

PATHFINDER®

A Schlumberger Company

HOBBS OCD

DEC 22 2011

RECEIVED

DIRECTIONAL SURVEY REPORT

YATES PETROLEUM

DEAN APQ FEDERAL #2H

LEA COUNTY, NEW MEXICO

SUR; N-03-26s-34e, 330/S & 1980/W
BHL; C-03-26s-34e, 4910/S & 1926/W
API # 30-025-40089

PREPARED BY: FRANCISCO SINISTERRA

JAN 12 2012

Pathfinder

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



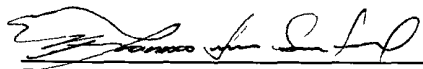
DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) ERIC PAYNE
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 07-25-11 TO 08-30-11
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: LEA COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM
DEAN APQ FEDERAL #2H
LEA COUNTY, NM
RIG: PATTERSON 36

9. SURVEY CERTIFIED FROM: 9220 TO 14002 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 4580.74 FEET ON A BEARING OF 359.32 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 14073 FEET,
ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



FRANCISCO SINISTERRA
MWD COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 07/24/2011
Date Completed: 08/30/2011

YATES PETROLEUM CORPORATION
DEAN APQ FEDERAL #2H
LEA COUNTY, NM
Rig:PATTERSON 36
PathFinder Office Supervisor: STEVE BIBB
PathFinder Field Engineers:ERIC PAYNE
SAUL CARRILLO
ALEX CASTILLO

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.3.58.1719 N LON:103.27.35.6643 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 811899.3300 Y: 388901.0300
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.05° EAST TO GRID
Vertical Section Plane: 359.49
Survey Vert. Reference: 21.50' Kelly Bushing To Ground
Altitude:3313.00' Ground To MSL

Measured Depth	14073.00	(feet)
Inclination	90.84	(deg)
Azimuth	358.45	(deg)
True Vertical Depth	9728.15	(feet)
Vertical Section	4580.72	(feet)
Survey X cord	811844.93	(feet)
Survey Y cord	393481.45	(feet)
Survey Lat	32.07875005 N	(deg)
Survey Lon	103.45996267 W	(deg)
Rectangular Corr. N/S	4580.42 N	(feet)
Rectangular Corr. E/W	54.40 W	(feet)
Closure Distance	4580.74	(feet)
Direction of Closure	359.32	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION

DEAN APQ FEDERAL #2H

LEA COUNTY, NM

Rig: PATTERSON 36

PathFinder Office Supervisor: STEVE BIBB

PathFinder Field Engineers: ERIC PAYNE

SAUL CARRILLO

ALEX CASTILLO

ALEX DUCATE

J. PATTERSON

Survey Calculations by RX5 V6.03E using Minimum Curvature

Survey Horiz. Reference: WELLHEAD

Ref Coordinates: LAT: 32.3.58.1719 N LON: 103.27.35.6643 W

GRID Reference: NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 811899.3300 Y: 388901.0300

