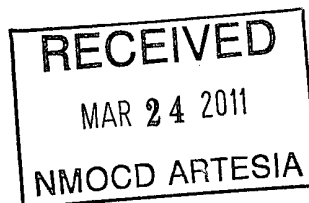




An Operating Unit of Smith International, Inc.

30-015-36070

DIRECTIONAL SURVEY REPORT



YATES PETROLEUM

THURMAN BPC FEDERAL 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

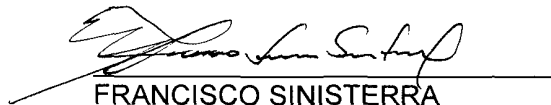


DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) JAY FULTON
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 11-19-10 TO 11-24-10
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
THURMAN DRAW UNIT #1
EDDY COUNTY, NM
RIG: SILVER OAK 10
9. SURVEY CERTIFIED FROM: 3595 TO 7217 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 3455.34 FEET ON A BEARING OF 182.04 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 7268 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: 10/30/2010
Date Completed: 11/13/2010

YATES PETROLEUM CORPORATION
THURMAN DRAW UNIT #1
EDDY COUNTY, NEW MEXICO
Rig:SILVER OAK 10
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers:JAY FULTON
JESUS GARCIA

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.2.35.8558 N LON:104.36.35.2417 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 455679.5770 Y: 379597.9410
North Aligned To:GRID NORTH
Total Magnetic Correction: 8.26° EAST TO GRID
Vertical Section Plane: 181.52
Survey Vert. Reference: 18.00' Rotary Table To Ground
Altitude:4341.00' Ground To MSL

Measured Depth	7268.00	(feet)
Inclination	89.16	(deg)
Azimuth	182.56	(deg)
True Vertical Depth	4019.18	(feet)
Vertical Section	3455.20	(feet)
Survey X cord	455556.76	(feet)
Survey Y cord	376144.78	(feet)
Survey Lat	32.03379982 N	(deg)
Survey Lon	104.61015719 W	(deg)
Rectangular Corr. N/S	3453.15 S	(feet)
Rectangular Corr. E/W	122.81 W	(feet)
Closure Distance	3455.34	(feet)
Direction of Closure	182.04	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
THURMAN DRAW UNIT #1
EDDY COUNTY, NEW MEXICO
Rig:SILVER OAK 10
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers: JAY FULTON
JESUS GARCIA

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.235.8558 N LON:104.36.35.2417 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 455679.5770 Y: 379597.9410
North Aligned To:GRID NORTH
Total Magnetic Correction: 8.26°EAST TO GRID
Vertical Section Plane: 181.52
Survey Vert. Reference: 18.00' Rotary Table To Ground
Altitude:4341.00' 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 TO GYRO DATA DIRECTIONAL SURVEY @ 3480' MD.										
3480.00	1.23	39.31	3479.81	0.00	-17.13	16.91 N	8.61 E	18.98@	26.98	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
3595.00	0.70	138.73	3594.80	115.00	-17.59	17.34 N	9.86 E	19.94@	29.62	1.32
3627.00	6.16	177.67	3626.73	32.00	-15.73	15.47 N	10.05 E	18.45@	33.02	17.60
3658.00	12.84	177.55	3657.29	31.00	-10.63	10.36 N	10.27 E	14.59@	44.74	21.55
3690.00	19.61	178.46	3688.00	32.00	-1.71	1.43 N	10.57 E	10.66@	82.27	21.17
3722.00	24.62	182.87	3717.63	32.00	10.32	10.60 S	10.38 E	14.83@	135.61	16.48
3753.00	28.67	187.17	3745.34	31.00	24.18	24.43 S	9.12 E	26.08@	159.52	14.46
3785.00	33.33	187.60	3772.76	32.00	40.57	40.77 S	7.00 E	41.37@	170.26	14.58
3817.00	37.99	186.15	3798.75	32.00	59.14	59.29 S	4.78 E	59.48@	175.39	14.80
3849.00	42.12	184.74	3823.24	32.00	79.68	79.79 S	2.84 E	79.84@	177.96	13.21
3880.00	45.55	184.96	3845.60	31.00	101.11	101.18 S	1.02 E	101.18@	179.42	11.08
3912.00	49.95	185.19	3867.11	32.00	124.75	124.76 S	1.07 W	124.77@	180.49	13.76
3944.00	54.17	184.06	3886.78	32.00	149.94	149.91 S	3.10 W	149.94@	181.18	13.48
3975.00	57.07	182.63	3904.29	31.00	175.51	175.45 S	4.59 W	175.51@	181.50	10.10
4007.00	61.29	181.11	3920.68	32.00	202.98	202.91 S	5.47 W	202.98@	181.55	13.80
4039.00	66.57	181.79	3934.74	32.00	231.72	231.63 S	6.21 W	231.72@	181.53	16.61
4071.00	71.75	181.61	3946.12	32.00	261.61	261.52 S	7.09 W	261.61@	181.55	16.20
4102.00	76.06	181.69	3954.71	31.00	291.39	291.28 S	7.95 W	291.39@	181.56	13.91
4134.00	80.99	182.04	3961.07	32.00	322.74	322.62 S	8.97 W	322.74@	181.59	15.44
4166.00	86.09	182.43	3964.67	32.00	354.52	354.38 S	10.21 W	354.53@	181.65	15.98
4198.00	87.93	182.33	3966.34	32.00	386.48	386.31 S	11.54 W	386.48@	181.71	5.76
4259.00	87.14	182.26	3968.97	61.00	447.41	447.20 S	13.98 W	447.42@	181.79	1.30
4354.00	86.79	181.25	3974.00	95.00	542.28	542.02 S	16.88 W	542.28@	181.78	1.12
4450.00	88.55	181.36	3977.90	96.00	638.19	637.91 S	19.07 W	638.20@	181.71	1.84
4545.00	89.96	180.77	3979.13	95.00	733.18	732.89 S	20.83 W	733.18@	181.63	1.61

