

30-015 37189



Job Number: SVCO-121074

Company: Yates Petroleum Corporation

Lease/Well: LLAMA AOL FED COM 9H

Location: Eddy County, NM

Rig Name: Patriot #5

RKB: 28'

G.L. or M.S.L.: GL

State/Country: New Mexico/USA

Declination: 7.31°

Grid: East To Grid North

File name: F:\SURVEY\2012SU-1\YATES\CONROE\LLAMAA-119H.SVY

Date/Time: 03-Aug-12 / 11:53

Curve Name: Surface - 7100' M.D. (Rate Gyro)

RECEIVED

NOV 14 2012

NMOCD ARTESIA

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method

Vertical Section Plane 359.70

Vertical Section Referenced to Wellhead

Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
~~Surface~~ MD to 7100 MD is, to the best of
 our knowledge a true and accurate account of the
 well bore.

Justin McCarroll
 MS Energy Services

8/3/12
 Date

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.21	75.82	100.00	.04	.18	.04	.18	75.82	.21
200.00	.17	353.10	200.00	.24	.34	.24	.41	54.92	.25
300.00	.03	179.59	300.00	.36	.32	.36	.48	41.77	.20
400.00	.59	75.15	400.00	.46	.82	.46	.94	60.43	.60
500.00	.70	59.36	499.99	.91	1.84	.90	2.05	63.77	.21
600.00	.50	44.92	599.99	1.53	2.67	1.51	3.08	60.27	.25
700.00	.27	27.75	699.98	2.04	3.09	2.03	3.71	56.52	.25
800.00	.15	32.18	799.98	2.36	3.27	2.35	4.04	54.15	.12
900.00	.30	53.88	899.98	2.63	3.55	2.61	4.42	53.50	.17

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity. Deg/100
							Distance FT	Direction Deg	
1000.00	.33	60.78	999.98	2.92	4.02	2.90	4.97	53.94	.05
1100.00	.37	35.62	1099.98	3.33	4.46	3.30	5.56	53.25	.16
1200.00	.29	22.01	1199.98	3.82	4.74	3.80	6.09	51.09	.11
1300.00	.30	302.98	1299.98	4.20	4.61	4.18	6.24	47.67	.38
1400.00	.27	258.85	1399.97	4.30	4.16	4.28	5.98	44.08	.22
1500.00	.24	245.79	1499.97	4.17	3.74	4.15	5.60	41.91	.07
1600.00	.21	207.55	1599.97	3.92	3.46	3.90	5.23	41.48	.15
1700.00	.42	198.06	1699.97	3.41	3.27	3.39	4.72	43.79	.22
1800.00	.62	196.41	1799.97	2.54	3.00	2.52	3.93	49.74	.20
1900.00	.92	191.58	1899.96	1.23	2.69	1.22	2.96	65.31	.31
2000.00	1.05	191.51	1999.94	-.45	2.34	-.46	2.38	100.86	.13
2100.00	.98	182.68	2099.93	-2.20	2.12	-2.21	3.06	136.09	.17
2200.00	.86	187.85	2199.92	-3.80	1.98	-3.81	4.28	152.51	.15
2300.00	.91	192.99	2299.90	-5.32	1.70	-5.33	5.58	162.31	.09
2400.00	.87	187.26	2399.89	-6.84	1.42	-6.85	6.99	168.27	.10
2500.00	.98	188.98	2499.88	-8.44	1.19	-8.45	8.52	171.96	.11
2600.00	1.19	180.73	2599.86	-10.32	1.04	-10.33	10.38	174.22	.26
2700.00	1.29	171.89	2699.84	-12.48	1.19	-12.48	12.53	174.55	.22
2800.00	1.22	170.46	2799.81	-14.64	1.53	-14.65	14.72	174.05	.08
2900.00	.81	150.40	2899.80	-16.31	2.05	-16.32	16.43	172.83	.54
3000.00	.76	98.89	2999.79	-17.02	3.06	-17.04	17.29	169.82	.68
3100.00	1.08	116.24	3099.78	-17.54	4.56	-17.57	18.12	165.44	.42
3200.00	.72	119.60	3199.76	-18.27	5.95	-18.30	19.21	161.97	.36
3300.00	.22	112.66	3299.76	-18.65	6.67	-18.69	19.81	160.32	.50
3400.00	.30	125.64	3399.76	-18.88	7.06	-18.92	20.16	159.49	.10
3500.00	.43	135.46	3499.76	-19.30	7.54	-19.34	20.72	158.67	.14
3600.00	.80	148.92	3599.75	-20.16	8.16	-20.21	21.75	157.97	.39
3700.00	.87	150.90	3699.74	-21.43	8.89	-21.47	23.20	157.46	.08
3800.00	.92	153.67	3799.73	-22.81	9.62	-22.86	24.75	157.14	.07

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
3900.00	.84	143.42	3899.72	-24.12	10.41	-24.17	26.27	156.66	.18
4000.00	.81	133.36	3999.71	-25.19	11.36	-25.25	27.63	155.73	.15
4100.00	.76	132.30	4099.70	-26.12	12.36	-26.19	28.90	154.67	.05
4200.00	.56	134.02	4199.69	-26.91	13.21	-26.98	29.97	153.86	.20
4300.00	.55	153.46	4299.69	-27.68	13.77	-27.75	30.91	153.55	.19
4400.00	.78	173.86	4399.68	-28.78	14.06	-28.86	32.03	153.97	.33
4500.00	.98	165.62	4499.67	-30.29	14.34	-30.36	33.51	154.66	.24
4600.00	.91	162.49	4599.65	-31.87	14.80	-31.95	35.14	155.10	.09
4700.00	.93	164.80	4699.64	-33.42	15.25	-33.49	36.73	155.47	.04
4800.00	.57	189.05	4799.63	-34.69	15.38	-34.77	37.95	156.09	.47
4900.00	.51	172.81	4899.63	-35.62	15.36	-35.70	38.79	156.68	.16
5000.00	.82	173.92	4999.62	-36.78	15.49	-36.86	39.90	157.16	.31
5100.00	.77	188.32	5099.61	-38.15	15.47	-38.23	41.17	157.93	.21
5200.00	.74	195.16	5199.60	-39.44	15.20	-39.52	42.27	158.92	.09
5300.00	.51	203.00	5299.60	-40.47	14.86	-40.55	43.11	159.84	.24
5400.00	.60	173.90	5399.59	-41.40	14.74	-41.48	43.95	160.40	.29
5500.00	.63	183.25	5499.59	-42.47	14.77	-42.55	44.97	160.83	.10
5600.00	.60	190.98	5599.58	-43.54	14.64	-43.61	45.93	161.42	.09
5700.00	.67	181.21	5699.57	-44.63	14.52	-44.71	46.94	161.98	.13
5800.00	.61	176.46	5799.57	-45.75	14.54	-45.83	48.01	162.36	.08
5900.00	.47	176.23	5899.56	-46.69	14.60	-46.77	48.92	162.63	.14
6000.00	.41	182.75	5999.56	-47.46	14.61	-47.53	49.66	162.88	.08
6100.00	.52	212.33	6099.56	-48.20	14.35	-48.27	50.29	163.42	.26
6200.00	.76	227.84	6199.55	-49.03	13.62	-49.10	50.88	164.47	.29
6300.00	.86	217.01	6299.54	-50.07	12.68	-50.14	51.65	165.79	.18
6400.00	.86	212.60	6399.53	-51.30	11.82	-51.36	52.65	167.03	.07
6500.00	.51	224.25	6499.52	-52.25	11.11	-52.31	53.42	168.00	.37
6600.00	.56	254.53	6599.52	-52.70	10.32	-52.76	53.70	168.92	.28
6700.00	.66	253.97	6699.51	-52.99	9.30	-53.04	53.80	170.05	.10

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
6800.00	.81	250.83	6799.50	-53.38	8.08	-53.42	53.99	171.40	.16
6900.00	.96	239.36	6899.49	-54.04	6.69	-54.08	54.45	172.94	.23
7000.00	1.11	228.94	6999.48	-55.11	5.24	-55.13	55.35	174.57	.24
Last Survey Depth Recorded									
7100.00	1.16	219.82	7099.46	-56.52	3.86	-56.54	56.65	176.09	.19



A Schlumberger Company



DIRECTIONAL SURVEY REPORT

YATES PETROLEUM

LLAMA "ALL" FEDERAL COM #9H

EDDY COUNTY, NEW MEXICO

PREPARED BY: MARCUS MITCHAM

Pathfinder

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

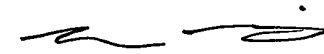


DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) DANIEL BROWN
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 8/02/12 TO 8/17/12
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
LLAMA "ALL" FEDERAL COM #9H
EDDY COUNTY, NM
RIG: PATRIOT 5
9. SURVEY CERTIFIED FROM: 7,187 TO 14,610 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 7,121.02 FEET ON A BEARING OF 359.67 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 14,654 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



MARCUS MITCHAM
MWD COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 08/02/2012
Date Completed: 08/17/2012

YATES PETROLEUM CORP.
LLAMA ALL FED COM # 9H / API #: 30-015-37189
EDDY COUNTY, NM
Rig: PATRIOT 5
PathFinder Office Supervisor: MARCUS MITCHAM
PathFinder Field Engineers: D. BROWN
S. DOGGETT

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.23.58.9449 N LON: 103.49.27.0456 W
GRID Reference: NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 698481.5140 Y: 509518.8680
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.31° EAST TO GRID
Vertical Section Plane: 359.70
Survey Vert. Reference: 26.50' Rotary Table To Ground
Altitude: 3261.00' Ground To MSL

Measured Depth	14654.00	(feet)
Inclination	88.90	(deg)
Azimuth	357.76	(deg)
True Vertical Depth	7692.12	(feet)
Vertical Section	7121.02	(feet)
Survey X cord	698440.06	(feet)
Survey Y cord	516639.77	(feet)
Survey Lat	32.41928079 N	(deg)
Survey Lon	103.82420375 W	(deg)
Rectangular Corr. N/S	7120.90 N	(feet)
Rectangular Corr. E/W	41.46 W	(feet)
Closure Distance	7121.02	(feet)
Direction of Closure	359.67	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.

