



APR - 2 2009

30-015-36523

DIRECTIONAL SURVEY REPORT

MACK ENERGY CORPORATION

GIANTS FEDERAL COM #1H

EDDY COUNTY, NM

PREPARED BY: PHIL LEBLANC

January 12, 2009

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

RE: MACK ENERGY CORPORATION
GIANTS FEDERAL COM #1H
EDDY COUNTY, NM
RIG: SILVER OAK #2
API Well No.: 30-015-36523
PES Job No.: 101008088-WT-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

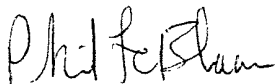
donaldarcher@mackenergycorp.com

jimkrogman@mackenergycorp.com

sli423@sutlog.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

DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
 - A) JUSTIN FALLIN
 - B) JAKE WILSON
 - C) JOHN OVERTON
 - D) DEAN NELSON
3. POSITION OF SAID PERSON(S): (A-D) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 12/07/08 TO 12/26/08
5. STATE IN WHICH SURVEY WAS PERFORMED: EDDY COUNTY
6. LOCATION OF WELL: NEW MEXICO
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

MACK ENERGY CORPORATION
GIANTS FEDERAL COM #1H
EDDY COUNTY, NM
RIG: SILVER OAK #2
API Well No.: 30-015-36523

9. SURVEY(S) CERTIFIED FROM: 6,040 TO 10,759 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 3,986.55 FEET ON A BEARING OF 270.16 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 10,759 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



PHIL LEBLANC
M/LWD SERVICE COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01

Tie-in Date: 12/06/2008

Date Completed: 12/26/2008

Mack Energy Corporation
Giants Federal Com #1H
Eddy COUNTY, New Mexico
Rig: Silver Oak 2
PathFinder Office Supervisor: Phil LeBlanc
PathFinder Field Engineers: Dean Nelson
John Overton
Justin Fallin

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.56.6.3722 N LON: 104.5.27.8368 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 574329.6000 Y: 703988.0000
North Aligned To: GRID NORTH
Total Magnetic Correction: 8.04° EAST TO GRID
Vertical Section Plane: 269.98
Survey Vert. Reference: 19.00' Rotary Table To Ground
Altitude: 3693.00' Ground To MSL

Measured Depth	10759.00	(feet)
Inclination	89.72	(deg)
Azimuth	268.88	(deg)
True Vertical Depth	7014.72	(feet)
Vertical Section	3986.53	(feet)
Survey X cord	570343.06	(feet)
Survey Y cord	703998.84	(feet)
Survey Lat	32.93515768 N	(deg)
Survey Lon	104.10405919 W	(deg)
Rectangular Corr. N/S	10.84 N	(feet)
Rectangular Corr. E/W	3986.54 W	(feet)
Closure Distance	3986.55	(feet)
Direction of Closure	270.16	(deg)
Dogleg Severity	0.02	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Giants Federal Com #1H
Eddy COUNTY, New Mexico
Rig: Silver Oak 2
PathFinder Office Supervisor: Phil LeBlanc
PathFinder Field Engineers: Dean Nelson
John Overton
Justin Fallin

Jake Wilson

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.56.6.3722 N LON: 104.5.27.8368 W
Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 574329.6000 Y: 703988.0000
North Aligned To: GRID NORTH
Total Magnetic Correction: 8.04° EAST TO GRID
Vertical Section Plane: 269.98
Survey Vert. Reference: 19.00' Rotary Table To Ground
Altitude: 3693.00' Ground To MSL

