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DIRECTIONAL SURVEY REPORT

30-025-32751

DEVON ENERGY
MESA VERDE 6 FEDERAL #10H
LEA COUNTY, NEW MEXICO

PREPARED BY: FRANCISCO SINISTERRA

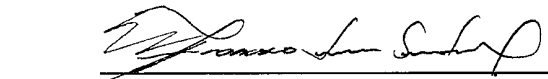
DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) STEWART ROBERTSON
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 09-13-10 TO 09-26-10
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: LEA COUNTY
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

DEVON ENERGY
MESA VERDE 6 FEDERAL #10H
LEA COUNTY, NM
RIG: MCVAY #8

9. SURVEY CERTIFIED FROM: 8304 TO 13280 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4546.45 FEET ON A BEARING OF 175.97 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 13325 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: 09/06/2010
Date Completed: 09/26/2010

DEVON ENERGY
MESA VERDE 6 FEDERAL #10H
LEA COUNTY COUNTY, NM
Rig: MCVAY 8
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers: D. MELUSO
D. PHILLIPS
M. ZAW

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.19.51.0000 N LON: 103.49.14.0000 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 658385.9100 Y: 484452.2900
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.53° EAST TO GRID
Vertical Section Plane: 175.83
Survey Vert. Reference: 18.00' Kelly Bushing To Ground
Altitude: 3535.00' Ground To MSL

Measured Depth	13325.00	(feet)
Inclination	90.92	(deg)
Azimuth	176.33	(deg)
True Vertical Depth	9058.72	(feet)
Vertical Section	4546.44	(feet)
Survey X cord	658705.61	(feet)
Survey Y cord	479917.08	(feet)
Survey Lat	32.31836254 N	(deg)
Survey Lon	103.81959095 W	(deg)
Rectangular Corr. N/S	4535.20 S	(feet)
Rectangular Corr. E/W	319.72 E	(feet)
Closure Distance	4546.45	(feet)
Direction of Closure	175.97	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
MESA VERDE 6 FEDERAL #10H
LEA COUNTY COUNTY, NM
Rig: MCVAY 8
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers: D. MELUSO J. NEWHOUSE
D. PHILLIPS
M. ZAW
Survey Calculations by RX4 using Minimum Curvature

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.19.51.0000 N LON: 103.49.14.0000 W
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Altitude: 3535.00' Ground To MSL

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)
THE FOLLOWING ARE GYRODATA DIRECTIONAL SURVEYS.										
14.60	0.08	338.61	14.60	0.00	-0.01	0.01 N	0.01 W	0.01@	303.58	0.00
102.01	0.25	23.91	102.01	87.41	-0.23	0.24 N	0.04 E	0.24@	10.50	0.23
189.97	0.05	94.60	189.97	87.96	-0.40	0.41 N	0.16 E	0.44@	21.31	0.27
277.39	0.13	57.67	277.39	87.42	-0.44	0.46 N	0.28 E	0.54@	31.47	0.11
366.12	0.15	69.79	366.12	88.73	-0.52	0.55 N	0.48 E	0.73@	40.64	0.04
456.29	0.11	132.52	456.29	90.17	-0.49	0.54 N	0.65 E	0.84@	50.47	0.16
545.71	0.19	217.96	545.71	89.42	-0.32	0.36 N	0.62 E	0.72@	59.83	0.24
609.41	0.12	265.40	609.41	63.70	-0.24	0.27 N	0.49 E	0.56@	60.90	0.22
705.01	0.53	297.16	705.00	95.60	-0.47	0.47 N	0.00 W	0.47@	359.76	0.45
800.42	0.88	293.77	800.41	95.41	-1.04	0.96 N	1.07 W	1.44@	312.15	0.37
895.84	1.36	303.54	895.81	95.42	-2.07	1.88 N	2.68 W	3.28@	305.13	0.54
991.38	1.22	331.27	991.33	95.54	-3.69	3.40 N	4.11 W	5.34@	309.60	0.66
1086.97	1.29	347.91	1086.89	95.59	-5.68	5.35 N	4.83 W	7.20@	317.92	0.39
1182.47	1.52	341.99	1182.36	95.50	-7.98	7.60 N	5.44 W	9.35@	324.39	0.28
1277.88	1.32	334.77	1277.74	95.41	-10.23	9.80 N	6.30 W	11.65@	327.25	0.28
1373.55	1.15	326.10	1373.39	95.67	-12.10	11.59 N	7.31 W	13.71@	327.77	0.26
1469.18	1.08	324.89	1469.00	95.63	-13.70	13.13 N	8.36 W	15.57@	327.50	0.08
1564.83	0.99	320.81	1564.64	95.65	-15.15	14.51 N	9.40 W	17.29@	327.05	0.12
1660.30	1.03	315.28	1660.09	95.47	-16.48	15.76 N	10.53 W	18.95@	326.25	0.11
1755.63	1.01	319.18	1755.41	95.33	-17.80	17.00 N	11.68 W	20.63@	325.51	0.08
1849.23	1.00	319.75	1848.99	93.60	-19.13	18.25 N	12.75 W	22.26@	325.06	0.02
1944.53	1.03	320.41	1944.28	95.30	-20.50	19.54 N	13.83 W	23.94@	324.71	0.03
2039.97	1.12	327.41	2039.70	95.44	-22.02	20.99 N	14.88 W	25.73@	324.67	0.17
2135.59	1.09	335.90	2135.30	95.62	-23.69	22.61 N	15.75 W	27.56@	325.13	0.17
2231.08	0.99	345.90	2230.78	95.49	-25.36	24.24 N	16.33 W	29.22@	326.03	0.22

