

OPERATOR: Yates Petroleum Corp.
WELL/LEASE: Lechuza BQC Fed # 1H
COUNTY: Eddy Co., New Mexico
Sec. 35, T26S, R28E

30-015-38522

STATE OF NEW MEXICO
DEVIATION REPORT

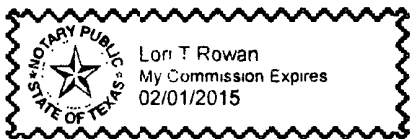
Depth	Deviation	Depth	Deviation
200	1	2,740	3/4
448	3 1/2	2,849	1/2
536	3 1/4	3,039	3/4
723	4	3,230	3/4
754	4	3,420	3/4
850	4 3/4	3,992	1
945	5	4,182	1
1,040	5	4,372	1 1/4
1,135	4 1/2	4,563	1 1/4
1,231	4 1/4	4,753	3/4
1,326	3 1/2	4,944	3/4
1,421	2 3/4	5,134	1
1,516	2 1/2	5,324	1/2
1,611	2 1/4	5,513	3/4
1,707	4 1/2	5,701	1
1,802	1 1/2	6,079	1
1,897	1 1/2	6,267	1/2
1,992	3/4	6,440	1
2,018	1 1/2	6,549	1 3/4
2,183	1	6,643	2 1/4
2,278	2 1/4	6,738	1 1/2
2,373	2 1/4	6,832	1 3/4
2,468	1/2	6,927	2 1/4
2,564	3/4	7,021	1

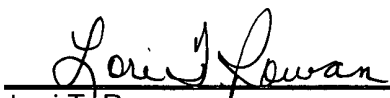
Patriot Drilling, LLC


M. Leroy Peterson, Executive Vice-President

The foregoing instrument was acknowledged before me on this 12th day of September, 2011 by M. Leroy Peterson, Executive Vice-President of Patriot Drilling,

My Commission Expires: 02/01/2015




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



A Schlumberger Company

RECEIVED

FEB 03 2012

NMOCD ARTESIA

DIRECTIONAL SURVEY REPORT

YATES PETROLEUM

LECHUZA BQC FEDERAL COM #1H

EDDY COUNTY, NEW MEXICO

PREPARED BY: STEVE BIBB

Pathfinder

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



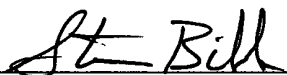
DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) GEORGE SAKAS
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 08-17-11 TO 09-08-11
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM
LECHUZA BQC FEDERAL COM #1H
EDDY COUNTY, NM
RIG: PATRIOT 5

9. SURVEY CERTIFIED FROM: 448 TO 11652 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 4948.21 FEET ON A BEARING OF 268.07 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 11732 FEET,
ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



STEVE BIBB
MWD COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 08/17/2011
Date Completed: 09/07/2011

YATES PETROLEUM CORPORATION
LECHUZA "BQC" FEDERAL COM #1H_ST1
EDDY COUNTY, NEW MEXICO
Rig:PATRIOT 5
PathFinder Office Supervisor: STEVE BIBB
PathFinder Field Engineers:G. SAKAS

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.0.18.8974 N LON:104.2.58.7855 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 629267.1820 Y: 365764.4140
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.62° EAST TO GRID
Vertical Section Plane: 268.00
Survey Vert. Reference: 26.50' Kelly Bushing To Ground
Altitude:2996.00' Ground To MSL

Measured Depth	11732.00	(feet)
Inclination	90.22	(deg)
Azimuth	267.78	(deg)
True Vertical Depth	6988.28	(feet)
Vertical Section	4948.21	(feet)
Survey X cord	624321.75	(feet)
Survey Y cord	365598.16	(feet)
Survey Lat	32.00482691 N	(deg)
Survey Lon	104.06561832 W	(deg)
Rectangular Corr. N/S	166.24 S	(feet)
Rectangular Corr. E/W	4945.42 W	(feet)
Closure Distance	4948.21	(feet)
Direction of Closure	268.07	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
 LECHUZA "BQC" FEDERAL COM #1H_ST1
 EDDY COUNTY, NEW MEXICO
 Rig:PATRIOT 5
 PathFinder Office Supervisor: STEVE BIBB
 PathFinder Field Engineers: G. SAKAS

