

PATHFINDER

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DIRECTIONAL SURVEY REPORT

MACK ENERGY CORPORATION

PEERY FEDERAL #11

CHAVES COUNTY, NM

PREPARED BY: PHIL LEBLANC

SCANNED

SMITH



March 5, 2010

MACK ENERGY CORPORATION

Mr. Matt Brewer
11352 Lovington Hwy
Box 960
Artesia, NM 88211-0960

RE: MACK ENERGY CORPORATION
PEERY FEDERAL #11
CHAVES COUNTY, NM
RIG: SILVEROAK #7
API Well No.: 30-005-29115
PES Job No.: 101009546-GC-WT

Dear Mr. Brewer:

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

DIRECTIONAL SURVEY DATA

- 1 – Original Directional Survey Report
- 1 – Email PDF to:

charless@mackenergycorp.com
leel@mackenergycorp.com
donaldarcher@mackenergycorp.com
jimkrogman@mackenergycorp.com
kevingarrett@mackenergycorp.com
mbrewer@mackenergycorp.com

We appreciate the opportunity to work with you and we look forward to your business support. If you have any questions, I can be reached at (337) 233-3982.

Sincerely,

Phil LeBlanc
M/LWD Service Coordinator
PathFinder Energy Services

PL:ll.

SCANNED



DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
 - A) RAFAEL DONARUMMA
 - B) DEREK BOYD
 - C) DUSTIN EASLEY
 - D) JOHN OVERTON
 - E) MAGID IBRAHIM
 - F) ERIC JENSEN
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 01/08/10 TO 02/18/10
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: CHAVES COUNTY
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

MACK ENERGY CORPORATION
PEERY FEDERAL #11
CHAVES COUNTY, NM
RIG: SILVEROAK #7
API Well No.: 30-005-29115
9. SURVEY(S) CERTIFIED FROM: 4,142 TO 11,606 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 3,260.34 FEET ON A BEARING OF 263.98 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 11,606 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



PHIL LEBLANC
M/LWD SERVICE COORDINATOR

SCANNED

 SMITH

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 01/08/2010
Date Completed: 02/18/2010

MACK ENERGY CORPORATION
PEERY FEDERAL #11
CHAVES COUNTY, NEW MEXICO
Rig: SILVEROAK 7
PathFinder Office Supervisor: PHIL LEBLANC
PathFinder Field Engineers: RAFEL DONARUMMA
DEREK BOYD
MAGID IBRAHIM

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.59.12.5287 N LON: 103.56.37.7498 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 619436.6000 Y: 722936.4000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.77° EAST TO GRID
Vertical Section Plane: 263.85
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude: 3966.00' Ground To MSL

Measured Depth	11606.00	(feet)
Inclination	89.10	(deg)
Azimuth	270.33	(deg)
True Vertical Depth	8597.99	(feet)
Vertical Section	3260.33	(feet)
Survey X cord	616194.25	(feet)
Survey Y cord	722594.40	(feet)
Survey Lat	32.98590605 N	(deg)
Survey Lon	103.95439734 W	(deg)
Rectangular Corr. N/S	342.00 S	(feet)
Rectangular Corr. E/W	3242.35 W	(feet)
Closure Distance	3260.34	(feet)
Direction of Closure	263.98	(deg)
Dogleg Severity	0.00	(deg/100ft)

SCANNED

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
PEERY FEDERAL #11
CHAVES COUNTY, NEW MEXICO
Rig:SILVEROAK 7

PathFinder Office Supervisor: PHIL LEBLANC
PathFinder Field Engineers: RAFEL DONARUMMA
DEREK BOYD
MAGID IBRAHIM

JOHN OVERTON
ERIC JENSEN

Survey Calculations by RX5 V6.02B using Minimum Curvature

Page 01/09
Tie-in Date: 01/08/2010
Date Completed: 02/18/2010

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.59.12.5287 N LON:103.56.37.7498 W
GRID Reference:NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 619436.6000 Y: 722936.4000
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Total Magnetic Correction: 7.77° EAST TO GRID
Vertical Section Plane: 263.85
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude:3966.00' Ground To MSL

