

3329 W Pinhook Rd
Lafayette, LA 70508
Tel (337) 233-3982
Fax (337) 234-2988

PATHFINDER
A Schlumberger Company

DIRECTIONAL SURVEY REPORT

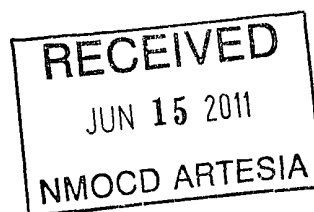
MACK ENERGY CORPORATION

JACK FROST STATE COM #1

EDDY COUNTY, NM

SUR: H - 36-16s-27e, 1675/N & 330/E
BHL: E-36-16s-27e, 1503/N & 335/W
API # 30-015-37972

PREPARED BY: PHIL LEBLANC



SCANNED

3329 W Pinhook Rd
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May 11, 2011

MACK ENERGY CORPORATION
Mr. Matt Brewer
11352 Lovington Hwy
Box 960
Artesia, NM 88211-1288

RE: MACK ENERGY CORPORATION
JACK FROST STATE COM #1
EDDY COUNTY, NM
RIG: SILVER OAK #7
API Well No.: 30-015-37972
PES Job No.: 700001968-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@mec.com
carisadler@mec.com
chrismoreno@mec.com
mbrewer@mec.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,

for Phil LeBlanc

Phil LeBlanc
M/LWD Service Coordinator
PathFinder Energy Services

PL:tb

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3329 W Pinhook Rd
Lafayette, LA 70508
Tel. (337) 233-3982



A Schlumberger Company

DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
 - A) RAFAEL DONARUMMA
 - B) KIRK DAVIS
 - C) DANIEL BROWN
 - D) JESUS BARRAZA
3. POSITION OF SAID PERSON(S): (A-D) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 03/28/11 TO 04/22/11
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

MACK ENERGY CORPORATION
JACK FROST STATE COM #1
EDDY COUNTY, NM
RIG: SILVER OAK #7
API Well No.: 30-015-37972
9. SURVEY(S) CERTIFIED FROM: 1,687 TO 10,583 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4,473.25 FEET ON A BEARING OF 272.21 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 10,583 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

Phil LeBlanc

PHIL LEBLANC
M/LWD SERVICE COORDINATOR

SCANNED

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 03/28/2011
Date Completed: 04/22/2011

MACK ENERGY CORPORATION
JACK FROST STATE COM #1
EDDY COUNTY, NEW MEXICO
API#: 30-015-37972 Rig: SILVER OAK 7
PathFinder Office Supervisor: PHIL LEBLANC
PathFinder Field Engineers: RAFAEL DONARUMMA
 DANIEL BROWN
 KIRK DAVIS

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.52.50.3862 N LON:104.13.28.3258 W
GRID Reference:NAD27 new mexico east Transverse Mercator
Ref GRID Coor: X: 533400.6000 Y: 684113.8000
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.90° EAST TO GRID
Vertical Section Plane: 272.17
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude:3496.00' Ground To MSL

Measured Depth	10583.00	(feet)
Inclination	92.52	(deg)
Azimuth	273.35	(deg)
True Vertical Depth	6281.31	(feet)
Vertical Section	4473.25	(feet)
Survey X cord	528930.67	(feet)
Survey Y cord	684286.26	(feet)
Survey Lat	32.88114869 N	(deg)
Survey Lon	104.23909468 W	(deg)
Rectangular Corr. N/S	172.46 N	(feet)
Rectangular Corr. E/W	4469.93 W	(feet)
Closure Distance	4473.25	(feet)
Direction of Closure	272.21	(deg)
Dogleg Severity	0.00	(deg/100ft)

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PathFinder Energy Services, Inc.

Survey Report

Page 01/08
Tie-in Date: 03/28/2011
Date Completed: 04/22/2011

MACK ENERGY CORPORATION
JACK FROST STATE COM #1
EDDY COUNTY, NEW MEXICO
API#: 30-015-37972 Rig: SILVER OAK 7
PathFinder Office Supervisor: PHIL LEBLANC
PathFinder Field Engineers: RAFAEL DONARUMMA JESUS BARRAZA
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Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.52.50.3862 N LON: 104.13.28.3258 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 533400.6000 Y: 684113.8000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.90° EAST TO GRID
Vertical Section Plane: 272.17
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude: 3496.00' Ground To MSL