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
MESA VERDE 6 FEDERAL #10H
LEA COUNTY COUNTY, NM
RIG:MCVAY 8

Page 02/07

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)
2326.65	0.92	354.38	2326.34	95.57	-26.94	25.80 N	16.60 W	30.68@	327.24	0.16
2422.26	0.91	356.51	2421.93	95.61	-28.47	27.32 N	16.72 W	32.03@	328.53	0.04
2518.02	0.85	0.47	2517.68	95.76	-29.93	28.79 N	16.76 W	33.32@	329.79	0.09
2613.57	0.83	359.96	2613.22	95.55	-31.33	30.19 N	16.76 W	34.53@	330.97	0.02
2709.26	0.83	2.62	2708.90	95.69	-32.71	31.58 N	16.73 W	35.73@	332.09	0.04
2804.61	0.97	13.84	2804.24	95.35	-34.16	33.05 N	16.50 W	36.94@	333.47	0.24
2900.18	1.04	15.23	2899.80	95.57	-35.75	34.67 N	16.08 W	38.22@	335.12	0.08
2995.83	1.11	14.29	2995.43	95.65	-37.45	36.41 N	15.63 W	39.62@	336.77	0.08
3091.40	1.18	16.72	3090.98	95.57	-39.25	38.25 N	15.11 W	41.13@	338.44	0.09
3186.99	1.24	16.54	3186.55	95.59	-41.13	40.18 N	14.54 W	42.73@	340.11	0.06
3282.82	1.25	17.16	3282.36	95.83	-43.08	42.18 N	13.93 W	44.42@	341.72	0.02
3378.33	0.83	43.19	3377.85	95.51	-44.52	43.67 N	13.15 W	45.61@	343.24	0.65
3473.84	0.81	85.79	3473.35	95.51	-44.98	44.23 N	12.01 W	45.83@	344.81	0.62
3569.33	0.83	71.38	3568.83	95.49	-45.16	44.50 N	10.68 W	45.76@	346.51	0.22
3664.83	1.33	48.71	3664.31	95.50	-46.00	45.45 N	9.19 W	46.37@	348.57	0.68
3760.17	2.47	46.57	3759.60	95.34	-47.97	47.59 N	6.86 W	48.09@	351.79	1.20
3855.37	3.41	58.16	3854.68	95.20	-50.58	50.50 N	2.97 W	50.59@	356.63	1.16
3950.78	3.55	70.97	3949.91	95.41	-52.66	52.96 N	2.23 E	53.01@	2.41	0.83
4045.97	3.25	71.12	4044.93	95.19	-54.10	54.79 N	7.57 E	55.31@	7.87	0.32
4141.33	2.96	85.00	4140.15	95.36	-54.82	55.88 N	12.58 E	57.28@	12.69	0.84
4236.84	2.99	97.81	4235.54	95.51	-54.34	55.76 N	17.51 E	58.44@	17.43	0.70
4332.50	3.21	107.44	4331.06	95.66	-52.83	54.62 N	22.53 E	59.08@	22.42	0.59
4427.50	2.83	95.06	4425.93	95.00	-51.48	53.61 N	27.41 E	60.21@	27.08	0.79
4522.82	2.10	89.64	4521.16	95.32	-50.98	53.42 N	31.50 E	62.01@	30.53	0.80
4618.51	1.26	83.89	4616.81	95.69	-50.90	53.54 N	34.30 E	63.58@	32.64	0.89
4713.91	1.08	85.14	4712.19	95.40	-50.95	53.73 N	36.24 E	64.80@	34.00	0.19
4809.55	1.07	84.97	4807.81	95.64	-50.97	53.88 N	38.02 E	65.95@	35.21	0.01
4905.05	1.07	78.15	4903.29	95.50	-51.11	54.14 N	39.79 E	67.19@	36.31	0.13

