

Measurement Data
for Field Exams
for

47-8389A

47-8406

47-8410

MEMORANDUM

Date: December 03, 2004
To: Water Right File 47-8389A
From: amerritt
Re: System Capacity

On 12/1/04 Lance Bates with the city brought in a book of 2 years worth of pump data from Wells 1, 2, 3 and 4. It is noted that the capacities of the wells fluctuate during the year and is most probably dependant and associated with when water is flowing in the TFCC system. Review of the data also shows that the wells are not continuously ran and are cycled in some cases daily to meet peak demand. It is also noted that the capacities of wells 1 and 2 drop off dramatically once turned on. My estimate of the reasonably peak capacity is as follows....

Well #1	1025 gpm or 2.28 cfs
Well #2	385 gpm or 0.86 cfs
Well #3	1715 gpm or 3.82 cfs
Well #4	2975 gpm or 6.69 cfs

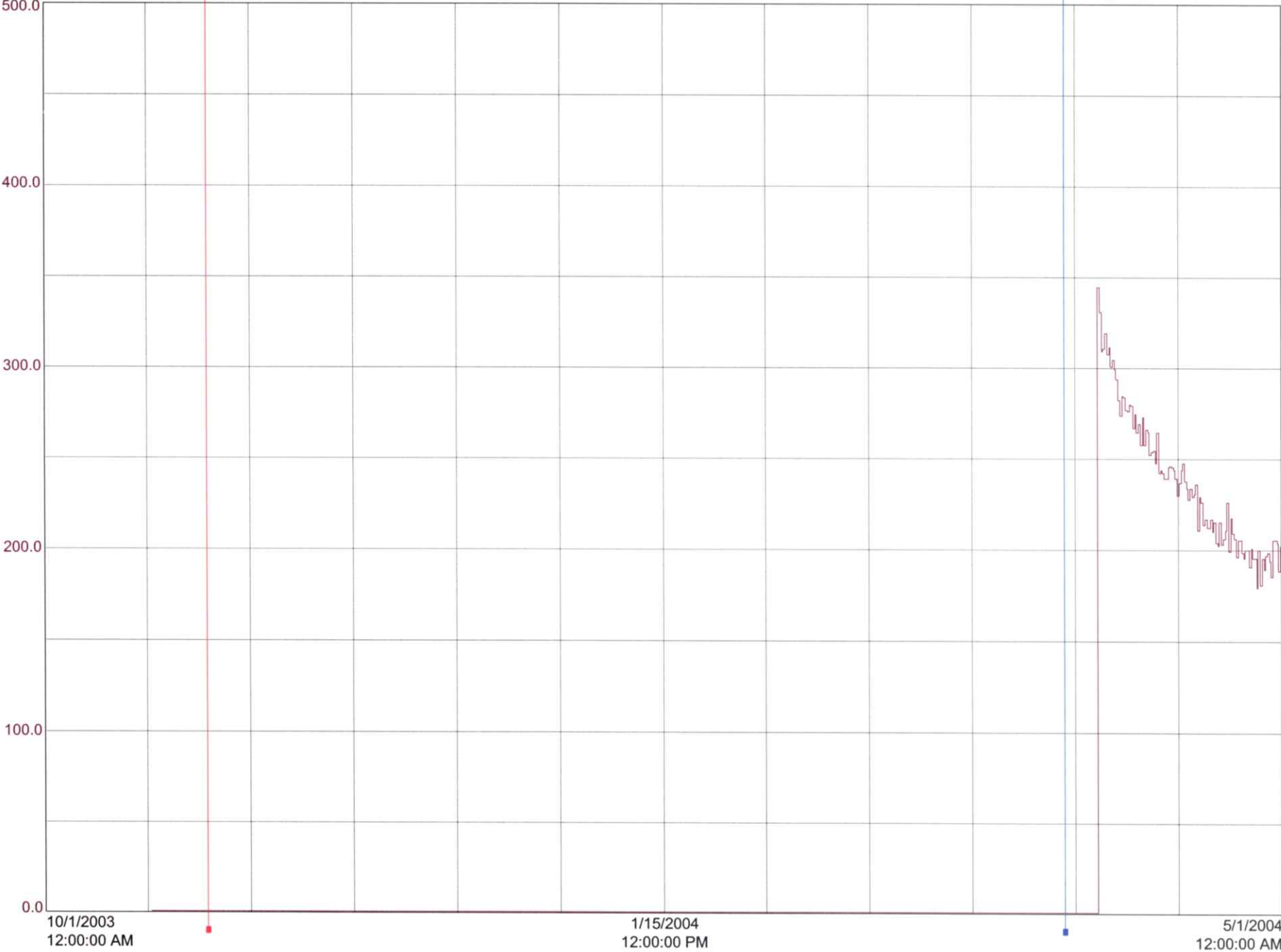
IndustrialSQL Server: Trend

South Well #3 Flow (MySQL:SOUTH_WELL3_FLOW)

