

Results of Directional Survey

API number:	30-005-29143		
OGRID:		Operator:	MACK ENERGY CORP
		Property:	MICKY FEDERAL COM # 1H

surface	ULSTR:	H	27	T	15S	R	30E
				1830	FNL	460	FEL

BH Loc	ULSTR:	D	27	T	15S	R	30E
13031	MD	9054.5	TVD	952	FNL	4383	FEL

Top Perf/OH	ULSTR:	H	27	T	15S	R	30E
9843	MD	9190.3	TVD	952	FNL	1203	FEL

Bot Perf/OH	ULSTR:	D	27	T	15S	R	30E
12704	MD	9057.3	TVD	955	FNL	4057	FEL

	MD	N/S	E/W	VD
	9830	877.14	-729.74	9190.37
TOP PERFS/OH	9843	877.77	-742.72	9190.32
	9862	878.68	-761.70	9190.24
	12697	875.38	-3589.52	9057.44
BOT PERFS/OH	12704	875.48	-3596.52	9057.31
	12728	875.84	-3620.51	9056.86

NEXT TO LAST	12951	877.70	-3843.48	9054.54
LAST READING	12975	877.90	-3867.48	9054.54
TD	13031	878.37	-3923.48	9054.54

Surface Location	1830	FN	460	FE
Projected BHL	952	FN	4383	FE
Location of				
Top Perfs/OH	952	FN	1203	FE
Bottom Perfs/OH	955	FN	4057	FE

SUMMARY of Subsurface Locations

Surface Location	H-27-15S-30E	1830	FN	460	FE	Vert. Depth
Top Perfs/OH	H-27-15S-30E	952	FN	1203	FE	9190.32
Bottom Perfs/OH	D-27-15S-30E	955	FN	4057	FE	9057.31
Projected TD	D-27-15S-30E	952	FN	4383	FE	9054.54

RECEIVED

JAN 26 2011
HOBBSOCD

DIRECTIONAL SURVEY REPORT

MACK ENERGY CORPORATION

MICKEY FEDERAL COM #1H

CHAVES COUNTY, NM

SUR @ H-27-15s-30e, 1830/N & 460/E
BHL @ D-27-15s-30e, 952/N & 4383/E
API # 30-005-29143

PREPARED BY: PHIL LEBLANC

RECEIVED

JAN 25 2011

NMOCD ARTESIA

SCANNED

SMITH



December 17, 2010

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

RE: MACK ENERGY CORPORATION
MICKEY FEDERAL COM #1H
CHAVES COUNTY, NM
RIG: SILVER OAK #7
API Well No.: 30-005-29143
PES Job No.: 700000477-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,

Phil LeBlanc
M/LWD Service Coordinator
PathFinder Energy Services

PL:ll

SCANNED 

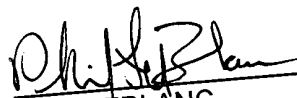
DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
 - A) PRITHWISH DAS
 - B) RUSTY HAINES
 - C) PETE SENDEJO
 - D) CHARLIE JONES
 - E) RICKY DE LEON
3. POSITION OF SAID PERSON(S): (A-E) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 10/10/10 TO 11/26/10
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
MICKEY FEDERAL COM #1H
CHAVES COUNTY, NM
RIG: SILVER OAK #7
API Well No.: 30-005-29143

9. SURVEY(S) CERTIFIED FROM: 2,488 TO 13,031 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4,020.56 FEET ON A BEARING OF 282.62 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 13,031 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



PHIL LEBLANC
M/LWD SERVICE COORDINATOR

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PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 10/10/2010
Date Completed: 11/26/2010

MACK ENERGY CORPORATION
MICKEY FEDERAL COM #1H
CHAVES COUNTY, NEW MEXICO
Rig: SILVER OAK 7
PathFinder Office Supervisor: PHIL LEBLANC
PathFinder Field Engineers: RICKY DELEON
RUSTY HAINES
PETE SENDEJO

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.59.20.4180 N LON: 103.54.18.9888 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 631252.4000 Y: 723779.6000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.65° EAST TO GRID
Vertical Section Plane: 280.95
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude: 4081.00' Ground To MSL

Measured Depth	13031.00	(feet)
Inclination	90.34	(deg)
Azimuth	270.30	(deg)
True Vertical Depth	9053.97	(feet)
Vertical Section	4018.86	(feet)
Survey X cord	627328.92	(feet)
Survey Y cord	724657.79	(feet)
Survey Lat	32.99146198 N	(deg)
Survey Lon	103.91805888 W	(deg)
Rectangular Corr. N/S	878.19 N	(feet)
Rectangular Corr. E/W	3923.48 W	(feet)
Closure Distance	4020.56	(feet)
Direction of Closure	282.62	(deg)
Dogleg Severity	0.00	(deg/100ft)

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PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
MICKEY FEDERAL COM #1H
CHAVES COUNTY, NEW MEXICO
Rig: SILVER OAK 7

PathFinder Office Supervisor: PHIL LEBLANC
PathFinder Field Engineers: RICKY DELEON
RUSTY HAINES
PETE SENDEJO

CHARLIE JONES

Survey Calculations by RX5 V6.03B using Minimum Curvature

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.59.20.4180 N LON: 103.54.18.9888 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 631252.4000 Y: 723779.6000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.65° EAST TO GRID
Vertical Section Plane: 280.95
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude: 4081.00' Ground To MSL

