

DIRECTIONAL SURVEY REPORT

30-005-64020

YATES PETROLEUM
FOOTBALL BCF FED #2H
CHAVES COUNTY, NEW MEXICO

PREPARED BY: CODY MEBANE



DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) Hafa Donarumma
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 6/9/08 TO 7/10/08
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: CHAVES COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM
FOOTBALL BCF FED #2H
CHAVES COUNTY, NM
RIG: JW #4

9. SURVEY CERTIFIED FROM: 4309 TO 6393 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 1710.66 FEET ON A BEARING OF 268.30 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 6495 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

A handwritten signature in black ink, appearing to read "Cody Mebane", written over a horizontal line.

Cody Mebane
M/LWD SERVICE COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 06/10/2008
Date Completed: 07/04/2008

YATES PETROLEUM
FOOTBALL BCF FED#2H
CHAVES COUNTY, NM
Rig:JW4
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers:HAFA DONARUMMA

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:33.18.17.8298 N LON:104.17.9.2462 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 555828.6900 Y: 838492.1970
North Aligned To:GRID NORTH
Total Magnetic Correction: 8.32° EAST TO GRID
Vertical Section Plane: 270.00
Survey Vert. Reference: 12.50' Kelly Bushing To Ground
Altitude:3748.00' Ground To MSL

Measured Depth	6495.00	(feet)
Inclination	93.65	(deg)
Azimuth	268.20	(deg)
True Vertical Depth	5112.98	(feet)
Vertical Section	1709.91	(feet)
Survey X cord	554118.76	(feet)
Survey Y cord	838441.43	(feet)
Survey Lat	33.30481522 N	(deg)
Survey Lon	104.29149861 W	(deg)
Rectangular Corr. N/S	50.74 S	(feet)
Rectangular Corr. E/W	1709.91 W	(feet)
Closure Distance	1710.66	(feet)
Direction of Closure	268.30	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
FOOTBALL BCF FED#2H
CHAVES COUNTY, NM
Rig:JW4

PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers: HAFA DONARUMMA

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:33.18.17.8298 N LON:104.17.9.2462 W
Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 555828.6900 Y: 838492.1970
North Aligned To:GRID NORTH
Total Magnetic Correction: 8.32° EAST TO GRID
Vertical Section Plane: 270.00
Survey Vert. Reference: 12.50' Kelly Bushing To Ground
Altitude:3748.00' Ground To MSL

Survey Calculations by RX4 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)
TIE IN TO SCIENTIFIC GYRO @ 4300'MD.										
4300.00	0.87	255.41	4299.82	0.00	11.14	17.61 N	11.14 W	20.84@	327.68	0.00
THE FOLLOWING ARE PATHFINDER SURVEYS.										
4309.00	2.55	262.68	4308.82	9.00	11.40	17.57 N	11.40 W	20.94@	327.01	18.78
4340.00	4.48	261.94	4339.76	31.00	13.29	17.31 N	13.29 W	21.82@	322.49	6.23
4371.00	5.89	263.12	4370.63	31.00	16.07	16.95 N	16.07 W	23.35@	316.53	4.56
4401.00	7.39	259.79	4400.43	30.00	19.49	16.42 N	19.49 W	25.49@	310.11	5.16
4431.00	9.06	260.02	4430.12	30.00	23.72	15.67 N	23.72 W	28.43@	303.45	5.57
4462.00	10.46	258.66	4460.67	31.00	28.88	14.70 N	28.88 W	32.40@	296.97	4.58
4493.00	12.75	260.15	4491.03	31.00	35.01	13.56 N	35.01 W	37.54@	291.17	7.45
4525.00	14.60	262.23	4522.12	32.00	42.49	12.41 N	42.49 W	44.26@	286.28	5.98
4556.00	16.62	263.47	4551.98	31.00	50.76	11.37 N	50.76 W	52.02@	282.63	6.60
4588.00	18.91	263.39	4582.45	32.00	60.46	10.26 N	60.46 W	61.33@	279.63	7.16
4620.00	21.19	262.86	4612.51	32.00	71.35	8.94 N	71.35 W	71.91@	277.14	7.15
4652.00	23.92	263.34	4642.06	32.00	83.54	7.47 N	83.54 W	83.87@	275.11	8.55
4683.00	26.91	263.80	4670.06	31.00	96.76	5.98 N	96.76 W	96.94@	273.54	9.67
4715.00	29.19	264.31	4698.29	32.00	111.72	4.43 N	111.72 W	111.81@	272.27	7.16
4747.00	31.22	265.02	4725.95	32.00	127.75	2.93 N	127.75 W	127.79@	271.32	6.44
4779.00	32.80	266.25	4753.08	32.00	144.66	1.65 N	144.66 W	144.67@	270.65	5.34
4810.00	33.94	266.01	4778.97	31.00	161.68	0.49 N	161.68 W	161.68@	270.18	3.70
4842.00	35.17	266.28	4805.33	32.00	179.79	0.72 S	179.79 W	179.79@	269.77	3.87
4874.00	36.49	266.11	4831.27	32.00	198.48	1.97 S	198.48 W	198.49@	269.43	4.14
4906.00	37.28	265.90	4856.86	32.00	217.64	3.31 S	217.64 W	217.66@	269.13	2.50
4937.00	38.43	265.51	4881.34	31.00	236.61	4.73 S	236.61 W	236.65@	268.85	3.79

