

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137
Expires July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5 Lease Serial No
NMNM-117550

6 If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2.

7 If Unit of CA/Agreement, Name and/or No

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8 Well Name and No
Santa Claus State Com #1

2 Name of Operator

Mack Energy Corporation

9 API Well No
30-015-36257

3a. Address

P.O. Box 960 Artesia, NM 88210-0960

3b Phone No (include area code)

(575) 748-1288

10 Field and Pool or Exploratory Area

Crow Flats; Wolfcamp

4 Location of Well (Footage, Sec., T,R,M, or Survey Description)

2310 FNL & 330 FWL, Sec. 15 T16S R28E

11 Country or Parish, State

Eddy, NM

12 CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other <u>Completion</u>
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13 Describe Proposed or Completed Operation. Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleation in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

12/8/2008 Frac port 9,540' w/ 14,952 gals Divert S 20% HCL, 321,636 gals Slickwater, 14,045# White Sand 30/50, 33,054 gals 40# gel.
Frac port 9,057' w/ 19,026 gals Divert S 20% HCL, 78,876 gals Slickwater, 13,946# White Sand 30/50, 39,018 gals 40# gel.
Frac port 8,535' w/ 15,372 gals Divert S 20% HCL, 63,168 gals Slickwater, 10,210# White Sand 30/50, 34,020 gals 40# gel.
Frac port 7,949' w/ 15,036 gals Divert S 20% HCL, 63,630 gals Slickwater, 6,000# White Sand 30/50, 27,426 gals 40# gel.
Frac port 7,643' w/ 11,004 gals Divert S 20% HCL, 61,614 gals Slickwater, 7,257# White Sand 30/50, 27,006 gals 40# gel.
Frac port 7,021' w/ 15,540 gals Divert S 20% HCL, 61,236 gals Slickwater, 12,126# White Sand 30/50, 34,524 gals 40# gel.

12/15/2008 RIH w/ 188 joints 2 7/8 tubing, Set Packer @ 5,835'.

14 I hereby certify that the foregoing is true and correct Name (Printed/Typed)

Jerry W. Sherrell

Title Production Clerk

Signature

Jerry W. Sherrell

Date 12/30/2008

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

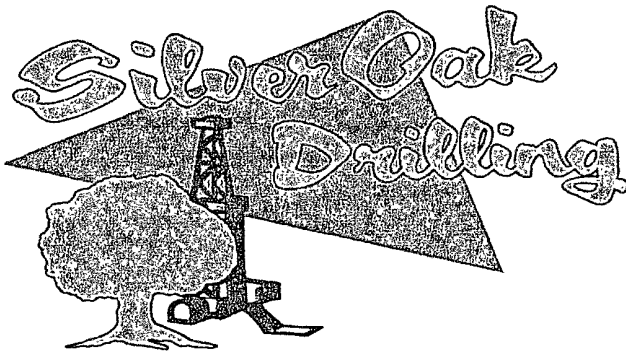
Date

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

Office

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

(Instructions on page 2)



PO Box 1370
Artesia, NM 88211-1370
(505) 748-1288

November 17, 2008

Mack Energy Corporation
PO Box 960
Artesia, NM 88211-0960

RE: Santa Claus St. Com #1
2310' FNL & 330' FWL
Sec. 15, T16S, R28E
Eddy County, New Mexico

Dear Sir,

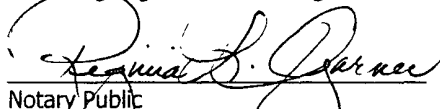
The attached is the Deviation Survey for the above captioned well.

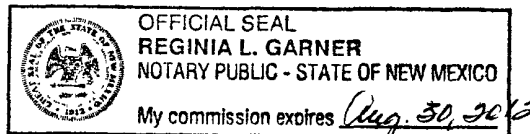
Very truly yours,


Eddie C. LaRue
Operations Manager

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 17th day of November, 2008.