LLAMA ALL FED COM # 9H / API #: 30-015-37189

EDDY COUNTY, NM

Rig: PATRIOT 5

PathFinder Office Supervisor: MARCUS MITCHAM

PathFinder Field Engineers: D.BROWN

S.DOGGETT

Survey Horiz. Reference: WELLHEAD

Ref Coordinates: LAT: 32.23.58.9449 N LON: 103.49.27.0456 W

GRID Reference: NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 698481.5140 Y: 509518.8680

North Aligned To: GRID NORTH

Total Magnetic Correction: 7.31° EAST TO GRID

Vertical Section Plane: 359.70

Survey Vert. Reference: 26.50' Rotary Table To Ground

Altitude: 3261.00' 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 Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
THE FOLLOWING ARE MS SURVEY GYRO SURVEYS.										
100.00	0.21	75.82	99.99	0.00	0.05	0.05 N	0.13 E	0.14@	70.36	0.00
200.00	0.17	353.10	199.99	100.00	0.24	0.24 N	0.29 E	0.38@	50.76	0.25
300.00	0.03	179.50	299.99	100.00	0.36	0.36 N	0.28 E	0.45@	37.43	0.20
400.00	0.59	75.15	399.99	100.00	0.46	0.47 N	0.77 E	0.90@	58.91	0.60
500.00	0.70	59.36	499.98	100.00	0.90	0.91 N	1.80 E	2.01@	63.15	0.21
600.00	0.50	44.92	599.98	100.00	1.52	1.53 N	2.63 E	3.04@	59.82	0.25
700.00	0.27	27.75	699.98	100.00	2.03	2.05 N	3.05 E	3.67@	56.11	0.25
800.00	0.15	32.18	799.98	100.00	2.35	2.37 N	3.23 E	4.00@	53.75	0.12
900.00	0.30	53.88	899.97	100.00	2.61	2.63 N	3.51 E	4.39@	53.13	0.17
1000.00	0.33	60.78	999.97	100.00	2.91	2.93 N	3.97 E	4.93@	53.61	0.05
1100.00	0.37	35.62	1099.97	100.00	3.31	3.33 N	4.41 E	5.53@	52.95	0.16
1200.00	0.29	22.01	1199.97	100.00	3.80	3.83 N	4.69 E	6.06@	50.81	0.11
1300.00	0.30	302.90	1299.97	100.00	4.18	4.20 N	4.57 E	6.21@	47.39	0.38
1400.00	0.27	258.80	1399.97	100.00	4.28	4.30 N	4.12 E	5.95@	43.76	0.22
1500.00	0.24	245.70	1499.97	100.00	4.15	4.17 N	3.70 E	5.57@	41.57	0.06
1600.00	0.21	207.50	1599.97	100.00	3.90	3.92 N	3.42 E	5.20@	41.11	0.15
1700.00	0.42	198.00	1699.96	100.00	3.39	3.41 N	3.22 E	4.69@	43.40	0.21
1800.00	0.62	196.40	1799.96	100.00	2.53	2.54 N	2.96 E	3.90@	49.33	0.20
1900.00	0.92	191.50	1899.95	100.00	1.22	1.24 N	2.64 E	2.92@	64.96	0.31
2000.00	1.05	191.50	1999.94	100.00	-0.46	0.45 S	2.30 E	2.35@	101.04	0.13
2100.00	0.98	182.60	2099.92	100.00	-2.21	2.20 S	2.08 E	3.03@	136.62	0.17
2200.00	0.86	187.80	2199.91	100.00	-3.81	3.80 S	1.94 E	4.27@	152.95	0.15
2300.00	0.91	192.90	2299.90	100.00	-5.33	5.32 S	1.66 E	5.57@	162.65	0.09
2400.00	0.87	187.20	2399.88	100.00	-6.85	6.84 S	1.39 E	6.98@	168.53	0.10
2500.00	0.98	188.90	2499.87	100.00	-8.45	8.44 S	1.16 E	8.52@	172.17	0.11

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
 LLAMA ALL FED COM # 9H / API #: 30-015-37189
 EDDY COUNTY, NM
 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)
2600.00	1.19	180.70	2599.85	100.00	-10.33	10.32 S	1.02 E	10.37@	174.38	0.26
2700.00	1.29	171.80	2699.83	100.00	-12.48	12.48 S	1.16 E	12.53@	174.67	0.22
2800.00	1.22	170.40	2799.81	100.00	-14.65	14.64 S	1.50 E	14.72@	174.14	0.08
2900.00	0.81	150.40	2899.79	100.00	-16.32	16.31 S	2.03 E	16.43@	172.91	0.54
3000.00	0.76	98.89	2999.78	100.00	-17.04	17.02 S	3.03 E	17.29@	169.90	0.68
3100.00	1.08	116.20	3099.77	100.00	-17.56	17.54 S	4.53 E	18.12@	165.51	0.42
3200.00	0.72	119.60	3199.76	100.00	-18.30	18.27 S	5.93 E	19.20@	162.03	0.36
3300.00	0.22	112.60	3299.75	100.00	-18.69	18.65 S	6.65 E	19.80@	160.38	0.50
3400.00	0.30	125.60	3399.75	100.00	-18.91	18.88 S	7.04 E	20.15@	159.55	0.10
3500.00	0.43	135.40	3499.75	100.00	-19.34	19.30 S	7.52 E	20.71@	158.72	0.14
3600.00	0.80	148.90	3599.74	100.00	-20.20	20.16 S	8.14 E	21.74@	158.02	0.39
3700.00	0.87	150.90	3699.73	100.00	-21.47	21.42 S	8.87 E	23.19@	157.51	0.08
3800.00	0.92	153.60	3799.72	100.00	-22.86	22.81 S	9.60 E	24.74@	157.18	0.06
3900.00	0.84	143.40	3899.71	100.00	-24.17	24.11 S	10.39 E	26.26@	156.69	0.18
4000.00	0.81	133.30	3999.70	100.00	-25.25	25.19 S	11.34 E	27.62@	155.76	0.15
4100.00	0.76	132.30	4099.69	100.00	-26.18	26.12 S	12.35 E	28.89@	154.70	0.05
4200.00	0.56	134.00	4199.68	100.00	-26.97	26.90 S	13.19 E	29.96@	153.89	0.20
4300.00	0.55	153.40	4299.68	100.00	-27.74	27.67 S	13.75 E	30.90@	153.57	0.19
4400.00	0.78	173.80	4399.67	100.00	-28.85	28.78 S	14.04 E	32.02@	153.99	0.33
4500.00	0.98	165.60	4499.66	100.00	-30.36	30.28 S	14.33 E	33.50@	154.68	0.24
4600.00	0.91	162.40	4599.65	100.00	-31.95	31.87 S	14.78 E	35.13@	155.12	0.09
4700.00	0.93	164.80	4699.63	100.00	-33.49	33.41 S	15.23 E	36.72@	155.49	0.04
4800.00	0.57	189.00	4799.63	100.00	-34.76	34.68 S	15.37 E	37.94@	156.10	0.47
4900.00	0.51	172.80	4899.62	100.00	-35.70	35.62 S	15.35 E	38.78@	156.69	0.16
5000.00	0.82	173.90	4999.61	100.00	-36.85	36.77 S	15.48 E	39.89@	157.17	0.31
5100.00	0.77	188.30	5099.60	100.00	-38.23	38.15 S	15.46 E	41.16@	157.94	0.21

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
 LLAMA ALL FED COM # 9H / API #: 30-015-37189
 EDDY COUNTY, NM
 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)
5200.00	0.74	195.10	5199.60	100.00	-39.51	39.43 S	15.19 E	42.26@	158.93	0.09
5300.00	0.51	203.00	5299.59	100.00	-40.54	40.47 S	14.85 E	43.11@	159.85	0.24
5400.00	0.60	173.90	5399.59	100.00	-41.47	41.40 S	14.73 E	43.94@	160.41	0.29
5500.00	0.63	183.20	5499.58	100.00	-42.54	42.47 S	14.76 E	44.96@	160.84	0.10
5600.00	0.60	190.90	5599.57	100.00	-43.61	43.53 S	14.63 E	45.92@	161.42	0.09
5700.00	0.67	181.20	5699.57	100.00	-44.70	44.63 S	14.52 E	46.93@	161.98	0.13
5800.00	0.61	176.40	5799.56	100.00	-45.82	45.74 S	14.54 E	48.00@	162.37	0.08
5900.00	0.47	176.20	5899.56	100.00	-46.76	46.68 S	14.60 E	48.91@	162.63	0.14
6000.00	0.41	182.70	5999.55	100.00	-47.53	47.45 S	14.61 E	49.65@	162.89	0.08
6100.00	0.52	212.30	6099.55	100.00	-48.27	48.19 S	14.35 E	50.28@	163.42	0.26
6200.00	0.76	227.80	6199.54	100.00	-49.09	49.02 S	13.62 E	50.88@	164.48	0.29
6300.00	0.86	217.00	6299.53	100.00	-50.13	50.07 S	12.67 E	51.65@	165.80	0.18
6400.00	0.86	212.60	6399.52	100.00	-51.36	51.30 S	11.82 E	52.64@	167.03	0.07
6500.00	0.51	224.20	6499.52	100.00	-52.31	52.25 S	11.10 E	53.42@	168.00	0.38
6600.00	0.56	254.50	6599.51	100.00	-52.75	52.70 S	10.32 E	53.70@	168.92	0.28
6700.00	0.66	253.90	6699.51	100.00	-53.04	52.99 S	9.30 E	53.80@	170.05	0.10
6800.00	0.81	250.80	6799.50	100.00	-53.42	53.38 S	8.08 E	53.99@	171.40	0.16
6900.00	0.96	239.30	6899.49	100.00	-54.08	54.04 S	6.69 E	54.45@	172.94	0.23
7000.00	1.11	228.90	6999.47	100.00	-55.13	55.11 S	5.24 E	55.35@	174.57	0.24
** TIED INTO MS SURVEY GYRO SURVEY AT 7100'MD.										
7100.00	1.16	219.82	7099.45	100.00	-56.54	56.52 S	3.86 E	56.65@	176.09	0.19
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
7187.00	0.62	253.59	7186.44	87.00	-57.34	57.33 S	2.84 E	57.40@	177.16	0.84
7218.00	2.55	338.16	7217.43	31.00	-56.75	56.74 S	2.43 E	56.79@	177.55	8.28
7250.00	6.24	348.29	7249.33	32.00	-54.38	54.37 S	1.81 E	54.40@	178.09	11.74
7281.00	10.02	356.94	7280.01	31.00	-50.03	50.03 S	1.32 E	50.05@	178.49	12.78
7313.00	13.72	1.90	7311.32	32.00	-43.46	43.45 S	1.30 E	43.47@	178.29	11.98