North Aligned To: GRID NORTH

Total Magnetic Correction: 7.05° EAST TO GRID

Vertical Section Plane: 359.49

Survey Vert. Reference: 21.50' Kelly Bushing To Ground

Altitude: 3313.00' 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 MS SURVEY GYRO SURVEYS.										
0.00	0.00	0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.01@	35.17	0.00
200.00	0.52	335.85	200.00	200.00	0.84	0.83 N	0.37 W	0.91@	336.17	0.26
400.00	0.56	330.85	399.99	200.00	2.53	2.51 N	1.22 W	2.79@	334.21	0.03
600.00	0.80	307.67	599.98	200.00	4.25	4.22 N	2.80 W	5.06@	326.48	0.18
800.00	0.97	292.90	799.95	200.00	5.78	5.73 N	5.46 W	7.92@	316.39	0.14
1000.00	0.99	276.13	999.93	200.00	6.65	6.58 N	8.74 W	10.94@	306.97	0.14
1200.00	0.98	271.33	1199.90	200.00	6.91	6.80 N	12.17 W	13.94@	299.20	0.04
1400.00	0.63	213.85	1399.88	200.00	6.06	5.93 N	14.49 W	15.65@	292.25	0.42
1600.00	0.70	190.56	1599.87	200.00	3.95	3.81 N	15.33 W	15.79@	283.97	0.14
1800.00	0.84	170.43	1799.85	200.00	1.30	1.17 N	15.31 W	15.35@	274.36	0.15
2000.00	0.66	196.52	1999.83	200.00	-1.25	1.38 S	15.39 W	15.45@	264.86	0.19
2200.00	0.95	171.15	2199.81	200.00	-3.99	4.13 S	15.46 W	16.00@	255.06	0.23
2400.00	1.05	157.50	2399.78	200.00	-7.33	7.46 S	14.51 W	16.31@	242.79	0.13
2600.00	0.29	20.98	2599.77	200.00	-8.56	8.68 S	13.62 W	16.15@	237.50	0.64
2800.00	0.72	2.79	2799.76	200.00	-6.83	6.95 S	13.38 W	15.08@	242.55	0.23
3000.00	0.89	12.75	2999.74	200.00	-4.06	4.18 S	12.98 W	13.63@	252.15	0.11
3200.00	0.89	36.37	3199.72	200.00	-1.31	1.41 S	11.71 W	11.80@	263.11	0.18
3400.00	0.49	109.26	3399.71	200.00	-0.36	0.45 S	9.98 W	9.99@	267.44	0.44
3600.00	0.67	77.77	3599.70	200.00	-0.41	0.48 S	8.03 W	8.05@	266.58	0.18
3800.00	0.76	93.61	3799.68	200.00	-0.27	0.32 S	5.57 W	5.58@	266.75	0.11
4000.00	1.09	75.50	3999.66	200.00	0.10	0.08 N	2.40 W	2.40@	271.83	0.22
4200.00	0.73	73.50	4199.63	200.00	0.91	0.91 N	0.66 E	1.13@	35.86	0.18
4400.00	0.91	79.92	4399.61	200.00	1.52	1.55 N	3.45 E	3.78@	65.72	0.10
4600.00	1.20	74.58	4599.58	200.00	2.33	2.39 N	7.03 E	7.42@	71.22	0.15

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
DEAN APQ FEDERAL #2H
LEA COUNTY, NM
RIG: PATTERSON 36

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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)
4800.00	1.07	96.17	4799.54	200.00	2.65	2.75 N	10.90 E	11.24@	75.87	0.22
5000.00	1.00	79.73	4999.51	200.00	2.73	2.86 N	14.48 E	14.76@	78.84	0.15
5200.00	1.12	73.45	5199.47	200.00	3.56	3.72 N	18.07 E	18.45@	78.35	0.08
5400.00	0.70	88.93	5399.45	200.00	4.12	4.30 N	21.16 E	21.60@	78.51	0.24
5600.00	0.59	89.64	5599.44	200.00	4.12	4.33 N	23.42 E	23.81@	79.52	0.06
5800.00	0.54	110.48	5799.43	200.00	3.78	4.01 N	25.33 E	25.64@	81.00	0.10
6000.00	0.56	119.00	5999.42	200.00	2.97	3.21 N	27.07 E	27.26@	83.24	0.04
6200.00	0.53	166.65	6199.41	200.00	1.58	1.83 N	28.13 E	28.19@	86.27	0.22
6400.00	0.45	184.82	6399.40	200.00	-0.10	0.15 N	28.28 E	28.28@	89.70	0.09
6600.00	0.36	137.75	6599.40	200.00	-1.35	1.10 S	28.64 E	28.66@	92.20	0.17
6800.00	0.29	137.73	6799.39	200.00	-2.20	1.94 S	29.40 E	29.47@	93.77	0.03
7000.00	0.22	101.49	6999.39	200.00	-2.66	2.39 S	30.12 E	30.21@	94.53	0.09
7200.00	0.37	114.87	7199.39	200.00	-3.01	2.74 S	31.08 E	31.20@	95.03	0.08
7400.00	0.54	97.22	7399.38	200.00	-3.42	3.13 S	32.60 E	32.75@	95.48	0.11
7600.00	0.84	118.52	7599.37	200.00	-4.26	3.95 S	34.82 E	35.05@	96.46	0.20
7800.00	0.76	161.44	7799.35	200.00	-6.23	5.90 S	36.53 E	37.01@	99.18	0.30
8000.00	0.72	165.53	7999.33	200.00	-8.71	8.38 S	37.27 E	38.20@	102.67	0.03
8200.00	0.61	163.71	8199.32	200.00	-10.95	10.62 S	37.88 E	39.34@	105.65	0.06
8400.00	0.41	153.60	8399.31	200.00	-12.62	12.28 S	38.50 E	40.41@	107.69	0.11
8600.00	0.52	85.45	8599.31	200.00	-13.20	12.85 S	39.72 E	41.75@	107.92	0.26
8800.00	0.67	117.05	8799.30	200.00	-13.68	13.31 S	41.67 E	43.74@	107.71	0.18
9000.00	0.94	107.78	8999.28	200.00	-14.73	14.34 S	44.27 E	46.54@	107.95	0.15
** TIED-IN TO MS SURVEY GYRO SURVEY @ 9155' MD.										
9155.00	0.79	122.99	9154.26	155.00	-15.72	15.31 S	46.38 E	48.84@	108.27	0.18
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
9220.00	2.37	10.14	9219.24	65.00	-14.65	14.23 S	46.99 E	49.10@	106.85	4.27
9252.00	6.42	1.64	9251.14	32.00	-12.21	11.79 S	47.16 E	48.61@	104.04	12.78
9283.00	10.73	0.22	9281.79	31.00	-7.59	7.17 S	47.22 E	47.76@	98.63	13.92
9315.00	15.30	359.06	9312.96	32.00	-0.39	0.03 N	47.16 E	47.16@	89.96	14.30
9347.00	20.14	358.48	9343.43	32.00	9.35	9.77 N	46.95 E	47.95@	78.25	15.13

