

For your records

PATHFINDER[®]

A Schlumberger Company

DIRECTIONAL SURVEY REPORT

30 015 40186

YATES PETROLEUM

SOUTHLAND ROYALTY APM STATE 5H

EDDY COUNTY, NEW MEXICO

RECEIVED

AUG 12 2013

NMOCD ARTESIA

PREPARED BY: KIRK DAVIS

DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY: A) BILL KITCHENS
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 02-28-13 TO 03-10-13
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:

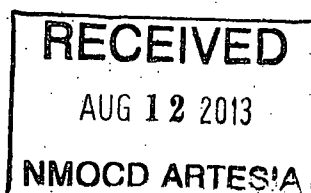
YATES PETROLEUM
SOUTHLAND ROYALTY APM STATE 5H
EDDY COUNTY, NM
RIG: SILVER OAK 10

9. SURVEY CERTIFIED FROM: 6691 TO 12533 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 4754.16 FEET ON A BEARING OF 359.97 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 12582.00
FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



KIRK DAVIS
MWD COORDINATOR



PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 02/27/2013
Date Completed: 03/10/2013

YATES PETROLEUM
SOUTHLAND ROYALTY APM STATE #5H
EDDY COUNTY, NEW MEXICO
Rig:SILVER OAK #10
PathFinder Office Supervisor: MARCUS MITCHAM
PathFinder Field Engineers:BILL KITCHENS
TAY NGUYEN
JOSH ALLEMOND

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.38.21.6054 N LON:104.2.7.1496 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 633071.6860 Y: 596449.5750
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.46° EAST TO GRID
Vertical Section Plane: 1.82
Survey Vert. Reference: 18.00' Kelly Bushing To Ground
Altitude:3327.50' Ground To MSL

Measured Depth	12582.00	(feet)
Inclination	90.48	(deg)
Azimuth	0.34	(deg)
True Vertical Depth	8076.75	(feet)
Vertical Section	4751.69	(feet)
Survey X cord	633069.39	(feet)
Survey Y cord	601203.72	(feet)
Survey Lat	32.65240251 N	(deg)
Survey Lon	104.03528346 W	(deg)
Rectangular Corr. N/S	4754.16 N	(feet)
Rectangular Corr. E/W	2.28 W	(feet)
Closure Distance	4754.16	(feet)
Direction of Closure	359.97	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

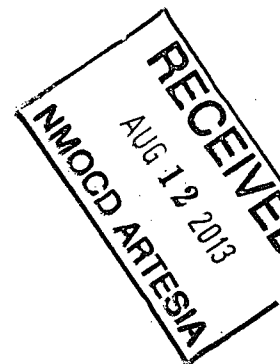
Survey Report

YATES PETROLEUM
SOUTHLAND ROYALTY APM STATE #5H
EDDY COUNTY, NEW MEXICO
Rig:SILVER OAK #10
PathFinder Office Supervisor: MARCUS MITCHAM
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TAY NGUYEN
JOSH ALLEMOND
Survey Calculations by RX4 using Minimum Curvature

MATTHEW SCHWARTZ

Survey Horiz. Reference:WELLHEA
Ref Coordinates: LAT:32.38.21.6054 N LON:104.2.7.1496
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 633071.6860 Y: 596449.575
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.46° EAST TO GRID
Vertical Section Plane: 1.8
Survey Vert. Reference: 18.00' Kelly Bushing To Ground
Altitude:3327.50' Ground To MS

