



For your records

An Operating Unit of Smith International, Inc.

30-015-38565

DIRECTIONAL SURVEY REPORT

YATES PETROLEUM

RUDOLPH ATX STATE COM #4H – SHC

EDDY COUNTY, NEW MEXICO

RECEIVED

AUG 3 2011

NMOCD ARTESIA

PREPARED BY: FRANCISCO SINISTERRA

Pathfinder Energy Services, Inc.
6213 W. Interstate 20 • Midland, TX • 79706
(432) 681-6000

Pathfinder

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Tel 432 687 1647
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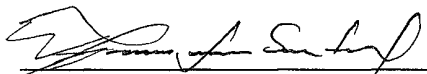


DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) JAY FULTON
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 04-22-11 TO 04-25-11
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
RUDOLPH ATX STATE COM #4H - SHC
EDDY COUNTY, NM
RIG: SILVER OAK #10
9. SURVEY CERTIFIED FROM: 545 TO 4238 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 6.36 FEET ON A BEARING OF 348.15 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 4290 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: 04/22/2011
Date Completed: 04/28/2011

YATES PETROLEUM CORPORATION
RUDOLPH ATX STATE COM #4H
EDDY COUNTY, NEW MEXICO
Rig:SILVER OAK 10
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers: JAY FULTON

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.39.14.7089 N LON:103.52.31.7047 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 682252.3940 Y: 601991.1900
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.53° EAST TO GRID
Vertical Section Plane: 355.92
Survey Vert. Reference: 18.00' Rotary Table To Ground
Altitude:3487.00' Ground To MSL

Measured Depth	4290.00	(feet)
Inclination	0.35	(deg)
Azimuth	315.35	(deg)
True Vertical Depth	4289.53	(feet)
Vertical Section	6.30	(feet)
Survey X cord	682251.07	(feet)
Survey Y cord	601997.39	(feet)
Survey Lat	32.65410288 N	(deg)
Survey Lon	103.87547775 W	(deg)
Rectangular Corr. N/S	6.22 N	(feet)
Rectangular Corr. E/W	1.31 W	(feet)
Closure Distance	6.36	(feet)
Direction of Closure	348.15	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION

RUDOLPH ATX STATE COM #4H

EDDY COUNTY, NEW MEXICO

Rig:SILVER OAK 10

PathFinder Office Supervisor: FRANCISCO SINISTERRA

PathFinder Field Engineers: JAY FULTON

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:32.39.14.7089 N LON:103.52.31.7047 W

GRID Reference:NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 682252.3940 Y: 601991.1900

