

Rec'd 9-19-12

PATHFINDER[®]

A Schlumberger Company

DIRECTIONAL SURVEY REPORT

30-015-38550

YATES PETROLEUM

GRANDE MIKE AZK STATE #3H

EDDY COUNTY, NEW MEXICO

PREPARED BY: JUAN ALCOCER

Pathfinder

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

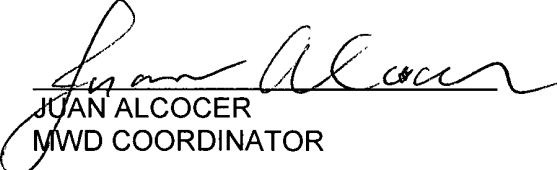


DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) TODD PISCIOTTA
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 7/12/12 TO 7/23/12
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
GRANDE MIKE AZK STATE #3H
EDDY COUNTY, NM
RIG: PATTERSON 511
9. SURVEY CERTIFIED FROM: 6,601 TO 11,667 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 4,739.91 FEET ON A BEARING OF 92.68 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 11,740 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: 07/11/2012
Date Completed: 07/23/2012

YATES PETROLEUM
GRANDE MIKE AZK STATE #3H / API #30-015-38550
EDDY COUNTY, NM
Rig:PATTERSON 511
PathFinder Office Supervisor: JUAN ALCOCER
PathFinder Field Engineers:T. PISCIOTTA
N. POND
E. LEE

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.57.22.6070 N LON:104.3.12.3800 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 627189.0060 Y: 711744.0220
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.58° EAST TO GRID
Vertical Section Plane: 92.72
Survey Vert. Reference: 18.00' Kelly Bushing To Ground
Altitude:3753.00' Ground To MSL

Measured Depth	11740.00	(feet)
Inclination	89.96	(deg)
Azimuth	94.34	(deg)
True Vertical Depth	7251.41	(feet)
Vertical Section	4739.91	(feet)
Survey X cord	631923.73	(feet)
Survey Y cord	711522.18	(feet)
Survey Lat	32.95563442 N	(deg)
Survey Lon	104.03800489 W	(deg)
Rectangular Corr. N/S	221.85 S	(feet)
Rectangular Corr. E/W	4734.72 E	(feet)
Closure Distance	4739.91	(feet)
Direction of Closure	92.68	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
 GRANDE MIKE AZK STATE #3H / API #30-015-38550
 EDDY COUNTY, NM
 Rig:PATTERSON 511
 PathFinder Office Supervisor: JUAN ALCOCER
 PathFinder Field Engineers: T. PISCIOTTA
 N. POND
 E. LEE