Survey Calculations by PathCalc v1.97j using Minimum Curvature

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	Offsets			Dist	Dir	
(ft)	(deg)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(deg)	(deg)	(ft)	(deg)	(dg/100ft)
THE FOLLOWING ARE SCIENTIFIC DRILLING GYROSCOPIC MULTI-SHOT SURVEYS.												
100.00	1.05	94.72	99.98	0.00	-0.92	0.08 S	0.92 E	32.93510316 N	104.09106278 W	0.92@	94.72	0.00
200.00	0.73	139.67	199.97	100.00	-2.24	0.64 S	2.24 E	32.93510161 N	104.09105847 W	2.33@	105.86	0.74
300.00	0.88	144.73	299.96	100.00	-3.10	1.75 S	3.10 E	32.93509855 N	104.09105569 W	3.56@	119.46	0.17
400.00	0.53	142.28	399.96	100.00	-3.82	2.74 S	3.82 E	32.93509582 N	104.09105333 W	4.70@	125.65	0.35
500.00	0.66	132.96	499.95	100.00	-4.53	3.50 S	4.53 E	32.93509373 N	104.09105103 W	5.72@	127.71	0.16
600.00	0.74	121.18	599.94	100.00	-5.50	4.23 S	5.50 E	32.93509172 N	104.09104787 W	6.94@	127.54	0.16
700.00	0.88	110.16	699.93	100.00	-6.77	4.83 S	6.77 E	32.93509007 N	104.09104372 W	8.32@	125.47	0.21
800.00	0.75	115.71	799.92	100.00	-8.08	5.37 S	8.08 E	32.93508855 N	104.09103945 W	9.71@	123.62	0.15
900.00	0.51	103.89	899.92	100.00	-9.10	5.77 S	9.11 E	32.93508747 N	104.09103613 W	10.78@	122.34	0.27
1000.00	0.42	113.58	999.91	100.00	-9.87	6.02 S	9.87 E	32.93508677 N	104.09103362 W	11.56@	121.36	0.12
1100.00	0.37	128.73	1099.91	100.00	-10.46	6.37 S	10.46 E	32.93508581 N	104.09103171 W	12.25@	121.33	0.12
1200.00	0.17	138.74	1199.91	100.00	-10.81	6.68 S	10.81 E	32.93508494 N	104.09103057 W	12.71@	121.71	0.20
1300.00	0.16	123.06	1299.91	100.00	-11.02	6.87 S	11.03 E	32.93508443 N	104.09102987 W	12.99@	121.92	0.05
1400.00	0.15	127.34	1399.91	100.00	-11.25	7.02 S	11.25 E	32.93508400 N	104.09102916 W	13.26@	121.98	0.02
1500.00	0.26	120.89	1499.91	100.00	-11.54	7.22 S	11.55 E	32.93508346 N	104.09102818 W	13.62@	122.02	0.11
1600.00	0.23	260.67	1599.91	100.00	-11.54	7.37 S	11.54 E	32.93508305 N	104.09102819 W	13.70@	122.55	0.46
1700.00	0.06	234.51	1699.91	100.00	-11.30	7.43 S	11.30 E	32.93508288 N	104.09102898 W	13.53@	123.33	0.18
1800.00	0.22	257.30	1799.91	100.00	-11.07	7.50 S	11.07 E	32.93508268 N	104.09102973 W	13.38@	124.13	0.17
1900.00	0.26	283.04	1899.91	100.00	-10.66	7.50 S	10.66 E	32.93508271 N	104.09103106 W	13.04@	125.10	0.11
2000.00	0.44	303.71	1999.90	100.00	-10.12	7.23 S	10.12 E	32.93508344 N	104.09103282 W	12.44@	125.54	0.22
2100.00	0.48	314.72	2099.90	100.00	-9.50	6.72 S	9.51 E	32.93508484 N	104.09103483 W	11.64@	125.27	0.10
2200.00	0.62	318.32	2199.90	100.00	-8.85	6.02 S	8.85 E	32.93508676 N	104.09103697 W	10.71@	124.25	0.14
2300.00	0.81	314.93	2299.89	100.00	-7.99	5.12 S	7.99 E	32.93508925 N	104.09103976 W	9.49@	122.66	0.19

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Giants Federal Com #1H
Eddy COUNTY, New Mexico
RIG:Silver Oak 2