Survey Calculations by PathCalc v2.04.00.01 (Experimental) using Minimum

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL		Survey Latitude (deg)	Survey Longitude (deg)	Closure		DLS
						Rectangular (ft)	Offsets (ft)			Dist (ft)	Dir (deg)	
THE FOLLOWING ARE TELEDRIFT PROSHOT MWD SURVEYS.												
670.00	2.20	268.80	669.84	670.00	12.84	0.27 S	12.86 W	32.88066213 N	104.22457684 W	12.86@	268.80	0.00
854.00	2.60	271.50	853.68	184.00	20.54	0.23 S	20.56 W	32.88066225 N	104.22460193 W	20.56@	269.35	0.23
1101.00	2.50	279.10	1100.43	247.00	31.49	0.76 N	31.48 W	32.88066502 N	104.22463750 W	31.49@	271.39	0.14
1163.00	2.40	292.00	1162.38	62.00	34.05	1.46 N	34.02 W	32.88066696 N	104.22464577 W	34.05@	272.46	0.90
1348.00	3.40	279.00	1347.14	185.00	43.14	3.77 N	43.03 W	32.88067333 N	104.22467511 W	43.19@	275.01	0.64
1435.00	2.70	288.00	1434.02	87.00	47.67	4.81 N	47.53 W	32.88067619 N	104.22468975 W	47.77@	275.78	0.97
**	TIED INTO TELEDRIFT PROSHOT MWD SURVEYS AT 1687' MD.											
1687.00	4.40	303.00	1685.53	252.00	61.69	11.91 N	61.28 W	32.88069574 N	104.22473453 W	62.43@	281.00	0.76
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.												
1760.00	2.99	304.68	1758.38	73.00	65.70	14.52 N	65.19 W	32.88070293 N	104.22474727 W	66.79@	282.55	1.94
1853.00	0.79	316.13	1851.32	93.00	68.20	16.36 N	67.63 W	32.88070800 N	104.22475521 W	69.58@	283.60	2.39
1945.00	0.53	123.65	1943.32	92.00	68.30	16.58 N	67.72 W	32.88070861 N	104.22475549 W	69.72@	283.76	1.43
2037.00	1.06	125.76	2035.31	92.00	67.23	15.85 N	66.67 W	32.88070659 N	104.22475209 W	68.53@	283.37	0.58
2129.00	1.06	118.72	2127.29	92.00	65.76	14.94 N	65.24 W	32.88070409 N	104.22474741 W	66.93@	282.90	0.14
2222.00	1.67	99.00	2220.27	93.00	63.64	14.32 N	63.14 W	32.88070237 N	104.22474059 W	64.75@	282.78	0.82
2409.00	1.58	105.23	2407.19	187.00	58.42	13.21 N	57.97 W	32.88069932 N	104.22472373 W	59.45@	282.84	0.11
2596.00	1.76	108.60	2594.11	187.00	53.16	11.62 N	52.76 W	32.88069493 N	104.22470676 W	54.02@	282.42	0.11
2783.00	2.02	120.50	2781.01	187.00	47.50	9.03 N	47.20 W	32.88068780 N	104.22468866 W	48.05@	280.83	0.25
2970.00	1.93	93.69	2967.90	187.00	41.45	7.16 N	41.21 W	32.88068262 N	104.22466918 W	41.83@	279.85	0.49
3157.00	1.58	93.39	3154.82	187.00	35.73	6.80 N	35.50 W	32.88068163 N	104.22465056 W	36.14@	280.85	0.19
3343.00	1.58	104.54	3340.75	186.00	30.66	6.01 N	30.45 W	32.88067943 N	104.22463414 W	31.04@	281.16	0.17
3530.00	1.67	103.60	3527.67	187.00	25.47	4.72 N	25.31 W	32.88067588 N	104.22461739 W	25.75@	280.56	0.05
3685.00	1.49	105.53	3682.61	155.00	21.30	3.65 N	21.17 W	32.88067292 N	104.22460392 W	21.49@	279.78	0.12
3903.00	1.32	100.20	3900.55	218.00	16.05	2.44 N	15.97 W	32.88066960 N	104.22458697 W	16.16@	278.70	0.10
4089.00	1.41	109.87	4086.49	186.00	11.75	1.29 N	11.71 W	32.88066641 N	104.22457310 W	11.78@	276.27	0.13
4276.00	1.23	113.58	4273.44	187.00	7.69	0.30 S	7.71 W	32.88066204 N	104.22456006 W	7.71@	267.79	0.11

