

PATHFINDER[®]

A Schlumberger Company

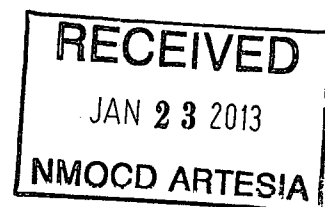
DIRECTIONAL SURVEY REPORT

15-38576

YATES PETROLEUM

ANTHILL "AAK" STATE COM #3H

EDDY COUNTY, NEW MEXICO



PREPARED BY: MARCUS MITCHAM

Pathfinder

6213 WCR. 112
Midland, Texas. 79706-3725, USA
Tel. (432) 687-1647
Fax (432) 687-1544

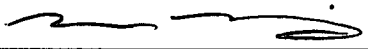


DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) BILL KITCHENS
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 12-28-12 TO 01-07-13
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM
ANTHILL "AAK" STATE COM #3H
EDDY COUNTY, NM
RIG: SILVER OAK 10
9. SURVEY CERTIFIED FROM: 5,644 TO 10,532 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 4626.27 FEET ON A BEARING OF 270.12 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 10,607 FEET,
ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



MARCUS MITCHAM
MWD COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 12/27/2012
Date Completed: 01/07/2013

YATES PETROLEUM
ANTHILL AAK STATE COM #3H
EDDY COUNTY COUNTY, NEW MEXICO
Rig:SILVER OAK #10
PathFinder Office Supervisor: MARCUS MITCHAM
PathFinder Field Engineers:B. KITCHENS
A. DARENSBURG

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.35.48.2975 N LON:104.2.17.3507 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 632242.4600 Y: 580954.2800
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.48° EAST TO GRID
Vertical Section Plane: 270.02
Survey Vert. Reference: 18.00' Kelly Bushing To Ground
Altitude:3297.00' Ground To MSL

Measured Depth	10607.00	(feet)
Inclination	91.89	(deg)
Azimuth	266.67	(deg)
True Vertical Depth	6033.02	(feet)
Vertical Section	4626.27	(feet)
Survey X cord	627623.29	(feet)
Survey Y cord	580960.95	(feet)
Survey Lat	32.59680197 N	(deg)
Survey Lon	104.05315183 W	(deg)
Rectangular Corr. N/S	10.03 N	(feet)
Rectangular Corr. E/W	4626.26 W	(feet)
Closure Distance	4626.27	(feet)
Direction of Closure	270.12	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

Page 01/04
Tie-in Date: 12/27/2012
Date Completed: 01/07/2013

YATES PETROLEUM
ANTHILL AAK STATE COM #3H
EDDY COUNTY COUNTY, NEW MEXICO
Rig:SILVER OAK #10
PathFinder Office Supervisor: MARCUS MITCHAM
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North Aligned To:GRID NORTH
Total Magnetic Correction: 7.48° EAST TO GRID
Vertical Section Plane: 270.02
Survey Vert. Reference: 18.00' Kelly Bushing To Ground
Altitude:3297.00' Ground To MSL

