70	0.90	0.03	56.24
8,858.82	1.12	171.69	8,854.01	-173.37	50.30	-173.37	0.57	0.16	-30.53
8,953.90	1.28	171.51	8,949.06	-175.34	50.59	-175.34	0.17	0.17	-0.19
9,048.98	1.27	170.14	9,044.12	-177.43	50.93	-177.43	0.03	-0.01	-1.44

Leam Drilling Systems LLC

Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
9,144.06	1.57	159.31	9,139.17	-179.69	51.57	-179.69	0.42	0.32	-11.39
9,239.14	1.73	170.43	9,234.21	-182.32	52.27	-182.32	0.38	0.17	11.70
9,334.22	1.66	171.68	9,329.25	-185.10	52.71	-185.10	0.08	-0.07	1.31
9,429.30	1.74	176.48	9,424.29	-187.90	52.99	-187.90	0.17	0.08	5.05
9,524.38	1.80	178.75	9,519.32	-190.83	53.11	-190.83	0.10	0.06	2.39
9,619.46	2.11	146.90	9,614.35	-193.79	54.10	-193.79	1.17	0.33	-33.50
9,714.54	2.04	122.83	9,709.37	-196.18	56.48	-196.18	0.91	-0.07	-25.32
9,809.62	1.00	98.94	9,804.42	-197.22	58.72	-197.22	1.26	-1.09	-25.13
9,904.70	0.75	96.66	9,899.49	-197.42	60.16	-197.42	0.27	-0.26	-2.40
9,999.78	0.52	133.56	9,994.56	-197.79	61.09	-197.79	0.48	-0.24	38.81
10,094.86	0.64	161.17	10,089.64	-198.59	61.58	-198.59	0.32	0.13	29.04
10,189.94	0.69	156.14	10,184.71	-199.62	61.98	-199.62	0.08	0.05	-5.29
10,285.02	1.24	173.30	10,279.78	-201.17	62.33	-201.17	0.65	0.58	18.05

Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL(S-10-F 3H)	- actual wellpath hits target center - Point	0.00	0.00	0.00	0.00	0.00	382,635.86	716,691.80	32° 3' 2.457 N	103° 46' 2.442 W
PBHL(S-10-F 3H)	- actual wellpath misses target center by 5001.68usft at 10027.28usft MD (10022.06 TVD, -197.98 N, 61.26 E) - Point	0.00	0.00	10,065.0 0	4,800.46	-113.40	387,436.32	716,578.40	32° 3' 49.967 N	103° 46' 3.467 W
BHL OH (S-10-F 3H)	- actual wellpath hits target center - Point	0.00	0.00	10,279.7 7	-201.17	62.33	382,434.69	716,754.13	32° 3' 0.463 N	103° 46' 1.730 W

Leam Drilling Systems LLC

Survey Report - Geographic

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project:	Eddy County, NM (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Snapping				
Site Position:		Northing:	382,635.86 usft	Latitude:	32° 3' 2.457 N
From:	Map	Easting:	716,691.80 usft	Longitude:	103° 46' 2.442 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.30 °

Well	10 Federal 3H					
Well Position	+N/-S	0.00 usft	Northing:	382,635.86 usft	Latitude:	32° 3' 2.457 N
	+E/-W	0.00 usft	Easting:	716,691.80 usft	Longitude:	103° 46' 2.442 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,240.00 usft

Wellbore:	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	03/19/13	(°)	(°)	(nT)
			7.45	59.95	48,316

Design:	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	0.00	

Survey Program	Date: 04/06/13			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
16.38	10,285.02	Survey #1 (OH)	Gyroscope	Gyroscope

Survey									
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Map Northing	Map Easting	Latitude	Longitude
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
0.00	0.00	0.00	0.00	0.00	0.00	382,635.86	716,691.80	32° 3' 2.457 N	103° 46' 2.442 W
16.38	0.69	130.33	16.38	-0.06	0.08	382,635.79	716,691.87	32° 3' 2.456 N	103° 46' 2.441 W
111.46	0.77	125.65	111.45	-0.81	1.03	382,635.05	716,692.83	32° 3' 2.449 N	103° 46' 2.430 W
206.54	0.90	121.86	206.52	-1.57	2.18	382,634.29	716,693.98	32° 3' 2.441 N	103° 46' 2.417 W
301.62	0.99	120.04	301.59	-2.38	3.53	382,633.48	716,695.33	32° 3' 2.433 N	103° 46' 2.401 W
396.70	1.73	128.48	396.64	-3.68	5.36	382,632.18	716,697.16	32° 3' 2.420 N	103° 46' 2.380 W
491.78	2.25	125.17	491.66	-5.65	8.01	382,630.21	716,699.81	32° 3' 2.400 N	103° 46' 2.349 W
586.86	2.47	130.16	586.66	-8.05	11.10	382,627.81	716,702.90	32° 3' 2.376 N	103° 46' 2.314 W
681.94	2.52	126.97	681.65	-10.63	14.34	382,625.23	716,706.14	32° 3' 2.351 N	103° 46' 2.276 W
777.02	2.63	134.67	776.64	-13.42	17.56	382,622.44	716,709.36	32° 3' 2.323 N	103° 46' 2.239 W
872.10	2.33	145.22	871.63	-16.54	20.22	382,619.32	716,712.01	32° 3' 2.292 N	103° 46' 2.208 W
967.18	2.16	142.67	966.64	-19.55	22.40	382,616.31	716,714.20	32° 3' 2.262 N	103° 46' 2.183 W