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
THURMAN DRAW UNIT #1
EDDY COUNTY, NEW MEXICO
RIG:SILVER OAK 10

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)
4640.00	88.20	181.11	3980.66	95.00	828.16	827.86 S 22.39 W	828.16@ 181.55	1.89
4734.00	89.34	180.33	3982.68	94.00	922.13	921.83 S 23.57 W	922.13@ 181.46	1.47
4830.00	88.99	180.99	3984.08	96.00	1018.10	1017.81 S 24.68 W	1018.11@ 181.39	0.78
4925.00	90.13	180.90	3984.80	95.00	1113.10	1112.79 S 26.25 W	1113.10@ 181.35	1.20
5020.00	90.22	181.63	3984.51	95.00	1208.09	1207.77 S 28.34 W	1208.10@ 181.34	0.77
5115.00	89.96	182.10	3984.37	95.00	1303.09	1302.72 S 31.43 W	1303.10@ 181.38	0.57
5210.00	90.04	182.88	3984.37	95.00	1398.08	1397.63 S 35.56 W	1398.08@ 181.46	0.83
5305.00	89.34	182.89	3984.88	95.00	1493.05	1492.50 S 40.34 W	1493.05@ 181.55	0.74
5400.00	88.90	182.86	3986.34	95.00	1588.01	1587.37 S 45.11 W	1588.01@ 181.63	0.46
5495.00	88.90	183.21	3988.16	95.00	1682.96	1682.22 S 50.14 W	1682.97@ 181.71	0.37
5590.00	89.52	182.92	3989.47	95.00	1777.92	1777.08 S 55.22 W	1777.93@ 181.78	0.72
5685.00	89.96	184.01	3989.90	95.00	1872.86	1871.90 S 60.96 W	1872.89@ 181.87	1.24
5780.00	89.08	182.23	3990.70	95.00	1967.81	1966.75 S 66.13 W	1967.86@ 181.93	2.09
5875.00	88.90	182.78	3992.37	95.00	2062.78	2061.64 S 70.28 W	2062.84@ 181.95	0.61
5974.00	89.25	181.61	3993.97	99.00	2161.76	2160.56 S 74.07 W	2161.83@ 181.96	1.23
6068.00	89.78	182.29	3994.77	94.00	2255.75	2254.50 S 77.27 W	2255.82@ 181.96	0.92
6161.00	89.60	182.77	3995.27	93.00	2348.74	2347.41 S 81.37 W	2348.82@ 181.99	0.55
6254.00	89.60	183.45	3995.92	93.00	2441.70	2440.27 S 86.42 W	2441.80@ 182.03	0.73
6347.00	87.14	182.32	3998.57	93.00	2534.63	2533.10 S 91.10 W	2534.74@ 182.06	2.91
6440.00	87.05	181.14	4003.28	93.00	2627.51	2625.94 S 93.90 W	2627.62@ 182.05	1.27
6535.00	89.16	180.31	4006.42	95.00	2722.44	2720.87 S 95.10 W	2722.53@ 182.00	2.39
6627.00	88.99	181.14	4007.91	92.00	2814.42	2812.85 S 96.27 W	2814.50@ 181.96	0.92
6720.00	89.78	181.64	4008.90	93.00	2907.41	2905.82 S 98.52 W	2907.49@ 181.94	1.01
6814.00	89.69	182.34	4009.34	94.00	3001.41	2999.76 S 101.79 W	3001.49@ 181.94	0.75
6908.00	87.93	182.88	4011.29	94.00	3095.36	3093.64 S 106.07 W	3095.46@ 181.96	1.96
7002.00	88.37	182.65	4014.33	94.00	3189.29	3187.48 S 110.60 W	3189.40@ 181.99	0.53
7094.00	89.25	182.56	4016.24	92.00	3281.26	3279.36 S 114.78 W	3281.37@ 182.00	0.96
7188.00	88.72	182.80	4017.90	94.00	3375.22	3373.25 S 119.17 W	3375.35@ 182.02	0.62
7217.00	89.16	182.56	4018.44	29.00	3404.21	3402.21 S 120.53 W	3404.34@ 182.03	1.73