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 Total Magnetic Correction: 7.62° EAST TO GRID
 Vertical Section Plane: 268.00
 Survey Vert. Reference: 26.50' Kelly Bushing To Ground
 Altitude:2996.00' Ground To MSL

Survey Calculations by RX5 V6.03E 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 SURVEYS ARE MULTI SHOT GYRO SURVEYS.										
100.00	0.25	102.29	100.00	0.00	-0.22	0.04 S	0.22 E	0.22@	100.93	0.00
200.00	1.25	42.06	199.99	100.00	-1.19	0.72 N	1.16 E	1.37@	58.16	1.15
300.00	3.75	31.78	299.89	100.00	-3.76	4.31 N	3.62 E	5.63@	39.98	2.53
** TIE-IN TO MULTI SHOT GYRO SURVEY @ 350'MD.										
350.00	3.50	33.11	349.79	50.00	-5.55	6.98 N	5.31 E	8.77@	37.26	0.53
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
448.00	3.43	27.88	447.61	98.00	-8.73	12.08 N	8.31 E	14.66@	34.55	0.33
536.00	3.25	352.12	535.47	88.00	-9.79	16.88 N	9.20 E	19.22@	28.61	2.34
626.00	2.99	331.13	625.34	90.00	-8.47	21.46 N	7.72 E	22.80@	19.79	1.29
723.00	3.78	287.97	722.19	97.00	-4.32	24.66 N	3.46 E	24.90@	7.98	2.68
754.00	3.96	286.35	753.11	31.00	-2.34	25.28 N	1.46 E	25.32@	3.30	0.68
850.00	4.66	279.62	848.84	96.00	4.63	26.86 N	5.57 W	27.43@	348.29	0.90
945.00	5.01	253.59	943.52	95.00	12.43	26.34 N	13.35 W	29.53@	333.11	2.32
1040.00	4.57	257.77	1038.18	95.00	20.17	24.36 N	21.03 W	32.18@	319.20	0.59
1135.00	4.22	257.38	1132.91	95.00	27.33	22.80 N	28.14 W	36.22@	309.01	0.37
1231.00	4.13	259.77	1228.65	96.00	34.22	21.41 N	34.99 W	41.02@	301.46	0.20
1326.00	3.34	252.75	1323.45	95.00	40.28	19.98 N	41.00 W	45.61@	295.98	0.96
1421.00	2.55	237.87	1418.32	95.00	44.77	18.04 N	45.43 W	48.88@	291.65	1.15
1516.00	2.46	249.31	1513.23	95.00	48.53	16.19 N	49.13 W	51.73@	288.24	0.53
1611.00	2.11	228.42	1608.16	95.00	51.81	14.31 N	52.34 W	54.27@	285.29	0.94
1707.00	1.41	193.62	1704.12	96.00	53.49	11.99 N	53.94 W	55.26@	282.53	1.30
1802.00	1.06	205.75	1799.09	95.00	54.22	10.06 N	54.60 W	55.52@	280.44	0.46
1897.00	1.32	216.10	1894.07	95.00	55.30	8.39 N	55.63 W	56.26@	278.58	0.35
1992.00	0.70	127.85	1989.06	95.00	55.53	7.15 N	55.81 W	56.27@	277.30	1.55
2088.00	1.41	94.83	2085.05	96.00	53.91	6.69 N	54.17 W	54.59@	277.04	0.94

