



An Operating Unit of Smith International, Inc.

30-015-37385

DIRECTIONAL SURVEY REPORT

DEVON ENERGY

DICKENS 29 FEDERAL #1H

EDDY COUNTY, NEW MEXICO



PREPARED BY: FRANCISCO SINISTERRA

Pathfinder Energy Services, Inc.
6213 W. Interstate 20 • Midland, TX • 79706
(432) 681-6000

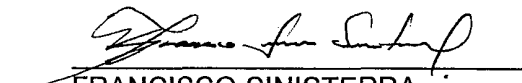
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DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) JOHN OVERTON
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 05-15-10 TO 06-03-10
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
DICKENS 29 FEDERAL #1H
EDDY COUNTY, NM
RIG: MCVAY #8
9. SURVEY CERTIFIED FROM: 5766 TO 10601 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4101.91 FEET ON A BEARING OF 273.14 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 10670 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: 05/15/2010
Date Completed: 06/03/2010

DEVON ENERGY
DICKENS 29 FEDERAL #1H
EDDY COUNTY, NM

Rig:MCVAY #8

PathFinder Office Supervisor: FRANCISCO SINISTERRA

PathFinder Field Engineers:JOHN OVERTON
JOHN MAYERS

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.53.9.4577 N LON:104.11.31.6233 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 584686.5670 Y: 686075.3130
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.98° EAST TO GRID
Vertical Section Plane: 272.35
Survey Vert. Reference: 15.00' Rotary Table To Ground
Altitude:3578.00' Ground To MSL

Measured Depth	10670.00	(feet)
Inclination	91.10	(deg)
Azimuth	257.53	(deg)
True Vertical Depth	6548.93	(feet)
Vertical Section	4101.52	(feet)
Survey X cord	580590.82	(feet)
Survey Y cord	686299.99	(feet)
Survey Lat	32.88659237 N	(deg)
Survey Lon	104.20545914 W	(deg)
Rectangular Corr. N/S	224.67 N	(feet)
Rectangular Corr. E/W	4095.75 W	(feet)
Closure Distance	4101.91	(feet)
Direction of Closure	273.14	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

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Tie-in Date: 05/15/2010

Date Completed: 06/03/2010

DEVON ENERGY

DICKENS 29 FEDERAL #1H

EDDY COUNTY, NM

Rig:MCVAY #8

PathFinder Office Supervisor: FRANCISCO SINISTERRA

PathFinder Field Engineers: JOHN OVERTON

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Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:32.53.9.4577 N LON:104.11.31.6233 W

GRID Reference:NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 584686.5670 Y: 686075.3130

North Aligned To:GRID NORTH

Total Magnetic Correction: 7.98° EAST TO GRID

Vertical Section Plane: 272.35

Survey Vert. Reference: 15.00' Rotary Table To Ground

Altitude:3578.00' Ground To MSL

Survey Calculations by RX5 V6.03 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)
THE FOLLOWING ARE GYRODATA GYRO SURVEYS.										
52.00	0.27	139.73	52.00	0.00	-0.05	0.06 S	0.05 E	0.08@	142.05	0.00
145.00	0.29	136.39	145.00	93.00	-0.37	0.40 S	0.35 E	0.54@	138.62	0.03
238.00	0.26	89.85	238.00	93.00	-0.75	0.57 S	0.73 E	0.93@	128.17	0.24
331.00	0.22	64.21	331.00	93.00	-1.12	0.49 S	1.10 E	1.21@	114.18	0.12
425.00	0.38	73.54	425.00	94.00	-1.57	0.33 S	1.56 E	1.59@	101.82	0.18
518.00	0.43	59.07	518.00	93.00	-2.16	0.06 S	2.16 E	2.16@	91.59	0.12
611.00	0.42	66.13	610.99	93.00	-2.75	0.26 N	2.77 E	2.78@	84.69	0.06
705.00	0.45	59.16	704.99	94.00	-3.37	0.59 N	3.40 E	3.45@	80.22	0.06
798.00	0.46	55.92	797.99	93.00	-3.98	0.98 N	4.02 E	4.14@	76.27	0.03
891.00	0.38	48.31	890.99	93.00	-4.50	1.40 N	4.56 E	4.77@	72.97	0.10
984.00	0.40	47.26	983.98	93.00	-4.95	1.82 N	5.03 E	5.35@	70.09	0.02
1078.00	0.35	44.71	1077.98	94.00	-5.38	2.25 N	5.47 E	5.92@	67.66	0.06
1171.00	0.19	53.72	1170.98	93.00	-5.69	2.54 N	5.80 E	6.33@	66.32	0.18
1264.00	0.20	48.51	1263.98	93.00	-5.93	2.74 N	6.04 E	6.64@	65.60	0.02
1358.00	0.20	52.32	1357.98	94.00	-6.17	2.95 N	6.30 E	6.95@	64.90	0.01
1451.00	0.15	70.28	1450.98	93.00	-6.41	3.09 N	6.54 E	7.23@	64.71	0.08
1544.00	0.10	99.90	1543.98	93.00	-6.60	3.12 N	6.73 E	7.42@	65.16	0.09
1637.00	0.08	96.93	1636.98	93.00	-6.74	3.10 N	6.88 E	7.54@	65.77	0.02
1731.00	0.13	42.40	1730.98	94.00	-6.88	3.17 N	7.01 E	7.70@	65.71	0.11
1824.00	0.17	35.45	1823.98	93.00	-7.02	3.36 N	7.17 E	7.91@	64.90	0.05
1917.00	0.10	60.09	1916.98	93.00	-7.17	3.51 N	7.32 E	8.11@	64.37	0.10
2011.00	0.07	127.37	2010.98	94.00	-7.28	3.52 N	7.43 E	8.22@	64.69	0.10
2104.00	0.05	151.94	2103.98	93.00	-7.35	3.45 N	7.50 E	8.25@	65.32	0.03
2197.00	0.04	142.54	2196.98	93.00	-7.39	3.38 N	7.54 E	8.26@	65.82	0.01
2290.00	0.03	19.30	2289.98	93.00	-7.42	3.38 N	7.56 E	8.28@	65.92	0.07

