



Job Number: SVCO-120873
 Company: Yates Petroleum Corporation
 Lease/Well: ZIA "AHZ" FEDERAL COM 2H
 Location: Eddy County, NM
 Rig Name: Patriot #5
 RKB: 26'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.56°
 Grid: East To Grid North
 File name: F:\SURVEY\2012SU-1\YATES\CONROE\ZIAAHZ-1\2H.SVY
 Date/Time: 22-Jun-12 / 16:29
 Curve Name: Surface - 300' M.D. (Rate Gyro)

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane .00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 300' MD is, to the best of
 our knowledge a true and accurate account of the
 well bore.
 Joshua Smith 6/22/12
 MS Energy Services Date

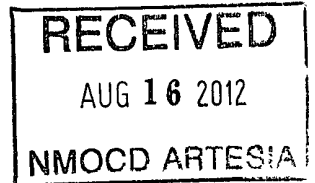
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.50	22.78	100.00	.40	.17	.40	.44	22.78	.50
200.00	.48	5.79	200.00	1.22	.38	1.22	1.28	17.29	.15
Last Survey Depth Recorded									
300.00	.81	267.70	299.99	1.61	-.28	1.61	1.63	350.00	1.00

30-015-40404



A Schlumberger Company

DIRECTIONAL SURVEY REPORT



YATES PETROLEUM

ZIA 'AHZ' FEDERAL COM #2H

EDDY COUNTY, NEW MEXICO

PREPARED BY: JUAN ALCOCER

Pathfinder

6213 WCR 112
Midland, Texas 79706-3725 USA
Tel (432) 687-1647
Fax (432) 687-1544



July 20, 2012

YATES PETROLEUM
105 S 4th ST
Artesia, NM 88210-2177

RE: Yates Petroleum
Zia 'AHZ' Federal Com #2H
API: 30-015-40404
Eddy County, NM
Rig: Patriot 5
Field: Getty; Bone Spring
PES FILE NO.: 12MLD0253

To whom it may concern:

We hereby certify that the enclosed Original Field Survey Data contained in this report represents to the best of our knowledge, a true and accurate survey of the well at the time the survey was run.

DIRECTIONAL SURVEY DATA
1 – Original survey report
2 – Survey report copies

We appreciate the opportunity to work with you and we look forward to your business support. If you have any questions, I can be reached at (432) 687-1647

Sincerely,



JUAN ALCOCER
MWD Coordinator
PathFinder Energy Services

ML:sh

Pathfinder

6213 WCR, 112
Midland, Texas 79706-3725, USA
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) GEORGE SAKAS
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 6/22/12 TO 7/10/12
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
ZIA 'AHZ' FEDERAL COM #2H
EDDY COUNTY, NM
RIG: PATRIOT 5
9. SURVEY CERTIFIED FROM: 359 TO 12,825 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 4,714.42 FEET ON A BEARING OF 272.88 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 12,900 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: 06/18/2012
Date Completed: 07/10/2012

YATES PETROLEUM CORP.
ZIA AHZ FED COM #2H
EDDY COUNTY, NEW MEXICO
Rig: PATRIOT 5

PathFinder Office Supervisor: JUAN ALCOCER
PathFinder Field Engineers: G.SAKAS
M.SAKAS

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.34.40.5444 N LON: 104.1.45.2335 W
GRID Reference: NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 635009.5320 Y: 574115.1210
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.54° EAST TO GRID
Vertical Section Plane: 272.79
Survey Vert. Reference: 26.50' Kelly Bushing To Ground
Altitude: 3325.00' Ground To MSL

Measured Depth	12900.00	(feet)
Inclination	91.45	(deg)
Azimuth	273.50	(deg)
True Vertical Depth	8286.18	(feet)
Vertical Section	4714.41	(feet)
Survey X cord	630301.05	(feet)
Survey Y cord	574351.63	(feet)
Survey Lat	32.57861516 N	(deg)
Survey Lon	104.04451514 W	(deg)
Rectangular Corr. N/S	236.51 N	(feet)
Rectangular Corr. E/W	4708.48 W	(feet)
Closure Distance	4714.42	(feet)
Direction of Closure	272.88	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.

ZIA AHZ FED COM #2H

EDDY COUNTY, NEW MEXICO

Rig: PATRIOT 5

PathFinder Office Supervisor: JUAN ALCOCER

PathFinder Field Engineers: G.SAKAS

M.SAKAS

Survey Horiz. Reference: WELLHEAD

Ref Coordinates: LAT: 32.34.40.5444 N LON: 104.1.45.2335 W

GRID Reference: NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 635009.5320 Y: 574115.1210

North Aligned To: GRID NORTH

Total Magnetic Correction: 7.54° EAST TO GRID

Vertical Section Plane: 272.79

Survey Vert. Reference: 26.50' Kelly Bushing To Ground

Altitude: 3325.00' Ground To MSL

Survey Calculations by RX5 V6.04A using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular (ft)	Offsets (ft)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
TIED INTO MS GYRO SURVEY AT 300' MD.										
300.00	0.81	267.70	299.99	0.00	0.36	1.61 N	0.28 W	1.63@	350.13	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
359.00	0.97	278.95	358.98	59.00	1.27	1.67 N	1.19 W	2.05@	324.54	0.40
447.00	1.41	305.80	446.96	88.00	2.92	2.42 N	2.80 W	3.70@	310.80	0.79
506.00	0.97	270.81	505.95	59.00	4.03	2.85 N	3.89 W	4.83@	306.23	1.41
593.00	0.70	275.37	592.94	87.00	5.29	2.91 N	5.16 W	5.92@	299.45	0.32
685.00	0.35	277.15	684.94	92.00	6.13	3.00 N	6.00 W	6.70@	296.58	0.38
748.00	0.18	294.95	747.94	63.00	6.42	3.07 N	6.28 W	6.99@	296.03	0.30
842.00	0.18	309.12	841.94	94.00	6.67	3.22 N	6.52 W	7.28@	296.27	0.05
937.00	0.18	336.97	936.94	95.00	6.86	3.45 N	6.70 W	7.54@	297.26	0.09
1032.00	0.35	354.75	1031.94	95.00	6.96	3.88 N	6.78 W	7.81@	299.76	0.20
1127.00	0.53	31.45	1126.93	95.00	6.79	4.54 N	6.58 W	8.00@	304.61	0.34
1222.00	0.53	67.09	1221.93	95.00	6.19	5.09 N	5.95 W	7.83@	310.55	0.34
1327.00	0.55	61.15	1326.93	105.00	5.32	5.52 N	5.06 W	7.49@	317.50	0.06
1420.00	0.68	71.97	1419.92	93.00	4.43	5.91 N	4.14 W	7.21@	324.95	0.19
1539.00	0.35	250.33	1538.92	119.00	4.10	6.00 N	3.81 W	7.11@	327.57	0.87
1696.00	0.70	265.34	1695.91	157.00	5.50	5.76 N	5.22 W	7.78@	317.83	0.24
1790.00	0.88	258.41	1789.90	94.00	6.76	5.57 N	6.50 W	8.56@	310.60	0.22
1884.00	0.97	242.57	1883.89	94.00	8.15	5.06 N	7.91 W	9.39@	302.60	0.29
1978.00	0.70	216.31	1977.88	94.00	9.16	4.23 N	8.96 W	9.91@	295.28	0.49
2072.00	0.79	218.89	2071.87	94.00	9.85	3.26 N	9.71 W	10.24@	288.58	0.10
2166.00	0.88	231.80	2165.86	94.00	10.78	2.31 N	10.68 W	10.93@	282.22	0.22
2260.00	1.23	228.22	2259.85	94.00	12.04	1.19 N	12.00 W	12.06@	275.68	0.38

