

For your records

PATHFINDER[®]

A Schlumberger Company

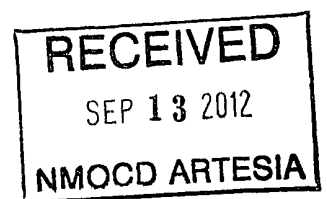
DIRECTIONAL SURVEY REPORT

30-015-39792

YATES PETROLEUM

DOC BHU STATE COM #5H

EDDY COUNTY, NEW MEXICO



PREPARED BY: JUAN ALCOCER

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) GEORGE SAKAS
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 4-17-12 TO 5-1-12
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: GAMMA-RAY
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM
DOC BHU STATE COM #5H
EDDY COUNTY, NM
RIG: PATRIOT 5
9. SURVEY CERTIFIED FROM: 715 TO 13,722 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 5,986.20 FEET ON A BEARING OF 89.41 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 13,800 FEET,
ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



JUAN ALCOCER
MWD COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 04/16/2012
Date Completed: 05/01/2012

YATES PETROLEUM CORP
DOC BHU STATE COM #5H / API# 30-015-39792
EDDY COUNTY, NM
Rig:PATRIOT 5
PathFinder Office Supervisor: JUAN ALCOCER
PathFinder Field Engineers:G.SAKAS
K.THURMAN
R. GIBBS

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.9.11.6218 N LON:103.55.10.4172 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 669388.9050 Y: 419725.8290
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.42°EAST TO GRID
Vertical Section Plane: 89.27
Survey Vert. Reference: 26.50' Rotary Table To Ground
Altitude:3189.00' Ground To MSL

Measured Depth	13800.00	(feet)
Inclination	89.96	(deg)
Azimuth	92.10	(deg)
True Vertical Depth	8099.78	(feet)
Vertical Section	5986.18	(feet)
Survey X cord	675374.76	(feet)
Survey Y cord	419787.33	(feet)
Survey Lat	32.15333261 N	(deg)
Survey Lon	103.90021788 W	(deg)
Rectangular Corr. N/S	61.51 N	(feet)
Rectangular Corr. E/W	5985.88 E	(feet)
Closure Distance	5986.20	(feet)
Direction of Closure	89.41	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP

DOC BHU STATE COM #5H / API# 30-015-39792

CORRAL DRAW; BONE SPRINGS

Rig: PATRIOT 5

PathFinder Office Supervisor: JUAN ALCOCER

PathFinder Field Engineers: G.SAKAS

K.THURMAN

R. GIBBS

H SANDIFER

Survey Horiz. Reference: WELLHEAD

Ref Coordinates: LAT: 32.9.11.6218 N LON: 103.55.10.4172 W

GRID Reference: NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 669388.9050 Y: 419725.8290