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 (ft)	Dir (deg)	DLS (dg/100ft)
2400.00	0.92	322.17	2399.88	100.00	-7.00	3.99 S	7.00 E	32.93509237 N	104.09104299 W	8.05@	119.68	0.15
2500.00	0.75	316.62	2499.87	100.00	-6.05	2.88 S	6.05 E	32.93509543 N	104.09104605 W	6.70@	115.43	0.19
2600.00	0.73	302.32	2599.86	100.00	-5.07	2.06 S	5.07 E	32.93509768 N	104.09104926 W	5.47@	112.15	0.19
2700.00	0.84	303.02	2699.85	100.00	-3.91	1.32 S	3.91 E	32.93509972 N	104.09105302 W	4.13@	108.67	0.11
2800.00	0.79	301.90	2799.84	100.00	-2.71	0.56 S	2.71 E	32.93510182 N	104.09105692 W	2.77@	101.63	0.05
2900.00	0.77	293.40	2899.83	100.00	-1.51	0.07 N	1.51 E	32.93510357 N	104.09106083 W	1.51@	87.25	0.12
3000.00	0.77	288.65	2999.82	100.00	-0.26	0.55 N	0.26 E	32.93510490 N	104.09106492 W	0.61@	25.03	0.06
3100.00	0.71	280.40	3099.81	100.00	0.99	0.88 N	0.99 W	32.93510580 N	104.09106898 W	1.32@	311.75	0.12
3200.00	0.62	278.21	3199.81	100.00	2.13	1.07 N	2.13 W	32.93510633 N	104.09107271 W	2.39@	296.66	0.09
3300.00	0.33	277.24	3299.80	100.00	2.95	1.18 N	2.95 W	32.93510665 N	104.09107538 W	3.18@	291.84	0.29
3400.00	0.12	243.00	3399.80	100.00	3.33	1.17 N	3.33 W	32.93510662 N	104.09107662 W	3.53@	289.39	0.24
3500.00	0.27	259.18	3499.80	100.00	3.66	1.08 N	3.66 W	32.93510637 N	104.09107768 W	3.81@	286.46	0.16
3600.00	0.15	255.16	3599.80	100.00	4.01	1.00 N	4.01 W	32.93510616 N	104.09107884 W	4.14@	284.03	0.12
3700.00	0.06	232.99	3699.80	100.00	4.18	0.94 N	4.18 W	32.93510598 N	104.09107939 W	4.29@	282.64	0.10
3800.00	0.05	202.56	3799.80	100.00	4.24	0.87 N	4.24 W	32.93510578 N	104.09107958 W	4.33@	281.54	0.03
3900.00	0.18	300.66	3899.80	100.00	4.39	0.91 N	4.39 W	32.93510589 N	104.09108008 W	4.49@	281.65	0.19
4000.00	0.37	309.48	3999.80	100.00	4.78	1.19 N	4.78 W	32.93510668 N	104.09108133 W	4.92@	284.00	0.19
4100.00	0.41	312.14	4099.80	100.00	5.29	1.64 N	5.29 W	32.93510791 N	104.09108300 W	5.54@	287.18	0.04
4200.00	0.38	316.15	4199.79	100.00	5.79	2.12 N	5.79 W	32.93510923 N	104.09108461 W	6.16@	290.08	0.04
4300.00	0.05	95.04	4299.79	100.00	5.97	2.35 N	5.97 W	32.93510988 N	104.09108522 W	6.42@	291.48	0.42
4400.00	0.31	321.14	4399.79	100.00	6.10	2.56 N	6.10 W	32.93511045 N	104.09108563 W	6.61@	292.75	0.35
4500.00	0.37	322.04	4499.79	100.00	6.47	3.02 N	6.47 W	32.93511173 N	104.09108682 W	7.14@	295.05	0.06
4600.00	0.32	332.16	4599.79	100.00	6.80	3.52 N	6.80 W	32.93511311 N	104.09108789 W	7.66@	297.41	0.08
4700.00	0.30	333.65	4699.79	100.00	7.04	4.01 N	7.04 W	32.93511443 N	104.09108869 W	8.10@	299.63	0.02
4800.00	0.23	328.30	4799.79	100.00	7.26	4.41 N	7.27 W	32.93511555 N	104.09108941 W	8.50@	301.27	0.07
4900.00	0.27	330.51	4899.79	100.00	7.49	4.79 N	7.49 W	32.93511658 N	104.09109013 W	8.89@	302.60	0.04
5000.00	0.15	7.98	4999.79	100.00	7.58	5.12 N	7.59 W	32.93511750 N	104.09109045 W	9.15@	304.03	0.18

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Giants Federal Com #1H
Eddy COUNTY, New Mexico
RIG:Silver Oak 2

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 Dir (ft) (deg)		DLS (dg/100ft)
5100.00	0.19	340.19	5099.78	100.00	7.62	5.41 N	7.62 W	32.93511829 N	104.09109057 W	9.35@	305.35	0.09
5200.00	0.30	295.09	5199.78	100.00	7.91	5.67 N	7.92 W	32.93511902 N	104.09109152 W	9.74@	305.63	0.21
5300.00	0.24	269.22	5299.78	100.00	8.36	5.78 N	8.36 W	32.93511932 N	104.09109298 W	10.17@	304.66	0.13
5400.00	0.19	255.20	5399.78	100.00	8.73	5.74 N	8.73 W	32.93511920 N	104.09109418 W	10.45@	303.31	0.07
5500.00	0.15	259.56	5499.78	100.00	9.02	5.67 N	9.02 W	32.93511902 N	104.09109513 W	10.66@	302.16	0.04
5600.00	0.18	277.49	5599.78	100.00	9.30	5.67 N	9.31 W	32.93511902 N	104.09109605 W	10.90@	301.35	0.06
5700.00	0.07	18.16	5699.78	100.00	9.44	5.75 N	9.44 W	32.93511923 N	104.09109650 W	11.05@	301.33	0.20
5800.00	0.14	63.43	5799.78	100.00	9.31	5.86 N	9.31 W	32.93511954 N	104.09109608 W	11.00@	302.17	0.10
5900.00	0.10	66.05	5899.78	100.00	9.12	5.95 N	9.13 W	32.93511979 N	104.09109546 W	10.89@	303.10	0.04
6000.00	0.19	98.52	5999.78	100.00	8.88	5.96 N	8.88 W	32.93511982 N	104.09109467 W	10.70@	303.87	0.12
** TIED INTO SCIENTIFIC DRILLING GYROSCOPIC MULTI-SHOT SURVEYS AT 6040' MD.												
6040.00	0.40	102.76	6039.78	40.00	8.68	5.92 N	8.68 W	32.93511970 N	104.09109401 W	10.51@	304.30	0.53
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.												
6102.00	0.26	117.82	6101.78	62.00	8.34	5.81 N	8.34 W	32.93511939 N	104.09109292 W	10.17@	304.83	0.26
6197.00	0.35	50.93	6196.78	95.00	7.93	5.89 N	7.93 W	32.93511961 N	104.09109156 W	9.88@	306.60	0.36
6292.00	0.35	118.45	6291.78	95.00	7.45	5.93 N	7.45 W	32.93511973 N	104.09109000 W	9.52@	308.54	0.41
6388.00	0.35	93.25	6387.77	96.00	6.90	5.78 N	6.90 W	32.93511930 N	104.09108820 W	9.00@	309.95	0.16
6420.00	0.53	267.39	6419.77	32.00	6.95	5.76 N	6.95 W	32.93511927 N	104.09108837 W	9.03@	309.68	2.75
6452.00	3.96	259.49	6451.74	32.00	8.18	5.56 N	8.18 W	32.93511870 N	104.09109239 W	9.89@	304.18	10.74
6484.00	8.35	258.33	6483.55	32.00	11.54	4.88 N	11.55 W	32.93511688 N	104.09110336 W	12.54@	292.93	13.72
6516.00	12.93	260.92	6514.99	32.00	17.36	3.85 N	17.36 W	32.93511407 N	104.09112232 W	17.78@	282.50	14.39
6547.00	16.18	262.56	6545.00	31.00	25.07	2.74 N	25.07 W	32.93511107 N	104.09114745 W	25.22@	276.24	10.57
6579.00	16.44	263.38	6575.71	32.00	33.99	1.64 N	33.99 W	32.93510811 N	104.09117653 W	34.03@	272.77	1.09
6611.00	16.80	263.70	6606.37	32.00	43.08	0.61 N	43.08 W	32.93510533 N	104.09120618 W	43.09@	270.82	1.16
6643.00	19.61	261.57	6636.77	32.00	52.99	0.68 S	52.99 W	32.93510184 N	104.09123849 W	53.00@	269.26	9.02
6674.00	22.86	264.38	6665.66	31.00	64.14	2.03 S	64.14 W	32.93509819 N	104.09127482 W	64.17@	268.18	10.98
6706.00	23.04	265.61	6695.13	32.00	76.57	3.12 S	76.56 W	32.93509528 N	104.09131534 W	76.63@	267.66	1.60