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)	(ft)			(ft)	(deg)	
THE FOLLOWING ARE NAVIGATE ENERGY GRYOSCOPIC MULTI-SHOT SURVEYS.												
192.00	0.30	94.20	192.00	0.00	-0.50	0.04 S	0.50 E	32.98900488 N	103.90527303 W	0.50@	94.08	0.00
377.00	0.10	92.00	377.00	185.00	-1.14	0.08 S	1.15 E	32.98900476 N	103.90527093 W	1.15@	93.84	0.11
521.00	0.40	136.00	521.00	144.00	-1.68	0.44 S	1.62 E	32.98900375 N	103.90526939 W	1.68@	105.28	0.23
727.00	0.30	58.00	726.99	206.00	-2.66	0.67 S	2.58 E	32.98900310 N	103.90526627 W	2.67@	104.66	0.22
944.00	0.70	88.30	943.99	217.00	-4.37	0.33 S	4.39 E	32.98900402 N	103.90526037 W	4.40@	94.36	0.21
1222.00	1.00	96.20	1221.95	278.00	-8.44	0.55 S	8.49 E	32.98900339 N	103.90524697 W	8.51@	93.67	0.12
1438.00	2.00	93.10	1437.88	216.00	-14.06	0.95 S	14.13 E	32.98900221 N	103.90522859 W	14.16@	93.86	0.46
1592.00	2.70	78.50	1591.75	154.00	-20.07	0.38 S	20.37 E	32.98900373 N	103.90520824 W	20.37@	91.06	0.59
1654.00	2.60	70.00	1653.68	62.00	-22.63	0.40 N	23.12 E	32.98900582 N	103.90519926 W	23.13@	89.02	0.65
1746.00	2.50	70.70	1745.59	92.00	-26.15	1.77 N	26.98 E	32.98900956 N	103.90518667 W	27.04@	86.24	0.11
1838.00	2.00	70.40	1837.52	92.00	-29.26	2.98 N	30.38 E	32.98901283 N	103.90517554 W	30.53@	84.41	0.54
1931.00	1.30	64.80	1930.48	93.00	-31.51	3.97 N	32.87 E	32.98901553 N	103.90516743 W	33.11@	83.11	0.77
2024.00	0.90	72.80	2023.46	93.00	-33.01	4.63 N	34.52 E	32.98901734 N	103.90516203 W	34.83@	82.35	0.46
2116.00	0.70	59.90	2115.45	92.00	-34.07	5.13 N	35.69 E	32.98901869 N	103.90515819 W	36.06@	81.82	0.29
2208.00	0.60	71.20	2207.45	92.00	-34.91	5.57 N	36.64 E	32.98901988 N	103.90515511 W	37.06@	81.36	0.18
2302.00	0.40	55.00	2301.45	94.00	-35.57	5.91 N	37.37 E	32.98902082 N	103.90515271 W	37.84@	81.01	0.26
2395.00	0.50	21.20	2394.44	93.00	-35.87	6.48 N	37.78 E	32.98902237 N	103.90515136 W	38.34@	80.27	0.30
**	TIED INTO NAVIGATE ENERGY GYROSCOPIC MULTI-SHOT SURVEYS.											
2488.00	0.40	25.30	2487.44	93.00	-36.02	7.15 N	38.07 E	32.98902421 N	103.90515042 W	38.74@	79.36	0.11
THE FOLLOWING ARE PATHFINDER SURVEYS.												
2720.00	0.44	71.31	2719.43	232.00	-36.99	8.17 N	39.26 E	32.98902700 N	103.90514652 W	40.10@	78.25	0.14
2907.00	0.35	108.73	2906.43	187.00	-38.18	8.21 N	40.48 E	32.98902711 N	103.90514254 W	41.31@	78.53	0.14
3093.00	0.09	83.92	3092.43	186.00	-38.89	8.05 N	41.16 E	32.98902665 N	103.90514032 W	41.94@	78.94	0.14
3280.00	0.26	140.60	3279.43	187.00	-39.35	7.74 N	41.58 E	32.98902578 N	103.90513896 W	42.29@	79.46	0.12
3476.00	0.09	154.62	3475.43	196.00	-39.79	7.25 N	41.93 E	32.98902445 N	103.90513784 W	42.55@	80.19	0.09