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)
THE FOLLOWING ARE MS ENERGY SERVICES GYRO SURVEYS.										
200.00	0.69	255.25	199.99	0.00	-3.87	3.90 S	0.91 E	4.01@	166.84	0.00
400.00	2.30	255.35	399.91	200.00	-5.35	5.22 S	4.14 W	6.66@	218.36	0.81
600.00	2.05	222.40	599.77	200.00	-9.21	8.88 S	10.43 W	13.70@	229.59	0.63
800.00	1.49	259.70	799.68	200.00	-12.47	11.99 S	15.40 W	19.52@	232.10	0.63
1000.00	0.40	98.60	999.67	200.00	-13.10	12.56 S	17.27 W	21.35@	233.98	0.94
1200.00	1.03	116.16	1199.65	200.00	-13.92	13.45 S	14.97 W	20.12@	228.04	0.33
1400.00	1.50	116.55	1399.60	200.00	-15.76	15.42 S	11.01 W	18.94@	215.53	0.24
1600.00	0.91	132.57	1599.56	200.00	-17.89	17.66 S	7.50 W	19.19@	203.01	0.34
1800.00	1.12	132.68	1799.52	200.00	-20.21	20.06 S	4.89 W	20.65@	193.71	0.10
2000.00	0.43	131.79	1999.51	200.00	-21.97	21.89 S	2.90 W	22.08@	187.54	0.35
2200.00	1.05	158.32	2199.49	200.00	-24.13	24.09 S	1.66 W	24.15@	183.94	0.35
2400.00	1.07	171.13	2399.45	200.00	-27.64	27.64 S	0.69 W	27.65@	181.44	0.12
2600.00	1.07	178.39	2599.42	200.00	-31.34	31.35 S	0.35 W	31.35@	180.65	0.07
2800.00	0.92	196.56	2799.39	200.00	-34.76	34.75 S	0.76 W	34.76@	181.25	0.17
3000.00	1.10	162.06	2999.36	200.00	-38.12	38.12 S	0.63 W	38.12@	180.94	0.31
3200.00	1.09	171.87	3199.32	200.00	-41.80	41.83 S	0.24 E	41.83@	179.68	0.09
3400.00	0.58	164.42	3399.30	200.00	-44.64	44.69 S	0.78 E	44.69@	179.01	0.26
3600.00	0.51	179.14	3599.29	200.00	-46.50	46.55 S	1.06 E	46.56@	178.69	0.08
3800.00	0.27	245.22	3799.29	200.00	-47.60	47.64 S	0.65 E	47.64@	179.22	0.24
4000.00	0.43	257.09	3999.29	200.00	-48.00	48.01 S	0.51 W	48.01@	180.61	0.09
4200.00	1.27	302.12	4199.26	200.00	-47.07	46.99 S	3.12 W	47.10@	183.80	0.51
4400.00	2.26	292.65	4399.17	200.00	-44.55	44.30 S	8.64 W	45.13@	191.03	0.52
4600.00	2.19	297.16	4599.02	200.00	-41.51	41.03 S	15.68 W	43.93@	200.91	0.09
4800.00	2.58	303.58	4798.84	200.00	-37.51	36.80 S	22.83 W	43.31@	211.81	0.24
5000.00	2.35	306.34	4998.66	200.00	-32.81	31.88 S	29.88 W	43.69@	223.15	0.13



PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
SOUTHLAND ROYALTY APM STATE #5H
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)
5200.00	1.88	310.33	5198.52	200.00	-28.45	27.33 S	35.68 W	44.95@	232.55	0.25
5400.00	1.18	319.34	5398.45	200.00	-24.89	23.64 S	39.53 W	46.06@	239.12	0.37
5600.00	1.25	313.87	5598.40	200.00	-21.91	20.57 S	42.44 W	47.16@	244.14	0.07
5800.00	1.30	334.25	5798.35	200.00	-18.43	17.01 S	45.00 W	48.11@	249.29	0.23
6000.00	1.90	337.46	5998.28	200.00	-13.40	11.91 S	47.26 W	48.73@	255.86	0.30
6200.00	2.16	334.25	6198.15	200.00	-7.04	5.45 S	50.16 W	50.46@	263.80	0.14
6400.00	2.66	352.79	6397.98	200.00	0.88	2.55 N	52.38 W	52.45@	272.79	0.46
** TIED INTO MS ENERGY SERVICES GYRO SURVEY AT 6600' MD.										
6600.00	2.79	347.75	6597.75	200.00	10.19	11.91 N	54.00 W	55.30@	282.44	0.14
THE FOLLOWING SURVEYS ARE PATHFINDER MWD SURVEYS.										
6691.00	2.46	325.29	6688.66	91.00	13.91	15.68 N	55.58 W	57.75@	285.75	1.18
6753.00	2.02	324.50	6750.61	62.00	15.84	17.66 N	56.97 W	59.65@	287.22	0.71
6815.00	2.37	323.39	6812.56	62.00	17.72	19.58 N	58.37 W	61.57@	288.54	0.57
6909.00	0.97	358.03	6906.52	94.00	20.03	21.94 N	59.56 W	63.47@	290.22	1.77
7002.00	0.44	353.66	6999.52	93.00	21.17	23.08 N	59.63 W	63.94@	291.16	0.57
7095.00	1.06	340.14	7092.51	93.00	22.33	24.24 N	59.96 W	64.67@	292.02	0.69
7188.00	1.67	345.94	7185.48	93.00	24.43	26.37 N	60.58 W	66.07@	293.52	0.67
7282.00	0.97	4.31	7279.46	94.00	26.54	28.49 N	60.85 W	67.19@	295.09	0.86
7375.00	1.06	3.55	7372.44	93.00	28.19	30.13 N	60.74 W	67.80@	296.39	0.10
7469.00	0.62	65.16	7466.43	94.00	29.29	31.21 N	60.22 W	67.83@	297.40	1.00
7530.00	1.58	79.17	7527.42	61.00	29.62	31.51 N	59.10 W	66.97@	298.07	1.62
7561.00	2.37	87.43	7558.40	31.00	29.76	31.62 N	58.04 W	66.09@	298.58	2.70
7592.00	3.43	65.55	7589.36	31.00	30.22	32.03 N	56.55 W	65.00@	299.53	4.89
7623.00	6.42	40.20	7620.25	31.00	31.99	33.74 N	54.59 W	64.18@	301.72	11.71
7655.00	10.55	26.75	7651.89	32.00	36.05	37.72 N	52.12 W	64.34@	305.90	14.23
7686.00	15.04	20.16	7682.12	31.00	42.45	44.04 N	49.45 W	66.22@	311.69	15.21
7717.00	19.26	14.79	7711.74	31.00	51.25	52.76 N	46.76 W	70.50@	318.45	14.53
7748.00	23.04	10.51	7740.64	31.00	62.23	63.67 N	44.35 W	77.59@	325.14	13.16
7779.00	25.94	7.45	7768.85	31.00	74.98	76.36 N	42.36 W	87.33@	330.98	10.21

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
SOUTHLAND ROYALTY APM STATE #5H
EDDY COUNTY, NEW MEXICO
RIG:SILVER OAK #10