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
FOOTBALL BCF FED#2H
CHAVES COUNTY, NM
RIG:JW4

Page 02/03

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
4969.00	40.27	265.60	4906.08	32.00	256.83	6.30 S	256.83 W	256.91@	268.59	5.75
5001.00	42.38	265.50	4930.11	32.00	277.90	7.94 S	277.90 W	278.01@	268.36	6.60
5093.00	51.09	265.42	4993.11	92.00	344.62	13.25 S	344.62 W	344.87@	267.80	9.47
5125.00	54.87	265.91	5012.37	32.00	370.09	15.17 S	370.09 W	370.40@	267.65	11.88
5157.00	58.39	266.50	5029.97	32.00	396.75	16.94 S	396.75 W	397.11@	267.56	11.11
5183.00	59.79	266.28	5043.33	26.00	419.01	18.34 S	419.01 W	419.42@	267.49	5.43
5188.00	60.23	266.40	5045.83	5.00	423.34	18.62 S	423.34 W	423.74@	267.48	9.04
5220.00	61.64	266.40	5061.37	32.00	451.25	20.38 S	451.25 W	451.71@	267.41	4.41
5252.00	63.93	267.23	5076.00	32.00	479.66	21.96 S	479.66 W	480.16@	267.38	7.52
5283.00	65.95	267.92	5089.13	31.00	507.72	23.14 S	507.72 W	508.24@	267.39	6.82
5315.00	69.73	269.11	5101.20	32.00	537.34	23.91 S	537.34 W	537.87@	267.45	12.30
5347.00	73.25	270.49	5111.36	32.00	567.68	24.01 S	567.68 W	568.18@	267.58	11.74
5379.00	74.48	270.75	5120.25	32.00	598.41	23.68 S	598.41 W	598.88@	267.73	3.92
5410.00	75.62	270.75	5128.25	31.00	628.36	23.28 S	628.36 W	628.79@	267.88	3.68
5442.00	77.47	270.54	5135.70	32.00	659.48	22.93 S	659.48 W	659.88@	268.01	5.82
5474.00	80.55	270.08	5141.80	32.00	690.89	22.76 S	690.89 W	691.26@	268.11	9.73
5506.00	82.57	269.64	5146.49	32.00	722.54	22.84 S	722.54 W	722.90@	268.19	6.46
5538.00	86.44	269.48	5149.56	32.00	754.38	23.09 S	754.38 W	754.74@	268.25	12.10
5569.00	87.93	269.40	5151.08	31.00	785.34	23.39 S	785.34 W	785.69@	268.29	4.81
5601.00	89.08	269.40	5151.91	32.00	817.33	23.72 S	817.33 W	817.68@	268.34	3.59
5633.00	89.96	269.02	5152.18	32.00	849.33	24.17 S	849.33 W	849.67@	268.37	3.00
5664.00	91.63	269.39	5151.75	31.00	880.32	24.60 S	880.32 W	880.66@	268.40	5.52
5696.00	92.42	269.19	5150.62	32.00	912.30	24.99 S	912.30 W	912.64@	268.43	2.55
5759.00	93.56	269.02	5147.33	63.00	975.20	25.97 S	975.20 W	975.55@	268.47	1.83
5791.00	93.65	268.83	5145.32	32.00	1007.13	26.57 S	1007.13 W	1007.48@	268.49	0.66
5823.00	93.65	268.41	5143.28	32.00	1039.06	27.34 S	1039.06 W	1039.42@	268.49	1.31
5918.00	92.51	268.42	5138.18	95.00	1133.88	29.97 S	1133.88 W	1134.28@	268.49	1.20