North Aligned To: GRID NORTH

Total Magnetic Correction: 7.42° EAST TO GRID

Vertical Section Plane: 89.27

Survey Vert. Reference: 26.50' Rotary Table To Ground

Altitude: 3189.00' Ground To MSL

Survey Calculations by RX5 V6.04 using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)	TEMP (F)	Course Length (ft)
TIED INTO MULTI SHOT GYRO SURVEY @ 600' MD.									
600.00	2.99	129.13	599.78	12.01	5.24 S 12.08 E	13.17@ 113.45	0.00	0.00	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.									
715.00	3.52	133.60	714.59	16.84	9.57 S 16.96 E	19.48@ 119.42	0.51	90.18	115.00
777.00	3.52	135.16	776.48	19.53	12.23 S 19.68 E	23.17@ 121.85	0.15	90.18	62.00
840.00	2.73	133.08	839.38	21.96	14.63 S 22.14 E	26.54@ 123.45	1.27	97.41	63.00
935.00	1.23	136.89	934.32	24.28	16.92 S 24.49 E	29.77@ 124.63	1.58	97.41	95.00
1029.00	0.97	145.29	1028.31	25.40	18.31 S 25.64 E	31.50@ 125.53	0.32	97.41	94.00
1124.00	1.32	131.52	1123.29	26.66	19.69 S 26.91 E	33.35@ 126.19	0.47	97.41	95.00
1218.00	0.53	181.37	1217.28	27.44	20.84 S 27.71 E	34.68@ 126.95	1.13	97.41	94.00
1313.00	0.62	204.00	1312.27	27.21	21.75 S 27.49 E	35.06@ 128.35	0.25	101.02	95.00
1406.00	0.62	210.28	1405.27	26.74	22.65 S 27.03 E	35.27@ 129.95	0.07	101.02	93.00
1501.00	0.70	196.50	1500.26	26.31	23.65 S 26.61 E	35.60@ 131.63	0.19	101.02	95.00
1596.00	0.62	279.68	1595.25	25.63	24.12 S 25.94 E	35.42@ 132.92	0.92	104.64	95.00
1690.00	0.70	291.64	1689.25	24.60	23.82 S 24.90 E	34.46@ 133.73	0.17	101.02	94.00
1785.00	0.88	278.36	1784.24	23.34	23.50 S 23.64 E	33.34@ 134.83	0.27	104.64	95.00
1879.00	1.06	278.30	1878.23	21.77	23.27 S 22.07 E	32.07@ 136.52	0.19	104.64	94.00
1974.00	1.06	263.75	1973.21	20.03	23.24 S 20.33 E	30.87@ 138.83	0.28	104.64	95.00
2068.00	1.41	301.13	2067.19	18.18	22.74 S 18.47 E	29.29@ 140.91	0.91	108.25	94.00
2162.00	1.76	304.83	2161.15	16.02	21.31 S 16.30 E	26.83@ 142.60	0.39	111.87	94.00
2257.00	1.23	315.54	2256.12	14.13	19.75 S 14.38 E	24.44@ 143.94	0.63	115.48	95.00
2351.00	0.53	351.49	2350.11	13.38	18.60 S 13.61 E	23.05@ 143.80	0.91	111.87	94.00
2445.00	0.35	329.51	2444.11	13.17	17.93 S 13.40 E	22.38@ 143.21	0.26	115.48	94.00
2539.00	0.35	286.89	2538.11	12.76	17.59 S 12.98 E	21.87@ 143.58	0.27	115.48	94.00

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP
 DOC BHU STATE COM #5H / API# 30-015-39792
 CORRAL DRAW; BONE SPRINGS
 RIG:PATRIOT 5