Survey Calculations by RX5 V6.04B using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL		Closure		DLS
						Rectangular (ft)	Offsets (ft)	Dist (ft)	Dir (deg)	
THE FOLLOWING ARE MULTISHOT ENERGY GYRO SURVEYS										
200.00	0.77	163.14	199.99	0.00	0.54	1.39 S	0.54 W	1.49@	201.23	0.00
400.00	0.48	172.16	399.98	200.00	0.04	3.51 S	0.04 W	3.51@	180.61	0.15
600.00	0.55	112.88	599.97	200.00	-0.96	4.71 S	0.96 E	4.81@	168.47	0.26
800.00	1.43	61.17	799.94	200.00	-4.03	3.88 S	4.03 E	5.60@	133.91	0.59
1000.00	3.42	54.71	999.75	200.00	-11.09	0.77 N	11.09 E	11.12@	86.04	1.00
1200.00	3.89	60.78	1199.35	200.00	-21.88	7.53 N	21.88 E	23.14@	71.02	0.30
1400.00	2.21	38.05	1399.06	200.00	-30.17	13.88 N	30.18 E	33.21@	65.31	1.02
1600.00	2.17	24.94	1598.92	200.00	-34.14	20.35 N	34.15 E	39.75@	59.22	0.25
1800.00	1.90	12.11	1798.79	200.00	-36.43	27.02 N	36.44 E	45.37@	53.44	0.26
2000.00	1.67	21.07	1998.70	200.00	-38.17	32.98 N	38.19 E	50.46@	49.18	0.18
2200.00	1.90	33.88	2198.60	200.00	-41.07	38.45 N	41.08 E	56.27@	46.89	0.23
2400.00	0.85	40.50	2398.54	200.00	-43.88	42.33 N	43.89 E	60.98@	46.04	0.53
2600.00	1.17	23.63	2598.51	200.00	-45.66	45.33 N	45.68 E	64.35@	45.22	0.22
2800.00	1.22	44.61	2798.47	200.00	-47.97	48.72 N	47.99 E	68.39@	44.57	0.22
3000.00	1.02	40.52	2998.43	200.00	-50.62	51.59 N	50.64 E	72.29@	44.47	0.11
3200.00	1.09	64.15	3198.40	200.00	-53.49	53.77 N	53.51 E	75.86@	44.86	0.22
3400.00	0.63	128.46	3398.38	200.00	-56.06	53.92 N	56.08 E	77.80@	46.13	0.50
3600.00	0.71	121.67	3598.36	200.00	-57.98	52.58 N	58.00 E	78.29@	47.80	0.06
3800.00	0.24	141.78	3798.36	200.00	-59.29	51.60 N	59.31 E	78.62@	48.98	0.25
4000.00	0.65	231.27	3998.35	200.00	-58.67	50.56 N	58.69 E	77.46@	49.25	0.35
4200.00	0.59	198.78	4198.34	200.00	-57.45	48.88 N	57.47 E	75.45@	49.62	0.18
4400.00	0.36	207.41	4398.33	200.00	-56.83	47.35 N	56.85 E	73.98@	50.21	0.12
4600.00	0.37	169.89	4598.33	200.00	-56.66	46.15 N	56.67 E	73.09@	50.84	0.12
4800.00	0.39	296.84	4798.33	200.00	-56.16	45.82 N	56.18 E	72.50@	50.80	0.34
5000.00	0.19	250.56	4998.32	200.00	-55.24	46.02 N	55.26 E	71.91@	50.21	0.15

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
 ANTHILL AAK STATE COM #3H
 EDDY COUNTY COUNTY, NEW MEXICO
 RIG:SILVER OAK #10