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PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
MICKEY FEDERAL COM #1H
CHAVES COUNTY, NEW MEXICO
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)
3662.00	0.09	46.52	3661.43	186.00	-39.96	7.22 N	42.10 E	32.98902436 N	103.90513729 W	42.71@	80.27	0.08
3817.00	0.26	320.44	3816.43	155.00	-39.76	7.58 N	41.96 E	32.98902534 N	103.90513772 W	42.64@	79.77	0.17
3848.00	0.70	343.69	3847.42	31.00	-39.62	7.81 N	41.86 E	32.98902599 N	103.90513804 W	42.59@	79.43	1.52
3942.00	3.43	337.65	3941.36	94.00	-37.81	10.96 N	40.63 E	32.98903467 N	103.90514201 W	42.09@	74.90	2.91
4035.00	3.52	339.73	4034.18	93.00	-34.80	16.22 N	38.59 E	32.98904912 N	103.90514862 W	41.85@	67.21	0.17
4128.00	4.92	353.37	4126.93	93.00	-32.12	22.86 N	37.14 E	32.98906739 N	103.90515326 W	43.61@	58.39	1.84
4222.00	4.84	354.28	4220.59	94.00	-29.76	30.81 N	36.27 E	32.98908925 N	103.90515596 W	47.59@	49.66	0.12
4284.00	5.45	353.24	4282.34	62.00	-28.12	36.33 N	35.67 E	32.98910445 N	103.90515787 W	50.91@	44.47	1.00
4346.00	6.24	346.38	4344.02	62.00	-25.82	42.53 N	34.53 E	32.98912150 N	103.90516150 W	54.78@	39.07	1.70
4408.00	7.65	343.30	4405.56	62.00	-22.50	49.76 N	32.55 E	32.98914139 N	103.90516786 W	59.46@	33.19	2.35
4471.00	8.79	346.02	4467.91	63.00	-18.53	58.45 N	30.18 E	32.98916529 N	103.90517547 W	65.78@	27.31	1.91
4533.00	10.46	346.93	4529.04	62.00	-14.24	68.53 N	27.76 E	32.98919303 N	103.90518322 W	73.94@	22.05	2.71
4595.00	12.05	350.42	4589.85	62.00	-9.68	80.39 N	25.41 E	32.98922566 N	103.90519072 W	84.31@	17.54	2.79
4658.00	13.19	351.76	4651.32	63.00	-5.01	93.99 N	23.29 E	32.98926306 N	103.90519747 W	96.83@	13.92	1.87
4720.00	14.51	351.16	4711.52	62.00	-0.06	108.66 N	21.08 E	32.98930342 N	103.90520448 W	110.69@	10.98	2.14
4782.00	15.65	348.61	4771.38	62.00	5.75	124.54 N	18.24 E	32.98934709 N	103.90521355 W	125.87@	8.33	2.13
4848.00	16.71	347.14	4834.77	66.00	12.97	142.52 N	14.37 E	32.98939654 N	103.90522593 W	143.24@	5.76	1.72
4938.00	16.88	346.44	4920.93	90.00	23.61	167.83 N	8.42 E	32.98946619 N	103.90524498 W	168.04@	2.87	0.29
5032.00	16.36	350.19	5011.01	94.00	33.97	194.15 N	2.97 E	32.98953858 N	103.90526242 W	194.17@	0.88	1.27
5125.00	15.48	356.19	5100.44	93.00	41.77	219.44 N	0.09 W	32.98960813 N	103.90527205 W	219.44@	359.98	2.00
5218.00	15.12	356.36	5190.15	93.00	47.99	243.93 N	1.68 W	32.98967545 N	103.90527693 W	243.93@	359.60	0.39
5312.00	14.95	0.17	5280.93	94.00	53.34	268.29 N	2.43 W	32.98974242 N	103.90527903 W	268.30@	359.48	1.07
5405.00	14.60	0.88	5370.86	93.00	57.64	292.00 N	2.21 W	32.98980760 N	103.90527801 W	292.01@	359.57	0.42
5498.00	14.86	1.03	5460.80	93.00	61.74	315.64 N	1.82 W	32.98987258 N	103.90527641 W	315.65@	359.67	0.28
5592.00	16.09	0.66	5551.39	94.00	66.14	340.72 N	1.45 W	32.98994151 N	103.90527488 W	340.73@	359.76	1.31
5747.00	17.76	0.34	5699.67	155.00	74.33	385.84 N	1.06 W	32.99006552 N	103.90527302 W	385.84@	359.84	1.08

SCANNED

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
MICKEY FEDERAL COM #1H
CHAVES COUNTY, NEW MEXICO
RIG: SILVER OAK 7

Page 03/09

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular (ft)	Offsets (ft)	Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
5877.00	18.20	1.07	5823.32	130.00	81.47	425.97 N	0.57 W	32.99017580 N	103.90527086 W	425.97@	359.92	0.38
5933.00	18.55	1.05	5876.47	56.00	84.50	443.62 N	0.24 W	32.99022431 N	103.90526956 W	443.62@	359.97	0.63
6027.00	17.41	358.52	5965.88	94.00	90.10	472.63 N	0.33 W	32.99030404 N	103.90526947 W	472.63@	359.96	1.47
6120.00	16.44	355.61	6054.85	93.00	96.58	499.66 N	1.70 W	32.99037836 N	103.90527357 W	499.66@	359.81	1.38
6214.00	15.83	355.22	6145.15	94.00	103.57	525.70 N	3.78 W	32.99044995 N	103.90528003 W	525.71@	359.59	0.66
6307.00	15.21	355.85	6234.76	93.00	110.19	550.51 N	5.72 W	32.99051816 N	103.90528603 W	550.53@	359.40	0.69
6401.00	15.30	356.84	6325.44	94.00	116.42	575.19 N	7.30 W	32.99058602 N	103.90529084 W	575.23@	359.27	0.29
6494.00	16.09	355.71	6414.98	93.00	122.80	600.29 N	8.94 W	32.99065503 N	103.90529586 W	600.36@	359.15	0.91
6587.00	17.24	358.78	6504.07	93.00	129.09	626.92 N	10.20 W	32.99072824 N	103.90529960 W	627.00@	359.07	1.56
6680.00	17.41	357.93	6592.85	93.00	135.13	654.60 N	10.99 W	32.99080434 N	103.90530183 W	654.70@	359.04	0.33
6773.00	17.67	357.58	6681.53	93.00	141.53	682.61 N	12.09 W	32.99088133 N	103.90530504 W	682.72@	358.99	0.30
6867.00	17.76	0.79	6771.07	94.00	147.36	711.20 N	12.50 W	32.99095991 N	103.90530598 W	711.31@	358.99	1.04
6960.00	17.59	1.09	6859.68	93.00	152.27	739.43 N	12.03 W	32.99103751 N	103.90530410 W	739.53@	359.07	0.21
7054.00	17.41	1.91	6949.33	94.00	156.91	767.69 N	11.29 W	32.99111516 N	103.90530132 W	767.77@	359.16	0.32
7116.00	16.18	1.70	7008.68	62.00	159.76	785.59 N	10.73 W	32.99116437 N	103.90529923 W	785.67@	359.22	1.99
7179.00	15.21	0.24	7069.34	63.00	162.70	802.63 N	10.43 W	32.99121120 N	103.90529805 W	802.70@	359.26	1.66
7210.00	15.04	359.89	7099.26	31.00	164.23	810.72 N	10.42 W	32.99123343 N	103.90529791 W	810.79@	359.26	0.62
7241.00	13.98	359.75	7129.27	31.00	165.73	818.49 N	10.45 W	32.99125478 N	103.90529788 W	818.55@	359.27	3.42
7272.00	13.01	0.15	7159.42	31.00	167.11	825.72 N	10.45 W	32.99127466 N	103.90529781 W	825.79@	359.27	3.14
7303.00	12.22	359.87	7189.67	31.00	168.40	832.49 N	10.45 W	32.99129327 N	103.90529772 W	832.56@	359.28	2.56
7334.00	11.34	359.33	7220.01	31.00	169.64	838.82 N	10.50 W	32.99131066 N	103.90529777 W	838.88@	359.28	2.86
7366.00	10.64	359.32	7251.43	32.00	170.87	844.92 N	10.57 W	32.99132743 N	103.90529793 W	844.99@	359.28	2.19
7397.00	10.11	358.38	7281.92	31.00	172.04	850.50 N	10.68 W	32.99134277 N	103.90529821 W	850.57@	359.28	1.80
7428.00	9.41	357.09	7312.47	31.00	173.24	855.75 N	10.88 W	32.99135721 N	103.90529881 W	855.82@	359.27	2.37
7459.00	8.97	357.21	7343.07	31.00	174.42	860.70 N	11.13 W	32.99137080 N	103.90529955 W	860.77@	359.26	1.42
7490.00	8.35	0.15	7373.72	31.00	175.41	865.36 N	11.24 W	32.99138363 N	103.90529985 W	865.43@	359.26	2.46