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)	TEMP (F)	Course Length (ft)
2633.00	0.35	269.23	2632.10	12.20	17.51 S	12.42 E	21.47@	144.66	0.11	115.48	94.00
2727.00	0.53	243.49	2726.10	11.52	17.71 S	11.75 E	21.25@	146.45	0.28	115.48	94.00
2821.00	0.62	240.04	2820.10	10.68	18.16 S	10.92 E	21.19@	148.99	0.10	115.48	94.00
2916.00	0.97	207.11	2915.09	9.86	19.13 S	10.10 E	21.64@	152.16	0.59	115.48	95.00
3010.00	0.62	214.58	3009.08	9.19	20.26 S	9.45 E	22.36@	154.99	0.39	111.87	94.00
3104.00	0.70	308.49	3103.07	8.45	20.32 S	8.71 E	22.11@	156.79	1.03	115.48	94.00
3199.00	0.70	273.77	3198.07	7.43	19.92 S	7.68 E	21.35@	158.92	0.44	115.48	95.00
3294.00	0.88	303.53	3293.06	6.25	19.48 S	6.49 E	20.53@	161.56	0.46	111.87	95.00
3388.00	0.88	309.63	3387.05	5.10	18.62 S	5.34 E	19.37@	164.01	0.10	104.64	94.00
3482.00	0.88	322.06	3481.04	4.11	17.59 S	4.34 E	18.12@	166.15	0.20	108.25	94.00
3577.00	0.97	321.05	3576.02	3.17	16.39 S	3.38 E	16.74@	168.34	0.10	108.25	95.00
3671.00	1.06	326.80	3670.01	2.21	15.05 S	2.41 E	15.24@	170.91	0.14	111.87	94.00
3766.00	1.06	329.76	3764.99	1.31	13.55 S	1.48 E	13.63@	173.76	0.06	111.87	95.00
3861.00	1.14	329.88	3859.98	0.41	11.97 S	0.57 E	11.99@	177.29	0.08	111.87	95.00
3955.00	0.79	25.48	3953.96	0.24	10.58 S	0.38 E	10.59@	177.97	1.01	111.87	94.00
4049.00	0.79	51.01	4047.96	1.04	9.59 S	1.16 E	9.66@	173.11	0.37	111.87	94.00
4143.00	0.79	48.30	4141.95	2.03	8.75 S	2.15 E	9.01@	166.22	0.04	111.87	94.00
4238.00	0.79	52.13	4236.94	3.05	7.91 S	3.15 E	8.52@	158.28	0.06	111.87	95.00
4333.00	1.06	18.80	4331.93	3.87	6.68 S	3.95 E	7.76@	149.38	0.62	115.48	95.00
4428.00	1.14	350.59	4426.91	4.02	4.91 S	4.08 E	6.39@	140.29	0.57	115.48	95.00
4523.00	1.14	347.99	4521.89	3.69	3.06 S	3.73 E	4.82@	129.34	0.05	115.48	95.00
4617.00	1.23	344.92	4615.87	3.26	1.17 S	3.27 E	3.47@	109.64	0.12	115.48	94.00
4712.00	1.23	342.58	4710.85	2.71	0.79 N	2.70 E	2.81@	73.70	0.05	115.48	95.00
4807.00	1.23	344.27	4805.83	2.15	2.74 N	2.12 E	3.47@	37.68	0.04	115.48	95.00
4993.00	1.41	336.43	4991.78	0.75	6.76 N	0.66 E	6.80@	5.60	0.14	111.87	186.00
5087.00	1.32	330.06	5085.75	-0.23	8.76 N	0.34 W	8.77@	357.78	0.19	115.48	94.00
5181.00	0.79	317.33	5179.73	-1.19	10.18 N	1.32 W	10.26@	352.61	0.61	115.48	94.00

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP
 DOC BHU STATE COM #5H / API# 30-015-39792
 CORRAL DRAW; BONE SPRINGS
 RIG: PATRIOT 5