Notary Public



Date	Depth	Dev	Dir	TVD	Date	Depth	Dev	Dir	TVD
10/09/2008	131.00	0.20	70.20	0.00	10/23/2008	6247.00	26.29	87.50	6235.41
10/11/2008	447.00	0.70	27.20	0.00	10/23/2008	6278.00	28.93	88.20	6262.87
10/11/2008	539.00	1.20	13.20	0.00	10/23/2008	6309.00	33.15	88.55	6989.43
10/11/2008	627.00	1.10	9.20	0.00	10/23/2008	6340.00	37.02	88.90	6314.79
10/11/2008	723.00	0.50	344.20	0.00	10/23/2008	6371.00	39.83	90.13	6339.07
10/11/2008	810.00	0.80	347.20	0.00	10/23/2008	6434.00	45.02	88.55	6385.98
10/11/2008	910.00	0.80	25.20	0.00	10/23/2008	6465.00	49.86	86.62	6406.95
10/11/2008	1004.00	1.00	14.20	0.00	10/23/2008	6496.00	53.64	85.91	6426.14
10/11/2008	1096.00	0.50	333.20	0.00	10/23/2008	6527.00	57.77	86.33	6443.60
10/12/2008	1190.00	0.20	179.20	0.00	10/24/2008	6558.00	62.70	87.16	6458.00
10/12/2008	1377.00	0.50	319.50	0.00	10/24/2008	6589.00	67.27	87.78	6472.09
10/12/2008	1470.00	0.50	355.20	0.00	10/24/2008	6620.00	70.00	87.84	6483.38
10/12/2008	1563.00	0.30	280.20	0.00	10/24/2008	6651.00	72.90	88.25	6493.24
10/12/2008	1657.00	0.10	105.20	0.00	10/24/2008	6682.00	76.24	0.00	6501.49
10/13/2008	1750.00	0.50	331.20	0.00	10/24/2008	6745.00	82.04	90.27	6513.14
10/15/2008	1894.00	0.60	43.20	0.00	10/24/2008	6775.00	84.24	90.68	6516.72
10/15/2008	1981.00	0.80	347.20	0.00	10/28/2008	6860.00	88.02	90.66	6522.46
10/15/2008	2076.00	0.90	18.20	0.00	10/28/2008	6891.00	88.29	91.34	6523.46
10/16/2008	2174.00	0.70	29.20	0.00	10/29/2008	6933.00	89.66	89.98	6524.00
10/16/2008	2268.00	0.70	2.20	0.00	10/29/2008	6964.00	89.89	89.92	6524.12
10/16/2008	2361.00	0.40	243.20	0.00	10/29/2008	6996.00	89.66	88.94	6524.25
10/16/2008	2487.00	0.60	61.20	0.00	10/29/2008	7027.00	89.44	88.71	6524.49
10/16/2008	2580.00	0.50	336.20	0.00	10/30/2008	7058.00	89.27	88.80	6524.84
10/16/2008	2699.00	0.70	30.20	0.00	10/30/2008	7089.00	89.66	89.23	6525.00
10/16/2008	2791.00	0.70	23.20	0.00	10/30/2008	7120.00	89.61	89.02	6525.33
10/16/2008	2893.00	0.40	284.20	0.00	10/30/2008	7151.00	89.66	88.14	6525.53
10/16/2008	2978.00	0.90	25.20	0.00	10/30/2008	7182.00	90.00	87.82	6525.62
10/17/2008	3071.00	0.50	54.20	0.00	10/30/2008	7213.00	90.22	86.39	6525.56
10/17/2008	3165.00	1.00	37.20	0.00	10/30/2008	7243.00	90.39	86.06	6525.40
10/17/2008	3260.00	0.70	311.20	0.00	10/30/2008	7277.00	89.78	85.52	6525.35
10/17/2008	3352.00	0.20	113.20	0.00	10/30/2008	7309.00	89.50	85.32	6525.35
10/17/2008	3451.00	0.20	173.20	0.00	10/30/2008	7340.00	88.88	84.98	6525.99
10/17/2008	3544.00	0.30	140.20	0.00	10/30/2008	7372.00	88.83	85.07	6525.63
10/17/2008	3637.00	0.60	7.20	0.00	10/31/2008	7404.00	87.54	85.95	6527.64
10/17/2008	3755.00	0.90	349.20	0.00	10/31/2008	7436.00	87.59	85.74	6529.00
10/17/2008	3819.00	0.70	274.20	0.00	10/31/2008	7468.00	87.65	85.69	6530.33
10/17/2008	3915.00	0.70	320.20	0.00	10/31/2008	7531.00	88.77	86.41	6530.00
10/19/2008	4004.00	0.70	327.08	0.00	10/31/2008	7563.00	89.22	87.24	6533.32
10/19/2008	4098.00	0.97	342.00	0.00	10/31/2008	7595.00	89.16	87.36	6533.77
10/19/2008	4191.00	0.97	327.17	0.00	10/31/2008	7627.00	88.99	87.20	6534.11
10/19/2008	4565.00	0.70	207.38	0.00	10/31/2008	7659.00	88.66	87.19	6534.94
10/19/2008	4659.00	0.62	136.45	0.00	10/31/2008	7722.00	90.50	88.82	6535.77
10/19/2008	4752.00	1.23	130.12	0.00	10/31/2008	7754.00	91.01	89.39	6535.34
10/19/2008	4845.00	0.70	143.75	0.00	10/31/2008	7786.00	90.90	89.41	6534.81
10/20/2008	4939.00	0.70	134.43	0.00	10/31/2008	7818.00	91.01	89.31	6534.28
10/20/2008	5032.00	0.97	148.84	0.00	11/01/2008	7870.00	90.73	89.26	6533.00
10/20/2008	5126.00	0.97	146.73	0.00	11/01/2008	7882.00	90.56	88.94	6533.00
10/20/2008	5406.00	1.41	103.32	5405.66	11/01/2008	7914.00	90.28	88.26	6533.42
10/21/2008	5500.00	1.49	111.75	0.00	11/01/2008	8009.00	88.83	85.43	6534.40
10/21/2008	5593.00	1.76	92.94	0.00	11/01/2008	8073.00	89.38	87.15	6535.63
10/21/2008	5686.00	1.49	91.71	5685.56	11/01/2008	8041.00	88.99	85.92	6535.17
10/21/2008	5873.00	1.85	93.30	5872.49	11/01/2008	8105.00	89.38	86.80	6535.80
10/22/2008	5998.00	1.85	91.45	5997.43	11/01/2008	8137.00	89.50	86.39	6536.29
10/22/2008	6029.00	2.11	88.02	6028.41	11/01/2008	8169.00	89.44	86.61	6536.58
10/22/2008	6060.00	5.01	84.16	6059.35	11/01/2008	8201.00	89.22	86.61	6536.96
10/22/2008	6091.00	10.20	82.22	6090.06	11/01/2008	8233.00	88.71	86.35	6537.53
10/22/2008	6122.00	16.36	83.19	6120.22	11/01/2008	8264.00	88.83	86.68	6538.20
10/22/2008	6185.00	23.39	87.58	6179.28	11/01/2008	8328.00	88.94	87.03	6589.48
10/23/2008	6216.00	25.41	88.20	6207.51	11/02/2008	8328.00	88.82	86.88	6539.45