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
ZIA AHZ FED COM #2H
EDDY COUNTY, NEW MEXICO
RIG:PATRIOT 5

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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)
2354.00	0.62	286.72	2353.84	94.00	13.26	0.67 N	13.24 W	13.26@	272.89	1.12
2449.00	1.14	281.16	2448.82	95.00	14.69	1.00 N	14.66 W	14.69@	273.90	0.55
2544.00	0.35	58.36	2543.82	95.00	15.39	1.33 N	15.34 W	15.40@	274.97	1.49
2639.00	0.26	357.30	2638.82	95.00	15.17	1.70 N	15.10 W	15.20@	276.43	0.34
2733.00	0.09	268.84	2732.82	94.00	15.26	1.91 N	15.19 W	15.31@	277.18	0.29
2827.00	0.18	264.80	2826.82	94.00	15.48	1.90 N	15.41 W	15.52@	277.03	0.10
2923.00	0.35	253.47	2922.82	96.00	15.91	1.80 N	15.84 W	15.94@	276.49	0.19
3017.00	0.18	217.41	3016.81	94.00	16.26	1.60 N	16.20 W	16.28@	275.65	0.24
3111.00	0.09	182.39	3110.81	94.00	16.35	1.41 N	16.30 W	16.36@	274.95	0.13
3206.00	0.18	140.90	3205.81	95.00	16.25	1.22 N	16.21 W	16.25@	274.31	0.13
3300.00	0.09	109.11	3299.81	94.00	16.08	1.08 N	16.04 W	16.08@	273.86	0.12
3395.00	0.09	354.52	3394.81	95.00	16.02	1.13 N	15.98 W	16.02@	274.05	0.16
3540.00	0.62	34.22	3539.81	145.00	15.62	1.89 N	15.55 W	15.66@	276.95	0.38
3674.00	0.35	44.68	3673.81	134.00	14.97	2.78 N	14.85 W	15.11@	280.62	0.21
3863.00	0.62	24.01	3862.80	189.00	14.22	4.13 N	14.03 W	14.63@	286.40	0.17
4051.00	0.88	5.91	4050.78	188.00	13.77	6.49 N	13.47 W	14.95@	295.74	0.19
4240.00	0.70	346.14	4239.77	189.00	14.02	9.06 N	13.60 W	16.34@	303.68	0.17
4429.00	0.44	27.60	4428.76	189.00	14.05	10.82 N	13.54 W	17.33@	308.64	0.25
4617.00	0.97	88.11	4616.74	188.00	12.16	11.52 N	11.61 W	16.35@	314.76	0.45
4807.00	0.70	68.72	4806.72	190.00	9.50	11.99 N	8.92 W	14.95@	323.34	0.20
4996.00	0.79	50.72	4995.71	189.00	7.47	13.23 N	6.84 W	14.90@	332.67	0.13
5185.00	0.97	82.24	5184.69	189.00	4.93	14.27 N	4.24 W	14.89@	343.44	0.27
5375.00	0.70	75.15	5374.67	190.00	2.25	14.79 N	1.53 W	14.87@	354.10	0.15
5565.00	0.70	58.86	5564.65	190.00	0.18	15.69 N	0.59 E	15.70@	2.14	0.10
5754.00	0.18	141.35	5753.65	189.00	-0.98	16.05 N	1.76 E	16.15@	6.26	0.37
5941.00	0.18	313.44	5940.65	187.00	-0.95	16.02 N	1.73 E	16.12@	6.16	0.19
6131.00	0.53	317.27	6130.64	190.00	-0.09	16.88 N	0.92 E	16.90@	3.11	0.19

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
ZIA AHZ FED COM #2H
EDDY COUNTY, NEW MEXICO
RIG:PATRIOT 5

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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)
6225.00	0.26	145.92	6224.64	94.00	0.09	17.02 N	0.74 E	17.03@	2.49	0.84
6320.00	1.06	159.77	6319.63	95.00	-0.39	16.01 N	1.17 E	16.06@	4.16	0.85
6414.00	1.32	165.57	6413.61	94.00	-1.05	14.15 N	1.74 E	14.26@	7.00	0.30
6509.00	1.41	170.14	6508.59	95.00	-1.63	11.94 N	2.21 E	12.14@	10.48	0.15
6604.00	1.32	171.19	6603.56	95.00	-2.10	9.71 N	2.58 E	10.04@	14.87	0.10
6698.00	1.49	181.83	6697.53	94.00	-2.34	7.41 N	2.70 E	7.89@	20.03	0.33
6792.00	1.76	186.49	6791.49	94.00	-2.27	4.76 N	2.50 E	5.38@	27.73	0.32
6886.00	0.97	144.82	6885.47	94.00	-2.66	2.67 N	2.80 E	3.87@	46.28	1.30
6980.00	1.41	145.35	6979.45	94.00	-3.86	1.07 N	3.91 E	4.06@	74.67	0.47
7074.00	1.14	110.55	7073.43	94.00	-5.45	0.21 S	5.45 E	5.45@	92.18	0.86
7168.00	0.97	130.59	7167.41	94.00	-6.97	1.05 S	6.93 E	7.01@	98.64	0.43
7263.00	0.26	35.67	7262.41	95.00	-7.72	1.40 S	7.66 E	7.79@	100.36	1.08
7357.00	0.35	95.78	7356.41	94.00	-8.12	1.26 S	8.07 E	8.17@	98.85	0.34
7452.00	0.53	90.86	7451.40	95.00	-8.85	1.29 S	8.80 E	8.89@	98.35	0.19
7546.00	0.35	36.98	7545.40	94.00	-9.45	1.07 S	9.41 E	9.47@	96.49	0.46
7640.00	1.06	94.99	7639.39	94.00	-10.48	0.92 S	10.45 E	10.49@	95.01	0.98
7734.00	1.93	169.08	7733.37	94.00	-11.72	2.55 S	11.61 E	11.89@	102.37	2.05
7828.00	2.20	168.56	7827.31	94.00	-12.54	5.87 S	12.27 E	13.60@	115.56	0.29
7850.00	1.85	165.83	7849.29	22.00	-12.75	6.63 S	12.44 E	14.10@	118.04	1.65
7882.00	1.67	178.66	7881.28	32.00	-12.93	7.59 S	12.58 E	14.69@	121.12	1.35
7913.00	3.69	248.80	7912.25	31.00	-12.05	8.41 S	11.66 E	14.37@	125.79	11.27
7945.00	7.74	263.13	7944.08	32.00	-8.99	9.04 S	8.56 E	12.45@	136.56	13.32
7976.00	11.87	266.47	7974.62	31.00	-3.76	9.48 S	3.30 E	10.04@	160.81	13.44
8008.00	15.21	267.08	8005.73	32.00	3.69	9.90 S	4.18 W	10.75@	202.88	10.45
8039.00	18.11	266.99	8035.43	31.00	12.53	10.36 S	13.05 W	16.66@	231.56	9.36
8071.00	21.02	267.08	8065.58	32.00	23.19	10.91 S	23.75 W	26.14@	245.32	9.09
8102.00	24.27	268.66	8094.18	31.00	35.08	11.35 S	35.68 W	37.44@	252.36	10.67

