

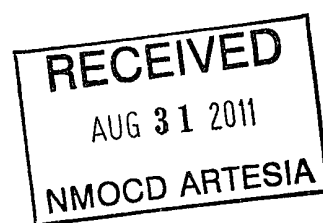


An Operating Unit of Smith International, Inc.

DIRECTIONAL SURVEY REPORT

30-015-37551

YATES PETROLEUM
BEBOP BPE STATE COM #1H
EDDY COUNTY, NEW MEXICO



PREPARED BY: FRANCISCO SINISTERRA

Pathfinder

6213 W Interstate 20
Midland, Texas 79706
Tel 432 687 1647
Fax 432 687 1544

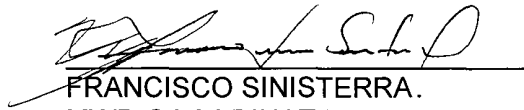


DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) CHRIS ALEX
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 03-19-11 TO 04-14-11
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
BEBOP BPE STATE COM #1H
EDDY COUNTY, NM
RIG: PATTERSON #36
9. SURVEY CERTIFIED FROM: 7370 TO 12710 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4241.66 FEET ON A BEARING OF 175.51 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 12760 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: 03/29/2011
Date Completed: 04/14/2011

YATES PETROLEUM CORPORATION
BEBOP "BPE" STATE COM #1H
EDDY COUNTY, NEW MEXICO
Rig:Patterson 36
PathFinder Office Supervisor: Francisco Sinisterra
PathFinder Field Engineers:C. Sandifer
C. Alex

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.531.9041 N LON:103.44.20.9352 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 725344.5560 Y: 397784.5050
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.37° EAST TO GRID
Vertical Section Plane: 175.42
Survey Vert. Reference: 21.50' Kelly Bushing To Ground
Altitude:3313.00' Ground To MSL

Measured Depth	12760.00	(feet)
Inclination	89.69	(deg)
Azimuth	174.80	(deg)
True Vertical Depth	8795.98	(feet)
Vertical Section	4241.65	(feet)
Survey X cord	725676.45	(feet)
Survey Y cord	393555.85	(feet)
Survey Lat	32.08056676 N	(deg)
Survey Lon	103.73815233 W	(deg)
Rectangular Corr. N/S	4228.65 S	(feet)
Rectangular Corr. E/W	331.90 E	(feet)
Closure Distance	4241.66	(feet)
Direction of Closure	175.51	(deg)
Dogleg Severity	0.01	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION

BEBOP "BPE" STATE COM #1H

EDDY COUNTY, NEW MEXICO

Rig:Patterson 36

PathFinder Office Supervisor: Francisco Sinisterra

PathFinder Field Engineers: C. Sandifer

C. Alex

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:32.5.31.9041 N LON:103.44.20.9352 W

GRID Reference:NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 725344.5560 Y: 397784.5050