Cyclic

(10/28/2003 11:16:22 PM) 0.0 gpm
(3/24/2004 7:25:43 PM) 0.0 gpm

0.0 gpm (147 days, 20:09:21)



IndustrialSQL Server: Trend

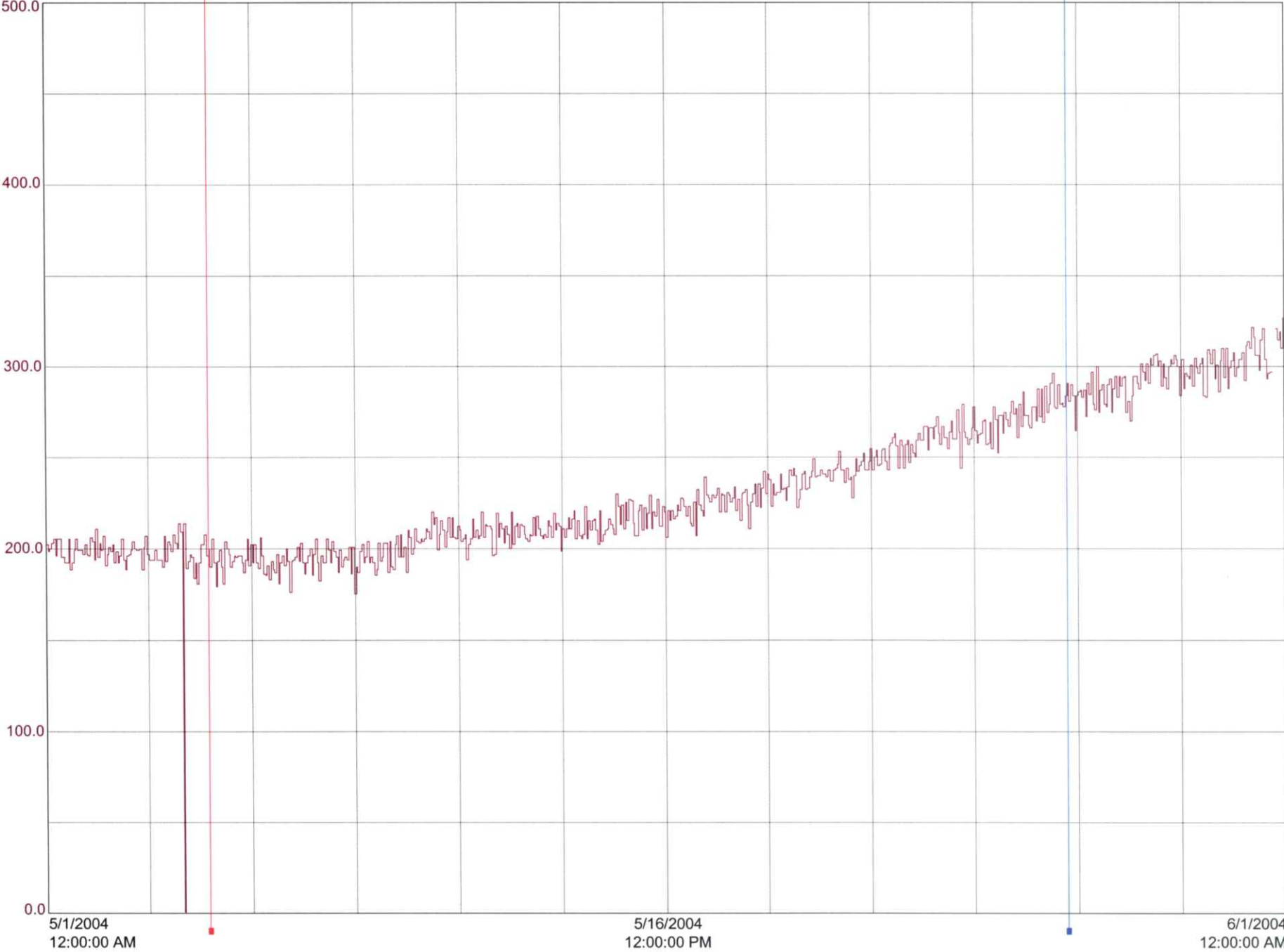
South Well #3 Flow (MyInSQL:SOUTH_WELL3_FLOW)

Cyclic

(5/5/2004 1:41:49 AM) 200.0 gpm

(5/26/2004 2:05:43 PM) 284.0 gpm

84.0 gpm (21 days, 12:23:54)