SCANNED

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
MICKEY FEDERAL COM #1H
CHAVES COUNTY, NEW MEXICO
RIG: SILVER OAK 7

Page 04/09

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)
7521.00	7.47	3.87	7404.42	31.00	176.08	869.62 N	11.10 W	32.99139534 N	103.90529933 W	869.69@	359.27	3.28
7553.00	6.68	2.57	7436.18	32.00	176.61	873.56 N	10.88 W	32.99140615 N	103.90529855 W	873.63@	359.29	2.52
7584.00	5.98	2.16	7466.99	31.00	177.12	876.97 N	10.74 W	32.99141553 N	103.90529805 W	877.04@	359.30	2.26
7615.00	5.01	3.70	7497.85	31.00	177.54	879.94 N	10.59 W	32.99142368 N	103.90529752 W	880.00@	359.31	3.16
7646.00	4.40	359.49	7528.74	31.00	177.95	882.48 N	10.51 W	32.99143066 N	103.90529724 W	882.54@	359.32	2.26
7677.00	3.43	356.48	7559.67	31.00	178.41	884.59 N	10.58 W	32.99143647 N	103.90529743 W	884.65@	359.31	3.20
7708.00	2.64	356.70	7590.63	31.00	178.82	886.23 N	10.68 W	32.99144098 N	103.90529773 W	886.29@	359.31	2.55
7770.00	1.76	4.94	7652.58	62.00	179.27	888.60 N	10.68 W	32.99144750 N	103.90529770 W	888.67@	359.31	1.51
7864.00	0.70	350.49	7746.56	94.00	179.63	890.61 N	10.65 W	32.99145301 N	103.90529757 W	890.67@	359.32	1.17
7957.00	0.70	341.82	7839.55	93.00	180.10	891.71 N	10.92 W	32.99145604 N	103.90529844 W	891.78@	359.30	0.11
8019.00	0.18	16.10	7901.55	62.00	180.28	892.16 N	11.01 W	32.99145729 N	103.90529874 W	892.23@	359.29	0.90
8112.00	0.18	280.45	7994.55	93.00	180.41	892.33 N	11.11 W	32.99145775 N	103.90529907 W	892.40@	359.29	0.29
8205.00	0.26	311.45	8087.55	93.00	180.74	892.49 N	11.41 W	32.99145821 N	103.90530005 W	892.57@	359.27	0.15
8299.00	1.06	180.88	8181.54	94.00	180.77	891.77 N	11.59 W	32.99145621 N	103.90530063 W	891.84@	359.26	1.32
8392.00	1.14	191.18	8274.53	93.00	180.62	890.00 N	11.78 W	32.99145135 N	103.90530128 W	890.08@	359.24	0.23
8486.00	1.32	193.12	8368.51	94.00	180.67	888.03 N	12.21 W	32.99144594 N	103.90530270 W	888.11@	359.21	0.20
8579.00	1.32	194.79	8461.48	93.00	180.78	885.95 N	12.72 W	32.99144023 N	103.90530441 W	886.04@	359.18	0.04
8672.00	1.14	172.46	8554.46	93.00	180.56	884.00 N	12.88 W	32.99143486 N	103.90530493 W	884.09@	359.17	0.55
8765.00	1.14	176.58	8647.44	93.00	180.03	882.15 N	12.70 W	32.99142980 N	103.90530438 W	882.25@	359.18	0.09
8836.00	1.76	202.35	8718.42	71.00	180.07	880.44 N	13.07 W	32.99142510 N	103.90530562 W	880.54@	359.15	1.25
8867.00	4.13	218.64	8749.38	31.00	180.69	879.13 N	13.95 W	32.99142150 N	103.90530850 W	879.24@	359.09	8.03
8898.00	7.65	232.36	8780.21	31.00	182.57	877.00 N	16.28 W	32.99141566 N	103.90531613 W	877.15@	358.94	12.15
8929.00	11.52	243.26	8810.77	31.00	186.39	874.34 N	20.68 W	32.99140842 N	103.90533052 W	874.59@	358.64	13.74
8960.00	15.30	246.42	8840.92	31.00	192.21	871.31 N	27.20 W	32.99140016 N	103.90535181 W	871.74@	358.21	12.42
8991.00	19.43	249.05	8870.50	31.00	199.96	867.83 N	35.76 W	32.99139069 N	103.90537980 W	868.57@	357.64	13.56
9022.00	22.77	250.59	8899.42	31.00	209.52	863.99 N	46.24 W	32.99138025 N	103.90541401 W	865.23@	356.94	10.92