Survey Calculations by RX5 V6.04A using Minimum Curvature

Survey Horiz. Reference:WELLHEAD
 Ref Coordinates: LAT:32.57.22.6070 N LON:104.3.12.3800 W
 GRID Reference:NAD83 new mexico east Transverse Mercator
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 Vertical Section Plane: 92.72
 Survey Vert. Reference: 18.00' Kelly Bushing To Ground
 Altitude:3753.00' 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)
TIED-IN TO MS GYRO SURVEYS AT 6445' MD.										
6445.00	0.64	105.79	6444.38	0.00	8.14	63.24 N	11.15 E	64.22@	10.00	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS										
6601.00	1.14	88.53	6600.36	156.00	10.53	63.04 N	13.54 E	64.48@	12.12	0.36
6728.00	1.41	91.25	6727.33	127.00	13.35	63.04 N	16.36 E	65.13@	14.55	0.22
6760.00	5.28	93.54	6759.27	32.00	15.22	62.94 N	18.23 E	65.53@	16.15	12.10
6792.00	8.71	93.54	6791.03	32.00	19.12	62.70 N	22.12 E	66.49@	19.43	10.72
6823.00	12.49	94.15	6821.49	31.00	24.82	62.31 N	27.81 E	68.24@	24.05	12.20
6855.00	16.27	95.12	6852.48	32.00	32.76	61.66 N	35.72 E	71.26@	30.09	11.84
6887.00	20.22	95.65	6882.87	32.00	42.76	60.72 N	45.70 E	75.99@	36.97	12.36
6919.00	24.09	95.38	6912.50	32.00	54.81	59.56 N	57.71 E	82.93@	44.09	12.10
6950.00	27.79	94.33	6940.37	31.00	68.36	58.42 N	71.22 E	92.11@	50.64	12.03
6982.00	31.83	93.62	6968.13	32.00	84.26	57.32 N	87.08 E	104.26@	56.64	12.67
7014.00	36.05	93.36	6994.67	32.00	102.12	56.24 N	104.91 E	119.04@	61.81	13.20
7046.00	39.92	93.89	7019.89	32.00	121.81	54.99 N	124.56 E	136.16@	66.18	12.14
7077.00	42.91	95.25	7043.14	31.00	142.31	53.35 N	145.00 E	154.50@	69.80	10.07
7109.00	45.02	96.81	7066.17	32.00	164.48	51.01 N	167.09 E	174.70@	73.02	7.41
7141.00	47.31	97.60	7088.33	32.00	187.49	48.11 N	189.99 E	195.99@	75.79	7.37
7173.00	49.95	97.86	7109.48	32.00	211.41	44.88 N	213.78 E	218.44@	78.14	8.27
7205.00	53.29	97.94	7129.34	32.00	236.39	41.43 N	238.63 E	242.20@	80.15	10.44
7237.00	56.72	98.44	7147.69	32.00	262.48	37.70 N	264.57 E	267.24@	81.89	10.79
7268.00	59.79	98.74	7164.00	31.00	288.70	33.76 N	290.63 E	292.59@	83.37	9.94
7300.00	62.52	99.13	7179.44	32.00	316.56	29.41 N	318.32 E	319.67@	84.72	8.60
7332.00	64.72	98.77	7193.66	32.00	345.06	24.95 N	346.64 E	347.53@	85.88	6.95

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
GRANDE MIKE AZK STATE #3H / API #30-015-38550
EDDY COUNTY, NM
RIG:PATTERSON 511

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)
7364.00	67.18	98.43	7206.70	32.00	374.13	20.58 N	375.53 E	376.09@	86.86	7.75
7395.00	68.85	97.86	7218.30	31.00	402.74	16.51 N	403.98 E	404.32@	87.66	5.65
7427.00	71.75	97.45	7229.09	32.00	432.75	12.50 N	433.84 E	434.02@	88.35	9.14
7459.00	74.92	97.90	7238.26	32.00	463.29	8.40 N	464.21 E	464.29@	88.96	10.00
7491.00	77.21	98.44	7245.97	32.00	494.21	3.99 N	494.95 E	494.97@	89.54	7.34
7523.00	78.61	98.72	7252.67	32.00	525.33	0.68 S	525.89 E	525.89@	90.07	4.46
7555.00	81.60	98.57	7258.17	32.00	556.69	5.42 S	557.06 E	557.08@	90.56	9.36
7587.00	84.86	97.42	7261.94	32.00	588.32	9.84 S	588.52 E	588.60@	90.96	10.79
7618.00	86.70	95.87	7264.22	31.00	619.16	13.41 S	619.23 E	619.37@	91.24	7.75
7650.00	87.58	95.33	7265.82	32.00	651.08	16.53 S	651.03 E	651.24@	91.45	3.23
7708.00	87.58	95.57	7268.27	58.00	708.97	22.04 S	708.72 E	709.06@	91.78	0.41
7772.00	90.22	94.37	7269.50	64.00	772.90	27.58 S	772.46 E	772.95@	92.04	4.53
7835.00	90.04	94.67	7269.35	63.00	835.87	32.54 S	835.26 E	835.90@	92.23	0.56
7899.00	90.31	94.52	7269.16	64.00	899.83	37.67 S	899.06 E	899.85@	92.40	0.48
7962.00	91.54	93.84	7268.14	63.00	962.80	42.26 S	961.88 E	962.81@	92.52	2.23
8026.00	91.45	93.67	7266.47	64.00	1026.77	46.45 S	1025.72 E	1026.77@	92.59	0.30
8089.00	91.54	92.77	7264.83	63.00	1089.74	49.99 S	1088.60 E	1089.75@	92.63	1.44
8153.00	91.45	92.89	7263.16	64.00	1153.72	53.15 S	1152.50 E	1153.72@	92.64	0.23
8217.00	91.45	92.50	7261.54	64.00	1217.70	56.16 S	1216.41 E	1217.70@	92.64	0.61
8280.00	91.45	92.62	7259.94	63.00	1280.68	58.97 S	1279.32 E	1280.68@	92.64	0.19
8344.00	91.63	92.80	7258.22	64.00	1344.66	62.00 S	1343.23 E	1344.66@	92.64	0.40
8407.00	91.63	92.56	7256.43	63.00	1407.63	64.94 S	1406.14 E	1407.63@	92.64	0.38
8471.00	91.71	92.13	7254.57	64.00	1471.60	67.56 S	1470.05 E	1471.61@	92.63	0.68
8534.00	91.36	91.46	7252.88	63.00	1534.57	69.53 S	1533.00 E	1534.58@	92.60	1.20
8598.00	91.36	91.20	7251.36	64.00	1598.54	71.02 S	1596.97 E	1598.54@	92.55	0.41
8662.00	90.75	92.21	7250.18	64.00	1662.51	72.92 S	1660.93 E	1662.53@	92.51	1.84
8725.00	90.66	92.06	7249.41	63.00	1725.51	75.27 S	1723.88 E	1725.52@	92.50	0.28