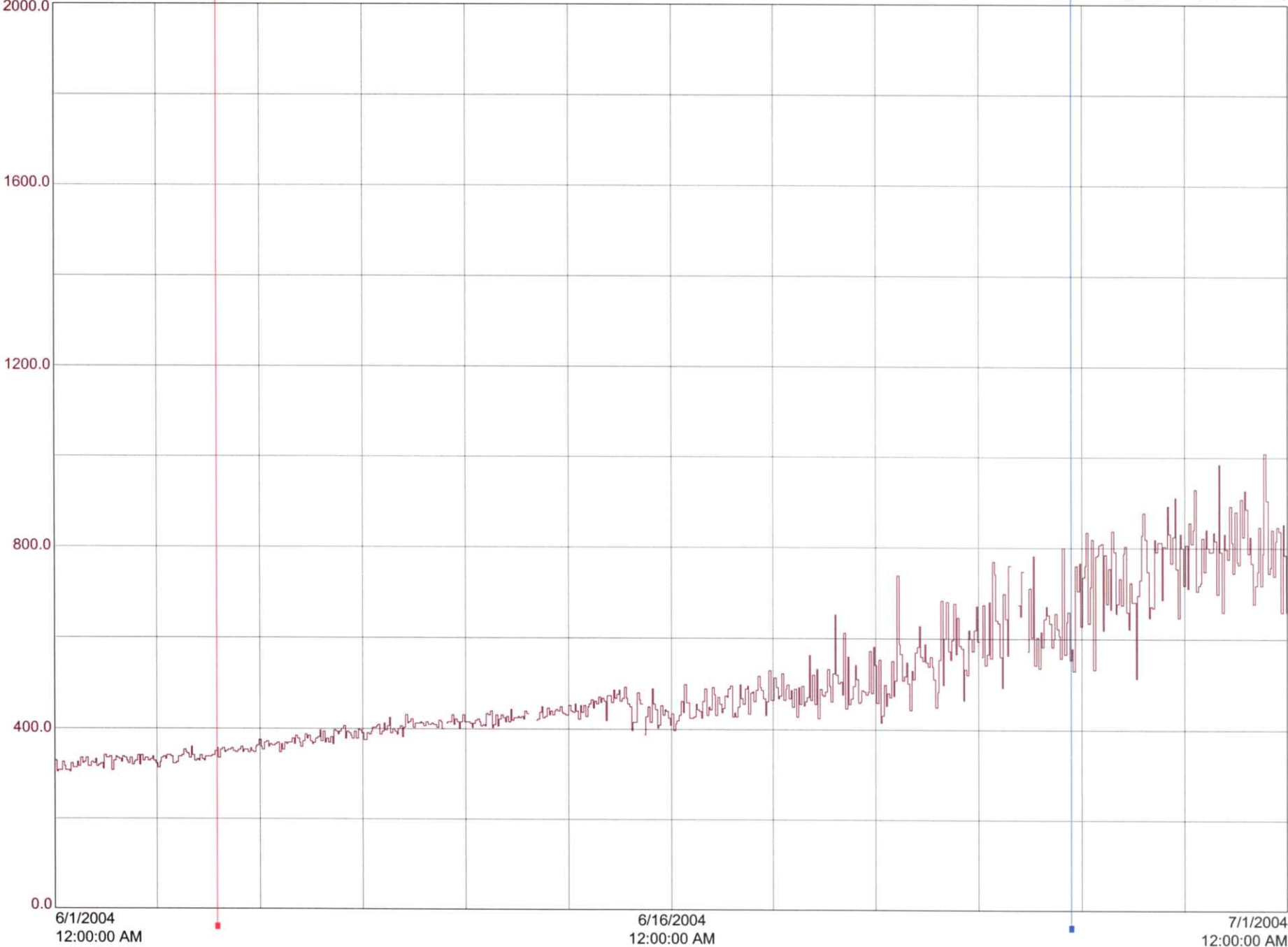


South Well #3 Flow (MyInSQL:SOUTH_WELL3_FLOW)

Cyclic

(6/4/2004 10:32:44 PM) 355.0 gpm
(6/25/2004 6:17:09 PM) 554.0 gpm

199.0 gpm (20 days, 19:44:25)