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
LECHUZA "BQC" FEDERAL COM #1H_ST1
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)
2183.00	0.79	94.01	2180.03	95.00	52.10	6.54 N	52.36 W	52.76@	277.12	0.65
2278.00	2.20	97.29	2274.99	95.00	49.64	6.27 N	49.89 W	50.29@	277.16	1.49
2373.00	2.02	117.88	2369.93	95.00	46.39	5.25 N	46.61 W	46.90@	276.43	0.82
2468.00	0.35	186.39	2464.91	95.00	44.98	4.18 N	45.16 W	45.35@	275.29	2.02
2564.00	0.70	173.57	2560.91	96.00	44.98	3.31 N	45.12 W	45.25@	274.19	0.38
2740.00	0.70	188.30	2736.89	176.00	45.09	1.18 N	45.16 W	45.17@	271.49	0.10
2849.00	0.44	187.27	2845.89	109.00	45.28	0.10 N	45.31 W	45.31@	270.13	0.24
3039.00	0.53	175.01	3035.88	190.00	45.35	1.50 S	45.32 W	45.35@	268.11	0.07
3230.00	0.53	188.56	3226.87	191.00	45.46	3.25 S	45.38 W	45.50@	265.90	0.06
3420.00	0.53	202.59	3416.86	190.00	45.99	4.93 S	45.85 W	46.11@	263.86	0.07
3611.00	0.70	214.34	3607.85	191.00	47.05	6.71 S	46.84 W	47.32@	261.85	0.11
3801.00	0.70	211.77	3797.84	190.00	48.38	8.66 S	48.11 W	48.88@	259.80	0.02
3992.00	0.79	217.76	3988.82	191.00	49.87	10.69 S	49.53 W	50.67@	257.82	0.06
4182.00	0.88	223.52	4178.80	190.00	51.75	12.78 S	51.34 W	52.91@	256.02	0.06
4372.00	1.06	232.27	4368.78	190.00	54.22	14.92 S	53.73 W	55.76@	254.49	0.12
4563.00	1.23	247.63	4559.74	191.00	57.58	16.78 S	57.03 W	59.44@	253.61	0.18
4753.00	0.62	254.33	4749.71	190.00	60.49	17.83 S	59.90 W	62.50@	253.42	0.32
4944.00	0.70	9.98	4940.70	191.00	61.25	16.96 S	60.69 W	63.02@	254.39	0.59
5134.00	0.79	46.44	5130.69	190.00	60.03	14.92 S	59.54 W	61.38@	255.94	0.25
5324.00	0.35	85.36	5320.68	190.00	58.47	13.97 S	58.02 W	59.67@	256.47	0.30
5513.00	0.53	140.69	5509.68	189.00	57.36	14.60 S	56.89 W	58.73@	255.61	0.23
5701.00	0.88	146.22	5697.66	188.00	56.07	16.47 S	55.53 W	57.92@	253.48	0.19
5890.00	1.23	14.30	5886.65	189.00	54.74	15.71 S	54.23 W	56.45@	253.84	1.02
6079.00	0.88	21.34	6075.61	189.00	53.60	12.39 S	53.20 W	54.62@	256.89	0.20
6267.00	0.44	326.00	6263.60	188.00	53.41	10.45 S	53.07 W	54.09@	258.86	0.39
6440.00	0.97	349.69	6436.59	173.00	53.97	8.46 S	53.71 W	54.37@	261.05	0.34
6549.00	1.58	306.45	6545.56	109.00	55.28	6.66 S	55.08 W	55.48@	263.11	1.01
6611.00	4.31	236.97	6607.49	62.00	57.95	7.42 S	57.72 W	58.20@	262.68	6.51