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
MESA VERDE 6 FEDERAL #10H
LEA COUNTY COUNTY, NM
RIG:MCVAY 8

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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)
5000.70	0.96	59.32	4998.93	95.65	-51.58	54.73 N	41.35 E	68.60@	37.07	0.36
5096.12	0.72	47.13	5094.34	95.42	-52.31	55.55 N	42.48 E	69.93@	37.40	0.31
5191.44	0.60	29.67	5189.65	95.32	-53.10	56.39 N	43.16 E	71.01@	37.43	0.24
5286.92	0.60	20.23	5285.13	95.48	-53.97	57.29 N	43.58 E	71.99@	37.26	0.10
5382.73	0.49	11.23	5380.93	95.81	-54.83	58.17 N	43.83 E	72.83@	37.00	0.14
5478.33	0.46	346.44	5476.53	95.60	-55.60	58.94 N	43.82 E	73.45@	36.63	0.21
5573.96	0.52	330.78	5572.15	95.63	-56.37	59.69 N	43.52 E	73.87@	36.10	0.15
5669.68	0.49	323.07	5667.87	95.72	-57.11	60.40 N	43.06 E	74.18@	35.49	0.08
5764.68	0.61	326.52	5762.87	95.00	-57.89	61.15 N	42.54 E	74.49@	34.83	0.13
5860.26	0.71	316.80	5858.44	95.58	-58.79	62.00 N	41.86 E	74.81@	34.02	0.16
5956.70	0.63	316.43	5954.87	96.44	-59.67	62.82 N	41.08 E	75.06@	33.18	0.08
6052.94	0.76	318.42	6051.11	96.24	-60.58	63.68 N	40.29 E	75.36@	32.32	0.14
6149.09	0.74	318.00	6147.25	96.15	-61.58	64.62 N	39.45 E	75.71@	31.41	0.02
6245.14	0.85	319.17	6243.29	96.05	-62.64	65.62 N	38.57 E	76.12@	30.45	0.12
6341.38	0.96	333.48	6339.52	96.24	-63.96	66.88 N	37.75 E	76.80@	29.44	0.26
6437.64	0.85	325.14	6435.77	96.26	-65.32	68.19 N	36.98 E	77.57@	28.47	0.18
6533.80	0.68	320.97	6531.92	96.16	-66.40	69.22 N	36.21 E	78.12@	27.62	0.19
6630.06	0.46	302.40	6628.17	96.26	-67.10	69.87 N	35.53 E	78.38@	26.95	0.30
6726.35	0.46	290.75	6724.46	96.29	-67.49	70.21 N	34.84 E	78.38@	26.39	0.10
6822.66	0.40	319.86	6820.77	96.31	-67.93	70.61 N	34.26 E	78.48@	25.88	0.23
6918.94	0.49	311.36	6917.04	96.28	-68.49	71.14 N	33.73 E	78.73@	25.37	0.12
7015.14	0.23	266.11	7013.24	96.20	-68.79	71.39 N	33.23 E	78.75@	24.96	0.38
7111.16	0.49	267.51	7109.26	96.02	-68.80	71.36 N	32.63 E	78.47@	24.57	0.27
7207.39	0.95	257.72	7205.48	96.23	-68.70	71.18 N	31.44 E	77.81@	23.83	0.49
7303.67	1.03	258.78	7301.75	96.28	-68.48	70.84 N	29.81 E	76.86@	22.82	0.09
7399.79	1.08	252.51	7397.85	96.12	-68.17	70.40 N	28.10 E	75.80@	21.76	0.13
7496.09	1.15	255.00	7494.13	96.30	-67.78	69.88 N	26.30 E	74.66@	20.63	0.09
7591.77	1.10	246.02	7589.79	95.68	-67.29	69.25 N	24.53 E	73.47@	19.51	0.19

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
MESA VERDE 6 FEDERAL #10H
LEA COUNTY COUNTY, NM
RIG:MCVAY 8

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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)
7686.69	1.40	238.58	7684.69	94.92	-66.45	68.28 N	22.71 E	71.96@	18.40	0.36
7780.99	1.55	230.37	7778.96	94.30	-65.18	66.86 N	20.75 E	70.01@	17.24	0.27
7875.52	1.60	223.75	7873.46	94.53	-63.55	65.10 N	18.85 E	67.77@	16.15	0.20
7971.72	1.52	220.32	7969.62	96.20	-61.74	63.15 N	17.09 E	65.43@	15.15	0.13
8068.12	1.60	218.98	8065.98	96.40	-59.85	61.13 N	15.42 E	63.05@	14.16	0.09
8164.24	1.62	218.22	8162.07	96.12	-57.87	59.02 N	13.74 E	60.60@	13.10	0.03
** TIED INTO GYRODATA DRILLING GRYRO SURVEY.										
8260.46	1.90	217.66	8258.24	96.22	-55.67	56.69 N	11.92 E	57.93@	11.87	0.29
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
8304.00	1.93	210.43	8301.76	43.54	-54.53	55.49 N	11.11 E	56.59@	11.32	0.56
8336.00	3.43	192.63	8333.72	32.00	-53.17	54.09 N	10.63 E	55.12@	11.11	5.31
8367.00	6.68	182.52	8364.60	31.00	-50.49	51.38 N	10.34 E	52.41@	11.38	10.83
8399.00	11.43	177.51	8396.19	32.00	-45.47	46.35 N	10.40 E	47.50@	12.65	15.03
8432.00	13.01	175.31	8428.44	33.00	-38.49	39.38 N	10.85 E	40.85@	15.40	4.99
8464.00	13.63	175.49	8459.58	32.00	-31.12	32.03 N	11.44 E	34.01@	19.65	1.94
8496.00	15.56	176.63	8490.55	32.00	-23.05	23.99 N	11.98 E	26.82@	26.55	6.10
8528.00	17.59	176.46	8521.21	32.00	-13.93	14.88 N	12.54 E	19.45@	40.12	6.35
8560.00	20.58	175.75	8551.45	32.00	-3.46	4.44 N	13.25 E	13.98@	71.48	9.37
8592.00	23.13	175.40	8581.15	32.00	8.45	7.44 S	14.17 E	16.00@	117.68	7.98
8624.00	24.62	174.87	8610.41	32.00	21.40	20.34 S	15.27 E	25.44@	143.10	4.70
8656.00	26.73	173.73	8639.25	32.00	35.26	34.13 S	16.65 E	37.98@	153.99	6.77
8688.00	29.19	173.55	8667.51	32.00	50.25	49.04 S	18.32 E	52.35@	159.52	7.69
8718.00	32.01	173.64	8693.33	30.00	65.50	64.22 S	20.02 E	67.27@	162.68	9.40
8750.00	35.09	174.35	8720.00	32.00	83.18	81.80 S	21.87 E	84.68@	165.04	9.70
8782.00	38.16	174.87	8745.68	32.00	102.26	100.81 S	23.66 E	103.55@	166.79	9.64
8814.00	39.83	175.23	8770.55	32.00	122.40	120.87 S	25.39 E	123.51@	168.14	5.27
8846.00	42.47	176.28	8794.64	32.00	143.45	141.87 S	26.95 E	144.40@	169.25	8.53
8878.00	45.46	177.07	8817.67	32.00	165.66	164.04 S	28.23 E	166.45@	170.24	9.50