SCANNED

PathFinder Energy Services, Inc. Survey Report

MACK ENERGY CORPORATION
JACK FROST STATE COM #1
EDDY COUNTY, NEW MEXICO
API#: 30-015-37972 Rig: SILVER OAK 7

Page 02/08

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)
4462.00	0.88	71.75	4459.41	186.00	4.49	0.65 S	4.52 W	32.88066106 N	104.22454969 W	4.57@	261.83	0.44
4649.00	0.62	71.15	4646.40	187.00	2.20	0.13 N	2.20 W	32.88066319 N	104.22454212 W	2.20@	273.32	0.14
4836.00	0.62	71.59	4833.39	187.00	0.31	0.77 N	0.28 W	32.88066496 N	104.22453588 W	0.82@	339.90	0.00
5023.00	0.53	71.39	5020.38	187.00	-1.44	1.37 N	1.50 E	32.88066659 N	104.22453008 W	2.03@	47.53	0.05
5208.00	0.44	65.26	5205.37	185.00	-2.88	1.94 N	2.95 E	32.88066816 N	104.22452533 W	3.53@	56.69	0.06
5395.00	0.26	51.33	5392.37	187.00	-3.84	2.51 N	3.94 E	32.88066971 N	104.22452213 W	4.67@	57.52	0.11
5582.00	0.53	68.17	5579.36	187.00	-4.95	3.09 N	5.07 E	32.88067132 N	104.22451843 W	5.94@	58.62	0.16
5716.00	0.88	245.29	5713.36	134.00	-4.60	2.89 N	4.71 E	32.88067077 N	104.22451960 W	5.53@	58.45	1.05
5747.00	0.70	242.92	5744.36	31.00	-4.22	2.71 N	4.33 E	32.88067026 N	104.22452086 W	5.10@	57.96	0.59
5778.00	1.06	254.52	5775.35	31.00	-3.78	2.54 N	3.88 E	32.88066982 N	104.22452231 W	4.64@	56.75	1.29
5809.00	3.61	260.85	5806.32	31.00	-2.55	2.31 N	2.64 E	32.88066918 N	104.22452635 W	3.51@	48.79	8.26
5841.00	7.39	261.17	5838.17	32.00	0.46	1.84 N	0.39 W	32.88066788 N	104.22453622 W	1.88@	348.05	11.81
5872.00	11.70	261.32	5868.74	31.00	5.50	1.06 N	5.47 W	32.88066575 N	104.22455276 W	5.57@	280.92	13.90
5903.00	14.68	261.60	5898.91	31.00	12.45	0.01 N	12.46 W	32.88066289 N	104.22457555 W	12.46@	270.03	9.62
5934.00	16.80	263.21	5928.75	31.00	20.74	1.10 S	20.80 W	32.88065988 N	104.22460271 W	20.83@	266.98	6.98
5965.00	18.38	265.22	5958.30	31.00	30.02	2.03 S	30.12 W	32.88065733 N	104.22463307 W	30.19@	266.14	5.46
5997.00	21.28	266.03	5988.40	32.00	40.80	2.86 S	40.94 W	32.88065510 N	104.22466832 W	41.04@	266.01	9.10
6029.00	24.53	266.47	6017.87	32.00	53.19	3.67 S	53.37 W	32.88065290 N	104.22470880 W	53.49@	266.07	10.17
6060.00	28.23	268.27	6045.64	31.00	66.91	4.29 S	67.12 W	32.88065125 N	104.22475362 W	67.26@	266.35	12.21
6091.00	31.48	270.53	6072.52	31.00	82.32	4.43 S	82.55 W	32.88065089 N	104.22480387 W	82.67@	266.93	11.09
6122.00	33.50	271.64	6098.67	31.00	98.97	4.11 S	99.20 W	32.88065181 N	104.22485809 W	99.28@	267.63	6.79
6153.00	35.44	272.46	6124.23	31.00	116.51	3.48 S	116.73 W	32.88065360 N	104.22491520 W	116.78@	268.29	6.43
6185.00	37.90	273.34	6149.89	32.00	135.62	2.51 S	135.81 W	32.88065632 N	104.22497736 W	135.84@	268.94	7.86
6263.00	45.81	275.80	6207.95	78.00	187.57	1.72 N	187.64 W	32.88066809 N	104.22514616 W	187.65@	270.52	10.36
6327.00	53.99	275.36	6249.13	64.00	236.40	6.46 N	236.32 W	32.88068127 N	104.22530472 W	236.41@	271.57	12.79
6390.00	63.31	272.66	6281.88	63.00	290.10	10.16 N	289.93 W	32.88069157 N	104.22547933 W	290.11@	272.01	15.24

SCANNED

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
JACK FROST STATE COM #1
EDDY COUNTY, NEW MEXICO
API#: 30-015-37972 Rig: SILVER OAK 7