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PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
MICKEY FEDERAL COM #1H
CHAVES COUNTY, NEW MEXICO
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)
9054.00	26.12	254.57	8928.55	32.00	221.17	860.06 N	58.88 W	32.99136958 N	103.90545527 W	862.07@	356.08	11.66
9085.00	29.99	257.72	8955.91	31.00	234.41	856.59 N	73.03 W	32.99136022 N	103.90550148 W	859.70@	355.13	13.36
9116.00	34.47	260.98	8982.12	31.00	249.79	853.57 N	89.27 W	32.99135209 N	103.90555450 W	858.22@	354.03	15.50
9147.00	38.95	262.77	9006.97	31.00	267.30	850.97 N	107.62 W	32.99134514 N	103.90561435 W	857.74@	352.79	14.86
9172.00	41.77	263.86	9026.02	25.00	282.73	849.09 N	123.69 W	32.99134015 N	103.90566681 W	858.05@	351.71	11.63
9289.00	52.50	272.02	9105.57	117.00	366.14	846.54 N	209.15 W	32.99133412 N	103.90594554 W	872.00@	346.12	10.49
9321.00	57.77	271.94	9123.85	32.00	392.07	847.45 N	235.38 W	32.99133690 N	103.90603108 W	879.53@	344.48	16.47
9353.00	62.52	271.85	9139.78	32.00	419.47	848.37 N	263.11 W	32.99133973 N	103.90612150 W	888.23@	342.77	14.85
9385.00	67.09	272.11	9153.40	32.00	448.06	849.37 N	292.04 W	32.99134281 N	103.90621585 W	898.17@	341.03	14.30
9416.00	69.12	272.11	9164.96	31.00	476.48	850.43 N	320.78 W	32.99134604 N	103.90630957 W	908.92@	339.33	6.55
9448.00	71.67	272.82	9175.69	32.00	506.30	851.73 N	350.90 W	32.99134994 N	103.90640777 W	921.18@	337.61	8.24
9480.00	76.15	272.82	9184.56	32.00	536.72	853.24 N	381.60 W	32.99135444 N	103.90650787 W	934.68@	335.90	14.00
9512.00	81.16	273.61	9190.85	32.00	567.80	855.00 N	412.91 W	32.99135963 N	103.90660998 W	949.48@	334.22	15.84
9544.00	85.91	274.49	9194.45	32.00	599.36	857.24 N	444.62 W	32.99136616 N	103.90671336 W	965.69@	332.59	15.09
9576.00	90.13	274.40	9195.56	32.00	631.13	859.72 N	476.50 W	32.99137332 N	103.90681729 W	982.94@	331.00	13.19
9608.00	90.66	274.57	9195.34	32.00	662.92	862.23 N	508.40 W	32.99138055 N	103.90692130 W	1000.95@	329.47	1.74
9639.00	90.75	274.86	9194.96	31.00	693.74	864.77 N	539.29 W	32.99138790 N	103.90702202 W	1019.15@	328.05	0.98
9671.00	91.71	274.84	9194.27	32.00	725.55	867.48 N	571.17 W	32.99139569 N	103.90712594 W	1038.63@	326.64	3.00
9703.00	92.33	274.29	9193.14	32.00	757.33	870.02 N	603.05 W	32.99140304 N	103.90722988 W	1058.59@	325.27	2.59
9734.00	93.30	274.96	9191.62	31.00	788.10	872.52 N	633.91 W	32.99141025 N	103.90733049 W	1078.49@	324.00	3.80
9766.00	91.89	273.27	9190.17	32.00	819.84	874.81 N	665.79 W	32.99141691 N	103.90743445 W	1099.35@	322.73	6.87
9798.00	88.99	271.41	9189.92	32.00	851.48	876.12 N	697.76 W	32.99142085 N	103.90753869 W	1120.02@	321.47	10.77
9830.00	89.43	272.24	9190.37	32.00	883.07	877.14 N	729.74 W	32.99142401 N	103.90764297 W	1141.01@	320.24	2.94
9862.00	91.01	273.27	9190.24	32.00	914.74	878.68 N	761.70 W	32.99142859 N	103.90774719 W	1162.87@	319.08	5.89
9904.00	93.08	272.41	9188.74	42.00	956.29	880.76 N	803.62 W	32.99143477 N	103.90788387 W	1192.28@	317.62	5.34
9936.00	93.47	272.51	9186.92	32.00	987.89	882.13 N	835.54 W	32.99143890 N	103.90798795 W	1215.02@	316.55	1.26