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)	Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
THE FOLLOWING ARE COMPASS DIRECTIONAL GUIDANCE SURVEYS.										
64.00	0.40	218.20	64.00	0.00	0.16	0.17 S 0.14 W	32.98681306 N	103.94381983 W	0.22@ 218.38	0.00
173.00	0.50	145.10	173.00	109.00	0.19	0.86 S 0.10 W	32.98681117 N	103.94381972 W	0.87@ 186.69	0.50
266.00	0.40	177.10	266.00	93.00	0.02	1.52 S 0.15 E	32.98680936 N	103.94381891 W	1.53@ 174.46	0.29
360.00	0.40	117.30	360.00	94.00	-0.24	2.00 S 0.46 E	32.98680804 N	103.94381791 W	2.05@ 167.16	0.42
528.00	0.20	278.70	527.99	168.00	-0.44	2.22 S 0.69 E	32.98680742 N	103.94381716 W	2.33@ 162.83	0.35
651.00	0.20	339.20	650.99	123.00	-0.18	1.99 S 0.40 E	32.98680806 N	103.94381810 W	2.03@ 168.68	0.16
744.00	0.20	321.90	743.99	93.00	-0.06	1.71 S 0.24 E	32.98680883 N	103.94381861 W	1.73@ 172.00	0.06
837.00	0.20	50.50	836.99	93.00	-0.11	1.48 S 0.27 E	32.98680947 N	103.94381853 W	1.50@ 169.82	0.30
868.00	0.40	34.30	867.99	31.00	-0.22	1.36 S 0.37 E	32.98680981 N	103.94381819 W	1.40@ 164.80	0.70
962.00	0.70	68.10	961.99	94.00	-0.99	0.87 S 1.09 E	32.98681113 N	103.94381584 W	1.39@ 128.71	0.46
1055.00	1.40	68.80	1054.97	93.00	-2.63	0.25 S 2.67 E	32.98681283 N	103.94381066 W	2.68@ 95.30	0.75
1149.00	2.50	29.40	1148.92	94.00	-4.93	1.95 N 4.75 E	32.98681886 N	103.94380386 W	5.14@ 67.64	1.78
1242.00	3.20	77.20	1241.82	93.00	-8.69	4.30 N 8.28 E	32.98682526 N	103.94379233 W	9.33@ 62.57	2.58
1335.00	2.80	80.40	1334.69	93.00	-13.54	5.25 N 13.05 E	32.98682784 N	103.94377676 W	14.06@ 68.08	0.47
1458.00	1.80	86.40	1457.59	123.00	-18.46	5.87 N 17.94 E	32.98682950 N	103.94376081 W	18.87@ 71.87	0.83
1551.00	2.10	85.30	1550.53	93.00	-21.63	6.10 N 21.09 E	32.98683010 N	103.94375051 W	21.96@ 73.86	0.32
1645.00	1.90	85.30	1644.48	94.00	-24.91	6.37 N 24.36 E	32.98683081 N	103.94373984 W	25.18@ 75.34	0.21
1768.00	1.90	332.10	1767.44	123.00	-26.19	8.34 N 25.44 E	32.98683621 N	103.94373630 W	26.77@ 71.85	2.58
1861.00	1.60	77.90	1860.42	93.00	-26.91	9.98 N 25.99 E	32.98684070 N	103.94373450 W	27.84@ 69.00	3.01
1957.00	1.80	77.20	1956.37	96.00	-29.74	10.59 N 28.77 E	32.98684236 N	103.94372542 W	30.66@ 69.79	0.21
2055.00	1.80	76.20	2054.33	98.00	-32.79	11.30 N 31.77 E	32.98684428 N	103.94371564 W	33.72@ 70.42	0.03
2152.00	1.90	77.60	2151.27	97.00	-35.90	12.01 N 34.82 E	32.98684619 N	103.94370569 W	36.83@ 70.97	0.11
2338.00	1.40	85.00	2337.20	186.00	-41.24	12.87 N 40.09 E	32.98684850 N	103.94368847 W	42.11@ 72.20	0.29