Leam Drilling Systems LLC

Survey Report - Geographic

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,062.26	1.91	134.21	1,061.66	-22.08	24.63	382,613.78	716,716.42	32° 3' 2.237 N	103° 46' 2.157 W
1,157.34	1.76	145.00	1,156.69	-24.38	26.60	382,611.48	716,718.40	32° 3' 2.214 N	103° 46' 2.134 W
1,252.42	1.88	153.93	1,251.72	-26.98	28.12	382,608.88	716,719.92	32° 3' 2.188 N	103° 46' 2.117 W
1,347.50	1.11	173.91	1,346.77	-29.29	28.91	382,606.56	716,720.70	32° 3' 2.165 N	103° 46' 2.108 W
1,442.58	0.42	209.76	1,441.84	-30.51	28.83	382,605.35	716,720.63	32° 3' 2.153 N	103° 46' 2.109 W
1,537.66	0.33	223.38	1,536.92	-31.01	28.47	382,604.84	716,720.27	32° 3' 2.148 N	103° 46' 2.113 W
1,632.74	0.39	235.06	1,631.99	-31.40	28.02	382,604.46	716,719.81	32° 3' 2.144 N	103° 46' 2.118 W
1,727.82	0.23	241.71	1,727.07	-31.67	27.58	382,604.18	716,719.38	32° 3' 2.142 N	103° 46' 2.123 W
1,822.90	0.42	231.49	1,822.15	-31.98	27.14	382,603.88	716,718.94	32° 3' 2.139 N	103° 46' 2.129 W
1,917.98	0.90	241.56	1,917.23	-32.55	26.21	382,603.30	716,718.01	32° 3' 2.133 N	103° 46' 2.139 W
2,013.06	1.61	238.48	2,012.28	-33.61	24.42	382,602.25	716,716.21	32° 3' 2.123 N	103° 46' 2.160 W
2,108.14	2.54	234.04	2,107.30	-35.54	21.57	382,600.32	716,713.37	32° 3' 2.104 N	103° 46' 2.194 W
2,203.22	2.39	233.61	2,202.29	-37.96	18.27	382,597.90	716,710.07	32° 3' 2.080 N	103° 46' 2.232 W
2,298.30	2.44	252.80	2,297.29	-39.73	14.74	382,596.13	716,706.54	32° 3' 2.063 N	103° 46' 2.273 W
2,393.38	2.42	256.79	2,392.28	-40.79	10.86	382,595.07	716,702.65	32° 3' 2.052 N	103° 46' 2.318 W
2,488.46	2.36	275.56	2,487.28	-41.06	6.95	382,594.80	716,698.75	32° 3' 2.050 N	103° 46' 2.364 W
2,583.54	2.17	275.25	2,582.29	-40.70	3.21	382,595.16	716,695.01	32° 3' 2.054 N	103° 46' 2.407 W
2,678.62	2.20	264.91	2,677.30	-40.70	-0.40	382,595.16	716,691.40	32° 3' 2.054 N	103° 46' 2.449 W
2,773.70	2.08	280.64	2,772.31	-40.55	-3.90	382,595.31	716,687.90	32° 3' 2.056 N	103° 46' 2.490 W
2,868.78	1.86	285.05	2,867.34	-39.83	-7.06	382,596.03	716,684.73	32° 3' 2.063 N	103° 46' 2.527 W
2,963.86	1.99	292.14	2,962.36	-38.81	-10.08	382,597.05	716,681.71	32° 3' 2.073 N	103° 46' 2.562 W
3,058.94	1.99	290.96	3,057.39	-37.60	-13.15	382,598.26	716,678.64	32° 3' 2.085 N	103° 46' 2.597 W
3,154.02	2.34	296.14	3,152.40	-36.15	-16.44	382,599.71	716,675.36	32° 3' 2.100 N	103° 46' 2.635 W
3,249.10	2.12	292.95	3,247.41	-34.61	-19.80	382,601.25	716,672.00	32° 3' 2.115 N	103° 46' 2.674 W
3,344.18	1.57	297.24	3,342.44	-33.33	-22.58	382,602.53	716,669.22	32° 3' 2.128 N	103° 46' 2.706 W
3,439.26	1.23	235.86	3,437.49	-33.30	-24.58	382,602.56	716,667.21	32° 3' 2.128 N	103° 46' 2.730 W
3,534.34	1.71	162.36	3,532.55	-35.23	-25.00	382,600.63	716,666.80	32° 3' 2.109 N	103° 46' 2.735 W