Page 03/08

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)
6453.00	71.40	268.52	6306.12	63.00	348.16	10.69 N	348.00 W	32.88069321 N	104.22566850 W	348.17@	271.76	14.20
6485.00	75.53	268.06	6315.23	32.00	378.76	9.78 N	378.66 W	32.88069078 N	104.22576836 W	378.79@	271.48	12.98
6516.00	77.47	269.14	6322.47	31.00	408.84	9.04 N	408.79 W	32.88068884 N	104.22586652 W	408.89@	271.27	7.12
6548.00	81.07	270.61	6328.42	32.00	440.25	8.98 N	440.23 W	32.88068875 N	104.22596891 W	440.32@	271.17	12.12
6580.00	84.42	271.01	6332.46	32.00	471.98	9.43 N	471.96 W	32.88069007 N	104.22607229 W	472.06@	271.14	10.54
6611.00	88.20	270.93	6334.46	31.00	502.91	9.95 N	502.89 W	32.88069160 N	104.22617302 W	502.99@	271.13	12.20
6643.00	88.81	271.11	6335.29	32.00	534.89	10.52 N	534.87 W	32.88069325 N	104.22627720 W	534.98@	271.13	1.99
6675.00	91.28	270.79	6335.27	32.00	566.88	11.05 N	566.87 W	32.88069480 N	104.22638141 W	566.97@	271.12	7.78
6723.00	91.17	269.93	6334.24	48.00	614.84	11.35 N	614.85 W	32.88069576 N	104.22653773 W	614.96@	271.06	1.81
6754.00	90.61	270.81	6333.76	31.00	645.82	11.55 N	645.85 W	32.88069640 N	104.22663869 W	645.95@	271.02	3.36
6786.00	90.50	270.82	6333.45	32.00	677.81	12.01 N	677.84 W	32.88069774 N	104.22674291 W	677.95@	271.01	0.35
6818.00	90.84	270.98	6333.08	32.00	709.80	12.51 N	709.84 W	32.88069921 N	104.22684712 W	709.95@	271.01	1.17
6849.00	90.56	271.75	6332.70	31.00	740.80	13.25 N	740.83 W	32.88070132 N	104.22694806 W	740.94@	271.02	2.64
6881.00	90.56	272.00	6332.39	32.00	772.80	14.29 N	772.81 W	32.88070429 N	104.22705223 W	772.94@	271.06	0.78
6913.00	89.66	272.05	6332.32	32.00	804.79	15.42 N	804.79 W	32.88070748 N	104.22715640 W	804.93@	271.10	2.82
6944.00	89.55	272.44	6332.54	31.00	835.79	16.64 N	835.76 W	32.88071091 N	104.22725729 W	835.93@	271.14	1.31
6976.00	89.66	272.02	6332.76	32.00	867.79	17.88 N	867.74 W	32.88071442 N	104.22736144 W	867.92@	271.18	1.36
7007.00	89.66	272.62	6332.94	31.00	898.79	19.14 N	898.71 W	32.88071795 N	104.22746233 W	898.92@	271.22	1.94
7039.00	89.10	272.23	6333.29	32.00	930.79	20.49 N	930.68 W	32.88072176 N	104.22756647 W	930.91@	271.26	2.13
7071.00	89.55	272.54	6333.67	32.00	962.79	21.82 N	962.65 W	32.88072551 N	104.22767060 W	962.90@	271.30	1.71
7102.00	89.61	272.15	6333.89	31.00	993.79	23.09 N	993.62 W	32.88072908 N	104.22777149 W	993.89@	271.33	1.27
7134.00	90.61	272.11	6333.83	32.00	1025.79	24.28 N	1025.60 W	32.88073244 N	104.22787564 W	1025.89@	271.36	3.13
7165.00	91.57	271.33	6333.24	31.00	1056.78	25.21 N	1056.58 W	32.88073508 N	104.22797655 W	1056.88@	271.37	3.99
7197.00	91.40	271.16	6332.41	32.00	1088.76	25.91 N	1088.56 W	32.88073708 N	104.22808073 W	1088.87@	271.36	0.75
7229.00	90.62	271.39	6331.85	32.00	1120.75	26.62 N	1120.55 W	32.88073912 N	104.22818492 W	1120.87@	271.36	2.54
7261.00	90.00	271.23	6331.68	32.00	1152.75	27.35 N	1152.54 W	32.88074122 N	104.22828912 W	1152.87@	271.36	2.00