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
FOOTBALL BCF FED#2H
CHAVES COUNTY, NM
RIG:JW4

Page 03/03

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
5981.00	92.24	268.21	5135.57	63.00	1196.80	31.82 S	1196.80 W	1197.23@	268.48	0.54
6045.00	92.33	268.49	5133.02	64.00	1260.73	33.66 S	1260.73 W	1261.17@	268.47	0.46
6140.00	91.98	267.91	5129.45	95.00	1355.61	36.64 S	1355.61 W	1356.11@	268.45	0.71
6203.00	91.98	267.37	5127.27	63.00	1418.52	39.23 S	1418.52 W	1419.06@	268.42	0.86
6298.00	91.89	267.20	5124.06	95.00	1513.36	43.73 S	1513.36 W	1513.99@	268.34	0.20
6393.00	93.65	268.20	5119.47	95.00	1608.17	47.54 S	1608.17 W	1608.87@	268.31	2.13
STRAIGHT LINE PROJECTION TO BIT @ 6,495'MD.										
6495.00	93.65	268.20	5112.98	102.00	1709.91	50.74 S	1709.91 W	1710.66@	268.30	0.00

H HEADER INFORMATION -----

H COMPANY : Yates Petroleum Corp

H FIELD : Chaves County, NM

H SITE : Football BCF Federal

H WELL : #2H

H WELLPATH: OH

H DEPTHUNT: ft

H SURVDATE: 6/12/2008

H-----

H WELL INFORMATION

H WELL EW MAP : 555828.69

H WELL NS MAP : 838492.20

H DATUM ELEVN : 3760.50

H VSECT ANGLE : 300.26

H VSECT NORTH : 0.00

H VSECT EAST : 0.00

H-----

H SURVEY TYPE INFORMATION

H 100 00 - 4964.00 SURVEY #1 : NS-GYRO-MS

H-----

H SURVEY LIST

H MD	INC	AZI	TVD	NS	EW
0.00	0.00	0.00	0.00	0 00	0 00
30.00	0.04	358.34	30.00	0.01	0 00
60.00	0.09	358.34	60.00	0.05	0.00
90.00	0.14	358.34	90.00	0.11	0.00
120.00	0.15	5.10	120.00	0.18	0.00
150.00	0.14	15.76	150.00	0.26	0.01
180.00	0.15	26.41	180.00	0.33	0.04
210.00	0.15	33.02	210.00	0.39	0.08
240.00	0.17	32.63	240.00	0.46	0.12
270.00	0.18	32.29	270.00	0.54	0.17
300.00	0.19	31.99	300.00	0.62	0.22
330.00	0.20	35.45	330.00	0.71	0.28
360.00	0.21	38.63	360.00	0.79	0.34
390.00	0.22	41.53	390.00	0.88	0.42
420.00	0.25	42.29	420.00	0.96	0.50
450.00	0.29	42.13	450.00	1.07	0.59
480.00	0.34	42.01	480.00	1.19	0.70
510.00	0.37	43.56	510.00	1.33	0.83
540.00	0.36	48.49	540.00	1.47	0.97
570.00	0.36	53.54	570.00	1.58	1.11
600.00	0.36	58.61	600.00	1.69	1.27
630.00	0.37	64.74	629.99	1.78	1.44
660.00	0.38	70.57	659.99	1.85	1.62
690.00	0.39	76.00	689.99	1.91	1.81
720.00	0.40	81.13	719.99	1.95	2.02
750.00	0.41	86.19	749.99	1.98	2.23
780.00	0.41	91.10	779.99	1.98	2.44
810.00	0.40	95.18	809.99	1.97	2.66
840.00	0.33	98.69	839.99	1.95	2.85
870.00	0.26	104.00	869.99	1.92	3.00