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RIG:MCVAY 8

Page 05/07

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)
8910.00	46.96	176.98	8839.81	32.00	188.75	187.11 S	29.43 E	189.41@	171.06	4.69
8942.00	48.54	176.46	8861.33	32.00	212.44	210.76 S	30.79 E	212.99@	171.69	5.08
8974.00	51.35	175.58	8881.92	32.00	236.93	235.19 S	32.49 E	237.42@	172.13	9.03
9007.00	54.52	176.72	8901.81	33.00	263.26	261.46 S	34.25 E	263.69@	172.54	9.99
9037.00	55.66	177.51	8918.98	30.00	287.85	286.03 S	35.49 E	288.22@	172.93	4.37
9069.00	57.51	178.57	8936.60	32.00	314.54	312.72 S	36.40 E	314.83@	173.36	6.41
9101.00	59.79	179.44	8953.25	32.00	341.82	340.04 S	36.87 E	342.04@	173.81	7.49
9132.00	61.91	179.53	8968.34	31.00	368.84	367.11 S	37.11 E	368.98@	174.23	6.84
9164.00	63.31	176.98	8983.07	32.00	397.22	395.51 S	37.98 E	397.33@	174.51	8.32
9196.00	65.69	176.10	8996.84	32.00	426.10	424.34 S	39.73 E	426.19@	174.65	7.84
9228.00	69.12	176.46	9009.14	32.00	455.64	453.81 S	41.64 E	455.72@	174.76	10.77
9260.00	72.72	176.90	9019.60	32.00	485.87	484.00 S	43.39 E	485.94@	174.88	11.33
9292.00	76.33	177.16	9028.13	32.00	516.70	514.79 S	44.99 E	516.76@	175.01	11.31
9324.00	79.84	176.98	9034.74	32.00	548.00	546.06 S	46.59 E	548.04@	175.12	10.98
9356.00	82.57	176.81	9039.63	32.00	579.62	577.63 S	48.30 E	579.65@	175.22	8.55
9388.00	84.68	176.02	9043.18	32.00	611.41	609.37 S	50.29 E	611.44@	175.28	7.04
9419.00	85.74	175.84	9045.77	31.00	642.30	640.18 S	52.49 E	642.33@	175.31	3.47
9450.00	88.37	175.75	9047.36	31.00	673.26	671.06 S	54.76 E	673.29@	175.34	8.49
9482.00	90.31	175.75	9047.73	32.00	705.26	702.96 S	57.13 E	705.28@	175.35	6.06
9514.00	90.75	175.93	9047.44	32.00	737.26	734.88 S	59.45 E	737.28@	175.38	1.49
9580.00	88.72	175.40	9047.74	66.00	803.25	800.69 S	64.44 E	803.27@	175.40	3.18
9642.00	89.43	176.19	9048.74	62.00	865.24	862.51 S	68.98 E	865.26@	175.43	1.71
9706.00	89.69	175.58	9049.23	64.00	929.24	926.34 S	73.57 E	929.26@	175.46	1.04
9769.00	89.78	175.84	9049.53	63.00	992.24	989.16 S	78.29 E	992.26@	175.47	0.44
9862.00	90.75	175.49	9049.10	93.00	1085.24	1081.90 S	85.32 E	1085.26@	175.49	1.11
9956.00	89.87	175.31	9048.59	94.00	1179.23	1175.59 S	92.86 E	1179.25@	175.48	0.96
10052.00	89.25	175.31	9049.32	96.00	1275.22	1271.27 S	100.70 E	1275.25@	175.47	0.65
10148.00	88.11	174.79	9051.54	96.00	1371.19	1366.88 S	108.99 E	1371.22@	175.44	1.30