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
LECHUZA "BQC" FEDERAL COM #1H_ST1
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)
6643.00	9.76	244.34	6639.24	32.00	61.46	9.25 S	61.18 W	61.87@	261.40	17.23
6675.00	14.95	250.34	6670.49	32.00	67.89	11.81 S	67.52 W	68.54@	260.07	16.69
6706.00	18.82	253.95	6700.15	31.00	76.55	14.54 S	76.09 W	77.47@	259.18	12.93
6737.00	22.34	256.43	6729.16	31.00	87.18	17.31 S	86.63 W	88.34@	258.70	11.70
6769.00	25.76	259.40	6758.38	32.00	100.02	20.02 S	99.38 W	101.37@	258.61	11.33
6800.00	29.19	262.57	6785.88	31.00	114.21	22.23 S	113.50 W	115.66@	258.92	12.03
6832.00	32.54	265.26	6813.35	32.00	130.58	23.95 S	129.82 W	132.01@	259.55	11.32
6863.00	36.05	267.38	6838.96	31.00	148.03	25.06 S	147.25 W	149.36@	260.34	11.96
6894.00	39.48	269.76	6863.46	31.00	167.01	25.52 S	166.22 W	168.17@	261.27	12.02
6925.00	43.18	271.09	6886.74	31.00	187.46	25.36 S	186.69 W	188.40@	262.26	12.27
6957.00	46.60	271.13	6909.40	32.00	210.01	24.92 S	209.26 W	210.74@	263.21	10.69
6988.00	49.68	270.93	6930.09	31.00	233.06	24.51 S	232.35 W	233.63@	263.98	9.95
7020.00	53.02	271.35	6950.07	32.00	258.01	24.01 S	257.33 W	258.45@	264.67	10.49
7051.00	56.54	271.16	6967.95	31.00	283.29	23.45 S	282.64 W	283.61@	265.26	11.37
7083.00	60.23	271.22	6984.72	32.00	310.49	22.89 S	309.88 W	310.73@	265.78	11.53
7114.00	64.54	271.83	6999.08	31.00	337.90	22.15 S	337.34 W	338.06@	266.24	14.01
7145.00	69.03	272.85	7011.30	31.00	366.30	20.99 S	365.79 W	366.39@	266.72	14.80
7177.00	73.42	273.53	7021.60	32.00	396.47	19.30 S	396.04 W	396.51@	267.21	13.86
7208.00	78.35	273.32	7029.15	31.00	426.39	17.50 S	426.04 W	426.40@	267.65	15.92
7245.00	84.33	272.46	7034.72	37.00	462.82	15.66 S	462.55 W	462.82@	268.06	16.33
7276.00	90.31	271.01	7036.17	31.00	493.70	14.73 S	493.49 W	493.71@	268.29	19.85
7308.00	91.89	268.66	7035.56	32.00	525.68	14.82 S	525.48 W	525.69@	268.38	8.85
7338.00	91.71	267.67	7034.62	30.00	555.66	15.78 S	555.45 W	555.67@	268.37	3.35
7369.00	91.10	267.94	7033.86	31.00	586.65	16.97 S	586.42 W	586.66@	268.34	2.15
7464.00	91.80	268.54	7031.45	95.00	681.62	19.88 S	681.34 W	681.63@	268.33	0.97
7558.00	91.54	268.28	7028.71	94.00	775.58	22.49 S	775.26 W	775.59@	268.34	0.39
7653.00	90.84	267.94	7026.74	95.00	870.56	25.62 S	870.19 W	870.57@	268.31	0.82
7747.00	90.57	267.81	7025.58	94.00	964.55	29.11 S	964.12 W	964.56@	268.27	0.32

PathFinder Energy Services, Inc.

Survey Report

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LECHUZA "BQC" FEDERAL COM #1H_ST1
EDDY COUNTY, NEW MEXICO
RIG:PATRIOT 5