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)	TEMP (F)	Course Length (ft)
5275.00	0.44	228.07	5273.73	-1.89	10.41 N	2.03 W	10.61@	348.98	0.96	119.09	94.00
5463.00	0.62	232.33	5461.72	-3.25	9.31 N	3.37 W	9.90@	340.10	0.10	119.09	188.00
5558.00	0.79	231.76	5556.72	-4.18	8.59 N	4.29 W	9.60@	333.46	0.18	122.71	95.00
5653.00	1.14	216.65	5651.70	-5.27	7.42 N	5.37 W	9.16@	324.13	0.45	122.71	95.00
5747.00	0.62	194.49	5745.69	-5.97	6.18 N	6.05 W	8.65@	315.60	0.65	122.71	94.00
5935.00	1.06	185.86	5933.67	-6.44	3.47 N	6.49 W	7.35@	298.13	0.24	126.32	188.00
6124.00	1.06	193.06	6122.64	-7.06	0.03 N	7.06 W	7.06@	270.20	0.07	126.32	189.00
6218.00	0.44	213.45	6216.63	-7.47	1.12 S	7.46 W	7.54@	261.43	0.71	129.94	94.00
6312.00	0.44	203.68	6310.63	-7.82	1.75 S	7.80 W	7.99@	257.32	0.08	129.94	94.00
6406.00	0.53	175.51	6404.62	-7.94	2.52 S	7.91 W	8.30@	252.34	0.27	129.94	94.00
6500.00	0.70	163.83	6498.62	-7.76	3.50 S	7.72 W	8.47@	245.58	0.22	133.55	94.00
6594.00	0.79	161.31	6592.61	-7.41	4.67 S	7.35 W	8.71@	237.57	0.10	133.55	94.00
6707.00	0.97	157.49	6705.60	-6.81	6.29 S	6.73 W	9.21@	226.94	0.17	122.71	113.00
6801.00	0.62	157.22	6799.59	-6.33	7.49 S	6.23 W	9.75@	219.74	0.37	122.71	94.00
6896.00	0.70	139.63	6894.58	-5.76	8.41 S	5.66 W	10.14@	213.92	0.23	126.32	95.00
6990.00	0.53	155.71	6988.58	-5.22	9.24 S	5.11 W	10.56@	208.91	0.26	129.94	94.00
7083.00	0.53	221.81	7081.57	-5.34	9.96 S	5.22 W	11.24@	207.64	0.62	129.94	93.00
7190.00	0.70	220.31	7188.57	-6.11	10.82 S	5.97 W	12.36@	208.87	0.16	126.32	107.00
7283.00	0.70	229.55	7281.56	-6.92	11.63 S	6.77 W	13.45@	210.21	0.12	129.94	93.00
7377.00	0.44	205.18	7375.55	-7.51	12.33 S	7.36 W	14.35@	210.84	0.37	133.55	94.00
7471.00	1.41	151.90	7469.54	-7.14	13.67 S	6.97 W	15.34@	207.00	1.28	133.55	94.00
7495.00	1.58	160.91	7493.54	-6.90	14.25 S	6.72 W	15.75@	205.25	1.21	126.32	24.00
7527.00	1.85	134.41	7525.52	-6.40	15.02 S	6.21 W	16.26@	202.45	2.59	126.32	32.00
7558.00	4.57	97.27	7556.47	-4.82	15.53 S	4.62 W	16.20@	196.58	10.61	126.32	31.00
7590.00	8.62	88.29	7588.25	-1.16	15.62 S	0.96 W	15.65@	183.52	13.02	129.94	32.00
7621.00	12.31	89.13	7618.73	4.47	15.50 S	4.67 E	16.19@	163.24	11.91	129.94	31.00
7652.00	15.39	87.42	7648.83	11.89	15.26 S	12.08 E	19.47@	141.64	10.02	129.94	31.00

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP
 DOC BHU STATE COM #5H / API# 30-015-39792
 CORRAL DRAW, BONE SPRINGS
 RIG: PATRIOT 5