SCANNED

PathFinder Energy Services, Inc. Survey Report

MACK ENERGY CORPORATION
JACK FROST STATE COM #1
EDDY COUNTY, NEW MEXICO
API#: 30-015-37972 Rig: SILVER OAK 7

Page 04/08

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)
7292.00	90.28	271.95	6331.60	31.00	1183.75	28.21 N	1183.53 W	32.88074367 N	104.22839006 W	1183.86@	271.37	2.49
7324.00	90.06	271.80	6331.50	32.00	1215.75	29.26 N	1215.51 W	32.88074664 N	104.22849424 W	1215.86@	271.38	0.83
7355.00	89.44	272.57	6331.64	31.00	1246.75	30.44 N	1246.49 W	32.88074997 N	104.22859513 W	1246.86@	271.40	3.19
7387.00	89.05	272.82	6332.06	32.00	1278.74	31.94 N	1278.45 W	32.88075419 N	104.22869924 W	1278.85@	271.43	1.45
7428.00	88.94	273.22	6332.78	41.00	1319.73	34.10 N	1319.39 W	32.88076024 N	104.22883258 W	1319.83@	271.48	1.01
7460.00	88.88	272.82	6333.39	32.00	1351.72	35.79 N	1351.34 W	32.88076496 N	104.22893665 W	1351.81@	271.52	1.26
7492.00	88.88	273.12	6334.01	32.00	1383.71	37.45 N	1383.29 W	32.88076960 N	104.22904072 W	1383.79@	271.55	0.94
7523.00	89.16	272.98	6334.55	31.00	1414.71	39.10 N	1414.24 W	32.88077422 N	104.22914153 W	1414.78@	271.58	1.01
7555.00	90.50	273.73	6334.64	32.00	1446.70	40.97 N	1446.18 W	32.88077945 N	104.22924558 W	1446.76@	271.62	4.80
7587.00	90.84	273.76	6334.27	32.00	1478.68	43.06 N	1478.11 W	32.88078529 N	104.22934958 W	1478.74@	271.67	1.07
7618.00	89.83	273.62	6334.08	31.00	1509.67	45.05 N	1509.05 W	32.88079085 N	104.22945034 W	1509.72@	271.71	3.29
7650.00	89.55	274.17	6334.26	32.00	1541.66	47.23 N	1540.97 W	32.88079691 N	104.22955433 W	1541.70@	271.76	1.93
7681.00	89.66	274.16	6334.47	31.00	1572.64	49.48 N	1571.89 W	32.88080319 N	104.22965503 W	1572.67@	271.80	0.36
7713.00	89.78	273.73	6334.63	32.00	1604.62	51.68 N	1603.81 W	32.88080932 N	104.22975901 W	1604.65@	271.85	1.40
7745.00	89.89	273.93	6334.72	32.00	1636.61	53.82 N	1635.74 W	32.88081529 N	104.22986301 W	1636.63@	271.88	0.71
7776.00	88.94	273.68	6335.04	31.00	1667.59	55.88 N	1666.67 W	32.88082102 N	104.22996375 W	1667.61@	271.92	3.17
7808.00	88.71	273.63	6335.69	32.00	1699.57	57.91 N	1698.60 W	32.88082672 N	104.23006774 W	1699.59@	271.95	0.74
7840.00	90.39	274.13	6335.94	32.00	1731.56	60.08 N	1730.52 W	32.88083275 N	104.23017173 W	1731.57@	271.99	5.48
7871.00	90.84	273.75	6335.61	31.00	1762.54	62.21 N	1761.45 W	32.88083869 N	104.23027245 W	1762.55@	272.02	1.90
7903.00	90.28	273.13	6335.30	32.00	1794.53	64.13 N	1793.39 W	32.88084405 N	104.23037649 W	1794.54@	272.05	2.61
7935.00	90.50	272.84	6335.08	32.00	1826.53	65.80 N	1825.34 W	32.88084872 N	104.23048058 W	1826.53@	272.06	1.14
7966.00	91.51	273.46	6334.54	31.00	1857.52	67.50 N	1856.29 W	32.88085348 N	104.23058138 W	1857.52@	272.08	3.82
7998.00	89.83	272.68	6334.16	32.00	1889.51	69.21 N	1888.24 W	32.88085828 N	104.23068545 W	1889.51@	272.10	5.79
8030.00	89.38	272.60	6334.38	32.00	1921.51	70.69 N	1920.21 W	32.88086242 N	104.23078957 W	1921.51@	272.11	1.43
8061.00	90.62	273.39	6334.38	31.00	1952.50	72.31 N	1951.17 W	32.88086695 N	104.23089040 W	1952.50@	272.12	4.74
8093.00	91.62	273.73	6333.76	32.00	1984.49	74.29 N	1983.10 W	32.88087250 N	104.23099441 W	1984.49@	272.15	3.30

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PathFinder Energy Services, Inc. Survey Report