Date	Depth	Dev	Dir	TVD
11/02/2008	8360.00	88.21	86.10	6540.10
11/02/2008	8392.00	88.10	86.17	6541.13
11/02/2008	8424.00	88.21	86.07	6542.16
11/02/2008	8487.00	88.21	86.54	6544.00
11/02/2008	8519.00	88.38	86.61	6545.05
11/02/2008	8551.00	88.49	87.11	6545.93
11/02/2008	8615.00	88.66	87.28	6547.57
11/02/2008	8647.00	88.94	87.86	6548.34
11/02/2008	8679.00	89.05	88.20	6548.80
11/02/2008	8711.00	89.66	88.22	6549.16
11/02/2008	8743.00	89.61	88.32	6549.36
11/02/2008	8774.00	88.99	87.97	6549.74
11/02/2008	8806.00	88.99	87.78	6550.30
11/03/2008	8870.00	88.94	87.63	6551.41
11/03/2008	8934.00	89.61	87.71	6552.00
11/03/2008	8965.00	89.78	87.77	6552.35
11/03/2008	8997.00	89.94	88.06	6552.44
11/03/2008	9029.00	90.28	88.15	6552.00
11/03/2008	9060.00	90.45	88.11	6552.18
11/03/2008	9124.00	90.67	88.18	6551.61
11/03/2008	9188.00	90.45	87.81	6550.83
11/03/2008	9092.00	90.45	88.15	6551.93
11/03/2008	9156.00	90.84	88.11	6551.19
11/03/2008	9220.00	90.50	87.27	6550.57
11/03/2008	9252.00	90.62	87.31	6550.25
11/03/2008	9284.00	90.90	87.13	6549.83
11/04/2008	9316.00	89.66	86.57	6549.67
11/04/2008	9347.00	98.55	86.53	6549.89
11/04/2008	9379.00	88.32	86.92	6550.48
11/04/2008	9411.00	86.98	87.51	6551.79
11/04/2008	9443.00	86.92	87.60	6553.49
11/04/2008	9507.00	86.98	87.85	6556.89
11/04/2008	9475.00	86.97	87.86	6555.20
11/04/2008	9539.00	87.14	88.13	6558.53
11/04/2008	9571.00	87.26	87.94	6560.09
11/04/2008	9625.00	81.01	88.07	0.00
# EOF				



DIRECTIONAL SURVEY REPORT

MACK ENERGY CORPORATION

SANTA CLAUS STATE COM #1

EDDY COUNTY, NM

PREPARED BY: PHIL LEBLANC



3329 West Pinhook Road • Lafayette, LA 70508 • Phone: 337-233-3982 or 800-377-3982 • Fax: 337-234-2988

December 18, 2008

MACK ENERGY CORPORATION

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

RE: MACK ENERGY CORPORATION
SANTA CLAUS STATE COM #1
EDDY COUNTY, NM
RIG: SILVER OAK #7
API Well No.: 30-015-36257
PES Job No.: 101007949-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,

A handwritten signature in black ink, appearing to read "Phil LeBlanc".

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) MAGID IBRAHIM
B) ROLANDO SUAREZ
C) JOHN OVERTON
3. POSITION OF SAID PERSON(S): (A-C) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 10/18/08 TO 11/04/08
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
SANTA CLAUS STATE COM #1
EDDY COUNTY, NM
RIG: SILVER OAK #7
API Well No.: 30-015-36257

9. SURVEY(S) CERTIFIED FROM: 3,915 TO 9,700 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 3,426.32 FEET ON A BEARING OF 87.33 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 9,700 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: 10/18/2008
Date Completed: 11/04/2008

Mack Energy Corporation
Santa Claus State Com #1
Eddy COUNTY, New Mexico
Rig: Silver Oak #7
PathFinder Office Supervisor: Francisco Sinnisteria
PathFinder Field Engineers: Magid Ibrahim
Rolando Suarez
John Overton

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.55.25.9152 N LON: 104.10.14.8023 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 549879.4000 Y: 699852.5000
North Aligned To: GRID NORTH
Total Magnetic Correction: 8.13° EAST TO GRID
Vertical Section Plane: 87.22
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude: 3577.00' Ground To MSL

Measured Depth	9700.00	(feet)
Inclination	88.10	(deg)
Azimuth	88.07	(deg)
True Vertical Depth	6564.92	(feet)
Vertical Section	3426.31	(feet)
Survey X cord	553301.99	(feet)
Survey Y cord	700012.39	(feet)
Survey Lat	32.92428982 N	(deg)
Survey Lon	104.15962354 W	(deg)
Rectangular Corr. N/S	159.89 N	(feet)
Rectangular Corr. E/W	3422.59 E	(feet)
Closure Distance	3426.32	(feet)
Direction of Closure	87.33	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

Page 01/07
Tie-in Date: 10/18/2008
Date Completed: 11/04/2008

Mack Energy Corporation
Santa Claus State Com #1
Eddy COUNTY, New Mexico
Rig: Silver Oak #7
PathFinder Office Supervisor: Francisco Sinnisteria
PathFinder Field Engineers: Magid Ibrahim
Rolando Suarez
John Overton
Survey Calculations by RX5 V6.01 using Minimum Curvature

