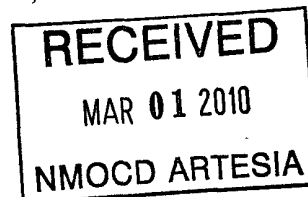




An Operating Unit of Smith International, Inc.



DIRECTIONAL SURVEY REPORT

MACK ENERGY

BENGALS FEDERAL COM #1H

EDDY COUNTY, NEW MEXICO

PREPARED BY: FRANCISCO SINISTERRA

A handwritten signature in black ink, appearing to be "WS" or similar, written over the printed name.

DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) MAGID IBRAHIM
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 09/12/09 TO 10/04/09
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:

MACK ENERGY
BENGALS FEDERAL COM #1H
EDDY COUNTY, NM
RIG: SILVEROAK # 2

9. SURVEY CERTIFIED FROM: 2078 TO 10664 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4138.67 FEET ON A BEARING OF 269.49 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 10664 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.


FRANCISCO SINISTERRA
M/LWD SERVICE COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 09/12/2009
Date Completed: 10/04/2009

Mack Energy Corporation
Bengals Fed Com # 1H
Eddy COUNTY, New Mexico
Rig: Silveroak 2
PathFinder Office Supervisor: Phillip LeBlanc
PathFinder Field Engineers: Magid Ibrahim
Bannon Eldridge
John Jolivette

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.54.18.9142 N LON: 104.6.22.2987 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 569711.5000 Y: 693118.1000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.96° EAST TO GRID
Vertical Section Plane: 269.91
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude: 3633.00' Ground To MSL

Measured Depth	10745.00	(feet)
Inclination	91.57	(deg)
Azimuth	268.17	(deg)
True Vertical Depth	6908.35	(feet)
Vertical Section	4138.56	(feet)
Survey X cord	565572.99	(feet)
Survey Y cord	693081.12	(feet)
Survey Lat	32.90517605 N	(deg)
Survey Lon	104.11967863 W	(deg)
Rectangular Corr. N/S	36.98 S	(feet)
Rectangular Corr. E/W	4138.51 W	(feet)
Closure Distance	4138.67	(feet)
Direction of Closure	269.49	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Bengals Fed Com # 1H
Eddy COUNTY, New Mexico
Rig: Silveroak 2

PathFinder Office Supervisor: Phillip LeBlanc
PathFinder Field Engineers: Magid Ibrahim
Bannon Eldridge
John Jolivet

Joey Waguepack

Survey Calculations by RX5 V6.02 using Minimum Curvature

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.54.18.9142 N LON: 104.6.22.2987 W
Reference: NAD27 new mexico east Transverse Mercator
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Total Magnetic Correction: 7.96° EAST TO GRID
Vertical Section Plane: 269.91
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude: 3633.00' Ground To MSL

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL		Closure		DLS
						Rectangular Offsets (ft)	(ft)	Dist (ft)	Dir (deg)	
THE FOLLOWING ARE TELEDRIFT INCLINATION AND AZIMUTH SURVEYS.										
484.00	2.10	288.00	483.89	0.00	8.43	2.74 N	8.43 W	8.87@	288.00	0.00
635.00	1.50	277.00	634.81	151.00	13.02	3.84 N	13.03 W	13.58@	286.41	0.46
789.00	1.30	300.00	788.77	154.00	16.53	4.96 N	16.54 W	17.27@	286.68	0.38
945.00	1.10	300.00	944.73	156.00	19.36	6.59 N	19.37 W	20.46@	288.79	0.13
1103.00	1.20	304.00	1102.70	158.00	22.04	8.27 N	22.05 W	23.56@	290.56	0.08
1262.00	2.50	288.00	1261.62	159.00	26.72	10.28 N	26.73 W	28.64@	291.02	0.87
1415.00	2.70	299.00	1414.46	153.00	33.04	13.05 N	33.06 W	35.54@	291.55	0.35
1573.00	2.60	304.00	1572.29	158.00	39.26	16.86 N	39.28 W	42.75@	293.23	0.16
1730.00	3.20	305.00	1729.09	157.00	45.79	21.37 N	45.83 W	50.56@	295.00	0.38
1891.00	4.60	0.00	1889.76	161.00	49.46	30.40 N	49.51 W	58.10@	301.55	2.36
**	TIE INTO TELEDRIFT SURVEY AT 2049 FEET MD.									
2049.00	4.20	298.00	2047.38	158.00	54.56	39.46 N	54.62 W	67.38@	305.85	2.87
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
2078.00	3.87	298.79	2076.31	29.00	56.35	40.43 N	56.42 W	69.41@	305.63	1.15
2141.00	2.99	292.29	2139.19	63.00	59.73	42.08 N	59.80 W	73.12@	305.13	1.52
2204.00	2.37	286.84	2202.13	63.00	62.50	43.08 N	62.57 W	75.96@	304.55	1.06
2267.00	2.11	283.67	2265.08	63.00	64.87	43.73 N	64.94 W	78.29@	303.96	0.46
2331.00	1.58	279.02	2329.04	64.00	66.89	44.15 N	66.96 W	80.20@	303.40	0.86
2395.00	0.62	228.48	2393.03	64.00	68.02	44.05 N	68.09 W	81.10@	302.90	2.00
2458.00	1.32	160.71	2456.02	63.00	68.03	43.14 N	68.10 W	80.62@	302.35	1.95
2522.00	1.49	154.74	2520.01	64.00	67.44	41.70 N	67.50 W	79.34@	301.70	0.35
THE FOLLOWING ARE TELEDRIFT INCLINATION AND AZIMUTH SURVEYS.										
2629.00	1.40	131.00	2626.97	107.00	65.86	39.58 N	65.92 W	76.89@	300.98	0.56
2661.00	1.00	152.00	2658.97	32.00	65.44	39.08 N	65.50 W	76.27@	300.82	1.84