IndustrialSQL Server: Trend

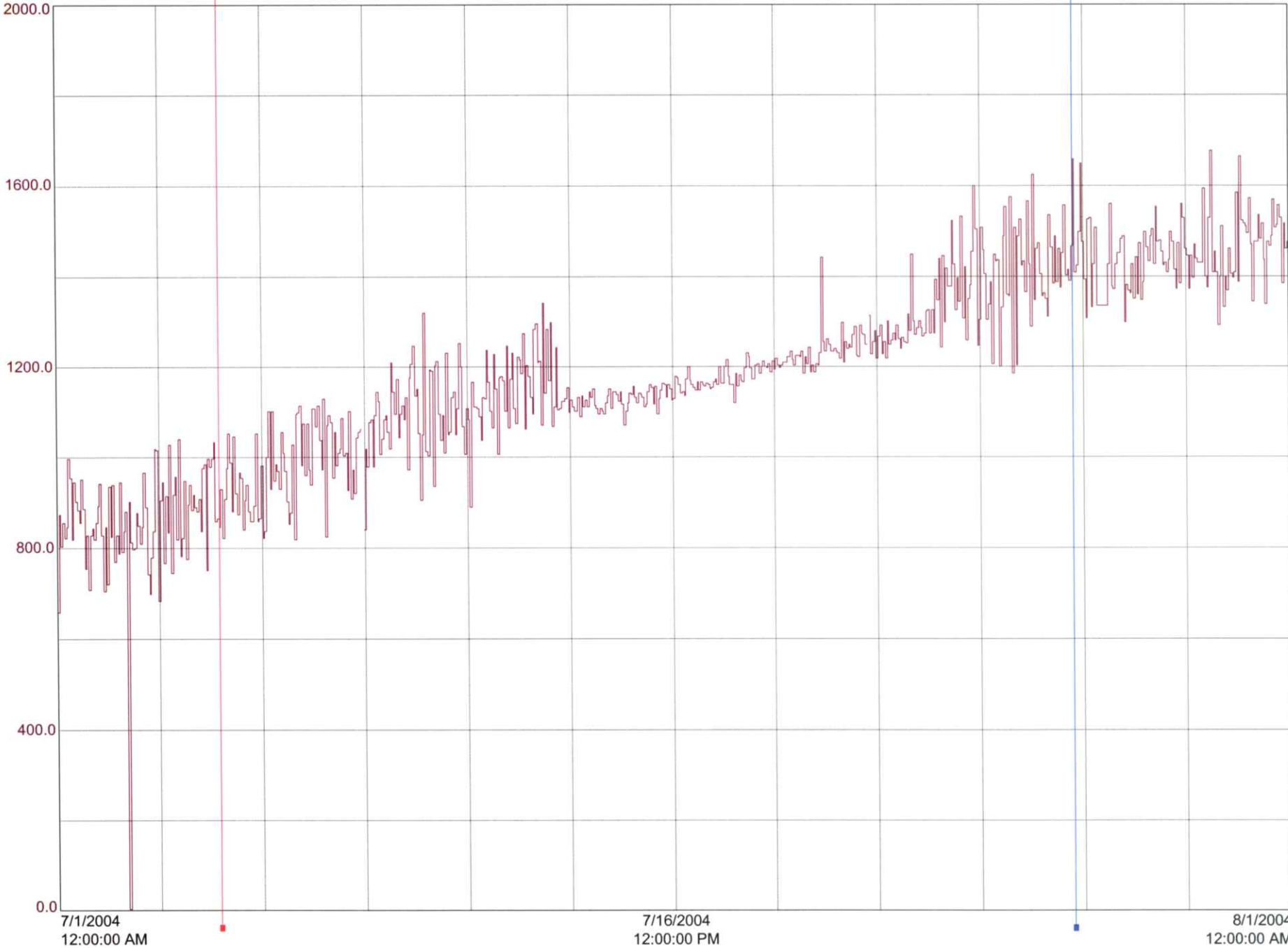
South Well #3 Flow (MySQL:SOUTH_WELL3_FLOW)

Cyclic

(7/5/2004 1:41:49 AM) 846.0 gpm

(7/26/2004 2:05:43 PM) 1469.0 gpm

623.0 gpm (21 days, 12:23:54)