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
LLAMA ALL FED COM # 9H / API #: 30-015-37189
EDDY COUNTY, NM
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)
7344.00	18.03	5.38	7341.14	31.00	-35.01	35.00 S	1.87 E	35.05@	176.94	14.23
7376.00	22.16	5.47	7371.18	32.00	-24.07	24.05 S	2.91 E	24.23@	173.10	12.91
7407.00	26.38	4.81	7399.43	31.00	-11.39	11.37 S	4.05 E	12.07@	160.40	13.64
7438.00	30.42	3.92	7426.70	31.00	3.30	3.33 N	5.16 E	6.14@	57.16	13.10
7470.00	34.56	3.52	7453.68	32.00	20.45	20.48 N	6.27 E	21.42@	17.03	12.95
7501.00	38.43	2.92	7478.60	31.00	38.85	38.89 N	7.30 E	39.57@	10.64	12.54
7533.00	41.50	1.38	7503.12	32.00	59.38	59.42 N	8.07 E	59.97@	7.73	10.08
7565.00	44.14	1.50	7526.59	32.00	81.12	81.16 N	8.61 E	81.62@	6.06	8.25
7597.00	47.04	1.26	7548.99	32.00	103.96	104.01 N	9.16 E	104.42@	5.03	9.08
7628.00	50.47	1.18	7569.42	31.00	127.26	127.31 N	9.66 E	127.68@	4.34	11.07
7659.00	54.26	1.71	7588.35	31.00	151.79	151.85 N	10.28 E	152.20@	3.87	12.30
7691.00	58.39	2.01	7606.09	32.00	178.40	178.46 N	11.15 E	178.81@	3.57	12.93
7722.00	61.64	2.28	7621.58	31.00	205.22	205.29 N	12.15 E	205.65@	3.39	10.51
7754.00	65.16	2.57	7635.90	32.00	233.80	233.87 N	13.36 E	234.25@	3.27	11.03
7785.00	68.06	2.51	7648.21	31.00	262.21	262.29 N	14.62 E	262.70@	3.19	9.36
7817.00	70.08	1.69	7659.64	32.00	292.07	292.16 N	15.72 E	292.58@	3.08	6.75
7848.00	72.90	1.62	7669.48	31.00	321.45	321.54 N	16.57 E	321.97@	2.95	9.10
7879.00	75.71	1.69	7677.86	31.00	351.27	351.37 N	17.43 E	351.80@	2.84	9.07
7908.00	78.96	1.32	7684.22	29.00	379.55	379.65 N	18.17 E	380.09@	2.74	11.28
7939.00	80.64	0.53	7689.71	31.00	410.05	410.16 N	18.66 E	410.58@	2.61	5.97
7970.00	81.16	0.01	7694.61	31.00	440.66	440.77 N	18.81 E	441.17@	2.44	2.36
8001.00	82.57	359.31	7699.00	31.00	471.35	471.45 N	18.63 E	471.82@	2.26	5.07
8033.00	84.94	358.61	7702.48	32.00	503.15	503.25 N	18.05 E	503.58@	2.05	7.72
8128.00	90.04	358.35	7706.64	95.00	598.01	598.10 N	15.53 E	598.30@	1.49	5.38
8223.00	90.48	358.96	7706.21	95.00	692.99	693.07 N	13.30 E	693.20@	1.10	0.79
8317.00	91.36	358.61	7704.70	94.00	786.97	787.04 N	11.31 E	787.12@	0.82	1.01

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
LLAMA ALL FED COM # 9H / API #: 30-015-37189
EDDY COUNTY, NM
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)
8412.00	91.98	358.70	7701.93	95.00	881.91	881.97 N	9.08 E	882.02@	0.59	0.66
8507.00	90.57	359.22	7699.82	95.00	976.88	976.93 N	7.35 E	976.95@	0.43	1.58
8601.00	90.66	358.96	7698.81	94.00	1070.86	1070.91 N	5.86 E	1070.93@	0.31	0.29
8696.00	88.99	357.73	7699.10	95.00	1165.83	1165.86 N	3.12 E	1165.87@	0.15	2.18
8790.00	89.08	357.21	7700.68	94.00	1259.75	1259.76 N	1.03 W	1259.76@	359.95	0.56
8884.00	90.22	357.02	7701.26	94.00	1353.65	1353.64 N	5.76 W	1353.65@	359.76	1.23
8978.00	91.01	356.48	7700.25	94.00	1447.52	1447.48 N	11.09 W	1447.52@	359.56	1.02
9072.00	90.40	355.21	7699.09	94.00	1541.30	1541.22 N	17.90 W	1541.33@	359.33	1.50
9167.00	89.43	356.78	7699.23	95.00	1636.09	1635.99 N	24.53 W	1636.17@	359.14	1.94
9261.00	89.87	356.26	7699.81	94.00	1729.95	1729.81 N	30.24 W	1730.07@	359.00	0.72
9356.00	89.96	358.46	7699.95	95.00	1824.86	1824.70 N	34.62 W	1825.03@	358.91	2.32
9451.00	91.01	1.04	7699.14	95.00	1919.85	1919.69 N	35.03 W	1920.01@	358.95	2.93
9546.00	91.63	0.82	7696.95	95.00	2014.80	2014.65 N	33.49 W	2014.93@	359.05	0.69
9641.00	92.42	0.52	7693.60	95.00	2109.73	2109.59 N	32.38 W	2109.83@	359.12	0.89
9736.00	90.75	0.29	7690.97	95.00	2204.68	2204.54 N	31.71 W	2204.77@	359.18	1.77
9830.00	90.48	359.81	7689.96	94.00	2298.67	2298.54 N	31.63 W	2298.76@	359.21	0.59
9926.00	90.84	358.80	7688.86	96.00	2394.66	2394.52 N	32.79 W	2394.75@	359.22	1.12
10021.00	90.31	0.22	7687.90	95.00	2489.65	2489.51 N	33.60 W	2489.74@	359.23	1.60
10115.00	88.90	0.81	7688.55	94.00	2583.64	2583.50 N	32.76 W	2583.71@	359.27	1.63
10210.00	88.64	0.28	7690.59	95.00	2678.61	2678.48 N	31.85 W	2678.67@	359.32	0.62
10304.00	89.08	359.66	7692.46	94.00	2772.59	2772.46 N	31.90 W	2772.64@	359.34	0.81
10438.00	89.43	358.79	7694.20	134.00	2906.57	2906.43 N	33.72 W	2906.63@	359.34	0.70
10533.00	88.99	359.71	7695.51	95.00	3001.56	3001.41 N	34.96 W	3001.62@	359.33	1.07
10628.00	88.29	359.39	7697.77	95.00	3096.53	3096.38 N	35.71 W	3096.59@	359.34	0.81
10722.00	88.90	0.13	7700.07	94.00	3190.50	3190.35 N	36.10 W	3190.56@	359.35	1.02
10816.00	88.72	1.19	7702.02	94.00	3284.46	3284.33 N	35.02 W	3284.51@	359.39	1.14

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
LLAMA ALL FED COM # 9H / API #: 30-015-37189
EDDY COUNTY, NM
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		Closure Dist Dir		DLS (dg/100ft)
						(ft)	(ft)	(ft)	(deg)	
10910.00	89.96	0.69	7703.11	94.00	3378.43	3378.30 N	33.47 W	3378.47@	359.43	1.42
11006.00	90.04	1.16	7703.11	96.00	3474.41	3474.29 N	31.92 W	3474.44@	359.47	0.50
11100.00	90.04	1.90	7703.04	94.00	3568.36	3568.26 N	29.41 W	3568.38@	359.53	0.79
11194.00	90.13	2.22	7702.90	94.00	3662.28	3662.20 N	26.04 W	3662.29@	359.59	0.35
11289.00	90.40	3.11	7702.46	95.00	3757.15	3757.09 N	21.62 W	3757.15@	359.67	0.98
11383.00	90.75	1.43	7701.52	94.00	3851.05	3851.01 N	17.90 W	3851.05@	359.73	1.82
11477.00	89.60	359.28	7701.23	94.00	3945.04	3945.00 N	17.31 W	3945.04@	359.75	2.59
11572.00	88.81	359.16	7702.55	95.00	4040.02	4039.98 N	18.61 W	4040.02@	359.74	0.84
11667.00	88.55	359.02	7704.74	95.00	4134.99	4134.94 N	20.11 W	4134.99@	359.72	0.31
11762.00	90.04	359.47	7705.91	95.00	4229.98	4229.93 N	21.37 W	4229.98@	359.71	1.64
11857.00	89.87	359.70	7705.98	95.00	4324.98	4324.92 N	22.05 W	4324.98@	359.71	0.30
11952.00	90.13	0.25	7705.98	95.00	4419.98	4419.92 N	22.10 W	4419.98@	359.71	0.64
12046.00	89.44	0.26	7706.33	94.00	4513.97	4513.92 N	21.68 W	4513.97@	359.72	0.73
12141.00	88.81	0.06	7707.78	95.00	4608.96	4608.91 N	21.41 W	4608.96@	359.73	0.70
12235.00	89.96	359.46	7708.79	94.00	4702.95	4702.90 N	21.81 W	4702.95@	359.73	1.38
12329.00	91.45	359.97	7707.64	94.00	4796.94	4796.89 N	22.27 W	4796.94@	359.73	1.67
12424.00	89.69	359.42	7706.69	95.00	4891.93	4891.88 N	22.78 W	4891.93@	359.73	1.94
12519.00	90.57	358.96	7706.48	95.00	4986.93	4986.87 N	24.12 W	4986.93@	359.72	1.05
12613.00	89.87	358.56	7706.11	94.00	5080.91	5080.84 N	26.16 W	5080.91@	359.71	0.86
12708.00	91.01	358.40	7705.39	95.00	5175.89	5175.81 N	28.68 W	5175.89@	359.68	1.21
12802.00	90.04	358.76	7704.52	94.00	5269.86	5269.77 N	31.01 W	5269.86@	359.66	1.10
12896.00	88.81	358.46	7705.47	94.00	5363.84	5363.74 N	33.29 W	5363.84@	359.64	1.35
12990.00	90.40	359.28	7706.12	94.00	5457.82	5457.71 N	35.14 W	5457.83@	359.63	1.90
13085.00	91.19	358.92	7704.80	95.00	5552.81	5552.69 N	36.63 W	5552.81@	359.62	0.91
13180.00	92.77	0.16	7701.52	95.00	5647.75	5647.63 N	37.39 W	5647.75@	359.62	2.11
13275.00	92.33	0.33	7697.29	95.00	5742.65	5742.53 N	36.99 W	5742.65@	359.63	0.50