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
ZIA AHZ FED COM #2H
EDDY COUNTY, NEW MEXICO
RIG:PATRIOT 5

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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)
8133.00	27.35	270.07	8122.09	31.00	48.56	11.49 S	49.17 W	50.50@	256.85	10.13
8165.00	30.07	271.83	8150.15	32.00	63.92	11.22 S	64.54 W	65.51@	260.14	8.90
8196.00	33.77	271.92	8176.46	31.00	80.30	10.68 S	80.92 W	81.62@	262.48	11.94
8227.00	37.46	271.74	8201.66	31.00	98.35	10.11 S	98.96 W	99.47@	264.17	11.91
8259.00	41.50	271.30	8226.35	32.00	118.69	9.57 S	119.29 W	119.68@	265.41	12.65
8290.00	45.64	270.77	8248.81	31.00	140.04	9.19 S	140.65 W	140.95@	266.26	13.41
8322.00	49.68	269.98	8270.35	32.00	163.66	9.04 S	164.30 W	164.55@	266.85	12.76
8353.00	53.55	269.81	8289.60	31.00	187.93	9.09 S	188.59 W	188.81@	267.24	12.49
8384.00	57.68	269.72	8307.10	31.00	213.47	9.19 S	214.17 W	214.37@	267.54	13.32
8416.00	61.82	269.72	8323.22	32.00	241.07	9.33 S	241.81 W	241.99@	267.79	12.94
8447.00	65.60	269.72	8336.95	31.00	268.82	9.46 S	269.60 W	269.76@	267.99	12.19
8479.00	70.52	270.42	8348.90	32.00	298.46	9.42 S	299.27 W	299.42@	268.20	15.51
8510.00	74.66	271.30	8358.17	31.00	328.01	8.98 S	328.84 W	328.96@	268.44	13.63
8542.00	78.96	272.53	8365.47	32.00	359.16	7.93 S	359.97 W	360.06@	268.74	13.95
8574.00	83.19	273.58	8370.44	32.00	390.76	6.25 S	391.53 W	391.58@	269.09	13.61
8637.00	89.08	275.52	8374.68	63.00	453.56	1.26 S	454.16 W	454.16@	269.84	9.84
8731.00	91.45	275.43	8374.25	94.00	547.45	7.71 N	547.72 W	547.77@	270.81	2.52
8825.00	92.15	275.52	8371.30	94.00	641.30	16.67 N	641.24 W	641.46@	271.49	0.75
8919.00	91.71	275.69	8368.13	94.00	735.13	25.85 N	734.74 W	735.20@	272.01	0.50
9014.00	91.71	274.20	8365.30	95.00	830.02	34.03 N	829.34 W	830.04@	272.35	1.57
9107.00	91.45	274.02	8362.73	93.00	922.96	40.70 N	922.07 W	922.97@	272.53	0.34
9202.00	91.19	274.11	8360.54	95.00	1017.91	47.43 N	1016.80 W	1017.91@	272.67	0.29
9297.00	91.63	275.17	8358.21	95.00	1112.83	55.11 N	1111.46 W	1112.83@	272.84	1.21
9391.00	91.54	274.46	8355.61	94.00	1206.73	63.00 N	1205.09 W	1206.74@	272.99	0.76
9486.00	90.13	272.44	8354.22	95.00	1301.71	68.71 N	1299.90 W	1301.72@	273.03	2.59
9580.00	90.13	271.83	8354.01	94.00	1395.70	72.22 N	1393.84 W	1395.71@	272.97	0.65
9674.00	91.45	272.44	8352.71	94.00	1489.68	75.72 N	1487.76 W	1489.69@	272.91	1.55

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
ZIA AHZ FED COM #2H
EDDY COUNTY, NEW MEXICO
RIG:PATRIOT 5

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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)
9767.00	91.45	272.35	8350.36	93.00	1582.65	79.60 N	1580.65 W	1582.65@	272.88	0.10
9862.00	91.98	272.18	8347.51	95.00	1677.61	83.35 N	1675.53 W	1677.61@	272.85	0.59
9956.00	92.07	272.35	8344.19	94.00	1771.54	87.07 N	1769.40 W	1771.54@	272.82	0.20
10051.00	90.84	272.44	8341.78	95.00	1866.51	91.04 N	1864.29 W	1866.51@	272.80	1.30
10145.00	90.75	272.35	8340.48	94.00	1960.50	94.96 N	1958.20 W	1960.50@	272.78	0.14
10240.00	91.98	273.06	8338.21	95.00	2055.47	99.45 N	2053.06 W	2055.47@	272.77	1.49
10333.00	92.33	273.23	8334.72	93.00	2148.40	104.54 N	2145.85 W	2148.40@	272.79	0.42
10428.00	91.80	272.62	8331.29	95.00	2243.34	109.39 N	2240.67 W	2243.34@	272.79	0.85
10523.00	92.15	272.79	8328.02	95.00	2338.28	113.87 N	2335.51 W	2338.28@	272.79	0.41
10617.00	91.45	273.58	8325.07	94.00	2432.23	119.09 N	2429.31 W	2432.23@	272.81	1.12
10712.00	89.52	273.23	8324.26	95.00	2527.22	124.73 N	2524.14 W	2527.22@	272.83	2.06
10806.00	89.52	273.15	8325.05	94.00	2621.21	129.96 N	2617.99 W	2621.21@	272.84	0.09
10900.00	89.87	273.32	8325.55	94.00	2715.21	135.27 N	2711.84 W	2715.21@	272.86	0.41
10994.00	90.13	273.67	8325.55	94.00	2809.20	141.00 N	2805.66 W	2809.20@	272.88	0.46
11089.00	90.13	273.50	8325.33	95.00	2904.19	146.94 N	2900.48 W	2904.20@	272.90	0.18
11184.00	89.60	273.50	8325.56	95.00	2999.18	152.74 N	2995.30 W	2999.19@	272.92	0.56
11279.00	89.69	272.97	8326.15	95.00	3094.18	158.10 N	3090.14 W	3094.19@	272.93	0.57
11373.00	90.57	272.18	8325.93	94.00	3188.17	162.32 N	3184.05 W	3188.18@	272.92	1.26
11469.00	91.28	271.56	8324.38	96.00	3284.15	165.45 N	3279.98 W	3284.15@	272.89	0.98
11563.00	91.36	271.39	8322.22	94.00	3378.10	167.87 N	3373.93 W	3378.10@	272.85	0.20
11657.00	91.45	272.09	8319.91	94.00	3472.05	170.73 N	3467.85 W	3472.05@	272.82	0.75
11752.00	91.36	271.48	8317.58	95.00	3567.01	173.68 N	3562.78 W	3567.01@	272.79	0.65
11846.00	91.98	271.48	8314.85	94.00	3660.95	176.11 N	3656.71 W	3660.95@	272.76	0.66
11940.00	92.24	271.74	8311.38	94.00	3754.86	178.75 N	3750.61 W	3754.86@	272.73	0.39
12035.00	91.98	272.97	8307.89	95.00	3849.79	182.65 N	3845.46 W	3849.80@	272.72	1.32
12130.00	91.80	273.76	8304.75	95.00	3944.74	188.22 N	3940.24 W	3944.74@	272.73	0.85
12224.00	91.63	273.94	8301.94	94.00	4038.68	194.53 N	4033.99 W	4038.68@	272.76	0.26