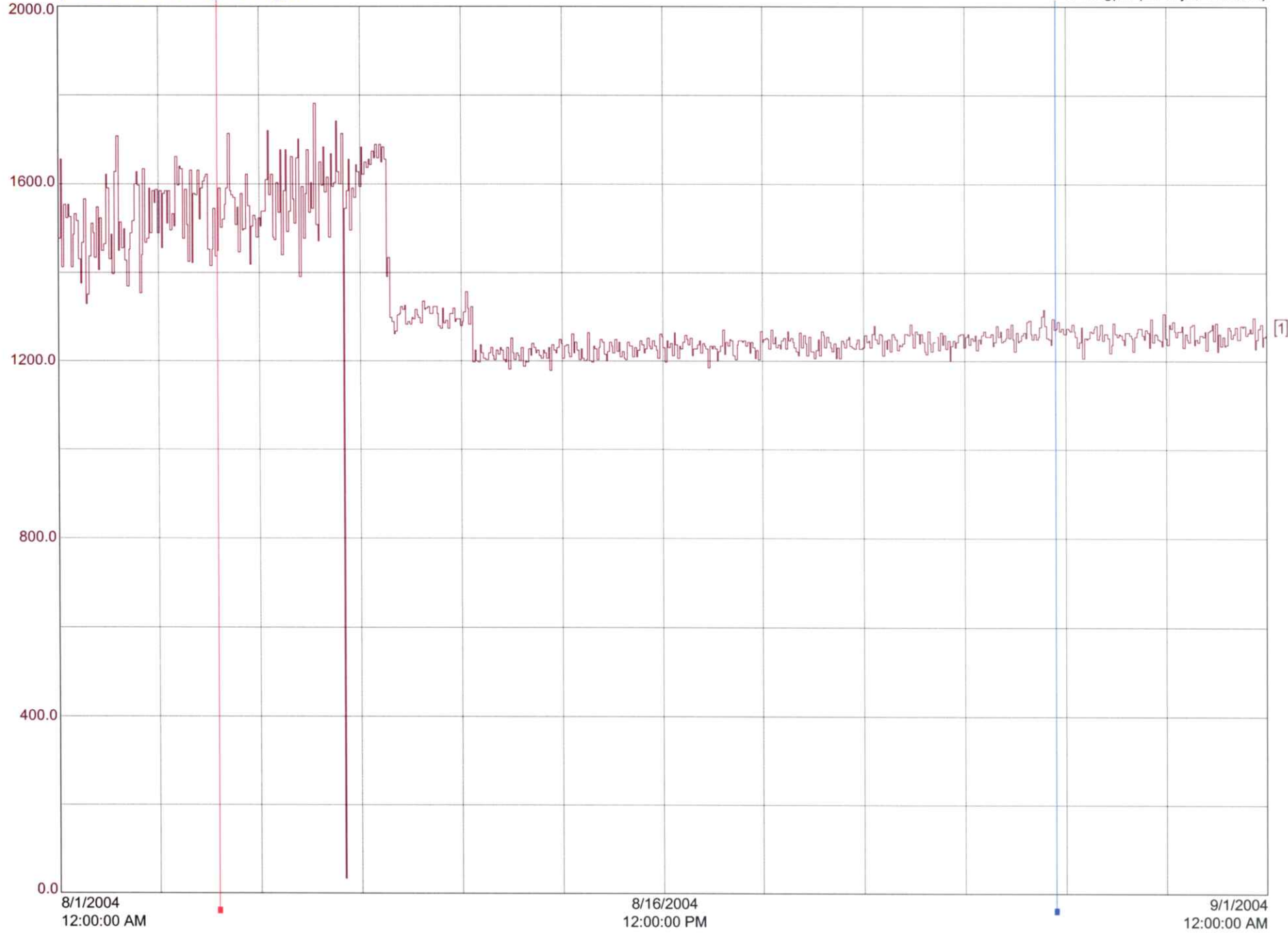


South Well #3 Flow (MySQL:SOUTH_WELL3_FLOW)

Cyclic

(8/5/2004 1:41:49 AM) 1451.0 gpm
(8/26/2004 2:05:43 PM) 1271.0 gpm

-180.0 gpm (21 days, 12:23:54)