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORP.
LLAMA ALL FED COM # 9H / API #: 30-015-37189
EDDY COUNTY, NM
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		Closure Dist Dir		DLS (dg/100ft)
						(ft)	(ft)	(ft)	(deg)	
13370.00	91.63	0.13	7694.01	95.00	5837.59	5837.47 N	36.61 W	5837.59@	359.64	0.77
13465.00	89.60	0.68	7692.99	95.00	5932.57	5932.46 N	35.94 W	5932.57@	359.65	2.21
13559.00	90.57	1.36	7692.85	94.00	6026.54	6026.44 N	34.26 W	6026.54@	359.67	1.26
13653.00	88.46	1.15	7693.64	94.00	6120.50	6120.41 N	32.20 W	6120.50@	359.70	2.26
13748.00	87.85	1.34	7696.70	95.00	6215.41	6215.34 N	30.14 W	6215.41@	359.72	0.67
13842.00	88.37	359.76	7699.80	94.00	6309.35	6309.28 N	29.24 W	6309.35@	359.73	1.77
13936.00	90.75	0.60	7700.52	94.00	6403.34	6403.27 N	28.94 W	6403.34@	359.74	2.68
14028.00	91.10	0.02	7699.04	92.00	6495.32	6495.26 N	28.45 W	6495.32@	359.75	0.74
14122.00	92.24	0.41	7696.30	94.00	6589.27	6589.22 N	28.09 W	6589.28@	359.76	1.28
14217.00	90.84	359.31	7693.75	95.00	6684.23	6684.18 N	28.33 W	6684.24@	359.76	1.87
14312.00	91.71	359.09	7691.63	95.00	6779.20	6779.14 N	29.65 W	6779.21@	359.75	0.94
14406.00	89.87	358.27	7690.34	94.00	6873.18	6873.10 N	31.82 W	6873.18@	359.73	2.14
14501.00	90.22	357.30	7690.26	95.00	6968.12	6968.03 N	35.49 W	6968.12@	359.71	1.09
14595.00	88.90	358.17	7690.98	94.00	7062.06	7061.95 N	39.20 W	7062.06@	359.68	1.68
14610.00	88.90	357.76	7691.27	15.00	7077.05	7076.94 N	39.74 W	7077.05@	359.68	2.73
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 14,654' MD.										
14654.00	88.90	357.76	7692.12	44.00	7121.02	7120.90 N	41.46 W	7121.02@	359.67	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.



A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM		
LEASE / WELL No.:	LLAMA ALL FEDERAL COM	9H	
WELL LOCATION:	CABIN LAKE; DELAWARE		
COUNTY / STATE / COUNTRY:	EDDY	NM	USA
RIG:	PATRIOT 5		
API WELL No:	30-015-37189		
JOB No:	12MLD0366		
P.O. / AFE No.	101330		
DIRECTIONAL COMPANY:	PES		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.3	LWD Calculated:	7.31
Agreed Upon:		7.31	
X =	698481.514000	Feet	Y =
509518.868000		Feet	
SITE LATITUDE:	32.399707	SITE LONGITUDE:	103.824179
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	New Mexico East
PROPOSED DRIFT DIRECTION:	359.7		
KELLY BUSHING ELEVATION:	25.6		
ALTITUDE:	3261	Feet	WATER DEPTH:
0		Feet	

TIE-IN SURVEY

MEASURED DEPTH:	7100		
DRIFT ANGLE:	1.16		
DRIFT DIRECTION:	219.82		
TRUE VERTICAL DEPTH:	7099.45		
VERTICAL SECTION:	-56.54		
RECTANGULAR COORDINATE (N / S) :	-56.52		
RECTANGULAR COORDINATE (E / W) :	3.86		
CLOSURE DISTANCE / DIRECTION:	56.65	176.09	
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:	7222	TOTAL DEPTH:	14631
KICKOFF ANGLE:	0	MAX ANGLE:	90

PES Engineers: D. Brown
S. Doggett

**Signature of both field engineers required if applicable

Directional Driller: M. Cervantes

DATE: 2-Aug-2012



Company: YATES PETROLEUM CORPORATION	Operator: MCCARROLL
Lease / Well: LIAMA AOL FED COM # 9 H	Job Number: SVCO-121074
County/Parish: EDDY COUNTY	Probe Serial #: 120
State: NEW MEXICO	Proposed Direction: 359.7
Date: 8/2/2012	Mag. Declination: 7.31 EAST OF GRID
API#: PO 1031242	Rig / RKB: PATRIOT # 5 / 28 FT
Dir. Company: PATHFINDER	Tie-in From: SURFACE

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)	Coordinates (+E/-W)
0	0.00	0.00	0.00	0.00	0.00

Digital Multi-Shot Survey Report									
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S)	Coordinates (+E/-W)	Dog-Leg / 100 ft.	Closure Distance	Closure Direction
100	0.21	75.82	100.00	0.04	0.04	0.18	0.21	0.18	75.82°
200	0.17	353.10	200.00	0.24	0.24	0.34	0.25	0.41	54.92°
300	0.03	179.59	300.00	0.36	0.36	0.32	0.20	0.48	41.77°
400	0.59	75.15	400.00	0.46	0.46	0.82	0.60	0.94	60.43°
500	0.70	59.36	499.99	0.90	0.91	1.84	0.21	2.05	63.77°
600	0.50	44.92	599.99	1.51	1.53	2.67	0.25	3.08	60.27°
700	0.27	27.75	699.98	2.03	2.04	3.09	0.25	3.71	56.52°
800	0.15	32.18	799.98	2.35	2.36	3.27	0.12	4.04	54.15°
900	0.30	53.88	899.98	2.61	2.63	3.55	0.17	4.42	53.50°
1000	0.33	60.78	999.98	2.90	2.92	4.02	0.05	4.97	53.94°
1100	0.37	35.62	1099.98	3.30	3.33	4.46	0.16	5.56	53.25°
1200	0.29	22.01	1199.98	3.80	3.82	4.74	0.11	6.09	51.09°
1300	0.30	302.98	1299.98	4.18	4.20	4.61	0.38	6.24	47.67°
1400	0.27	258.85	1399.97	4.28	4.30	4.16	0.22	5.98	44.08°
1500	0.24	245.79	1499.97	4.15	4.17	3.74	0.07	5.60	41.91°
1600	0.21	207.55	1599.97	3.90	3.92	3.46	0.15	5.23	41.48°
1700	0.42	198.06	1699.97	3.39	3.41	3.27	0.22	4.72	43.79°
1800	0.62	196.41	1799.97	2.52	2.54	3.00	0.20	3.93	49.74°
1900	0.92	191.58	1899.96	1.22	1.23	2.69	0.31	2.96	65.31°
2000	1.05	191.51	1999.94	-0.46	-0.45	2.34	0.13	2.38	100.86°
2100	0.98	182.68	2099.93	-2.21	-2.20	2.12	0.17	3.06	136.09°
2200	0.86	187.85	2199.91	-3.81	-3.80	1.98	0.15	4.28	152.51°
2300	0.91	192.99	2299.90	-5.33	-5.32	1.70	0.09	5.58	162.31°
2400	0.87	187.26	2399.89	-6.85	-6.84	1.42	0.10	6.99	168.27°
2500	0.98	188.98	2499.88	-8.45	-8.44	1.19	0.11	8.52	171.96°
2600	1.19	180.73	2599.86	-10.33	-10.32	1.04	0.26	10.38	174.22°
2700	1.29	171.89	2699.84	-12.48	-12.48	1.19	0.22	12.53	174.55°
2800	1.22	170.46	2799.81	-14.65	-14.64	1.53	0.08	14.72	174.05°
2900	0.81	150.40	2899.80	-16.32	-16.31	2.05	0.54	16.43	172.83°
3000	0.76	98.89	2999.79	-17.04	-17.02	3.06	0.68	17.29	169.82°
3100	1.08	116.24	3099.77	-17.57	-17.54	4.56	0.42	18.12	165.44°
3200	0.72	119.60	3199.76	-18.30	-18.27	5.95	0.36	19.21	161.97°
3300	0.22	112.66	3299.76	-18.69	-18.65	6.67	0.50	19.81	160.32°
3400	0.30	125.64	3399.76	-18.92	-18.88	7.06	0.10	20.16	159.49°
3500	0.43	135.46	3499.76	-19.34	-19.30	7.54	0.14	20.72	158.67°
3600	0.80	148.92	3599.75	-20.21	-20.16	8.16	0.39	21.75	157.97°
3700	0.87	150.90	3699.74	-21.47	-21.43	8.89	0.08	23.20	157.46°
3800	0.92	153.67	3799.73	-22.86	-22.81	9.62	0.07	24.75	157.14°
3900	0.84	143.42	3899.71	-24.17	-24.12	10.41	0.18	26.27	156.66°
4000	0.81	133.36	3999.70	-25.25	-25.19	11.36	0.15	27.63	155.73°
4100	0.76	132.30	4099.70	-26.19	-26.12	12.36	0.05	28.90	154.67°



Company: YATES PETROLEUM CORPORATION	Operator: MCCARROLL
Lease / Well: LIAMA AOL FED COM # 9 H	Job Number: SVCO-121074
County/Parish: EDDY COUNTY	Probe Serial #: 120
State: NEW MEXICO	Proposed Direction: 359.7
Date: 8/2/2012	Mag. Declination: 7.31 EAST OF GRID
API#: PO 1031242	Rig / RKB: PATRIOT # 5 / 28 FT
Dir. Company: PATHFINDER	Tie-in From: SURFACE

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)	Coordinates (+E/-W)
0	0.00	0.00	0.00	0.00	0.00