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Survey Report

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MICKEY FEDERAL COM #1H
CHAVES COUNTY, NEW MEXICO
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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)
9968.00	92.13	271.52	9185.35	32.00	1019.46	883.25 N	867.48 W	32.99144234 N	103.90809211 W	1238.00@	315.52	5.20
9999.00	91.40	270.92	9184.40	31.00	1050.00	883.91 N	898.46 W	32.99144450 N	103.90819313 W	1260.37@	314.53	3.05
10031.00	90.90	269.75	9183.76	32.00	1081.45	884.10 N	930.45 W	32.99144537 N	103.90829746 W	1283.50@	313.54	3.97
10062.00	90.17	269.18	9183.47	31.00	1111.82	883.81 N	961.45 W	32.99144491 N	103.90839856 W	1305.95@	312.59	2.99
10094.00	89.44	267.95	9183.57	32.00	1143.08	883.01 N	993.44 W	32.99144307 N	103.90850290 W	1329.14@	311.63	4.47
10126.00	88.99	267.40	9184.01	32.00	1174.22	881.71 N	1025.41 W	32.99143985 N	103.90860718 W	1352.36@	310.69	2.22
10158.00	89.61	267.18	9184.40	32.00	1205.31	880.20 N	1057.37 W	32.99143605 N	103.90871144 W	1375.78@	309.78	2.06
10190.00	89.55	266.85	9184.64	32.00	1236.37	878.53 N	1089.32 W	32.99143182 N	103.90881568 W	1399.44@	308.89	1.05
10222.00	89.50	267.01	9184.90	32.00	1267.41	876.82 N	1121.28 W	32.99142747 N	103.90891991 W	1423.40@	308.02	0.52
10254.00	90.67	267.60	9184.86	32.00	1298.51	875.31 N	1153.24 W	32.99142369 N	103.90902418 W	1447.80@	307.20	4.10
10286.00	91.01	267.64	9184.39	32.00	1329.65	873.98 N	1185.21 W	32.99142039 N	103.90912846 W	1472.61@	306.41	1.07
10318.00	91.79	267.86	9183.61	32.00	1360.79	872.73 N	1217.17 W	32.99141729 N	103.90923272 W	1497.72@	305.64	2.53
10366.00	92.69	270.67	9181.73	48.00	1407.75	872.11 N	1265.13 W	32.99141613 N	103.90938913 W	1536.60@	304.58	6.14
10398.00	93.14	271.33	9180.10	32.00	1439.23	872.67 N	1297.08 W	32.99141802 N	103.90949333 W	1563.32@	303.93	2.49
10430.00	91.68	270.62	9178.76	32.00	1470.72	873.21 N	1329.05 W	32.99141987 N	103.90959758 W	1590.24@	303.31	5.07
10462.00	88.71	269.95	9178.65	32.00	1502.16	873.37 N	1361.04 W	32.99142066 N	103.90970193 W	1617.16@	302.69	9.51
10493.00	84.73	269.55	9180.42	31.00	1532.52	873.24 N	1391.99 W	32.99142063 N	103.90980284 W	1643.22@	302.10	12.90
10525.00	85.07	269.58	9183.27	32.00	1563.76	872.99 N	1423.86 W	32.99142032 N	103.90990679 W	1670.18@	301.51	1.07
10557.00	86.42	269.32	9185.64	32.00	1595.03	872.69 N	1455.77 W	32.99141983 N	103.91001086 W	1697.31@	300.94	4.30
10589.00	88.38	270.15	9187.09	32.00	1626.39	872.54 N	1487.73 W	32.99141978 N	103.91011511 W	1724.73@	300.39	6.65
10620.00	90.00	269.89	9187.53	31.00	1656.82	872.55 N	1518.73 W	32.99142015 N	103.91021620 W	1751.54@	299.88	5.29
10652.00	91.85	270.43	9187.01	32.00	1688.25	872.64 N	1550.72 W	32.99142075 N	103.91032054 W	1779.39@	299.37	6.02
10684.00	91.90	270.76	9185.97	32.00	1719.71	872.97 N	1582.70 W	32.99142201 N	103.91042484 W	1807.49@	298.88	1.04
10716.00	91.29	271.07	9185.08	32.00	1751.21	873.48 N	1614.69 W	32.99142377 N	103.91052915 W	1835.81@	298.41	2.14
10747.00	90.78	271.33	9184.52	31.00	1781.76	874.13 N	1645.68 W	32.99142590 N	103.91063020 W	1863.43@	297.98	1.85
10779.00	91.29	270.36	9183.94	32.00	1813.26	874.60 N	1677.67 W	32.99142755 N	103.91073453 W	1891.96@	297.53	3.42

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PathFinder Energy Services, Inc.