SCANNED

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
PEERY FEDERAL #11
CHAVES COUNTY, NEW MEXICO
RIG: SILVEROAK 7

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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)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
2432.00	1.40	80.10	2431.17	94.00	-43.53	13.17 N	42.37 E	32.98684930 N	103.94368105 W	44.37@	72.74	0.13
2525.00	1.40	86.70	2524.14	93.00	-45.80	13.43 N	44.62 E	32.98684999 N	103.94367370 W	46.60@	73.25	0.17
2648.00	1.20	92.40	2647.11	123.00	-48.58	13.46 N	47.41 E	32.98685005 N	103.94366461 W	49.28@	74.15	0.19
2741.00	0.10	90.60	2740.10	93.00	-49.62	13.42 N	48.46 E	32.98684993 N	103.94366117 W	50.28@	74.52	1.18
2835.00	0.90	89.40	2834.10	94.00	-50.44	13.43 N	49.28 E	32.98684994 N	103.94365850 W	51.08@	74.76	0.85
2928.00	0.90	94.50	2927.09	93.00	-51.88	13.38 N	50.74 E	32.98684979 N	103.94365374 W	52.47@	75.23	0.09
3022.00	0.70	107.80	3021.08	94.00	-53.13	13.14 N	52.02 E	32.98684913 N	103.94364956 W	53.66@	75.82	0.29
3144.00	0.70	103.30	3143.07	122.00	-54.51	12.74 N	53.46 E	32.98684802 N	103.94364489 W	54.96@	76.59	0.05
3238.00	0.50	101.50	3237.06	94.00	-55.45	12.53 N	54.42 E	32.98684742 N	103.94364176 W	55.84@	77.03	0.21
3335.00	0.50	76.50	3334.06	97.00	-56.27	12.54 N	55.24 E	32.98684745 N	103.94363906 W	56.65@	77.21	0.22
3425.00	0.40	63.90	3424.06	90.00	-56.95	12.77 N	55.91 E	32.98684808 N	103.94363689 W	57.35@	77.13	0.16
3549.00	0.40	41.40	3548.05	124.00	-57.68	13.29 N	56.58 E	32.98684949 N	103.94363469 W	58.12@	76.78	0.13
3642.00	0.70	44.20	3641.05	93.00	-58.36	13.94 N	57.19 E	32.98685127 N	103.94363269 W	58.87@	76.30	0.32
3739.00	0.90	56.50	3738.04	97.00	-59.49	14.78 N	58.24 E	32.98685358 N	103.94362926 W	60.09@	75.76	0.27
3833.00	1.20	60.70	3832.02	94.00	-61.05	15.67 N	59.72 E	32.98685601 N	103.94362444 W	61.74@	75.29	0.33
3927.00	1.80	66.30	3925.99	94.00	-63.36	16.75 N	61.93 E	32.98685894 N	103.94361722 W	64.15@	74.87	0.66
4020.00	1.90	77.60	4018.94	93.00	-66.29	17.67 N	64.77 E	32.98686144 N	103.94360794 W	67.14@	74.74	0.41
** TIED INTO COMPASS DIRECTIONAL GUIDANCE SURVEYS @ 4142' MD.												
4142.00	3.00	80.10	4140.83	122.00	-71.49	18.65 N	69.89 E	32.98686409 N	103.94359123 W	72.34@	75.06	0.91
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.												
4204.00	2.73	83.74	4202.75	62.00	-74.58	19.09 N	72.96 E	32.98686527 N	103.94358122 W	75.41@	75.34	0.53
4235.00	2.73	83.15	4233.72	31.00	-76.06	19.26 N	74.42 E	32.98686571 N	103.94357644 W	76.87@	75.49	0.09
4266.00	1.67	89.33	4264.69	31.00	-77.25	19.35 N	75.61 E	32.98686596 N	103.94357257 W	78.04@	75.64	3.50
4297.00	1.14	103.69	4295.68	31.00	-77.99	19.28 N	76.36 E	32.98686577 N	103.94357012 W	78.76@	75.83	2.04
4329.00	1.14	157.55	4327.68	32.00	-78.37	18.91 N	76.79 E	32.98686475 N	103.94356872 W	79.08@	76.16	3.23
4360.00	1.32	171.55	4358.67	31.00	-78.47	18.28 N	76.96 E	32.98686299 N	103.94356817 W	79.10@	76.64	1.13
4453.00	2.02	199.07	4451.63	93.00	-77.82	15.67 N	76.58 E	32.98685582 N	103.94356944 W	78.17@	78.44	1.12
4484.00	2.11	206.91	4482.61	31.00	-77.28	14.64 N	76.15 E	32.98685301 N	103.94357088 W	77.54@	79.12	0.96

SCANNED

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
PEERY FEDERAL #11
CHAVES COUNTY, NEW MEXICO
RIG:SILVEROAK 7

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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)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
4515.00	2.11	203.65	4513.59	31.00	-76.68	13.61 N	75.66 E	32.98685018 N	103.94357248 W	76.87@	79.80	0.39
4609.00	2.02	210.58	4607.53	94.00	-74.83	10.60 N	74.12 E	32.98684192 N	103.94357753 W	74.87@	81.86	0.28
4640.00	2.11	211.57	4638.51	31.00	-74.15	9.64 N	73.54 E	32.98683929 N	103.94357942 W	74.17@	82.53	0.31
4733.00	2.11	216.39	4731.45	93.00	-71.95	6.81 N	71.63 E	32.98683152 N	103.94358569 W	71.95@	84.57	0.19
4826.00	2.11	215.51	4824.39	93.00	-69.65	4.03 N	69.62 E	32.98682392 N	103.94359228 W	69.74@	86.68	0.03
4920.00	3.08	222.78	4918.29	94.00	-66.60	0.77 N	66.90 E	32.98681498 N	103.94360119 W	66.91@	89.34	1.09
4982.00	3.52	222.90	4980.19	62.00	-63.91	1.84 S	64.47 E	32.98680781 N	103.94360913 W	64.50@	91.64	0.71
5013.00	3.52	228.93	5011.13	31.00	-62.41	3.17 S	63.11 E	32.98680419 N	103.94361360 W	63.19@	92.87	1.19
5107.00	4.48	222.80	5104.90	94.00	-57.27	7.76 S	58.44 E	32.98679162 N	103.94362889 W	58.95@	97.56	1.12
5200.00	5.98	220.81	5197.51	93.00	-50.99	14.09 S	52.81 E	32.98677428 N	103.94364734 W	54.65@	104.94	1.62
5283.00	6.60	220.46	5280.01	83.00	-44.37	20.99 S	46.88 E	32.98675537 N	103.94366673 W	51.37@	114.12	0.75
5345.00	7.30	219.85	5341.55	62.00	-38.94	26.73 S	42.05 E	32.98673965 N	103.94368257 W	49.82@	122.44	1.14
5408.00	7.74	219.06	5404.01	63.00	-33.05	33.09 S	36.81 E	32.98672221 N	103.94369973 W	49.50@	131.96	0.72
5470.00	8.44	217.30	5465.39	62.00	-26.96	39.95 S	31.42 E	32.98670340 N	103.94371739 W	50.83@	141.82	1.20
5532.00	8.53	216.07	5526.71	62.00	-20.74	47.29 S	25.96 E	32.98668329 N	103.94373530 W	53.95@	151.24	0.33
5594.00	9.58	213.61	5587.94	62.00	-14.35	55.30 S	20.39 E	32.98666132 N	103.94375353 W	58.94@	159.76	1.80
5687.00	10.20	209.30	5679.56	93.00	-4.63	68.93 S	12.08 E	32.98662395 N	103.94378081 W	69.98@	170.06	1.04
5749.00	9.94	207.19	5740.60	62.00	1.50	78.48 S	6.95 E	32.98659777 N	103.94379766 W	78.78@	174.94	0.73
5812.00	9.85	204.21	5802.67	63.00	7.21	88.23 S	2.25 E	32.98657101 N	103.94381309 W	88.26@	178.54	0.83
5874.00	10.38	198.49	5863.71	62.00	12.22	98.36 S	1.69 W	32.98654320 N	103.94382608 W	98.38@	180.99	1.83
5936.00	10.90	195.33	5924.64	62.00	16.70	109.31 S	5.01 W	32.98651313 N	103.94383704 W	109.43@	182.63	1.26
5998.00	11.70	192.91	5985.44	62.00	20.89	121.09 S	7.97 W	32.98648078 N	103.94384682 W	121.36@	183.76	1.50
6061.00	11.96	190.15	6047.10	63.00	24.81	133.75 S	10.55 W	32.98644603 N	103.94385538 W	134.16@	184.51	0.99
6123.00	12.31	186.07	6107.72	62.00	28.01	146.64 S	12.38 W	32.98641060 N	103.94386151 W	147.16@	184.82	1.49
6216.00	12.84	178.47	6198.49	93.00	30.95	166.83 S	13.15 W	32.98635512 N	103.94386427 W	167.35@	184.51	1.87
6309.00	12.22	177.91	6289.27	93.00	32.48	187.00 S	12.51 W	32.98629968 N	103.94386244 W	187.42@	183.83	0.68
6403.00	11.78	177.32	6381.22	94.00	33.76	206.53 S	11.70 W	32.98624600 N	103.94386003 W	206.86@	183.24	0.49