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Bengals Fed Com # 1H
Eddy COUNTY, New Mexico
RIG:Silveroak 2

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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)
2693.00	0.60	142.00	2690.96	32.00	65.20	38.70 N	65.26 W	75.87@	300.67	1.32
2720.00	1.00	112.00	2717.96	27.00	64.90	38.50 N	64.96 W	75.51@	300.65	2.10
2753.00	1.00	115.00	2750.96	33.00	64.37	38.27 N	64.43 W	74.94@	300.71	0.16
2783.00	0.40	110.00	2780.95	30.00	64.03	38.12 N	64.09 W	74.57@	300.74	2.01
2814.00	0.90	158.00	2811.95	31.00	63.84	37.86 N	63.90 W	74.27@	300.65	2.25
2845.00	0.50	163.00	2842.95	31.00	63.71	37.50 N	63.77 W	73.98@	300.46	1.30
2905.00	0.70	104.00	2902.95	60.00	63.28	37.17 N	63.34 W	73.44@	300.40	1.03
3000.00	0.60	183.00	2997.94	95.00	62.74	36.53 N	62.80 W	72.65@	300.18	0.87
3133.00	0.20	164.00	3130.94	133.00	62.72	35.61 N	62.77 W	72.17@	299.57	0.31
3228.00	0.20	60.00	3225.94	95.00	62.53	35.53 N	62.58 W	71.97@	299.59	0.33
3314.00	0.60	166.00	3311.94	86.00	62.29	35.17 N	62.35 W	71.58@	299.43	0.79
3409.00	0.30	88.00	3406.93	95.00	61.92	34.70 N	61.98 W	71.03@	299.24	0.64
3469.00	0.40	117.00	3466.93	60.00	61.58	34.61 N	61.63 W	70.68@	299.32	0.33
3562.00	0.40	195.00	3559.93	93.00	61.37	34.15 N	61.43 W	70.28@	299.07	0.54
3658.00	0.30	351.00	3655.93	96.00	61.50	34.07 N	61.55 W	70.35@	298.97	0.71
3783.00	0.50	60.00	3780.93	125.00	61.08	34.67 N	61.13 W	70.28@	299.56	0.39
3879.00	0.50	213.00	3876.93	96.00	60.94	34.53 N	61.00 W	70.09@	299.51	1.01
3974.00	0.40	311.00	3971.92	95.00	61.42	34.40 N	61.47 W	70.44@	299.23	0.72
4073.00	0.50	285.00	4070.92	99.00	62.10	34.73 N	62.15 W	71.20@	299.20	0.23
4131.00	1.00	310.00	4128.92	58.00	62.73	35.12 N	62.78 W	71.94@	299.23	1.01
4254.00	0.50	326.00	4251.91	123.00	63.85	36.26 N	63.91 W	73.48@	299.57	0.44
4353.00	1.20	277.00	4350.90	99.00	65.12	36.74 N	65.18 W	74.82@	299.41	0.96
4446.00	1.40	282.00	4443.87	93.00	67.20	37.10 N	67.25 W	76.81@	298.88	0.25
4469.00	1.30	291.00	4466.86	23.00	67.71	37.25 N	67.77 W	77.34@	298.80	1.02
4565.00	1.40	304.00	4562.84	96.00	69.70	38.30 N	69.76 W	79.58@	298.77	0.34
4630.00	0.60	312.00	4627.83	65.00	70.61	38.97 N	70.67 W	80.71@	298.87	1.25
4723.00	0.50	328.00	4720.82	93.00	71.19	39.64 N	71.25 W	81.53@	299.09	0.20

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Bengals Fed Com # 1H
Eddy COUNTY, New Mexico
RIG:Silveroak 2

