



An Operating Unit of Smith International, Inc.

30-015-37549

DIRECTIONAL SURVEY REPORT

YATES PETROLEUM
B. GRAHAM "BPU" STATE #1H- SHC
EDDY COUNTY, NEW MEXICO

PREPARED BY: FRANCISCO SINISTERRA



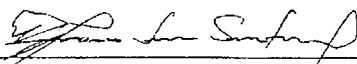
DIRECTIONAL SURVEY COMPANY REPORT:

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: 07-21-10 TO 07-27-10
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM
B. GRAHAM "BPU" STATE #1H
EDDY COUNTY, NM
RIG: SILVEROAK #10

9. SURVEY CERTIFIED FROM: 428 TO 6222 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 38.08 FEET ON A BEARING OF 126.55 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 6389 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: 07/21/2010
Date Completed: 07/27/2010

YATES PETROLEUM CORPORATION
B. GRAHAM "BPU" STATE #1H - STRAIGHT HOLE CONTROL
EDDY COUNTY, NEW MEXICO
Rig:SILVEROAK 10
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers:JAY FULTON
RICHARD PAGE

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.3.55.5627 N LON:104.2.55.0526 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 629530.8820 Y: 387658.8090
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.75° EAST TO GRID
Vertical Section Plane: 89.83
Survey Vert. Reference: 18.00' Rotary Table To Ground
Altitude:2941.00' Ground To MSL

Measured Depth	6389.00	(feet)
Inclination	2.29	(deg)
Azimuth	177.50	(deg)
True Vertical Depth	6386.78	(feet)
Vertical Section	30.52	(feet)
Survey X cord	629561.47	(feet)
Survey Y cord	387636.13	(feet)
Survey Lat	32.06537150 N	(deg)
Survey Lon	104.04852718 W	(deg)
Rectangular Corr. N/S	22.68 S	(feet)
Rectangular Corr. E/W	30.59 E	(feet)
Closure Distance	38.08	(feet)
Direction of Closure	126.55	(deg)
Dogleg Severity	0.38	(deg/100ft)

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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)	Rectangular Offsets (ft)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
0.00	0.00	0.00	0.00	0.00	-0.00	0.00 S	0.00@ 180.00	0.00
** TIE IN ASSUMING VERTICAL DEPTH @ 328' MD								
328.00	0.00	0.00	328.00	328.00	0.00	0.00	0.00@ 0.00	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.								
428.00	1.49	299.91	427.99	100.00	-1.13	0.65 N	1.30@ 299.91	1.49
580.00	1.58	312.65	579.93	152.00	-4.37	3.05 N	5.34@ 304.87	0.23
766.00	1.93	304.27	765.85	186.00	-8.84	6.55 N	11.02@ 306.51	0.23
956.00	0.88	193.15	955.81	190.00	-11.81	6.94 N	13.71@ 300.38	1.26
1146.00	1.06	155.18	1145.78	190.00	-11.41	3.92 N	12.08@ 288.93	0.34
1337.00	0.53	110.45	1336.77	191.00	-9.85	2.01 N	10.06@ 281.51	0.41
1527.00	1.23	19.43	1526.75	190.00	-8.34	3.62 N	9.11@ 293.45	0.71
1717.00	1.41	17.41	1716.70	190.00	-6.95	7.78 N	10.45@ 318.10	0.10
1907.00	2.02	43.66	1906.62	190.00	-3.93	12.43 N	13.05@ 342.30	0.52
2096.00	2.02	69.90	2095.50	189.00	1.51	15.98 N	16.05@ 5.23	0.49
2287.00	3.61	75.52	2286.27	191.00	10.50	18.65 N	21.37@ 29.26	0.84
2382.00	4.22	74.08	2381.04	95.00	16.76	20.35 N	26.33@ 39.38	0.65
2515.00	3.43	69.76	2513.75	133.00	25.21	23.07 N	34.12@ 47.46	0.63
2604.00	3.08	68.45	2602.60	89.00	29.94	24.87 N	38.86@ 50.21	0.40
2795.00	1.67	79.12	2793.44	191.00	37.45	27.28 N	46.27@ 53.87	0.77
2985.00	1.06	123.16	2983.39	190.00	41.64	26.84 N	49.47@ 57.14	0.62
3175.00	1.06	123.79	3173.35	190.00	44.57	24.90 N	50.99@ 60.76	0.01
3365.00	1.41	136.08	3363.31	190.00	47.64	22.24 N	52.52@ 64.94	0.23
3556.00	1.06	247.29	3554.28	191.00	47.63	19.87 N	51.56@ 67.33	1.07
3746.00	0.97	235.82	3744.25	190.00	44.68	18.28 N	48.22@ 67.72	0.12
3936.00	0.97	244.12	3934.23	190.00	41.89	16.68 N	45.05@ 68.27	0.07
4126.00	0.97	231.84	4124.20	190.00	39.18	14.98 N	41.90@ 69.05	0.11
4316.00	1.06	221.84	4314.17	190.00	36.73	12.68 N	38.83@ 70.94	0.10