North Aligned To:GRID NORTH

Total Magnetic Correction: 7.53° EAST TO GRID

Vertical Section Plane: 355.92

Survey Vert. Reference: 18.00' Rotary Table To Ground

Altitude:3487.00' Ground To MSL

Survey Calculations by RX4 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-IN ASSUMING VERTICAL DEPTH @ 445' MD.										
445.00	0.00	0.00	445.00	0.00	0.00	0.00	0.00	0.00@	0.00	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
545.00	0.18	338.29	545.00	545.00	0.82	0.80 N	0.32 W	0.86@	338.29	0.03
636.00	0.09	87.28	636.00	91.00	0.95	0.93 N	0.30 W	0.98@	342.25	0.25
727.00	0.09	259.24	727.00	91.00	0.94	0.92 N	0.30 W	0.97@	342.14	0.20
818.00	0.26	60.88	818.00	91.00	1.02	1.01 N	0.19 W	1.03@	349.51	0.38
911.00	0.35	105.32	911.00	93.00	1.01	1.04 N	0.27 E	1.07@	14.68	0.26
1005.00	0.35	139.05	1005.00	94.00	0.69	0.74 N	0.74 E	1.05@	44.72	0.22
1098.00	0.62	101.36	1097.99	93.00	0.33	0.43 N	1.42 E	1.48@	73.11	0.43
1191.00	0.88	108.01	1190.98	93.00	-0.07	0.11 N	2.59 E	2.59@	87.56	0.30
1285.00	1.49	100.83	1284.96	94.00	-0.66	0.34 S	4.48 E	4.49@	94.38	0.67
1378.00	1.58	96.38	1377.93	93.00	-1.20	0.71 S	6.94 E	6.97@	95.86	0.16
1472.00	1.49	92.92	1471.90	94.00	-1.59	0.92 S	9.45 E	9.49@	95.55	0.14
1564.00	0.97	79.01	1563.88	92.00	-1.64	0.83 S	11.40 E	11.43@	94.17	0.65
1657.00	1.32	71.81	1656.86	93.00	-1.28	0.35 S	13.19 E	13.20@	91.50	0.41
1750.00	0.88	88.03	1749.84	93.00	-1.05	0.01 N	14.93 E	14.93@	89.95	0.57
1844.00	1.06	86.74	1843.83	94.00	-1.09	0.09 N	16.52 E	16.52@	89.70	0.19
1937.00	1.76	77.44	1936.80	93.00	-0.89	0.45 N	18.77 E	18.77@	88.64	0.79
2031.00	1.32	68.88	2030.76	94.00	-0.36	1.15 N	21.19 E	21.22@	86.89	0.53
2124.00	0.70	15.92	2123.75	93.00	0.49	2.08 N	22.34 E	22.44@	84.68	1.14
2217.00	0.53	351.19	2216.75	93.00	1.45	3.05 N	22.43 E	22.64@	82.25	0.34
2310.00	0.53	341.99	2309.74	93.00	2.30	3.89 N	22.23 E	22.57@	80.08	0.09
2403.00	0.70	298.51	2402.74	93.00	3.02	4.57 N	21.60 E	22.08@	78.06	0.52
2497.00	0.62	289.61	2496.73	94.00	3.53	5.01 N	20.62 E	21.22@	76.33	0.14
2590.00	0.88	264.06	2589.72	93.00	3.71	5.11 N	19.43 E	20.09@	75.27	0.45

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
 RUDOLPH ATX STATE COM #4H
 EDDY COUNTY, NEW MEXICO
 RIG:SILVER OAK 10

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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)
2683.00	1.06	285.49	2682.71	93.00	3.98	5.26 N	17.89 E	18.65@	73.61	0.43
2776.00	0.97	277.94	2775.69	93.00	4.43	5.60 N	16.29 E	17.22@	71.02	0.17
2932.00	1.23	283.85	2931.67	156.00	5.22	6.19 N	13.35 E	14.72@	65.14	0.18
3026.00	1.41	280.43	3025.64	94.00	5.82	6.64 N	11.24 E	13.05@	59.43	0.21
3119.00	1.49	281.85	3118.61	93.00	6.44	7.09 N	8.93 E	11.40@	51.54	0.09
3212.00	1.58	286.48	3211.58	93.00	7.22	7.70 N	6.51 E	10.09@	40.22	0.16
3305.00	0.53	252.14	3304.56	93.00	7.57	7.94 N	4.87 E	9.31@	31.56	1.27
3398.00	0.62	222.37	3397.56	93.00	7.12	7.43 N	4.13 E	8.50@	29.04	0.33
3492.00	0.53	214.22	3491.55	94.00	6.43	6.70 N	3.54 E	7.57@	27.86	0.13
3585.00	0.62	240.24	3584.55	93.00	5.87	6.09 N	2.86 E	6.73@	25.16	0.29
3678.00	0.62	245.91	3677.54	93.00	5.48	5.64 N	1.96 E	5.97@	19.22	0.07
3772.00	0.44	240.31	3771.54	94.00	5.15	5.25 N	1.19 E	5.38@	12.74	0.20
3866.00	0.26	266.17	3865.54	94.00	5.00	5.06 N	0.66 E	5.10@	7.44	0.25
3990.00	0.26	279.95	3989.53	124.00	5.07	5.09 N	0.10 E	5.09@	1.15	0.05
4083.00	0.35	295.21	4082.53	93.00	5.26	5.24 N	0.36 W	5.26@	356.05	0.13
4176.00	0.44	326.41	4175.53	93.00	5.71	5.66 N	0.82 W	5.72@	351.79	0.25
4238.00	0.35	315.35	4237.53	62.00	6.06	6.00 N	1.08 W	6.09@	349.77	0.19
STRAIGHT LINE PROJECTION TO BIT @ 4290' MD.										
4290.00	0.35	315.35	4289.53	52.00	6.30	6.22 N	1.31 W	6.36@	348.15	0.00