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.55.25.9152 N LON: 104.10.14.8023 W
Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 549879.4000 Y: 699852.5000
North Aligned To: GRID NORTH
Total Magnetic Correction: 8.13° EAST TO GRID
Vertical Section Plane: 87.22
Survey Vert. Reference: 19.00' Kelly Bushing To Ground
Altitude: 3577.00' 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 (ft)	Dir (deg)	DLS (dg/100ft)
THE FOLLOWING ARE TELEDRIFT SURVEYS.												
131.00	0.20	0.70	131.00	0.00	0.71	0.28 S	0.72 E	32.92386455 N	104.17077607 W	0.78@	111.51	0.00
447.00	0.70	27.00	446.99	316.00	1.70	1.99 N	1.60 E	32.92387079 N	104.17077318 W	2.55@	38.93	0.17
539.00	1.20	13.00	538.98	92.00	2.24	3.43 N	2.08 E	32.92387474 N	104.17077164 W	4.01@	31.22	0.60
627.00	1.10	9.00	626.96	88.00	2.66	5.16 N	2.42 E	32.92387950 N	104.17077052 W	5.70@	25.10	0.14
723.00	0.50	344.00	722.95	96.00	2.76	6.47 N	2.44 E	32.92388311 N	104.17077042 W	6.92@	20.70	0.71
810.00	0.80	344.00	809.94	87.00	2.53	7.42 N	2.17 E	32.92388572 N	104.17077130 W	7.73@	16.32	0.34
910.00	0.80	25.00	909.93	100.00	2.70	8.72 N	2.28 E	32.92388930 N	104.17077096 W	9.02@	14.62	0.56
1004.00	1.00	14.00	1003.92	94.00	3.24	10.11 N	2.75 E	32.92389312 N	104.17076941 W	10.48@	15.22	0.28
1076.00	0.50	333.00	1075.92	72.00	3.29	11.00 N	2.76 E	32.92389557 N	104.17076937 W	11.34@	14.08	0.98
1190.00	0.20	179.00	1189.92	114.00	3.08	11.25 N	2.54 E	32.92389624 N	104.17077009 W	11.53@	12.72	0.60
1377.00	0.50	319.00	1376.91	187.00	2.57	11.54 N	2.01 E	32.92389704 N	104.17077182 W	11.71@	9.88	0.36
1470.00	0.50	355.00	1469.91	93.00	2.30	12.25 N	1.71 E	32.92389899 N	104.17077280 W	12.37@	7.93	0.33
1563.00	0.30	280.00	1562.91	93.00	2.05	12.69 N	1.43 E	32.92390022 N	104.17077369 W	12.78@	6.43	0.55
1657.00	0.10	105.00	1656.91	94.00	1.88	12.72 N	1.27 E	32.92390028 N	104.17077422 W	12.78@	5.70	0.42
1750.00	0.50	331.00	1749.91	93.00	1.78	13.05 N	1.15 E	32.92390120 N	104.17077461 W	13.10@	5.04	0.62
1894.00	0.60	43.00	1893.90	144.00	2.04	14.15 N	1.36 E	32.92390422 N	104.17077392 W	14.22@	5.49	0.45
1981.00	0.80	347.00	1980.90	87.00	2.26	15.08 N	1.53 E	32.92390677 N	104.17077335 W	15.15@	5.81	0.78
2076.00	0.90	18.00	2075.89	95.00	2.41	16.43 N	1.62 E	32.92391049 N	104.17077308 W	16.51@	5.61	0.49
2174.00	0.70	27.00	2173.88	98.00	2.98	17.70 N	2.12 E	32.92391397 N	104.17077141 W	17.82@	6.85	0.24
2268.00	0.87	2.00	2267.87	94.00	3.33	18.92 N	2.41 E	32.92391733 N	104.17077047 W	19.07@	7.26	0.40
2361.00	0.40	243.00	2360.86	93.00	3.09	19.48 N	2.15 E	32.92391887 N	104.17077133 W	19.60@	6.29	1.20
2487.00	0.60	61.00	2486.86	126.00	3.28	19.60 N	2.33 E	32.92391920 N	104.17077073 W	19.74@	6.78	0.79
2580.00	0.50	336.00	2579.86	93.00	3.57	20.21 N	2.59 E	32.92392087 N	104.17076987 W	20.37@	7.31	0.80

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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)
2699.00	0.70	30.00	2698.85	119.00	3.77	21.31 N	2.74 E	32.92392390 N	104.17076937 W	21.49@	7.34	0.48
2791.00	0.70	23.00	2790.85	92.00	4.32	22.32 N	3.24 E	32.92392666 N	104.17076774 W	22.55@	8.27	0.09
2893.00	0.40	284.00	2892.84	102.00	4.25	22.97 N	3.14 E	32.92392847 N	104.17076807 W	23.19@	7.79	0.84
2978.00	0.90	25.00	2977.84	85.00	4.28	23.65 N	3.14 E	32.92393033 N	104.17076808 W	23.86@	7.56	1.24
3071.00	0.50	57.00	3070.83	93.00	4.97	24.53 N	3.79 E	32.92393276 N	104.17076596 W	24.82@	8.77	0.59
3165.00	0.70	311.00	3164.83	94.00	4.91	25.13 N	3.70 E	32.92393441 N	104.17076625 W	25.41@	8.37	1.03
3260.00	0.70	311.00	3259.82	95.00	4.07	25.90 N	2.82 E	32.92393650 N	104.17076910 W	26.05@	6.22	0.00
3352.00	0.20	113.00	3351.82	92.00	3.81	26.20 N	2.54 E	32.92393734 N	104.17077000 W	26.33@	5.55	0.97
3452.00	0.20	173.00	3451.82	100.00	3.98	25.96 N	2.73 E	32.92393668 N	104.17076941 W	26.10@	5.99	0.20
3544.00	0.30	170.00	3543.82	92.00	4.02	25.56 N	2.79 E	32.92393559 N	104.17076921 W	25.72@	6.22	0.11
3637.00	0.60	7.00	3636.82	93.00	4.14	25.81 N	2.89 E	32.92393626 N	104.17076888 W	25.97@	6.39	0.96
3755.00	0.90	349.00	3754.81	118.00	4.11	27.33 N	2.79 E	32.92394044 N	104.17076920 W	27.47@	5.82	0.32
3819.00	0.70	274.00	3818.80	64.00	3.65	27.85 N	2.30 E	32.92394188 N	104.17077078 W	27.95@	4.72	1.54
** TIED INTO TELEDRIPT SURVEYS AT 3915' MD.												
3915.00	0.70	30.00	3914.80	96.00	3.39	28.40 N	2.01 E	32.92394339 N	104.17077173 W	28.47@	4.05	1.24
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.												
3955.00	0.79	335.61	3954.80	40.00	3.42	28.86 N	2.02 E	32.92394466 N	104.17077170 W	28.93@	4.00	1.71
4004.00	0.70	327.08	4003.79	49.00	3.14	29.42 N	1.72 E	32.92394620 N	104.17077268 W	29.47@	3.34	0.29
4098.00	0.97	342.20	4097.78	94.00	2.65	30.66 N	1.16 E	32.92394961 N	104.17077449 W	30.68@	2.17	0.37
4191.00	0.97	327.17	4190.77	93.00	2.05	32.07 N	0.49 E	32.92395349 N	104.17077665 W	32.08@	0.88	0.27
4285.00	0.53	182.33	4284.77	94.00	1.61	32.31 N	0.04 E	32.92395413 N	104.17077812 W	32.31@	0.08	1.53
4378.00	0.70	206.06	4377.76	93.00	1.30	31.37 N	0.22 W	32.92395155 N	104.17077899 W	31.37@	359.59	0.32
4472.00	0.35	213.97	4471.76	94.00	0.85	30.61 N	0.64 W	32.92394948 N	104.17078034 W	30.62@	358.81	0.38
4565.00	0.70	207.38	4564.75	93.00	0.39	29.87 N	1.06 W	32.92394745 N	104.17078171 W	29.89@	357.98	0.38
4659.00	0.62	136.45	4658.75	94.00	0.44	28.99 N	0.97 W	32.92394503 N	104.17078143 W	29.01@	358.09	0.82
4752.00	1.23	130.12	4751.74	93.00	1.50	27.99 N	0.14 E	32.92394226 N	104.17077782 W	27.99@	0.29	0.66
4845.00	0.70	143.75	4844.72	93.00	2.54	26.88 N	1.24 E	32.92393923 N	104.17077425 W	26.91@	2.64	0.62
4939.00	0.70	134.43	4938.72	94.00	3.25	26.02 N	1.99 E	32.92393684 N	104.17077181 W	26.10@	4.37	0.12