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Survey Report

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GRANDE MIKE AZK STATE #3H / API #30-015-38550
EDDY COUNTY, NM
RIG:PATTERSON 511

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 (ft)	Dir (deg)	DLS (dg/100ft)
8789.00	90.57	92.04	7248.72	64.00	1789.50	77.56 S	1787.83 E	1789.51@	92.48	0.14
8852.00	90.57	91.78	7248.09	63.00	1852.49	79.65 S	1850.79 E	1852.51@	92.46	0.41
8916.00	90.57	91.57	7247.46	64.00	1916.47	81.53 S	1914.76 E	1916.50@	92.44	0.33
8979.00	90.57	91.69	7246.83	63.00	1979.46	83.32 S	1977.73 E	1979.49@	92.41	0.19
9043.00	90.48	91.58	7246.24	64.00	2043.45	85.14 S	2041.71 E	2043.48@	92.39	0.22
9106.00	90.57	91.45	7245.66	63.00	2106.43	86.81 S	2104.68 E	2106.47@	92.36	0.25
9170.00	90.57	91.67	7245.03	64.00	2170.41	88.55 S	2168.65 E	2170.46@	92.34	0.34
9234.00	90.04	92.83	7244.69	64.00	2234.41	91.06 S	2232.60 E	2234.46@	92.34	1.99
9298.00	90.13	92.82	7244.59	64.00	2298.41	94.22 S	2296.52 E	2298.46@	92.35	0.14
9361.00	90.22	92.97	7244.40	63.00	2361.41	97.40 S	2359.44 E	2361.45@	92.36	0.28
9424.00	89.60	92.66	7244.50	63.00	2424.41	100.49 S	2422.37 E	2424.45@	92.38	1.10
9488.00	89.08	91.82	7245.24	64.00	2488.40	103.00 S	2486.31 E	2488.45@	92.37	1.54
9552.00	88.99	92.83	7246.31	64.00	2552.39	105.59 S	2550.25 E	2552.44@	92.37	1.58
9615.00	89.60	93.51	7247.09	63.00	2615.38	109.07 S	2613.15 E	2615.43@	92.39	1.45
9679.00	89.78	93.67	7247.44	64.00	2679.37	113.08 S	2677.02 E	2679.41@	92.42	0.38
9742.00	90.57	94.06	7247.24	63.00	2742.36	117.33 S	2739.88 E	2742.39@	92.45	1.40
9806.00	90.84	93.75	7246.46	64.00	2806.34	121.69 S	2803.73 E	2806.37@	92.49	0.64
9869.00	90.75	93.89	7245.58	63.00	2869.32	125.88 S	2866.58 E	2869.34@	92.51	0.26
9933.00	90.57	93.55	7244.84	64.00	2933.31	130.04 S	2930.44 E	2933.32@	92.54	0.60
9997.00	90.75	93.59	7244.11	64.00	2997.30	134.02 S	2994.31 E	2997.31@	92.56	0.29
10065.00	90.75	93.60	7243.22	68.00	3065.28	138.28 S	3062.17 E	3065.29@	92.59	0.01
10124.00	90.75	93.13	7242.44	59.00	3124.28	141.75 S	3121.07 E	3124.28@	92.60	0.80
10188.00	90.75	93.11	7241.61	64.00	3188.27	145.23 S	3184.97 E	3188.27@	92.61	0.03
10251.00	90.75	93.35	7240.78	63.00	3251.26	148.78 S	3247.86 E	3251.27@	92.62	0.38
10315.00	90.84	93.15	7239.89	64.00	3315.25	152.41 S	3311.75 E	3315.26@	92.63	0.34
10378.00	90.92	92.96	7238.93	63.00	3378.24	155.76 S	3374.65 E	3378.25@	92.64	0.33
10441.00	90.66	92.80	7238.06	63.00	3441.24	158.93 S	3437.57 E	3441.24@	92.65	0.48