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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)
4781.00	0.30	280.00	4778.82	58.00	71.47	39.88 N	71.53 W	81.90@	299.14	0.64
4873.00	0.90	309.00	4870.82	92.00	72.27	40.38 N	72.33 W	82.84@	299.17	0.71
4965.00	0.40	257.00	4962.81	92.00	73.14	40.76 N	73.21 W	83.79@	299.11	0.79
5151.00	0.00	319.00	5148.81	186.00	73.78	40.61 N	73.84 W	84.27@	298.81	0.21
5309.00	0.40	353.00	5306.81	158.00	73.84	41.16 N	73.91 W	84.60@	299.11	0.25
5463.00	0.60	338.00	5460.80	154.00	74.21	42.44 N	74.27 W	85.55@	299.74	0.15
5585.00	0.40	240.00	5582.80	122.00	74.82	42.82 N	74.88 W	86.26@	299.76	0.63
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
5742.00	0.26	301.19	5739.80	157.00	75.59	42.73 N	75.66 W	86.89@	299.46	0.23
5837.00	0.09	279.23	5834.80	95.00	75.85	42.85 N	75.92 W	87.18@	299.44	0.19
5933.00	0.09	285.57	5930.80	96.00	76.00	42.89 N	76.07 W	87.32@	299.41	0.01
6028.00	0.18	221.24	6025.80	95.00	76.17	42.79 N	76.24 W	87.43@	299.31	0.17
6123.00	0.09	170.80	6120.80	95.00	76.26	42.61 N	76.32 W	87.41@	299.17	0.15
6219.00	0.18	223.69	6216.80	96.00	76.35	42.43 N	76.42 W	87.40@	299.04	0.15
6282.00	0.18	248.43	6279.80	63.00	76.51	42.32 N	76.58 W	87.49@	298.93	0.12
6313.00	0.18	256.90	6310.80	31.00	76.60	42.29 N	76.67 W	87.56@	298.88	0.09
6345.00	1.41	256.25	6342.79	32.00	77.03	42.18 N	77.10 W	87.89@	298.68	3.84
6376.00	4.04	257.97	6373.75	31.00	78.47	41.87 N	78.54 W	89.00@	298.06	8.49
6408.00	7.30	258.38	6405.59	32.00	81.57	41.22 N	81.63 W	91.45@	296.79	10.19
6440.00	9.85	257.71	6437.23	32.00	86.24	40.23 N	86.30 W	95.22@	294.99	7.97
6472.00	13.01	257.61	6468.59	32.00	92.43	38.87 N	92.49 W	100.33@	292.80	9.88
6503.00	16.09	256.63	6498.60	31.00	100.03	37.13 N	100.08 W	106.75@	290.35	9.97
6535.00	19.26	257.92	6529.08	32.00	109.51	35.00 N	109.56 W	115.02@	287.72	9.98
6567.00	22.60	260.22	6558.97	32.00	120.73	32.85 N	120.78 W	125.17@	285.21	10.75
6599.00	26.12	263.08	6588.11	32.00	133.79	30.96 N	133.84 W	137.37@	283.02	11.60
6630.00	29.11	263.66	6615.58	31.00	148.07	29.30 N	148.11 W	150.98@	281.19	9.68
6662.00	31.74	263.67	6643.17	32.00	164.17	27.51 N	164.22 W	166.51@	279.51	8.22
6694.00	34.12	263.74	6670.03	32.00	181.47	25.61 N	181.51 W	183.30@	278.03	7.44

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Bengals Fed Com # 1H
Eddy COUNTY, New Mexico
RIG:Silveroak 2

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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)
6726.00	37.64	263.93	6695.95	32.00	200.11	23.59 N	200.15 W	201.54@	276.72	11.01
6757.00	40.19	264.59	6720.07	31.00	219.49	21.65 N	219.53 W	220.59@	275.63	8.33
6789.00	43.09	264.94	6743.98	32.00	240.67	19.71 N	240.70 W	241.50@	274.68	9.09
6821.00	45.81	265.46	6766.82	32.00	263.00	17.84 N	263.02 W	263.63@	273.88	8.58
6852.00	48.89	265.95	6787.82	31.00	285.73	16.13 N	285.76 W	286.21@	273.23	10.00
6884.00	52.14	266.25	6808.17	32.00	310.37	14.46 N	310.40 W	310.73@	272.67	10.18
6916.00	55.57	266.69	6827.04	32.00	336.16	12.87 N	336.18 W	336.43@	272.19	10.78
6948.00	58.30	266.72	6844.50	32.00	362.94	11.33 N	362.95 W	363.13@	271.79	8.53
6980.00	61.11	266.76	6860.64	32.00	390.52	9.76 N	390.54 W	390.66@	271.43	8.78
7011.00	64.02	266.89	6874.92	31.00	417.99	8.23 N	418.01 W	418.09@	271.13	9.39
7043.00	66.92	266.98	6888.21	32.00	447.06	6.68 N	447.07 W	447.12@	270.86	9.07
7075.00	69.20	267.63	6900.16	32.00	476.71	5.28 N	476.72 W	476.75@	270.63	7.37
7107.00	71.31	268.29	6910.97	32.00	506.81	4.21 N	506.82 W	506.84@	270.48	6.87
7138.00	73.16	268.80	6920.43	31.00	536.32	3.46 N	536.33 W	536.34@	270.37	6.17
7170.00	75.18	269.27	6929.16	32.00	567.10	2.94 N	567.11 W	567.12@	270.30	6.47
7183.00	75.92	269.64	6932.40	13.00	579.69	2.82 N	579.70 W	579.70@	270.28	6.33
7215.00	78.68	269.61	6939.44	32.00	610.91	2.62 N	610.91 W	610.92@	270.25	8.63
7247.00	81.57	268.68	6944.92	32.00	642.42	2.15 N	642.43 W	642.43@	270.19	9.47
7278.00	84.73	267.99	6948.62	31.00	673.19	1.25 N	673.19 W	673.19@	270.11	10.43
7310.00	87.48	267.91	6950.79	32.00	705.09	0.11 N	705.09 W	705.09@	270.01	8.60
7342.00	88.10	267.93	6952.03	32.00	737.05	1.05 S	737.05 W	737.05@	269.92	1.94
7374.00	88.04	267.96	6953.11	32.00	769.01	2.20 S	769.01 W	769.01@	269.84	0.21
7405.00	88.49	267.95	6954.04	31.00	799.98	3.30 S	799.98 W	799.98@	269.76	1.45
7437.00	89.89	268.33	6954.50	32.00	831.96	4.34 S	831.95 W	831.97@	269.70	4.53
7469.00	90.34	268.29	6954.43	32.00	863.95	5.28 S	863.94 W	863.96@	269.65	1.41
7500.00	90.22	268.46	6954.28	31.00	894.94	6.16 S	894.93 W	894.95@	269.61	0.67
7532.00	89.72	268.16	6954.30	32.00	926.92	7.11 S	926.91 W	926.94@	269.56	1.82