Page 02/04

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)
5200.00	0.17	283.15	5198.32	200.00	-54.64	45.98 N	54.66 E	71.42@	49.93	0.05
5400.00	0.30	337.89	5398.32	200.00	-54.16	46.53 N	54.17 E	71.41@	49.34	0.12
** TIED-IN TO MULTISHOT ENERGY SERVICES GYRO SURVEY AT 5525'MD										
5525.00	0.44	338.18	5523.32	125.00	-53.85	47.28 N	53.87 E	71.68@	48.73	0.11
THE FOLLOWING SURVEYS ARE PATHFINDER MWD SURVEYS.										
5613.00	0.44	318.79	5611.32	88.00	-53.51	47.85 N	53.52 E	71.79@	48.20	0.17
5644.00	1.14	283.63	5642.31	31.00	-53.13	48.01 N	53.14 E	71.62@	47.91	2.65
5676.00	4.13	269.75	5674.28	32.00	-51.66	48.08 N	51.68 E	70.59@	47.07	9.49
5708.00	8.35	268.16	5706.08	32.00	-48.19	48.00 N	48.21 E	68.03@	45.12	13.20
5739.00	12.75	267.02	5736.55	31.00	-42.52	47.75 N	42.54 E	63.95@	41.70	14.21
5771.00	17.24	266.67	5767.45	32.00	-34.26	47.29 N	34.27 E	58.40@	35.93	14.03
5803.00	21.72	266.14	5797.61	32.00	-23.61	46.62 N	23.62 E	52.26@	26.88	14.01
5834.00	25.32	267.11	5826.03	31.00	-11.26	45.90 N	11.28 E	47.26@	13.80	11.68
5866.00	28.58	268.78	5854.55	32.00	3.23	45.39 N	3.21 W	45.50@	355.95	10.46
5898.00	31.92	268.78	5882.19	32.00	19.34	45.04 N	19.33 W	49.02@	336.78	10.44
5930.00	35.53	268.52	5908.80	32.00	37.10	44.62 N	37.09 W	58.02@	320.27	11.29
5962.00	38.87	268.52	5934.29	32.00	56.44	44.12 N	56.42 W	71.63@	308.03	10.44
5993.00	41.77	268.60	5957.92	31.00	76.49	43.62 N	76.48 W	88.04@	299.70	9.36
6025.00	44.67	267.90	5981.24	32.00	98.39	42.95 N	98.38 W	107.34@	293.58	9.19
6056.00	47.75	267.11	6002.69	31.00	120.74	41.97 N	120.73 W	127.82@	289.17	10.10
6088.00	50.39	266.05	6023.65	32.00	144.87	40.52 N	144.86 W	150.42@	285.63	8.62
6120.00	53.20	265.44	6043.44	32.00	169.95	38.66 N	169.93 W	174.27@	282.82	8.91
6152.00	56.19	266.05	6061.93	32.00	195.99	36.72 N	195.97 W	199.38@	280.61	9.47
6183.00	59.79	266.93	6078.36	31.00	222.22	35.12 N	222.21 W	224.96@	278.98	11.86
6215.00	62.61	267.46	6093.78	32.00	250.22	33.75 N	250.21 W	252.48@	277.68	8.93
6247.00	65.42	267.64	6107.80	32.00	278.96	32.52 N	278.95 W	280.84@	276.65	8.80
6281.00	67.88	267.29	6121.27	34.00	310.14	31.13 N	310.13 W	311.69@	275.73	7.30
6316.00	71.31	266.67	6133.47	35.00	342.89	29.40 N	342.88 W	344.14@	274.90	9.94

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
 ANTHILL AAK STATE COM #3H
 EDDY COUNTY COUNTY, NEW MEXICO
 RIG:SILVER OAK #10