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
DICKENS 29 FEDERAL #1H
EDDY 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)
2384.00	0.08	11.74	2383.98	94.00	-7.44	3.47 N	7.59 E	8.34@	65.43	0.05
2477.00	0.08	357.14	2476.98	93.00	-7.44	3.60 N	7.60 E	8.40@	64.66	0.02
2570.00	0.11	345.13	2569.98	93.00	-7.41	3.75 N	7.57 E	8.45@	63.66	0.04
2663.00	0.08	313.73	2662.98	93.00	-7.33	3.88 N	7.50 E	8.44@	62.65	0.06
2757.00	0.17	129.56	2756.98	94.00	-7.40	3.84 N	7.56 E	8.48@	63.10	0.27
2850.00	0.33	125.31	2849.98	93.00	-7.73	3.59 N	7.88 E	8.66@	65.50	0.17
2943.00	0.43	128.42	2942.97	93.00	-8.24	3.22 N	8.38 E	8.97@	68.97	0.11
3037.00	0.46	127.04	3036.97	94.00	-8.83	2.77 N	8.95 E	9.37@	72.78	0.03
3130.00	0.37	132.15	3129.97	93.00	-9.37	2.35 N	9.47 E	9.76@	76.08	0.10
3223.00	0.35	149.18	3222.97	93.00	-9.76	1.90 N	9.84 E	10.02@	79.06	0.12
3316.00	0.33	161.14	3315.97	93.00	-10.01	1.41 N	10.07 E	10.17@	82.06	0.08
3410.00	0.23	159.40	3409.96	94.00	-10.18	0.97 N	10.23 E	10.27@	84.57	0.11
3503.00	0.18	159.80	3502.96	93.00	-10.31	0.66 N	10.34 E	10.37@	86.35	0.05
3596.00	0.32	157.75	3595.96	93.00	-10.47	0.28 N	10.49 E	10.50@	88.45	0.15
3690.00	0.22	145.46	3689.96	94.00	-10.69	0.11 S	10.70 E	10.70@	90.58	0.12
3783.00	0.12	156.13	3782.96	93.00	-10.84	0.34 S	10.84 E	10.84@	91.82	0.11
3876.00	0.11	195.46	3875.96	93.00	-10.86	0.52 S	10.85 E	10.86@	92.74	0.08
3969.00	0.11	180.43	3968.96	93.00	-10.85	0.69 S	10.83 E	10.85@	93.67	0.03
4063.00	0.11	185.20	4062.96	94.00	-10.85	0.88 S	10.82 E	10.85@	94.62	0.01
4156.00	0.12	197.85	4155.96	93.00	-10.81	1.06 S	10.78 E	10.83@	95.60	0.03
4249.00	0.16	232.65	4248.96	93.00	-10.69	1.23 S	10.65 E	10.72@	96.58	0.10
4343.00	0.20	239.73	4342.96	94.00	-10.45	1.39 S	10.40 E	10.49@	97.61	0.05
4436.00	0.19	246.55	4435.96	93.00	-10.17	1.53 S	10.12 E	10.24@	98.62	0.03
4529.00	0.19	253.13	4528.96	93.00	-9.89	1.64 S	9.83 E	9.97@	99.47	0.02
4622.00	0.22	264.25	4621.96	93.00	-9.57	1.70 S	9.51 E	9.66@	100.15	0.05
4716.00	0.21	271.56	4715.96	94.00	-9.22	1.72 S	9.15 E	9.31@	100.62	0.03