North Aligned To:GRID NORTH

Total Magnetic Correction: 7.37° EAST TO GRID

Vertical Section Plane: 175.42

Survey Vert. Reference: 21.50' Kelly Bushing To Ground

Altitude:3313.00' Ground To MSL

Survey Calculations by PathCalc v2.00 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 INTO MULTISHOT ENERGY SERVICES GYRO SURVEYS @ 7310' MD.										
7310.00	1.25	152.48	7308.82	0.00	19.47	21.56 S	25.35 W	33.28@	229.62	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
7370.00	0.88	178.14	7368.81	60.00	20.53	22.60 S	25.03 W	33.73@	227.92	0.99
7478.00	1.23	179.90	7476.79	108.00	22.51	24.59 S	25.00 W	35.07@	225.48	0.33
7573.00	1.32	175.42	7571.77	95.00	24.62	26.70 S	24.91 W	36.52@	223.02	0.14
7667.00	1.41	166.28	7665.74	94.00	26.85	28.90 S	24.55 W	37.92@	220.35	0.25
7762.00	1.41	162.85	7760.71	95.00	29.14	31.15 S	23.93 W	39.29@	217.53	0.09
7857.00	1.23	164.17	7855.69	95.00	31.28	33.25 S	23.31 W	40.61@	215.03	0.19
7951.00	1.23	159.33	7949.67	94.00	33.24	35.17 S	22.68 W	41.84@	212.82	0.11
8046.00	1.49	163.38	8044.64	95.00	35.43	37.30 S	21.96 W	43.29@	210.49	0.29
8141.00	1.32	160.04	8139.61	95.00	37.69	39.52 S	21.24 W	44.86@	208.26	0.20
8235.00	1.32	172.43	8233.59	94.00	39.82	41.61 S	20.73 W	46.48@	206.48	0.30
8247.00	1.32	166.36	8245.58	12.00	40.09	41.88 S	20.67 W	46.70@	206.27	1.16
8279.00	1.49	166.10	8277.57	32.00	40.87	42.64 S	20.49 W	47.31@	205.66	0.53
8310.00	4.40	171.81	8308.53	31.00	42.45	44.21 S	20.22 W	48.61@	204.58	9.42
8342.00	8.44	174.89	8340.32	32.00	46.03	47.76 S	19.84 W	51.72@	202.55	12.67
8373.00	12.93	176.56	8370.78	31.00	51.77	53.50 S	19.43 W	56.91@	199.96	14.52
8405.00	17.41	178.85	8401.65	32.00	60.14	61.86 S	19.12 W	64.75@	197.17	14.12
8437.00	21.54	180.34	8431.82	32.00	70.77	72.53 S	19.05 W	74.99@	194.72	13.00
8468.00	25.50	178.93	8460.24	31.00	83.11	84.89 S	18.96 W	86.99@	192.59	12.90
8500.00	29.46	177.18	8488.62	32.00	97.85	99.65 S	18.45 W	101.34@	190.49	12.63
8531.00	32.80	175.86	8515.15	31.00	113.87	115.64 S	17.47 W	116.95@	188.59	11.00
8563.00	35.26	174.80	8541.67	32.00	131.78	133.49 S	16.00 W	134.44@	186.84	7.91
8594.00	37.99	174.45	8566.55	31.00	150.27	151.90 S	14.27 W	152.56@	185.37	8.83
8626.00	41.50	173.61	8591.15	32.00	170.72	172.24 S	12.14 W	172.67@	184.03	11.10

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
BEBOP "BPE" STATE COM #1H
EDDY COUNTY, NEW MEXICO
RIG:Patterson 36