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Bengals Fed Com # 1H
Eddy COUNTY, New Mexico
RIG:Silveroak 2

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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)
7564.00	89.66	268.87	6954.47	32.00	958.91	7.94 S	958.90 W	958.93@	269.53	2.23
7596.00	91.01	268.95	6954.28	32.00	990.91	8.54 S	990.90 W	990.93@	269.51	4.23
7627.00	91.90	268.55	6953.50	31.00	1021.89	9.22 S	1021.88 W	1021.92@	269.48	3.15
7659.00	92.18	268.71	6952.36	32.00	1053.86	9.98 S	1053.85 W	1053.90@	269.46	1.01
7689.00	92.24	269.37	6951.20	30.00	1083.84	10.49 S	1083.82 W	1083.87@	269.45	2.21
7721.00	90.95	269.91	6950.31	32.00	1115.82	10.69 S	1115.81 W	1115.86@	269.45	4.37
7751.00	90.45	269.94	6949.94	30.00	1145.82	10.73 S	1145.81 W	1145.86@	269.46	1.67
7782.00	88.99	270.29	6950.10	31.00	1176.82	10.67 S	1176.80 W	1176.85@	269.48	4.84
7814.00	88.99	270.40	6950.66	32.00	1208.81	10.47 S	1208.80 W	1208.84@	269.50	0.34
7845.00	88.71	270.39	6951.28	31.00	1239.81	10.26 S	1239.79 W	1239.83@	269.53	0.90
7877.00	88.43	270.68	6952.08	32.00	1271.79	9.96 S	1271.78 W	1271.82@	269.55	1.26
7909.00	87.93	270.72	6953.10	32.00	1303.77	9.57 S	1303.76 W	1303.80@	269.58	1.57
7940.00	87.76	270.42	6954.26	31.00	1334.75	9.26 S	1334.74 W	1334.77@	269.60	1.11
7971.00	87.54	270.37	6955.53	31.00	1365.72	9.05 S	1365.71 W	1365.74@	269.62	0.73
8003.00	88.66	269.42	6956.59	32.00	1397.71	9.11 S	1397.69 W	1397.72@	269.63	4.59
8034.00	88.99	268.40	6957.23	31.00	1428.69	9.70 S	1428.68 W	1428.71@	269.61	3.46
8065.00	90.00	268.10	6957.50	31.00	1459.68	10.64 S	1459.66 W	1459.70@	269.58	3.40
8097.00	89.89	268.46	6957.53	32.00	1491.67	11.60 S	1491.65 W	1491.69@	269.55	1.18
8128.00	89.94	269.40	6957.58	31.00	1522.66	12.18 S	1522.64 W	1522.69@	269.54	3.04
8160.00	89.94	269.76	6957.61	32.00	1554.66	12.42 S	1554.64 W	1554.69@	269.54	1.12
8192.00	90.90	270.40	6957.38	32.00	1586.66	12.37 S	1586.64 W	1586.69@	269.55	3.61
8223.00	91.74	271.55	6956.66	31.00	1617.64	11.84 S	1617.63 W	1617.67@	269.58	4.59
8255.00	91.57	271.08	6955.74	32.00	1649.62	11.11 S	1649.61 W	1649.64@	269.61	1.56
8285.00	91.74	271.27	6954.87	30.00	1679.60	10.50 S	1679.59 W	1679.62@	269.64	0.85
8315.00	92.07	271.79	6953.88	30.00	1709.57	9.70 S	1709.56 W	1709.59@	269.68	2.05
8347.00	92.18	271.13	6952.69	32.00	1741.54	8.88 S	1741.53 W	1741.55@	269.71	2.09
8379.00	91.79	270.60	6951.58	32.00	1773.51	8.40 S	1773.50 W	1773.52@	269.73	2.06