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
DICKENS 29 FEDERAL #1H
EDDY 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)
4809.00	0.12	247.77	4808.96	93.00	-8.96	1.75 S	8.89 E	9.06@	101.12	0.12
4902.00	0.11	249.34	4901.96	93.00	-8.79	1.82 S	8.72 E	8.91@	101.77	0.01
4995.00	0.12	282.87	4994.96	93.00	-8.61	1.83 S	8.54 E	8.73@	102.07	0.07
5089.00	0.05	162.27	5088.96	94.00	-8.53	1.84 S	8.46 E	8.66@	102.30	0.16
5182.00	0.19	102.47	5181.96	93.00	-8.69	1.92 S	8.62 E	8.83@	102.53	0.18
5275.00	0.27	104.65	5274.96	93.00	-9.06	2.00 S	8.98 E	9.20@	102.58	0.09
5369.00	0.34	110.65	5368.95	94.00	-9.54	2.16 S	9.46 E	9.70@	102.85	0.08
5462.00	0.58	109.38	5461.95	93.00	-10.25	2.41 S	10.16 E	10.44@	103.35	0.26
5555.00	0.62	114.03	5554.95	93.00	-11.17	2.77 S	11.06 E	11.41@	104.07	0.07
** TIED INTO GYRODATA GYRO SURVEY AT 5648'MD.										
5648.00	0.67	115.06	5648.31	93.00	-12.14	3.21 S	12.02 E	12.44@	104.95	0.06
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
5766.00	0.70	127.35	5765.93	117.63	-13.36	3.94 S	13.21 E	13.79@	106.59	0.13
5861.00	0.88	115.12	5860.92	95.00	-14.51	4.60 S	14.34 E	15.06@	107.79	0.26
5892.00	0.79	118.02	5891.92	31.00	-14.92	4.80 S	14.74 E	15.50@	108.04	0.32
5923.00	0.79	122.64	5922.92	31.00	-15.30	5.02 S	15.11 E	15.92@	108.37	0.21
5954.00	0.26	132.91	5953.92	31.00	-15.54	5.18 S	15.34 E	16.19@	108.66	1.73
5986.00	0.88	288.92	5985.91	32.00	-15.36	5.15 S	15.16 E	16.01@	108.76	3.51
6017.00	2.90	300.75	6016.90	31.00	-14.44	4.67 S	14.26 E	15.01@	108.13	6.60
6049.00	5.45	304.08	6048.81	32.00	-12.44	3.41 S	12.31 E	12.77@	105.47	8.00
6081.00	8.35	305.94	6080.57	32.00	-9.21	1.19 S	9.17 E	9.24@	97.39	9.09
6113.00	11.52	306.52	6112.09	32.00	-4.63	2.08 N	4.72 E	5.15@	66.24	9.91
6144.00	14.95	304.76	6142.26	31.00	1.31	6.20 N	1.06 W	6.29@	350.32	11.14
6176.00	18.20	302.71	6172.93	32.00	9.11	11.26 N	8.66 W	14.20@	322.44	10.32
6207.00	21.28	301.92	6202.10	31.00	18.18	16.85 N	17.51 W	24.30@	313.90	9.97
6239.00	24.18	301.45	6231.61	32.00	28.96	23.34 N	28.03 W	36.47@	309.78	9.08
6271.00	27.35	301.35	6260.43	32.00	41.12	30.58 N	39.90 W	50.27@	307.47	9.91

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
DICKENS 29 FEDERAL #1H
EDDY 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)
6303.00	30.78	301.44	6288.40	32.00	54.71	38.68 N	53.17 W	65.75@	306.04	10.72
6335.00	34.21	301.77	6315.38	32.00	69.70	47.69 N	67.81 W	82.90@	305.12	10.73
6367.00	37.11	301.57	6341.38	32.00	85.97	57.48 N	83.68 W	101.52@	304.49	9.07
6399.00	39.92	301.49	6366.41	32.00	103.36	67.90 N	100.66 W	121.43@	304.00	8.78
6432.00	42.91	301.98	6391.16	33.00	122.38	79.39 N	119.23 W	143.24@	303.66	9.11
6463.00	46.17	301.92	6413.25	31.00	141.29	90.89 N	137.67 W	164.97@	303.43	10.52
6495.00	49.24	302.08	6434.78	32.00	161.85	103.43 N	157.75 W	188.63@	303.25	9.60
6527.00	52.32	302.30	6455.01	32.00	183.35	116.64 N	178.72 W	213.42@	303.13	9.64
6559.00	54.34	302.94	6474.12	32.00	205.52	130.48 N	200.34 W	239.08@	303.08	6.51
6591.00	57.60	303.94	6492.03	32.00	228.22	145.09 N	222.46 W	265.60@	303.11	10.51
6623.00	60.67	304.17	6508.45	32.00	251.59	160.47 N	245.22 W	293.06@	303.20	9.61
6654.00	63.66	303.96	6522.92	31.00	274.91	175.82 N	267.92 W	320.46@	303.27	9.66
6686.00	65.95	303.75	6536.54	32.00	299.59	191.95 N	291.97 W	349.42@	303.32	7.18
6718.00	68.59	303.48	6548.90	32.00	324.82	208.29 N	316.55 W	378.93@	303.35	8.29
6751.00	71.49	303.58	6560.17	33.00	351.35	225.42 N	342.40 W	409.94@	303.36	8.79
6783.00	74.04	303.30	6569.65	32.00	377.53	242.26 N	367.90 W	440.50@	303.37	8.01
6815.00	76.15	303.25	6577.88	32.00	404.05	259.23 N	393.75 W	471.42@	303.36	6.60
6847.00	79.05	303.10	6584.75	32.00	430.89	276.33 N	419.91 W	502.67@	303.35	9.07
6879.00	80.99	303.20	6590.29	32.00	457.96	293.56 N	446.29 W	534.19@	303.34	6.07
6909.00	83.80	302.89	6594.26	30.00	483.52	309.78 N	471.22 W	563.92@	303.32	9.42
6942.00	86.79	303.03	6596.97	33.00	511.83	327.67 N	498.81 W	596.81@	303.30	9.07
6974.00	88.72	302.16	6598.22	32.00	539.45	344.89 N	525.75 W	628.78@	303.26	6.62
7006.00	90.04	301.17	6598.57	32.00	567.35	361.69 N	552.98 W	660.76@	303.19	5.16
7038.00	91.54	300.65	6598.13	32.00	595.45	378.12 N	580.43 W	692.73@	303.08	4.96
7077.00	92.02	301.66	6596.92	39.00	629.61	398.29 N	613.79 W	731.69@	302.98	2.87
7109.00	91.57	301.37	6595.92	32.00	657.54	415.01 N	641.06 W	763.67@	302.92	1.67