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
THURMAN DRAW UNIT #1
EDDY COUNTY, NEW MEXICO
RIG:SILVER OAK 10

Page 03/03

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)
STRAIGHT LINE PROJECTION TO BIT @ 7268' MD.								
7268.00	89.16	182.56	4019.18	51.00	3455.20	3453.15 S 122.81 W	3455.34@ 182.04	0.00



TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM CORPORATION		
LEASE / WELL No.:	THURMAN DRAW UNIT	1	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY	NEW MEXICO	USA
RIG:	SILVER OAK 10		
API WELL No:	30-015-36070		
JOB No:	700000695 WT-WT		
P.O. / AFE No.	08-011-0		
DIRECTIONAL COMPANY:	PATHFINDER ENERGY		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	LWD Calculated:	8.26	Agreed Upon:
X = 455679.577000	Feet	Y = 379597.941000	Feet
SITE LATITUDE:	32.043293 N	SITE LONGITUDE:	104.609789 W
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	NEW MEXICO EAST
PROPOSED DRIFT DIRECTION:	0		
KELLY BUSHING ELEVATION:	18 FEET		
ALTITUDE:	4341	Feet	WATER DEPTH:
			Feet

TIE-IN SURVEY

MEASURED DEPTH:	3480		
DRIFT ANGLE:	1.23		
DRIFT DIRECTION:	39.31		
TRUE VERTICAL DEPTH:	3479.81		
VERTICAL SECTION:	19		
RECTANGULAR COORDINATE (N / S) :	16.91 N		
RECTANGULAR COORDINATE (E / W) :	8.61 E		
CLOSURE DISTANCE / DIRECTION:	19	27	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	GYRODATA DIRECTIONAL SURVEY		
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO		

WELL PLAN

KICKOFF DEPTH:	3580	TOTAL DEPTH:	3500'
KICKOFF ANGLE:	1.23	MAX ANGLE:	89

PES Engineers:

JAY FULTON

Jay Fulton

**Signature of both field engineers required if applicable

Directional Driller: RICHARD HILL

Richard Hill

DATE: 18-Nov-2010

A Gyrodata Directional Survey

Field Copy Only, not definitive

for

YATES PETROLEUM

Location: SILVER OAK 10, EDDY COUNTY NM, Lease: THURMAN DRAW Well: THURMAN DRAW UNIT #1, 4 1/2"
DRILLPIPE

Job Number: MD1110GSOW415

Run Date: 11/17/2010 10:56:32 PM

Surveyor: Matt Le Bas

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 32.043294 deg. N Longitude: 104.609789 deg. W

Azimuth Correction:

Gyro: Bearings are Relative to True North

Depth Reference: Rotary Table

Rotary Table Elevation: 18.00

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Local Horizontal Reference

A Gyrodata Directional Survey

YATES PETROLEUM

Location: SILVER OAK 10, EDDY COUNTY NM

Lease: THURMAN DRAW Well: THURMAN DRAW UNIT #1, 4 1/2" DRILLPIPE

Job Number: MD1110GSOW415

MEASURED IN C LAZIMUTH			DOGLEG	VERTICAL	CLOSURE		HORIZONTAL	
DEPTH			SEVERITY	DEPTH	DIST.	AZIMUTH	COORDINATES	
feet	deg.	deg.	deg./ 100 ft.	feet	feet	deg.	feet	
0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00 N	0.00 E
200.00	0.20	116.42	0.10	200.00	0.3	116.4	0.16 S	0.31 E
400.00	0.68	123.51	0.24	399.99	1.9	120.9	0.97 S	1.61 E
600.00	0.66	119.88	0.02	599.98	4.2	121.3	2.19 S	3.60 E
800.00	0.46	119.58	0.10	799.97	6.2	120.8	3.17 S	5.30 E
1000.00	0.36	102.54	0.08	999.96	7.6	119.2	3.70 S	6.62 E
1200.00	0.14	349.51	0.22	1199.96	8.0	116.6	3.60 S	7.20 E
1400.00	0.17	304.98	0.06	1399.96	7.6	114.8	3.19 S	6.91 E
1600.00	0.06	23.44	0.08	1599.96	7.3	113.5	2.92 S	6.71 E
1800.00	0.50	318.85	0.24	1799.96	6.5	109.4	2.17 S	6.18 E
2000.00	0.81	346.72	0.22	1999.95	5.3	91.4	0.13 S	5.28 E
2200.00	1.13	0.23	0.19	2199.92	5.9	57.0	3.22 N	4.96 E
2400.00	1.11	347.26	0.13	2399.88	8.4	32.7	7.08 N	4.54 E
2600.00	0.60	0.15	0.27	2599.86	10.8	22.3	10.02 N	4.12 E
2800.00	0.25	16.92	0.19	2799.85	12.3	20.3	11.49 N	4.25 E
3000.00	0.42	45.19	0.11	2999.85	13.3	21.5	12.42 N	4.89 E
3200.00	0.72	40.69	0.15	3199.84	15.2	24.1	13.89 N	6.22 E
3400.00	0.71	36.09	0.03	3399.82	17.6	26.1	15.84 N	7.77 E
3480.00	1.23	39.31	0.65	3479.81	19.0	27.0	16.91 N	8.61 E

A Gyrodata Directional Survey

YATES PETROLEUM

Location: SILVER OAK 10, EDDY COUNTY NM

Lease: THURMAN DRAW Well: THURMAN DRAW UNIT #1, 4 1/2" DRILLPIPE

Job Number: MD1110GSOW415

MEASURED IN C LAZIMUTH	DOGLEG VERTICAL	CLOSURE	HORIZONTAL
DEPTH	SEVERITY	DEPTH DIST. AZIMUTH	COORDINATES
feet	deg. deg.	feet feet deg.	feet
	deg./ 100 ft.		

Final Station Closure: Distance: 18.97 ft Az: 26.98 deg.



A Schlumberger Company

PathFinder Energy Services, Inc. Magnetic & Grid Calculations

YATES PETROLEUM
THURMAN DRAW UNIT #1
EDDY COUNTY, NEW MEXICO
Rig: SILVER OAK 10

Wed Oct 27 15:06:24 2010

Coordinates

Latitude: 32.043293 N (32 deg. 2 min. 35.8558 sec.)
Longitude: 104.609789 W (-104 deg. 36 min. 35.2417 sec.)
Elevation: 4359.00 feet.
Calculation Date: Oct/27/2010

Magnetic Calculations

Model: IGRF2010
Dip Angle: 59.8484 degrees
Total Magnetic Field: 0.48443 gauss
Magnetic Declination: 8.113270 degrees
Horizontal Intensity: 0.243325 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.113270 Degr.

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 455679.5770 feet
Y: 379597.9410 feet
True to Grid: (convergence) 0.146677 degrees
Magnetic to Grid: 8.259948 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 8.259948 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM CORPORATION
THURMAN DRAW UNIT # 1
EDDY COUNTY
Rig:SILVER OAK 10

Field
Calculations

Sat Oct 30 07:12:47 2010

Coordinates

Latitude: 32.043293 N (32 deg. 2 min. 35.8558 sec.)
Longitude: 104.609789 W (-104 deg. 36 min. 35.2417 sec.)
Elevation: 4359.00 feet.
Calculation Date: Oct/30/2010

Magnetic Calculations

Model: IGRF2010
Dip Angle: 59.8482 degrees
Total Magnetic Field: 0.48442 gauss
Magnetic Declination: 8.112287 degrees
Horizontal Intensity: 0.243322 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.112287 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 455679.5770 feet
Y: 379597.9410 feet
True to Grid: (convergence) 0.146677 degrees
Magnetic to Grid: 8.258964 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 8.258964 Degr.