PathFinder Energy Services, Inc.

Survey Report

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GRANDE MIKE AZK STATE #3H / API #30-015-38550
EDDY COUNTY, NM
RIG:PATTERSON 511

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)	(ft)	(ft)	(deg)	
10505.00	90.92	92.70	7237.18	64.00	3505.23	162.00 S	3501.49 E	3505.23@	92.65	0.43
10569.00	90.66	92.64	7236.29	64.00	3569.22	164.98 S	3565.41 E	3569.23@	92.65	0.42
10632.00	89.52	92.29	7236.19	63.00	3632.22	167.69 S	3628.35 E	3632.23@	92.65	1.89
10696.00	89.52	92.27	7236.73	64.00	3696.22	170.24 S	3692.30 E	3696.22@	92.64	0.03
10759.00	89.25	92.31	7237.41	63.00	3759.21	172.75 S	3755.25 E	3759.22@	92.63	0.43
10823.00	89.34	92.10	7238.19	64.00	3823.21	175.22 S	3819.19 E	3823.21@	92.63	0.36
10886.00	89.43	92.50	7238.87	63.00	3886.20	177.74 S	3882.14 E	3886.21@	92.62	0.65
10950.00	89.52	92.20	7239.46	64.00	3950.20	180.37 S	3946.08 E	3950.20@	92.62	0.49
11013.00	89.60	92.08	7239.94	63.00	4013.19	182.72 S	4009.04 E	4013.20@	92.61	0.23
11077.00	89.69	91.99	7240.34	64.00	4077.18	184.99 S	4072.99 E	4077.19@	92.60	0.20
11140.00	90.04	92.24	7240.49	63.00	4140.18	187.32 S	4135.95 E	4140.19@	92.59	0.68
11203.00	89.96	91.84	7240.49	63.00	4203.18	189.56 S	4198.91 E	4203.19@	92.58	0.65
11267.00	88.46	92.44	7241.37	64.00	4267.17	191.95 S	4262.86 E	4267.18@	92.58	2.52
11330.00	87.58	92.62	7243.55	63.00	4330.13	194.73 S	4325.76 E	4330.14@	92.58	1.43
11394.00	87.32	93.26	7246.39	64.00	4394.06	198.01 S	4389.61 E	4394.07@	92.58	1.08
11458.00	88.64	94.12	7248.65	64.00	4458.01	202.12 S	4453.44 E	4458.02@	92.60	2.46
11522.00	88.81	93.74	7250.07	64.00	4521.98	206.51 S	4517.27 E	4521.99@	92.62	0.65
11585.00	89.52	93.71	7250.99	63.00	4584.96	210.60 S	4580.13 E	4584.97@	92.63	1.13
11649.00	89.87	94.15	7251.33	64.00	4648.95	214.99 S	4643.98 E	4648.95@	92.65	0.88
11667.00	89.96	94.34	7251.36	18.00	4666.94	216.32 S	4661.93 E	4666.95@	92.66	1.17
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 11740' MD.										
11740.00	89.96	94.34	7251.41	73.00	4739.91	221.85 S	4734.72 E	4739.91@	92.68	0.00



TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM CORPORATION		
LEASE / WELL No.:	GRANDE MIKE AZK ST. 3H		
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY	NEW MEXICO	USA
RIG:	PATTERSON 511		
API WELL No:	30-015-38550		
JOB No:	12MLD0359		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	P.E.S.		

WELL SITE INFORMATION

MAGNETIC DECLINATION:			
<i>On Wall Plat:</i>	7.62	<i>LWD Calculated:</i>	7.58
	<i>Agreed Upon:</i>	7.58	
X =	627189.006000	Feet	Y =
			711744.022000
		Feet	
SITE LATITUDE:	32.956280 N		SITE LONGITUDE:
			104.053439 W
GRID SYSTEM:	TRUE ☐	UTM ☒	LAMBERT ☐
	ZONE:		
PROPOSED DRIFT DIRECTION:	92.72		
KELLY BUSHING ELEVATION:	18		
ALTITUDE:	3749	Feet	WATER DEPTH:
			Feet

TIE-IN SURVEY

MEASURED DEPTH:	6445		
DRIFT ANGLE:	0.64		
DRIFT DIRECTION:	105.79		
TRUE VERTICAL DEPTH:	6444.38		
VERTICAL SECTION:	8.14		
RECTANGULAR COORDINATE (N / S) :	63.24		
RECTANGULAR COORDINATE (E / W) :	11.15		
CLOSURE DISTANCE / DIRECTION:	64.21	10	
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:	6782	TOTAL DEPTH:	11830
KICKOFF ANGLE:	0	MAX ANGLE:	92.73

PES Engineers: TODD PISCIOTTA

NICK POND

**Signature of both field engineers required if applicable

Directional Driller: _____

DATE: 11-Jul-2012



Company:	YATES PETROLEUM CORPORATION	Operator:	BRANDON MIKESKA
Lease / Well:	GRANDE MIKE AZK STATE #003H	Job Number:	SVCO-120991
County/Parish:	EDDY COUNTY	Probe Serial #:	142
State:	NEW MEXICO	Proposed Direction:	92.72
Date:	7/11/2012	Mag. Declination:	7.6 EAST TO GRID
API#:	30-015-38550	Rig / RKB:	PATTERSON 511 / 18.8'
Dir. Company:	PATHFINDER	Tie-in From:	SURVEY TAKEN FROM SURFACE