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A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM CORPORATION		
LEASE / WELL No.:	RUDOLPH ATX STATE COM	4H	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY	NEWMEXICO	USA
RIG:	SILVER OAK10		
API WELL No:	30-015-38565		
JOB No:	700002261 WT-WT		
P.O. / AFE No.	11-052-0		
DIRECTIONAL COMPANY:	PATHFINDER ENERGY		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Well Plat:	7.53	LWD Calculated:	7.53
X = 682252.394000		Feet	Y = 601991.190000
SITE LATITUDE:		32.654086	Feet
SITE LONGITUDE:		103.875474	
GRID SYSTEM:	TRUE ☐	UTM ☐	LAMBERT ☐
PROPOSED DRIFT DIRECTION:		355.92	
KELLY BUSHING ELEVATION:		18 FEET	
ALTITUDE:	3487	Feet	WATER DEPTH:
		Feet	

TIE-IN SURVEY

MEASURED DEPTH:	0		
DRIFT ANGLE:	0		
DRIFT DIRECTION:	0		
TRUE VERTICAL DEPTH:	0		
VERTICAL SECTION:	0		
RECTANGULAR COORDINATE (N / S) :	0		
RECTANGULAR COORDINATE (E / W) :	0		
CLOSURE DISTANCE / DIRECTION:	0	0	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐
SOURCE OF TIE-IN DATA (COMPANY) :	PES		
COPY OF TIE-IN SURVEY REPORT	☐ YES		☒ NO

WELL PLAN

KICKOFF DEPTH:	8447	TOTAL DEPTH:	13351
KICKOFF ANGLE:	0	MAX ANGLE:	90.48

PES Engineers: JAY FULTON

Jay Fulton

**Signature of both field engineers required if applicable

Directional Driller: RICHARD HILL

Richard Hill

DATE: 22-Apr-2011

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM CORP.
RUDOLPH STATE COM #4H
EDDY COUNTY, NEW MEXICO
Rig:SILVER OAK 10

Tue Apr 19 10:31:52 2011

Coordinates

Latitude: 32.654086 N (32 deg. 39 min. 14.7089 sec.)
Longitude: 103.875474 W (-103 deg. 52 min. 31.7047 sec.)
Elevation: 3505.00 feet.
Calculation Date: Apr/19/2011

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.5366 degrees
Total Magnetic Field: 0.48857 gauss
Magnetic Declination: 7.777464 degrees
Horizontal Intensity: 0.240312 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.777464 Degr -

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 682252.3940 feet
Y: 601991.1900 feet
True to Grid: (convergence) -0.247049 degrees
Magnetic to Grid: 7.530415 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.530415 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM CORPORATION
RUDOLPH ATX STATE COM #4H
EDDY COUNTY
Rig:SILVER OAK 10

Fri Apr 22 22:21:05 2011

Field
Calculation

Coordinates

Latitude: 32.654086 N (32 deg. 39 min. 14.7089 sec.)
Longitude: 103.875474 W (-103 deg. 52 min. 31.7047 sec.)
Elevation: 3505.00 feet.
Calculation Date: Apr/22/2011

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.5364 degrees
Total Magnetic Field: 0.48856 gauss
Magnetic Declination: 7.776459 degrees
Horizontal Intensity: 0.240309 gauss

To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.776459 Degs

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 682252.3940 feet
Y: 601991.1900 feet
True to Grid: (convergence) -0.247049 degrees
Magnetic to Grid: 7.529410 degrees

To Convert a Magnetic Dir. to a GRID dir. Add 7.529410 Degs.