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Giants Federal Com #1H
Eddy COUNTY, New Mexico
RIG:Silver Oak 2

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)
6738.00	23.74	271.01	6724.50	32.00	89.25	3.49 S	89.25 W	32.93509435 N	104.09135669 W	89.32@	267.76	7.04
6770.00	26.73	272.59	6753.44	32.00	102.88	3.05 S	102.88 W	32.93509564 N	104.09140112 W	102.93@	268.30	9.58
6801.00	30.95	269.82	6780.59	31.00	117.83	2.76 S	117.83 W	32.93509654 N	104.09144982 W	117.86@	268.66	14.28
6833.00	35.26	269.47	6807.39	32.00	135.30	2.87 S	135.30 W	32.93509634 N	104.09150678 W	135.33@	268.78	13.48
6865.00	39.39	269.45	6832.83	32.00	154.70	3.05 S	154.70 W	32.93509596 N	104.09157000 W	154.73@	268.87	12.91
6897.00	43.35	267.53	6856.84	32.00	175.83	3.62 S	175.83 W	32.93509452 N	104.09163889 W	175.87@	268.82	12.99
6929.00	47.31	267.52	6879.34	32.00	198.57	4.61 S	198.56 W	32.93509197 N	104.09171299 W	198.62@	268.67	12.37
6960.00	50.21	267.59	6899.77	31.00	221.85	5.60 S	221.85 W	32.93508938 N	104.09178890 W	221.92@	268.55	9.36
6992.00	53.82	268.36	6919.46	32.00	247.06	6.49 S	247.05 W	32.93508710 N	104.09187104 W	247.14@	268.50	11.44
7024.00	57.33	268.36	6937.55	32.00	273.44	7.24 S	273.43 W	32.93508519 N	104.09195703 W	273.53@	268.48	10.97
7056.00	61.91	268.45	6953.73	32.00	301.02	8.01 S	301.02 W	32.93508326 N	104.09204696 W	301.13@	268.48	14.31
7087.00	64.10	268.27	6967.80	31.00	328.63	8.80 S	328.63 W	32.93508125 N	104.09213695 W	328.75@	268.47	7.08
7119.00	64.19	268.19	6981.75	32.00	357.42	9.69 S	357.41 W	32.93507899 N	104.09223077 W	357.55@	268.45	0.36
7151.00	64.37	268.45	6995.64	32.00	386.24	10.54 S	386.23 W	32.93507685 N	104.09232470 W	386.38@	268.44	0.92
7183.00	68.59	268.63	7008.41	32.00	415.56	11.28 S	415.56 W	32.93507498 N	104.09242029 W	415.71@	268.44	13.20
7214.00	72.98	268.27	7018.61	31.00	444.82	12.08 S	444.81 W	32.93507299 N	104.09251565 W	444.98@	268.44	14.20
7248.00	77.49	267.15	7027.27	34.00	477.66	13.39 S	477.65 W	32.93506957 N	104.09262270 W	477.84@	268.39	13.64
7280.00	81.97	267.66	7032.97	32.00	509.11	14.82 S	509.10 W	32.93506586 N	104.09272521 W	509.32@	268.33	14.09
7312.00	84.51	267.45	7036.74	32.00	540.85	16.17 S	540.85 W	32.93506233 N	104.09282869 W	541.09@	268.29	7.96
7344.00	88.82	268.97	7038.60	32.00	572.77	17.17 S	572.77 W	32.93505979 N	104.09293274 W	573.03@	268.28	14.28
7375.00	92.58	269.91	7038.22	31.00	603.76	17.47 S	603.76 W	32.93505915 N	104.09303375 W	604.01@	268.34	12.50
7407.00	93.19	270.23	7036.61	32.00	635.72	17.43 S	635.72 W	32.93505946 N	104.09313792 W	635.96@	268.43	2.15
7439.00	93.25	269.85	7034.82	32.00	667.67	17.41 S	667.67 W	32.93505972 N	104.09324205 W	667.89@	268.51	1.20
7470.00	92.74	269.69	7033.20	31.00	698.63	17.54 S	698.62 W	32.93505957 N	104.09334295 W	698.84@	268.56	1.72
7502.00	92.74	269.81	7031.67	32.00	730.59	17.67 S	730.59 W	32.93505939 N	104.09344713 W	730.80@	268.61	0.37
7534.00	92.29	268.91	7030.26	32.00	762.56	18.03 S	762.55 W	32.93505861 N	104.09355133 W	762.77@	268.65	3.14
7566.00	92.41	269.11	7028.95	32.00	794.53	18.58 S	794.52 W	32.93505729 N	104.09365552 W	794.74@	268.66	0.73