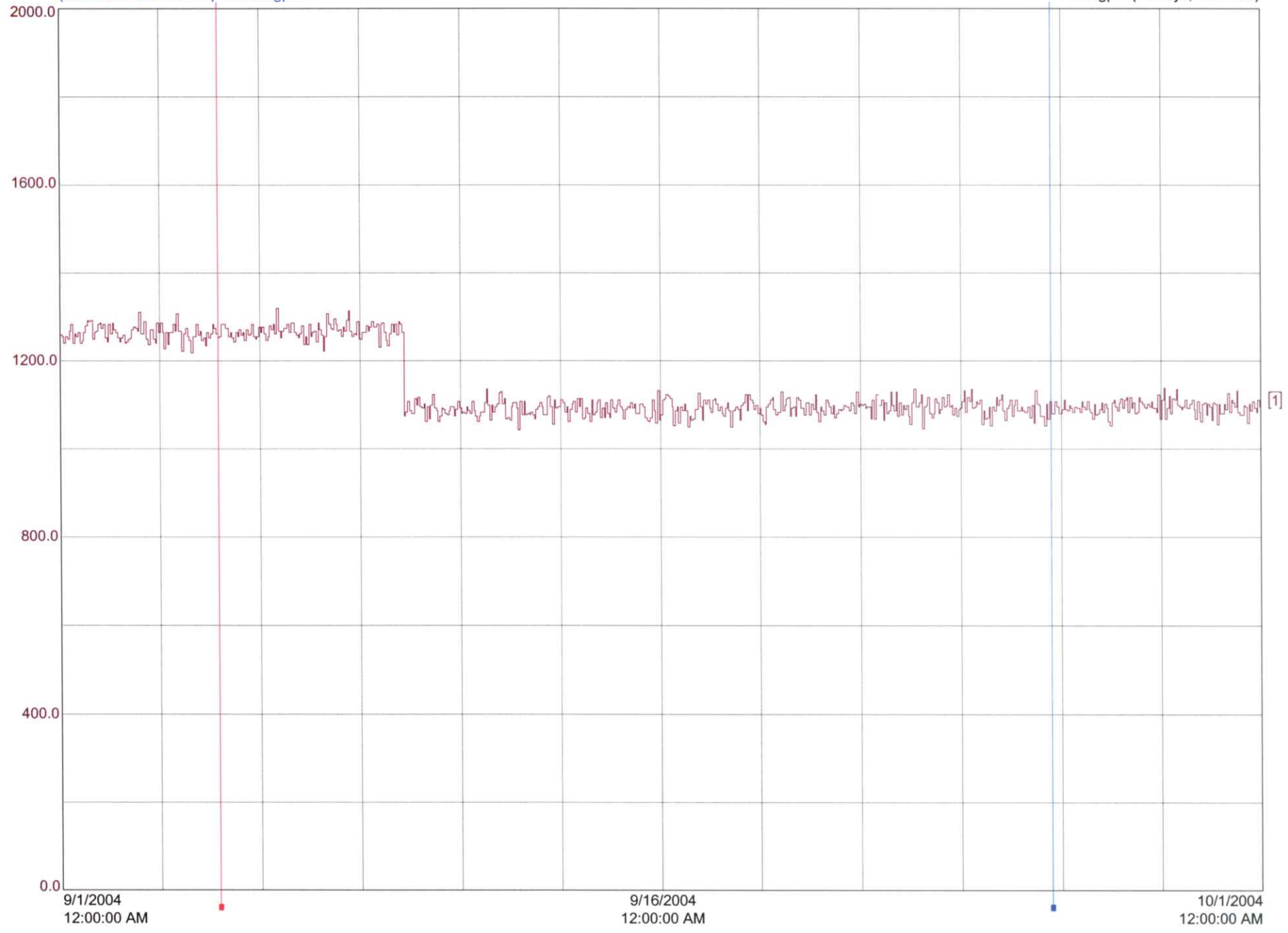
IndustrialSQL Server: Trend

South Well #3 Flow (MyInSQL:SOUTH_WELL3_FLOW)

Cyclic

(9/4/2004 10:32:44 PM) 1253.0 gpm
(9/25/2004 6:17:09 PM) 1109.0 gpm

-144.0 gpm (20 days, 19:44:25)



IndustrialSQL Server: Trend

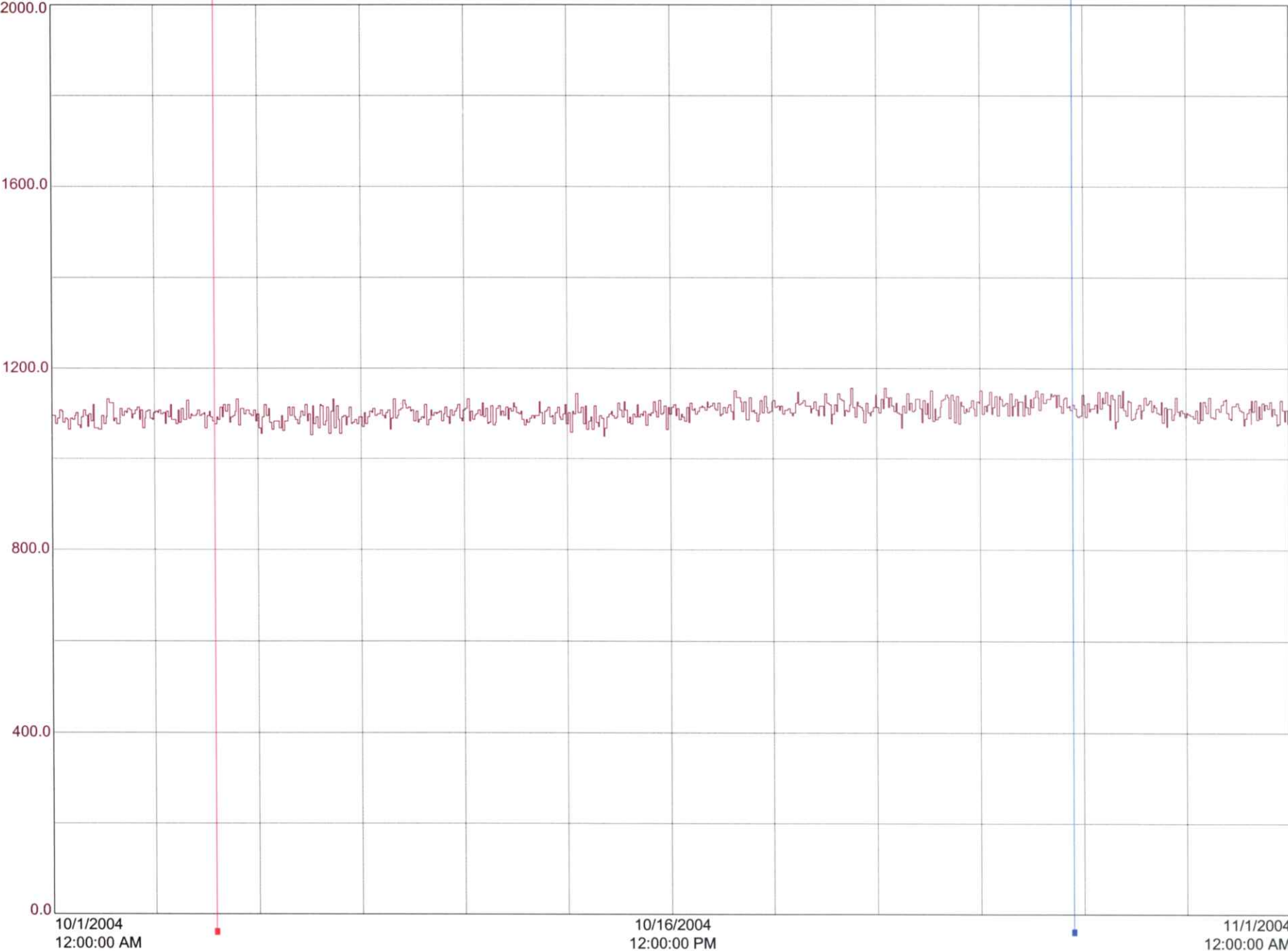
South Well #3 Flow (MySQL:SOUTH_WELL3_FLOW)