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
ZIA AHZ FED COM #2H
EDDY COUNTY, NEW MEXICO
RIG: PATRIOT 5

Page 06/06

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)
12319.00	90.92	273.15	8299.83	95.00	4133.64	200.40 N	4128.78 W	4133.64@	272.78	1.12
12414.00	90.92	273.58	8298.30	95.00	4228.63	205.98 N	4223.61 W	4228.63@	272.79	0.45
12509.00	91.28	274.20	8296.48	95.00	4323.59	212.42 N	4318.37 W	4323.59@	272.82	0.75
12603.00	91.54	273.94	8294.16	94.00	4417.54	219.09 N	4412.10 W	4417.54@	272.84	0.39
12698.00	91.63	272.97	8291.54	95.00	4512.50	224.82 N	4506.89 W	4512.50@	272.86	1.03
12793.00	91.54	273.32	8288.91	95.00	4607.46	230.03 N	4601.71 W	4607.46@	272.86	0.38
12825.00	91.45	273.50	8288.07	32.00	4639.44	231.93 N	4633.65 W	4639.45@	272.87	0.63
STRAIGHT LINE PROJECTION TO BIT AT 12900' MD.										
12900.00	91.45	273.50	8286.18	75.00	4714.41	236.51 N	4708.48 W	4714.42@	272.88	0.00



A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM		
LEASE / WELL No.:	ZIA AHZ FED COM	#2H	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY	NM	USA
RIG:	PARTRIO 5		
API WELL No:	30-0150-40404		
JOB No:	12MLD0253		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PATHFINDER		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):					
On Wall Plat:	7.57	LWD Calculated:	7.535	Agreed Upon:	7.54
X =	635009.532000	Feet	Y =	574115.121000	Feet
SITE LATITUDE:	32.577929	SITE LONGITUDE:	104.029232		
GRID SYSTEM:	TRUE ☐	UTM ☐	LAMBERT ☒	ZONE:	
PROPOSED DRIFT DIRECTION:	272.79				
KELLY BUSHING ELEVATION:	26.5				
ALTITUDE:	3351.5	Feet	WATER DEPTH:	Feet	

TIE-IN SURVEY

MEASURED DEPTH:	300		
DRIFT ANGLE:	0.81		
DRIFT DIRECTION:	267.7		
TRUE VERTICAL DEPTH:	299.99		
VERTICAL SECTION:	0.36		
RECTANGULAR COORDINATE (N / S) :	1.61		
RECTANGULAR COORDINATE (E / W) :	-0.28		
CLOSURE DISTANCE / DIRECTION:	1.63	350	
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:	TOTAL DEPTH:
KICKOFF ANGLE:	MAX ANGLE:

PES Engineers: GEORGE SAKAS

**Signature of both field engineers required if applicable

Directional Driller: IRBY LEJUNE

DATE: _____



Company:	YATES PETROLEUM CORPORATION	Operator:	JOSHUA SMITH
Lease / Well:	ZIA "AHZ" FEDERAL COM #2H	Job Number:	SVCO-120873
County/Parish:	EDDY COUNTY	Probe Serial #	123
State:	NEW MEXICO	Proposed Direction:	0
Date:	6/22/2012	Mag. Declination:	7.56 EAST TO GRID
API#:	NONE	Rig / RKB:	PATRIOT #5 / RKB 26 FEET
Dir. Company:	PATHFINDER	Tie-In From:	N / A
FIELD USE ONLY, DEFINITIVE SURVEY WILL COME FROM MS Survey OFFICES			

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

Rate Gyro Survey Report									
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S) (+E/-W)		Dog-Leg / 100 ft.	Closure Distance	Closure Direction
100	0.50	22.78	100.00	0.40	0.40	0.17	0.50	0.44	22.78°
200	0.48	5.79	200.00	1.22	1.22	0.38	0.15	1.28	17 29°
300	0.81	267.70	299.99	1.61	1.61	-0.28	1.00	1.63	350.00°



A Schlumberger Company

PathFinder Energy Services, Inc. Magnetic & Grid Calculations

*field
calcs*

YATES PETROLEUM CORP.
ZIA "AHZ" FEDERAL COM
EDDY COUNTY, NEW MEXICO
Rig: PATRIOT #5

Thu Jun 14 11:17:55 2012

Coordinates

Latitude: 32.577929 N (32 deg. 34 min. 40.5444 sec.)
Longitude: 104.029232 W (-104 deg. 1 min. 45.2335 sec.)
Elevation: 3343.00 feet.
Calculation Date: Jun/14/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.4112 degrees
Total Magnetic Field: 0.48680 gauss
Magnetic Declination: 7.700958 degrees
Horizontal Intensity: 0.240367 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.700958 Degr.

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 635009.5320 feet
Y: 574115.1210 feet
True to Grid: (convergence) -0.163744 degrees
Magnetic to Grid: 7.537214 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.537214 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

Field
calcs

Wed Jun 20 10:02:20 2012

Coordinates

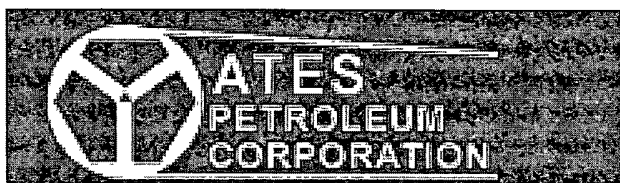
Latitude: 32.577929 N (32 deg. 34 min. 40.5444 sec.)
Longitude: 104.029232 W (-104 deg. 1 min. 45.2335 sec.)
Elevation: 3351.50 feet.
Calculation Date: Jun/20/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.4108 degrees
Total Magnetic Field: 0.48678 gauss
Magnetic Declination: 7.698939 degrees
Horizontal Intensity: 0.240362 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.698939 Degs

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 635009.5320 feet
Y: 574115.1210 feet
True to Grid: (convergence) -0.163744 degrees
Magnetic to Grid: 7.535196 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.535196 Degs.



Yates Petroleum Corp.

Eddy County (NAD 83)
Zia "AHZ" Federal Com
#2H
OH

Design: OH

PathfinderX & Y Report

11 July, 2012



PATHFINDER[®]

A Schlumberger Company



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 26 5' @ 3351.5usft (Patriot 5)
Site:	Zia "AHZ" Federal Com	MD Reference:	KB = 26 5' @ 3351.5usft (Patriot 5)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project: Eddy County (NAD 83)			
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Zia "AHZ" Federal Com			
Site Position:		Northing:	574,115 121 usft	Latitude:	32 578
From:	Map	Easting:	635,009 532 usft	Longitude:	-104 029
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0 16 °

Well		#2H				
Well Position	+N/-S	0.0 usft	Northing:	574,115.121 usft	Latitude:	32.578
	+E/-W	0.0 usft	Easting:	635,009 532 usft	Longitude:	-104.029
Position Uncertainty	0 0 usft	Wellhead Elevation:	usft	Ground Level:	3,325 0 usft	

Wellbore		OH			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/25/2012	7.74	60 45	48,757

Design		OH			
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	272.79	



Pathfinder PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 26.5' @ 3351.5usft (Patriot 5)
Site:	Zia "AHZ" Federal Com.	MD Reference:	KB = 26.5' @ 3351.5usft (Patriot 5)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Survey Program		Date 7/11/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	300.0	Survey #1 (OH)	CB-MAG-MS	Camera based mag multi shot
359.0	12,900.0	Survey #2 (OH)	MWD	MWD - Standard