SCANNED

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
PEERY FEDERAL #11
CHAVES COUNTY, NEW MEXICO
RIG:SILVEROAK 7

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
6496.00	10.82	178.60	6472.42	93.00	35.06	224.73 S	11.05 W	32.98619595 N	103.94385811 W	225.01@	182.81	1.07
6589.00	10.46	178.33	6563.82	93.00	36.44	241.90 S	10.59 W	32.98614876 N	103.94385682 W	242.13@	182.51	0.39
6673.00	9.76	177.48	6646.51	84.00	37.49	256.64 S	10.05 W	32.98610826 N	103.94385525 W	256.83@	182.24	0.85
6776.00	9.06	176.96	6748.13	103.00	38.48	273.46 S	9.24 W	32.98606201 N	103.94385280 W	273.61@	181.93	0.68
6870.00	8.62	176.15	6841.01	94.00	39.16	287.87 S	8.37 W	32.98602237 N	103.94385015 W	288.00@	181.67	0.49
6964.00	8.27	176.23	6933.99	94.00	39.73	301.65 S	7.45 W	32.98598450 N	103.94384732 W	301.74@	181.42	0.37
6995.00	8.09	176.26	6964.67	31.00	39.91	306.05 S	7.16 W	32.98597240 N	103.94384644 W	306.13@	181.34	0.58
7057.00	7.30	172.63	7026.12	62.00	40.01	314.31 S	6.37 W	32.98594969 N	103.94384396 W	314.37@	181.16	1.49
7119.00	6.68	168.43	7087.66	62.00	39.59	321.75 S	5.15 W	32.98592923 N	103.94384004 W	321.79@	180.92	1.30
7150.00	6.42	167.48	7118.45	31.00	39.22	325.21 S	4.41 W	32.98591972 N	103.94383768 W	325.24@	180.78	0.91
7213.00	5.19	167.97	7181.13	63.00	38.54	331.43 S	3.05 W	32.98590259 N	103.94383333 W	331.45@	180.53	1.95
7244.00	4.84	169.45	7212.01	31.00	38.30	334.09 S	2.52 W	32.98589529 N	103.94383163 W	334.10@	180.43	1.20
7306.00	3.25	179.96	7273.86	62.00	38.28	338.42 S	2.04 W	32.98588338 N	103.94383011 W	338.43@	180.35	2.82
7337.00	2.99	180.66	7304.81	31.00	38.47	340.11 S	2.05 W	32.98587874 N	103.94383016 W	340.11@	180.35	0.85
7369.00	2.29	185.82	7336.78	32.00	38.70	341.58 S	2.12 W	32.98587470 N	103.94383042 W	341.58@	180.36	2.31
7400.00	1.76	187.04	7367.76	31.00	38.94	342.67 S	2.24 W	32.98587171 N	103.94383083 W	342.67@	180.38	1.71
7462.00	0.88	169.46	7429.74	62.00	39.12	344.08 S	2.27 W	32.98586783 N	103.94383094 W	344.09@	180.38	1.55
7493.00	0.88	179.45	7460.74	31.00	39.13	344.55 S	2.23 W	32.98586653 N	103.94383080 W	344.56@	180.37	0.49
7524.00	0.70	174.21	7491.73	31.00	39.15	344.98 S	2.21 W	32.98586536 N	103.94383073 W	344.98@	180.37	0.63
7587.00	0.97	167.98	7554.73	63.00	39.10	345.88 S	2.06 W	32.98586287 N	103.94383026 W	345.89@	180.34	0.45

THE FOLLOWING ARE COMPASS DIRECTIONAL GUIDANCE SURVEYS.