Survey Report

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MICKEY FEDERAL COM #1H
CHAVES COUNTY, NEW MEXICO
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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)
10811.00	91.90	270.05	9183.05	32.00	1844.68	874.72 N	1709.65 W	32.99142821 N	103.91083885 W	1920.43@	297.10	2.14
10843.00	93.47	270.05	9181.55	32.00	1876.07	874.75 N	1741.62 W	32.99142864 N	103.91094309 W	1948.95@	296.67	4.91
10875.00	93.64	270.13	9179.56	32.00	1907.44	874.80 N	1773.56 W	32.99142913 N	103.91104725 W	1977.57@	296.25	0.59
10907.00	93.87	270.64	9177.47	32.00	1938.83	875.01 N	1805.49 W	32.99143008 N	103.91115139 W	2006.35@	295.86	1.74
10938.00	93.87	270.17	9175.38	31.00	1969.23	875.23 N	1836.42 W	32.99143102 N	103.91125225 W	2034.32@	295.48	1.51
10970.00	94.03	269.88	9173.17	32.00	2000.58	875.24 N	1868.34 W	32.99143141 N	103.91135637 W	2063.19@	295.10	1.03
11002.00	93.59	269.90	9171.05	32.00	2031.91	875.18 N	1900.27 W	32.99143159 N	103.91146050 W	2092.12@	294.73	1.38
11034.00	93.31	270.22	9169.12	32.00	2063.28	875.22 N	1932.21 W	32.99143204 N	103.91156467 W	2121.19@	294.37	1.33
11066.00	93.08	270.53	9167.34	32.00	2094.69	875.43 N	1964.16 W	32.99143296 N	103.91166887 W	2150.42@	294.02	1.20
11098.00	93.14	269.67	9165.60	32.00	2126.07	875.48 N	1996.11 W	32.99143347 N	103.91177308 W	2179.66@	293.68	2.69
11130.00	92.80	269.43	9163.94	32.00	2157.40	875.23 N	2028.07 W	32.99143313 N	103.91187730 W	2208.87@	293.34	1.30
11162.00	92.46	269.10	9162.47	32.00	2188.70	874.82 N	2060.03 W	32.99143235 N	103.91198155 W	2238.09@	293.01	1.48
11193.00	92.46	269.64	9161.14	31.00	2219.04	874.48 N	2091.00 W	32.99143176 N	103.91208256 W	2266.50@	292.70	1.74
11225.00	92.41	269.56	9159.78	32.00	2250.39	874.26 N	2122.97 W	32.99143150 N	103.91218683 W	2295.94@	292.38	0.30
11257.00	92.80	268.84	9158.33	32.00	2281.68	873.81 N	2154.94 W	32.99143062 N	103.91229108 W	2325.36@	292.07	2.56
11289.00	92.80	268.72	9156.77	32.00	2312.93	873.13 N	2186.89 W	32.99142910 N	103.91239530 W	2354.75@	291.76	0.37
11321.00	93.36	269.01	9155.05	32.00	2344.17	872.50 N	2218.84 W	32.99142771 N	103.91249950 W	2384.22@	291.47	1.97
11353.00	93.42	268.67	9153.15	32.00	2375.41	871.85 N	2250.77 W	32.99142629 N	103.91260367 W	2413.73@	291.17	1.08
11384.00	93.36	269.37	9151.32	31.00	2405.68	871.32 N	2281.72 W	32.99142517 N	103.91270459 W	2442.42@	290.90	2.26
11416.00	92.24	269.97	9149.76	32.00	2437.03	871.14 N	2313.68 W	32.99142502 N	103.91280882 W	2472.24@	290.63	3.97
11448.00	91.96	270.62	9148.58	32.00	2468.45	871.30 N	2345.65 W	32.99142582 N	103.91291311 W	2502.25@	290.38	2.21
11480.00	92.41	270.48	9147.36	32.00	2499.90	871.61 N	2377.63 W	32.99142702 N	103.91301739 W	2532.36@	290.13	1.47
11512.00	93.30	270.33	9145.77	32.00	2531.33	871.83 N	2409.59 W	32.99142799 N	103.91312162 W	2562.46@	289.89	2.82
11544.00	94.76	270.24	9143.52	32.00	2562.69	871.99 N	2441.51 W	32.99142878 N	103.91322571 W	2592.55@	289.65	4.57
11575.00	95.38	270.54	9140.78	31.00	2593.05	872.20 N	2472.39 W	32.99142969 N	103.91332642 W	2621.72@	289.43	2.22
11607.00	95.10	270.73	9137.86	32.00	2624.40	872.56 N	2504.25 W	32.99143101 N	103.91343033 W	2651.91@	289.21	1.06

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PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
MICKEY FEDERAL COM #1H
CHAVES COUNTY, NEW MEXICO
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)
11639.00	94.76	270.95	9135.11	32.00	2655.79	873.02 N	2536.13 W	32.99143265 N	103.91353429 W	2682.19@	289.00	1.26
11676.00	94.43	269.91	9132.15	37.00	2692.05	873.30 N	2573.01 W	32.99143381 N	103.91365457 W	2717.17@	288.75	2.94
11708.00	94.93	269.10	9129.53	32.00	2723.31	873.03 N	2604.90 W	32.99143340 N	103.91375858 W	2747.30@	288.53	2.97
11740.00	95.38	268.91	9126.66	32.00	2754.49	872.47 N	2636.77 W	32.99143223 N	103.91386251 W	2777.36@	288.31	1.53
11772.00	96.62	269.23	9123.32	32.00	2785.63	871.96 N	2668.58 W	32.99143116 N	103.91396629 W	2807.43@	288.09	4.00
11804.00	97.29	269.60	9119.44	32.00	2816.75	871.63 N	2700.35 W	32.99143062 N	103.91406989 W	2837.54@	287.89	2.39
11836.00	97.86	270.16	9115.22	32.00	2847.88	871.56 N	2732.07 W	32.99143078 N	103.91417334 W	2867.72@	287.69	2.49
11868.00	97.75	270.32	9110.88	32.00	2879.03	871.70 N	2763.77 W	32.99143149 N	103.91427673 W	2897.98@	287.51	0.60
11900.00	97.34	270.29	9106.67	32.00	2910.21	871.87 N	2795.49 W	32.99143231 N	103.91438019 W	2928.30@	287.32	1.29
11931.00	97.46	269.90	9102.68	31.00	2940.40	871.92 N	2826.24 W	32.99143278 N	103.91448045 W	2957.68@	287.15	1.31
11963.00	97.92	270.51	9098.40	32.00	2971.56	872.03 N	2857.95 W	32.99143344 N	103.91458387 W	2988.03@	286.97	2.37
11995.00	98.31	270.45	9093.88	32.00	3002.71	872.30 N	2889.63 W	32.99143452 N	103.91468718 W	3018.42@	286.80	1.23
12027.00	97.97	270.33	9089.35	32.00	3033.85	872.51 N	2921.30 W	32.99143546 N	103.91479049 W	3048.82@	286.63	1.12
12059.00	97.69	270.55	9084.99	32.00	3065.02	872.75 N	2953.00 W	32.99143647 N	103.91489387 W	3079.27@	286.46	1.11
12091.00	97.86	270.71	9080.66	32.00	3096.21	873.10 N	2984.71 W	32.99143778 N	103.91499726 W	3109.79@	286.31	0.73
12123.00	98.31	270.23	9076.16	32.00	3127.37	873.36 N	3016.39 W	32.99143884 N	103.91510058 W	3140.28@	286.15	2.05
12155.00	97.24	270.09	9071.83	32.00	3158.51	873.45 N	3048.09 W	32.99143943 N	103.91520398 W	3170.77@	285.99	3.37
12187.00	95.94	269.43	9068.16	32.00	3189.69	873.32 N	3079.88 W	32.99143941 N	103.91530766 W	3201.30@	285.83	4.55
12219.00	94.43	269.41	9065.27	32.00	3220.92	873.00 N	3111.75 W	32.99143887 N	103.91541159 W	3231.89@	285.67	4.72
12250.00	93.02	268.78	9063.25	31.00	3251.19	872.51 N	3142.68 W	32.99143786 N	103.91551247 W	3261.55@	285.52	4.98
12282.00	91.90	268.92	9061.88	32.00	3282.45	871.87 N	3174.64 W	32.99143645 N	103.91561672 W	3292.19@	285.36	3.53
12314.00	90.39	269.11	9061.24	32.00	3313.75	871.32 N	3206.63 W	32.99143529 N	103.91572105 W	3322.90@	285.20	4.76
12346.00	89.16	269.48	9061.37	32.00	3345.09	870.92 N	3238.62 W	32.99143455 N	103.91582541 W	3353.68@	285.05	4.01
12378.00	89.10	269.64	9061.85	32.00	3376.46	870.68 N	3270.62 W	32.99143423 N	103.91592976 W	3384.53@	284.91	0.53
12410.00	89.72	270.02	9062.18	32.00	3407.86	870.58 N	3302.62 W	32.99143431 N	103.91603412 W	3415.43@	284.77	2.27
12442.00	90.78	270.17	9062.04	32.00	3439.28	870.63 N	3334.62 W	32.99143481 N	103.91613848 W	3446.40@	284.63	3.35