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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)
5032.00	0.97	148.84	5031.71	93.00	4.01	24.95 N	2.80 E	32.92393390 N	104.17076916 W	25.11@	6.41	0.36
5126.00	0.97	146.73	5125.69	94.00	4.79	23.60 N	3.65 E	32.92393019 N	104.17076641 W	23.88@	8.79	0.04
5220.00	0.53	135.13	5219.68	94.00	5.49	22.63 N	4.39 E	32.92392751 N	104.17076399 W	23.05@	10.99	0.49
5313.00	0.70	110.70	5312.68	93.00	6.30	22.12 N	5.23 E	32.92392612 N	104.17076127 W	22.73@	13.30	0.33
5406.00	1.41	103.32	5405.66	93.00	7.92	21.66 N	6.87 E	32.92392484 N	104.17075591 W	22.72@	17.61	0.78
5500.00	1.49	111.75	5499.63	94.00	10.14	20.94 N	9.13 E	32.92392285 N	104.17074855 W	22.85@	23.57	0.24
5593.00	1.76	92.94	5592.60	93.00	12.66	20.42 N	11.68 E	32.92392141 N	104.17074024 W	23.52@	29.78	0.64
5686.00	1.49	91.71	5685.56	93.00	15.29	20.31 N	14.32 E	32.92392110 N	104.17073166 W	24.85@	35.19	0.29
5780.00	1.41	107.18	5779.53	94.00	17.59	19.93 N	16.65 E	32.92392005 N	104.17072408 W	25.97@	39.87	0.42
5873.00	1.85	93.30	5872.49	93.00	20.16	19.51 N	19.24 E	32.92391887 N	104.17071563 W	27.40@	44.60	0.63
5929.00	1.67	90.31	5928.46	56.00	21.87	19.45 N	20.96 E	32.92391871 N	104.17071003 W	28.59@	47.13	0.36
5998.00	1.85	91.45	5997.43	69.00	23.99	19.42 N	23.07 E	32.92391860 N	104.17070313 W	30.16@	49.92	0.27
6029.00	2.11	88.02	6028.41	31.00	25.06	19.42 N	24.14 E	32.92391862 N	104.17069964 W	30.99@	51.18	0.92
6060.00	5.01	84.16	6059.35	31.00	26.98	19.58 N	26.06 E	32.92391904 N	104.17069339 W	32.60@	53.08	9.38
6091.00	10.20	82.22	6090.07	31.00	31.07	20.09 N	30.13 E	32.92392043 N	104.17068013 W	36.21@	56.31	16.76
6122.00	16.36	83.19	6120.22	31.00	38.17	20.98 N	37.19 E	32.92392284 N	104.17065711 W	42.70@	60.57	19.88
6154.00	20.75	86.70	6150.55	32.00	48.34	21.84 N	47.33 E	32.92392517 N	104.17062406 W	52.13@	65.23	14.15
6185.00	23.39	87.58	6179.28	31.00	59.98	22.42 N	58.96 E	32.92392670 N	104.17058615 W	63.08@	69.18	8.58
6216.00	25.41	88.20	6207.51	31.00	72.79	22.89 N	71.76 E	32.92392794 N	104.17054444 W	75.32@	72.31	6.57
6247.00	26.29	87.50	6235.41	31.00	86.30	23.39 N	85.27 E	32.92392928 N	104.17050042 W	88.42@	74.66	3.00
6278.00	28.93	88.20	6262.87	31.00	100.67	23.93 N	99.62 E	32.92393069 N	104.17045364 W	102.46@	76.49	8.58
6309.00	33.15	88.55	6289.43	31.00	116.64	24.38 N	115.60 E	32.92393186 N	104.17040157 W	118.14@	78.09	13.63
6340.00	37.02	88.90	6314.79	31.00	134.45	24.77 N	133.41 E	32.92393286 N	104.17034353 W	135.69@	79.48	12.50
6371.00	39.83	90.13	6339.08	31.00	153.70	24.93 N	152.67 E	32.92393321 N	104.17028075 W	154.69@	80.73	9.39
6402.00	41.24	89.87	6362.64	31.00	173.82	24.93 N	172.82 E	32.92393313 N	104.17021509 W	174.61@	81.79	4.58
6434.00	45.02	88.55	6385.99	32.00	195.68	25.24 N	194.69 E	32.92393389 N	104.17014382 W	196.32@	82.61	12.14
6465.00	49.86	86.62	6406.95	31.00	218.51	26.22 N	217.49 E	32.92393648 N	104.17006950 W	219.07@	83.13	16.27