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Survey Report

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EDDY 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)
7141.00	90.28	300.83	6595.40	32.00	685.59	431.54 N	668.46 W	795.65@	302.85	4.37
7173.00	89.22	299.52	6595.54	32.00	713.89	447.62 N	696.12 W	827.61@	302.74	5.27
7204.00	88.43	298.84	6596.17	31.00	741.54	462.73 N	723.18 W	858.55@	302.61	3.36
7236.00	88.15	297.89	6597.13	32.00	770.31	477.88 N	751.35 W	890.44@	302.46	3.70
7268.00	87.93	296.60	6598.22	32.00	799.34	492.47 N	779.81 W	922.29@	302.27	3.47
7301.00	87.87	295.83	6599.43	33.00	829.50	507.04 N	809.39 W	955.09@	302.06	2.34
7332.00	87.76	294.81	6600.61	31.00	858.02	520.28 N	837.39 W	985.86@	301.85	3.31
7364.00	87.59	293.92	6601.91	32.00	887.66	533.47 N	866.52 W	1017.57@	301.62	2.83
7396.00	87.65	292.89	6603.24	32.00	917.50	546.17 N	895.86 W	1049.23@	301.37	3.22
7428.00	87.98	292.21	6604.46	32.00	947.51	558.44 N	925.39 W	1080.83@	301.11	2.36
7461.00	88.60	291.29	6605.45	33.00	978.62	570.66 N	956.03 W	1113.39@	300.83	3.36
7493.00	88.99	290.73	6606.12	32.00	1008.94	582.13 N	985.90 W	1144.93@	300.56	2.13
7525.00	89.27	289.79	6606.61	32.00	1039.38	593.21 N	1015.91 W	1176.42@	300.28	3.06
7557.00	89.66	288.38	6606.90	32.00	1070.02	603.67 N	1046.15 W	1207.83@	299.99	4.63
7589.00	90.34	286.85	6606.90	32.00	1100.90	613.34 N	1076.65 W	1239.10@	299.67	5.17
7621.00	91.12	285.21	6606.50	32.00	1131.98	622.18 N	1107.40 W	1270.22@	299.33	5.67
7653.00	91.57	284.33	6605.75	32.00	1163.23	630.34 N	1138.34 W	1301.21@	298.97	3.09
7685.00	91.57	283.43	6604.87	32.00	1194.57	638.01 N	1169.39 W	1332.12@	298.62	2.81
7717.00	91.90	283.00	6603.90	32.00	1225.98	645.32 N	1200.53 W	1362.98@	298.26	1.69
7748.00	92.46	281.70	6602.72	31.00	1256.49	651.95 N	1230.79 W	1392.79@	297.91	4.56
7780.00	92.69	280.45	6601.28	32.00	1288.08	658.09 N	1262.16 W	1423.42@	297.54	3.97
7812.00	92.80	279.57	6599.75	32.00	1319.76	663.64 N	1293.64 W	1453.93@	297.16	2.77
7844.00	92.63	278.12	6598.23	32.00	1351.52	668.56 N	1325.22 W	1484.31@	296.77	4.56
7876.00	92.52	276.99	6596.80	32.00	1383.35	672.76 N	1356.91 W	1514.53@	296.37	3.55
7908.00	92.58	276.15	6595.37	32.00	1415.24	676.42 N	1388.67 W	1544.65@	295.97	2.63
7940.00	92.80	275.39	6593.87	32.00	1447.14	679.63 N	1420.47 W	1574.69@	295.57	2.47

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
DICKENS 29 FEDERAL #1H
EDDY 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)
7972.00	92.80	274.21	6592.31	32.00	1479.08	682.31 N	1452.32 W	1604.61@	295.16	3.68
8003.00	92.58	273.80	6590.85	31.00	1510.03	684.47 N	1483.21 W	1633.53@	294.77	1.50
8035.00	92.07	273.59	6589.55	32.00	1541.99	686.53 N	1515.12 W	1663.40@	294.38	1.72
8067.00	91.90	273.64	6588.45	32.00	1573.97	688.55 N	1547.03 W	1693.34@	293.99	0.55
8099.00	92.74	272.80	6587.15	32.00	1605.94	690.34 N	1578.96 W	1723.28@	293.62	3.71
8131.00	93.30	272.43	6585.47	32.00	1637.89	691.80 N	1610.88 W	1753.15@	293.24	2.10
8163.00	93.08	271.60	6583.68	32.00	1669.84	692.92 N	1642.81 W	1782.97@	292.87	2.68
8195.00	92.86	272.01	6582.03	32.00	1701.80	693.93 N	1674.75 W	1812.82@	292.51	1.45
8227.00	92.58	271.79	6580.51	32.00	1733.76	694.99 N	1706.70 W	1842.78@	292.16	1.11
8259.00	92.18	271.44	6579.18	32.00	1765.73	695.89 N	1738.66 W	1872.75@	291.81	1.66
8291.00	91.68	270.30	6578.10	32.00	1797.70	696.38 N	1770.63 W	1902.65@	291.47	3.89
8323.00	91.62	268.90	6577.18	32.00	1829.65	696.15 N	1802.62 W	1932.37@	291.12	4.38
8356.00	91.74	268.14	6576.21	33.00	1862.56	695.30 N	1835.59 W	1962.87@	290.75	2.33
8388.00	92.13	267.68	6575.13	32.00	1894.45	694.14 N	1867.55 W	1992.38@	290.39	1.88
8421.00	92.29	266.67	6573.86	33.00	1927.29	692.51 N	1900.49 W	2022.73@	290.02	3.10
8452.00	92.63	266.55	6572.53	31.00	1958.10	690.68 N	1931.41 W	2051.19@	289.68	1.16
8484.00	92.74	266.36	6571.03	32.00	1989.90	688.70 N	1963.31 W	2080.60@	289.33	0.69
8516.00	92.63	266.40	6569.53	32.00	2021.69	686.68 N	1995.21 W	2110.07@	288.99	0.36
8547.00	92.69	266.30	6568.09	31.00	2052.49	684.71 N	2026.11 W	2138.68@	288.67	0.38
8579.00	92.74	266.03	6566.58	32.00	2084.26	682.57 N	2058.01 W	2168.25@	288.35	0.86
8611.00	92.52	265.62	6565.11	32.00	2116.02	680.25 N	2089.89 W	2197.81@	288.03	1.45
8643.00	92.52	265.16	6563.70	32.00	2147.76	677.68 N	2121.75 W	2227.35@	287.71	1.44
8675.00	92.24	264.56	6562.37	32.00	2179.46	674.81 N	2153.60 W	2256.85@	287.40	2.07
8707.00	91.57	263.79	6561.31	32.00	2211.11	671.57 N	2185.41 W	2286.27@	287.08	3.19
8739.00	90.62	263.27	6560.70	32.00	2242.73	667.96 N	2217.21 W	2315.64@	286.77	3.38
8771.00	90.34	262.12	6560.43	32.00	2274.27	663.89 N	2248.94 W	2344.89@	286.45	3.70