Page 04/05

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
7842.00	92.07	268.67	7023.39	95.00	1059.52	32.02 S	1059.05 W	1059.53@	268.27	1.82
7935.00	90.84	267.46	7021.03	93.00	1152.48	35.16 S	1151.96 W	1152.50@	268.25	1.85
8030.00	89.25	266.25	7020.96	95.00	1247.46	40.38 S	1246.81 W	1247.47@	268.15	2.10
8124.00	89.78	267.24	7021.75	94.00	1341.43	45.71 S	1340.65 W	1341.43@	268.05	1.19
8218.00	90.31	267.01	7021.68	94.00	1435.42	50.43 S	1434.54 W	1435.42@	267.99	0.61
8312.00	87.85	266.78	7023.19	94.00	1529.39	55.52 S	1528.38 W	1529.39@	267.92	2.63
8406.00	87.32	266.69	7027.15	94.00	1623.28	60.87 S	1622.14 W	1623.28@	267.85	0.57
8500.00	89.69	266.14	7029.60	94.00	1717.20	66.74 S	1715.92 W	1717.22@	267.77	2.59
8595.00	91.80	267.29	7028.37	95.00	1812.16	72.19 S	1810.75 W	1812.19@	267.72	2.53
8689.00	92.51	267.52	7024.83	94.00	1906.09	76.44 S	1904.59 W	1906.12@	267.70	0.79
8783.00	92.51	268.64	7020.72	94.00	2000.00	79.58 S	1998.44 W	2000.02@	267.72	1.19
8877.00	93.03	268.50	7016.17	94.00	2093.89	81.93 S	2092.30 W	2093.90@	267.76	0.57
8972.00	91.63	268.86	7012.31	95.00	2188.80	84.11 S	2187.20 W	2188.81@	267.80	1.52
9066.00	91.54	269.07	7009.71	94.00	2282.75	85.81 S	2281.14 W	2282.76@	267.85	0.24
9161.00	91.10	269.34	7007.52	95.00	2377.70	87.13 S	2376.11 W	2377.71@	267.90	0.54
9255.00	90.22	269.89	7006.44	94.00	2471.66	87.76 S	2470.10 W	2471.66@	267.97	1.10
9348.00	89.69	269.14	7006.51	93.00	2564.62	88.55 S	2563.09 W	2564.62@	268.02	0.99
9443.00	89.43	269.00	7007.24	95.00	2659.60	90.09 S	2658.08 W	2659.61@	268.06	0.31
9537.00	89.34	268.55	7008.25	94.00	2753.59	92.10 S	2752.05 W	2753.59@	268.08	0.49
9632.00	91.01	268.69	7007.96	95.00	2848.58	94.39 S	2847.02 W	2848.59@	268.10	1.76
9726.00	91.45	268.99	7005.94	94.00	2942.55	96.29 S	2940.98 W	2942.56@	268.12	0.57
9821.00	91.98	268.39	7003.10	95.00	3037.50	98.46 S	3035.91 W	3037.51@	268.14	0.84
9915.00	92.15	267.74	6999.71	94.00	3131.44	101.63 S	3129.80 W	3131.45@	268.14	0.71
10009.00	90.75	266.94	6997.33	94.00	3225.40	105.99 S	3223.66 W	3225.40@	268.12	1.71
10103.00	90.57	266.99	6996.25	94.00	3319.38	110.97 S	3317.52 W	3319.38@	268.08	0.20
10198.00	90.66	267.42	6995.23	95.00	3414.36	115.60 S	3412.41 W	3414.36@	268.06	0.46
10292.00	89.96	267.23	6994.72	94.00	3508.35	119.99 S	3506.30 W	3508.35@	268.04	0.77
10386.00	89.96	267.32	6994.79	94.00	3602.34	124.46 S	3600.19 W	3602.35@	268.02	0.10