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)
8657.00	44.05	172.53	8613.90	31.00	191.75	193.14 S	9.59 W	193.37@	182.84	8.56
8689.00	46.43	171.74	8636.43	32.00	214.44	215.64 S	6.48 W	215.74@	181.72	7.64
8720.00	49.33	171.49	8657.22	31.00	237.38	238.39 S	3.12 W	238.41@	180.75	9.37
8752.00	52.14	171.25	8677.47	32.00	262.09	262.88 S	0.59 E	262.88@	179.87	8.80
8784.00	55.31	171.05	8696.40	32.00	287.81	288.37 S	4.56 E	288.40@	179.09	9.92
8815.00	58.30	171.26	8713.37	31.00	313.68	314.00 S	8.55 E	314.11@	178.44	9.66
8846.00	62.08	171.79	8728.78	31.00	340.51	340.60 S	12.51 E	340.83@	177.90	12.28
8878.00	65.95	171.65	8742.80	32.00	369.21	369.06 S	16.65 E	369.43@	177.42	12.10
8910.00	69.29	171.12	8754.98	32.00	398.72	398.31 S	21.09 E	398.87@	176.97	10.55
8941.00	71.23	170.49	8765.45	31.00	427.80	427.11 S	25.75 E	427.89@	176.55	6.54
8973.00	74.66	169.73	8774.84	32.00	458.26	457.24 S	31.01 E	458.29@	176.12	10.96
9004.00	78.96	169.10	8781.91	31.00	488.27	486.90 S	36.55 E	488.27@	175.71	14.01
9036.00	81.34	168.85	8787.38	32.00	519.59	517.85 S	42.58 E	519.60@	175.30	7.48
9067.00	83.62	168.91	8791.44	31.00	550.13	548.00 S	48.51 E	550.14@	174.94	7.36
9099.00	86.61	169.31	8794.16	32.00	581.81	579.31 S	54.53 E	581.87@	174.62	9.43
9194.00	89.60	171.11	8797.30	95.00	676.35	672.86 S	70.67 E	676.56@	174.00	3.67
9298.00	90.66	174.80	8797.07	104.00	780.24	776.05 S	83.42 E	780.53@	173.86	3.69
9393.00	89.87	175.42	8796.63	95.00	875.23	870.71 S	91.52 E	875.50@	174.00	1.06
9488.00	90.13	175.24	8796.63	95.00	970.23	965.39 S	99.26 E	970.48@	174.13	0.33
9581.00	90.75	175.77	8795.92	93.00	1063.23	1058.10 S	106.54 E	1063.45@	174.25	0.88
9675.00	88.81	174.36	8796.28	94.00	1157.22	1151.75 S	114.63 E	1157.44@	174.32	2.55
9770.00	89.16	173.75	8797.96	95.00	1252.18	1246.22 S	124.47 E	1252.42@	174.30	0.74
9865.00	89.96	174.98	8798.69	95.00	1347.16	1340.76 S	133.79 E	1347.41@	174.30	1.54
9960.00	89.60	176.03	8799.05	95.00	1442.15	1435.46 S	141.24 E	1442.39@	174.38	1.17
10054.00	89.52	176.12	8799.78	94.00	1536.15	1529.24 S	147.67 E	1536.35@	174.48	0.13
10149.00	90.22	176.47	8799.99	95.00	1631.13	1624.04 S	153.81 E	1631.31@	174.59	0.82
10244.00	90.84	177.18	8799.11	95.00	1726.10	1718.89 S	159.07 E	1726.23@	174.71	0.99
10338.00	90.22	176.47	8798.24	94.00	1820.07	1812.74 S	164.28 E	1820.17@	174.82	1.00

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
BEBOP "BPE" STATE COM #1H
EDDY COUNTY, NEW MEXICO
RIG:Patterson 36