Cyclic

(10/5/2004 1:41:49 AM) 1084.0 gpm

(10/26/2004 2:05:43 PM) 1119.0 gpm

35.0 gpm (21 days, 12:23:54)



IndustrialSQL Server: Trend

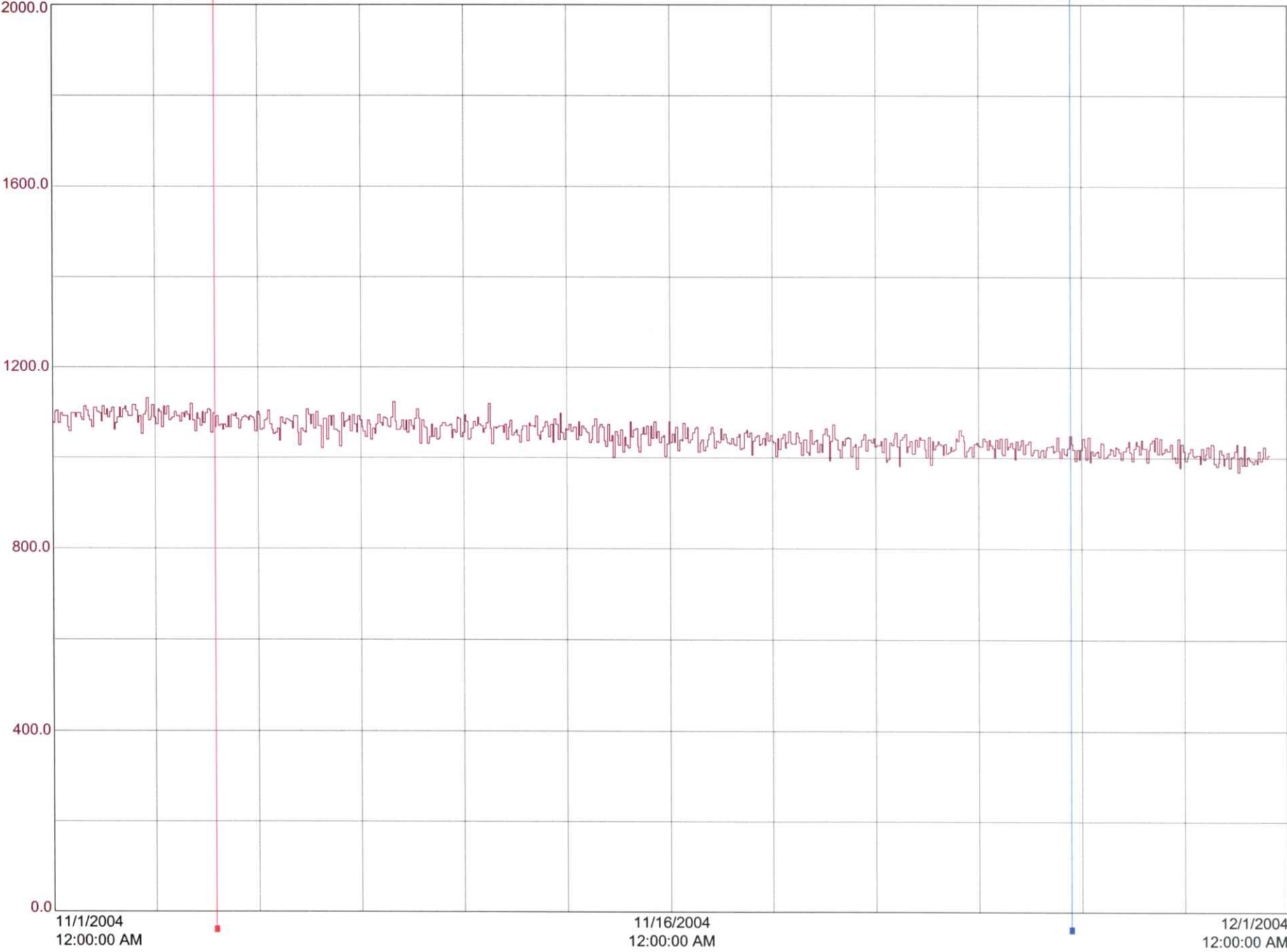
South Well #3 Flow (MyInSQL:SOUTH_WELL3_FLOW)