7669.00	1.10	177.10	7636.71	82.00	39.07	347.35 S	1.87 W	32.98585884 N	103.94382967 W	347.35@	180.31	0.25
7763.00	1.10	189.00	7730.69	94.00	39.36	349.14 S	1.97 W	32.98585392 N	103.94383001 W	349.14@	180.32	0.24
7886.00	1.20	200.30	7853.67	123.00	40.24	351.51 S	2.60 W	32.98584740 N	103.94383209 W	351.52@	180.42	0.20

8008.00	1.20	212.60	7975.64	122.00	41.61	353.79 S	3.73 W	32.98584116 N	103.94383581 W	353.81@	180.60	0.21
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THE FOLLOWING ARE PATHFINDER MWD SURVEYS.

8042.00	2.37	239.45	8009.63	34.00	42.47	354.44 S	4.53 W	32.98583936 N	103.94383842 W	354.47@	180.73	4.14
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PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
PEERY FEDERAL #11
CHAVES COUNTY, NEW MEXICO
RIG:SILVEROAK 7

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
8073.00	5.89	257.16	8040.54	31.00	44.64	355.12 S	6.63 W	32.98583751 N	103.94384529 W	355.19@	181.07	11.95
8104.00	10.38	262.46	8071.22	31.00	49.01	355.84 S	10.95 W	32.98583558 N	103.94385939 W	356.01@	181.76	14.67
8123.00	13.37	265.03	8089.81	19.00	52.92	356.26 S	14.84 W	32.98583448 N	103.94387207 W	356.57@	182.39	15.98
8154.00	16.80	265.48	8119.74	31.00	60.98	356.92 S	22.88 W	32.98583273 N	103.94389829 W	357.66@	183.67	11.07
8185.00	18.91	266.68	8149.25	31.00	70.48	357.57 S	32.36 W	32.98583106 N	103.94392923 W	359.03@	185.17	6.91
8216.00	20.22	268.26	8178.46	31.00	80.84	358.02 S	42.73 W	32.98582992 N	103.94396305 W	360.56@	186.81	4.56
8247.00	22.60	268.77	8207.32	31.00	92.12	358.31 S	54.04 W	32.98582923 N	103.94399994 W	362.36@	188.58	7.70
8279.00	25.85	269.25	8236.49	32.00	105.19	358.54 S	67.17 W	32.98582875 N	103.94404275 W	364.77@	190.61	10.17
8310.00	28.75	269.81	8264.04	31.00	119.34	358.65 S	81.38 W	32.98582859 N	103.94408911 W	367.77@	192.79	9.39
8341.00	30.42	270.17	8291.00	31.00	134.56	358.65 S	96.69 W	32.98582874 N	103.94413902 W	371.45@	195.09	5.42
8372.00	32.18	271.04	8317.48	31.00	150.55	358.48 S	112.79 W	32.98582938 N	103.94419154 W	375.80@	197.47	5.86
8410.00	35.53	270.92	8349.04	38.00	171.55	358.12 S	133.96 W	32.98583059 N	103.94426055 W	382.35@	200.51	8.82
8441.00	38.95	269.23	8373.71	31.00	190.20	358.10 S	152.71 W	32.98583081 N	103.94432172 W	389.30@	203.10	11.51
8459.00	40.54	269.37	8387.55	18.00	201.65	358.24 S	164.22 W	32.98583055 N	103.94435924 W	394.09@	204.63	8.85
8567.00	45.73	266.91	8466.34	108.00	275.26	360.71 S	237.98 W	32.98582450 N	103.94459983 W	432.15@	213.41	5.05
8599.00	49.68	265.69	8487.87	32.00	298.90	362.25 S	261.60 W	32.98582052 N	103.94467686 W	446.83@	215.83	12.66
8631.00	53.73	264.33	8507.70	32.00	324.00	364.44 S	286.61 W	32.98581475 N	103.94475845 W	463.64@	218.18	13.09
8663.00	58.39	263.88	8525.56	32.00	350.54	367.17 S	313.01 W	32.98580752 N	103.94484458 W	482.48@	220.45	14.61
8694.00	63.14	264.09	8540.70	31.00	377.59	370.00 S	339.90 W	32.98580000 N	103.94493232 W	502.43@	222.57	15.33
8726.00	67.44	264.50	8554.07	32.00	406.65	372.89 S	368.82 W	32.98579236 N	103.94502667 W	524.48@	224.69	13.49
8758.00	71.84	265.81	8565.20	32.00	436.63	375.42 S	398.71 W	32.98578571 N	103.94512416 W	547.64@	226.72	14.27
8790.00	76.41	267.05	8573.95	32.00	467.37	377.33 S	429.42 W	32.98578077 N	103.94522434 W	571.65@	228.69	14.76
8822.00	81.07	267.71	8580.20	32.00	498.69	378.76 S	460.76 W	32.98577715 N	103.94532657 W	596.46@	230.58	14.70
8854.00	85.65	268.01	8583.90	32.00	530.39	379.95 S	492.52 W	32.98577421 N	103.94543014 W	622.04@	232.35	14.34
8885.00	88.90	266.15	8585.37	31.00	561.30	381.53 S	523.44 W	32.98577019 N	103.94553099 W	647.73@	233.91	12.08
8917.00	89.78	266.02	8585.74	32.00	593.27	383.71 S	555.36 W	32.98576451 N	103.94563512 W	675.03@	235.36	2.78
8949.00	90.31	266.32	8585.72	32.00	625.24	385.85 S	587.29 W	32.98575895 N	103.94573927 W	702.70@	236.69	1.90