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Giants Federal Com #1H
Eddy COUNTY, New Mexico
RIG: Silver Oak 2

Page 05/08

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)
7597.00	90.89	268.78	7028.06	31.00	825.51	19.16 S	825.50 W	32.93505591 N	104.09375651 W	825.73@	268.67	5.02
7629.00	90.50	269.40	7027.67	32.00	857.50	19.66 S	857.50 W	32.93505472 N	104.09386079 W	857.72@	268.69	2.29
7661.00	90.22	269.56	7027.47	32.00	889.50	19.95 S	889.49 W	32.93505412 N	104.09396508 W	889.72@	268.71	1.01
7692.00	89.83	270.48	7027.45	31.00	920.50	19.94 S	920.49 W	32.93505434 N	104.09406612 W	920.71@	268.76	3.22
7724.00	89.78	270.93	7027.56	32.00	952.50	19.55 S	952.49 W	32.93505562 N	104.09417041 W	952.69@	268.82	1.41
7756.00	88.55	271.37	7028.03	32.00	984.49	18.91 S	984.48 W	32.93505759 N	104.09427467 W	984.66@	268.90	4.08
7788.00	88.60	271.88	7028.83	32.00	1016.47	18.00 S	1016.46 W	32.93506028 N	104.09437889 W	1016.62@	268.99	1.60
7819.00	88.38	271.90	7029.64	31.00	1047.44	16.98 S	1047.43 W	32.93506328 N	104.09447983 W	1047.57@	269.07	0.71
7851.00	88.38	271.53	7030.55	32.00	1079.41	16.02 S	1079.40 W	32.93506611 N	104.09458403 W	1079.52@	269.15	1.16
7883.00	88.60	271.75	7031.39	32.00	1111.38	15.10 S	1111.38 W	32.93506883 N	104.09468824 W	1111.48@	269.22	0.97
7915.00	88.99	271.43	7032.06	32.00	1143.36	14.22 S	1143.36 W	32.93507147 N	104.09479247 W	1143.45@	269.29	1.58
7946.00	89.38	271.18	7032.50	31.00	1174.35	13.51 S	1174.35 W	32.93507360 N	104.09489347 W	1174.43@	269.34	1.49
7978.00	89.72	271.14	7032.76	32.00	1206.35	12.86 S	1206.34 W	32.93507558 N	104.09499774 W	1206.41@	269.39	1.07
8010.00	89.83	271.02	7032.88	32.00	1238.34	12.26 S	1238.34 W	32.93507744 N	104.09510202 W	1238.40@	269.43	0.51
8042.00	90.06	270.66	7032.91	32.00	1270.34	11.79 S	1270.33 W	32.93507893 N	104.09520630 W	1270.39@	269.47	1.34
8073.00	90.78	270.57	7032.68	31.00	1301.33	11.46 S	1301.33 W	32.93508003 N	104.09530733 W	1301.38@	269.50	2.34
8105.00	91.01	270.03	7032.19	32.00	1333.33	11.29 S	1333.32 W	32.93508069 N	104.09541161 W	1333.37@	269.51	1.83
8137.00	90.84	270.20	7031.67	32.00	1365.32	11.23 S	1365.32 W	32.93508107 N	104.09551589 W	1365.37@	269.53	0.75
8169.00	90.73	269.88	7031.23	32.00	1397.32	11.20 S	1397.32 W	32.93508133 N	104.09562018 W	1397.36@	269.54	1.06
8200.00	90.28	270.45	7030.96	31.00	1428.32	11.12 S	1428.32 W	32.93508176 N	104.09572122 W	1428.36@	269.55	2.34
8232.00	90.00	270.00	7030.88	32.00	1460.32	10.99 S	1460.31 W	32.93508231 N	104.09582551 W	1460.36@	269.57	1.66
8264.00	89.72	270.19	7030.96	32.00	1492.32	10.94 S	1492.31 W	32.93508265 N	104.09592981 W	1492.36@	269.58	1.06
8296.00	89.61	270.21	7031.14	32.00	1524.32	10.82 S	1524.31 W	32.93508316 N	104.09603411 W	1524.35@	269.59	0.35
8327.00	89.55	270.35	7031.37	31.00	1555.32	10.67 S	1555.31 W	32.93508376 N	104.09613514 W	1555.35@	269.61	0.49
8359.00	91.40	270.26	7031.11	32.00	1587.31	10.50 S	1587.31 W	32.93508443 N	104.09623943 W	1587.34@	269.62	5.79
8391.00	91.73	269.93	7030.23	32.00	1619.30	10.45 S	1619.30 W	32.93508477 N	104.09634369 W	1619.33@	269.63	1.46
8423.00	91.57	269.85	7029.31	32.00	1651.29	10.51 S	1651.28 W	32.93508480 N	104.09644795 W	1651.32@	269.64	0.56