Digital Multi-Shot Survey Report									
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S)	Coordinates (+E/-W)	Dog-Leg / 100 ft.	Closure Distance	Closure Direction
4200	0.56	134.02	4199.69	-26.98	-26.91	13.21	0.20	29.97	153.86°
4300	0.55	153.46	4299.68	-27.75	-27.68	13.77	0.19	30.91	153.55°
4400	0.78	173.86	4399.68	-28.86	-28.78	14.06	0.33	32.03	153.97°
4500	0.98	165.62	4499.66	-30.36	-30.29	14.34	0.24	33.51	154.66°
4600	0.91	162.49	4599.65	-31.95	-31.87	14.80	0.09	35.14	155.10°
4700	0.93	164.80	4699.64	-33.49	-33.42	15.25	0.04	36.73	155.47°
4800	0.57	189.05	4799.63	-34.77	-34.69	15.38	0.47	37.95	156.09°
4900	0.51	172.81	4899.63	-35.70	-35.62	15.36	0.16	38.79	156.68°
5000	0.82	173.92	4999.62	-36.86	-36.78	15.49	0.31	39.90	157.16°
5100	0.77	188.32	5099.61	-38.23	-38.15	15.47	0.21	41.17	157.93°
5200	0.74	195.16	5199.60	-39.52	-39.44	15.20	0.09	42.27	158.92°
5300	0.51	203.00	5299.59	-40.55	-40.47	14.86	0.24	43.11	159.84°
5400	0.60	173.90	5399.59	-41.48	-41.40	14.74	0.29	43.95	160.40°
5500	0.63	183.25	5499.58	-42.55	-42.47	14.77	0.10	44.97	160.83°
5600	0.60	190.98	5599.58	-43.61	-43.54	14.64	0.09	45.93	161.42°
5700	0.67	181.21	5699.57	-44.71	-44.63	14.52	0.13	46.94	161.98°
5800	0.61	176.46	5799.57	-45.83	-45.75	14.54	0.08	48.01	162.36°
5900	0.47	176.23	5899.56	-46.77	-46.69	14.60	0.14	48.92	162.63°
6000	0.41	182.75	5999.56	-47.53	-47.46	14.61	0.08	49.66	162.88°
6100	0.52	212.33	6099.56	-48.27	-48.20	14.35	0.26	50.29	163.42°
6200	0.76	227.84	6199.55	-49.10	-49.03	13.62	0.29	50.88	164.47°
6300	0.86	217.01	6299.54	-50.14	-50.07	12.68	0.18	51.65	165.79°
6400	0.86	212.60	6399.53	-51.36	-51.30	11.82	0.07	52.65	167.03°
6500	0.51	224.25	6499.52	-52.31	-52.25	11.11	0.37	53.42	168.00°
6600	0.56	254.53	6599.52	-52.76	-52.70	10.32	0.28	53.70	168.92°
6700	0.66	253.97	6699.51	-53.04	-52.99	9.30	0.10	53.80	170.05°
6800	0.81	250.83	6799.50	-53.42	-53.38	8.08	0.16	53.99	171.40°
6900	0.96	239.36	6899.49	-54.08	-54.04	6.69	0.23	54.45	172.94°
7000	1.11	228.94	6999.47	-55.13	-55.11	5.24	0.24	55.35	174.57°
7100	1.16	219.82	7099.45	-56.54	-56.52	3.86	0.19	56.65	176.09°



A Schlumberger Company

PathFinder Energy Services, Inc. Magnetic & Grid Calculations

Yates Petroleum Corp.
Llama All Federal Com #9H
Eddy County, Nm
Rig:Patriot 5

Sun Jul 22 20:02:12 2012

Coordinates

Latitude: 32.399707 N (32 deg. 23 min. 58.9449 sec.)
Longitude: 103.824179 W (-103 deg. 49 min. 27.0456 sec.)
Elevation: 3287.50 feet.
Calculation Date: Jul/22/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.2793 degrees
Total Magnetic Field: 0.48585 gauss
Magnetic Declination: 7.580235 degrees
Horizontal Intensity: 0.240873 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.580235 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 698481.5140 feet
Y: 509518.8680 feet
True to Grid: (convergence) -0.272821 degrees
Magnetic to Grid: 7.307414 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.307414 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM CORP
LLAMA ALL FED COM # 9H
CABIN LAKE, DELAWARE

Mon Jul 23 12:04:25 2012

Coordinates

Latitude: 32.399707 N (32 deg. 23 min. 58.9449 sec.)
Longitude: 103.824179 W (-103 deg. 49 min. 27.0456 sec.)
Elevation: 3287.50 feet.
Calculation Date: Jul/23/2012

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.2793 degrees
Total Magnetic Field: 0.48585 gauss
Magnetic Declination: 7.579899 degrees
Horizontal Intensity: 0.240872 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.579899 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 698481.5140 feet
Y: 509518.8680 feet
True to Grid: (convergence) -0.272821 degrees
Magnetic to Grid: 7.307077 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.307077 Degr.



Yates Petroleum Corp.

Eddy County (NAD 83)

Llama All Federal Com

#9H

OH

Design: OH

PathfinderX & Y Report

17 August, 2012

PATHFINDER[®]

A Schlumberger Company



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #9H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Site:	Llama All Federal Com	MD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Well:	#9H	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: Llama All Federal Com					
Site Position:		Northing: 509,526.509 usft		Latitude: 32.399708	
From:	Map	Easting: 700,031.456 usft		Longitude: -103.819157	
Position Uncertainty: 0.0 usft		Slot Radius: 13-3/16 "		Grid Convergence: 0.28 °	

Well:		#9H				
Well Position	+N/-S	0.0 usft	Northing:	509,518.868 usft	Latitude:	32.399707
	+E/-W	0.0 usft	Easting:	698,481.514 usft	Longitude:	-103.824179
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,261.0 usft

Wellbore		OH			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	7/12/2012	7.58	60.31	48,629

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	359.70



Pathfinder PathfinderX & Y Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #9H
Project:	Eddy County (NAD83)	TVD Reference:	KB1=26.5 @ 3287.5usft (Patriot 5)
Site:	Ulama All Federal Com	MD Reference:	KB1=26.5 @ 3287.5usft (Patriot 5)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Survey Program		Date: 8/17/2012			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100 0	7,100.0	Gyro #1 (OH)	CTG-SR-SS	Continuous gyro - surface ref. s/s	
7,187 0	14,654.0	MWD #1 (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	-3,287.5	0 0	0.0	0.0	0 00	509,518.87	698,481.51
100.0	0 21	75.82	100 0	-3,187.5	0.0	0.2	0.0	0 21	509,518.91	698,481.69
200 0	0 17	353.10	200.0	-3,087.5	0 2	0.3	0.2	0 25	509,519.11	698,481.85
300 0	0.03	179.59	300.0	-2,987.5	0 4	0.3	0.4	0.20	509,519.23	698,481.83
400 0	0 59	75.15	400.0	-2,887.5	0.5	0.8	0.5	0.60	509,519.33	698,482.33
500 0	0.70	59.36	500 0	-2,787.5	0.9	1.8	0.9	0 21	509,519.78	698,483.35
600 0	0 50	44.92	600 0	-2,687.5	1.5	2.7	1.5	0.25	509,520.40	698,484.19
700 0	0.27	27.75	700.0	-2,587.5	2.0	3.1	2.0	0 25	509,520.91	698,484.61
800.0	0.15	32.18	800.0	-2,487.5	2.4	3.3	2.3	0 12	509,521.23	698,484.79
900.0	0.30	53.88	900 0	-2,387.5	2.6	3.6	2.6	0 17	509,521.50	698,485.07
1,000 0	0.33	60.78	1,000.0	-2,287.5	2.9	4.0	2.9	0.05	509,521.79	698,485.53
1,100 0	0 37	35.62	1,100.0	-2,187.5	3.3	4.5	3.3	0 16	509,522.20	698,485.97
1,200 0	0 29	22.01	1,200 0	-2,087.5	3.8	4.7	3.8	0 11	509,522.69	698,486.25
1,300 0	0 30	302.98	1,300 0	-1,987.5	4.2	4.6	4.2	0 38	509,523.07	698,486.13
1,400 0	0 27	258.85	1,400.0	-1,887.5	4.3	4.2	4.3	0.22	509,523.17	698,485.68
1,500.0	0 24	245.79	1,500 0	-1,787.5	4.2	3.7	4.1	0 07	509,523.04	698,485.25
1,600.0	0 21	207.55	1,600.0	-1,687.5	3.9	3.5	3.9	0.15	509,522.79	698,484.98
1,700.0	0 42	198.06	1,700 0	-1,587.5	3.4	3.3	3.4	0 22	509,522.28	698,484.78
1,800 0	0 62	196.41	1,800.0	-1,487.5	2.5	3.0	2.5	0 20	509,521.41	698,484.51
1,900.0	0 92	191.58	1,900 0	-1,387.5	1.2	2.7	1.2	0.31	509,520.10	698,484.20
2,000 0	1 05	191.51	1,999.9	-1,287.6	-0.4	2.3	-0.5	0.13	509,518.42	698,483.86



Pathfinder PathfinderX & Y Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #9H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Site:	Llama All Federal Com	MD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Well:	#9H	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)	
2,100.0	0.98	182.68	2,099.9	-1,187.6	-2.2	2.1	-2.2	0.17	509,516.67	698,483.63	
2,200.0	0.86	187.85	2,199.9	-1,087.6	-3.8	2.0	-3.8	0.15	509,515.07	698,483.49	
2,300.0	0.91	192.99	2,299.9	-987.6	-5.3	1.7	-5.3	0.09	509,513.55	698,483.21	
2,400.0	0.87	187.26	2,399.9	-887.6	-6.8	1.4	-6.9	0.10	509,512.02	698,482.94	
2,500.0	0.98	188.98	2,499.9	-787.6	-8.4	1.2	-8.4	0.11	509,510.43	698,482.71	
2,600.0	1.19	180.73	2,599.9	-687.6	-10.3	1.0	-10.3	0.26	509,508.54	698,482.56	
2,700.0	1.29	171.89	2,699.8	-587.7	-12.5	1.2	-12.5	0.22	509,506.39	698,482.70	
2,800.0	1.22	170.46	2,799.8	-487.7	-14.6	1.5	-14.6	0.08	509,504.23	698,483.04	
2,900.0	0.81	150.40	2,899.8	-387.7	-16.3	2.1	-16.3	0.54	509,502.56	698,483.57	
3,000.0	0.76	98.89	2,999.8	-287.7	-17.0	3.1	-17.0	0.68	509,501.85	698,484.57	
3,100.0	1.08	116.24	3,099.8	-187.7	-17.5	4.6	-17.6	0.42	509,501.33	698,486.07	
3,200.0	0.72	119.60	3,199.8	-87.7	-18.3	5.9	-18.3	0.36	509,500.60	698,487.46	
3,300.0	0.22	112.66	3,299.8	12.3	-18.7	6.7	-18.7	0.50	509,500.21	698,488.19	
3,400.0	0.30	125.64	3,399.8	112.3	-18.9	7.1	-18.9	0.10	509,499.99	698,488.58	
3,500.0	0.43	135.46	3,499.8	212.3	-19.3	7.5	-19.3	0.14	509,499.57	698,489.05	
3,600.0	0.80	148.92	3,599.8	312.3	-20.2	8.2	-20.2	0.39	509,498.70	698,489.67	
3,700.0	0.87	150.90	3,699.7	412.2	-21.4	8.9	-21.5	0.08	509,497.44	698,490.40	
3,800.0	0.92	153.67	3,799.7	512.2	-22.8	9.6	-22.9	0.07	509,496.06	698,491.13	
3,900.0	0.84	143.42	3,899.7	612.2	-24.1	10.4	-24.2	0.18	509,494.75	698,491.92	
4,000.0	0.81	133.36	3,999.7	712.2	-25.2	11.4	-25.3	0.15	509,493.68	698,492.87	
4,100.0	0.76	132.30	4,099.7	812.2	-26.1	12.4	-26.2	0.05	509,492.75	698,493.88	
4,200.0	0.56	134.02	4,199.7	912.2	-26.9	13.2	-27.0	0.20	509,491.96	698,494.72	
4,300.0	0.55	153.46	4,299.7	1,012.2	-27.7	13.8	-27.8	0.19	509,491.19	698,495.29	
4,400.0	0.78	173.86	4,399.7	1,112.2	-28.8	14.1	-28.9	0.33	509,490.08	698,495.57	
4,500.0	0.98	165.62	4,499.7	1,212.2	-30.3	14.3	-30.4	0.24	509,488.58	698,495.86	
4,600.0	0.91	162.49	4,599.7	1,312.2	-31.9	14.8	-32.0	0.09	509,486.99	698,496.31	
4,700.0	0.93	164.80	4,699.6	1,412.1	-33.4	15.2	-33.5	0.04	509,485.45	698,496.76	