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
DEAN APQ FEDERAL #2H
LEA COUNTY, NM
RIG:PATTERSON 36

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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)
9378.00	23.74	358.42	9372.18	31.00	20.93	21.35 N	46.63 E	51.29@	65.41	11.61
9410.00	27.52	358.45	9401.03	32.00	34.77	35.18 N	46.26 E	58.11@	52.75	11.81
9442.00	31.13	358.72	9428.92	32.00	50.43	50.84 N	45.87 E	68.48@	42.06	11.29
9473.00	34.47	358.76	9454.97	31.00	67.22	67.63 N	45.50 E	81.51@	33.93	10.78
9505.00	37.90	358.81	9480.80	32.00	86.11	86.52 N	45.10 E	97.57@	27.53	10.72
9537.00	40.98	358.70	9505.51	32.00	106.44	106.84 N	44.66 E	115.80@	22.69	9.63
9568.00	43.18	358.98	9528.52	31.00	127.21	127.61 N	44.24 E	135.06@	19.12	7.12
9600.00	46.17	359.05	9551.27	32.00	149.70	150.10 N	43.85 E	156.38@	16.29	9.34
9631.00	49.33	359.00	9572.11	31.00	172.65	173.04 N	43.46 E	178.42@	14.10	10.19
9663.00	51.97	359.26	9592.40	32.00	197.39	197.78 N	43.09 E	202.42@	12.29	8.27
9695.00	54.61	359.66	9611.52	32.00	223.04	223.43 N	42.85 E	227.50@	10.86	8.31
9726.00	58.21	359.84	9628.67	31.00	248.86	249.25 N	42.74 E	252.89@	9.73	11.62
9758.00	63.40	360.00	9644.28	32.00	276.78	277.18 N	42.70 E	280.44@	8.76	16.23
9789.00	67.88	359.87	9657.06	31.00	305.02	305.41 N	42.67 E	308.37@	7.95	14.46
9821.00	70.79	359.82	9668.35	32.00	334.95	335.35 N	42.59 E	338.04@	7.24	9.10
9852.00	73.78	359.95	9677.78	31.00	364.48	364.87 N	42.53 E	367.34@	6.65	9.65
9890.00	77.65	359.78	9687.16	38.00	401.30	401.69 N	42.44 E	403.93@	6.03	10.19
9921.00	80.72	359.82	9692.97	31.00	431.74	432.14 N	42.33 E	434.21@	5.59	9.90
9952.00	84.50	359.86	9696.96	31.00	462.48	462.87 N	42.25 E	464.80@	5.21	12.19
9984.00	86.09	359.99	9699.58	32.00	494.37	494.76 N	42.21 E	496.56@	4.88	4.99
10015.00	86.79	359.92	9701.51	31.00	525.31	525.70 N	42.18 E	527.39@	4.59	2.27
10047.00	87.67	359.98	9703.06	32.00	557.27	557.67 N	42.15 E	559.26@	4.32	2.76
10078.00	88.29	0.02	9704.15	31.00	588.25	588.65 N	42.15 E	590.15@	4.10	2.00
10141.00	88.11	0.36	9706.13	63.00	651.21	651.62 N	42.36 E	652.99@	3.72	0.61
10204.00	88.90	0.14	9707.77	63.00	714.19	714.59 N	42.64 E	715.86@	3.41	1.30
10299.00	89.08	1.09	9709.45	95.00	809.15	809.57 N	43.66 E	810.75@	3.09	1.02
10362.00	88.11	1.52	9710.99	63.00	872.10	872.54 N	45.09 E	873.70@	2.96	1.68
10424.00	89.52	1.54	9712.27	62.00	934.04	934.50 N	46.75 E	935.67@	2.86	2.27
10519.00	89.69	0.71	9712.93	95.00	1029.00	1029.48 N	48.61 E	1030.62@	2.70	0.89
10613.00	88.72	359.73	9714.23	94.00	1122.98	1123.46 N	48.97 E	1124.53@	2.50	1.47