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6496.00	53.64	85.91	6426.14	31.00	242.84	27.81 N	241.78 E	32.92394074 N	104.16999033 W	243.37@	83.44	12.33
6527.00	57.77	86.33	6443.60	31.00	268.44	29.54 N	267.33 E	32.92394539 N	104.16990707 W	268.95@	83.69	13.37
6558.00	62.70	87.16	6458.99	31.00	295.35	31.06 N	294.18 E	32.92394946 N	104.16981953 W	295.82@	83.97	16.07
6589.00	67.27	87.78	6472.09	31.00	323.43	32.30 N	322.24 E	32.92395274 N	104.16972809 W	323.86@	84.28	14.85
6620.00	70.00	87.84	6483.38	31.00	352.29	33.40 N	351.09 E	32.92395565 N	104.16963408 W	352.67@	84.57	8.81
6651.00	72.90	88.25	6493.24	31.00	381.68	34.40 N	380.46 E	32.92395828 N	104.16953836 W	382.01@	84.83	9.44
6682.00	76.24	88.96	6501.49	31.00	411.55	35.13 N	410.33 E	32.92396014 N	104.16944101 W	411.83@	85.11	11.00
6713.00	79.49	89.39	6508.01	31.00	441.83	35.56 N	440.63 E	32.92396121 N	104.16934226 W	442.06@	85.39	10.57
6745.00	82.04	90.27	6513.14	32.00	473.38	35.66 N	472.21 E	32.92396133 N	104.16923934 W	473.55@	85.68	8.42
6775.00	84.24	90.68	6516.72	30.00	503.12	35.41 N	501.99 E	32.92396052 N	104.16914228 W	503.24@	85.97	7.46
6860.00	88.02	90.66	6522.46	85.00	587.75	34.42 N	586.78 E	32.92395744 N	104.16886598 W	587.78@	86.64	4.45
6891.00	88.29	91.34	6523.46	31.00	618.67	33.88 N	617.75 E	32.92395582 N	104.16876502 W	618.68@	86.86	2.36
6922.00	89.87	90.32	6523.96	31.00	649.60	33.43 N	648.75 E	32.92395445 N	104.16866402 W	649.61@	87.05	6.07
6933.00	89.66	89.98	6524.00	11.00	660.59	33.40 N	659.75 E	32.92395432 N	104.16862817 W	660.59@	87.10	3.63
6964.00	89.89	89.92	6524.12	31.00	691.55	33.43 N	690.75 E	32.92395426 N	104.16852715 W	691.55@	87.23	0.77
6996.00	89.66	88.94	6524.25	32.00	723.53	33.74 N	722.74 E	32.92395500 N	104.16842287 W	723.53@	87.33	3.15
7027.00	89.44	88.71	6524.49	31.00	754.52	34.38 N	753.74 E	32.92395662 N	104.16832186 W	754.52@	87.39	1.03
7058.00	89.27	88.80	6524.84	31.00	785.50	35.05 N	784.73 E	32.92395833 N	104.16822086 W	785.51@	87.44	0.62
7089.00	89.66	89.23	6525.13	31.00	816.49	35.59 N	815.72 E	32.92395967 N	104.16811985 W	816.50@	87.50	1.87
7120.00	89.61	89.02	6525.33	31.00	847.47	36.06 N	846.72 E	32.92396083 N	104.16801883 W	847.48@	87.56	0.70
7151.00	89.66	88.14	6525.53	31.00	878.46	36.83 N	877.71 E	32.92396281 N	104.16791784 W	878.48@	87.60	2.84
7182.00	90.00	87.82	6525.62	31.00	909.46	37.92 N	908.69 E	32.92396568 N	104.16781687 W	909.48@	87.61	1.51
7213.00	90.22	86.39	6525.56	31.00	940.46	39.49 N	939.65 E	32.92396985 N	104.16771596 W	940.48@	87.59	4.67
7243.00	90.39	86.06	6525.40	30.00	970.45	41.46 N	969.58 E	32.92397515 N	104.16761840 W	970.47@	87.55	1.24
7277.00	89.78	85.52	6525.35	34.00	1004.44	43.96 N	1003.49 E	32.92398186 N	104.16750788 W	1004.45@	87.49	2.40
7309.00	89.50	85.32	6525.55	32.00	1036.42	46.51 N	1035.39 E	32.92398875 N	104.16740392 W	1036.43@	87.43	1.08
7340.00	88.88	84.98	6525.99	31.00	1067.40	49.13 N	1066.27 E	32.92399582 N	104.16730325 W	1067.40@	87.36	2.28