900.00	0.20	112.76	899.99	1.88	3.11
930.00	0.23	88.82	929.99	1.86	3.22
960.00	0.28	72.14	959.99	1.88	3.35
990.00	0.35	61.54	989.99	1.95	3.50
1020.00	0.39	51.16	1019.99	2.06	3.67
1050.00	0.42	40.53	1049.99	2.21	3.82
1080.00	0.46	31.49	1079.99	2.39	3.95
1110.00	0.49	26.36	1109.98	2.61	4.07
1140.00	0.49	26.54	1139.98	2.84	4.18
1170.00	0.48	26.68	1169.98	3.07	4.30
1200.00	0.48	26.82	1199.98	3.29	4.41
1230.00	0.48	26.05	1229.98	3.52	4.52
1260.00	0.47	25.26	1259.98	3.74	4.63
1290.00	0.47	24.47	1289.98	3.97	4.73
1320.00	0.51	24.24	1319.98	4.20	4.84
1350.00	0.56	24.29	1349.98	4.45	4.95
1380.00	0.62	24.34	1379.97	4.74	5.08
1410.00	0.65	23.91	1409.97	5.05	5.22
1440.00	0.63	22.51	1439.97	5.35	5.35
1470.00	0.61	21.01	1469.97	5.66	5.47
1500.00	0.59	19.41	1499.97	5.95	5.58
1530.00	0.53	14.47	1529.97	6.23	5.67
1560.00	0.47	8.23	1559.96	6.48	5.72
1590.00	0.42	0.31	1589.96	6.71	5.74
1620.00	0.45	357.93	1619.96	6.93	5.73
1650.00	0.52	358.73	1649.96	7.19	5.72
1680.00	0.59	359.33	1679.96	7.48	5.72
1710.00	0.64	359.22	1709.96	7.80	5.71
1740.00	0.62	357.86	1739.96	8.13	5.71
1770.00	0.61	356.44	1769.96	8.46	5.69
1800.00	0.60	354.97	1799.95	8.77	5.67
1830.00	0.59	356.85	1829.95	9.08	5.64
1860.00	0.58	358.80	1859.95	9.39	5.63
1890.00	0.56	0.84	1889.95	9.68	5.63
1920.00	0.58	2.33	1919.95	9.98	5.64
1950.00	0.62	3.40	1949.95	10.30	5.66
1980.00	0.66	4.35	1979.94	10.63	5.68
2010.00	0.67	4.76	2009.94	10.98	5.71
2040.00	0.65	4.21	2039.94	11.33	5.74
2070.00	0.63	3.63	2069.94	11.66	5.76
2100.00	0.61	3.01	2099.94	11.99	5.78
2130.00	0.59	359.32	2129.93	12.30	5.78
2160.00	0.58	355.45	2159.93	12.61	5.77
2190.00	0.57	351.43	2189.93	12.91	5.74
2220.00	0.57	350.33	2219.93	13.20	5.69
2250.00	0.58	350.72	2249.93	13.50	5.64
2280.00	0.59	351.11	2279.93	13.80	5.59
2310.00	0.58	350.88	2309.93	14.11	5.54
2340.00	0.56	349.38	2339.92	14.40	5.49
2370.00	0.54	347.77	2369.92	14.68	5.43
2400.00	0.52	346.02	2399.92	14.96	5.37
2430.00	0.50	345.00	2429.92	15.21	5.30