Page 03/05

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)
7810.00	28.75	4.42	7796.39	31.00	89.18	90.52 N	40.91 W	99.34@	335.68	10.11
7841.00	31.92	1.52	7823.14	31.00	104.83	106.16 N	40.11 W	113.48@	339.30	11.26
7872.00	35.26	358.77	7848.96	31.00	121.96	123.30 N	40.09 W	129.65@	341.99	11.84
7903.00	38.43	358.23	7873.77	31.00	140.52	141.88 N	40.58 W	147.57@	344.04	10.28
7934.00	41.86	359.26	7897.46	31.00	160.47	161.86 N	41.01 W	166.97@	345.78	11.27
7966.00	45.02	359.85	7920.69	32.00	182.46	183.86 N	41.18 W	188.41@	347.38	9.96
7997.00	48.19	359.99	7941.99	31.00	204.97	206.38 N	41.21 W	210.45@	348.71	10.23
8028.00	50.65	0.57	7962.15	31.00	228.50	229.92 N	41.09 W	233.56@	349.87	8.06
8058.00	53.73	1.11	7980.54	30.00	252.20	253.62 N	40.74 W	256.87@	350.87	10.36
8089.00	56.89	0.15	7998.18	31.00	277.68	279.10 N	40.46 W	282.02@	351.75	10.51
8121.00	60.06	0.41	8014.91	32.00	304.94	306.38 N	40.33 W	309.02@	352.50	9.93
8152.00	63.22	0.47	8029.64	31.00	332.21	333.65 N	40.12 W	336.05@	353.14	10.20
8183.00	67.44	0.75	8042.57	31.00	360.37	361.81 N	39.82 W	364.00@	353.72	13.64
8214.00	70.70	0.01	8053.64	31.00	389.31	390.76 N	39.63 W	392.77@	354.21	10.75
8245.00	72.81	359.95	8063.35	31.00	418.73	420.20 N	39.64 W	422.07@	354.61	6.81
8277.00	75.80	0.00	8072.01	32.00	449.52	451.01 N	39.65 W	452.75@	354.98	9.34
8308.00	80.55	0.62	8078.36	31.00	479.84	481.34 N	39.49 W	482.96@	355.31	15.45
8339.00	84.68	1.27	8082.34	31.00	510.58	512.07 N	38.98 W	513.55@	355.65	13.48
8352.00	85.21	1.52	8083.49	13.00	523.52	525.02 N	38.66 W	526.44@	355.79	4.50
8395.00	89.25	2.27	8085.56	43.00	566.46	567.93 N	37.24 W	569.15@	356.25	9.56
8488.00	89.25	2.63	8086.78	93.00	659.45	660.84 N	33.27 W	661.68@	357.12	0.39
8582.00	89.43	0.78	8087.86	94.00	753.44	754.79 N	30.47 W	755.40@	357.69	1.98
8676.00	88.99	1.22	8089.16	94.00	847.42	848.76 N	28.83 W	849.25@	358.05	0.66
8770.00	89.08	359.02	8090.74	94.00	941.36	942.75 N	28.64 W	943.18@	358.26	2.34
8863.00	88.64	359.29	8092.59	93.00	1034.24	1035.72 N	30.01 W	1036.15@	358.34	0.56
8956.00	88.55	358.67	8094.87	93.00	1127.10	1128.67 N	31.66 W	1129.12@	358.39	0.67
9050.00	91.10	359.02	8095.16	94.00	1220.96	1222.65 N	33.56 W	1223.11@	358.43	2.74
9144.00	91.01	359.46	8093.43	94.00	1314.85	1316.62 N	34.80 W	1317.08@	358.49	0.48

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
SOUTHLAND ROYALTY APM STATE #5H
EDDY COUNTY, NEW MEXICO
RIG: SILVER OAK #10