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Bengals Fed Com # 1H
Eddy COUNTY, New Mexico
RIG:Silveroak 2

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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)
8411.00	91.45	270.14	6950.68	32.00	1805.50	8.19 S	1805.49 W	1805.51@	269.74	1.79
8442.00	90.17	268.79	6950.24	31.00	1836.50	8.48 S	1836.48 W	1836.50@	269.74	6.00
8474.00	89.55	267.87	6950.32	32.00	1868.48	9.41 S	1868.47 W	1868.49@	269.71	3.47
8505.00	89.22	267.48	6950.65	31.00	1899.46	10.67 S	1899.44 W	1899.47@	269.68	1.65
8537.00	89.22	267.78	6951.09	32.00	1931.43	11.99 S	1931.41 W	1931.45@	269.64	0.94
8568.00	89.38	267.80	6951.46	31.00	1962.41	13.19 S	1962.39 W	1962.43@	269.61	0.52
8600.00	89.66	267.95	6951.73	32.00	1994.38	14.38 S	1994.36 W	1994.42@	269.59	0.99
8632.00	89.94	268.32	6951.84	32.00	2026.37	15.42 S	2026.35 W	2026.41@	269.56	1.45
8663.00	90.28	268.28	6951.78	31.00	2057.36	16.34 S	2057.33 W	2057.40@	269.55	1.10
8695.00	90.50	269.10	6951.57	32.00	2089.35	17.07 S	2089.32 W	2089.39@	269.53	2.65
8727.00	90.34	269.62	6951.33	32.00	2121.35	17.43 S	2121.32 W	2121.39@	269.53	1.70
8759.00	90.34	269.03	6951.14	32.00	2153.34	17.80 S	2153.32 W	2153.39@	269.53	1.84
8791.00	90.28	269.15	6950.97	32.00	2185.34	18.31 S	2185.31 W	2185.39@	269.52	0.42
8822.00	90.34	268.89	6950.80	31.00	2216.33	18.84 S	2216.31 W	2216.39@	269.51	0.86
8854.00	89.83	269.68	6950.75	32.00	2248.33	19.24 S	2248.31 W	2248.39@	269.51	2.94
8886.00	90.00	269.63	6950.80	32.00	2280.33	19.43 S	2280.30 W	2280.39@	269.51	0.55
8918.00	90.73	269.61	6950.60	32.00	2312.33	19.65 S	2312.30 W	2312.39@	269.51	2.28
8949.00	91.57	270.55	6949.98	31.00	2343.32	19.60 S	2343.30 W	2343.38@	269.52	4.07
8981.00	91.85	270.18	6949.02	32.00	2375.31	19.40 S	2375.28 W	2375.36@	269.53	1.45
9013.00	91.40	270.09	6948.11	32.00	2407.30	19.32 S	2407.27 W	2407.35@	269.54	1.43
9044.00	91.06	269.88	6947.45	31.00	2438.29	19.33 S	2438.26 W	2438.34@	269.55	1.29
9076.00	90.90	269.64	6946.90	32.00	2470.28	19.47 S	2470.26 W	2470.33@	269.55	0.90
9108.00	90.95	269.31	6946.38	32.00	2502.28	19.76 S	2502.25 W	2502.33@	269.55	1.04
9140.00	90.95	270.13	6945.85	32.00	2534.27	19.91 S	2534.25 W	2534.32@	269.55	2.56
9171.00	91.01	270.44	6945.32	31.00	2565.27	19.76 S	2565.24 W	2565.32@	269.56	1.02
9203.00	91.34	270.58	6944.67	32.00	2597.26	19.48 S	2597.23 W	2597.31@	269.57	1.12
9235.00	91.68	270.62	6943.82	32.00	2629.25	19.14 S	2629.22 W	2629.29@	269.58	1.07

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Bengals Fed Com # 1H
Eddy COUNTY, New Mexico
RIG:Silveroak 2