2460.00	0.48	343.88	2459.92	15.46	5.23
2490.00	0.46	342.67	2489.92	15.69	5.16
2520.00	0.45	341.10	2519.92	15.92	5.09
2550.00	0.45	339.41	2549.92	16.14	5.01
2580.00	0.46	337.75	2579.91	16.36	4.92
2610.00	0.46	336.61	2609.91	16.59	4.83
2640.00	0.47	336.51	2639.91	16.81	4.73
2670.00	0.47	336.40	2669.91	17.04	4.63
2700.00	0.48	336.30	2699.91	17.26	4.53
2730.00	0.44	332.68	2729.91	17.48	4.43
2760.00	0.41	328.45	2759.91	17.68	4.32
2790.00	0.38	323.50	2789.91	17.85	4.20
2820.00	0.37	320.13	2819.91	18.00	4.08
2850.00	0.37	317.84	2849.91	18.15	3.95
2880.00	0.38	315.60	2879.91	18.29	3.82
2910.00	0.38	313.13	2909.91	18.43	3.68
2940.00	0.39	310.28	2939.91	18.57	3.53
2970.00	0.41	307.60	2969.90	18.70	3.36
3000.00	0.42	305.07	2999.90	18.83	3.19
3030.00	0.43	300.48	3029.90	18.95	3.00
3060.00	0.45	296.17	3059.90	19.06	2.80
3090.00	0.46	292.15	3089.90	19.15	2.58
3120.00	0.50	289.00	3119.90	19.24	2.35
3150.00	0.53	286.52	3149.90	19.32	2.09
3180.00	0.57	284.38	3179.90	19.40	1.81
3210.00	0.59	282.38	3209.90	19.47	1.51
3240.00	0.58	280.10	3239.89	19.53	1.21
3270.00	0.56	277.69	3269.89	19.58	0.91
3300.00	0.55	275.16	3299.89	19.61	0.62
3330.00	0.51	273.58	3329.89	19.63	0.35
3360.00	0.48	271.75	3359.89	19.64	0.09
3390.00	0.44	269.63	3389.89	19.65	-0.15
3420.00	0.46	269.22	3419.89	19.64	-0.39
3450.00	0.51	269.69	3449.89	19.64	-0.64
3480.00	0.57	270.08	3479.88	19.64	-0.92
3510.00	0.60	269.66	3509.88	19.64	-1.23
3540.00	0.62	267.77	3539.88	19.63	-1.55
3570.00	0.63	265.95	3569.88	19.62	-1.88
3600.00	0.64	264.21	3599.88	19.59	-2.21
3630.00	0.66	261.81	3629.88	19.55	-2.54
3660.00	0.67	259.52	3659.87	19.49	-2.89
3690.00	0.69	257.36	3689.87	19.42	-3.24
3720.00	0.71	258.48	3719.87	19.34	-3.60
3750.00	0.74	261.05	3749.87	19.27	-3.97
3780.00	0.76	263.46	3779.86	19.22	-4.36
3810.00	0.78	264.02	3809.86	19.18	-4.76
3840.00	0.77	261.09	3839.86	19.12	-5.16
3870.00	0.76	258.09	3869.86	19.05	-5.56
3900.00	0.75	255.02	3899.85	18.96	-5.94
3930.00	0.74	254.90	3929.85	18.86	-6.32
3960.00	0.73	254.77	3959.85	18.76	-6.69
3990.00	0.72	254.64	3989.85	18.66	-7.06