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
MESA VERDE 6 FEDERAL #10H
LEA COUNTY COUNTY, NM
RIG:MCVAY 8

Page 06/07

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)
10243.00	88.46	174.17	9054.38	95.00	1466.12	1461.40 S	118.12 E	1466.16@	175.38	0.75
10339.00	89.87	173.38	9055.78	96.00	1562.04	1556.82 S	128.53 E	1562.12@	175.28	1.68
10434.00	86.97	175.84	9058.40	95.00	1656.97	1651.35 S	137.45 E	1657.06@	175.24	4.00
10497.00	87.41	175.84	9061.49	63.00	1719.89	1714.10 S	142.01 E	1719.98@	175.26	0.70
10560.00	88.72	175.40	9063.61	63.00	1782.85	1776.88 S	146.82 E	1782.94@	175.28	2.19
10624.00	87.76	176.72	9065.58	64.00	1846.82	1840.70 S	151.22 E	1846.90@	175.30	2.55
10688.00	88.20	176.28	9067.83	64.00	1910.78	1904.54 S	155.12 E	1910.85@	175.34	0.97
10750.00	89.52	176.72	9069.07	62.00	1972.76	1966.41 S	158.91 E	1972.82@	175.38	2.24
10814.00	91.19	176.28	9068.67	64.00	2036.75	2030.29 S	162.81 E	2036.80@	175.42	2.70
10878.00	87.49	173.91	9069.41	64.00	2100.73	2094.03 S	168.28 E	2100.78@	175.41	6.87
10942.00	86.00	174.96	9073.04	64.00	2164.60	2157.63 S	174.48 E	2164.67@	175.38	2.85
10973.00	86.00	175.14	9075.21	31.00	2195.52	2188.43 S	177.15 E	2195.59@	175.37	0.58
11005.00	87.32	176.02	9077.07	32.00	2227.47	2220.28 S	179.61 E	2227.54@	175.38	4.95
11037.00	88.11	176.54	9078.35	32.00	2259.44	2252.19 S	181.68 E	2259.51@	175.39	2.95
11069.00	88.37	176.98	9079.33	32.00	2291.42	2284.12 S	183.49 E	2291.48@	175.41	1.60
11101.00	88.90	176.72	9080.09	32.00	2323.41	2316.07 S	185.25 E	2323.46@	175.43	1.84
11164.00	89.43	176.90	9081.01	63.00	2386.39	2378.96 S	188.75 E	2386.44@	175.46	0.89
11228.00	90.40	176.98	9081.10	64.00	2450.38	2442.87 S	192.17 E	2450.42@	175.50	1.52
11291.00	91.01	176.77	9080.33	63.00	2513.36	2505.77 S	195.60 E	2513.40@	175.54	1.02
11354.00	91.36	176.75	9079.03	63.00	2576.34	2568.66 S	199.16 E	2576.37@	175.57	0.56
11418.00	91.80	177.26	9077.26	64.00	2640.30	2632.55 S	202.51 E	2640.32@	175.60	1.05
11482.00	92.15	177.67	9075.06	64.00	2704.24	2696.44 S	205.34 E	2704.25@	175.65	0.84
11545.00	91.98	176.70	9072.79	63.00	2767.18	2759.33 S	208.43 E	2767.19@	175.68	1.56
11607.00	92.33	176.64	9070.45	62.00	2829.13	2821.18 S	212.03 E	2829.13@	175.70	0.57
11671.00	91.80	176.44	9068.15	64.00	2893.08	2885.02 S	215.89 E	2893.09@	175.72	0.89
11734.00	91.63	176.28	9066.26	63.00	2956.05	2947.86 S	219.89 E	2956.05@	175.73	0.37
11798.00	89.87	175.87	9065.42	64.00	3020.04	3011.71 S	224.27 E	3020.04@	175.74	2.82
11860.00	89.34	175.76	9065.85	62.00	3082.04	3073.54 S	228.79 E	3082.04@	175.74	0.87

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
MESA VERDE 6 FEDERAL #10H
LEA COUNTY COUNTY, NM
RIG:MCVAY 8

Page 07/07

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)
11924.00	88.81	175.61	9066.89	64.00	3146.03	3137.35 S	233.60 E	3146.03@	175.74	0.86
11988.00	90.31	175.90	9067.38	64.00	3210.03	3201.17 S	238.34 E	3210.03@	175.74	2.39
12052.00	90.04	175.67	9067.18	64.00	3274.03	3265.00 S	243.05 E	3274.03@	175.74	0.55
12115.00	90.48	175.67	9066.90	63.00	3337.03	3327.82 S	247.80 E	3337.03@	175.74	0.70
12180.00	90.22	175.20	9066.50	65.00	3402.02	3392.61 S	252.98 E	3402.03@	175.74	0.83
12244.00	89.87	175.12	9066.45	64.00	3466.02	3456.38 S	258.38 E	3466.02@	175.72	0.56
12306.00	90.22	175.18	9066.40	62.00	3528.01	3518.16 S	263.62 E	3528.02@	175.71	0.57
12369.00	91.01	173.84	9065.72	63.00	3590.99	3580.86 S	269.64 E	3591.00@	175.69	2.47
12431.00	92.68	175.34	9063.73	62.00	3652.94	3642.55 S	275.49 E	3652.95@	175.67	3.62
12496.00	91.80	177.94	9061.19	65.00	3717.88	3707.38 S	279.29 E	3717.89@	175.69	4.22
12558.00	90.57	178.00	9059.90	62.00	3779.82	3769.33 S	281.49 E	3779.83@	175.73	1.99
12622.00	90.22	178.17	9059.46	64.00	3843.77	3833.29 S	283.63 E	3843.77@	175.77	0.61
12687.00	89.96	178.32	9059.36	65.00	3908.71	3898.26 S	285.62 E	3908.71@	175.81	0.46
12751.00	89.69	177.97	9059.56	64.00	3972.66	3962.23 S	287.69 E	3972.66@	175.85	0.69
12815.00	88.72	177.23	9060.44	64.00	4036.62	4026.16 S	290.37 E	4036.62@	175.87	1.91
12879.00	88.64	176.75	9061.92	64.00	4100.59	4090.06 S	293.73 E	4100.59@	175.89	0.76
12943.00	89.43	177.04	9063.00	64.00	4164.57	4153.96 S	297.19 E	4164.57@	175.91	1.32
13006.00	88.90	176.56	9063.91	63.00	4227.55	4216.85 S	300.71 E	4227.56@	175.92	1.14
13070.00	89.87	177.00	9064.60	64.00	4291.54	4280.75 S	304.31 E	4291.55@	175.93	1.66
13134.00	92.15	176.90	9063.47	64.00	4355.51	4344.64 S	307.71 E	4355.52@	175.95	3.57
13197.00	91.71	176.25	9061.35	63.00	4418.47	4407.49 S	311.47 E	4418.48@	175.96	1.25
13280.00	90.92	176.33	9059.45	83.00	4501.45	4490.29 S	316.84 E	4501.46@	175.96	0.96
STRAIGHT LINE PROJECTION TO BIT DEPTH @ 13325' MD										
13325.00	90.92	176.33	9058.72	45.00	4546.44	4535.20 S	319.72 E	4546.45@	175.97	0.00

** The survey data at tie-in point was furnished by a recognized survey company and entered as submitted. Survey stations above the tie-in point represent recalculated data by PathFinder Energy Services, Inc. and may reflect minor changes due to rounding differences between survey programs. Only survey stations taken by qualified PathFinder personnel are subject to certification.