SCANNED

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY CORPORATION
MICKEY FEDERAL COM #1H
CHAVES COUNTY, NEW MEXICO
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)
12474.00	91.12	270.66	9061.51	32.00	3470.74	870.87 N	3366.61 W	32.99143579 N	103.91624282 W	3477.42@	284.50	1.86
12506.00	91.51	270.65	9060.78	32.00	3502.22	871.23 N	3398.60 W	32.99143715 N	103.91634715 W	3508.50@	284.38	1.22
12538.00	91.57	271.00	9059.92	32.00	3533.71	871.69 N	3430.59 W	32.99143876 N	103.91645145 W	3539.60@	284.26	1.11
12569.00	91.62	271.32	9059.06	31.00	3564.24	872.32 N	3461.57 W	32.99144082 N	103.91655249 W	3569.79@	284.14	1.04
12601.00	90.22	271.16	9058.54	32.00	3595.78	873.01 N	3493.56 W	32.99144307 N	103.91665680 W	3600.98@	284.03	4.40
12633.00	90.39	271.68	9058.37	32.00	3627.34	873.80 N	3525.54 W	32.99144560 N	103.91676112 W	3632.22@	283.92	1.71
12665.00	90.95	271.53	9058.00	32.00	3658.91	874.70 N	3557.53 W	32.99144841 N	103.91686542 W	3663.49@	283.81	1.81
12697.00	91.06	270.91	9057.44	32.00	3690.45	875.38 N	3589.52 W	32.99145063 N	103.91696974 W	3694.72@	283.71	1.97
12728.00	91.06	270.79	9056.86	31.00	3720.96	875.84 N	3620.51 W	32.99145223 N	103.91707081 W	3724.94@	283.60	0.39
12760.00	89.94	270.55	9056.58	32.00	3752.44	876.22 N	3652.51 W	32.99145361 N	103.91717515 W	3756.14@	283.49	3.58
12791.00	90.17	270.46	9056.55	31.00	3782.93	876.49 N	3683.50 W	32.99145470 N	103.91727625 W	3786.35@	283.38	0.80
12823.00	90.56	270.23	9056.35	32.00	3814.38	876.68 N	3715.50 W	32.99145558 N	103.91738060 W	3817.53@	283.28	1.41
12855.00	90.89	270.61	9055.95	32.00	3845.84	876.92 N	3747.50 W	32.99145657 N	103.91748495 W	3848.73@	283.17	1.57
12887.00	91.06	270.80	9055.40	32.00	3877.33	877.31 N	3779.49 W	32.99145800 N	103.91758929 W	3879.98@	283.07	0.80
12919.00	90.62	269.99	9054.93	32.00	3908.78	877.53 N	3811.49 W	32.99145895 N	103.91769363 W	3911.20@	282.97	2.88
12951.00	90.78	270.63	9054.54	32.00	3940.23	877.70 N	3843.48 W	32.99145977 N	103.91779799 W	3942.43@	282.86	2.06
12975.00	90.34	270.30	9054.31	24.00	3963.83	877.90 N	3867.48 W	32.99146057 N	103.91787625 W	3965.87@	282.79	2.29
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 13031' MD.												
13031.00	90.34	270.30	9053.97	56.00	4018.86	878.19 N	3923.48 W	32.99146198 N	103.91805888 W	4020.56@	282.62	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