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (%/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	-3,351.5	0.0	0.0	0.0	0.00	574,115.12	635,009.53
100.0	0.50	22.78	100.0	-3,251.5	0.4	0.2	-0.1	0.50	574,115.52	635,009.70
200.0	0.48	5.79	200.0	-3,151.5	1.2	0.4	-0.3	0.15	574,116.34	635,009.91
300.0	0.81	267.70	300.0	-3,051.5	1.6	-0.3	0.4	1.00	574,116.73	635,009.25
359.0	0.97	278.95	359.0	-2,992.5	1.7	-1.2	1.3	0.40	574,116.79	635,008.34
447.0	1.41	305.80	447.0	-2,904.5	2.4	-2.8	2.9	0.79	574,117.54	635,006.72
506.0	0.97	270.81	506.0	-2,845.5	2.9	-3.9	4.0	1.41	574,117.97	635,005.64
593.0	0.70	275.37	592.9	-2,758.6	2.9	-5.2	5.3	0.32	574,118.03	635,004.37
685.0	0.35	277.15	684.9	-2,666.6	3.0	-6.0	6.1	0.38	574,118.12	635,003.53
748.0	0.18	294.95	747.9	-2,603.6	3.1	-6.3	6.4	0.30	574,118.19	635,003.25
842.0	0.18	309.12	841.9	-2,509.6	3.2	-6.5	6.7	0.05	574,118.34	635,003.00
937.0	0.18	336.97	936.9	-2,414.6	3.5	-6.7	6.9	0.09	574,118.57	635,002.83
1,032.0	0.35	354.75	1,031.9	-2,319.6	3.9	-6.8	7.0	0.20	574,119.00	635,002.74
1,127.0	0.53	31.45	1,126.9	-2,224.6	4.5	-6.6	6.8	0.34	574,119.66	635,002.95
1,222.0	0.53	67.09	1,221.9	-2,129.6	5.1	-6.0	6.2	0.34	574,120.21	635,003.58
1,327.0	0.55	61.15	1,326.9	-2,024.6	5.5	-5.1	5.3	0.06	574,120.64	635,004.47
1,420.0	0.68	71.97	1,419.9	-1,931.6	5.9	-4.1	4.4	0.19	574,121.03	635,005.39
1,539.0	0.35	250.33	1,538.9	-1,812.6	6.0	-3.8	4.1	0.87	574,121.12	635,005.71
1,696.0	0.70	265.34	1,695.9	-1,655.6	5.8	-5.2	5.5	0.24	574,120.88	635,004.31
1,790.0	0.88	258.41	1,789.9	-1,561.6	5.6	-6.5	6.8	0.22	574,120.69	635,003.03
1,884.0	0.97	242.57	1,883.9	-1,467.6	5.1	-7.9	8.2	0.29	574,120.18	635,001.61



Pathfinder PathfinderX & Y Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 26.5' @ 3351.5usft (Patriot 5)
Site:	Zia "AHZ" Federal Com	MD Reference:	KB = 26.5' @ 3351.5usft (Patriot 5)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
1,978.0	0.70	216.31	1,977.9	-1,373.6	4.2	-9.0	9.2	0.49	574,119.35	635,000.57	
2,072.0	0.79	218.89	2,071.9	-1,279.6	3.3	-9.7	9.9	0.10	574,118.38	634,999.82	
2,166.0	0.88	231.80	2,165.9	-1,185.6	2.3	-10.7	10.8	0.22	574,117.43	634,998.85	
2,260.0	1.23	228.22	2,259.8	-1,091.7	1.2	-12.0	12.0	0.38	574,116.32	634,997.53	
2,354.0	0.62	286.72	2,353.8	-997.7	0.7	-13.2	13.3	1.12	574,115.79	634,996.29	
2,449.0	1.14	281.16	2,448.8	-902.7	1.0	-14.7	14.7	0.55	574,116.12	634,994.87	
2,544.0	0.35	58.36	2,543.8	-807.7	1.3	-15.3	15.4	1.49	574,116.46	634,994.19	
2,639.0	0.26	357.30	2,638.8	-712.7	1.7	-15.1	15.2	0.34	574,116.82	634,994.43	
2,733.0	0.09	268.84	2,732.8	-618.7	1.9	-15.2	15.3	0.29	574,117.03	634,994.34	
2,827.0	0.18	264.80	2,826.8	-524.7	1.9	-15.4	15.5	0.10	574,117.02	634,994.12	
2,923.0	0.35	253.47	2,922.8	-428.7	1.8	-15.8	15.9	0.18	574,116.92	634,993.69	
3,017.0	0.18	217.41	3,016.8	-334.7	1.6	-16.2	16.3	0.25	574,116.72	634,993.32	
3,111.0	0.09	182.39	3,110.8	-240.7	1.4	-16.3	16.3	0.13	574,116.53	634,993.23	
3,206.0	0.18	140.90	3,205.8	-145.7	1.2	-16.2	16.2	0.13	574,116.34	634,993.32	
3,300.0	0.09	109.11	3,299.8	-51.7	1.1	-16.0	16.1	0.12	574,116.20	634,993.49	
3,395.0	0.09	354.52	3,394.8	43.3	1.1	-16.0	16.0	0.16	574,116.25	634,993.55	
3,540.0	0.62	34.22	3,539.8	188.3	1.9	-15.6	15.6	0.38	574,117.02	634,993.98	
3,674.0	0.35	44.68	3,673.8	322.3	2.8	-14.9	15.0	0.21	574,117.91	634,994.67	
3,863.0	0.62	24.01	3,862.8	511.3	4.1	-14.0	14.2	0.17	574,119.25	634,995.50	
4,051.0	0.88	5.91	4,050.8	699.3	6.5	-13.5	13.8	0.19	574,121.62	634,996.06	
4,240.0	0.70	346.14	4,239.8	888.3	9.1	-13.6	14.0	0.17	574,124.18	634,995.93	
4,429.0	0.44	27.60	4,428.8	1,077.3	10.8	-13.5	14.1	0.25	574,125.94	634,995.99	
4,617.0	0.97	88.11	4,616.7	1,265.2	11.5	-11.6	12.2	0.45	574,126.64	634,997.92	
4,807.0	0.70	68.72	4,806.7	1,455.2	12.0	-8.9	9.5	0.20	574,127.11	635,000.61	
4,996.0	0.79	50.72	4,995.7	1,644.2	13.2	-6.8	7.5	0.13	574,128.35	635,002.69	
5,185.0	0.97	82.24	5,184.7	1,833.2	14.3	-4.2	4.9	0.27	574,129.40	635,005.28	
5,375.0	0.70	75.15	5,374.7	2,023.2	14.8	-1.5	2.3	0.15	574,129.91	635,008.00	