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #9H
Project:	Eddy County (NAD83)	TVD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Site:	Llama All-Federal Com	MD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Well:	#9H	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)	
4,800.0	0.57	189.05	4,799.6	1,512.1	-34.7	15.4	-34.8	0.47	509,484.18	698,496.90	
4,900.0	0.51	172.81	4,899.6	1,612.1	-35.6	15.4	-35.7	0.16	509,483.25	698,496.87	
5,000.0	0.82	173.92	4,999.6	1,712.1	-36.8	15.5	-36.9	0.31	509,482.09	698,497.00	
5,100.0	0.77	188.32	5,099.6	1,812.1	-38.2	15.5	-38.2	0.21	509,480.72	698,496.98	
5,200.0	0.74	195.16	5,199.6	1,912.1	-39.4	15.2	-39.5	0.09	509,479.43	698,496.72	
5,300.0	0.51	203.00	5,299.6	2,012.1	-40.5	14.9	-40.6	0.24	509,478.40	698,496.37	
5,400.0	0.60	173.90	5,399.6	2,112.1	-41.4	14.7	-41.5	0.29	509,477.46	698,496.26	
5,500.0	0.63	183.25	5,499.6	2,212.1	-42.5	14.8	-42.6	0.10	509,476.40	698,496.28	
5,600.0	0.60	190.98	5,599.6	2,312.1	-43.5	14.6	-43.6	0.09	509,475.33	698,496.15	
5,700.0	0.67	181.21	5,699.6	2,412.1	-44.6	14.5	-44.7	0.13	509,474.23	698,496.04	
5,800.0	0.61	176.46	5,799.6	2,512.1	-45.7	14.5	-45.8	0.08	509,473.12	698,496.06	
5,900.0	0.47	176.23	5,899.6	2,612.1	-46.7	14.6	-46.8	0.14	509,472.18	698,496.12	
6,000.0	0.41	182.75	5,999.6	2,712.1	-47.5	14.6	-47.5	0.08	509,471.41	698,496.13	
6,100.0	0.52	212.33	6,099.6	2,812.1	-48.2	14.4	-48.3	0.26	509,470.67	698,495.87	
6,200.0	0.76	227.84	6,199.6	2,912.1	-49.0	13.6	-49.1	0.29	509,469.84	698,495.13	
6,300.0	0.86	217.01	6,299.5	3,012.0	-50.1	12.7	-50.1	0.18	509,468.80	698,494.19	
6,400.0	0.86	212.60	6,399.5	3,112.0	-51.3	11.8	-51.4	0.07	509,467.57	698,493.33	
6,500.0	0.51	224.25	6,499.5	3,212.0	-52.3	11.1	-52.3	0.37	509,466.61	698,492.62	
6,600.0	0.56	254.53	6,599.5	3,312.0	-52.7	10.3	-52.8	0.28	509,466.17	698,491.84	
6,700.0	0.66	253.97	6,699.5	3,412.0	-53.0	9.3	-53.0	0.10	509,465.88	698,490.81	
6,800.0	0.81	250.83	6,799.5	3,512.0	-53.4	8.1	-53.4	0.16	509,465.48	698,489.59	
6,900.0	0.96	239.36	6,899.5	3,612.0	-54.0	6.7	-54.1	0.23	509,464.83	698,488.20	
7,000.0	1.11	228.94	6,999.5	3,712.0	-55.1	5.2	-55.1	0.24	509,463.76	698,486.75	
7,100.0	1.16	219.82	7,099.5	3,812.0	-56.5	3.9	-56.5	0.19	509,462.35	698,485.37	
7,187.0	0.62	253.59	7,186.4	3,898.9	-57.3	2.8	-57.3	0.84	509,461.54	698,484.36	
7,218.0	2.55	338.13	7,217.4	3,929.9	-56.7	2.4	-56.7	8.28	509,462.13	698,483.94	
KOP: 7218.0 MD: 7217.4 TVD: 56.7 N: 2.4 E											



Pathfinder PathfinderX & Y Report



Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well: #9H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Site:	Llama All Federal Com	MD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Well:	#9H	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)	
7,250.0	6.24	348.29	7,249.3	3,961.8	-54.4	1.8	-54.4	11.74	509,464.50	698,483.32	
7,281.0	10.02	356.94	7,280.0	3,992.5	-50.0	1.3	-50.0	12.78	509,468.84	698,482.84	
7,313.0	13.72	1.90	7,311.3	4,023.8	-43.5	1.3	-43.5	11.98	509,475.42	698,482.81	
7,344.0	18.03	5.38	7,341.1	4,053.6	-35.0	1.9	-35.0	14.23	509,483.87	698,483.39	
7,376.0	22.16	5.47	7,371.2	4,083.7	-24.1	2.9	-24.1	12.91	509,494.81	698,484.43	
7,407.0	26.38	4.81	7,399.4	4,111.9	-11.4	4.0	-11.4	13.64	509,507.50	698,485.56	
7,438.0	30.42	3.92	7,426.7	4,139.2	3.3	5.2	3.3	13.10	509,522.20	698,486.68	
7,470.0	34.56	3.52	7,453.7	4,166.2	20.5	6.3	20.4	12.95	509,539.35	698,487.79	
7,501.0	38.43	2.92	7,478.6	4,191.1	38.9	7.3	38.8	12.54	509,557.75	698,488.82	
7,533.0	41.50	1.38	7,503.1	4,215.6	59.4	8.1	59.4	10.08	509,578.29	698,489.58	
7,565.0	44.14	1.50	7,526.6	4,239.1	81.2	8.6	81.1	8.25	509,600.03	698,490.13	
7,597.0	47.04	1.26	7,549.0	4,261.5	104.0	9.2	104.0	9.08	509,622.88	698,490.68	
7,628.0	50.47	1.18	7,569.4	4,281.9	127.3	9.7	127.3	11.07	509,646.18	698,491.17	
7,659.0	54.26	1.71	7,588.4	4,300.9	151.9	10.3	151.8	12.30	509,670.72	698,491.79	
7,691.0	58.39	2.01	7,606.1	4,318.6	178.5	11.1	178.4	12.93	509,697.33	698,492.66	
7,722.0	61.64	2.28	7,621.6	4,334.1	205.3	12.2	205.2	10.51	509,724.16	698,493.67	
7,754.0	65.16	2.57	7,635.9	4,348.4	233.9	13.4	233.8	11.03	509,752.74	698,494.88	
7,785.0	68.06	2.51	7,648.2	4,360.7	262.3	14.6	262.2	9.36	509,781.16	698,496.14	
7,817.0	70.08	1.69	7,659.6	4,372.1	292.2	15.7	292.1	6.75	509,811.03	698,497.23	
7,848.0	72.90	1.62	7,669.5	4,382.0	321.5	16.6	321.5	9.10	509,840.41	698,498.08	
7,879.0	75.71	1.68	7,677.9	4,390.4	351.4	17.4	351.3	9.07	509,870.24	698,498.94	
7,908.0	78.96	1.32	7,684.2	4,396.7	379.7	18.2	379.6	11.27	509,898.52	698,499.68	
7,939.0	80.64	0.53	7,689.7	4,402.2	410.2	18.7	410.1	5.97	509,929.02	698,500.17	
7,970.0	81.16	0.01	7,694.6	4,407.1	440.8	18.8	440.7	2.36	509,959.63	698,500.32	
8,001.0	82.57	359.31	7,699.0	4,411.5	471.5	18.6	471.3	5.07	509,990.32	698,500.13	
8,033.0	84.94	358.61	7,702.5	4,415.0	503.3	18.0	503.2	7.72	510,022.12	698,499.56	