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
LECHUZA "BQC" FEDERAL COM #1H_ST1
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)
10479.00	89.87	267.34	6994.93	93.00	3695.34	128.79 S	3693.09 W	3695.34@	268.00	0.10
10573.00	90.13	268.06	6994.93	94.00	3789.34	132.56 S	3787.02 W	3789.34@	268.00	0.81
10668.00	89.60	267.58	6995.15	95.00	3884.34	136.18 S	3881.95 W	3884.34@	267.99	0.75
10762.00	90.04	268.32	6995.45	94.00	3978.33	139.54 S	3975.89 W	3978.33@	267.99	0.92
10856.00	90.31	268.97	6995.16	94.00	4072.33	141.76 S	4069.86 W	4072.33@	268.01	0.75
10951.00	89.78	269.31	6995.08	95.00	4167.31	143.19 S	4164.85 W	4167.31@	268.03	0.66
11045.00	89.60	268.15	6995.59	94.00	4261.30	145.27 S	4258.82 W	4261.30@	268.05	1.25
11139.00	90.22	268.98	6995.74	94.00	4355.29	147.63 S	4352.79 W	4355.29@	268.06	1.10
11234.00	90.40	268.71	6995.23	95.00	4450.28	149.54 S	4447.77 W	4450.28@	268.07	0.34
11328.00	90.40	268.44	6994.57	94.00	4544.27	151.88 S	4541.74 W	4544.28@	268.08	0.29
11422.00	91.28	268.04	6993.19	94.00	4638.26	154.76 S	4635.68 W	4638.27@	268.09	1.03
11517.00	91.63	268.14	6990.78	95.00	4733.23	157.93 S	4730.60 W	4733.23@	268.09	0.38
11611.00	90.66	267.54	6988.90	94.00	4827.21	161.47 S	4824.51 W	4827.21@	268.08	1.21
11652.00	90.22	267.78	6988.59	41.00	4868.21	163.15 S	4865.48 W	4868.21@	268.08	1.22
STRAIGHT LINE PROJECTION TO BIT @ 11732'MD.										
11732.00	90.22	267.78	6988.28	80.00	4948.21	166.24 S	4945.42 W	4948.21@	268.07	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 CORPORATION		
LEASE / WELL No.:	LECHUZA BQC FEDERAL COM	1 #H	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY	NM	USA
RIG:	PATRIOT 5		
API WELL No:	30-015-33522		
JOB No:	700003368 WT-WT		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PATHFINDER ENERGY SERVICES		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.62	LWD Calculated:	Agreed Upon: 7.62
X =	629267.182000	Feet	Y = 365764.414000 Feet
SITE LATITUDE:	32.005249	SITE LONGITUDE:	104.049663
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	
PROPOSED DRIFT DIRECTION:	268		
KELLY BUSHING ELEVATION:	26.5		
ALTITUDE:	2996	Feet	WATER DEPTH: Feet

TIE-IN SURVEY

MEASURED DEPTH:	350		
DRIFT ANGLE:	33.11 3.5		
DRIFT DIRECTION:	268 33.11		
TRUE VERTICAL DEPTH:	349.79		
VERTICAL SECTION:	-5.55		
RECTANGULAR COORDINATE (N / S) :	6.98		
RECTANGULAR COORDINATE (E / W) :	5.31		
CLOSURE DISTANCE / DIRECTION:	8.76	37.25	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	M.S. ENERGY SERVICES		
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO		

WELL PLAN

KICKOFF DEPTH:	TOTAL DEPTH:	11,711
KICKOFF ANGLE:	0	MAX ANGLE: 90

PES Engineers: G. SAKAS
C.SANDIFER

**Signature of both field engineers required if applicable

Directional Driller: IRBY LEJUENE

DATE: 17-Aug-2011



CUSTOMER: YATES PETROLEUM

JOB NUMBER: SVCO 111040

WELL NAME: LECHUZA BQC FEDERAL #1H

LOCATION: EDDY COUNTY, NEW MEXICO

SURVEY DATE: 8/18/2011

API#: 30-015-33522

COMMENTS: PATRIOT 5
BRENT PATTERSON

SURVEYOR: S. SMITH

DECLINATION: 7 63 E TO GRID

VERTICAL SEC: 268

RIG/ RKB: 27'

DIR. COMPANY: PATHFINDER

TIE-IN: N/A

COMMENTS: BASED ON THIS APPROXIMATE
MAGNETIC DECLINATION 4 00 00

MEASURED DEPTH	VERTICAL DEPTH	VERTICAL SECTION	INCLINATION ANGLE	BEARING /AZIMUTH	COORDINATES		DOG-LEG PER 100	CLOSURE DISTANCE	CLOSURE BEARING
					+ N-S	+ E-W			
100	100	-0.21	0.25	102.29	-0.05	0.21	0.25	0.22	102.29
200	199.99	-1.18	1.25	42.06	0.72	1.16	1.15	1.36	58.22
300	299.89	-3.76	3.75	31.78	4.31	3.61	2.53	5.62	39.97
350	349.79	-5.55	3.5	33.11	6.98	5.31	0.53	8.76	37.25