Pathfinder PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 26.5' @ 3351.5usft (Patriot 5)
Site:	Zia "AHZ" Federal Com	MD Reference:	KB = 26.5' @ 3351.5usft (Patriot 5)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
5,565.0	0.70	58.86	5,564.7	2,213.2	15.7	0.6	0.2	0.10	574,130.81	635,010.11	
5,754.0	0.18	141.35	5,753.6	2,402.1	16.1	1.8	-1.0	0.37	574,131.17	635,011.29	
5,941.0	0.18	313.44	5,940.6	2,589.1	16.0	1.7	-0.9	0.19	574,131.15	635,011.26	
6,131.0	0.53	317.27	6,130.6	2,779.1	16.9	0.9	-0.1	0.18	574,132.00	635,010.44	
6,225.0	0.26	145.92	6,224.6	2,873.1	17.0	0.7	0.1	0.84	574,132.14	635,010.27	
6,320.0	1.06	159.77	6,319.6	2,968.1	16.0	1.2	-0.4	0.85	574,131.14	635,010.69	
6,414.0	1.32	165.57	6,413.6	3,062.1	14.2	1.7	-1.0	0.30	574,129.27	635,011.26	
6,509.0	1.41	170.14	6,508.6	3,157.1	11.9	2.2	-1.6	0.15	574,127.06	635,011.74	
6,604.0	1.32	171.19	6,603.6	3,252.1	9.7	2.6	-2.1	0.10	574,124.83	635,012.11	
6,698.0	1.49	181.83	6,697.5	3,346.0	7.4	2.7	-2.3	0.33	574,122.54	635,012.23	
6,792.0	1.76	186.49	6,791.5	3,440.0	4.8	2.5	-2.3	0.32	574,119.88	635,012.03	
6,886.0	0.97	144.82	6,885.5	3,534.0	2.7	2.8	-2.7	1.30	574,117.80	635,012.32	
6,980.0	1.41	145.35	6,979.4	3,627.9	1.1	3.9	-3.9	0.47	574,116.19	635,013.44	
7,074.0	1.14	110.55	7,073.4	3,721.9	-0.2	5.4	-5.4	0.86	574,114.91	635,014.97	
7,168.0	0.97	130.59	7,167.4	3,815.9	-1.1	6.9	-7.0	0.43	574,114.07	635,016.45	
7,263.0	0.26	35.67	7,262.4	3,910.9	-1.4	7.7	-7.7	1.08	574,113.72	635,017.19	
7,357.0	0.35	95.78	7,356.4	4,004.9	-1.3	8.1	-8.1	0.34	574,113.86	635,017.60	
7,452.0	0.53	90.86	7,451.4	4,099.9	-1.3	8.8	-8.8	0.19	574,113.83	635,018.33	
7,546.0	0.35	36.98	7,545.4	4,193.9	-1.1	9.4	-9.4	0.46	574,114.05	635,018.94	
7,640.0	1.06	94.99	7,639.4	4,287.9	-0.9	10.4	-10.5	0.98	574,114.20	635,019.97	
7,734.0	1.93	169.08	7,733.4	4,381.9	-2.5	11.6	-11.7	2.05	574,112.57	635,021.14	
7,828.0	2.20	168.56	7,827.3	4,475.8	-5.9	12.3	-12.5	0.29	574,109.25	635,021.80	
7,850.0	1.85	165.83	7,849.3	4,497.8	-6.6	12.4	-12.7	1.65	574,108.49	635,021.97	
7,882.0	1.67	178.66	7,881.3	4,529.8	-7.6	12.6	-12.9	1.35	574,107.53	635,022.11	
7,913.0	3.69	248.80	7,912.2	4,560.7	-8.4	11.7	-12.0	11.27	574,106.71	635,021.19	
KOP - 7913.0 MD, 7912.2 TVD, -8.4 N, 11.7 E											
7,945.0	7.74	263.13	7,944.1	4,592.6	-9.0	8.6	-9.0	13.32	574,106.08	635,018.09	



Pathfinder PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Site: Zia "AHZ" Federal Com
Well: #2H
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #2H
KB = 26.5' @ 3351.5usft (Patriot 5)
KB = 26.5' @ 3351.5usft (Patriot 5)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
7,976.0	11.87	266.47	7,974.6	4,623.1	-9.5	3.3	-3.8	13.44	574,105.64	635,012.83	
8,008.0	15.21	267.08	8,005.7	4,654.2	-9.9	-4.2	3.7	10.45	574,105.22	635,005.35	
8,039.0	18.11	266.99	8,035.4	4,683.9	-10.4	-13.1	12.5	9.36	574,104.76	634,996.48	
8,071.0	21.02	267.08	8,065.6	4,714.1	-10.9	-23.8	23.2	9.09	574,104.21	634,985.77	
8,102.0	24.27	268.66	8,094.2	4,742.7	-11.3	-35.7	35.1	10.67	574,103.78	634,973.85	
8,133.0	27.35	270.07	8,122.1	4,770.6	-11.5	-49.2	48.6	10.13	574,103.63	634,960.36	
8,165.0	30.07	271.83	8,150.2	4,798.7	-11.2	-64.5	63.9	8.90	574,103.90	634,944.99	
8,196.0	33.77	271.92	8,176.5	4,825.0	-10.7	-80.9	80.3	11.94	574,104.44	634,928.61	
8,227.0	37.46	271.74	8,201.7	4,850.2	-10.1	-99.0	98.4	11.91	574,105.01	634,910.57	
8,259.0	41.50	271.30	8,226.4	4,874.9	-9.6	-119.3	118.7	12.66	574,105.55	634,890.24	
8,290.0	45.64	270.77	8,248.8	4,897.3	-9.2	-140.7	140.0	13.41	574,105.93	634,868.88	
8,322.0	49.68	269.98	8,270.4	4,918.9	-9.0	-164.3	163.7	12.76	574,106.08	634,845.23	
8,353.0	53.55	269.81	8,289.6	4,938.1	-9.1	-188.6	187.9	12.49	574,106.03	634,820.93	
8,384.0	57.68	269.72	8,307.1	4,955.6	-9.2	-214.2	213.5	13.32	574,105.93	634,795.36	
8,416.0	61.82	269.72	8,323.2	4,971.7	-9.3	-241.8	241.1	12.94	574,105.79	634,767.72	
8,447.0	65.60	269.72	8,336.9	4,985.4	-9.5	-269.6	268.8	12.19	574,105.66	634,739.93	
8,479.0	70.52	270.42	8,348.9	4,997.4	-9.4	-299.3	298.5	15.51	574,105.70	634,710.26	
8,510.0	74.66	271.30	8,358.2	5,006.7	-9.0	-328.8	328.0	13.63	574,106.14	634,680.69	
8,542.0	78.96	272.52	8,365.5	5,014.0	-7.9	-360.0	359.2	13.94	574,107.18	634,649.56	
8,574.0	83.19	273.58	8,370.4	5,018.9	-6.3	-391.5	390.8	13.62	574,108.87	634,618.00	
8,637.0	89.08	275.52	8,374.7	5,023.2	-1.3	-454.2	453.6	9.84	574,113.86	634,555.37	
LP - 8637.0 MD, 8374.7 TVD, -1.3 N, -454.2 E											
8,731.0	91.45	275.43	8,374.2	5,022.7	7.7	-547.7	547.5	2.52	574,122.82	634,461.81	
8,825.0	92.15	275.52	8,371.3	5,019.8	16.7	-641.2	641.3	0.75	574,131.79	634,368.28	
8,919.0	91.78	275.69	8,368.1	5,016.6	25.8	-734.7	735.1	0.43	574,140.96	634,274.79	
9,014.0	91.71	274.20	8,365.2	5,013.7	34.0	-829.3	830.0	1.57	574,149.15	634,180.19	
9,107.0	91.45	274.02	8,362.6	5,011.1	40.7	-922.1	923.0	0.34	574,155.81	634,087.46	