Page 04/06

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)	TEMP (F)	Course Length (ft)
7684.00	18.47	86.45	7679.44	21.20	14.76 S	21.39 E	25.99@	124.61	9.66	129.94	32.00
7715.00	21.10	85.17	7708.61	31.67	13.99 S	31.85 E	34.79@	113.71	8.60	129.94	31.00
7746.00	24.53	85.39	7737.18	43.66	13.00 S	43.83 E	45.71@	106.52	11.07	129.94	31.00
7776.00	28.49	84.77	7764.02	57.01	11.85 S	57.17 E	58.38@	101.71	13.23	133.55	30.00
7808.00	32.71	85.27	7791.55	73.25	10.44 S	73.39 E	74.13@	98.09	13.21	133.55	32.00
7839.00	36.05	85.24	7817.14	90.71	8.99 S	90.83 E	91.28@	95.65	10.78	133.55	31.00
7871.00	39.66	86.33	7842.40	110.31	7.55 S	110.41 E	110.67@	93.91	11.47	133.55	32.00
7902.00	43.09	87.62	7865.66	130.78	6.48 S	130.87 E	131.03@	92.83	11.40	133.55	31.00
7934.00	46.52	88.07	7888.36	153.32	5.63 S	153.40 E	153.51@	92.10	10.76	133.55	32.00
7965.00	50.21	88.18	7908.95	176.48	4.88 S	176.56 E	176.62@	91.58	11.91	137.17	31.00
7997.00	54.43	88.08	7928.51	201.79	4.05 S	201.86 E	201.90@	91.15	13.19	133.55	32.00
8028.00	58.56	88.72	7945.61	227.63	3.33 S	227.70 E	227.72@	90.84	13.43	133.55	31.00
8059.00	63.14	88.30	7960.71	254.70	2.63 S	254.75 E	254.77@	90.59	14.82	137.17	31.00
8091.00	67.71	88.40	7974.01	283.79	1.79 S	283.83 E	283.84@	90.36	14.28	137.17	32.00
8122.00	71.84	88.64	7984.73	312.87	1.04 S	312.91 E	312.91@	90.19	13.34	137.17	31.00
8154.00	75.36	88.29	7993.76	343.56	0.22 S	343.59 E	343.59@	90.04	11.05	137.17	32.00
8185.00	78.52	89.16	8000.77	373.75	0.46 N	373.78 E	373.78@	89.93	10.55	129.94	31.00
8217.00	83.01	89.30	8005.90	405.33	0.88 N	405.35 E	405.35@	89.88	14.04	129.94	32.00
8248.00	85.82	89.42	8008.92	436.18	1.22 N	436.20 E	436.20@	89.84	9.07	129.94	31.00
8311.00	88.99	89.67	8011.77	499.11	1.72 N	499.12 E	499.13@	89.80	5.05	133.55	63.00
8342.00	89.69	89.78	8012.13	530.10	1.87 N	530.12 E	530.12@	89.80	2.29	133.55	31.00
8437.00	90.57	90.56	8011.91	625.09	1.59 N	625.12 E	625.12@	89.85	1.24	137.17	95.00
8530.00	90.66	90.00	8010.91	718.07	1.14 N	718.11 E	718.11@	89.91	0.61	133.55	93.00
8625.00	90.75	89.80	8009.74	813.05	1.30 N	813.10 E	813.10@	89.91	0.23	137.17	95.00
8718.00	88.81	89.39	8010.10	906.05	1.96 N	906.10 E	906.10@	89.88	2.13	137.17	93.00
8812.00	88.29	89.43	8012.48	1000.02	2.93 N	1000.06 E	1000.06@	89.83	0.56	140.78	94.00
8907.00	87.67	88.89	8015.83	1094.96	4.32 N	1094.99 E	1095.00@	89.77	0.86	140.78	95.00

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP
 DOC BHU STATE COM #5H / API# 30-015-39792
 CORRAL DRAW; BONE SPRINGS
 RIG:PATRIOT 5