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
DICKENS 29 FEDERAL #1H
EDDY 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)
8801.00	90.11	261.57	6560.31	30.00	2303.77	659.64 N	2278.64 W	2372.20@	286.15	1.99
8833.00	90.11	260.91	6560.25	32.00	2335.17	654.76 N	2310.27 W	2401.26@	285.82	2.06
8864.00	90.11	260.30	6560.19	31.00	2365.52	649.70 N	2340.85 W	2429.34@	285.51	1.97
8896.00	90.11	259.84	6560.13	32.00	2396.79	644.19 N	2372.37 W	2458.28@	285.19	1.44
8928.00	90.22	259.17	6560.04	32.00	2427.99	638.36 N	2403.84 W	2487.15@	284.87	2.12
8960.00	90.50	258.43	6559.83	32.00	2459.10	632.14 N	2435.22 W	2515.93@	284.55	2.47
8992.00	90.67	257.70	6559.51	32.00	2490.11	625.53 N	2466.53 W	2544.61@	284.23	2.34
9024.00	90.56	257.21	6559.16	32.00	2521.03	618.57 N	2497.77 W	2573.22@	283.91	1.57
9056.00	90.45	257.44	6558.88	32.00	2551.93	611.55 N	2528.98 W	2601.88@	283.59	0.80
9088.00	90.45	256.92	6558.63	32.00	2582.82	604.45 N	2560.19 W	2630.57@	283.28	1.63
9121.00	90.62	256.56	6558.32	33.00	2614.60	596.88 N	2592.30 W	2660.13@	282.97	1.21
9153.00	90.62	256.37	6557.98	32.00	2645.37	589.40 N	2623.41 W	2688.81@	282.66	0.59
9185.00	90.45	256.30	6557.68	32.00	2676.13	581.84 N	2654.51 W	2717.52@	282.36	0.57
9217.00	90.50	256.43	6557.41	32.00	2706.89	574.29 N	2685.60 W	2746.32@	282.07	0.43
9249.00	90.50	256.25	6557.13	32.00	2737.65	566.74 N	2716.70 W	2775.18@	281.78	0.56
9279.00	90.45	256.48	6556.89	30.00	2766.49	559.66 N	2745.85 W	2802.31@	281.52	0.78
9312.00	90.34	256.65	6556.66	33.00	2798.24	552.00 N	2777.95 W	2832.26@	281.24	0.61
9344.00	90.39	256.30	6556.45	32.00	2829.02	544.51 N	2809.06 W	2861.35@	280.97	1.11
9376.00	90.50	255.74	6556.21	32.00	2859.73	536.78 N	2840.11 W	2890.39@	280.70	1.78
9408.00	90.34	255.80	6555.97	32.00	2890.40	528.92 N	2871.13 W	2919.44@	280.44	0.53
9440.00	90.39	255.64	6555.77	32.00	2921.06	521.02 N	2902.14 W	2948.54@	280.18	0.52
9472.00	90.45	255.66	6555.53	32.00	2951.71	513.09 N	2933.14 W	2977.68@	279.92	0.20
9504.00	90.45	255.53	6555.28	32.00	2982.35	505.13 N	2964.13 W	3006.86@	279.67	0.41
9536.00	90.45	255.72	6555.03	32.00	3013.00	497.19 N	2995.13 W	3036.11@	279.43	0.59
9567.00	90.06	255.68	6554.89	31.00	3042.70	489.53 N	3025.17 W	3064.52@	279.19	1.26
9599.00	89.66	255.15	6554.97	32.00	3073.31	481.47 N	3056.14 W	3093.83@	278.95	2.07