Pathfinder PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 26.5' @ 3351.5usft (Patriot 5)
Site:	Zia "AHZ" Federal Com	MD Reference:	KB = 26.5' @ 3351.5usft (Patriot 5)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
9,202.0	91.19	274.11	8,360.4	5,008.9	47.4	-1,016.8	1,017.9	0.29	574,162.54	633,992.73
9,297.0	91.63	275.17	8,358.1	5,006.6	55.1	-1,111.5	1,112.8	1.21	574,170.23	633,898.07
9,391.0	91.54	274.46	8,355.5	5,004.0	63.0	-1,205.1	1,206.7	0.76	574,178.11	633,804.44
9,486.0	90.13	272.44	8,354.1	5,002.6	68.7	-1,299.9	1,301.7	2.59	574,183.83	633,709.63
9,580.0	90.13	271.83	8,353.9	5,002.4	72.2	-1,393.8	1,395.7	0.65	574,187.33	633,615.69
9,674.0	91.45	272.44	8,352.6	5,001.1	75.7	-1,487.8	1,489.7	1.55	574,190.83	633,521.77
9,767.0	91.45	272.35	8,350.2	4,998.7	79.6	-1,580.7	1,582.7	0.10	574,194.72	633,428.88
9,862.0	91.98	272.18	8,347.4	4,995.9	83.3	-1,675.5	1,677.6	0.59	574,198.47	633,334.00
9,956.0	92.07	272.35	8,344.1	4,992.6	87.1	-1,769.4	1,771.5	0.20	574,202.18	633,240.13
10,051.0	90.84	272.44	8,341.7	4,990.2	91.0	-1,864.3	1,866.5	1.30	574,206.15	633,145.25
10,145.0	90.75	272.35	8,340.4	4,988.9	95.0	-1,958.2	1,960.5	0.14	574,210.08	633,051.34
10,240.0	91.98	273.06	8,338.1	4,986.6	99.4	-2,053.1	2,055.5	1.49	574,214.56	632,956.47
10,333.0	92.33	273.23	8,334.6	4,983.1	104.5	-2,145.9	2,148.4	0.42	574,219.66	632,863.68
10,428.0	91.80	272.62	8,331.2	4,979.7	109.4	-2,240.7	2,243.3	0.85	574,224.50	632,768.86
10,523.0	92.15	272.79	8,327.9	4,976.4	113.9	-2,335.5	2,338.3	0.41	574,228.98	632,674.03
10,617.0	91.45	273.58	8,325.0	4,973.5	119.1	-2,429.3	2,432.2	1.12	574,234.20	632,580.22
10,712.0	89.52	273.23	8,324.1	4,972.6	124.7	-2,524.1	2,527.2	2.06	574,239.85	632,485.39
10,806.0	89.52	273.15	8,324.9	4,973.4	130.0	-2,618.0	2,621.2	0.09	574,245.08	632,391.54
10,900.0	89.87	273.32	8,325.4	4,973.9	135.3	-2,711.8	2,715.2	0.41	574,250.38	632,297.69
10,994.0	90.13	273.67	8,325.4	4,973.9	141.0	-2,805.7	2,809.2	0.46	574,256.11	632,203.87
11,089.0	90.13	273.50	8,325.2	4,973.7	146.9	-2,900.5	2,904.2	0.18	574,262.05	632,109.06
11,184.0	89.60	273.50	8,325.4	4,973.9	152.7	-2,995.3	2,999.2	0.56	574,267.85	632,014.23
11,279.0	89.69	272.97	8,326.0	4,974.5	158.1	-3,090.1	3,094.2	0.57	574,273.21	631,919.39
11,373.0	90.57	272.18	8,325.8	4,974.3	162.3	-3,184.0	3,188.2	1.26	574,277.44	631,825.48
11,469.0	91.28	271.56	8,324.3	4,972.8	165.4	-3,280.0	3,284.1	0.98	574,280.57	631,729.55
11,563.0	91.36	271.39	8,322.1	4,970.6	167.9	-3,373.9	3,378.1	0.20	574,282.99	631,635.60
11,657.0	91.45	272.09	8,319.8	4,968.3	170.7	-3,467.9	3,472.1	0.75	574,285.84	631,541.68



Pathfinder PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 26.5' @ 3351.5usft (Patriot 5)
Site:	Zia "AHZ" Federal Com	MD Reference:	KB = 26.5' @ 3351.5usft (Patriot 5)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
11,752.0	91.36	271.48	8,317.5	4,966.0	173.7	-3,562.8	3,567.0	0.65	574,288.80	631,446.75	
11,846.0	91.98	271.48	8,314.7	4,963.2	176.1	-3,656.7	3,660.9	0.66	574,291.23	631,352.82	
11,940.0	92.24	271.74	8,311.3	4,959.8	178.7	-3,750.6	3,754.9	0.39	574,293.86	631,258.92	
12,035.0	91.98	272.97	8,307.8	4,956.3	182.6	-3,845.5	3,849.8	1.32	574,297.77	631,164.07	
12,130.0	91.80	273.76	8,304.6	4,953.1	188.2	-3,940.2	3,944.7	0.85	574,303.34	631,069.29	
12,224.0	91.63	273.94	8,301.8	4,950.3	194.5	-4,034.0	4,038.7	0.26	574,309.65	630,975.54	
12,319.0	90.92	273.15	8,299.7	4,948.2	200.4	-4,128.8	4,133.6	1.12	574,315.52	630,880.75	
12,414.0	90.92	273.58	8,298.2	4,946.7	206.0	-4,223.6	4,228.6	0.45	574,321.10	630,785.92	
12,509.0	91.28	274.20	8,296.4	4,944.9	212.4	-4,318.4	4,323.6	0.75	574,327.54	630,691.16	
12,603.0	91.54	273.94	8,294.0	4,942.5	219.1	-4,412.1	4,417.5	0.39	574,334.21	630,597.43	
12,698.0	91.63	272.97	8,291.4	4,939.9	224.8	-4,506.9	4,512.5	1.03	574,339.93	630,502.64	
12,793.0	91.54	273.32	8,288.8	4,937.3	230.0	-4,601.7	4,607.5	0.38	574,345.14	630,407.82	
12,825.0	91.45	273.50	8,288.0	4,936.5	231.9	-4,633.6	4,639.4	0.63	574,347.04	630,375.88	
12,900.0	91.45	273.50	8,286.1	4,934.6	236.5	-4,708.5	4,714.4	0.00	574,351.62	630,301.05	
BHL - 12900.0 'MD, 8286.1 'TVD, 236.5 'N, -4708.5 'E - FSL:569', FWL:361', FNL:750'											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,913.0	7,912.2	-8.4	11.7	KOP - 7913.0 'MD, 7912.2 'TVD, -8.4 'N, 11.7 'E
8,637.0	8,374.7	-1.3	-454.2	LP - 8637.0 'MD, 8374.7 'TVD, -1.3 'N, -454.2 'E
12,900.0	8,286.1	236.5	-4,708.5	BHL - 12900.0 'MD, 8286.1 'TVD, 236.5 'N, -4708.5 'E
12,900.0	8,286.1	236.5	-4,708.5	FSL:569', FWL:361', FNL:750'