Page 03/04

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)
6347.00	74.30	266.41	6142.63	31.00	372.45	27.62 N	372.44 W	373.46@	274.24	9.68
6378.00	77.29	266.05	6150.24	31.00	402.43	25.64 N	402.42 W	403.24@	273.65	9.71
6409.00	81.25	265.79	6156.01	31.00	432.81	23.47 N	432.80 W	433.43@	273.10	12.80
6440.00	84.06	266.05	6159.97	31.00	463.47	21.29 N	463.46 W	463.95@	272.63	9.10
6496.00	90.57	267.91	6162.60	56.00	519.30	18.34 N	519.29 W	519.62@	272.02	12.09
6558.00	91.01	268.54	6161.74	62.00	581.26	16.42 N	581.26 W	581.49@	271.62	1.24
6651.00	91.89	269.34	6159.39	93.00	674.21	14.70 N	674.21 W	674.37@	271.25	1.28
6745.00	91.98	269.90	6156.21	94.00	768.16	14.08 N	768.15 W	768.28@	271.05	0.60
6840.00	91.28	269.35	6153.51	95.00	863.12	13.46 N	863.11 W	863.22@	270.89	0.94
6935.00	91.10	269.49	6151.54	95.00	958.09	12.50 N	958.09 W	958.17@	270.75	0.24
7027.00	91.10	268.93	6149.77	92.00	1050.06	11.23 N	1050.06 W	1050.12@	270.61	0.61
7120.00	91.01	269.26	6148.06	93.00	1143.03	9.76 N	1143.03 W	1143.07@	270.49	0.37
7214.00	90.75	270.42	6146.62	94.00	1237.02	9.50 N	1237.02 W	1237.05@	270.44	1.26
7308.00	90.66	271.55	6145.46	94.00	1331.00	11.11 N	1331.00 W	1331.04@	270.48	1.20
7400.00	91.45	270.91	6143.77	92.00	1422.96	13.09 N	1422.96 W	1423.02@	270.53	1.11
7495.00	91.19	270.97	6141.58	95.00	1517.92	14.65 N	1517.92 W	1517.99@	270.55	0.28
7588.00	91.63	269.38	6139.29	93.00	1610.89	14.93 N	1610.89 W	1610.96@	270.53	1.77
7681.00	91.71	269.76	6136.58	93.00	1703.85	14.23 N	1703.85 W	1703.90@	270.48	0.42
7774.00	91.19	269.19	6134.23	93.00	1796.82	13.38 N	1796.81 W	1796.86@	270.43	0.83
7868.00	90.92	268.96	6132.49	94.00	1890.79	11.86 N	1890.78 W	1890.82@	270.36	0.38
7961.00	91.10	268.75	6130.86	93.00	1983.75	10.01 N	1983.75 W	1983.77@	270.29	0.30
8054.00	91.28	268.65	6128.92	93.00	2076.71	7.90 N	2076.71 W	2076.72@	270.22	0.22
8147.00	91.10	268.82	6126.99	93.00	2169.66	5.84 N	2169.66 W	2169.67@	270.15	0.27
8241.00	91.89	268.52	6124.54	94.00	2263.61	3.66 N	2263.60 W	2263.61@	270.09	0.90
8335.00	91.36	268.75	6121.87	94.00	2357.54	1.42 N	2357.54 W	2357.54@	270.03	0.61
8428.00	91.01	268.76	6119.95	93.00	2450.50	0.60 S	2450.50 W	2450.50@	269.99	0.38
8521.00	90.40	267.64	6118.81	93.00	2543.44	3.52 S	2543.44 W	2543.45@	269.92	1.37
8615.00	91.10	266.98	6117.58	94.00	2637.33	7.93 S	2637.33 W	2637.34@	269.83	1.02

PathFinder Energy Services, Inc.