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
DICKENS 29 FEDERAL #1H
EDDY 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)
9631.00	89.66	255.02	6555.16	32.00	3103.87	473.24 N	3087.06 W	3123.12@	278.72	0.41
9663.00	89.78	255.54	6555.32	32.00	3134.46	465.11 N	3118.01 W	3152.51@	278.48	1.67
9695.00	89.78	255.42	6555.44	32.00	3165.08	457.08 N	3148.98 W	3181.98@	278.26	0.38
9727.00	89.61	255.53	6555.61	32.00	3195.70	449.06 N	3179.96 W	3211.51@	278.04	0.63
9759.00	89.55	255.46	6555.84	32.00	3226.32	441.04 N	3210.94 W	3241.09@	277.82	0.29
9791.00	89.94	255.64	6555.99	32.00	3256.96	433.06 N	3241.93 W	3270.72@	277.61	1.34
9823.00	90.17	255.61	6555.96	32.00	3287.60	425.11 N	3272.93 W	3300.42@	277.40	0.72
9855.00	90.11	255.75	6555.88	32.00	3318.26	417.20 N	3303.93 W	3330.17@	277.20	0.48
9887.00	89.94	255.81	6555.86	32.00	3348.93	409.34 N	3334.95 W	3359.98@	277.00	0.56
9919.00	89.89	255.60	6555.91	32.00	3379.59	401.44 N	3365.96 W	3389.81@	276.80	0.67
9951.00	89.89	255.80	6555.97	32.00	3410.25	393.53 N	3396.97 W	3419.69@	276.61	0.63
9983.00	89.94	255.80	6556.02	32.00	3440.92	385.68 N	3427.99 W	3449.62@	276.42	0.16
10015.00	89.89	255.82	6556.07	32.00	3471.60	377.84 N	3459.01 W	3479.59@	276.23	0.17
10047.00	89.83	255.91	6556.15	32.00	3502.28	370.02 N	3490.05 W	3509.61@	276.05	0.34
10079.00	89.94	255.89	6556.21	32.00	3532.97	362.23 N	3521.08 W	3539.66@	275.87	0.35
10110.00	89.94	255.58	6556.24	31.00	3562.68	354.59 N	3551.13 W	3568.79@	275.70	1.00
10141.00	89.89	255.50	6556.29	31.00	3592.35	346.85 N	3581.14 W	3597.90@	275.53	0.30
10166.00	89.96	255.78	6556.32	25.00	3616.30	340.65 N	3605.36 W	3621.42@	275.40	1.15
10198.00	90.13	255.87	6556.30	32.00	3646.98	332.81 N	3636.39 W	3651.59@	275.23	0.60
10229.00	90.66	255.98	6556.08	31.00	3676.71	325.27 N	3666.46 W	3680.86@	275.07	1.75
10261.00	90.75	256.02	6555.69	32.00	3707.41	317.53 N	3697.50 W	3711.11@	274.91	0.31
10293.00	90.84	256.19	6555.24	32.00	3738.13	309.85 N	3728.56 W	3741.42@	274.75	0.60
10325.00	91.01	256.41	6554.73	32.00	3768.88	302.27 N	3759.65 W	3771.78@	274.60	0.87
10357.00	91.19	256.38	6554.11	32.00	3799.64	294.75 N	3790.75 W	3802.19@	274.45	0.57
10389.00	90.84	256.57	6553.55	32.00	3830.42	287.26 N	3821.85 W	3832.63@	274.30	1.25
10421.00	90.48	256.76	6553.18	32.00	3861.22	279.88 N	3852.99 W	3863.14@	274.15	1.27

PathFinder Energy Services, Inc.

Survey Report

DEVON ENERGY
DICKENS 29 FEDERAL #1H
EDDY 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		Closure Dist Dir		DLS
						(ft)	(ft)	(ft)	(deg)	(dg/100ft)
10453.00	90.57	256.72	6552.88	32.00	3892.04	272.54 N	3884.13 W	3893.68@	274.01	0.31
10485.00	90.75	256.93	6552.52	32.00	3922.87	265.25 N	3915.29 W	3924.26@	273.88	0.86
10517.00	91.10	257.22	6552.00	32.00	3953.74	258.09 N	3946.47 W	3954.91@	273.74	1.42
10548.00	91.19	257.11	6551.38	31.00	3983.65	251.21 N	3976.69 W	3984.62@	273.61	0.46
10578.00	91.28	257.33	6550.73	30.00	4012.60	244.57 N	4005.94 W	4013.40@	273.49	0.79
10601.00	91.10	257.53	6550.26	23.00	4034.82	239.57 N	4028.39 W	4035.51@	273.40	1.17
STRAIGHT LINE PROJECTION TO BIT AT 10670'MD.										
10670.00	91.10	257.53	6548.93	69.00	4101.52	224.67 N	4095.75 W	4101.91@	273.14	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.

PATHFINDER

ENERGY SERVICES

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	Devon Energy		
LEASE / WELL No.:	Dickens 29 Federal	1H	
WELL LOCATION:	Wolfcamp; Dog Canyon		
COUNTY / STATE / COUNTRY:	Eddy	NM	USA
RIG:	McVay #8		
API WELL No:	30-015-37385		
JOB No:	601001940-GC-WT		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PES		

WELL SITE INFORMATION

MAGNETIC DECLINATION:			
On Wall Plat:	LWD Calculated:	8.06	Agreed Upon: 8.06
X = 584686.567000	Feet	Y = 686075.313000	Feet
SITE LATITUDE: 32°53'9.5" N	SITE LONGITUDE: 104°11'31.6"		
GRID SYSTEM: TRUE ☐ UTM ☒ LAMBERT ☐	ZONE: New Mexico East		
PROPOSED DRIFT DIRECTION:	272.35		
KELLY BUSHING ELEVATION:	19.5		
ALTITUDE: 3578	Feet	WATER DEPTH:	Feet

TIE-IN SURVEY

MEASURED DEPTH:	5648		
DRIFT ANGLE:	0.67		
DRIFT DIRECTION:	115.06		
TRUE VERTICAL DEPTH:	5648		
VERTICAL SECTION:	-12.1		
RECTANGULAR COORDINATE (N / S) :	3.21 S		
RECTANGULAR COORDINATE (E / W) :	12.02 E		
CLOSURE DISTANCE / DIRECTION:	12.4	104.9	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	Gyrodata		
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO		