Page 03/03

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)
10433.00	89.87	176.65	8798.17	95.00	1915.05	1907.57 S	169.98 E	1915.12@	174.91	0.41
10527.00	88.37	176.12	8799.61	94.00	2009.02	2001.37 S	175.91 E	2009.08@	174.98	1.69
10622.00	88.90	175.24	8801.87	95.00	2103.99	2096.07 S	183.06 E	2104.05@	175.01	1.08
10717.00	90.48	176.91	8802.39	95.00	2198.98	2190.84 S	189.56 E	2199.02@	175.05	2.42
10811.00	91.28	176.38	8800.94	94.00	2292.94	2284.66 S	195.06 E	2292.98@	175.12	1.02
10906.00	89.78	176.30	8800.07	95.00	2387.92	2379.46 S	201.13 E	2387.95@	175.17	1.58
11000.00	90.04	176.21	8800.21	94.00	2481.91	2473.26 S	207.27 E	2481.93@	175.21	0.29
11086.00	90.04	176.21	8800.15	86.00	2567.91	2559.07 S	212.95 E	2567.92@	175.24	0.00
11180.00	90.40	176.38	8799.79	94.00	2661.89	2652.88 S	219.03 E	2661.90@	175.28	0.42
11275.00	90.66	176.38	8798.91	95.00	2756.88	2747.68 S	225.02 E	2756.88@	175.32	0.27
11369.00	91.71	176.30	8796.97	94.00	2850.84	2841.47 S	231.02 E	2850.85@	175.35	1.12
11464.00	90.04	175.68	8795.52	95.00	2945.82	2936.22 S	237.67 E	2945.83@	175.37	1.88
11558.00	90.84	175.77	8794.80	94.00	3039.82	3029.96 S	244.67 E	3039.82@	175.38	0.86
11653.00	91.01	175.51	8793.26	95.00	3134.81	3124.67 S	251.89 E	3134.81@	175.39	0.33
11683.00	91.28	175.86	8792.66	30.00	3164.80	3154.58 S	254.15 E	3164.80@	175.39	1.47
11777.00	90.40	176.21	8791.29	94.00	3258.78	3248.34 S	260.65 E	3258.78@	175.41	1.01
11872.00	90.13	176.82	8790.85	95.00	3353.76	3343.17 S	266.42 E	3353.76@	175.44	0.70
11967.00	90.40	176.03	8790.41	95.00	3448.75	3437.98 S	272.35 E	3448.75@	175.47	0.88
12062.00	89.69	176.03	8790.33	95.00	3543.74	3532.75 S	278.92 E	3543.74@	175.49	0.75
12157.00	89.60	176.30	8790.92	95.00	3638.73	3627.54 S	285.28 E	3638.74@	175.50	0.30
12251.00	89.60	176.21	8791.58	94.00	3732.72	3721.33 S	291.42 E	3732.72@	175.52	0.10
12345.00	89.52	176.65	8792.30	94.00	3826.70	3815.15 S	297.27 E	3826.71@	175.54	0.48
12440.00	89.60	176.03	8793.03	95.00	3921.69	3909.95 S	303.34 E	3921.70@	175.56	0.66
12534.00	89.08	174.54	8794.11	94.00	4015.68	4003.62 S	311.06 E	4015.69@	175.56	1.68
12629.00	89.60	174.71	8795.21	95.00	4110.66	4098.20 S	319.96 E	4110.67@	175.54	0.58
12710.00	89.69	174.80	8795.71	81.00	4191.65	4178.86 S	327.36 E	4191.66@	175.52	0.16
STRAIGHT LINE PROJECTION TO BIT @ 12760' MD.										
12760.00	89.69	174.80	8795.98	50.00	4241.65	4228.65 S	331.90 E	4241.66@	175.51	0.01



A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	Yates Petroleum		
LEASE / WELL No.:	Bebop "BPE" State Com	#1H	
WELL LOCATION:	Eddy County, New Mexico		
COUNTY / STATE / COUNTRY:	Eddy County	New Mexico	United States
RIG:	Patterson UTI #36		
API WELL No:	30-015-37551		
JOB No:	700001944-WT-WT		
P.O. / AFE No.	101220		
DIRECTIONAL COMPANY:	Pathfinder		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.37	LWD Calculated:	7.37
Agreed Upon:		7.37	
X =	725344.556000	Feet	Y = 397784.505000
Feet			
SITE LATITUDE:	32° 5' 31.9041" N	SITE LONGITUDE:	103°44' 20.9352
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	NM-EAST
PROPOSED DRIFT DIRECTION:	175.42°		
KELLY BUSHING ELEVATION:	3334.5		
ALTITUDE:	3313	Feet	WATER DEPTH:
			Feet

TIE-IN SURVEY

MEASURED DEPTH:	7310
DRIFT ANGLE:	1.25
DRIFT DIRECTION:	152.48
TRUE VERTICAL DEPTH:	7308.82
VERTICAL SECTION:	19.47
RECTANGULAR COORDINATE (N / S) :	-21.56
RECTANGULAR COORDINATE (E / W) :	-25.35
CLOSURE DISTANCE / DIRECTION:	
SURVEY CALCULATION METHOD:	AA ☐ MC ☒ RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	MULTI SHOT ENERGY SERVICES
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO

WELL PLAN

KICKOFF DEPTH:	8100	TOTAL DEPTH:	12875
KICKOFF ANGLE:	0	MAX ANGLE:	90

PES Engineers: Chris Alex
Alex Castillo

**Signature of both field engineers required if applicable

Directional Driller: Phillip Garrison

DATE: 17-Mar-2011

MS ENERGY SERVICES
ODESSA, TEXAS

GYROSCOPIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

* **YATES PETROLEUM** *

JOB NUMBER: SVCO-110326
WELL NAME: BEBOP BPE STATE COM #1H
LOCATION: EDDY COUNTY, NEW MEXICO
SURVEY DATE: MARCH 29,2011
SURVEY ENGINEER: S. SMITH
MAGNETIC DECLINATION: 07.37 GRID NORTH
GYRO REFERENCE BEARING: GRID NORTH

VERTICAL SECTION CALCULATED IN A
PROPOSAL DIRECTION OF: 175.42
SURF. ELEVATION: 23

***** DEPTH MEASURED IN FEET *****

***** THIS DIRECTIONAL SURVEY REPORT IS *****
***** CORRECT TO THE BEST OF MY KNOWLEDGE *****
***** AND IS SUPPORTED BY ACTUAL FIELD DATA! *****

COMMENTS: PATTERSON 36 *****
RKB 23' *****
TBUSSELL@YATESPETROLEUM.COM*****
MIKEL@YATESPETROLEUM.COM *****

***** COMPANY REPRESENTATIVE *****

MS ENERGY SERVICES
ODESSA, TEXAS

JOB NUMBER: SVCO-110326

WELL NAME: BEBOP BPE STATE COM #1H

OUTRUN SURVEY
BY MINIMUM CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R PROP.	INCL	BEARING AZIMUTH	COORDINATES LATITUDE	DEPARTURE	D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION
0.0	0.00	0.00	0.000	00.00	000.00	0.00 N	0.00 E	0.00		0.00	AT 000.00
200.0	200.00	-0.20	0.389	00.25	292.49	0.17 N	0.40 W	0.13	0.25	0.44	AT 292.49
400.0	400.00	-0.42	1.649	00.50	267.13	0.29 N	1.68 W	0.15	0.29	1.70	AT 279.81
600.0	599.96	0.12	5.076	01.50	252.77	0.53 S	5.05 W	0.51	1.02	5.08	AT 264.02
800.0	799.89	0.42	10.233	01.50	271.42	1.24 S	10.17 W	0.24	0.49	10.24	AT 263.05
1000.0	999.84	-0.14	14.999	01.25	273.07	1.06 S	14.96 W	0.13	0.25	15.00	AT 265.96
1200.0	1199.77	-0.13	20.200	01.75	259.71	1.49 S	20.15 W	0.30	0.61	20.20	AT 265.78
1400.0	1399.71	-0.42	24.879	01.00	285.36	1.57 S	24.83 W	0.48	0.95	24.88	AT 266.38
1600.0	1599.68	-1.71	28.121	01.00	288.83	0.54 S	28.17 W	0.03	0.06	28.17	AT 268.89
1800.0	1799.66	-2.61	31.015	00.75	274.60	0.12 N	31.12 W	0.16	0.33	31.12	AT 270.23
2000.0	1999.65	-2.72	33.175	00.50	259.24	0.07 N	33.29 W	0.15	0.30	33.29	AT 270.11
2200.0	2199.64	-1.66	34.926	00.75	217.89	1.13 S	34.95 W	0.25	0.50	34.97	AT 268.15
2400.0	2399.60	1.02	37.156	01.25	213.53	3.98 S	36.96 W	0.25	0.51	37.17	AT 263.85
2600.0	2599.55	3.69	40.940	01.50	244.00	6.95 S	40.51 W	0.38	0.76	41.11	AT 260.27
2800.0	2799.48	4.96	45.976	01.50	258.64	8.61 S	45.43 W	0.19	0.38	46.24	AT 259.27
3000.0	2999.40	4.68	51.573	01.75	276.40	8.79 S	51.03 W	0.28	0.56	51.79	AT 260.23
3200.0	3199.35	2.85	55.793	01.00	311.02	7.30 S	55.39 W	0.54	1.09	55.87	AT 262.49