Survey Report

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 EDDY COUNTY COUNTY, NEW MEXICO
 RIG:SILVER OAK #10

Page 04/04

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets		Closure Dist Dir		DLS (dg/100ft)
(ft)	(deg)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(deg)	(dg/100ft)
8709.00	91.89	268.99	6115.12	94.00	2731.23	11.23 S	2731.23 W	2731.26@	269.76	2.30
8802.00	92.42	270.97	6111.63	93.00	2824.16	11.26 S	2824.16 W	2824.19@	269.77	2.20
8895.00	92.07	271.20	6107.98	93.00	2917.07	9.51 S	2917.08 W	2917.09@	269.81	0.45
8989.00	92.33	271.94	6104.37	94.00	3010.97	6.93 S	3010.97 W	3010.98@	269.87	0.83
9082.00	92.42	272.01	6100.52	93.00	3103.83	3.73 S	3103.84 W	3103.84@	269.93	0.12
9175.00	92.15	271.85	6096.81	93.00	3196.71	0.60 S	3196.71 W	3196.71@	269.99	0.34
9267.00	91.98	272.12	6093.50	92.00	3288.59	2.58 N	3288.59 W	3288.59@	270.05	0.35
9353.00	91.28	271.50	6091.05	86.00	3374.52	5.30 N	3374.51 W	3374.52@	270.09	1.09
9447.00	92.33	271.86	6088.09	94.00	3468.43	8.05 N	3468.43 W	3468.44@	270.13	1.18
9542.00	92.24	272.21	6084.30	95.00	3563.29	11.42 N	3563.29 W	3563.31@	270.18	0.38
9636.00	92.33	273.17	6080.56	94.00	3657.12	15.83 N	3657.11 W	3657.15@	270.25	1.03
9729.00	92.95	272.47	6076.27	93.00	3749.91	20.40 N	3749.90 W	3749.95@	270.31	1.00
9822.00	93.21	271.68	6071.27	93.00	3842.71	23.77 N	3842.70 W	3842.78@	270.35	0.89
9916.00	93.12	271.06	6066.08	94.00	3936.54	26.01 N	3936.53 W	3936.62@	270.38	0.67
10011.00	92.86	270.62	6061.13	95.00	4031.40	27.40 N	4031.39 W	4031.49@	270.39	0.54
10104.00	93.47	270.62	6055.99	93.00	4124.25	28.41 N	4124.24 W	4124.34@	270.39	0.66
10197.00	92.95	269.13	6050.79	93.00	4217.11	28.20 N	4217.10 W	4217.19@	270.38	1.69
10290.00	93.12	267.99	6045.86	93.00	4309.94	25.87 N	4309.93 W	4310.01@	270.34	1.24
10384.00	92.59	267.37	6041.18	94.00	4403.75	22.07 N	4403.74 W	4403.80@	270.29	0.87
10478.00	92.07	266.93	6037.36	94.00	4497.55	17.40 N	4497.55 W	4497.58@	270.22	0.72
10532.00	91.89	266.67	6035.49	54.00	4551.43	14.39 N	4551.43 W	4551.45@	270.18	0.59
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 10607.00'MD.										
10607.00	91.89	266.67	6033.02	75.00	4626.27	10.03 N	4626.26 W	4626.27@	270.12	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.:	ANTHILL "AAK" STATE COM	#3H	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY COUNTY	NEW MEXICO	USA
RIG:	SILVER OAK #10		
API WELL No:	30-015-38576		
JOB No:	12MLD0500		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PATHFINDER		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.53	LWD Calculated:	7.48
Agreed Upon:		7.48	
X =	632242.480000	Feet	Y =
580954.280000		Feet	
SITE LATITUDE:	32.59674	SITE LONGITUDE:	104.03813
GRID SYSTEM:	TRUE ☐ UTM ☐ LAMBERT ☒	ZONE:	NEW MEXICO EAST
PROPOSED DRIFT DIRECTION:	270.02		
KELLY BUSHING ELEVATION:	18		
ALTITUDE:	3297	Feet	WATER DEPTH:
		Feet	

TIE-IN SURVEY

MEASURED DEPTH:	5525		
DRIFT ANGLE:	0.44		
DRIFT DIRECTION:	338.18		
TRUE VERTICAL DEPTH:	5523.32		
VERTICAL SECTION:	47.28		
RECTANGULAR COORDINATE (N / S) :	47.28		
RECTANGULAR COORDINATE (E / W) :	53.87		
CLOSURE DISTANCE / DIRECTION:	71.68	48.73	
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:	5686	TOTAL DEPTH:	10587
KICKOFF ANGLE:	0	MAX ANGLE:	91.38

PES Engineers:

B. KITCHENS

**Signature of both field engineers required if applicable

A. DARENSBURG

Directional Driller: R. HILL,

DATE: 27-Dec-2012



Company: Yates Petroleum Corporation Lease / Well: Anthill AAK State Com. #3H County/Parish: Eddy County State: New Mexico Date: 2012/12/26 API#: 30-015-38576 Dir. Company: N/A	Operator: Daniel West Job Number: SVMO-120153 Gyro Serial #: 118 Proposed Direction: 0 Mag. Declination: 7.53 East to Grid Rig/RKB: Silver Oak #10 Tie-in Company: N/A
---	---

18 ft.