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PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
PEERY FEDERAL #11
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RIG:SILVEROAK 7

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
8981.00	90.75	266.84	8585.42	32.00	657.21	387.76 S	619.23 W	32.98575403 N	103.94584346 W	730.62@	237.95	2.13
9013.00	91.19	268.04	8584.88	32.00	689.14	389.19 S	651.19 W	32.98575043 N	103.94594771 W	758.63@	239.14	3.99
9045.00	91.71	269.34	8584.07	32.00	721.01	389.92 S	683.17 W	32.98574874 N	103.94605202 W	786.61@	240.28	4.37
9076.00	92.77	270.78	8582.86	31.00	751.81	389.89 S	714.15 W	32.98574914 N	103.94615303 W	813.65@	241.37	5.76
9108.00	93.65	271.59	8581.07	32.00	783.49	389.23 S	746.09 W	32.98575128 N	103.94625719 W	841.52@	242.45	3.74
9140.00	94.09	271.78	8578.91	32.00	815.12	388.29 S	778.00 W	32.98575418 N	103.94636125 W	869.52@	243.48	1.50
9172.00	94.18	271.62	8576.60	32.00	846.74	387.34 S	809.91 W	32.98575711 N	103.94646528 W	897.76@	244.44	0.57
9203.00	92.86	271.23	8574.70	31.00	877.41	386.57 S	840.84 W	32.98575954 N	103.94656615 W	925.44@	245.31	4.44
9235.00	91.98	270.91	8573.34	32.00	909.13	385.97 S	872.80 W	32.98576150 N	103.94667038 W	954.34@	246.14	2.93
9267.00	91.98	270.32	8572.24	32.00	940.89	385.63 S	904.78 W	32.98576277 N	103.94677467 W	983.53@	246.92	1.84
9299.00	92.15	270.14	8571.09	32.00	972.67	385.50 S	936.76 W	32.98576344 N	103.94687895 W	1012.98@	247.63	0.77
9331.00	91.28	270.90	8570.13	32.00	1004.44	385.21 S	968.74 W	32.98576456 N	103.94698325 W	1042.52@	248.32	3.61
9362.00	91.45	271.09	8569.39	31.00	1035.19	384.67 S	999.73 W	32.98576635 N	103.94708430 W	1071.18@	248.95	0.82
9394.00	89.96	272.44	8569.00	32.00	1066.88	383.69 S	1031.71 W	32.98576939 N	103.94718858 W	1100.75@	249.60	6.28
9426.00	90.13	272.61	8568.97	32.00	1098.51	382.28 S	1063.68 W	32.98577358 N	103.94729282 W	1130.29@	250.23	0.75
9442.00	89.61	272.87	8569.01	16.00	1114.32	381.51 S	1079.66 W	32.98577585 N	103.94734493 W	1145.09@	250.54	3.63
9458.00	89.50	273.03	8569.13	16.00	1130.12	380.69 S	1095.64 W	32.98577827 N	103.94739703 W	1159.89@	250.84	1.21
9490.00	89.78	273.28	8569.33	32.00	1161.70	378.93 S	1127.59 W	32.98578343 N	103.94750120 W	1189.56@	251.42	1.17
9522.00	89.94	273.35	8569.41	32.00	1193.26	377.08 S	1159.54 W	32.98578884 N	103.94760536 W	1219.31@	251.99	0.54
9553.00	89.94	272.78	8569.44	31.00	1223.86	375.42 S	1190.49 W	32.98579371 N	103.94770629 W	1248.28@	252.50	1.84
9585.00	90.17	272.84	8569.41	32.00	1255.47	373.85 S	1222.45 W	32.98579834 N	103.94781051 W	1278.34@	253.00	0.74
9617.00	90.56	272.83	8569.21	32.00	1287.08	372.27 S	1254.41 W	32.98580301 N	103.94791471 W	1308.49@	253.47	1.22
9649.00	91.01	273.02	8568.77	32.00	1318.67	370.64 S	1286.37 W	32.98580782 N	103.94801891 W	1338.70@	253.93	1.53
9681.00	89.83	273.40	8568.54	32.00	1350.25	368.85 S	1318.32 W	32.98581307 N	103.94812307 W	1368.94@	254.37	3.87
9713.00	89.10	273.37	8568.83	32.00	1381.80	366.96 S	1350.26 W	32.98581858 N	103.94822722 W	1399.24@	254.80	2.28
9745.00	89.50	272.68	8569.22	32.00	1413.39	365.27 S	1382.21 W	32.98582355 N	103.94833140 W	1429.66@	255.20	2.49
9777.00	89.83	273.04	8569.41	32.00	1444.99	363.67 S	1414.17 W	32.98582826 N	103.94843561 W	1460.19@	255.58	1.53