Page 04/05

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)
9238.00	91.01	359.64	8091.77	94.00	1408.76	1410.60 N	35.54 W	1411.05@	358.56	0.19
9330.00	90.75	0.17	8090.36	92.00	1500.70	1502.59 N	35.69 W	1503.02@	358.64	0.64
9423.00	89.96	0.34	8089.78	93.00	1593.66	1595.59 N	35.28 W	1595.98@	358.73	0.87
9516.00	90.04	0.61	8089.78	93.00	1686.64	1688.59 N	34.51 W	1688.94@	358.83	0.30
9609.00	88.46	0.69	8091.00	93.00	1779.61	1781.57 N	33.45 W	1781.88@	358.92	1.70
9702.00	89.08	0.78	8093.00	93.00	1872.57	1874.54 N	32.26 W	1874.82@	359.01	0.67
9795.00	89.78	359.90	8093.92	93.00	1965.53	1967.53 N	31.71 W	1967.79@	359.08	1.21
9888.00	89.78	0.17	8094.28	93.00	2058.49	2060.53 N	31.65 W	2060.77@	359.12	0.29
9981.00	89.96	0.25	8094.49	93.00	2151.45	2153.53 N	31.31 W	2153.76@	359.17	0.21
10075.00	89.60	0.43	8094.85	94.00	2245.42	2247.53 N	30.75 W	2247.74@	359.22	0.43
10168.00	89.52	0.43	8095.57	93.00	2338.39	2340.52 N	30.06 W	2340.71@	359.26	0.09
10261.00	89.34	0.43	8096.49	93.00	2431.35	2433.51 N	29.36 W	2433.69@	359.31	0.19
10355.00	89.52	0.87	8097.43	94.00	2525.33	2527.50 N	28.29 W	2527.66@	359.36	0.51
10448.00	89.78	1.31	8097.99	93.00	2618.32	2620.48 N	26.52 W	2620.62@	359.42	0.55
10541.00	89.60	1.22	8098.50	93.00	2711.31	2713.46 N	24.47 W	2713.57@	359.48	0.22
10635.00	90.31	0.78	8098.57	94.00	2805.30	2807.45 N	22.83 W	2807.54@	359.53	0.89
10728.00	90.22	0.78	8098.14	93.00	2898.29	2900.44 N	21.56 W	2900.52@	359.57	0.10
10822.00	89.96	0.69	8097.99	94.00	2992.27	2994.43 N	20.36 W	2994.50@	359.61	0.29
10916.00	90.40	0.52	8097.70	94.00	3086.25	3088.42 N	19.36 W	3088.48@	359.64	0.50
11009.00	90.40	0.69	8097.05	93.00	3179.23	3181.41 N	18.38 W	3181.47@	359.67	0.18
11102.00	90.13	0.69	8096.62	93.00	3272.21	3274.41 N	17.26 W	3274.45@	359.70	0.29
11195.00	90.40	0.96	8096.19	93.00	3365.19	3367.40 N	15.92 W	3367.43@	359.73	0.41
11288.00	90.40	0.87	8095.54	93.00	3458.18	3460.38 N	14.44 W	3460.41@	359.76	0.10
11381.00	90.40	1.22	8094.89	93.00	3551.17	3553.36 N	12.74 W	3553.39@	359.79	0.38
11475.00	90.66	0.96	8094.02	94.00	3645.16	3647.34 N	10.95 W	3647.36@	359.83	0.39
11568.00	90.92	0.61	8092.74	93.00	3738.13	3740.32 N	9.68 W	3740.34@	359.85	0.47
11662.00	90.75	0.43	8091.37	94.00	3832.10	3834.31 N	8.83 W	3834.32@	359.87	0.26
11754.00	90.75	0.52	8090.16	92.00	3924.06	3926.30 N	8.06 W	3926.31@	359.88	0.10

PathFinder Energy Services, Inc.

Survey Report

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SOUTHLAND ROYALTY APM STATE #5H
EDDY COUNTY, NEW MEXICO
RIG:SILVER OAK #10

Page 05/05

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets		Closure Dist. Dir		DLS
						(ft)	(ft)	(ft)	(deg)	(dg/100ft)
11846.00	91.36	0.78	8088.47	92.00	4016.03	4018.28 N	7.02 W	4018.28@	359.90	0.72
11939.00	91.10	0.34	8086.47	93.00	4108.98	4111.25 N	6.11 W	4111.26@	359.91	0.55
12033.00	91.10	0.34	8084.67	94.00	4202.94	4205.23 N	5.55 W	4205.24@	359.92	0.00
12127.00	90.92	0.17	8083.01	94.00	4296.89	4299.22 N	5.14 W	4299.22@	359.93	0.26
12221.00	90.92	0.25	8081.50	94.00	4390.84	4393.20 N	4.79 W	4393.21@	359.94	0.09
12313.00	90.84	0.52	8080.09	92.00	4482.80	4485.19 N	4.17 W	4485.19@	359.95	0.31
12407.00	90.84	0.43	8078.71	94.00	4576.76	4579.18 N	3.39 W	4579.18@	359.96	0.10
12501.00	90.66	0.34	8077.48	94.00	4670.72	4673.17 N	2.76 W	4673.17@	359.97	0.21
12533.00	90.48	0.34	8077.16	32.00	4702.71	4705.17 N	2.57 W	4705.17@	359.97	0.56
STRAIGHT LINE PROJECTION TO BIT AT 12582' MD.										
12582.00	90.48	0.34	8076.75	49.00	4751.69	4754.16 N	2.28 W	4754.16@	359.97	0.00

** 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.