Pathfinder PathfinderX & Y Report



Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well: #9H
Project:	Eddy County (NAD83)	TVD Reference:	KB = 26.5 @ 3287.5usft (Patnot 5)
Site:	Llama/All Federal Com	MD Reference:	KB = 26.5 @ 3287.5usft (Patnot 5)
Well:	#9H	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)	
8,128.0	90.04	358.35	7,706.6	4,419.1	598.1	15.5	598.0	5.38	510,116.97	698,497.04	
LP: 8,128.0 MD: 7,706.6 TVD: 598.1 N: 15.5 E											
8,219.0	90.48	358.96	7,706.2	4,418.7	689.1	13.4	689.0	0.83	510,207.94	698,494.90	
8,317.0	91.36	358.61	7,704.7	4,417.2	787.0	11.3	787.0	0.97	510,305.90	698,492.82	
8,412.0	91.98	358.70	7,701.9	4,414.4	882.0	9.1	881.9	0.66	510,400.84	698,490.60	
8,507.0	90.57	359.22	7,699.8	4,412.3	976.9	7.4	976.9	1.58	510,495.80	698,488.87	
8,601.0	90.66	358.96	7,698.8	4,411.3	1,070.9	5.9	1,070.9	0.29	510,589.78	698,487.38	
8,696.0	88.99	357.73	7,699.1	4,411.6	1,165.9	3.1	1,165.8	2.18	510,684.73	698,484.64	
8,790.0	89.08	357.21	7,700.6	4,413.1	1,259.8	-1.0	1,259.7	0.56	510,778.63	698,480.49	
8,884.0	90.22	357.02	7,701.2	4,413.7	1,353.6	-5.8	1,353.6	1.23	510,872.51	698,475.76	
8,978.0	91.01	356.48	7,700.2	4,412.7	1,447.5	-11.1	1,447.5	1.02	510,966.35	698,470.43	
9,072.0	90.40	355.21	7,699.1	4,411.6	1,541.2	-17.9	1,541.3	1.50	511,060.09	698,463.62	
9,167.0	89.43	356.78	7,699.2	4,411.7	1,636.0	-24.5	1,636.1	1.94	511,154.86	698,456.98	
9,261.0	89.87	356.26	7,699.8	4,412.3	1,729.8	-30.2	1,729.9	0.72	511,248.68	698,451.28	
9,356.0	89.96	358.46	7,699.9	4,412.4	1,824.7	-34.6	1,824.9	2.32	511,343.57	698,446.90	
9,451.0	91.01	1.04	7,699.1	4,411.6	1,919.7	-35.0	1,919.8	2.93	511,438.56	698,446.49	
9,546.0	91.63	0.82	7,696.9	4,409.4	2,014.7	-33.5	2,014.8	0.69	511,533.52	698,448.03	
9,641.0	92.42	0.52	7,693.6	4,406.1	2,109.6	-32.4	2,109.7	0.89	511,628.45	698,449.14	
9,736.0	90.75	0.29	7,690.9	4,403.4	2,204.5	-31.7	2,204.7	1.77	511,723.41	698,449.81	
9,830.0	90.48	359.81	7,689.9	4,402.4	2,298.5	-31.6	2,298.7	0.59	511,817.41	698,449.89	
9,926.0	90.84	358.80	7,688.8	4,401.3	2,394.5	-32.8	2,394.7	1.12	511,913.39	698,448.73	
10,021.0	90.31	0.22	7,687.9	4,400.4	2,489.5	-33.6	2,489.7	1.60	512,008.38	698,447.91	
10,115.0	88.90	0.81	7,688.5	4,401.0	2,583.5	-32.8	2,583.6	1.63	512,102.37	698,448.76	
10,210.0	88.64	0.28	7,690.5	4,403.0	2,678.5	-31.9	2,678.6	0.62	512,197.34	698,449.66	
10,304.0	89.08	359.66	7,692.4	4,404.9	2,772.5	-31.9	2,772.6	0.81	512,291.33	698,449.61	
10,438.0	89.43	358.79	7,694.2	4,406.7	2,906.4	-33.7	2,906.6	0.70	512,425.30	698,447.80	
10,533.0	88.99	359.71	7,695.5	4,408.0	3,001.4	-35.0	3,001.6	1.07	512,520.28	698,446.56	



Pathfinder PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #9H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Site:	Llama Ali Federal Com	MD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Well:	#9H	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)	
10,628.0	88.29	359.38	7,697.7	4,410.2	3,096.4	-35.7	3,096.5	0.81	512,615.25	698,445.80	
10,722.0	88.90	0.13	7,700.0	4,412.5	3,190.4	-36.1	3,190.5	1.03	512,709.22	698,445.40	
10,816.0	88.72	1.19	7,702.0	4,414.5	3,284.3	-35.0	3,284.5	1.14	512,803.19	698,446.48	
10,910.0	89.96	0.69	7,703.1	4,415.6	3,378.3	-33.5	3,378.4	1.42	512,897.17	698,448.03	
11,006.0	90.04	1.16	7,703.1	4,415.6	3,474.3	-31.9	3,474.4	0.50	512,993.16	698,449.58	
11,100.0	90.04	1.90	7,703.0	4,415.5	3,568.3	-29.4	3,568.4	0.79	513,087.13	698,452.09	
11,194.0	90.13	2.22	7,702.9	4,415.4	3,662.2	-26.0	3,662.3	0.35	513,181.06	698,455.47	
11,289.0	90.40	3.11	7,702.4	4,414.9	3,757.1	-21.6	3,757.2	0.98	513,275.96	698,459.88	
11,383.0	90.75	1.43	7,701.5	4,414.0	3,851.0	-17.9	3,851.1	1.83	513,369.88	698,463.61	
11,477.0	89.60	359.28	7,701.2	4,413.7	3,945.0	-17.3	3,945.0	2.59	513,463.87	698,464.19	
11,572.0	88.81	359.16	7,702.5	4,415.0	4,040.0	-18.6	4,040.0	0.84	513,558.85	698,462.89	
11,667.0	88.55	359.02	7,704.7	4,417.2	4,134.9	-20.1	4,135.0	0.31	513,653.81	698,461.39	
11,762.0	90.04	359.47	7,705.9	4,418.4	4,229.9	-21.4	4,230.0	1.64	513,748.79	698,460.13	
11,857.0	89.87	359.70	7,705.9	4,418.4	4,324.9	-22.1	4,325.0	0.30	513,843.79	698,459.45	
11,952.0	90.13	0.25	7,705.9	4,418.4	4,419.9	-22.1	4,420.0	0.64	513,938.79	698,459.40	
12,046.0	89.44	0.26	7,706.3	4,418.8	4,513.9	-21.7	4,514.0	0.73	514,032.79	698,459.82	
12,141.0	88.81	0.06	7,707.7	4,420.2	4,608.9	-21.4	4,609.0	0.70	514,127.78	698,460.09	
12,235.0	89.96	359.46	7,708.8	4,421.3	4,702.9	-21.8	4,703.0	1.38	514,221.77	698,459.69	
12,329.0	91.45	359.97	7,707.6	4,420.1	4,796.9	-22.3	4,796.9	1.68	514,315.76	698,459.23	
12,424.0	89.69	359.42	7,706.7	4,419.2	4,891.9	-22.8	4,891.9	1.94	514,410.75	698,458.72	
12,519.0	90.57	358.96	7,706.4	4,418.9	4,986.9	-24.1	4,986.9	1.05	514,505.74	698,457.38	
12,613.0	89.87	358.56	7,706.1	4,418.6	5,080.8	-26.2	5,080.9	0.86	514,599.71	698,455.34	
12,708.0	91.01	358.40	7,705.3	4,417.8	5,175.8	-28.7	5,175.9	1.21	514,694.67	698,452.82	
12,802.0	90.04	358.76	7,704.5	4,417.0	5,269.8	-31.0	5,269.9	1.10	514,788.64	698,450.50	
12,896.0	88.81	358.46	7,705.4	4,417.9	5,363.7	-33.3	5,363.8	1.35	514,882.61	698,448.22	
12,990.0	90.40	359.28	7,706.1	4,418.6	5,457.7	-35.2	5,457.8	1.90	514,976.58	698,446.36	
13,085.0	91.19	358.92	7,704.8	4,417.3	5,552.7	-36.6	5,552.8	0.91	515,071.56	698,444.87	



Pathfinder PathfinderX & Y Report



Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well: #9H
Project:	Eddy County (NAD:83)	TVD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Site:	Llama All Federal Com	MDI Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Well:	#9H	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)	
13,180.0	92.77	0.16	7,701.5	4,414.0	5,647.6	-37.4	5,647.7	2.11	515,166.50	698,444.11	
13,275.0	92.33	0.33	7,697.2	4,409.7	5,742.5	-37.0	5,742.6	0.50	515,261.40	698,444.51	
13,370.0	91.63	0.13	7,694.0	4,406.5	5,837.5	-36.6	5,837.6	0.77	515,356.34	698,444.89	
13,465.0	89.60	0.69	7,692.9	4,405.4	5,932.5	-35.9	5,932.6	2.22	515,451.33	698,445.57	
13,559.0	90.57	1.36	7,692.8	4,405.3	6,026.4	-34.3	6,026.5	1.25	515,545.31	698,447.26	
13,653.0	88.46	1.15	7,693.6	4,406.1	6,120.4	-32.2	6,120.5	2.26	515,639.28	698,449.31	
13,748.0	87.85	1.34	7,696.7	4,409.2	6,215.3	-30.1	6,215.4	0.67	515,734.21	698,451.38	
13,842.0	88.37	359.76	7,699.8	4,412.3	6,309.3	-29.2	6,309.3	1.77	515,828.15	698,452.28	
13,936.0	90.75	0.60	7,700.5	4,413.0	6,403.3	-28.9	6,403.3	2.68	515,922.14	698,452.57	
14,028.0	91.10	0.02	7,699.0	4,411.5	6,495.3	-28.4	6,495.3	0.74	516,014.13	698,453.07	
14,122.0	92.24	0.41	7,696.3	4,408.8	6,589.2	-28.1	6,589.3	1.28	516,108.08	698,453.42	
14,217.0	90.84	359.31	7,693.7	4,406.2	6,684.2	-28.3	6,684.2	1.87	516,203.04	698,453.19	
14,312.0	91.71	359.09	7,691.6	4,404.1	6,779.1	-29.6	6,779.2	0.94	516,298.01	698,451.87	
14,406.0	89.87	358.27	7,690.3	4,402.8	6,873.1	-31.8	6,873.2	2.14	516,391.97	698,449.70	
14,501.0	90.22	357.30	7,690.2	4,402.7	6,968.0	-35.5	6,968.1	1.09	516,486.90	698,446.03	
14,595.0	88.90	358.17	7,690.9	4,403.4	7,062.0	-39.2	7,062.1	1.68	516,580.82	698,442.31	
14,610.0	88.90	357.71	7,691.2	4,403.7	7,076.9	-39.7	7,077.1	3.07	516,595.81	698,441.77	
14,654.0	88.90	357.71	7,692.1	4,404.6	7,120.9	-41.5	7,121.0	0.00	516,639.76	698,440.02	
PROJECTED BHL: 14654.0 MD: 7692.1 TVD: 7120.9 N: -41.5 E: FWL: 426 FEL: 890 FNL: 477											



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #9H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Site:	Llama All Federal Com	MD Reference:	KB = 26.5 @ 3287.5usft (Patriot 5)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM:5000:1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,218.0	7,217.4	-56.7	2.4	KOP - 7218.0 'MD, 7217.4 'TVD, -56.7 'N, 2.4 'E
8,128.0	7,706.6	598.1	15.5	LP - 8128.0 'MD, 7706.6 'TVD, 598.1 'N, 15.5 'E
14,654.0	7,692.1	7,120.9	-41.5	PROJECTED BHL - 14654.0 'MD, 7692.1 'TVD, 7120.9 'N, -41.5 'E
14,654.0	7,692.1	7,120.9	-41.5	FWL 426', FEL 890, FNL 477'