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PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
PEERY FEDERAL #11
CHAVES COUNTY, NEW MEXICO
RIG: SILVEROAK 7

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
9808.00	89.22	271.47	8569.67	31.00	1475.66	362.45 S	1445.15 W	32.98583192 N	103.94853661 W	1489.91@	255.92	5.43
9840.00	89.10	270.79	8570.14	32.00	1507.40	361.82 S	1477.14 W	32.98583398 N	103.94864092 W	1520.80@	256.24	2.16
9872.00	89.11	270.70	8570.64	32.00	1539.16	361.40 S	1509.13 W	32.98583544 N	103.94874525 W	1551.80@	256.53	0.28
9904.00	89.27	270.66	8571.09	32.00	1570.93	361.02 S	1541.13 W	32.98583681 N	103.94884959 W	1582.85@	256.82	0.52
9936.00	90.34	271.04	8571.20	32.00	1602.69	360.55 S	1573.12 W	32.98583843 N	103.94895393 W	1613.91@	257.09	3.55
9968.00	90.67	271.17	8570.92	32.00	1634.44	359.93 S	1605.11 W	32.98584045 N	103.94905825 W	1644.97@	257.36	1.11
10000.00	90.89	271.11	8570.48	32.00	1666.17	359.30 S	1637.10 W	32.98584252 N	103.94916257 W	1676.07@	257.62	0.71
10032.00	91.34	271.20	8569.86	32.00	1697.91	358.65 S	1669.09 W	32.98584461 N	103.94926688 W	1707.19@	257.87	1.43
10063.00	90.34	269.84	8569.40	31.00	1728.69	358.37 S	1700.09 W	32.98584570 N	103.94936796 W	1737.45@	258.10	5.45
10095.00	89.72	269.67	8569.39	32.00	1760.52	358.51 S	1732.09 W	32.98584564 N	103.94947231 W	1768.80@	258.31	2.01
10127.00	90.11	269.30	8569.44	32.00	1792.37	358.79 S	1764.08 W	32.98584517 N	103.94957667 W	1800.20@	258.50	1.68
10159.00	90.50	269.31	8569.26	32.00	1824.22	359.18 S	1796.08 W	32.98584443 N	103.94968102 W	1831.64@	258.69	1.22
10191.00	91.23	269.94	8568.78	32.00	1856.06	359.39 S	1828.08 W	32.98584417 N	103.94978537 W	1863.07@	258.88	3.01
10222.00	90.22	270.47	8568.39	31.00	1886.86	359.28 S	1859.07 W	32.98584479 N	103.94988645 W	1893.47@	259.06	3.68
10254.00	89.61	271.22	8568.44	32.00	1918.63	358.81 S	1891.07 W	32.98584640 N	103.94999079 W	1924.81@	259.26	3.02
10286.00	88.60	270.83	8568.94	32.00	1950.37	358.24 S	1923.06 W	32.98584830 N	103.95009511 W	1956.14@	259.45	3.38
10318.00	88.27	270.81	8569.81	32.00	1982.12	357.78 S	1955.04 W	32.98584988 N	103.95019941 W	1987.51@	259.63	1.03
10350.00	88.65	270.84	8570.67	32.00	2013.87	357.32 S	1987.03 W	32.98585146 N	103.95030371 W	2018.90@	259.81	1.19
10382.00	89.05	270.69	8571.31	32.00	2045.63	356.89 S	2019.02 W	32.98585296 N	103.95040803 W	2050.32@	259.98	1.33
10414.00	89.50	270.93	8571.72	32.00	2077.40	356.44 S	2051.01 W	32.98585452 N	103.95051237 W	2081.76@	260.14	1.59
10446.00	88.71	270.43	8572.22	32.00	2109.16	356.06 S	2083.01 W	32.98585588 N	103.95061670 W	2113.22@	260.30	2.92
10478.00	88.66	270.48	8572.95	32.00	2140.94	355.81 S	2115.00 W	32.98585690 N	103.95072102 W	2144.72@	260.45	0.22
10510.00	87.43	270.14	8574.04	32.00	2172.72	355.63 S	2146.98 W	32.98585770 N	103.95082531 W	2176.23@	260.59	3.99
10541.00	86.65	269.74	8575.64	31.00	2203.51	355.66 S	2177.94 W	32.98585792 N	103.95092627 W	2206.79@	260.73	2.83
10573.00	86.70	269.43	8577.50	32.00	2235.29	355.90 S	2209.88 W	32.98585760 N	103.95103046 W	2238.36@	260.85	0.98
10605.00	86.81	269.58	8579.31	32.00	2267.09	356.17 S	2241.83 W	32.98585716 N	103.95113465 W	2269.95@	260.97	0.58
10637.00	88.10	269.91	8580.73	32.00	2298.88	356.31 S	2273.80 W	32.98585709 N	103.95123890 W	2301.55@	261.09	4.16