3,629.42	1.95	135.72	3,627.58	-37.74	-23.44	382,598.12	716,668.36	32° 3' 2.084 N	103° 46' 2.717 W
3,724.50	3.74	137.15	3,722.54	-41.17	-20.20	382,594.69	716,671.60	32° 3' 2.050 N	103° 46' 2.679 W
3,819.58	5.44	140.70	3,817.31	-46.93	-15.23	382,588.93	716,676.56	32° 3' 1.993 N	103° 46' 2.622 W
3,914.66	4.28	139.79	3,912.05	-53.13	-10.09	382,582.73	716,681.71	32° 3' 1.931 N	103° 46' 2.563 W
4,009.74	3.15	141.02	4,006.93	-57.87	-6.15	382,577.99	716,685.64	32° 3' 1.884 N	103° 46' 2.517 W
4,104.82	2.21	128.84	4,101.90	-61.05	-3.08	382,574.81	716,688.71	32° 3' 1.853 N	103° 46' 2.482 W
4,199.90	2.16	134.31	4,196.91	-63.45	-0.37	382,572.41	716,691.42	32° 3' 1.829 N	103° 46' 2.450 W
4,294.98	1.94	126.11	4,291.93	-65.65	2.21	382,570.21	716,694.00	32° 3' 1.807 N	103° 46' 2.420 W
4,390.06	1.46	142.48	4,386.97	-67.56	4.25	382,568.30	716,696.04	32° 3' 1.788 N	103° 46' 2.397 W
4,485.14	1.76	139.55	4,482.01	-69.63	5.93	382,566.23	716,697.73	32° 3' 1.767 N	103° 46' 2.377 W
4,580.22	1.55	143.13	4,577.06	-71.77	7.65	382,564.09	716,699.45	32° 3' 1.746 N	103° 46' 2.358 W
4,675.30	1.49	149.73	4,672.10	-73.87	9.05	382,561.99	716,700.84	32° 3' 1.725 N	103° 46' 2.341 W
4,770.38	1.48	144.40	4,767.15	-75.93	10.38	382,559.92	716,702.18	32° 3' 1.705 N	103° 46' 2.326 W
4,865.46	1.36	142.19	4,862.20	-77.82	11.79	382,558.03	716,703.59	32° 3' 1.686 N	103° 46' 2.310 W
4,960.54	1.20	136.70	4,957.26	-79.44	13.16	382,556.42	716,704.96	32° 3' 1.670 N	103° 46' 2.294 W
5,055.62	1.36	163.28	5,052.31	-81.25	14.17	382,554.61	716,705.97	32° 3' 1.652 N	103° 46' 2.282 W
5,150.70	1.16	155.16	5,147.37	-83.20	14.90	382,552.66	716,706.70	32° 3' 1.632 N	103° 46' 2.274 W
5,245.78	2.23	152.41	5,242.41	-85.71	16.16	382,550.15	716,707.96	32° 3' 1.608 N	103° 46' 2.259 W
5,340.86	1.03	153.68	5,337.45	-88.12	17.40	382,547.74	716,709.19	32° 3' 1.584 N	103° 46' 2.245 W
5,435.94	1.04	155.64	5,432.51	-89.67	18.13	382,546.19	716,709.93	32° 3' 1.568 N	103° 46' 2.237 W
5,531.02	1.14	158.87	5,527.58	-91.34	18.83	382,544.52	716,710.62	32° 3' 1.552 N	103° 46' 2.229 W
5,626.10	1.09	164.80	5,622.64	-93.09	19.41	382,542.77	716,711.20	32° 3' 1.534 N	103° 46' 2.222 W
5,721.18	1.19	176.55	5,717.70	-94.95	19.70	382,540.91	716,711.50	32° 3' 1.516 N	103° 46' 2.219 W
5,816.26	1.23	169.37	5,812.76	-96.94	19.95	382,538.92	716,711.75	32° 3' 1.496 N	103° 46' 2.216 W
5,911.34	1.17	162.86	5,907.82	-98.87	20.43	382,536.99	716,712.22	32° 3' 1.477 N	103° 46' 2.211 W
6,006.42	1.10	155.36	6,002.88	-100.63	21.09	382,535.23	716,712.89	32° 3' 1.460 N	103° 46' 2.203 W
6,101.50	1.31	157.93	6,097.94	-102.46	21.88	382,533.39	716,713.68	32° 3' 1.441 N	103° 46' 2.194 W
6,196.58	1.28	151.61	6,192.99	-104.41	22.79	382,531.45	716,714.59	32° 3' 1.422 N	103° 46' 2.184 W