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7372.00	88.83	85.07	6526.63	32.00	1099.37	51.91 N	1098.14 E	32.92400331 N	104.16719936 W	1099.37@	87.29	0.32
7404.00	87.54	85.95	6527.64	32.00	1131.34	54.41 N	1130.03 E	32.92401005 N	104.16709544 W	1131.34@	87.24	4.88
7436.00	87.59	85.74	6529.00	32.00	1163.30	56.73 N	1161.92 E	32.92401628 N	104.16699151 W	1163.30@	87.20	0.67
7468.00	87.65	85.69	6530.33	32.00	1195.26	59.12 N	1193.80 E	32.92402271 N	104.16688759 W	1195.26@	87.16	0.24
7500.00	87.70	85.68	6531.63	32.00	1227.22	61.52 N	1225.68 E	32.92402918 N	104.16678367 W	1227.23@	87.13	0.16
7531.00	88.77	86.41	6532.58	31.00	1258.20	63.66 N	1256.59 E	32.92403492 N	104.16668292 W	1258.20@	87.10	4.18
7563.00	89.22	87.24	6533.14	32.00	1290.20	65.43 N	1288.54 E	32.92403965 N	104.16657881 W	1290.20@	87.09	2.95
7595.00	89.16	87.36	6533.60	32.00	1322.19	66.94 N	1320.50 E	32.92404366 N	104.16647464 W	1322.20@	87.10	0.42
7627.00	88.99	87.20	6534.11	32.00	1354.19	68.46 N	1352.46 E	32.92404769 N	104.16637048 W	1354.19@	87.10	0.73
7659.00	88.66	87.19	6534.77	32.00	1386.18	70.02 N	1384.41 E	32.92405186 N	104.16626633 W	1386.18@	87.10	1.03
7691.00	88.94	87.67	6535.44	32.00	1418.17	71.46 N	1416.38 E	32.92405566 N	104.16616216 W	1418.18@	87.11	1.74
7722.00	90.50	88.82	6535.59	31.00	1449.17	72.41 N	1447.36 E	32.92405813 N	104.16606118 W	1449.17@	87.14	6.25
7754.00	91.01	89.39	6535.17	32.00	1481.15	72.91 N	1479.35 E	32.92405937 N	104.16595692 W	1481.15@	87.18	2.39
7786.00	90.90	89.41	6534.63	32.00	1513.12	73.24 N	1511.35 E	32.92406015 N	104.16585265 W	1513.12@	87.23	0.35
7818.00	91.01	89.31	6534.10	32.00	1545.09	73.60 N	1543.34 E	32.92406099 N	104.16574838 W	1545.09@	87.27	0.46
7850.00	90.73	89.26	6533.62	32.00	1577.07	74.00 N	1575.33 E	32.92406195 N	104.16564411 W	1577.07@	87.31	0.89
7882.00	90.56	88.94	6533.26	32.00	1609.05	74.50 N	1607.33 E	32.92406319 N	104.16553984 W	1609.05@	87.35	1.13
7914.00	90.28	88.26	6533.02	32.00	1641.04	75.28 N	1639.32 E	32.92406520 N	104.16543559 W	1641.04@	87.37	2.30
7945.00	89.11	86.48	6533.19	31.00	1672.04	76.71 N	1670.28 E	32.92406898 N	104.16533466 W	1672.04@	87.37	6.87
7977.00	88.88	85.45	6533.75	32.00	1704.02	78.96 N	1702.20 E	32.92407502 N	104.16523064 W	1704.03@	87.34	3.30
8009.00	88.83	85.43	6534.39	32.00	1736.00	81.50 N	1734.09 E	32.92408187 N	104.16512669 W	1736.00@	87.31	0.17
8041.00	88.99	85.92	6535.00	32.00	1767.98	83.91 N	1765.99 E	32.92408837 N	104.16502271 W	1767.98@	87.28	1.61
8073.00	89.38	87.15	6535.45	32.00	1799.98	85.85 N	1797.93 E	32.92409354 N	104.16491862 W	1799.98@	87.27	4.03
8105.00	89.38	86.80	6535.80	32.00	1831.98	87.54 N	1829.88 E	32.92409804 N	104.16481447 W	1831.98@	87.26	1.09
8137.00	89.50	86.39	6536.11	32.00	1863.97	89.44 N	1861.83 E	32.92410313 N	104.16471037 W	1863.97@	87.25	1.33
8169.00	89.44	86.61	6536.41	32.00	1895.97	91.39 N	1893.76 E	32.92410836 N	104.16460627 W	1895.97@	87.24	0.71
8201.00	89.22	86.61	6536.78	32.00	1927.96	93.28 N	1925.71 E	32.92411342 N	104.16450216 W	1927.96@	87.23	0.69

PathFinder Energy Services, Inc.