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)	TEMP (F)	Course Length (ft)
9000.00	88.29	88.85	8019.11	1187.90	6.15 N	1187.91 E	1187.93@	89.70	0.67	144.39	93.00
9094.00	87.93	88.26	8022.21	1281.84	8.52 N	1281.83 E	1281.86@	89.62	0.74	144.39	94.00
9189.00	88.20	88.55	8025.41	1376.77	11.16 N	1376.74 E	1376.79@	89.54	0.42	148.01	95.00
9283.00	88.37	88.78	8028.23	1470.73	13.35 N	1470.67 E	1470.74@	89.48	0.30	144.39	94.00
9377.00	88.37	88.87	8030.90	1564.68	15.28 N	1564.62 E	1564.69@	89.44	0.10	148.01	94.00
9472.00	90.22	89.51	8032.07	1659.67	16.62 N	1659.60 E	1659.68@	89.43	2.06	144.39	95.00
9566.00	88.81	88.71	8032.87	1753.67	18.08 N	1753.58 E	1753.67@	89.41	1.73	144.39	94.00
9660.00	88.46	88.47	8035.11	1847.63	20.39 N	1847.52 E	1847.63@	89.37	0.45	148.01	94.00
9754.00	88.64	89.09	8037.49	1941.60	22.39 N	1941.47 E	1941.60@	89.34	0.69	148.01	94.00
9849.00	89.60	89.63	8038.94	2036.58	23.46 N	2036.45 E	2036.59@	89.34	1.16	144.39	95.00
9943.00	89.60	89.42	8039.60	2130.58	24.24 N	2130.45 E	2130.58@	89.35	0.22	144.39	94.00
10037.00	89.60	89.55	8040.26	2224.58	25.08 N	2224.44 E	2224.58@	89.35	0.14	148.01	94.00
10131.00	90.13	89.79	8040.48	2318.58	25.62 N	2318.44 E	2318.58@	89.37	0.62	148.01	94.00
10226.00	89.69	89.29	8040.63	2413.57	26.38 N	2413.43 E	2413.58@	89.37	0.70	148.01	95.00
10320.00	90.66	89.21	8040.34	2507.57	27.61 N	2507.42 E	2507.58@	89.37	1.04	151.62	94.00
10414.00	89.96	88.83	8039.83	2601.57	29.22 N	2601.41 E	2601.57@	89.36	0.85	148.01	94.00
10509.00	89.78	88.87	8040.05	2696.57	31.13 N	2696.39 E	2696.57@	89.34	0.19	144.39	95.00
10572.00	89.25	89.19	8040.58	2759.56	32.20 N	2759.38 E	2759.56@	89.33	0.98	148.01	63.00
10634.00	88.37	89.02	8041.87	2821.55	33.16 N	2821.36 E	2821.55@	89.33	1.45	148.01	62.00
10697.00	87.41	89.02	8044.19	2884.51	34.24 N	2884.30 E	2884.51@	89.32	1.52	148.01	63.00
10792.00	88.29	89.23	8047.75	2979.44	35.69 N	2979.22 E	2979.44@	89.31	0.95	151.62	95.00
10886.00	88.20	88.67	8050.63	3073.39	37.41 N	3073.16 E	3073.39@	89.30	0.60	148.01	94.00
10980.00	87.85	89.17	8053.87	3167.33	39.18 N	3167.09 E	3167.33@	89.29	0.65	148.01	94.00
11073.00	87.58	88.94	8057.58	3260.26	40.71 N	3260.00 E	3260.26@	89.28	0.38	151.62	93.00
11168.00	87.58	89.20	8061.59	3355.17	42.26 N	3354.91 E	3355.17@	89.28	0.27	151.62	95.00
11262.00	87.93	89.22	8065.27	3449.10	43.55 N	3448.83 E	3449.10@	89.28	0.37	151.62	94.00
11357.00	88.29	89.57	8068.40	3544.05	44.55 N	3543.77 E	3544.05@	89.28	0.53	151.62	95.00

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP
 DOC BHU STATE COM #5H / API# 30-015-39792
 CORRAL DRAW; BONE SPRINGS
 RIG: PATRIOT 5