MACK ENERGY CORPORATION
JACK FROST STATE COM #1
EDDY COUNTY, NEW MEXICO
API#: 30-015-37972 Rig: SILVER OAK 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)
8124.00	90.17	273.39	6333.27	31.00	2015.47	76.22 N	2014.03 W	32.88087787 N	104.23109517 W	2015.47@	272.17	4.80
8156.00	89.61	272.63	6333.34	32.00	2047.47	77.90 N	2045.99 W	32.88088257 N	104.23119926 W	2047.47@	272.18	2.95
8188.00	88.32	272.21	6333.91	32.00	2079.46	79.25 N	2077.95 W	32.88088637 N	104.23130338 W	2079.46@	272.18	4.24
8219.00	88.77	272.65	6334.70	31.00	2110.45	80.56 N	2108.92 W	32.88089006 N	104.23140423 W	2110.45@	272.19	2.03
8251.00	89.44	273.27	6335.20	32.00	2142.45	82.22 N	2140.87 W	32.88089469 N	104.23150831 W	2142.45@	272.20	2.85
8283.00	89.61	273.32	6335.47	32.00	2174.44	84.05 N	2172.81 W	32.88089983 N	104.23161236 W	2174.44@	272.22	0.55
8314.00	89.78	273.89	6335.63	31.00	2205.43	86.00 N	2203.75 W	32.88090527 N	104.23171313 W	2205.43@	272.23	1.92
8346.00	89.83	273.72	6335.74	32.00	2237.42	88.13 N	2235.68 W	32.88091119 N	104.23181713 W	2237.42@	272.26	0.55
8378.00	89.89	274.32	6335.82	32.00	2269.40	90.37 N	2267.60 W	32.88091744 N	104.23192110 W	2269.40@	272.28	1.88
8409.00	89.89	273.84	6335.88	31.00	2300.38	92.58 N	2298.52 W	32.88092359 N	104.23202182 W	2300.39@	272.31	1.55
8441.00	90.11	273.66	6335.88	32.00	2332.37	94.67 N	2330.46 W	32.88092942 N	104.23212583 W	2332.38@	272.33	0.89
8473.00	90.34	272.75	6335.75	32.00	2364.36	96.46 N	2362.40 W	32.88093443 N	104.23222989 W	2364.37@	272.34	2.93
8504.00	90.34	273.10	6335.57	31.00	2395.36	98.04 N	2393.36 W	32.88093886 N	104.23233073 W	2395.37@	272.35	1.13
8536.00	90.28	272.86	6335.39	32.00	2427.36	99.70 N	2425.32 W	32.88094351 N	104.23243482 W	2427.37@	272.35	0.77
8567.00	90.22	272.16	6335.26	31.00	2458.36	101.06 N	2456.29 W	32.88094732 N	104.23253570 W	2458.37@	272.36	2.27
8599.00	90.39	272.24	6335.09	32.00	2490.35	102.29 N	2488.27 W	32.88095078 N	104.23263985 W	2490.37@	272.35	0.59
8631.00	90.78	271.63	6334.76	32.00	2522.35	103.37 N	2520.25 W	32.88095384 N	104.23274402 W	2522.36@	272.35	2.26
8662.00	90.84	271.81	6334.32	31.00	2553.35	104.30 N	2551.23 W	32.88095648 N	104.23284494 W	2553.36@	272.34	0.61
8694.00	90.90	272.11	6333.84	32.00	2585.34	105.39 N	2583.21 W	32.88095957 N	104.23294910 W	2585.36@	272.34	0.96
8725.00	91.23	271.92	6333.26	31.00	2616.34	106.48 N	2614.18 W	32.88096265 N	104.23304999 W	2616.35@	272.33	1.23
8757.00	91.23	271.73	6332.57	32.00	2648.33	107.50 N	2646.16 W	32.88096553 N	104.23315415 W	2648.34@	272.33	0.59
8789.00	91.29	272.33	6331.87	32.00	2680.32	108.64 N	2678.13 W	32.88096873 N	104.23325829 W	2680.33@	272.32	1.88
8820.00	91.23	272.10	6331.19	31.00	2711.32	109.83 N	2709.10 W	32.88097210 N	104.23335917 W	2711.33@	272.32	0.77
8852.00	91.29	271.82	6330.49	32.00	2743.31	110.93 N	2741.07 W	32.88097519 N	104.23346331 W	2743.32@	272.32	0.89
8884.00	91.34	271.87	6329.75	32.00	2775.30	111.96 N	2773.05 W	32.88097811 N	104.23356747 W	2775.31@	272.31	0.22
8915.00	91.45	271.88	6329.00	31.00	2806.29	112.97 N	2804.02 W	32.88098097 N	104.23366836 W	2806.30@	272.31	0.36