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Giants Federal Com #1H
Eddy COUNTY, New Mexico
RIG: Silver Oak 2

Page 06/08

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)
8454.00	91.29	270.38	7028.54	31.00	1682.28	10.45 S	1682.28 W	32.93508517 N	104.09654895 W	1682.31@	269.64	1.93
8486.00	91.51	269.88	7027.76	32.00	1714.27	10.38 S	1714.26 W	32.93508556 N	104.09665322 W	1714.30@	269.65	1.71
8518.00	90.84	271.11	7027.10	32.00	1746.26	10.10 S	1746.26 W	32.93508652 N	104.09675749 W	1746.29@	269.67	4.38
8549.00	90.73	270.57	7026.67	31.00	1777.25	9.65 S	1777.25 W	32.93508796 N	104.09685850 W	1777.28@	269.69	1.78
8581.00	90.56	270.76	7026.31	32.00	1809.25	9.27 S	1809.25 W	32.93508918 N	104.09696279 W	1809.27@	269.71	0.80
8613.00	90.39	271.39	7026.05	32.00	1841.24	8.67 S	1841.24 W	32.93509103 N	104.09706706 W	1841.26@	269.73	2.04
8645.00	90.17	271.46	7025.89	32.00	1873.23	7.88 S	1873.23 W	32.93509341 N	104.09717132 W	1873.25@	269.76	0.72
8676.00	89.94	271.11	7025.86	31.00	1904.22	7.18 S	1904.22 W	32.93509551 N	104.09727233 W	1904.23@	269.78	1.35
8708.00	89.66	270.31	7025.97	32.00	1936.22	6.79 S	1936.22 W	32.93509680 N	104.09737661 W	1936.23@	269.80	2.65
8740.00	89.61	270.20	7026.18	32.00	1968.22	6.64 S	1968.22 W	32.93509739 N	104.09748091 W	1968.23@	269.81	0.38
8772.00	89.33	269.93	7026.47	32.00	2000.22	6.61 S	2000.22 W	32.93509768 N	104.09758520 W	2000.23@	269.81	1.22
8803.00	89.66	269.95	7026.75	31.00	2031.22	6.64 S	2031.21 W	32.93509779 N	104.09768624 W	2031.22@	269.81	1.07
8835.00	90.73	269.40	7026.64	32.00	2063.21	6.82 S	2063.21 W	32.93509748 N	104.09779053 W	2063.22@	269.81	3.76
8867.00	90.95	270.02	7026.17	32.00	2095.21	6.98 S	2095.21 W	32.93509723 N	104.09789482 W	2095.22@	269.81	2.06
8898.00	91.23	269.48	7025.58	31.00	2126.20	7.12 S	2126.20 W	32.93509705 N	104.09799584 W	2126.21@	269.81	1.96
8930.00	91.40	269.66	7024.85	32.00	2158.20	7.36 S	2158.19 W	32.93509659 N	104.09810011 W	2158.21@	269.80	0.77
8962.00	91.57	270.00	7024.02	32.00	2190.19	7.45 S	2190.18 W	32.93509652 N	104.09820438 W	2190.20@	269.81	1.19
8994.00	91.90	270.24	7023.05	32.00	2222.17	7.39 S	2222.17 W	32.93509690 N	104.09830863 W	2222.18@	269.81	1.28
9025.00	91.90	270.46	7022.02	31.00	2253.15	7.20 S	2253.15 W	32.93509761 N	104.09840961 W	2253.16@	269.82	0.71
9057.00	92.18	270.90	7020.88	32.00	2285.13	6.82 S	2285.13 W	32.93509885 N	104.09851383 W	2285.14@	269.83	1.63
9089.00	91.45	270.11	7019.87	32.00	2317.11	6.54 S	2317.11 W	32.93509982 N	104.09861807 W	2317.12@	269.84	3.36
9121.00	91.18	270.59	7019.13	32.00	2349.10	6.34 S	2349.10 W	32.93510056 N	104.09872234 W	2349.11@	269.85	1.72
9152.00	91.06	270.99	7018.53	31.00	2380.09	5.91 S	2380.09 W	32.93510192 N	104.09882334 W	2380.10@	269.86	1.35
9184.00	91.40	270.50	7017.84	32.00	2412.08	5.50 S	2412.08 W	32.93510326 N	104.09892761 W	2412.09@	269.87	1.86
9216.00	91.06	271.96	7017.15	32.00	2444.07	4.81 S	2444.07 W	32.93510534 N	104.09903185 W	2444.07@	269.89	4.68
9247.00	91.18	272.07	7016.55	31.00	2475.04	3.72 S	2475.04 W	32.93510853 N	104.09913280 W	2475.04@	269.91	0.53
9279.00	91.23	271.95	7015.87	32.00	2507.01	2.60 S	2507.01 W	32.93511181 N	104.09923701 W	2507.02@	269.94	0.41