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
DEAN APQ FEDERAL #2H
LEA COUNTY, NM
RIG:PATTERSON 36

Page 04/05

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)
10710.00	87.05	358.95	9717.81	97.00	1219.91	1220.39 N	47.86 E	1221.33@	2.25	1.90
10803.00	87.93	359.21	9721.88	93.00	1312.82	1313.29 N	46.36 E	1314.10@	2.02	0.99
10897.00	87.49	357.37	9725.64	94.00	1406.72	1407.16 N	43.56 E	1407.84@	1.77	2.01
10991.00	87.76	356.27	9729.54	94.00	1500.54	1500.94 N	38.35 E	1501.43@	1.46	1.20
11085.00	87.14	357.24	9733.72	94.00	1594.34	1594.69 N	33.04 E	1595.03@	1.19	1.22
11179.00	87.49	357.33	9738.12	94.00	1688.16	1688.48 N	28.59 E	1688.73@	0.97	0.38
11275.00	87.58	357.53	9742.25	96.00	1784.01	1784.30 N	24.29 E	1784.46@	0.78	0.23
11369.00	87.85	357.95	9746.00	94.00	1877.89	1878.15 N	20.58 E	1878.26@	0.63	0.53
11464.00	86.79	358.20	9750.44	95.00	1972.76	1972.99 N	17.40 E	1973.07@	0.51	1.15
11559.00	87.32	358.53	9755.32	95.00	2067.61	2067.83 N	14.69 E	2067.88@	0.41	0.66
11652.00	88.55	358.63	9758.67	93.00	2160.54	2160.74 N	12.39 E	2160.77@	0.33	1.33
11747.00	89.87	358.32	9759.98	95.00	2255.51	2255.69 N	9.86 E	2255.71@	0.25	1.43
11841.00	89.69	358.11	9760.34	94.00	2349.49	2349.64 N	6.93 E	2349.66@	0.17	0.29
11936.00	90.13	359.09	9760.49	95.00	2444.48	2444.62 N	4.61 E	2444.62@	0.11	1.13
12030.00	90.13	358.38	9760.28	94.00	2538.47	2538.59 N	2.53 E	2538.59@	0.06	0.75
12126.00	90.04	358.59	9760.14	96.00	2634.45	2634.56 N	0.00 W	2634.56@	360.00	0.24
12220.00	89.96	359.01	9760.14	94.00	2728.45	2728.54 N	1.97 W	2728.54@	359.96	0.45
12315.00	91.19	358.79	9759.18	95.00	2823.43	2823.51 N	3.80 W	2823.52@	359.92	1.32
12409.00	90.66	358.52	9757.67	94.00	2917.41	2917.47 N	6.00 W	2917.48@	359.88	0.63
12504.00	90.92	358.88	9756.36	95.00	3012.39	3012.44 N	8.16 W	3012.45@	359.84	0.47
12599.00	91.10	358.61	9754.68	95.00	3107.37	3107.40 N	10.24 W	3107.42@	359.81	0.34
12693.00	91.28	358.26	9752.73	94.00	3201.33	3201.35 N	12.81 W	3201.37@	359.77	0.42
12787.00	91.10	358.08	9750.78	94.00	3295.29	3295.28 N	15.81 W	3295.32@	359.73	0.27
12882.00	91.45	357.12	9748.66	95.00	3390.21	3390.17 N	19.78 W	3390.23@	359.67	1.08
12977.00	90.75	357.21	9746.84	95.00	3485.12	3485.04 N	24.48 W	3485.12@	359.60	0.74
13071.00	91.10	357.24	9745.32	94.00	3579.03	3578.91 N	29.03 W	3579.03@	359.54	0.37
13165.00	90.92	358.44	9743.66	94.00	3672.97	3672.83 N	32.57 W	3672.98@	359.49	1.29
13260.00	91.19	358.22	9741.92	95.00	3767.94	3767.77 N	35.34 W	3767.94@	359.46	0.37
13355.00	90.92	358.38	9740.17	95.00	3862.90	3862.72 N	38.16 W	3862.90@	359.43	0.33
13449.00	91.01	358.97	9738.58	94.00	3956.88	3956.68 N	40.33 W	3956.88@	359.42	0.64

PathFinder Energy Services, Inc.