WELL PLAN

KICKOFF DEPTH:	5950	TOTAL DEPTH:	10684
KICKOFF ANGLE:	0	MAX ANGLE:	90

PES Engineers: John Overton
John Mayers

**Signature of both field engineers required if applicable

Directional Driller: Scott Brandt / Michael Blake

DATE: 15-May-2010

A Gyrodata Directional Survey

for

DEVON ENERGY

Location: MCVAY #8, EDDY COUNTY, NEW MEXICO

Lease: DICKENS 29 FED Well: #1H, 4-1/2" DRILLPIPE

Job Number: MD0510GBM220

Run Date: 5/15/2010 12:46:11 PM

Surveyor: Anthony Eaton

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 32.885958 deg. N Longitude: 104.192117 deg. W

Azimuth Correction:

Gyro: -0.08000 deg to Grid North

Proposed Well Direction: 272.350 deg

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

A Gyrodata Directional Survey

DEVON ENERGY

Location: MCVAY #8, EDDY COUNTY, NEW MEXICO

Lease: DICKENS 29 FED Well: #1H, 4-1/2" DRILLPIPE

Job Number: MD0510GBM220

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet	
0.00	0.00	0.00	0.0	0.00	0.00	0.0	0.0	0.00 N	0.00 E
0 TO 5710.58 FT. RATE GYROSCOPIC DROP MULTISHOT SURVEY RUN INSIDE 4-1/2" DRILLPIPE ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO MCVAY #8 R.K.B. (+ 15 FT.)									
51.57	0.27	139.73	-0.1	0.52	51.57	0.1	139.7	0.09 S	0.08 E
144.85	0.29	136.39	-0.4	0.03	144.85	0.6	138.4	0.43 S	0.38 E
238.13	0.26	89.85	-0.8	0.23	238.13	1.0	128.4	0.60 S	0.76 E
331.41	0.22	64.21	-1.1	0.12	331.41	1.2	114.7	0.52 S	1.13 E
424.69	0.38	73.54	-1.6	0.18	424.69	1.6	102.6	0.36 S	1.58 E
517.97	0.43	59.07	-2.2	0.12	517.96	2.2	92.3	0.09 S	2.18 E
611.25	0.42	66.13	-2.8	0.06	611.24	2.8	85.2	0.23 N	2.80 E
704.53	0.45	59.16	-3.4	0.06	704.52	3.5	80.7	0.56 N	3.43 E
797.81	0.46	55.92	-4.0	0.03	797.80	4.2	76.7	0.96 N	4.05 E
891.09	0.38	48.31	-4.5	0.10	891.07	4.8	73.4	1.37 N	4.59 E
984.37	0.40	47.26	-5.0	0.02	984.35	5.4	70.5	1.79 N	5.05 E
1077.65	0.35	44.71	-5.4	0.06	1077.63	5.9	68.0	2.21 N	5.49 E
1170.93	0.19	53.72	-5.7	0.17	1170.91	6.3	66.7	2.51 N	5.81 E
1264.21	0.20	48.51	-5.9	0.02	1264.19	6.6	66.0	2.70 N	6.06 E
1357.49	0.20	52.32	-6.2	0.01	1357.47	6.9	65.2	2.91 N	6.31 E
1450.77	0.15	70.28	-6.4	0.08	1450.75	7.2	65.0	3.05 N	6.55 E
1544.05	0.10	99.90	-6.6	0.09	1544.03	7.4	65.5	3.08 N	6.74 E
1637.33	0.08	96.93	-6.8	0.02	1637.31	7.5	66.1	3.06 N	6.88 E
1730.61	0.13	42.40	-6.9	0.12	1730.59	7.7	66.0	3.13 N	7.01 E

A Gyrodata Directional Survey

DEVON ENERGY

Location: MCVAY #8, EDDY COUNTY, NEW MEXICO

Lease: DICKENS 29 FED Well: #1H, 4-1/2" DRILLPIPE

Job Number: MD0510GBM220

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
1823.89	0.17	35.45	-7.0	0.05	1823.87	7.9 65.1	3.32 N 7.17 E
1917.17	0.10	60.09	-7.2	0.10	1917.14	8.1 64.6	3.48 N 7.33 E
2010.45	0.07	127.37	-7.3	0.11	2010.42	8.2 64.9	3.49 N 7.44 E
2103.73	0.05	151.94	-7.4	0.03	2103.70	8.3 65.5	3.42 N 7.51 E
2197.01	0.04	142.54	-7.4	0.02	2196.98	8.3 66.1	3.35 N 7.55 E
2290.29	0.03	19.30	-7.4	0.07	2290.26	8.3 66.1	3.35 N 7.58 E
2383.57	0.08	11.74	-7.5	0.05	2383.54	8.3 65.6	3.44 N 7.60 E
2476.85	0.08	357.14	-7.5	0.02	2476.82	8.4 64.9	3.57 N 7.61 E
2570.13	0.11	345.13	-7.4	0.05	2570.10	8.4 63.9	3.72 N 7.58 E
2663.41	0.08	313.73	-7.3	0.07	2663.38	8.4 62.9	3.85 N 7.52 E
2756.69	0.17	129.56	-7.4	0.26	2756.66	8.5 63.3	3.81 N 7.58 E
2849.97	0.33	125.31	-7.8	0.17	2849.94	8.7 65.7	3.56 N 7.90 E
2943.25	0.43	128.42	-8.3	0.11	2943.22	9.0 69.2	3.19 N 8.39 E
3036.53	0.46	127.04	-8.8	0.04	3036.50	9.4 72.9	2.75 N 8.96 E
3129.81	0.37	132.15	-9.4	0.11	3129.78	9.8 76.2	2.32 N 9.49 E
3223.09	0.35	149.18	-9.8	0.12	3223.05	10.0 79.2	1.88 N 9.85 E
3316.37	0.33	161.14	-10.0	0.08	3316.33	10.2 82.2	1.39 N 10.08 E
3409.65	0.23	159.40	-10.2	0.10	3409.61	10.3 84.7	0.96 N 10.24 E
3502.93	0.18	159.80	-10.3	0.05	3502.89	10.4 86.4	0.64 N 10.35 E
3596.21	0.32	157.75	-10.5	0.14	3596.17	10.5 88.5	0.27 N 10.50 E
3689.49	0.22	145.46	-10.7	0.12	3689.45	10.7 90.6	0.12 S 10.70 E
3782.77	0.12	156.13	-10.9	0.11	3782.73	10.8 91.9	0.36 S 10.84 E
3876.05	0.11	195.46	-10.9	0.08	3876.01	10.9 92.8	0.53 S 10.86 E