ENERGY SERVICES

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	DEVON ENERGY		
LEASE / WELL No.:	MESA VERDE 6 FEDERAL	#10-H	
WELL LOCATION:	LEA COUNTY NM		
COUNTY / STATE / COUNTRY:	LEA COUNTY NM	NM	USA
RIG:	MCVAY # 8		
API WELL No:	30-025-32751		
JOB No:	700000183 WT-WT		
P.O. / AFE No.	155378		
DIRECTIONAL COMPANY:	PES		

WELL SITE INFORMATION

MAGNETIC DECLINATION:			
On Wall Plat:	7.54	LWD Calculated:	7.53
		Agreed Upon:	7.53
X =	658385.910000	Feet	Y = 484452.290000
			Feet
SITE LATITUDE:	321951	SITE LONGITUDE:	1034914
GRID SYSTEM:	TRUE ☐ UTM ☐ LAMBERT ☒	ZONE:	NMEAST
PROPOSED DRIFT DIRECTION:	175.82		
KELLY BUSHING ELEVATION:	18		
ALTITUDE:	3535	Feet	WATER DEPTH: NA
			Feet

TIE-IN SURVEY

MEASURED DEPTH:	8260.46		
DRIFT ANGLE:	1.9		
DRIFT DIRECTION:	217.66		
TRUE VERTICAL DEPTH:	8258.24		
VERTICAL SECTION:			
RECTANGULAR COORDINATE (N / S) :	56.69 N		
RECTANGULAR COORDINATE (E / W) :	11.92 E		
CLOSURE DISTANCE / DIRECTION:	57.9	11.9	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	GYRODATA DIRECTIONAL		
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO		

WELL PLAN

KICKOFF DEPTH:	8335	TOTAL DEPTH:	13275
KICKOFF ANGLE:	8	MAX ANGLE:	90

PES Engineers:

DEVIN MELUSO

**Signature of both field engineers required if applicable

DAVID PHILLIPS

Directional Driller:

SCOTT

DATE: 6-Sep-2010

90° Lateral
9050 - TVD Landing TVD

A Gyrodata Directional Survey

Field Copy Only, not definitive

for

DEVON ENERGY

Lease: MESA VERDE 6 FED Well: #10H, 4 1/2" DRILLPIPE
Location: MCVAY DRILLING RIG #8, EDDY COUNTY, NEW MEXICO

Job Number: MD0910GBM331

Run Date: 9/4/2010 4:54:33 PM

Surveyor: JASON SOLOMON

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Hand Held GPS

Survey Latitude: 32.252389 deg. N Longitude: 103.721778 deg. W

Azimuth Correction:

Gyro: -0.33000 deg to Grid North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

8 5/8 @ 4400
top of cement @ ~6300

A Gyrodata Directional Survey

DEVON ENERGY

Lease: MESA VERDE 6 FED Well: #10H, 4 1/2" DRILLPIPE

Location: MCVAY DRILLING RIG #8, EDDY COUNTY, NEW MEXICO

Job Number: MD0910GBM331

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.00	0.00	0.0 0.0	0.00 N 0.00 E

0 TO 8547 FT RATE GYROSCOPIC MULTISHOT DROP RUN INSIDE 4 1/2" DRILLPIPE						
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO MCVAY RIG #8 RKB 19 FT						

14.60	0.08	338.61	0.55	14.60	0.0 338.6	0.01 N 0.00 W
102.01	0.25	23.91	0.23	102.01	0.2 12.0	0.24 N 0.05 E
189.97	0.05	94.60	0.27	189.97	0.4 22.1	0.41 N 0.17 E
277.39	0.13	57.67	0.11	277.39	0.5 32.0	0.46 N 0.29 E
366.12	0.15	69.79	0.04	366.12	0.7 40.9	0.56 N 0.48 E
456.29	0.11	132.52	0.15	456.29	0.9 50.7	0.54 N 0.66 E
545.71	0.19	217.96	0.24	545.71	0.7 60.0	0.36 N 0.63 E
609.41	0.12	265.40	0.22	609.41	0.6 61.1	0.28 N 0.50 E
705.01	0.53	297.16	0.45	705.01	0.5 0.6	0.47 N 0.01 E
800.42	0.88	293.77	0.37	800.41	1.4 312.4	0.97 N 1.06 W
895.84	1.36	303.54	0.54	895.81	3.3 305.2	1.89 N 2.67 W
991.38	1.22	331.27	0.66	991.33	5.3 309.7	3.41 N 4.11 W
1086.97	1.29	347.91	0.39	1086.89	7.2 318.0	5.35 N 4.82 W
1182.47	1.52	341.99	0.28	1182.37	9.3 324.4	7.61 N 5.44 W
1277.88	1.32	334.77	0.28	1277.75	11.7 327.3	9.80 N 6.30 W
1373.55	1.15	326.10	0.26	1373.39	13.7 327.8	11.60 N 7.30 W
1469.18	1.08	324.89	0.08	1469.01	15.6 327.5	13.13 N 8.36 W
1564.83	0.99	320.81	0.12	1564.64	17.3 327.1	14.51 N 9.40 W
1660.30	1.03	315.28	0.11	1660.10	18.9 326.3	15.76 N 10.52 W