Survey Report

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LEA COUNTY, NM
RIG:PATTERSON 36

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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)
13544.00	91.54	359.01	9736.47	95.00	4051.85	4051.64 N	42.01 W	4051.86@	359.41	0.56
13639.00	90.66	359.05	9734.65	95.00	4146.83	4146.61 N	43.62 W	4146.84@	359.40	0.93
13733.00	91.01	358.42	9733.28	94.00	4240.81	4240.57 N	45.69 W	4240.82@	359.38	0.77
13828.00	90.92	358.83	9731.68	95.00	4335.79	4335.53 N	47.97 W	4335.80@	359.37	0.44
13924.00	90.75	358.37	9730.28	96.00	4431.77	4431.49 N	50.31 W	4431.78@	359.35	0.51
14002.00	90.84	358.45	9729.19	78.00	4509.74	4509.46 N	52.48 W	4509.76@	359.33	0.15
STRAIGHT LINE PROJECTION TO BIT@ 14073' MD.										
14073.00	90.84	358.45	9728.15	71.00	4580.72	4580.42 N	54.40 W	4580.74@	359.32	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.



A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	Yates Petroleum		
LEASE / WELL No.:	Dean APQ Federal	#2H	
WELL LOCATION:	Lea County		
COUNTY / STATE / COUNTRY:	Lea	NM	USA
RIG:	Patterson 36		
API WELL No:	30-025-40089		
JOB No:	700003135-WT-WT		
P.O. / AFE No.	P.O. # 103-1242 / A.F.E. # 10-337-0		
DIRECTIONAL COMPANY:	Pathfinder		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.05	LWD Calculated:	7.05
Agreed Upon:		7.05	
X =	811899 330000	Feet	Y = 388901.030000
		Feet	
SITE LATITUDE:	32° 3' 58.1719" N	SITE LONGITUDE:	103° 27' 35.6643" W
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	
PROPOSED DRIFT DIRECTION:	359.49		
KELLY BUSHING ELEVATION:	21.5		
ALTITUDE:	3313	Feet	WATER DEPTH:
		Feet	

TIE-IN SURVEY

MEASURED DEPTH:	9155		
DRIFT ANGLE:	0.79		
DRIFT DIRECTION:	122.99		
TRUE VERTICAL DEPTH:	9154.26		
VERTICAL SECTION:	-15.73		
RECTANGULAR COORDINATE (N / S) :	-15.31		
RECTANGULAR COORDINATE (E / W) :	46.38		
CLOSURE DISTANCE / DIRECTION:	48.84	108.27	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	MS Survey		
COPY OF TIE-IN SURVEY REPORT	☒ YES		☐ NO

WELL PLAN

KICKOFF DEPTH:	9235.61	TOTAL DEPTH:	14145.82
KICKOFF ANGLE:	0	MAX ANGLE:	90

PES Engineers: Alex Castillo
Alex Ducate

**Signature of both field engineers required if applicable

Directional Driller: Phillip Garrison

DATE: 6-Aug-2011

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations



Yates Petroleum Corporation
Dean APQ Federal #2H
Lea County, NM
Rig:Patterson 36

Sun Jul 24 12:55:51 2011

Coordinates

Latitude:	32.066159 N (32 deg. 3 min. 58.1719 sec.)
Longitude:	103.459907 W (-103 deg. 27 min. 35.6643 sec.)
Elevation:	3334.50 feet.
Calculation Date:	Jul/24/2011

Magnetic Calculations

Model:	IGRF2010
Dip Angle:	60.0570 degrees
Total Magnetic Field:	0.48523 gauss
Magnetic Declination:	7.509450 degrees
Horizontal Intensity:	0.242198 gauss

To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.509450 Degs

Transverse Mercator Grid Calculations NAD83

Grid System:	Transverse Mercator: new mexico east
Ellipsoid:	GRS80
X:	811899.3300 feet
Y:	388901.0300 feet
True to Grid: (convergence)	-0.463727 degrees
Magnetic to Grid:	7.045723 degrees

To Convert a Magnetic Dir. to a GRID dir. Add 7.045723 Degs.