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)	TEMP (F)	Course Length (ft)
11451.00	89.34	89.82	8070.35	3638.02	45.05 N	3637.75 E	3638.02@	89.29	1.15	151.62	94.00
11547.00	90.04	90.16	8070.87	3734.01	45.07 N	3733.74 E	3734.02@	89.31	0.81	151.62	96.00
11641.00	90.48	90.50	8070.44	3828.00	44.53 N	3827.74 E	3828.00@	89.33	0.59	148.01	94.00
11735.00	90.04	90.27	8070.01	3921.98	43.90 N	3921.74 E	3921.98@	89.36	0.53	148.01	94.00
11757.00	89.69	89.13	8070.07	3943.98	44.01 N	3943.74 E	3943.98@	89.36	5.42	144.39	22.00
11852.00	90.22	89.06	8070.14	4038.98	45.51 N	4038.72 E	4038.98@	89.35	0.56	144.39	95.00
11946.00	89.43	89.24	8070.43	4132.98	46.91 N	4132.71 E	4132.98@	89.35	0.86	148.01	94.00
12041.00	89.96	89.33	8070.93	4227.97	48.09 N	4227.70 E	4227.98@	89.35	0.57	144.39	95.00
12135.00	89.69	89.44	8071.22	4321.97	49.10 N	4321.70 E	4321.98@	89.35	0.31	151.62	94.00
12229.00	89.16	89.85	8072.16	4415.96	49.68 N	4415.69 E	4415.97@	89.36	0.71	148.01	94.00
12323.00	88.29	89.48	8074.26	4509.94	50.23 N	4509.66 E	4509.94@	89.36	1.01	151.62	94.00
12418.00	88.90	89.79	8076.59	4604.91	50.84 N	4604.63 E	4604.91@	89.37	0.72	151.62	95.00
12513.00	88.64	88.52	8078.62	4699.88	52.24 N	4699.60 E	4699.89@	89.36	1.36	151.62	95.00
12607.00	88.11	88.15	8081.29	4793.83	54.97 N	4793.52 E	4793.84@	89.34	0.69	151.62	94.00
12702.00	88.90	88.48	8083.77	4888.79	57.76 N	4888.45 E	4888.79@	89.32	0.90	155.24	95.00
12797.00	88.90	88.82	8085.59	4983.76	60.00 N	4983.40 E	4983.76@	89.31	0.36	151.62	95.00
12892.00	89.08	88.45	8087.27	5078.74	62.26 N	5078.36 E	5078.74@	89.30	0.43	151.62	95.00
12987.00	88.99	88.37	8088.87	5173.72	64.90 N	5173.31 E	5173.72@	89.28	0.13	155.24	95.00
13081.00	87.93	88.40	8091.39	5267.67	67.55 N	5267.24 E	5267.67@	89.27	1.13	155.24	94.00
13175.00	88.11	88.34	8094.64	5361.60	70.22 N	5361.14 E	5361.60@	89.25	0.20	155.24	94.00
13270.00	88.11	89.31	8097.77	5456.55	72.16 N	5456.07 E	5456.55@	89.24	1.02	155.24	95.00
13364.00	90.57	90.23	8098.86	5550.53	72.54 N	5550.06 E	5550.53@	89.25	2.79	155.24	94.00
13459.00	89.87	90.57	8098.49	5645.51	71.88 N	5645.05 E	5645.51@	89.27	0.82	158.85	95.00
13553.00	89.69	91.56	8098.85	5739.46	70.13 N	5739.03 E	5739.46@	89.30	1.07	158.85	94.00
13648.00	89.60	92.11	8099.44	5834.36	67.09 N	5833.98 E	5834.37@	89.34	0.59	158.85	95.00
13722.00	89.96	92.10	8099.73	5908.27	64.37 N	5907.93 E	5908.28@	89.38	0.49	158.85	74.00
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 13800'MD.											
13800.00	89.96	92.10	8099.78	5986.18	61.51 N	5985.88 E	5986.20@	89.41	0.00	155.24	78.00



A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM CORPORATION		
LEASE / WELL No.:	DOC BHU STATE COM	#5 H	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY COUNTY	NM	USA
RIG:	PATRIOT 5		
API WELL No:	30-015-39792		
JOB No:	12MLD0168		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PATHFINDER ENERGY SERVICES		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.45	LWD Calculated:	7.417386
		Agreed Upon:	7.42
X =	669388.905000	Feet	Y = 419725.829000
		Feet	
SITE LATITUDE:	32.153228	SITE LONGITUDE:	103.91956
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	NAD83 / NM EAST
PROPOSED DRIFT DIRECTION:	89		
KELLY BUSHING ELEVATION:	26.5		
ALTITUDE:	3189	Feet	WATER DEPTH: N/A
		Feet	