A Gyrodata Directional Survey

DEVON ENERGY

Lease: MESA VERDE 6 FED Well: #10H, 4 1/2" DRILLPIPE

Location: MCVAY DRILLING RIG #8, EDDY COUNTY, NEW MEXICO

Job Number: MD0910GBM331

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
1755.63	1.01	319.18	0.08	1755.41	20.6 325.5	17.00 N 11.67 W
1849.23	1.00	319.75	0.02	1849.00	22.3 325.1	18.25 N 12.74 W
1944.53	1.03	320.41	0.03	1944.28	23.9 324.7	19.54 N 13.82 W
2039.97	1.12	327.41	0.17	2039.70	25.7 324.7	20.99 N 14.87 W
2135.59	1.09	335.90	0.17	2135.31	27.6 325.1	22.61 N 15.75 W
2231.08	0.99	345.82	0.22	2230.78	29.2 326.0	24.24 N 16.32 W
2326.65	0.92	354.38	0.17	2326.34	30.7 327.2	25.80 N 16.60 W
2422.26	0.91	356.51	0.04	2421.94	32.0 328.5	27.32 N 16.72 W
2518.02	0.85	0.47	0.09	2517.68	33.3 329.8	28.79 N 16.76 W
2613.57	0.83	359.96	0.02	2613.22	34.5 331.0	30.19 N 16.75 W
2709.26	0.83	2.62	0.04	2708.90	35.7 332.1	31.58 N 16.72 W
2804.61	0.97	13.84	0.24	2804.24	36.9 333.5	33.05 N 16.50 W
2900.18	1.04	15.23	0.08	2899.80	38.2 335.1	34.68 N 16.08 W
2995.83	1.11	14.29	0.08	2995.43	39.6 336.8	36.41 N 15.62 W
3091.40	1.18	16.72	0.09	3090.98	41.1 338.4	38.25 N 15.11 W
3186.99	1.24	16.54	0.06	3186.55	42.7 340.1	40.18 N 14.53 W
3282.82	1.25	17.16	0.02	3282.36	44.4 341.7	42.18 N 13.93 W
3378.33	0.83	43.19	0.65	3377.85	45.6 343.2	43.68 N 13.15 W
3473.84	0.81	85.79	0.62	3473.35	45.8 344.8	44.23 N 12.00 W
3569.33	0.83	71.38	0.22	3568.83	45.8 346.5	44.50 N 10.67 W
3664.83	1.33	48.71	0.68	3664.32	46.4 348.6	45.45 N 9.18 W
3760.17	2.47	46.57	1.20	3759.60	48.1 351.8	47.60 N 6.86 W
3855.37	3.41	58.16	1.16	3854.68	50.6 356.6	50.50 N 2.96 W

A Gyrodata Directional Survey

DEVON ENERGY

Lease: MESA VERDE 6 FED Well: #10H, 4 1/2" DRILLPIPE

Location: MCVAY DRILLING RIG #8, EDDY COUNTY, NEW MEXICO

Job Number: MD0910GBM331

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
3950.78	3.55	70.97	0.83	3949.91	53.0 2.4	52.96 N 2.24 E
4045.97	3.25	71.12	0.32	4044.94	55.3 7.9	54.79 N 7.58 E
4141.33	2.96	85.00	0.84	4140.16	57.3 12.7	55.88 N 12.59 E
4236.84	2.99	97.81	0.70	4235.54	58.4 17.4	55.76 N 17.51 E
4332.50	3.21	107.44	0.59	4331.06	59.1 22.4	54.62 N 22.54 E
4427.50	2.83	95.06	0.79	4425.93	60.2 27.1	53.61 N 27.41 E
4522.82	2.10	89.64	0.80	4521.16	62.0 30.5	53.42 N 31.50 E
4618.51	1.26	83.89	0.89	4616.81	63.6 32.6	53.54 N 34.30 E
4713.91	1.08	85.14	0.19	4712.19	64.8 34.0	53.73 N 36.24 E
4809.55	1.07	84.97	0.01	4807.81	66.0 35.2	53.88 N 38.03 E
4905.05	1.07	78.15	0.13	4903.29	67.2 36.3	54.14 N 39.79 E
5000.70	0.96	59.32	0.37	4998.93	68.6 37.1	54.74 N 41.35 E
5096.12	0.72	47.13	0.31	5094.34	69.9 37.4	55.55 N 42.48 E
5191.44	0.60	29.67	0.24	5189.65	71.0 37.4	56.39 N 43.17 E
5286.92	0.60	20.23	0.10	5285.13	72.0 37.3	57.30 N 43.59 E
5382.73	0.49	11.23	0.15	5380.93	72.8 37.0	58.17 N 43.84 E
5478.33	0.46	346.44	0.22	5476.53	73.5 36.6	58.94 N 43.83 E
5573.96	0.52	330.78	0.15	5572.16	73.9 36.1	59.69 N 43.53 E
5669.68	0.49	323.07	0.08	5667.87	74.2 35.5	60.40 N 43.07 E
5764.68	0.61	326.52	0.13	5762.87	74.5 34.8	61.15 N 42.55 E
5860.26	0.71	316.80	0.16	5858.44	74.8 34.0	62.00 N 41.86 E
5956.70	0.63	316.43	0.08	5954.88	75.1 33.2	62.82 N 41.09 E
6052.94	0.76	318.42	0.14	6051.11	75.4 32.3	63.68 N 40.30 E