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Giants Federal Com #1H
Eddy COUNTY, New Mexico
RIG: Silver Oak 2

Page 07/08

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)
9311.00	91.06	271.40	7015.23	32.00	2538.99	1.66 S	2538.99 W	32.93511457 N	104.09934123 W	2538.99@	269.96	1.80
9343.00	89.50	270.74	7015.08	32.00	2570.99	1.07 S	2570.99 W	32.93511641 N	104.09944550 W	2570.99@	269.98	5.29
9374.00	89.16	269.98	7015.44	31.00	2601.98	0.87 S	2601.98 W	32.93511714 N	104.09954653 W	2601.98@	269.98	2.69
9406.00	89.38	270.46	7015.85	32.00	2633.98	0.75 S	2633.98 W	32.93511767 N	104.09965082 W	2633.98@	269.98	1.65
9438.00	89.61	270.10	7016.13	32.00	2665.98	0.59 S	2665.98 W	32.93511829 N	104.09975511 W	2665.98@	269.99	1.33
9470.00	89.83	270.52	7016.29	32.00	2697.98	0.42 S	2697.98 W	32.93511896 N	104.09985941 W	2697.98@	269.99	1.48
9502.00	90.06	270.66	7016.32	32.00	2729.98	0.09 S	2729.98 W	32.93512006 N	104.09996370 W	2729.98@	270.00	0.84
9533.00	89.05	271.63	7016.56	31.00	2760.97	0.53 N	2760.97 W	32.93512196 N	104.10006471 W	2760.97@	270.01	4.52
9565.00	88.49	271.86	7017.24	32.00	2792.94	1.50 N	2792.95 W	32.93512483 N	104.10016893 W	2792.95@	270.03	1.89
9597.00	88.83	271.86	7017.99	32.00	2824.92	2.54 N	2824.92 W	32.93512788 N	104.10027313 W	2824.92@	270.05	1.06
9629.00	88.71	270.59	7018.68	32.00	2856.90	3.23 N	2856.90 W	32.93512995 N	104.10037738 W	2856.91@	270.06	3.99
9660.00	88.66	271.04	7019.39	31.00	2887.89	3.67 N	2887.89 W	32.93513135 N	104.10047838 W	2887.90@	270.07	1.46
9692.00	88.54	271.07	7020.17	32.00	2919.88	4.26 N	2919.88 W	32.93513316 N	104.10058262 W	2919.88@	270.08	0.39
9723.00	88.49	271.34	7020.98	31.00	2950.86	4.91 N	2950.86 W	32.93513514 N	104.10068360 W	2950.86@	270.10	0.89
9755.00	89.44	272.03	7021.55	32.00	2982.84	5.85 N	2982.84 W	32.93513792 N	104.10078783 W	2982.85@	270.11	3.67
9787.00	90.00	272.44	7021.71	32.00	3014.81	7.10 N	3014.82 W	32.93514155 N	104.10089204 W	3014.83@	270.13	2.17
9818.00	91.51	272.77	7021.30	31.00	3045.78	8.51 N	3045.78 W	32.93514561 N	104.10099295 W	3045.79@	270.16	4.99
9850.00	92.07	272.50	7020.30	32.00	3077.73	9.98 N	3077.73 W	32.93514984 N	104.10109708 W	3077.75@	270.19	1.94
9882.00	92.18	273.29	7019.12	32.00	3109.66	11.59 N	3109.67 W	32.93515448 N	104.10120116 W	3109.69@	270.21	2.49
9914.00	90.89	271.11	7018.26	32.00	3141.63	12.82 N	3141.63 W	32.93515804 N	104.10136533 W	3141.66@	270.23	7.91
9945.00	90.34	270.68	7017.93	31.00	3172.62	13.30 N	3172.63 W	32.93515956 N	104.10140635 W	3172.65@	270.24	2.25
9977.00	90.67	270.14	7017.64	32.00	3204.62	13.53 N	3204.62 W	32.93516038 N	104.10151064 W	3204.65@	270.24	1.98
10009.00	90.45	269.49	7017.33	32.00	3236.62	13.43 N	3236.62 W	32.93516029 N	104.10161493 W	3236.65@	270.24	2.14
10041.00	90.45	270.05	7017.08	32.00	3268.61	13.30 N	3268.62 W	32.93516013 N	104.10171923 W	3268.65@	270.23	1.75
10072.00	90.67	270.17	7016.78	31.00	3299.61	13.36 N	3299.62 W	32.93516048 N	104.10182026 W	3299.64@	270.23	0.81
10104.00	90.73	270.07	7016.39	32.00	3331.61	13.43 N	3331.62 W	32.93516086 N	104.10192455 W	3331.64@	270.23	0.36
10136.00	91.06	269.55	7015.89	32.00	3363.61	13.32 N	3363.61 W	32.93516076 N	104.10202884 W	3363.64@	270.23	1.92