Checked By: _____	Approved By: _____	Date: _____
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Project: Eddy County (NAD 83)
Site: Zia "AHZ" Federal Com
Well: #2H
Wellbore: OH
Plan: Plan #3

PROJECT DETAILS: Eddy County (NAD 83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid

PATHFINDER
A Schlumberger Company

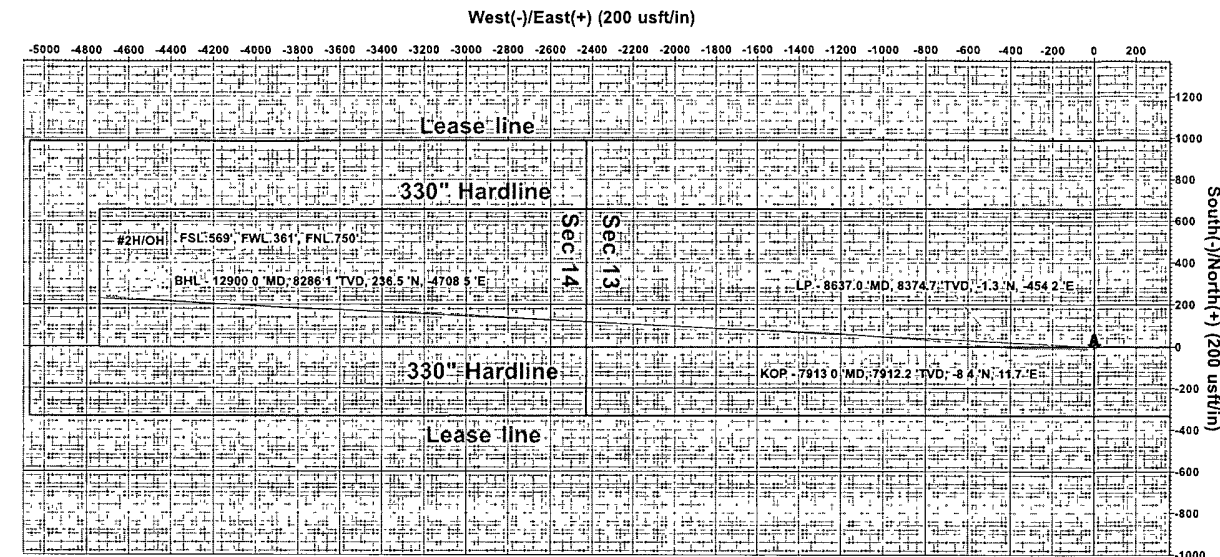
WELL DETAILS: #2H

Ground Elevation: 3325.0
RKB Elevation KB = 26.5' @ 3351.5usft (Patriot 5)
Rig Name: Patriot 5

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	574115.121	635009.532	32.578	-104.029	

Project: Eddy County (NAD 83)
Site: Zia "AHZ" Federal Com
Well: #2H
Wellbore: OH
Plan: Plan #3 (#2H/OH)

EOW

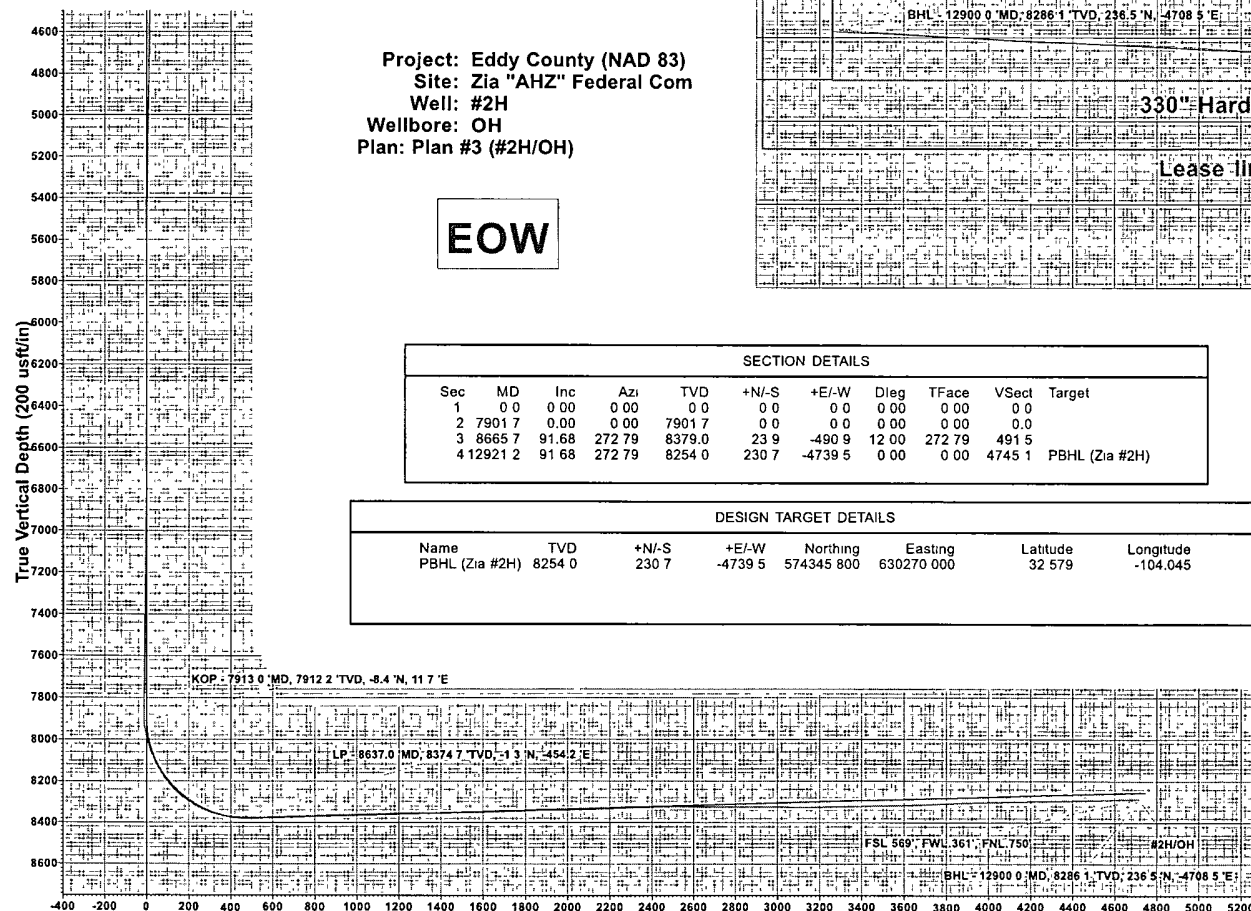


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	7901.7	0.00	0.00	7901.7	0.0	0.0	0.00	0.00	0.0	
3	8665.7	91.68	272.79	8379.0	23.9	-490.9	12.00	272.79	491.5	
4	12921.2	91.68	272.79	8254.0	230.7	-4739.5	0.00	0.00	4745.1	PBHL (Zia #2H)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (Zia #2H)	8254.0	230.7	-4739.5	574345.800	630270.000	32.579	-104.045



Azimuths to Grid North
True North -0.16°
Magnetic North 7.57°

Magnetic Field
Strength 48757.1nT
Dip Angle 60.45°
Date 1/25/2012
Model IGRF200510

Plan Plan #3 (#2H/OH)

Created By Sam Bliffe Date: 8.54, July 11 2012

Checked: Date:

Printed: 8/11/2012 10:00 AM
Page: 1 of 1