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

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

Digital Multi-Shot Survey Report									
Measured Inclination	Azimuth	Vertical	Vertical	Coordinates		Dog-Leg	Closure	Closure	
Depth (ft.)	Bearing	Depth	Section	(+N/-S)	(+E/-W)	/ 100 ft.	Distance	Direction	
200	0.54	82.47	200.00	0.93	0.12	0.93	0.27	0.94	82 47°
400	1.52	32.10	399.97	3.16	2.49	3.28	0.62	4.12	52.74°
600	1.64	30.90	599.89	5.81	7.20	6.16	0.06	9.47	40.55°
800	1.86	41.97	799.80	9.21	12.07	9.80	0.20	15.54	39.08°
1000	1.77	47.45	999.70	13.44	16.57	14.24	0.10	21.85	40.69°
1200	1.14	48.71	1199.63	17.05	19.97	18.01	0.32	26.89	42 05°
1400	0.82	43.73	1399.60	19.42	22.32	20.50	0.17	30.30	42.57°
1600	0.44	38.40	1599.59	20.80	23.95	21.96	0.19	32.50	42.52°
1800	0.27	355.04	1799.58	21.19	25.02	22.40	0.15	33.59	41.83°
2000	0.29	332.91	1999.58	20.87	25.94	22.13	0.05	34.10	40.46°
2200	0.51	313.21	2199.58	19.95	27.00	21.25	0.13	34.36	38.20°
2400	0.47	311.61	2399.57	18.63	28.16	19.99	0.02	34.53	35.37°
2600	0.59	333.52	2599.56	17.49	29.62	18.92	0.12	35.15	32.56°
2800	0.51	334.43	2799.55	16.56	31.35	18.07	0.04	36.19	29.96°
3000	0.62	323.37	2999.54	15.46	33.02	17.04	0.08	37.16	27.30°
3200	0.63	344.67	3199.53	14.43	34.95	16.11	0.12	38.48	24.74°
3400	0.64	351.65	3399.52	13.88	37.11	15.65	0.04	40.28	22.87°
3600	0.49	350.48	3599.51	13.48	39.06	15.35	0.08	41.97	21.45°
3800	0.57	351.42	3799.50	13.10	40.89	15.06	0.04	43.58	20.22°
4000	0.67	359.48	3999.49	12.84	43.04	14.90	0.07	45.55	19.10°
4200	0.33	351.24	4199.48	12.66	44.78	14.80	0.17	47.17	18.29°
4400	0.49	340.13	4399.47	12.22	46.16	14.42	0.09	48.36	17.36°
4600	0.75	331.55	4599.46	11.21	48.11	13.51	0.14	49.97	15.69°
4800	0.53	336.49	4799.45	10.13	50.11	12.52	0.11	51.65	14.03°
5000	0.45	2.12	4999.44	9.71	51.74	12.18	0.12	53.16	13.24°
5200	0.57	352.18	5199.43	9.52	53.51	12.07	0.07	54.86	12.71°
5400	0.60	354.14	5399.42	9.18	55.54	11.83	0.02	56.79	12.02°
5600	0.70	345.55	5599.41	8.66	57.77	11.42	0.07	58.88	11.18°
5800	0.84	341.52	5799.39	7.77	60.34	10.65	0.08	61.27	10.01°
6000	0.33	350.82	5999.38	7.12	62.30	10.09	0.26	63.11	9.20°
6200	0.21	357.76	6199.38	6.97	63.23	9.99	0.06	64.02	8.97°
6400	0.46	107.44	6399.38	7.72	63.36	10.74	0.28	64.26	9.62°
6445	0.64	105.79	6444.38	8.14	63.24	11.15	0.40	64.21	10.00°



A Schlumberger Company

PathFinder Energy Services, Inc. Magnetic & Grid Calculations

Yates Petroleum Corp.
Grande Mike AKZ State #3H
Eddy County, New Mexico
Rig:Patterson #511

Tue Jul 10 16:51:04 2012

Coordinates

Latitude: 32.956280 N (32 deg. 57 min. 22.6070 sec.)
Longitude: 104.053439 W (-104 deg. 3 min. 12.3800 sec.)
Elevation: 3767.00 feet.
Calculation Date: Jul/10/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.7531 degrees
Total Magnetic Field: 0.48894 gauss
Magnetic Declination: 7.733131 degrees
Horizontal Intensity: 0.238883 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.733131 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 627189.0060 feet
Y: 711744.0220 feet
True to Grid: (convergence) -0.152263 degrees
Magnetic to Grid: 7.580867 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.580867 Degr.

PathFinder Energy Services, Inc. Magnetic & Grid Calculations

YATES PETROLEUM
GRANDE MIKE AZK STATE #3H

Thu Jul 12 11:22:52 2012

Coordinates

Latitude: 32.956280 N (32 deg. 57 min. 22.6070 sec.)
Longitude: 104.053439 W (-104 deg. 3 min. 12.3800 sec.)
Elevation: 3767.00 feet.
Calculation Date: Jul/11/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.7530 degrees
Total Magnetic Field: 0.48894 gauss
Magnetic Declination: 7.732794 degrees
Horizontal Intensity: 0.238882 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.732794 Degs

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 627189.0060 feet
Y: 711744.0220 feet
True to Grid: (convergence) -0.152263 degrees
Magnetic to Grid: 7.580530 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.580530 Degs.