3400.0	3399.32	0.41	58.283	01.00	308.77	5.06 S	58.06 W	0.02	0.04	58.28	AT 265.02
3600.0	3599.30	-1.62	59.806	00.50	338.51	3.16 S	59.74 W	0.31	0.62	59.83	AT 266.98
3800.0	3799.29	-2.27	58.324	01.00	091.62	2.39 S	58.32 W	0.64	1.28	58.37	AT 267.65
4000.0	3999.19	0.53	53.098	02.50	122.26	4.77 S	52.89 W	0.86	1.72	53.10	AT 264.84
4200.0	4199.05	4.88	47.089	01.75	119.87	8.62 S	46.55 W	0.38	0.76	47.34	AT 259.51
4400.0	4398.99	7.82	43.317	01.00	129.49	11.25 S	42.55 W	0.39	0.78	44.02	AT 255.19
4600.0	4598.96	9.95	40.579	01.00	117.23	13.16 S	39.66 W	0.11	0.21	41.78	AT 251.64
4800.0	4798.93	11.71	37.563	01.00	113.95	14.67 S	36.51 W	0.03	0.06	39.34	AT 248.11
5000.0	4998.91	13.28	34.953	00.75	120.10	16.03 S	33.78 W	0.13	0.27	37.39	AT 244.61
5200.0	5198.89	14.74	32.777	00.75	118.24	17.31 S	31.50 W	0.01	0.02	35.94	AT 241.21
5400.0	5398.89	15.73	31.347	00.25	126.39	18.19 S	29.99 W	0.25	0.50	35.07	AT 238.77
5600.0	5598.88	16.21	30.626	00.25	111.40	18.60 S	29.23 W	0.03	0.07	34.65	AT 237.53
5800.0	5798.88	16.12	29.901	00.25	045.12	18.46 S	28.52 W	0.14	0.27	33.97	AT 237.09
6000.0	5998.88	15.42	29.697	00.25	338.27	17.74 S	28.37 W	0.14	0.28	33.46	AT 237.98
6200.0	6198.88	14.33	30.386	00.50	315.41	16.72 S	29.14 W	0.14	0.29	33.60	AT 240.16
6400.0	6398.87	13.34	31.233	00.25	314.56	15.79 S	30.07 W	0.13	0.25	33.96	AT 242.30
6600.0	6598.87	13.08	31.089	00.25	095.71	15.53 S	29.94 W	0.24	0.47	33.73	AT 242.60
6800.0	6798.87	13.43	30.311	00.25	122.48	15.80 S	29.14 W	0.06	0.12	33.15	AT 241.53
7000.0	6998.86	14.78	29.247	00.75	142.25	17.07 S	27.97 W	0.26	0.52	32.77	AT 238.60
7200.0	7198.84	17.48	27.838	01.00	152.02	19.65 S	26.35 W	0.15	0.29	32.87	AT 233.29
7310.0	7308.82	19.47	26.989	01.25	152.48	21.56 S	25.35 W	0.23	0.25	33.28	AT 229.62

 * THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF *
 * ***** *
 * 7310.00 FEET EQUALS 33.28 FEET AT 229.62 *
 * ***** *



A Schlumberger Company **PathFinder Energy Services, Inc.**

Magnetic & Grid Calculations

YATES PETROLEUM
BEBOP BPE STATE COM #1H
EDDY COUNTY, NEW MEXICO
Rig:PATTERSON 36

Wed Mar 16 16:13:37 2011

Coordinates

Latitude: 32.092196 N (32 deg. 5 min. 31.9041 sec.)
Longitude: 103.739149 W (-103 deg. 44 min. 20.9352 sec.)
Elevation: 3334.50 feet.
Calculation Date: Mar/16/2011

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.0413 degrees
Total Magnetic Field: 0.48543 gauss
Magnetic Declination: 7.683021 degrees
Horizontal Intensity: 0.242414 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.683021 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 725344.5560 feet
Y: 397784.5050 feet
True to Grid: (convergence) -0.315689 degrees
Magnetic to Grid: 7.367332 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.367332 Degr.