4020.00	0.73	255.28	4019.84	18.56	-7.42
4050.00	0.74	256.27	4049.84	18.46	-7.80
4080.00	0.76	257.22	4079.84	18.37	-8.18
4110.00	0.77	257.45	4109.84	18.29	-8.57
4140.00	0.77	256.32	4139.83	18.20	-8.97
4170.00	0.78	255.19	4169.83	18.10	-9.36
4200.00	0.78	254.08	4199.83	17.99	-9.75
4230.00	0.81	254.51	4229.82	17.88	-10.15
4260.00	0.83	254.91	4259.82	17.76	-10.57
4290.00	0.86	255.29	4289.82	17.65	-11.00
4320.00	0.88	255.27	4319.82	17.53	-11.44
4350.00	0.89	255.06	4349.81	17.41	-11.89
4380.00	0.91	254.86	4379.81	17.29	-12.34
4410.00	0.92	255.07	4409.80	17.17	-12.81
4440.00	0.91	256.09	4439.80	17.05	-13.27
4470.00	0.91	257.12	4469.80	16.94	-13.73
4500.00	0.90	258.17	4499.79	16.84	-14.19
4530.00	0.95	259.18	4529.79	16.74	-14.67
4560.00	1.01	260.07	4559.78	16.65	-15.17
4590.00	1.06	260.88	4589.78	16.56	-15.71
4620.00	1.12	259.97	4619.77	16.47	-16.27
4650.00	1.17	258.37	4649.77	16.35	-16.86
4680.00	1.22	256.90	4679.76	16.22	-17.47
4710.00	1.28	255.84	4709.75	16.06	-18.11
4740.00	1.34	255.37	4739.75	15.89	-18.77
4770.00	1.39	254.95	4769.74	15.71	-19.46
4800.00	1.45	254.56	4799.73	15.51	-20.18
4830.00	1.52	255.43	4829.72	15.31	-20.93
4860.00	1.58	256.22	4859.71	15.12	-21.71
4890.00	1.65	256.95	4889.70	14.92	-22.54
4920.00	1.71	257.09	4919.68	14.72	-23.39
4950.00	1.78	256.97	4949.67	14.52	-24.28
4964.00	1.81	256.91	4963.66	14.42	-24.71

```

H HEADER INFORMATION -----
H COMPANY . Yates Petroleum Corp
H FIELD . Chaves County, NM
H SITE . Football BCF Federal
H WELL . #2H
H WELLPATH. ST 1
H DEPTHUNT: ft
H SURVDATE: 6/20/2008
H-----
H WELL INFORMATION
H WELL EW MAP : 555828.69
H WELL NS MAP : 838492.20
H DATUM ELEVN : 3760.50
H VSECT ANGLE : 270.00
H VSECT NORTH : 0.00
H VSECT EAST : 0.00
H-----
H SURVEY TYPE INFORMATION
H 100.00 - 4300.00 SURVEY #1 : NS-GYRO-MS
H 4309 00 - 6495.00 MWD :
H-----
H SURVEY LIST
H MD INC AZI TVD NS EW
4320.00 3.23 262.32 4319.80 17.50 -11.96
4350.00 4.93 262.39 4349.72 17.20 -14.10
4380.00 6.34 261.96 4379.57 16.82 -17.02
4410.00 7.89 259.87 4409.34 16.21 -20.67
4440.00 9.47 259.58 4439.00 15.42 -25.15
4470.00 11.05 259.10 4468.52 14.41 -30.35
4500.00 13.15 260.65 4497.85 13.30 -36.56
4530.00 14.93 262.45 4526.96 12.24 -43.75
4560.00 16.91 263.46 4555.81 11.24 -51.91
4590.00 19.05 263.35 4584.34 10.18 -61.11
4620.00 21.19 262.86 4612.51 8.94 -71.36
4650.00 23.75 263.31 4640.23 7.56 -82.74
4680.00 26.62 263.76 4667.37 6.13 -95.42
4710.00 28.83 264.24 4693.92 4.67 -109.31
4740.00 30.78 264.95 4719.95 3.26 -124.16
4770.00 32.35 265.94 4745.50 2.01 -139.83
4800.00 33.57 266.09 4770.66 0.91 -156.14
4830.00 34.71 266.18 4795.49 -0.24 -172.93
4860.00 35.91 266.18 4819.97 -1.38 -190.23
4890.00 36.88 266.00 4844.10 -2.60 -208.02
4920.00 37.80 265.72 4867.96 -3.90 -226.15
4950.00 39.18 265.55 4891.47 -5.34 -244.73
4980.00 41.00 265.56 4914.43 -6.83 -263.98
5010.00 43.23 265.49 4936.71 -8.40 -284.00
5040.00 46.07 265.46 4958.05 -10.06 -305.02
5070.00 48.91 265.44 4978.32 -11.81 -327.06
5100.00 51.92 265.53 4997.46 -13.65 -350.08
5130.00 55.42 266.01 5015.23 -15.43 -374.19
5160.00 58.57 266.49 5031.54 -17.07 -399.31