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
JACK FROST STATE COM #1
EDDY COUNTY, NEW MEXICO
API#: 30-015-37972 Rig: SILVER OAK 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)
8947.00	91.73	272.32	6328.11	32.00	2838.28	114.14 N	2835.99 W	32.88098428 N	104.23377248 W	2838.28@	272.30	1.63
8979.00	91.90	272.37	6327.10	32.00	2870.26	115.45 N	2867.95 W	32.88098796 N	104.23387657 W	2870.27@	272.31	0.55
9010.00	92.29	271.87	6325.96	31.00	2901.24	116.60 N	2898.90 W	32.88099119 N	104.23397741 W	2901.25@	272.30	2.04
9042.00	91.68	270.87	6324.85	32.00	2933.22	117.36 N	2930.87 W	32.88099337 N	104.23408155 W	2933.22@	272.29	3.66
9073.00	90.90	271.00	6324.16	31.00	2964.20	117.87 N	2961.86 W	32.88099484 N	104.23418249 W	2964.21@	272.28	2.55
9105.00	90.78	271.56	6323.69	32.00	2996.19	118.58 N	2993.85 W	32.88099689 N	104.23428668 W	2996.20@	272.27	1.79
9137.00	90.95	271.74	6323.20	32.00	3028.19	119.51 N	3025.83 W	32.88099950 N	104.23439086 W	3028.19@	272.26	0.77
9168.00	91.01	271.82	6322.67	31.00	3059.18	120.47 N	3056.81 W	32.88100223 N	104.23449178 W	3059.19@	272.26	0.32
9200.00	91.06	272.02	6322.10	32.00	3091.18	121.54 N	3088.79 W	32.88100526 N	104.23459593 W	3091.18@	272.25	0.64
9231.00	91.01	272.32	6321.54	31.00	3122.17	122.71 N	3119.76 W	32.88100857 N	104.23469682 W	3122.18@	272.25	0.98
9263.00	91.01	272.56	6320.97	32.00	3154.17	124.08 N	3151.73 W	32.88101239 N	104.23480094 W	3154.17@	272.25	0.75
9295.00	91.06	272.64	6320.39	32.00	3186.16	125.53 N	3183.69 W	32.88101646 N	104.23490505 W	3186.17@	272.26	0.29
9326.00	90.84	272.38	6319.88	31.00	3217.16	126.88 N	3214.66 W	32.88102027 N	104.23500591 W	3217.16@	272.26	1.10
9358.00	90.56	272.48	6319.49	32.00	3249.15	128.24 N	3246.63 W	32.88102408 N	104.23511004 W	3249.16@	272.26	0.93
9390.00	90.34	271.93	6319.24	32.00	3281.15	129.47 N	3278.60 W	32.88102755 N	104.23521419 W	3281.16@	272.26	1.85
9422.00	90.22	271.33	6319.08	32.00	3313.15	130.38 N	3310.59 W	32.88103013 N	104.23531838 W	3313.15@	272.26	1.91
9453.00	90.62	271.33	6318.85	31.00	3344.15	131.10 N	3341.58 W	32.88103219 N	104.23541933 W	3344.15@	272.25	1.29
9485.00	90.67	271.42	6318.49	32.00	3376.14	131.87 N	3373.57 W	32.88103438 N	104.23552353 W	3376.14@	272.24	0.32
9517.00	90.90	271.49	6318.05	32.00	3408.14	132.68 N	3405.55 W	32.88103670 N	104.23562772 W	3408.14@	272.23	0.75
9548.00	90.95	271.88	6317.55	31.00	3439.13	133.59 N	3436.54 W	32.88103928 N	104.23572864 W	3439.13@	272.23	1.27
9580.89	91.46	272.30	6316.86	32.89	3472.01	134.79 N	3469.40 W	32.88104266 N	104.23583567 W	3472.01@	272.22	2.01
9611.00	91.56	272.38	6316.07	30.11	3502.11	136.02 N	3499.47 W	32.88104611 N	104.23593364 W	3502.11@	272.23	0.43
9643.00	91.46	272.51	6315.23	32.00	3534.10	137.39 N	3531.43 W	32.88104995 N	104.23603773 W	3534.10@	272.23	0.51
9675.00	91.23	272.46	6314.47	32.00	3566.09	138.77 N	3563.39 W	32.88105384 N	104.23614184 W	3566.09@	272.23	0.74
9706.00	90.73	272.76	6313.94	31.00	3597.09	140.19 N	3594.36 W	32.88105780 N	104.23624269 W	3597.09@	272.23	1.88
9738.00	90.39	272.86	6313.63	32.00	3629.08	141.75 N	3626.32 W	32.88106219 N	104.23634680 W	3629.09@	272.24	1.11