Leam Drilling Systems LLC

Survey Report - Geographic

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,291.66	1.22	146.64	6,288.05	-106.19	23.86	382,529.67	716,715.65	32° 3' 1.405 N	103° 46' 2.171 W
6,386.74	0.90	140.08	6,383.11	-107.60	24.89	382,528.25	716,716.69	32° 3' 1.390 N	103° 46' 2.159 W
6,481.82	0.87	156.93	6,478.18	-108.84	25.65	382,527.02	716,717.45	32° 3' 1.378 N	103° 46' 2.151 W
6,576.90	1.00	161.31	6,573.25	-110.29	26.20	382,525.57	716,718.00	32° 3' 1.364 N	103° 46' 2.144 W
6,671.98	1.12	171.64	6,668.31	-112.00	26.60	382,523.86	716,718.40	32° 3' 1.347 N	103° 46' 2.140 W
6,767.06	1.37	164.64	6,763.37	-114.01	27.04	382,521.85	716,718.84	32° 3' 1.327 N	103° 46' 2.135 W
6,862.14	1.32	169.37	6,858.42	-116.18	27.54	382,519.68	716,719.34	32° 3' 1.305 N	103° 46' 2.129 W
6,957.22	1.93	145.98	6,953.47	-118.59	28.64	382,517.27	716,720.44	32° 3' 1.282 N	103° 46' 2.117 W
7,052.30	1.61	158.24	7,048.50	-121.15	30.03	382,514.70	716,721.83	32° 3' 1.256 N	103° 46' 2.100 W
7,147.38	1.80	153.56	7,143.54	-123.73	31.19	382,512.13	716,722.99	32° 3' 1.230 N	103° 46' 2.087 W
7,242.46	2.08	157.36	7,238.57	-126.66	32.52	382,509.20	716,724.32	32° 3' 1.201 N	103° 46' 2.072 W
7,337.54	2.08	157.32	7,333.58	-129.85	33.85	382,506.01	716,725.65	32° 3' 1.170 N	103° 46' 2.057 W
7,432.62	2.57	155.98	7,428.58	-133.39	35.38	382,502.47	716,727.18	32° 3' 1.135 N	103° 46' 2.039 W
7,527.70	2.55	161.28	7,523.57	-137.34	36.93	382,498.52	716,728.73	32° 3' 1.096 N	103° 46' 2.021 W
7,622.78	2.47	166.06	7,618.56	-141.33	38.10	382,494.53	716,729.90	32° 3' 1.056 N	103° 46' 2.008 W
7,717.86	2.37	166.50	7,713.55	-145.23	39.05	382,490.63	716,730.85	32° 3' 1.017 N	103° 46' 1.997 W
7,812.94	2.39	163.07	7,808.55	-149.04	40.09	382,486.82	716,731.89	32° 3' 0.980 N	103° 46' 1.985 W
7,908.02	2.39	164.66	7,903.55	-152.84	41.19	382,483.01	716,732.99	32° 3' 0.942 N	103° 46' 1.973 W
8,003.10	2.27	166.20	7,998.55	-156.58	42.17	382,479.27	716,733.96	32° 3' 0.905 N	103° 46' 1.962 W
8,098.18	2.00	164.67	8,093.56	-160.01	43.05	382,475.85	716,734.85	32° 3' 0.871 N	103° 46' 1.952 W
8,193.26	2.07	156.54	8,188.58	-163.19	44.18	382,472.67	716,735.97	32° 3' 0.839 N	103° 46' 1.939 W
8,288.34	1.42	149.58	8,283.62	-165.78	45.46	382,470.08	716,737.25	32° 3' 0.814 N	103° 46' 1.924 W
8,383.42	1.03	168.35	8,378.68	-167.63	46.23	382,468.23	716,738.02	32° 3' 0.795 N	103° 46' 1.915 W
8,478.50	1.18	118.88	8,473.74	-168.94	47.26	382,466.92	716,739.05	32° 3' 0.782 N	103° 46' 1.903 W
8,573.58	1.08	97.00	8,568.80	-169.52	49.00	382,466.33	716,740.80	32° 3' 0.776 N	103° 46' 1.883 W
8,668.66	0.94	147.25	8,663.87	-170.29	50.31	382,465.57	716,742.11	32° 3' 0.769 N	103° 46' 1.868 W
8,763.74	0.97	200.72	8,758.94	-171.70	50.45	382,464.16	716,742.25	32° 3' 0.755 N	103° 46' 1.866 W
8,858.82	1.12	171.69	8,854.01	-173.37	50.30	382,462.49	716,742.10	32° 3' 0.738 N	103° 46' 1.868 W
8,953.90	1.28	171.51	8,949.06	-175.34	50.59	382,460.52	716,742.39	32° 3' 0.719 N	103° 46' 1.865 W
9,048.98	1.27	170.14	9,044.12	-177.43	50.93	382,458.43	716,742.72	32° 3' 0.698 N	103° 46' 1.861 W
9,144.06	1.57	159.31	9,139.17	-179.69	51.57	382,456.17	716,743.36	32° 3' 0.676 N	103° 46' 1.854 W
9,239.14	1.73	170.43	9,234.21	-182.32	52.27	382,453.54	716,744.06	32° 3' 0.650 N	103° 46' 1.846 W
9,334.22	1.66	171.68	9,329.25	-185.10	52.71	382,450.76	716,744.50	32° 3' 0.622 N	103° 46' 1.841 W
9,429.30	1.74	176.48	9,424.29	-187.90	52.99	382,447.96	716,744.79	32° 3' 0.594 N	103° 46' 1.838 W
9,524.38	1.80	178.75	9,519.32	-190.83	53.11	382,445.02	716,744.91	32° 3' 0.565 N	103° 46' 1.837 W
9,619.46	2.11	146.90	9,614.35	-193.79	54.10	382,442.06	716,745.90	32° 3' 0.536 N	103° 46' 1.825 W
9,714.54	2.04	122.83	9,709.37	-196.18	56.48	382,439.68	716,748.28	32° 3' 0.512 N	103° 46' 1.798 W
9,809.62	1.00	98.94	9,804.42	-197.22	58.72	382,438.63	716,750.52	32° 3' 0.502 N	103° 46' 1.772 W
9,904.70	0.75	96.66	9,899.49	-197.42	60.16	382,438.43	716,751.96	32° 3' 0.500 N	103° 46' 1.755 W
9,999.78	0.52	133.56	9,994.56	-197.79	61.09	382,438.06	716,752.89	32° 3' 0.496 N	103° 46' 1.744 W
10,094.86	0.64	161.17	10,089.64	-198.59	61.58	382,437.26	716,753.37	32° 3' 0.488 N	103° 46' 1.739 W
10,189.94	0.69	156.14	10,184.71	-199.62	61.98	382,436.24	716,753.77	32° 3' 0.478 N	103° 46' 1.734 W
10,285.02	1.24	173.30	10,279.78	-201.17	62.33	382,434.69	716,754.13	32° 3' 0.463 N	103° 46' 1.730 W

Leam Drilling Systems LLC

Survey Report - Geographic

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Design Targets									
Target Name	hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	
Shape		(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	Latitude Longitude
SHL(S-10-F 3H)		0.00	0.00	0.00	0.00	0.00	382,635.86	716,691.80	32° 3' 2.457 N 103° 46' 2.442 W
- actual wellpath hits target center									
- Point									
PBHL(S-10-F 3H)		0.00	0.00	10,065.0	4,800.46	-113.40	387,436.32	716,578.40	32° 3' 49.967 N 103° 46' 3.467 W
				0					
- actual wellpath misses target center by 5001.68usft at 10027.28usft MD (10022.06 TVD, -197.98 N, 61.26 E)									
- Point									
BHL OH (S-10-F 3H)		0.00	0.00	10,279.7	-201.17	62.33	382,434.69	716,754.13	32° 3' 0.463 N 103° 46' 1.730 W
				7					
- actual wellpath hits target center									
- Point									

Checked By: _____	Approved By: _____	Date: _____
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Leam Drilling Systems LLC

Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.1 Single User Db

Project:	Eddy County, NM (NAD-83)	System Datum:	Mean Sea Level
Map System:	US State Plane 1983		
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Snapping				
Site Position:		Northing:	382,635.86 usft	Latitude:	32° 3' 2.457 N
From:	Map	Easting:	716,691.80 usft	Longitude:	103° 46' 2.442 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.30 °

Well	10 Federal 3H					
Well Position	+N/-S	0.00 usft	Northing:	382,635.86 usft	Latitude:	32° 3' 2.457 N
	+E/-W	0.00 usft	Easting:	716,691.80 usft	Longitude:	103° 46' 2.442 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,240.00 usft

Wellbore:	ST01				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	04/06/13	7.44	59.95	48,311