```

5190.00	60 32	266.40	5046.78	-18.67	-425.09
5220 00	61 64	266.40	5061 33	-20.32	-451 28
5250.00	63 22	267.18	5075.22	-21.80	-477.83
5280 00	65 70	267.85	5088 17	-22.97	-504 86
5310.00	69 14	268 93	5099.71	-23.76	-532.54
5340.00	72.48	270.19	5109.56	-23.98	-560.87
5370.00	74.13	270.68	5118 08	-23.72	-589 63
5400.00	75 25	270.75	5126.00	-23.34	-618.56
5430 00	76.78	270.62	5133.28	-22 98	-647 66
5460 00	79.20	270.28	5139.59	-22.74	-676.98
5490 00	81 56	269.86	5144.54	-22.71	-706.57
5520 00	84 26	269.57	5148 36	-22.87	-736.32
5550.00	87.02	269.45	5150.50	-23.13	-766.24
5580 00	88 33	269.40	5151.70	-23 44	-796.22
5610 00	89.33	269 29	5152.30	-23.76	-826 21
5640.00	90.47	269 13	5152.41	-24.21	-856.21
5670.00	91.91	269.32	5151.69	-24.57	-886.19
5700.00	92.49	269.18	5150.54	-24.97	-916.17
5730.00	93.04	269.10	5149.09	-25.42	-946.13
5760.00	93.56	269.01	5147.36	-25.91	-976.08
5790.00	93.65	268.84	5145.47	-26.47	-1006.01
5820.00	93.65	268.45	5143.56	-27.18	-1035.94
5850.00	93.33	268.41	5141.73	-28.01	-1065.87
5880.00	92.97	268.42	5140.08	-28.84	-1095.82
5910.00	92 61	268.42	5138.63	-29.67	-1125.77
5940.00	92.42	268 35	5137.32	-30.51	-1155.73
5970.00	92 29	268 25	5136.09	-31.40	-1185.69
6000 00	92.27	268.29	5134.91	-32.32	-1215.66
6030.00	92.31	268.42	5133.71	-33.18	-1245.62
6060.00	92.27	268.40	5132.50	-33.99	-1275 58
6090.00	92.16	268.22	5131.34	-34.87	-1305.55
6120.00	92 05	268.03	5130.24	-35.85	-1335.51
6150.00	91.98	267.82	5129.19	-36.93	-1365.47
6180.00	91 98	267.57	5128.15	-38.14	-1395.43
6210.00	91.97	267.36	5127.12	-39.48	-1425.38
6240.00	91.94	267.30	5126 09	-40.87	-1455.33
6270 00	91 92	267.25	5125 08	-42.30	-1485.28
6300.00	91.93	267.22	5124.08	-43.75	-1515.23
6330.00	92.48	267.54	5122.93	-45.12	-1545.18
6360.00	93.04	267.85	5121.48	-46.33	-1575 12
6390.00	93.59	268.17	5119.75	-47.37	-1605.05
6420.00	93.65	268.20	5117.84	-48.31	-1634.97
6450.00	93.65	268 20	5115.93	-49.25	-1664.90
6480 00	93.65	268.20	5114.02	-50 19	-1694.82
6495.00	93.65	268.20	5113.07	-50.66	-1709.78

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM
FOOTBALL BCF FED #2H
CHAVES COUNTY, NEW MEXICO
Rig:JW 4

Fri Jun 06 17:10:25 2008

Coordinates

Latitude: 33.304953 N (33 deg. 18 min. 17.8298 sec.)
Longitude: 104.285902 W (-104 deg. 17 min. 9.2462 sec.)
Elevation: 3748.00 feet.
Calculation Date: Jun/06/2008

Magnetic Calculations

Model: IGRF2005
Dip Angle: 61.1454 degrees
Total Magnetic Field: 0.49511 gauss
Magnetic Declination: 8.350276 degrees
Horizontal Intensity: 0.238932 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.350276 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 555828.6900 feet
Y: 838492.1970 feet
True to Grid: (convergence) -0.026044 degrees
Magnetic to Grid: 8.324231 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 8.324231 Degr.