PathFinder Energy Services, Inc. Survey Report

MACK ENERGY CORPORATION
JACK FROST STATE COM #1
EDDY COUNTY, NEW MEXICO
API#: 30-015-37972 Rig: SILVER OAK 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)
9770.00	90.62	272.55	6313.35	32.00	3661.08	143.26 N	3658.28 W	32.88106642 N	104.23645091 W	3661.08@	272.24	1.21
9801.00	90.56	271.98	6313.03	31.00	3692.08	144.49 N	3689.25 W	32.88106987 N	104.23655180 W	3692.08@	272.24	1.85
9833.00	90.95	271.48	6312.61	32.00	3724.07	145.46 N	3721.24 W	32.88107260 N	104.23665598 W	3724.08@	272.24	1.98
9864.00	91.35	271.05	6311.99	31.00	3755.06	146.14 N	3752.22 W	32.88107456 N	104.23675691 W	3755.07@	272.23	1.89
9896.00	91.12	271.44	6311.30	32.00	3787.05	146.83 N	3784.21 W	32.88107655 N	104.23686109 W	3787.05@	272.22	1.41
9928.00	91.12	270.98	6310.67	32.00	3819.04	147.51 N	3816.19 W	32.88107849 N	104.23696528 W	3819.04@	272.21	1.44
9959.00	91.01	271.23	6310.10	31.00	3850.03	148.11 N	3847.18 W	32.88108021 N	104.23706622 W	3850.03@	272.20	0.88
9991.00	91.57	270.92	6309.37	32.00	3882.02	148.71 N	3879.17 W	32.88108194 N	104.23717041 W	3882.02@	272.20	2.00
10023.00	92.47	270.90	6308.25	32.00	3913.99	149.22 N	3911.14 W	32.88108342 N	104.23727457 W	3913.99@	272.18	2.81
10054.00	92.57	271.12	6306.88	31.00	3944.95	149.76 N	3942.11 W	32.88108500 N	104.23737543 W	3944.95@	272.18	0.78
10086.00	92.86	271.24	6305.37	32.00	3976.91	150.42 N	3974.07 W	32.88108689 N	104.23747953 W	3976.91@	272.17	0.98
10117.00	92.96	271.19	6303.79	31.00	4007.87	151.08 N	4005.02 W	32.88108877 N	104.23758035 W	4007.87@	272.16	0.36
10149.00	92.91	271.37	6302.16	32.00	4039.82	151.79 N	4036.97 W	32.88109081 N	104.23768443 W	4039.82@	272.15	0.58
10181.00	92.97	271.16	6300.51	32.00	4071.78	152.50 N	4068.92 W	32.88109283 N	104.23778850 W	4071.78@	272.15	0.68
10212.00	93.25	271.81	6298.83	31.00	4102.73	153.30 N	4099.86 W	32.88109511 N	104.23788929 W	4102.73@	272.14	2.28
10244.00	93.37	272.01	6296.99	32.00	4134.67	154.36 N	4131.79 W	32.88109812 N	104.23799329 W	4134.67@	272.14	0.73
10276.00	93.70	272.48	6295.01	32.00	4166.61	155.61 N	4163.71 W	32.88110163 N	104.23809725 W	4166.61@	272.14	1.79
10307.00	93.02	272.60	6293.20	31.00	4197.56	156.99 N	4194.62 W	32.88110548 N	104.23819795 W	4197.56@	272.14	2.23
10339.00	92.57	272.72	6291.63	32.00	4229.52	158.47 N	4226.55 W	32.88110964 N	104.23830194 W	4229.52@	272.15	1.46
10371.00	92.41	273.14	6290.24	32.00	4261.49	160.10 N	4258.48 W	32.88111421 N	104.23840594 W	4261.49@	272.15	1.40
10402.00	92.47	272.93	6288.92	31.00	4292.45	161.74 N	4289.41 W	32.88111879 N	104.23850668 W	4292.45@	272.16	0.70
10434.00	92.57	273.47	6287.52	32.00	4324.42	163.53 N	4321.33 W	32.88112377 N	104.23861065 W	4324.42@	272.17	1.71
10466.00	92.19	273.37	6286.19	32.00	4356.38	165.43 N	4353.24 W	32.88112910 N	104.23871461 W	4356.38@	272.18	1.23
10497.00	92.18	273.70	6285.01	31.00	4387.35	167.34 N	4384.16 W	32.88113442 N	104.23881531 W	4387.35@	272.19	1.06
10527.00	92.52	273.35	6283.78	30.00	4417.32	169.19 N	4414.08 W	32.88113956 N	104.23891276 W	4417.32@	272.20	1.63
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 105853' MD.												
10583.00	92.52	273.35	6281.31	56.00	4473.25	172.46 N	4469.93 W	32.88114869 N	104.23909468 W	4473.25@	272.21	0.00

SCANNED

PathFinder Energy Services, Inc.
Survey Report

MACK ENERGY CORPORATION
JACK FROST STATE COM #1
EDDY COUNTY, NEW MEXICO
API#: 30-015-37972 Rig: SILVER OAK 7

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** 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.