Design:	ST01				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	9,429.30
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	0.00	

Survey Program	Date:	09/19/13			
From	To	Survey (Wellbore)	Tool Name	Description	
(usft)	(usft)				
16.38	9,429.30	Survey #1 (OH)	Gyroscope	Gyroscope	
9,450.00	14,647.00	Survey #1 (ST01)	LEAM MWD	MWD - Standard	
14,782.00	14,782.00	Survey #2 (ST01)	Project	Projection	

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.38	0.69	130.33	16.38	-0.06	0.08	-0.06	4.21	4.21	0.00
111.46	0.77	125.65	111.45	-0.81	1.03	-0.81	0.10	0.08	-4.92
206.54	0.90	121.86	206.52	-1.57	2.18	-1.57	0.15	0.14	-3.99
301.62	0.99	120.04	301.59	-2.38	3.53	-2.38	0.10	0.09	-1.91
396.70	1.73	128.48	396.64	-3.68	5.36	-3.68	0.80	0.78	8.88
491.78	2.25	125.17	491.66	-5.65	8.01	-5.65	0.56	0.55	-3.48
586.86	2.47	130.16	586.66	-8.05	11.10	-8.05	0.32	0.23	5.25
681.94	2.52	126.97	681.65	-10.63	14.34	-10.63	0.16	0.05	-3.36

Leam Drilling Systems LLC

Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	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)
777.02	2.63	134.67	776.64	-13.42	17.56	-13.42	0.38	0.12	8.10
872.10	2.33	145.22	871.63	-16.54	20.22	-16.54	0.57	-0.32	11.10
967.18	2.16	142.67	966.64	-19.55	22.40	-19.55	0.21	-0.18	-2.68
1,062.26	1.91	134.21	1,061.66	-22.08	24.63	-22.08	0.41	-0.26	-8.90
1,157.34	1.76	145.00	1,156.69	-24.38	26.60	-24.38	0.40	-0.16	11.35
1,252.42	1.88	153.93	1,251.72	-26.98	28.12	-26.98	0.32	0.13	9.39
1,347.50	1.11	173.91	1,346.77	-29.29	28.91	-29.29	0.97	-0.81	21.01
1,442.58	0.42	209.76	1,441.84	-30.51	28.83	-30.51	0.85	-0.73	37.71
1,537.66	0.33	223.38	1,536.92	-31.01	28.47	-31.01	0.13	-0.09	14.32
1,632.74	0.39	235.06	1,631.99	-31.40	28.02	-31.40	0.10	0.06	12.28
1,727.82	0.23	241.71	1,727.07	-31.67	27.58	-31.67	0.17	-0.17	6.99
1,822.90	0.42	231.49	1,822.15	-31.98	27.14	-31.98	0.21	0.20	-10.75
1,917.98	0.90	241.56	1,917.23	-32.55	26.21	-32.55	0.52	0.50	10.59
2,013.06	1.61	238.48	2,012.28	-33.61	24.42	-33.61	0.75	0.75	-3.24
2,108.14	2.54	234.04	2,107.30	-35.54	21.57	-35.54	0.99	0.98	-4.67
2,203.22	2.39	233.61	2,202.29	-37.96	18.27	-37.96	0.16	-0.16	-0.45
2,298.30	2.44	252.80	2,297.29	-39.73	14.74	-39.73	0.85	0.05	20.18
2,393.38	2.42	256.79	2,392.28	-40.79	10.86	-40.79	0.18	-0.02	4.20
2,488.46	2.36	275.56	2,487.28	-41.06	6.95	-41.06	0.82	-0.06	19.74
2,583.54	2.17	275.25	2,582.29	-40.70	3.21	-40.70	0.20	-0.20	-0.33
2,678.62	2.20	264.91	2,677.30	-40.70	-0.40	-40.70	0.42	0.03	-10.88
2,773.70	2.06	280.64	2,772.31	-40.55	-3.90	-40.55	0.63	-0.15	16.54
2,868.78	1.86	285.05	2,867.34	-39.83	-7.06	-39.83	0.26	-0.21	4.64
2,963.86	1.99	292.14	2,962.36	-38.81	-10.08	-38.81	0.29	0.14	7.46
3,058.94	1.99	290.96	3,057.39	-37.60	-13.15	-37.60	0.04	0.00	-1.24
3,154.02	2.34	296.14	3,152.40	-36.15	-16.44	-36.15	0.42	0.37	5.45
3,249.10	2.12	292.95	3,247.41	-34.61	-19.80	-34.61	0.27	-0.23	-3.36
3,344.18	1.57	297.24	3,342.44	-33.33	-22.58	-33.33	0.60	-0.58	4.51
3,439.26	1.23	235.86	3,437.49	-33.30	-24.58	-33.30	1.53	-0.36	-64.56
3,534.34	1.71	162.36	3,532.55	-35.23	-25.00	-35.23	1.89	0.50	-77.30
3,629.42	1.95	135.72	3,627.58	-37.74	-23.44	-37.74	0.92	0.25	-28.02
3,724.50	3.74	137.15	3,722.54	-41.17	-20.20	-41.17	1.88	1.88	1.50
3,819.58	5.44	140.70	3,817.31	-46.93	-15.23	-46.93	1.81	1.79	3.73
3,914.66	4.28	139.79	3,912.05	-53.13	-10.09	-53.13	1.22	-1.22	-0.96
4,009.74	3.15	141.02	4,006.93	-57.87	-6.15	-57.87	1.19	-1.19	1.29
4,104.82	2.21	128.84	4,101.90	-61.05	-3.08	-61.05	1.15	-0.99	-12.81
4,199.90	2.16	134.31	4,196.91	-63.45	-0.37	-63.45	0.23	-0.05	5.75
4,294.98	1.94	126.11	4,291.93	-65.65	2.21	-65.65	0.39	-0.23	-8.62
4,390.06	1.46	142.48	4,386.97	-67.56	4.25	-67.56	0.71	-0.50	17.22
4,485.14	1.76	139.55	4,482.01	-69.63	5.93	-69.63	0.33	0.32	-3.08
4,580.22	1.55	143.13	4,577.06	-71.77	7.65	-71.77	0.25	-0.22	3.77
4,675.30	1.49	149.73	4,672.10	-73.87	9.05	-73.87	0.19	-0.06	6.94
4,770.38	1.48	144.40	4,767.15	-75.93	10.38	-75.93	0.15	-0.01	-5.61