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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)
9267.00	92.13	270.23	6942.76	32.00	2661.23	18.90 S	2661.20 W	2661.27@	269.59	1.86
9298.00	92.01	270.98	6941.64	31.00	2692.20	18.58 S	2692.18 W	2692.24@	269.60	2.45
9330.00	91.51	270.30	6940.66	32.00	2724.19	18.22 S	2724.16 W	2724.22@	269.62	2.64
9362.00	91.96	270.50	6939.69	32.00	2756.17	18.00 S	2756.15 W	2756.20@	269.63	1.54
9394.00	92.01	270.49	6938.58	32.00	2788.15	17.72 S	2788.13 W	2788.18@	269.64	0.16
9425.00	90.00	269.81	6938.04	31.00	2819.14	17.64 S	2819.12 W	2819.17@	269.64	6.84
9457.00	90.45	269.45	6937.91	32.00	2851.14	17.85 S	2851.12 W	2851.17@	269.64	1.80
9489.00	90.50	269.66	6937.65	32.00	2883.14	18.09 S	2883.12 W	2883.17@	269.64	0.67
9521.00	90.28	269.38	6937.43	32.00	2915.14	18.36 S	2915.11 W	2915.17@	269.64	1.11
9552.00	90.50	269.44	6937.22	31.00	2946.14	18.68 S	2946.11 W	2946.17@	269.64	0.74
9584.00	91.46	269.41	6936.67	32.00	2978.13	19.00 S	2978.10 W	2978.16@	269.63	3.00
9616.00	91.96	269.34	6935.71	32.00	3010.11	19.35 S	3010.09 W	3010.15@	269.63	1.58
9648.00	92.13	269.30	6934.57	32.00	3042.09	19.73 S	3042.07 W	3042.13@	269.63	0.55
9679.00	92.13	268.88	6933.42	31.00	3073.07	20.22 S	3073.04 W	3073.11@	269.62	1.35
9711.00	92.13	268.45	6932.23	32.00	3105.04	20.97 S	3105.01 W	3105.08@	269.61	1.34
9743.00	91.96	269.01	6931.09	32.00	3137.01	21.68 S	3136.98 W	3137.06@	269.60	1.83
9775.00	92.07	269.16	6929.96	32.00	3168.99	22.19 S	3168.96 W	3169.03@	269.60	0.58
9806.00	92.35	269.22	6928.77	31.00	3199.96	22.62 S	3199.93 W	3200.01@	269.59	0.92
9838.00	91.85	269.11	6927.60	32.00	3231.94	23.09 S	3231.91 W	3231.99@	269.59	1.60
9870.00	91.12	269.40	6926.77	32.00	3263.92	23.51 S	3263.89 W	3263.98@	269.59	2.46
9902.00	90.06	268.71	6926.44	32.00	3295.92	24.03 S	3295.89 W	3295.97@	269.58	3.95
9933.00	90.39	268.66	6926.32	31.00	3326.91	24.75 S	3326.88 W	3326.97@	269.57	1.08
9965.00	90.73	268.86	6926.00	32.00	3358.90	25.44 S	3358.87 W	3358.96@	269.57	1.23
9997.00	90.11	270.01	6925.77	32.00	3390.90	25.75 S	3390.87 W	3390.96@	269.56	4.08
10029.00	90.73	269.99	6925.53	32.00	3422.90	25.75 S	3422.86 W	3422.96@	269.57	1.94
10061.00	91.12	270.18	6925.02	32.00	3454.90	25.71 S	3454.86 W	3454.96@	269.57	1.36
10092.00	91.51	270.10	6924.30	31.00	3485.89	25.63 S	3485.85 W	3485.95@	269.58	1.28

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Bengals Fed Com # 1H
Eddy COUNTY, New Mexico
RIG:Silveroak 2

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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)
10124.00	91.57	269.94	6923.45	32.00	3517.88	25.62 S	3517.84 W	3517.93@	269.58	0.53
10156.00	91.29	270.03	6922.65	32.00	3549.87	25.63 S	3549.83 W	3549.92@	269.59	0.92
10187.00	91.23	270.86	6921.97	31.00	3580.86	25.39 S	3580.82 W	3580.91@	269.59	2.68
10219.00	91.29	269.68	6921.26	32.00	3612.85	25.24 S	3612.81 W	3612.90@	269.60	3.69
10251.00	91.34	268.92	6920.53	32.00	3644.84	25.63 S	3644.80 W	3644.89@	269.60	2.38
10283.00	91.40	268.44	6919.76	32.00	3676.82	26.36 S	3676.78 W	3676.88@	269.59	1.51
10314.00	91.45	268.40	6918.99	31.00	3707.80	27.22 S	3707.76 W	3707.86@	269.58	0.21
10346.00	91.12	269.13	6918.27	32.00	3739.79	27.91 S	3739.75 W	3739.85@	269.57	2.50
10378.00	91.06	269.00	6917.66	32.00	3771.78	28.43 S	3771.74 W	3771.84@	269.57	0.45
10410.00	91.23	268.59	6917.02	32.00	3803.76	29.10 S	3803.72 W	3803.83@	269.56	1.39
10441.00	91.40	269.53	6916.31	31.00	3834.75	29.61 S	3834.71 W	3834.82@	269.56	3.08
10473.00	91.29	269.45	6915.56	32.00	3866.74	29.90 S	3866.70 W	3866.82@	269.56	0.42
10505.00	91.40	268.90	6914.81	32.00	3898.73	30.36 S	3898.69 W	3898.81@	269.55	1.75
10537.00	91.79	268.80	6913.92	32.00	3930.71	31.00 S	3930.67 W	3930.79@	269.55	1.26
10569.00	91.51	268.78	6913.00	32.00	3962.69	31.67 S	3962.65 W	3962.77@	269.54	0.88
10600.00	91.34	268.34	6912.23	31.00	3993.67	32.45 S	3993.63 W	3993.76@	269.53	1.52
10632.00	91.51	268.26	6911.43	32.00	4025.65	33.40 S	4025.60 W	4025.74@	269.52	0.59
10664.00	91.57	268.17	6910.57	32.00	4057.63	34.40 S	4057.58 W	4057.72@	269.51	0.34
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 10745'MD.										
10745.00	91.57	268.17	6908.35	81.00	4138.56	36.98 S	4138.51 W	4138.67@	269.49	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.



TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	MACK ENERGY CORPORATION		
LEASE / WELL No.:	BENGALS FEDERAL	COM #1H	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY	NM	USA
RIG:	SILVER OAK #2		
API WELL No:	30-015-37213		
JOB No:	101008950-WT-WT		
P.O. / AFE No.	N/A		
DIRECTIONAL COMPANY:	PATHFINDER		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.97°	LWD Calculated:	7.96°
Agreed Upon: 7.96° East to Grid			
X =	569711.500000	Feet	Y = 693118.100000
			Feet
SITE LATITUDE:	32° 54' 18.9142" N	SITE LONGITUDE:	104° 06' 22.2987" W
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	NEW MEXICO EAST
PROPOSED DRIFT DIRECTION:	269.91°		
KELLY BUSHING ELEVATION:	19 FT		
ALTITUDE:	3633'	Feet	WATER DEPTH: N/A
			Feet

TIE-IN SURVEY

MEASURED DEPTH:	2049'		
DRIFT ANGLE:	4.2°		
DRIFT DIRECTION:	298°		
TRUE VERTICAL DEPTH:	2047.38'		
VERTICAL SECTION:	56.35'		
RECTANGULAR COORDINATE (N / S) :	39.46'		
RECTANGULAR COORDINATE (E / W) :	54.62'		
CLOSURE DISTANCE / DIRECTION:			
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	TELEDRIFT		
COPY OF TIE-IN SURVEY REPORT	☒ YES		☐ NO

WELL PLAN

KICKOFF DEPTH:	6410'	TOTAL DEPTH:	10892'
KICKOFF ANGLE:	0°	MAX ANGLE:	92°

PES Engineers: JOHN OVERTON

**Signature of both field engineers required if applicable

Directional Driller: PAT DILLON

DATE: _____

Mack -09SEP09 Survey172

PROSHOT MWD BY TELEDRIIFT INC.
P.O. BOX 94395
OKLAHOMA CITY, OK 73143-4395
TEL : 405-631-4882
FAX : 405-631-8344
WWW.TELEDRIIFT.COM

ProView Version 4.10
Report created using job file: Mack -09SEP09
Report saved on 20 Sep 2009 14:23
Depth in feet

WELL NAME Bengals Fed #1
DECLINATION 8.1°
JOB ID Mack
COMPANY Mack Energy
CONTRACTOR Silver Oak #2
START DATE 09 SEP 09

API #
LOCATION Bengals Fed #1

All azimuths are referenced to true north and corrected with the declination above.

SURVEY #	SURVEY DEPTH	DATE	TIME	INCLINATION	AZIMUTH
Tie-in	0.0	09-Sep-09	13:48	00.0	0.0
0002	484.0	10-Sep-09	09:06	02.1	288.1
0007	635.0	10-Sep-09	12:11	01.5	277.1
0012	789.0	10-Sep-09	17:40	01.3	300.1
0016	945.0	10-Sep-09	19:58	01.1	300.1
0018	1103.0	10-Sep-09	21:59	01.2	304.1
0023	1262.0	10-Sep-09	23:59	02.5	288.1
0025	1415.0	11-Sep-09	01:47	02.7	299.1
0028	1573.0	11-Sep-09	03:51	02.6	304.1
0031	1730.0	11-Sep-09	06:38	03.2	305.1
Manual	1891.0	11-Sep-09	11:01	04.6	0.0
0046	2049.0	11-Sep-09	21:21	04.2	298.1
0050	2629.0	13-Sep-09	19:51	01.4	131.1
0052	2661.0	13-Sep-09	21:24	01.0	152.1
0054	2693.0	13-Sep-09	22:51	00.6	142.1
0056	2720.0	13-Sep-09	23:58	01.0	112.1
0058	2753.0	14-Sep-09	01:25	01.0	115.1
0060	2783.0	14-Sep-09	03:12	00.4	110.1
0062	2814.0	14-Sep-09	04:32	00.9	158.1
0064	2845.0	14-Sep-09	05:48	00.5	163.1
0067	2905.0	14-Sep-09	10:09	00.7	104.1