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) (+E/-W)

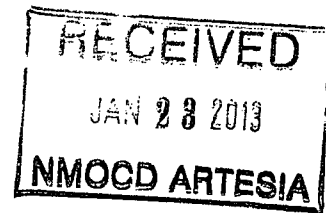
Digital Multi-Shot Survey Report									
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S) (+E/-W)	Dog-Leg / 100 ft.	Closure Distance	Closure Direction	
200.00	0.77	183.14	199.99	-1.34	-1.34 -0.07	0.39	1.34	183.14	
400.00	0.48	172.16	399.98	-3.51	-3.51 -0.03	0.16	3.51	180.54	
600.00	0.55	112.88	599.98	-4.72	-4.72 0.97	0.26	4.81	168.43	
800.00	1.43	61.17	799.95	-3.89	-3.89 4.04	0.59	5.60	133.91	
1000.00	3.42	54.71	999.76	0.76	0.76 11.09	1.00	11.12	86.06	
1200.00	3.89	60.78	1199.35	7.52	7.52 21.88	0.30	23.14	71.03	
1400.00	2.21	38.05	1399.07	13.87	13.87 30.18	1.02	33.22	65.32	
1600.00	2.17	24.94	1598.92	20.34	20.34 34.15	0.25	39.75	59.22	
1800.00	1.90	12.11	1798.80	27.02	27.02 36.45	0.26	45.37	53.45	
2000.00	1.67	21.07	1998.70	32.98	32.98 38.19	0.18	50.46	49.19	
2200.00	1.90	33.88	2198.60	38.45	38.45 41.09	0.23	56.27	46.90	
2400.00	0.85	40.50	2398.54	42.33	42.33 43.90	0.53	60.98	46.04	
2600.00	1.17	23.63	2598.51	45.33	45.33 45.68	0.22	64.35	45.22	
2800.00	1.22	44.61	2798.47	48.72	48.72 47.99	0.22	68.39	44.57	
3000.00	1.02	40.52	2998.43	51.59	51.59 50.64	0.11	72.29	44.47	
3200.00	1.09	64.15	3198.40	53.77	53.77 53.51	0.22	75.86	44.86	
3400.00	0.63	128.46	3398.38	53.91	53.91 56.09	0.50	77.80	46.13	
3600.00	0.71	121.67	3598.37	52.58	52.58 58.00	0.06	78.29	47.81	
3800.00	0.24	141.78	3798.36	51.60	51.60 59.32	0.25	78.62	48.98	
4000.00	0.65	231.27	3998.35	50.56	50.56 58.69	0.35	77.47	49.26	
4200.00	0.59	198.78	4198.34	48.88	48.88 57.47	0.18	75.45	49.62	
4400.00	0.36	207.41	4398.34	47.34	47.34 56.85	0.12	73.98	50.21	
4600.00	0.37	169.89	4598.33	46.15	46.15 56.68	0.12	73.09	50.85	
4800.00	0.39	296.84	4798.33	45.82	45.82 56.18	0.34	72.50	50.80	
5000.00	0.19	250.56	4998.33	46.02	46.02 55.26	0.15	71.91	50.21	
5200.00	0.17	283.15	5198.33	45.98	45.98 54.66	0.05	71.43	49.93	
5400.00	0.30	337.89	5398.32	46.53	46.53 54.17	0.12	71.41	49.34	
5525.00	0.44	338.18	5523.32	47.28	47.28 53.87	0.11	71.68	48.73	

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM
ANTHILL AAK STATE COM #3H
EDDY COUNTY, NM
Rig:SILVER OAK #10

Thu Jan 10 09:33:13 2013



Coordinates

Latitude: 32.596749 N (32 deg. 35 min. 48.2975 sec.)
Longitude: 104.038153 W (-104 deg. 2 min. 17.3507 sec.)
Elevation: 3315.00 feet.
Calculation Date: Dec/26/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.4139 degrees
Total Magnetic Field: 0.48637 gauss
Magnetic Declination: 7.641031 degrees
Horizontal Intensity: 0.240135 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.641031 Degs

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 632242.4600 feet
Y: 580954.2800 feet
True to Grid: (convergence) -0.159021 degrees
Magnetic to Grid: 7.482009 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.482009 Degs.