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Giants Federal Com #1H
Eddy COUNTY, New Mexico
RIG:Silver Oak 2

Page 08/08

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)
10168.00	91.17	269.87	7015.26	32.00	3395.60	13.16 N	3395.60 W	32.93516051 N	104.10213312 W	3395.63@	270.22	1.06
10199.00	90.67	270.42	7014.77	31.00	3426.60	13.24 N	3426.60 W	32.93516091 N	104.10223414 W	3426.63@	270.22	2.40
10231.00	90.67	269.87	7014.39	32.00	3458.59	13.32 N	3458.60 W	32.93516133 N	104.10233843 W	3458.62@	270.22	1.72
10263.00	90.73	270.07	7014.00	32.00	3490.59	13.30 N	3490.60 W	32.93516148 N	104.10244272 W	3490.62@	270.22	0.65
10294.00	90.67	270.06	7013.62	31.00	3521.59	13.34 N	3521.59 W	32.93516176 N	104.10254376 W	3521.62@	270.22	0.20
10326.00	90.56	270.08	7013.28	32.00	3553.59	13.38 N	3553.59 W	32.93516206 N	104.10264805 W	3553.62@	270.22	0.35
10358.00	90.62	269.81	7012.95	32.00	3585.58	13.34 N	3585.59 W	32.93516217 N	104.10275234 W	3585.61@	270.21	0.86
10390.00	90.45	270.17	7012.65	32.00	3617.58	13.34 N	3617.59 W	32.93516234 N	104.10285664 W	3617.61@	270.21	1.24
10421.00	90.45	270.04	7012.41	31.00	3648.58	13.40 N	3648.59 W	32.93516269 N	104.10295767 W	3648.61@	270.21	0.42
10453.00	90.22	270.38	7012.22	32.00	3680.58	13.51 N	3680.59 W	32.93516320 N	104.10306197 W	3680.61@	270.21	1.28
10485.00	89.83	270.47	7012.21	32.00	3712.58	13.75 N	3712.58 W	32.93516405 N	104.10316626 W	3712.61@	270.21	1.25
10516.00	89.66	270.54	7012.34	31.00	3743.58	14.02 N	3743.58 W	32.93516498 N	104.10326730 W	3743.61@	270.21	0.59
10548.00	89.72	270.19	7012.52	32.00	3775.58	14.23 N	3775.58 W	32.93516574 N	104.10337159 W	3775.61@	270.22	1.11
10580.00	88.88	269.47	7012.91	32.00	3807.57	14.13 N	3807.58 W	32.93516567 N	104.10347588 W	3807.61@	270.21	3.46
10612.00	88.94	269.09	7013.52	32.00	3839.57	13.73 N	3839.57 W	32.93516475 N	104.10358016 W	3839.60@	270.20	1.20
10643.00	89.22	268.78	7014.01	31.00	3870.56	13.15 N	3870.56 W	32.93516336 N	104.10368117 W	3870.58@	270.19	1.35
10675.00	89.72	268.86	7014.31	32.00	3902.55	12.50 N	3902.55 W	32.93516174 N	104.10378545 W	3902.57@	270.18	1.58
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 10759' MD.												
10759.00	89.72	268.88	7014.72	84.00	3986.53	10.84 N	3986.54 W	32.93515768 N	104.10405919 W	3986.55@	270.16	0.02

** 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.