WELL NAME: LECHUZA BQC FEDERAL #1H

BY MINIMUM CURVATURE											
MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R PROP.	INCL	BEARING AZIMUTH	COORDINATES		D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION
						LATITUDE	DEPARTURE				
0.0	0.00	0.00	0.000	00.00	000.00	0.00 N	0.00 E	0.00		0.00 AT	000.00
100.0	100.00	-0.21	-0.054	00.25	102.29	- 0.05 S	0.21 E	0.25	0.25	0.22 AT	102.29
200.0	199.99	-1.18	0.676	01.25	042.06	0.72 N	1.16 E	1.15	1.15	1.36 AT	058.22
300.0	299.89	-3.76	4.179	03.75	031.78	4.31 N	3.61 E	2.53	2.53	5.62 AT	039.97
350.0	349.79	-5.55	6.786	03.50	033.11	6.98 N	5.31 E	0.53	0.26	8.76 AT	037.25

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*****
*                                     *****
*      THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF
*      *****
*      350.00 FEET EQUALS      8.76      FEET AT  037.25
*      *****
*****

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A Schlumberger Company

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM
LECHUZA BQC FEDERAL COM #1H
EDDY COUNTY, NEW MEXICO
Rig: PATRIOT 5

Mon Aug 15 11:37:51 2011

Coordinates

Latitude: 32.005249 N (32 deg. 0 min. 18.8974 sec.)
Longitude: 104.049663 W (-104 deg. 2 min. 58.7855 sec.)
Elevation: 3022.50 feet.
Calculation Date: Aug/12/2011

Magnetic Calculations

Model: IGRF2010
Dip Angle: 59.8955 degrees
Total Magnetic Field: 0.48417 gauss
Magnetic Declination: 7.767263 degrees
Horizontal Intensity: 0.242851 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.767263 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 629267.1820 feet
Y: 365764.4140 feet
True to Grid: (convergence) -0.150346 degrees
Magnetic to Grid: 7.616917 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.616917 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM CORPORATION
LECHUZA "BQC" FEDERAL COM #1H
EDDY COUNTY
Rig: PATRIOT 5

Field

Wed Aug 17 06:23:38 2011

Coordinates

Latitude: 32.005249 N (32 deg. 0 min. 18.8974 sec.)
Longitude: 104.049663 W (-104 deg. 2 min. 58.7855 sec.)
Elevation: 3022.50 feet.
Calculation Date: Aug/17/2011

Magnetic Calculations

Model: IGRF2010
Dip Angle: 59.8952 degrees
Total Magnetic Field: 0.48416 gauss
Magnetic Declination: 7.765603 degrees
Horizontal Intensity: 0.242846 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.765603 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 629267.1820 feet
Y: 365764.4140 feet
True to Grid: (convergence) -0.150346 degrees
Magnetic to Grid: 7.615257 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.615257 Degr.

(7.62 Rx4)



Job Number: SVCO-111040
 Company: Yates Petroleum Corporation
 Lease/Well: LECHUZA BQC FEDERAL 1H
 Location: Eddy County, NM
 Rig Name: Patriot #5
 RKB: 27'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.63°
 Grid: East To Grid
 File name: F:\SURVEY\2011SU-1\YATES\LECHUZ1H.SVY
 Date/Time: 19-Aug-11 / 08:47
 Curve Name: Surface - 350' M.D. (Gyroscopic)

MS Survey

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 268.00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 350' MD is, to the best of
 our knowledge a true and accurate account of
 the well bore.
 Dana Jutte 8/23/11
 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	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	.25	102.29	100.00	-.05	.21	-.21	.22	102.29	.25
200.00	1.25	42.06	199.99	.72	1.16	-1.18	1.36	58.22	1.15
300.00	3.75	31.78	299.89	4.31	3.61	-3.76	5.62	39.97	2.53
Last Survey Depth Recorded									
350.00	3.50	33.11	349.79	6.98	5.31	-5.55	8.76	37.25	.53