Leam Drilling Systems LLC

Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	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)
4,865.46	1.36	142.19	4,862.20	-77.82	11.79	-77.82	0.14	-0.13	-2.32
4,960.54	1.20	136.70	4,957.26	-79.44	13.16	-79.44	0.21	-0.17	-5.77
5,055.62	1.36	163.28	5,052.31	-81.25	14.17	-81.25	0.64	0.17	27.96
5,150.70	1.16	155.16	5,147.37	-83.20	14.90	-83.20	0.28	-0.21	-8.54
5,245.78	2.23	152.41	5,242.41	-85.71	16.16	-85.71	1.13	1.13	-2.89
5,340.86	1.03	153.68	5,337.45	-88.12	17.40	-88.12	1.26	-1.26	1.34
5,435.94	1.04	155.64	5,432.51	-89.67	18.13	-89.67	0.04	0.01	2.06
5,531.02	1.14	158.87	5,527.58	-91.34	18.83	-91.34	0.12	0.11	3.40
5,626.10	1.09	164.80	5,622.64	-93.09	19.41	-93.09	0.13	-0.05	6.24
5,721.18	1.19	176.55	5,717.70	-94.95	19.70	-94.95	0.27	0.11	12.36
5,816.26	1.23	169.37	5,812.76	-96.94	19.95	-96.94	0.16	0.04	-7.55
5,911.34	1.17	162.86	5,907.82	-98.87	20.43	-98.87	0.16	-0.06	-6.85
6,006.42	1.10	155.36	6,002.88	-100.63	21.09	-100.63	0.17	-0.07	-7.89
6,101.50	1.31	157.93	6,097.94	-102.46	21.88	-102.46	0.23	0.22	2.70
6,196.58	1.28	151.61	6,192.99	-104.41	22.79	-104.41	0.15	-0.03	-6.65
6,291.66	1.22	146.64	6,288.05	-106.19	23.86	-106.19	0.13	-0.06	-5.23
6,386.74	0.90	140.08	6,383.11	-107.60	24.89	-107.60	0.36	-0.34	-6.90
6,481.82	0.87	156.93	6,478.18	-108.84	25.65	-108.84	0.27	-0.03	17.72
6,576.90	1.00	161.31	6,573.25	-110.29	26.20	-110.29	0.16	0.14	4.61
6,671.98	1.12	171.64	6,668.31	-112.00	26.60	-112.00	0.24	0.13	10.86
6,767.06	1.37	164.64	6,763.37	-114.01	27.04	-114.01	0.31	0.26	-7.36
6,862.14	1.32	169.37	6,858.42	-116.18	27.54	-116.18	0.13	-0.05	4.97
6,957.22	1.93	145.98	6,953.47	-118.59	28.64	-118.59	0.94	0.64	-24.60
7,052.30	1.61	158.24	7,048.50	-121.15	30.03	-121.15	0.52	-0.34	12.89
7,147.38	1.80	153.56	7,143.54	-123.73	31.19	-123.73	0.25	0.20	-4.92
7,242.46	2.08	157.36	7,238.57	-126.66	32.52	-126.66	0.32	0.29	4.00
7,337.54	2.08	157.32	7,333.58	-129.85	33.85	-129.85	0.00	0.00	-0.04
7,432.62	2.57	155.98	7,428.58	-133.39	35.38	-133.39	0.52	0.52	-1.41
7,527.70	2.55	161.28	7,523.57	-137.34	36.93	-137.34	0.25	-0.02	5.57
7,622.78	2.47	166.06	7,618.56	-141.33	38.10	-141.33	0.24	-0.08	5.03
7,717.86	2.37	166.50	7,713.55	-145.23	39.05	-145.23	0.11	-0.11	0.46
7,812.94	2.39	163.07	7,808.55	-149.04	40.09	-149.04	0.15	0.02	-3.61
7,908.02	2.39	164.66	7,903.55	-152.84	41.19	-152.84	0.07	0.00	1.67
8,003.10	2.27	166.20	7,998.55	-156.58	42.17	-156.58	0.14	-0.13	1.62
8,098.18	2.00	164.67	8,093.56	-160.01	43.05	-160.01	0.29	-0.28	-1.61
8,193.26	2.07	156.54	8,188.58	-163.19	44.18	-163.19	0.31	0.07	-8.55
8,288.34	1.42	149.58	8,283.62	-165.78	45.46	-165.78	0.72	-0.68	-7.32
8,383.42	1.03	168.35	8,378.68	-167.63	46.23	-167.63	0.58	-0.41	19.74
8,478.50	1.18	118.88	8,473.74	-168.94	47.26	-168.94	0.98	0.16	-52.03
8,573.58	1.08	97.00	8,568.80	-169.52	49.00	-169.52	0.46	-0.11	-23.01
8,668.66	0.94	147.25	8,663.87	-170.29	50.31	-170.29	0.91	-0.15	52.85
8,763.74	0.97	200.72	8,758.94	-171.70	50.45	-171.70	0.90	0.03	56.24
8,858.82	1.12	171.69	8,854.01	-173.37	50.30	-173.37	0.57	0.16	-30.53