A Gyrodata Directional Survey

DEVON ENERGY

Lease: MESA VERDE 6 FED Well: #10H, 4 1/2" DRILLPIPE

Location: MCVAY DRILLING RIG #8, EDDY COUNTY, NEW MEXICO

Job Number: MD0910GBM331

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
6149.09	0.74	318.00	0.02	6147.25	75.7 31.4	64.62 N 39.46 E
6245.14	0.85	319.17	0.12	6243.29	76.1 30.5	65.62 N 38.58 E
6341.38	0.96	333.48	0.26	6339.52	76.8 29.4	66.88 N 37.75 E
6437.64	0.85	325.14	0.18	6435.77	77.6 28.5	68.19 N 36.98 E
6533.80	0.68	320.97	0.19	6531.92	78.1 27.6	69.22 N 36.22 E
6630.06	0.46	302.40	0.30	6628.17	78.4 27.0	69.87 N 35.53 E
6726.35	0.46	290.75	0.10	6724.46	78.4 26.4	70.22 N 34.84 E
6822.66	0.40	319.86	0.23	6820.77	78.5 25.9	70.61 N 34.26 E
6918.94	0.49	311.36	0.12	6917.05	78.7 25.4	71.14 N 33.74 E
7015.14	0.23	266.11	0.38	7013.24	78.8 25.0	71.40 N 33.24 E
7111.16	0.49	267.51	0.27	7109.26	78.5 24.6	71.37 N 32.63 E
7207.39	0.95	257.72	0.49	7205.48	77.8 23.8	71.18 N 31.44 E
7303.67	1.03	258.78	0.09	7301.75	76.9 22.8	70.84 N 29.82 E
7399.79	1.08	252.51	0.13	7397.85	75.8 21.8	70.40 N 28.10 E
7496.09	1.15	255.00	0.09	7494.14	74.7 20.6	69.88 N 26.31 E
7591.77	1.10	246.02	0.19	7589.80	73.5 19.5	69.26 N 24.54 E
7686.69	1.40	238.58	0.36	7684.69	72.0 18.4	68.28 N 22.72 E
7780.99	1.55	230.37	0.27	7778.96	70.0 17.2	66.87 N 20.75 E
7875.52	1.60	223.75	0.20	7873.46	67.8 16.2	65.10 N 18.85 E
7971.72	1.52	220.32	0.13	7969.62	65.4 15.1	63.15 N 17.10 E
8068.12	1.60	218.98	0.09	8065.99	63.0 14.2	61.13 N 15.43 E
8164.24	1.62	218.22	0.03	8162.07	60.6 13.1	59.02 N 13.74 E
8260.46	1.90	217.66	0.29	8258.24	57.9 11.9	56.69 N 11.92 E
8355.26	2.00	217.10	0.11	8352.99	55.0 10.4	54.13 N 9.97 E

A Gyrodata Directional Survey

DEVON ENERGY

Lease: MESA VERDE 6 FED Well: #10H, 4 1/2" DRILLPIPE

Location: MCVAY DRILLING RIG #8, EDDY COUNTY, NEW MEXICO

Job Number: MD0910GBM331

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
8451.47	1.53	219.80	0.50	8449.15	52.4 8.9	51.80 N 8.13 E
8547.27	1.41	212.15	0.24	8544.92	50.3 7.6	49.82 N 6.69 E

Final Station Closure: Distance: 50.27 ft Az: 7.64 deg.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

DEVON ENERGY
MESA VERDE 6 FEDERAL #10H
LEA COUNTY, NEW MEXICO
Rig: McVAY 8

Thu Sep 02 11:43:35 2010

Coordinates

Latitude: 32.330833 N (32 deg. 19 min. 51.0000 sec.)
Longitude: 103.820556 W (-103 deg. 49 min. 14.0000 sec.)
Elevation: 3553.00 feet.
Calculation Date: Sep/02/2010

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.2622 degrees
Total Magnetic Field: 0.48731 gauss
Magnetic Declination: 7.803841 degrees
Horizontal Intensity: 0.241719 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.803841 Degr

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
Ellipsoid: Clarke 1866
X: 658385.9100 feet
Y: 484452.2900 feet
True to Grid: (convergence) -0.274243 degrees
Magnetic to Grid: 7.529599 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.529599 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

DEVON ENERGY
MESA VERDE 6 FEDERAL #10H
LEA COUNTY, NM
Rig:MCVAY 8

FIELD COPY

Mon Sep 06 09:40:25 2010

Coordinates

Latitude: 32.330833 N (32 deg. 19 min. 51.0000 sec.)
Longitude: 103.820556 W (-103 deg. 49 min. 14.0000 sec.)
Elevation: 3553.00 feet.
Calculation Date: Sep/06/2010

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.2620 degrees
Total Magnetic Field: 0.48730 gauss
Magnetic Declination: 7.802507 degrees
Horizontal Intensity: 0.241716 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.802507 Degr

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
Ellipsoid: Clarke 1866
X: 658385.9100 feet
Y: 484452.2900 feet
True to Grid: (convergence) -0.274243 degrees
Magnetic to Grid: 7.528264 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.528264 Degr.