PathFinder Energy Services, Inc. Survey Report

YATES PETROLEUM CORPORATION
B. GRAHAM "BPU" STATE #1H - STRAIGHT HOLE CONTROL
EDDY COUNTY, NEW MEXICO
RIG: SILVEROAK 10

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	Rectangular Offsets (ft)	TOTAL (ft)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
4506.00	0.79	205.58	4504.15	190.00	34.99	10.19 N	34.96 E	36.41@ 73.75	0.20
4697.00	0.79	200.36	4695.13	191.00	33.96	7.77 N	33.93 E	34.81@ 77.11	0.04
4887.00	0.79	212.43	4885.11	190.00	32.79	5.43 N	32.77 E	33.22@ 80.59	0.09
5077.00	0.88	212.29	5075.09	190.00	31.30	3.10 N	31.29 E	31.45@ 84.35	0.05
5267.00	0.97	219.69	5265.06	190.00	29.49	0.62 N	29.49 E	29.49@ 88.79	0.08
5457.00	0.70	192.24	5455.05	190.00	28.21	1.75 S	28.21 E	28.27@ 93.54	0.25
5647.00	0.88	178.21	5645.03	190.00	28.00	4.34 S	28.01 E	28.35@ 98.81	0.14
5837.00	1.06	172.64	5835.00	190.00	28.26	7.54 S	28.28 E	29.27@ 104.93	0.11
6027.00	1.49	164.36	6024.95	190.00	29.14	11.66 S	29.17 E	31.42@ 111.79	0.25
6222.00	1.67	173.61	6219.88	195.00	30.12	16.93 S	30.17 E	34.60@ 119.29	0.16
INTERPOLATED PROJECTION TO BIT @ 6389' MD									
6389.00	2.29	177.50	6386.78	167.00	30.52	22.68 S	30.59 E	38.08@ 126.55	0.38

** 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.

FINDER

ENERGY SERVICES

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM CORPORATION		
LEASE / WELL No.:	B. GRAHAM "BPU" STATE	1H	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY	NEW MEXICO	USA
RIG:	SILVEROAK 10		
API WELL No:	30-015-37549		
JOB No:	101010982		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PATHFINDER ENERGY		

WELL SITE INFORMATION

MAGNETIC DECLINATION:			
On Wall Plat:	7.75	LWD Calculated:	7.75
		Agreed Upon:	7.75
X =	629530.882000	Feet	Y = 387658.809000 Feet
SITE LATITUDE:	32.0065434 N	SITE LONGITUDE:	104.048626 W
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐ ZONE: New Mexico East		
PROPOSED DRIFT DIRECTION:	89.83		
KELLY BUSHING ELEVATION:	18 ft		
ALTITUDE:	2941	Feet	WATER DEPTH: Feet

TIE-IN SURVEY

MEASURED DEPTH:	0		
DRIFT ANGLE:	0		
DRIFT DIRECTION:	0		
TRUE VERTICAL DEPTH:	0		
VERTICAL SECTION:	89.83		
RECTANGULAR COORDINATE (N / S) :	0		
RECTANGULAR COORDINATE (E / W) :	0		
CLOSURE DISTANCE / DIRECTION:	0	0	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):			
COPY OF TIE-IN SURVEY REPORT	☐ YES ☐ NO		

WELL PLAN

KICKOFF DEPTH:	396'	TOTAL DEPTH:	6553'
KICKOFF ANGLE:	0	MAX ANGLE:	0

PES Engineers:

Jay Fulton

Richard Page

**Signature of both field engineers required if applicable

Directional Driller:

Richard Hill

DATE: 21-Jul-2010