TIE-IN SURVEY

MEASURED DEPTH:	600
DRIFT ANGLE:	2.99
DRIFT DIRECTION:	89.27
TRUE VERTICAL DEPTH:	599.78
VERTICAL SECTION:	11.99
RECTANGULAR COORDINATE (N / S) :	-5.41
RECTANGULAR COORDINATE (E / W) :	12.08
CLOSURE DISTANCE / DIRECTION:	
SURVEY CALCULATION METHOD:	AA ☐ MC ☒ RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	MULTI-SHOT GYRO SURVEYS
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO

WELL PLAN

KICKOFF DEPTH:	7534.6'	TOTAL DEPTH:	13825.4'
KICKOFF ANGLE:	0.0°	MAX ANGLE:	89.09°

PES Engineers:

G.SAKAS

K THURMAN

**Signature of both field engineers required if applicable

Directional Driller: IRBY LEJUENE

DATE: 16-Apr-2012



Company: YATES PETROLUEM	Operator: GARY SPARKS
Lease / Well: DOC BHU ST. COM 5H	Job Number: SVCO-120541
County/Parish: LEA	Probe Serial #: 411
State: NEW MEXICO	Proposed Direction: 89
Date: 4/18/2012	Mag. Declination: 7.45E TO GRID
API#	Rig / Rkb: PATRIOT 5/ RKB23FT
Dir. Company: PATHFINDER	Tie-in From: N/A

FIELD USE ONLY, DEFINITIVE SURVEY WILL COME FROM MS Survey OFFICES

TIE-IN Survey					
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Coordinates (+N/-S)	Coordinates (+E/-W)
0	0.00	0.00	0.00	0.00	0.00

Digital Multi-Shot Survey Report									
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S)	Coordinates (+E/-W)	Dog-Leg / 100 ft.	Closure Distance	Closure Direction
100	0.62	53.19	100.00	0.44	0.32	0.43	0.62	0.54	53.19°
200	0.86	84.29	199.99	1.63	0.72	1.61	0.46	1.77	65.86°
300	1.27	107.33	299.97	3.43	0.47	3.42	0.59	3.45	82.21°
400	1.81	122.26	399.94	5.80	-0.71	5.81	0.67	5.85	96.92°
500	2.04	125.08	499.88	8.56	-2.57	8.60	0.25	8.98	106.64°
600	2.99	129.13	599.78	11.99	-5.24	12.08	0.97	13.17	113.45°

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

Yates Petroleum Corporation
DOC BHU State Com #5H
PIERCE CROSSING; BONE SPRING, EAST
Rig:Patriot 5

Sat Apr 14 14:09:26 2012

Coordinates

Latitude: 32.153228 N (32 deg. 9 min. 11.6218 sec.)
Longitude: 103.919560 W (-103 deg. 55 min. 10.4172 sec.)
Elevation: 3215.50 feet.
Calculation Date: Apr/14/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.0405 degrees
Total Magnetic Field: 0.48454 gauss
Magnetic Declination: 7.638262 degrees
Horizontal Intensity: 0.241971 gauss

To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.638262 Degr.

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 669388.9050 feet
Y: 419725.8290 feet
True to Grid: (convergence) -0.220207 degrees
Magnetic to Grid: 7.418055 degrees

To Convert a Magnetic Dir. to a GRID dir. Add 7.418055 Degr.

7.41739

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM CORP
DOC BHU STATE COM #5H
CORRAL DRAW; BONE SPRINGS

Mon Apr 16 09:17:54 2012

Coordinates

Latitude: 32.153228 N (32 deg. 9 min. 11.6218 sec.)
Longitude: 103.919560 W (-103 deg. 55 min. 10.4172 sec.)
Elevation: 3215.50 feet.
Calculation Date: Apr/16/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.0404 degrees
Total Magnetic Field: 0.48453 gauss
Magnetic Declination: 7.637593 degrees
Horizontal Intensity: 0.241969 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.637593 Degr

Field
calculations.

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 669388.9050 feet
Y: 419725.8290 feet
True to Grid: (convergence) -0.220207 degrees
Magnetic to Grid: 7.417386 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.417386 Degr.