A Gyrodata Directional Survey

DEVON ENERGY

Location: MCVAY #8, EDDY COUNTY, NEW MEXICO

Lease: DICKENS 29 FED Well: #1H, 4-1/2" DRILLPIPE

Job Number: MD0510GBM220

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
3969.33	0.11	180.43	-10.9	0.03	3969.29	10.9 93.7	0.70 S 10.84 E
4062.61	0.11	185.20	-10.9	0.01	4062.57	10.9 94.7	0.88 S 10.83 E
4155.89	0.12	197.85	-10.8	0.03	4155.85	10.8 95.6	1.06 S 10.79 E
4249.17	0.16	232.65	-10.7	0.10	4249.13	10.7 96.6	1.23 S 10.66 E
4342.45	0.20	239.73	-10.5	0.05	4342.41	10.5 97.6	1.39 S 10.41 E
4435.73	0.19	246.55	-10.2	0.03	4435.69	10.2 98.6	1.53 S 10.13 E
4529.01	0.19	253.13	-9.9	0.02	4528.97	10.0 99.4	1.64 S 9.85 E
4622.29	0.22	264.25	-9.6	0.06	4622.25	9.7 100.1	1.70 S 9.52 E
4715.57	0.21	271.56	-9.2	0.03	4715.52	9.3 100.6	1.71 S 9.17 E
4808.85	0.12	247.77	-9.0	0.12	4808.80	9.1 101.1	1.75 S 8.92 E
4902.13	0.11	249.34	-8.8	0.01	4902.08	8.9 101.7	1.82 S 8.74 E
4995.41	0.12	282.87	-8.6	0.07	4995.36	8.7 102.0	1.83 S 8.56 E
5088.69	0.05	162.27	-8.5	0.17	5088.64	8.7 102.3	1.84 S 8.47 E
5181.97	0.19	102.47	-8.7	0.18	5181.92	8.8 102.5	1.91 S 8.63 E
5275.25	0.27	104.65	-9.1	0.08	5275.20	9.2 102.6	2.00 S 8.99 E
5368.53	0.34	110.65	-9.5	0.08	5368.48	9.7 102.8	2.15 S 9.46 E
5461.81	0.58	109.38	-10.3	0.26	5461.76	10.4 103.3	2.41 S 10.17 E
5555.09	0.62	114.03	-11.2	0.07	5555.03	11.4 104.0	2.77 S 11.07 E
5648.37	0.67	115.06	-12.1	0.06	5648.31	12.4 104.9	3.21 S 12.02 E
5710.58	0.68	128.88	-12.8	0.26	5710.51	13.1 105.9	3.59 S 12.64 E

Final Station Closure: Distance: 13.14 ft Az: 105.86 deg.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

DEVON ENERGY
DICKENS "29" FEDERAL #1H
EDDY COUNTY, NEW MEXICO
Rig:MCVAY 8

Thu May 06 15:02:45 2010

Coordinates

Latitude: 32.885960 N (32 deg. 53 min. 9.4577 sec.)
Longitude: 104.192118 W (-104 deg. 11 min. 31.6233 sec.)
Elevation: 3578.00 feet.
Calculation Date: May/06/2010

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.7175 degrees
Total Magnetic Field: 0.49055 gauss
Magnetic Declination: 8.057462 degrees
Horizontal Intensity: 0.239936 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.057462 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 584686.5670 feet
Y: 686075.3130 feet
True to Grid: (convergence) -0.076676 degrees
Magnetic to Grid: 7.980786 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.980786 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

Sat May 15 10:48:28 2010

Coordinates

Latitude: 32.885960 N (32 deg. 53 min. 9.4577 sec.)
Longitude: 104.192118 W (-104 deg. 11 min. 31.6233 sec.)
Elevation: 3578.00 feet.
Calculation Date: May/15/2010

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.7169 degrees
Total Magnetic Field: 0.49053 gauss
Magnetic Declination: 8.054464 degrees
Horizontal Intensity: 0.239929 gauss

To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.054464 Degr.

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 584686.5670 feet
Y: 686075.3130 feet
True to Grid: (convergence) -0.076676 degrees
Magnetic to Grid: 7.977788 degrees

To Convert a Magnetic Dir. to a GRID dir. Add 7.977788 Degr.