Checked By: _____	Approved By: _____	Date: _____
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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



Azimuths to Grid North
True North: -0.27°
Magnetic North: 7.30°
Magnetic Field
Strength: 48628.9snT
Dip Angle: 60.31°
Date: 7/12/2012
Model: IGRF200510

PATHFINDER
A Schlumberger Company

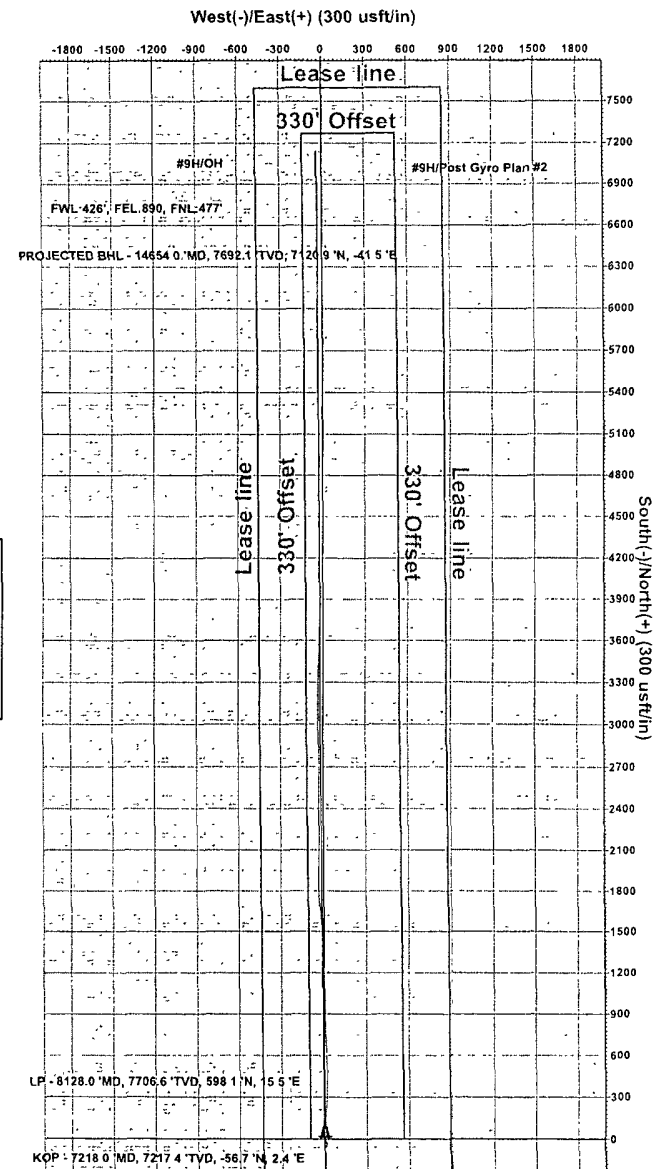
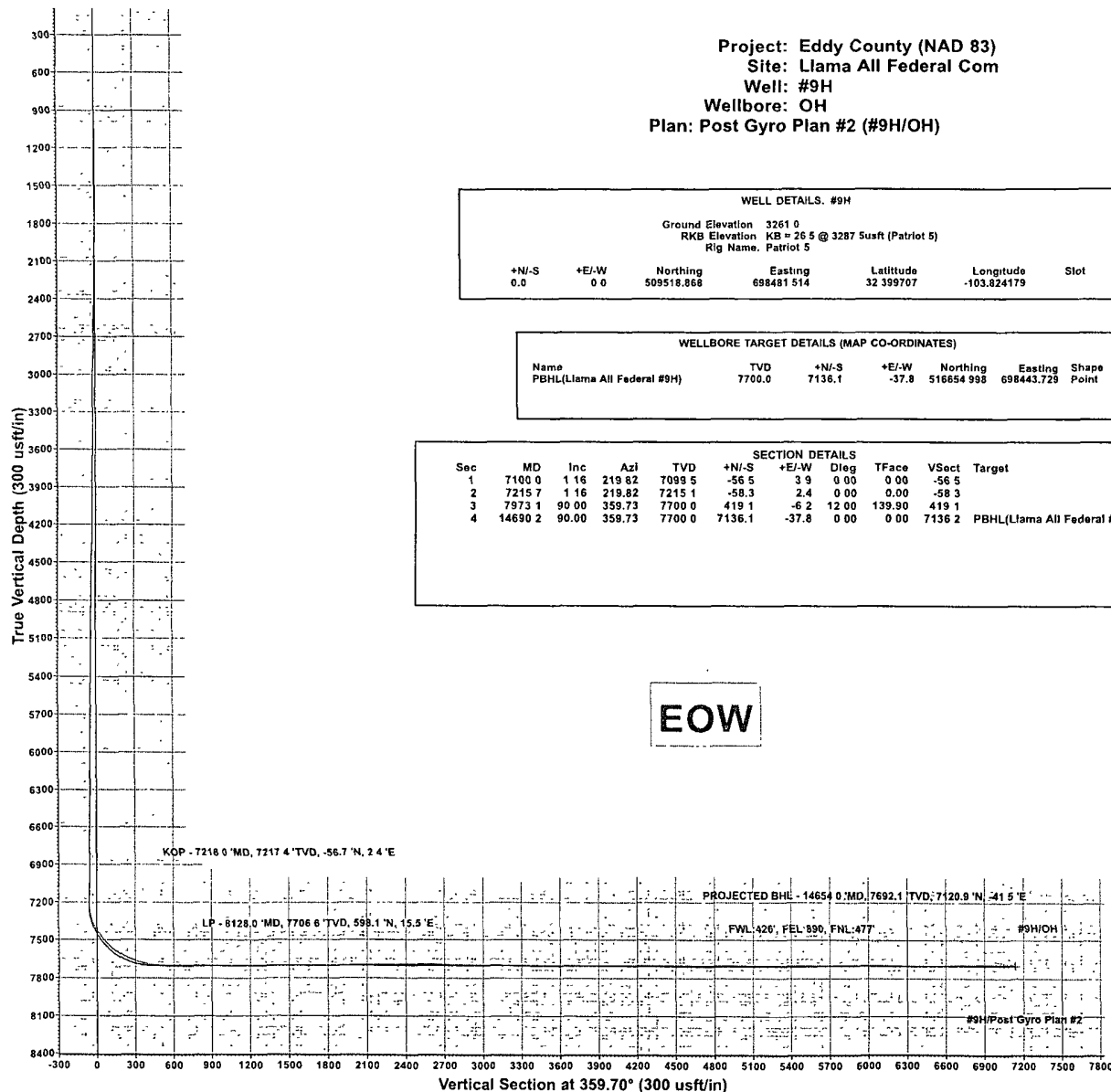
Project: Eddy County (NAD 83)
Site: Llana All Federal Com
Well: #9H
Wellbore: OH
Plan: Post Gyro Plan #2 (#9H/OH)

WELL DETAILS: #9H						
Ground Elevation 3261.0 RKB Elevation KB = 26.5 @ 3287.5usft (Patriot 5) Rig Name: Patriot 5						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	509518.868	698481.514	32.399707	-103.824179	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL(Llana All Federal #9H)	7700.0	7136.1	-37.8	516654.998	698443.729	Point

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	7100.0	1.16	219.82	7099.5	-56.5	3.9	0.00	0.00	-56.5	
2	7215.7	1.16	219.82	7215.1	-58.3	2.4	0.00	0.00	-58.3	
3	7973.1	90.00	359.73	7700.0	419.1	-6.2	12.00	139.90	419.1	
4	14690.2	90.00	359.73	7700.0	7136.1	-37.8	0.00	0.00	7136.2	PBHL(Llana All Federal #9H)

EOW

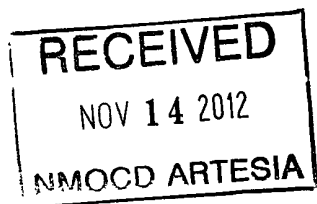


Plan Post Gyro Plan #2 (#9H/OH)

Created By Sam Bille Date 16 37, August 17 2012

Checked _____ Date _____

Notes: Pathfinder 2012
Llana All Federal #9H
Post Gyro Plan #2
Date 16 37, August 17 2012

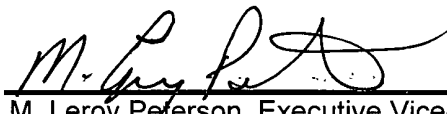


OPERATOR: Yates Petroleum Corp.
WELL/LEASE: Llama ALL Fed Com # 9 H
COUNTY: Eddy Co., New Mexico
Sec. 17, T22S, R31E

STATE OF NEW MEXICO
DEVIATION REPORT

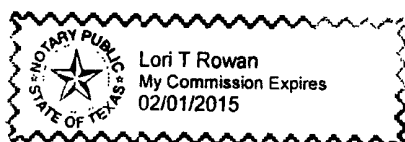
Depth	Deviation	Depth	Deviation
306	1/4	3,134	1 1/2
475	1/2	3,228	3/4
584	3/4	3,417	1/2
679	1/2	3,512	3/4
774	1/2	3,700	1 1/4
869	1/2	3,888	1 1/4
964	1/2	4,075	1
1,059	1/2	4,264	3/4
1,250	1/4	4,547	1
1,346	1/2	4,830	3/4
1,439	1/2	4,924	3/4
1,531	1/4	5,018	3/4
1,626	1/4	5,113	3/4
1,720	3/4	5,208	3/4
2,094	1	5,303	3/4
2,189	1 1/4	5,493	1/2
2,284	1 1/4	5,869	3/4
2,378	1	6,152	3/4
2,473	1	6,529	3/4
2,568	1 1/4	6,718	3/4
2,663	1 1/4	6,907	1
2,758	1 1/4	7,069	1
2,854	1 1/2	7,187	3/4
2,947	1/2		
3,040	1		

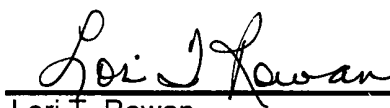
Patriot Drilling, LLC


M. Leroy Peterson, Executive Vice-
President

The foregoing instrument was acknowledged before me on this 17th day of July, 2012 by M. Leroy Peterson, Executive Vice-President of Patriot Drilling, LLC.

My Commission Expires: 02/01/2015




Lori T. Rowan
Notary Public for Ector Co., Texas