Leam Drilling Systems LLC

Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	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)
8,953.90	1.28	171.51	8,949.06	-175.34	50.59	-175.34	0.17	0.17	-0.19
9,048.98	1.27	170.14	9,044.12	-177.43	50.93	-177.43	0.03	-0.01	-1.44
9,144.06	1.57	159.31	9,139.17	-179.69	51.57	-179.69	0.42	0.32	-11.39
9,239.14	1.73	170.43	9,234.21	-182.32	52.27	-182.32	0.38	0.17	11.70
9,334.22	1.66	171.68	9,329.25	-185.10	52.71	-185.10	0.08	-0.07	1.31
9,429.30	1.74	176.48	9,424.29	-187.90	52.99	-187.90	0.17	0.08	5.05
9,450.00	2.02	174.84	9,444.98	-188.58	53.05	-188.58	1.38	1.35	-7.92
9,513.00	5.63	337.43	9,507.90	-186.83	51.96	-186.83	12.03	5.73	258.08
9,545.00	9.15	342.35	9,539.63	-182.95	50.58	-182.95	11.17	11.00	15.38
9,576.00	13.10	342.88	9,570.04	-177.24	48.80	-177.24	12.75	12.74	1.71
9,607.00	17.85	344.99	9,599.91	-169.29	46.54	-169.29	15.43	15.32	6.81
9,639.00	22.77	347.80	9,629.91	-158.50	43.95	-158.50	15.67	15.38	8.78
9,671.00	26.20	349.91	9,659.03	-145.48	41.41	-145.48	11.06	10.72	6.59
9,703.00	27.96	351.50	9,687.52	-131.11	39.06	-131.11	5.95	5.50	4.97
9,735.00	30.51	352.37	9,715.44	-115.64	36.87	-115.64	8.08	7.97	2.72
9,767.00	34.47	352.02	9,742.43	-98.61	34.54	-98.61	12.39	12.38	-1.09
9,799.00	37.81	350.97	9,768.27	-79.95	31.74	-79.95	10.62	10.44	-3.28
9,830.00	39.75	350.44	9,792.43	-60.79	28.60	-60.79	6.35	6.26	-1.71
9,862.00	43.09	350.27	9,816.42	-39.92	25.05	-39.92	10.44	10.44	-0.53
9,893.00	47.04	350.44	9,838.31	-18.29	21.38	-18.29	12.75	12.74	0.55
9,925.00	50.12	350.62	9,859.48	5.38	17.43	5.38	9.63	9.63	0.56
9,957.00	51.44	350.79	9,879.72	29.84	13.43	29.84	4.15	4.13	0.53
9,989.00	52.41	350.44	9,899.45	54.69	9.32	54.69	3.15	3.03	-1.09
10,020.00	55.31	350.44	9,917.73	79.38	5.16	79.38	9.35	9.35	0.00
10,051.00	58.39	350.79	9,934.68	104.98	0.93	104.98	9.98	9.94	1.13
10,080.74	59.77	350.79	9,949.96	130.17	-3.15	130.17	4.66	4.66	0.00
HL Crossing: 10081' MD, 9950' TVD									
10,083.00	59.88	350.79	9,951.10	132.10	-3.46	132.10	4.66	4.66	0.00
10,115.00	61.11	350.97	9,966.86	159.59	-7.88	159.59	3.87	3.84	0.56
10,147.00	64.19	350.09	9,981.56	187.62	-12.56	187.62	9.93	9.63	-2.75
10,178.00	66.13	349.56	9,994.58	215.31	-17.53	215.31	6.45	6.26	-1.71
10,210.00	68.50	348.51	10,006.92	244.30	-23.14	244.30	8.00	7.41	-3.28
10,241.00	70.79	347.80	10,017.70	272.74	-29.11	272.74	7.69	7.39	-2.29
10,273.00	73.16	347.45	10,027.60	302.46	-35.63	302.46	7.48	7.41	-1.09
10,305.00	74.74	348.16	10,036.45	332.52	-42.13	332.52	5.38	4.94	2.22
10,351.00	76.59	349.74	10,047.84	376.25	-50.67	376.25	5.22	4.02	3.43
10,383.00	78.00	350.27	10,054.88	407.00	-56.08	407.00	4.69	4.41	1.66
10,414.00	78.88	351.67	10,061.09	436.99	-60.85	436.99	5.26	2.84	4.52
10,445.00	80.20	353.08	10,066.72	467.20	-64.89	467.20	6.18	4.26	4.55
10,476.00	82.04	354.13	10,071.50	497.64	-68.30	497.64	6.81	5.94	3.39
10,508.00	84.77	354.84	10,075.18	529.28	-71.36	529.28	8.81	8.53	2.22
10,539.00	87.58	355.54	10,077.24	560.10	-73.95	560.10	9.34	9.06	2.26
10,565.00	89.60	356.24	10,077.88	586.02	-75.81	586.02	8.22	7.77	2.69
10,661.00	91.01	356.59	10,077.37	681.83	-81.82	681.83	1.51	1.47	0.36