			Mack -09SEP09 Survey172		
0071	3000.0	14-Sep-09	13:38	00.6	183.1
0074	3133.0	14-Sep-09	17:55	00.2	164.1
0078	3228.0	14-Sep-09	22:49	00.2	60.1
0084	3314.0	15-Sep-09	08:59	00.6	166.1
0088	3409.0	15-Sep-09	12:09	00.3	88.1
0091	3469.0	15-Sep-09	15:12	00.4	117.1
0095	3562.0	15-Sep-09	18:38	00.4	195.1
0097	3658.0	15-Sep-09	20:29	00.3	351.1
0101	3783.0	15-Sep-09	23:19	00.5	60.1
0104	3879.0	16-Sep-09	02:33	00.5	213.1
0108	3974.0	16-Sep-09	05:37	00.4	311.1
0111	4073.0	16-Sep-09	09:40	00.5	285.1
0113	4131.0	16-Sep-09	15:09	01.0	310.1
0118	4254.0	17-Sep-09	04:27	00.5	326.1
0121	4353.0	17-Sep-09	10:07	01.2	277.1
0124	4446.0	17-Sep-09	14:43	01.4	282.1
0127	4469.0	17-Sep-09	17:33	01.3	291.1
0133	4565.0	18-Sep-09	05:32	01.4	304.1
0136	4630.0	18-Sep-09	08:09	00.6	312.1
0139	4723.0	18-Sep-09	11:35	00.5	328.1
0143	4781.0	18-Sep-09	15:16	00.3	280.1
0146	4873.0	18-Sep-09	18:52	00.9	309.1
0150	4965.0	18-Sep-09	22:00	00.4	257.1
0154	5151.0	19-Sep-09	04:50	00.0	319.1
0159	5309.0	19-Sep-09	11:51	00.4	353.1
0161	5463.0	19-Sep-09	19:00	00.6	338.1
0167	5585.0	20-Sep-09	02:44	00.4	240.1

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

MACK ENERGY
BENGALS FED. COM #1
EDDY COUNTY, NEW MEXICO
Rig:SILVER OAK 2

Fri Sep 11 11:41:08 2009

Coordinates

Latitude: 32.905254 N (32 deg. 54 min. 18.9142 sec.)
Longitude: 104.106194 W (-104 deg. 6 min. 22.2987 sec.)
Elevation: 3652.00 feet.
Calculation Date: Sep/11/2009

Magnetic Calculations

Model: IGRF2005
Dip Angle: 60.7841 degrees
Total Magnetic Field: 0.49170 gauss
Magnetic Declination: 8.083008 degrees
Horizontal Intensity: 0.240002 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.083008 Degr

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
Ellipsoid: Clarke 1866
X: 569711.5000 feet
Y: 693118.1000 feet
True to Grid: (convergence) -0.123394 degrees
Magnetic to Grid: 7.959613 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.959613 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

Sat Sep 12 11:40:24 2009

Coordinates

Latitude: 32.905254 N (32 deg. 54 min. 18.9142 sec.)
Longitude: 104.106194 W (-104 deg. 6 min. 22.2987 sec.)
Elevation: 3650.00 feet.
Calculation Date: Sep/12/2009

Magnetic Calculations

Model: IGRF2005
Dip Angle: 60.7840 degrees
Total Magnetic Field: 0.49170 gauss
Magnetic Declination: 8.082682 degrees
Horizontal Intensity: 0.240001 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.082682 Degr

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
Ellipsoid: Clarke 1866
X: 569711.5000 feet
Y: 693118.1000 feet
True to Grid: (convergence) -0.123394 degrees
Magnetic to Grid: 7.959287 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.959287 Degr.

OCD-ARTESIA

AUG 11 2009

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

1a Type of work- ☒ DRILL ☐ REENTER		5 Lease Serial No NMNM-089878	
1b Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone		6 If Indian, Allottee or Tribe Name	
2 Name of Operator Mack Energy Corporation		7 If Unit or CA Agreement, Name and No	
3a Address P.O. Box 960 Artesia, NM 88211-0960		8, Lease Name and Well No. Bengals Federal Com #1	
3b Phone No (include area code) (575)748-1288		9 API Well No. 30-015-37213	
4 Location of Well (Report location clearly and in accordance with any State requirements*) At surface 1980 FSL & 330 FEL At proposed prod zone 1980 FSL & 330 FWL		10 Field and Pool, or Exploratory County Line Land Abo	
14 Distance in miles and direction from nearest town or post office* 10 miles northwest of Loco Hills, NM		11 Sec. T R M. or Blk. and Survey or Area Sec. 19 T16S R29E	
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest dril unit line, if any) 330		12 County or Parish Eddy	
16 No. of acres in lease 1276.87		13 State NM	
17 Spacing Unit dedicated to this well 160		18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 1320	
19 Proposed Depth 7042 TVD 10,975' MD (BH) TVD-6982		20 BLM/BIA Bond No on file NMB000286	
21 Elevations (Show whether DF, KDB, RT, GL, etc) 3633' GR		22 Approximate date work will start* 7/25/09	
23 Estimated duration 30 days			

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, shall be attached to this form

- | | |
|---|--|
| 1 Well plat certified by a registered surveyor | 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above), |
| 2 A Drilling Plan | 5 Operator certification |
| 3 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office) | 6 Such other site specific information and/or plans as may be required by the authorized officer |

25 Signature <i>Jerry W. Sherrell</i>	Name (Printed/Typed) Jerry W. Sherrell	Date 6/29/09
Title Production Clerk		
Approved by (Signature) <i>/s/ Don Peterson</i>	Name (Printed/Typed)	Date AUG 4 2009
Title ACTING FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon
Conditions of approval, if any, are attached

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

*(Instructions on page 2)

Roswell Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**