Survey Report

Mack Energy Corporation
Santa Claus State Com #1
Eddy 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)
8233.00	88.71	86.35	6537.36	32.00	1959.96	95.25 N	1957.64 E	32.92411867 N	104.16439808 W	1959.96@	87.21	1.79
8264.00	88.83	86.68	6538.02	31.00	1990.95	97.13 N	1988.58 E	32.92412372 N	104.16429725 W	1990.95@	87.20	1.13
8296.00	88.94	87.03	6538.65	32.00	2022.94	98.89 N	2020.52 E	32.92412840 N	104.16419313 W	2022.94@	87.20	1.15
8328.00	88.82	86.88	6539.27	32.00	2054.93	100.59 N	2052.47 E	32.92413293 N	104.16408901 W	2054.93@	87.19	0.60
8360.00	88.21	86.10	6540.10	32.00	2086.92	102.54 N	2084.40 E	32.92413817 N	104.16398494 W	2086.92@	87.18	3.09
8392.00	88.10	86.17	6541.13	32.00	2118.90	104.70 N	2116.31 E	32.92414396 N	104.16388093 W	2118.90@	87.17	0.41
8424.00	88.21	86.07	6542.16	32.00	2150.87	106.86 N	2148.22 E	32.92414977 N	104.16377693 W	2150.88@	87.15	0.46
8456.00	88.26	86.56	6543.15	32.00	2182.86	108.92 N	2180.14 E	32.92415527 N	104.16367290 W	2182.86@	87.14	1.54
8487.00	88.21	86.54	6544.10	31.00	2213.84	110.78 N	2211.07 E	32.92416026 N	104.16357209 W	2213.84@	87.13	0.17
8519.00	88.38	86.61	6545.05	32.00	2245.82	112.69 N	2243.00 E	32.92416537 N	104.16346803 W	2245.83@	87.12	0.57
8551.00	88.49	87.11	6545.93	32.00	2277.81	114.45 N	2274.94 E	32.92417005 N	104.16336393 W	2277.81@	87.12	1.60
8583.00	88.49	87.05	6546.77	32.00	2309.80	116.08 N	2306.88 E	32.92417439 N	104.16325980 W	2309.80@	87.12	0.19
8615.00	88.66	87.28	6547.57	32.00	2341.79	117.66 N	2338.83 E	32.92417859 N	104.16315567 W	2341.79@	87.12	0.89
8647.00	88.94	87.86	6548.24	32.00	2373.78	119.02 N	2370.80 E	32.92418218 N	104.16305149 W	2373.78@	87.13	2.01
8679.00	89.05	88.20	6548.80	32.00	2405.77	120.12 N	2402.77 E	32.92418506 N	104.16294728 W	2405.77@	87.14	1.12
8711.00	89.66	88.22	6549.16	32.00	2437.77	121.11 N	2434.76 E	32.92418767 N	104.16284304 W	2437.77@	87.15	1.91
8743.00	89.61	88.32	6549.36	32.00	2469.76	122.08 N	2466.74 E	32.92419018 N	104.16273880 W	2469.76@	87.17	0.35
8774.00	88.99	87.97	6549.74	31.00	2500.75	123.08 N	2497.72 E	32.92419280 N	104.16263783 W	2500.75@	87.18	2.30
8806.00	88.99	87.78	6550.30	32.00	2532.75	124.27 N	2529.70 E	32.92419592 N	104.16253362 W	2532.75@	87.19	0.59
8838.00	89.05	87.88	6550.85	32.00	2564.74	125.48 N	2561.67 E	32.92419911 N	104.16242942 W	2564.74@	87.20	0.36
8870.00	88.94	87.63	6551.41	32.00	2596.73	126.74 N	2593.64 E	32.92420241 N	104.16232522 W	2596.73@	87.20	0.85
8902.00	89.33	87.75	6551.90	32.00	2628.73	128.02 N	2625.61 E	32.92420581 N	104.16222103 W	2628.73@	87.21	1.27
8934.00	89.61	87.71	6552.19	32.00	2660.73	129.29 N	2657.58 E	32.92420915 N	104.16211682 W	2660.73@	87.21	0.88
8965.00	89.78	87.77	6552.36	31.00	2691.72	130.51 N	2688.56 E	32.92421237 N	104.16201586 W	2691.72@	87.22	0.58
8997.00	89.94	88.06	6552.44	32.00	2723.72	131.68 N	2720.54 E	32.92421543 N	104.16191164 W	2723.72@	87.23	1.04
9029.00	90.28	88.15	6552.37	32.00	2755.72	132.74 N	2752.52 E	32.92421820 N	104.16180741 W	2755.72@	87.24	1.10
9060.00	90.45	88.11	6552.18	31.00	2786.71	133.75 N	2783.50 E	32.92422084 N	104.16170643 W	2786.71@	87.25	0.56

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Survey Report

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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)
9092.00	90.45	88.15	6551.93	32.00	2818.71	134.79 N	2815.48 E	32.92422356 N	104.16160219 W	2818.71@ 87.26	0.13
9124.00	90.67	88.18	6551.61	32.00	2850.70	135.82 N	2847.47 E	32.92422624 N	104.16149796 W	2850.70@ 87.27	0.69
9156.00	90.84	88.11	6551.19	32.00	2882.70	136.85 N	2879.45 E	32.92422894 N	104.16139373 W	2882.70@ 87.28	0.57
9188.00	90.45	87.81	6550.83	32.00	2914.69	137.99 N	2911.42 E	32.92423193 N	104.16128951 W	2914.69@ 87.29	1.54
9220.00	90.50	87.27	6550.57	32.00	2946.69	139.37 N	2943.39 E	32.92423556 N	104.16118532 W	2946.69@ 87.29	1.69
9252.00	90.62	87.31	6550.25	32.00	2978.69	140.88 N	2975.36 E	32.92423958 N	104.16108115 W	2978.69@ 87.29	0.39
9284.00	90.90	87.13	6549.83	32.00	3010.68	142.43 N	3007.32 E	32.92424370 N	104.16097698 W	3010.69@ 87.29	1.04
9316.00	89.66	86.57	6549.67	32.00	3042.68	144.19 N	3039.27 E	32.92424839 N	104.16087285 W	3042.68@ 87.28	4.25
9347.00	89.55	86.53	6549.89	31.00	3073.68	146.05 N	3070.21 E	32.92425338 N	104.16077200 W	3073.68@ 87.28	0.38
9379.00	88.32	86.92	6550.48	32.00	3105.67	147.88 N	3102.15 E	32.92425826 N	104.16066789 W	3105.67@ 87.27	4.03
9411.00	86.98	87.51	6551.79	32.00	3137.64	149.44 N	3134.08 E	32.92426238 N	104.16056381 W	3137.65@ 87.27	4.58
9443.00	86.92	87.60	6553.50	32.00	3169.60	150.80 N	3166.01 E	32.92426599 N	104.16045976 W	3169.60@ 87.27	0.34
9475.00	86.97	87.86	6555.20	32.00	3201.55	152.06 N	3197.94 E	32.92426932 N	104.16035569 W	3201.55@ 87.28	0.83
9507.00	86.98	87.85	6556.89	32.00	3233.51	153.26 N	3229.87 E	32.92427246 N	104.16025162 W	3233.51@ 87.28	0.04
9539.00	87.14	88.13	6558.53	32.00	3265.46	154.38 N	3261.81 E	32.92427540 N	104.16014753 W	3265.46@ 87.29	1.01
9571.00	87.26	87.94	6560.09	32.00	3297.42	155.48 N	3293.75 E	32.92427827 N	104.16004342 W	3297.42@ 87.30	0.70
9603.00	87.43	87.99	6561.58	32.00	3329.38	156.61 N	3325.70 E	32.92428124 N	104.15993931 W	3329.39@ 87.30	0.55
9625.00	88.10	88.07	6562.43	22.00	3351.36	157.37 N	3347.67 E	32.92428322 N	104.15986770 W	3351.37@ 87.31	3.07
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 9700' MD.											
9700.00	88.10	88.07	6564.92	75.00	3426.31	159.89 N	3422.59 E	32.92428982 N	104.15962354 W	3426.32@ 87.33	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.