SCANNED

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
PEERY FEDERAL #11
CHAVES COUNTY, NEW MEXICO
RIG:SILVEROAK 7

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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)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
10669.00	89.33	270.62	8581.45	32.00	2330.67	356.17 S	2305.79 W	32.98585781 N	103.95134322 W	2333.13@	261.22	4.44
10701.00	89.27	269.65	8581.84	32.00	2362.48	356.09 S	2337.79 W	32.98585834 N	103.95144757 W	2364.75@	261.34	3.04
10733.00	89.55	269.87	8582.17	32.00	2394.31	356.22 S	2369.78 W	32.98585829 N	103.95155192 W	2396.41@	261.45	1.11
10764.00	90.06	270.18	8582.28	31.00	2425.13	356.21 S	2400.78 W	32.98585864 N	103.95165302 W	2427.06@	261.56	1.92
10796.00	89.39	270.34	8582.43	32.00	2456.93	356.07 S	2432.78 W	32.98585936 N	103.95175737 W	2458.70@	261.67	2.15
10828.00	89.10	271.03	8582.85	32.00	2488.70	355.68 S	2464.78 W	32.98586073 N	103.95186170 W	2490.31@	261.79	2.34
10860.00	89.50	271.16	8583.24	32.00	2520.44	355.07 S	2496.77 W	32.98586272 N	103.95196603 W	2521.89@	261.91	1.32
10892.00	89.11	270.81	8583.63	32.00	2552.19	354.52 S	2528.76 W	32.98586456 N	103.95207036 W	2553.49@	262.02	1.64
10923.00	89.27	270.38	8584.07	31.00	2582.97	354.20 S	2559.76 W	32.98586575 N	103.95217143 W	2584.15@	262.12	1.48
10955.00	87.87	270.36	8584.87	32.00	2614.75	353.99 S	2591.74 W	32.98586663 N	103.95227575 W	2615.81@	262.22	4.37
10987.00	87.20	270.40	8586.24	32.00	2646.52	353.78 S	2623.71 W	32.98586754 N	103.95238000 W	2647.46@	262.32	2.10
11019.00	87.54	270.94	8587.71	32.00	2678.25	353.41 S	2655.68 W	32.98586888 N	103.95248424 W	2679.09@	262.42	1.99
11050.00	88.04	271.11	8588.91	31.00	2708.99	352.85 S	2686.65 W	32.98587071 N	103.95258524 W	2709.72@	262.52	1.70
11082.00	88.55	271.33	8589.86	32.00	2740.71	352.17 S	2718.63 W	32.98587290 N	103.95268951 W	2741.34@	262.62	1.74
11114.00	87.71	270.64	8590.90	32.00	2772.45	351.62 S	2750.61 W	32.98587473 N	103.95279379 W	2772.99@	262.72	3.40
11146.00	87.37	270.48	8592.28	32.00	2804.20	351.31 S	2782.58 W	32.98587591 N	103.95289805 W	2804.66@	262.80	1.17
11178.00	87.81	270.86	8593.62	32.00	2835.94	350.94 S	2814.54 W	32.98587725 N	103.95300230 W	2836.34@	262.89	1.82
11209.00	88.32	271.18	8594.67	31.00	2866.68	350.38 S	2845.52 W	32.98587908 N	103.95310332 W	2867.01@	262.98	1.94
11241.00	88.71	271.52	8595.50	32.00	2898.40	349.63 S	2877.50 W	32.98588147 N	103.95320760 W	2898.67@	263.07	1.62
11273.00	89.16	271.50	8596.09	32.00	2930.11	348.79 S	2909.48 W	32.98588410 N	103.95331189 W	2930.32@	263.16	1.41
11305.00	89.33	271.46	8596.52	32.00	2961.82	347.96 S	2941.47 W	32.98588669 N	103.95341620 W	2961.98@	263.25	0.54
11337.00	89.44	271.61	8596.86	32.00	2993.53	347.10 S	2973.46 W	32.98588936 N	103.95352050 W	2993.65@	263.34	0.58
11368.00	88.88	271.07	8597.31	31.00	3024.26	346.38 S	3004.45 W	32.98589166 N	103.95362155 W	3024.35@	263.42	2.51
11400.00	88.71	270.31	8597.99	32.00	3056.03	345.99 S	3036.44 W	32.98589304 N	103.95372587 W	3056.09@	263.50	2.43
11432.00	90.00	271.38	8598.35	32.00	3087.79	345.52 S	3068.43 W	32.98589465 N	103.95383020 W	3087.82@	263.58	5.24
11464.00	91.96	272.66	8597.80	32.00	3119.46	344.39 S	3100.40 W	32.98589807 N	103.95393446 W	3119.47@	263.66	7.32
11496.00	90.89	271.69	8597.00	32.00	3151.11	343.18 S	3132.37 W	32.98590172 N	103.95403869 W	3151.11@	263.75	4.51

SCANNED

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
 PEERY FEDERAL #11
 CHAVES COUNTY, NEW MEXICO
 RIG: SILVEROAK 7

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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)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
11528.00	89.61	270.68	8596.86	32.00	3182.84	342.52 S	3164.36 W	32.98590386 N	103.95414301 W	3182.84@	263.82	5.10
11550.00	89.10	270.33	8597.11	22.00	3204.69	342.33 S	3186.36 W	32.98590461 N	103.95421475 W	3204.69@	263.87	2.81
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 11606' MD.												
11606.00	89.10	270.33	8597.99	56.00	3260.33	342.00 S	3242.35 W	32.98590605 N	103.95439734 W	3260.34@	263.98	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.

SCANNED