Leam Drilling Systems LLC

Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	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)
10,755.00	91.36	356.59	10,075.43	775.64	-87.41	775.64	0.37	0.37	0.00
10,850.00	91.45	356.42	10,073.10	870.44	-93.20	870.44	0.20	0.09	-0.18
10,945.00	91.98	356.24	10,070.26	965.20	-99.28	965.20	0.59	0.56	-0.19
11,040.00	90.57	356.59	10,068.14	1,059.99	-105.21	1,059.99	1.53	-1.48	0.37
11,135.00	90.92	357.12	10,066.91	1,154.84	-110.43	1,154.84	0.67	0.37	0.56
11,230.00	91.80	356.59	10,064.65	1,249.66	-115.64	1,249.66	1.08	0.93	-0.56
11,325.00	90.66	356.94	10,062.61	1,344.49	-121.00	1,344.49	1.26	-1.20	0.37
11,420.00	90.57	359.41	10,061.59	1,439.43	-124.02	1,439.43	2.60	-0.09	2.60
11,515.00	91.63	359.41	10,059.77	1,534.40	-125.00	1,534.40	1.12	1.12	0.00
11,610.00	92.42	359.58	10,056.41	1,629.34	-125.84	1,629.34	0.85	0.83	0.18
11,705.00	90.84	358.88	10,053.71	1,724.29	-127.11	1,724.29	1.82	-1.66	-0.74
11,800.00	91.63	359.05	10,051.66	1,819.25	-128.83	1,819.25	0.85	0.83	0.18
11,895.00	90.75	359.41	10,049.69	1,914.22	-130.10	1,914.22	1.00	-0.93	0.38
11,990.00	90.04	359.76	10,049.04	2,009.22	-130.79	2,009.22	0.83	-0.75	0.37
12,085.00	88.29	359.93	10,050.42	2,104.20	-131.05	2,104.20	1.85	-1.84	0.18
12,180.00	87.14	359.93	10,054.21	2,199.13	-131.16	2,199.13	1.21	-1.21	0.00
12,275.00	88.11	0.30	10,058.14	2,294.04	-130.97	2,294.04	1.09	1.02	0.39
12,370.00	88.55	0.46	10,060.91	2,389.00	-130.34	2,389.00	0.49	0.46	0.17
12,465.00	88.72	0.99	10,063.18	2,483.96	-129.14	2,483.96	0.59	0.18	0.56
12,560.00	88.81	0.81	10,065.22	2,578.93	-127.65	2,578.93	0.21	0.09	-0.19
12,655.00	89.16	1.52	10,066.91	2,673.90	-125.72	2,673.90	0.83	0.37	0.75
12,750.00	90.04	2.57	10,067.57	2,768.83	-122.33	2,768.83	1.44	0.93	1.11
12,845.00	89.16	1.69	10,068.23	2,863.76	-118.80	2,863.76	1.31	-0.93	-0.93
12,940.00	88.46	0.99	10,070.21	2,958.71	-116.58	2,958.71	1.04	-0.74	-0.74
13,035.00	90.40	0.46	10,071.15	3,053.70	-115.38	3,053.70	2.12	2.04	-0.56
13,130.00	91.80	0.64	10,069.33	3,148.67	-114.46	3,148.67	1.49	1.47	0.19
13,226.00	90.92	359.93	10,067.05	3,244.64	-113.99	3,244.64	1.18	-0.92	-0.74
13,320.00	90.31	359.58	10,066.04	3,338.63	-114.39	3,338.63	0.75	-0.65	-0.37
13,415.00	89.78	359.41	10,065.97	3,433.63	-115.23	3,433.63	0.59	-0.56	-0.18
13,510.00	89.69	359.23	10,066.40	3,528.62	-116.35	3,528.62	0.21	-0.09	-0.19
13,605.00	90.04	359.05	10,066.63	3,623.61	-117.78	3,623.61	0.41	0.37	-0.19
13,700.00	91.36	359.05	10,065.47	3,718.59	-119.35	3,718.59	1.39	1.39	0.00
13,794.00	90.31	358.35	10,064.10	3,812.55	-121.49	3,812.55	1.34	-1.12	-0.74
13,889.00	91.10	359.41	10,062.93	3,907.53	-123.34	3,907.53	1.39	0.83	1.12
13,984.00	91.19	359.23	10,061.03	4,002.50	-124.47	4,002.50	0.21	0.09	-0.19
14,078.00	91.54	359.05	10,058.79	4,096.46	-125.88	4,096.46	0.42	0.37	-0.19
14,173.00	90.13	359.58	10,057.41	4,191.44	-127.02	4,191.44	1.59	-1.48	0.56
14,268.00	89.69	359.41	10,057.56	4,286.44	-127.85	4,286.44	0.50	-0.46	-0.18
14,362.00	89.69	358.70	10,058.07	4,380.42	-129.40	4,380.42	0.76	0.00	-0.76
14,457.00	91.63	358.53	10,056.97	4,475.39	-131.70	4,475.39	2.05	2.04	-0.18
14,552.00	92.15	359.23	10,053.84	4,570.31	-133.56	4,570.31	0.92	0.55	0.74
14,647.00	93.03	359.05	10,049.54	4,665.21	-134.98	4,665.21	0.95	0.93	-0.19
14,742.00	93.03	359.05	10,042.41	4,800.00	-137.22	4,800.00	0.00	0.00	0.00

Leam Drilling Systems LLC

Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 10 Federal 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Site:	Snapping	MD Reference:	GE 3240' + KB 28' @ 3268.00usft (Cactus 105)
Well:	10 Federal 3H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	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)

Design Targets									
Target Name hit/miss target Shape	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL(S-10-F 3H) - actual wellpath hits target center - Point	0.00	0.00	0.00	0.00	0.00	382,635.86	716,691.80	32° 3' 2.457 N	103° 46' 2.442 W
BHL ST01 (S-10-F 3H) - actual wellpath hits target center - Point	0.00	0.00	10,042.4 1	4,800.00	-137.22	387,435.86	716,554.58	32° 3' 49.964 N	103° 46' 3.744 W
PBHL(S-10-F 3H) - actual wellpath misses target center by 32.81usft at 14780.87usft MD (10042.47 TVD, 4798.87 N, -137.20 E) - Point	0.00	0.00	10,065.0 0	4,800.46	-113.40	387,436.32	716,578.40	32° 3' 49.967 N	103° 46' 3.467 W
BHL OH (S-10-F 3H) - actual wellpath misses target center by 461.04usft at 10002.43usft MD (9907.52 TVD, 65.28 N, 7.54 E) - Point	0.00	0.00	10,279.7 7	-201.17	62.33	382,434.69	716,754.13	32° 3' 0.463 N	103° 46' 1.730 W