Cyclic

(11/4/2004 10:32:44 PM) 1068.0 gpm

(11/25/2004 6:17:09 PM) 1050.0 gpm

-18.0 gpm (20 days, 19:44:25)



Well #4

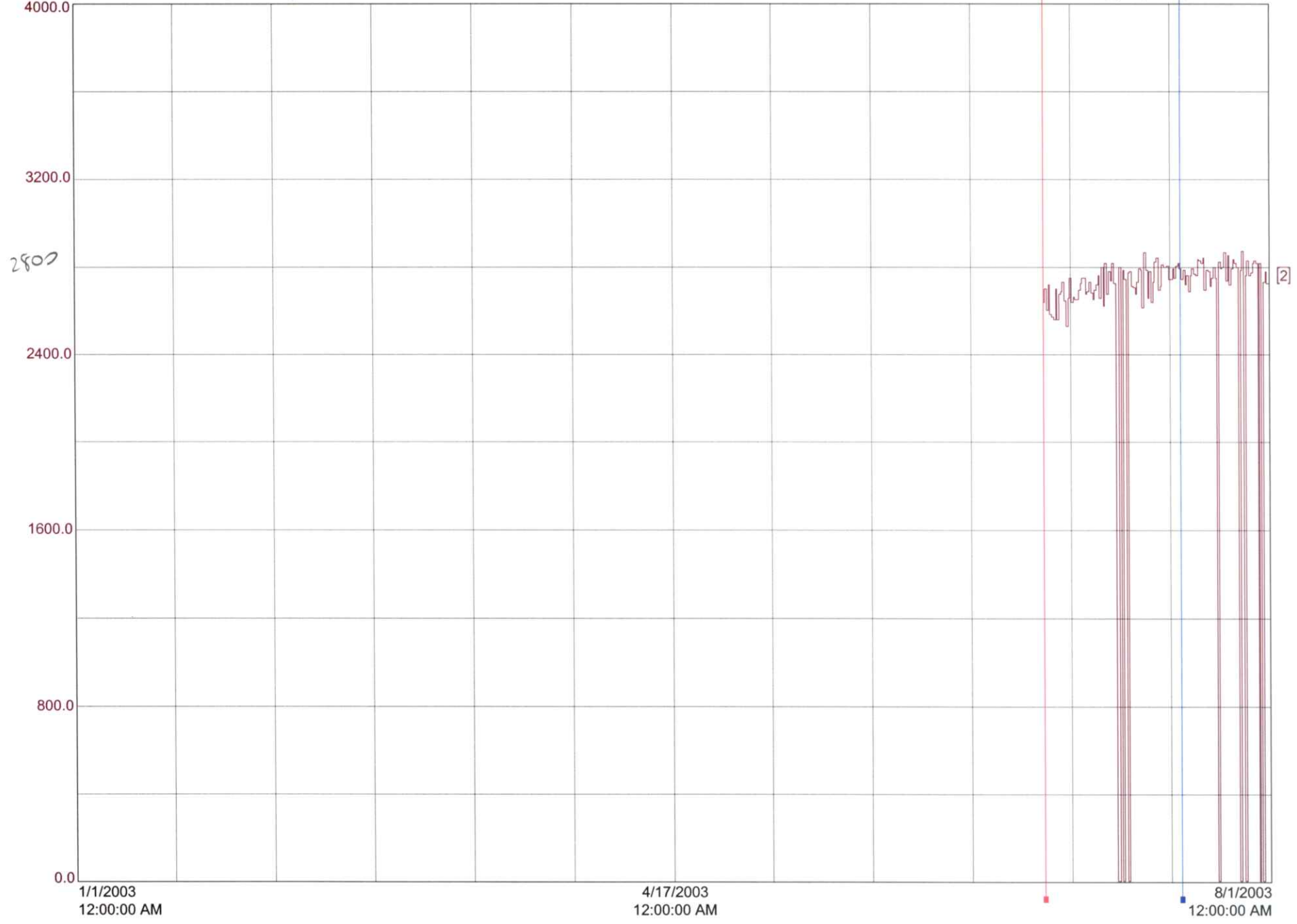
IndustrialSQL Server: Trend

South Well #4 Flow (MySQL:SOUTH_WELL4_FLOW)

Cyclic

(6/21/2003 10:11:57 PM) 2641.0 gpm
(7/16/2003 9:33:30 AM) 2793.0 gpm

152.0 gpm (24 days, 11:21:34)



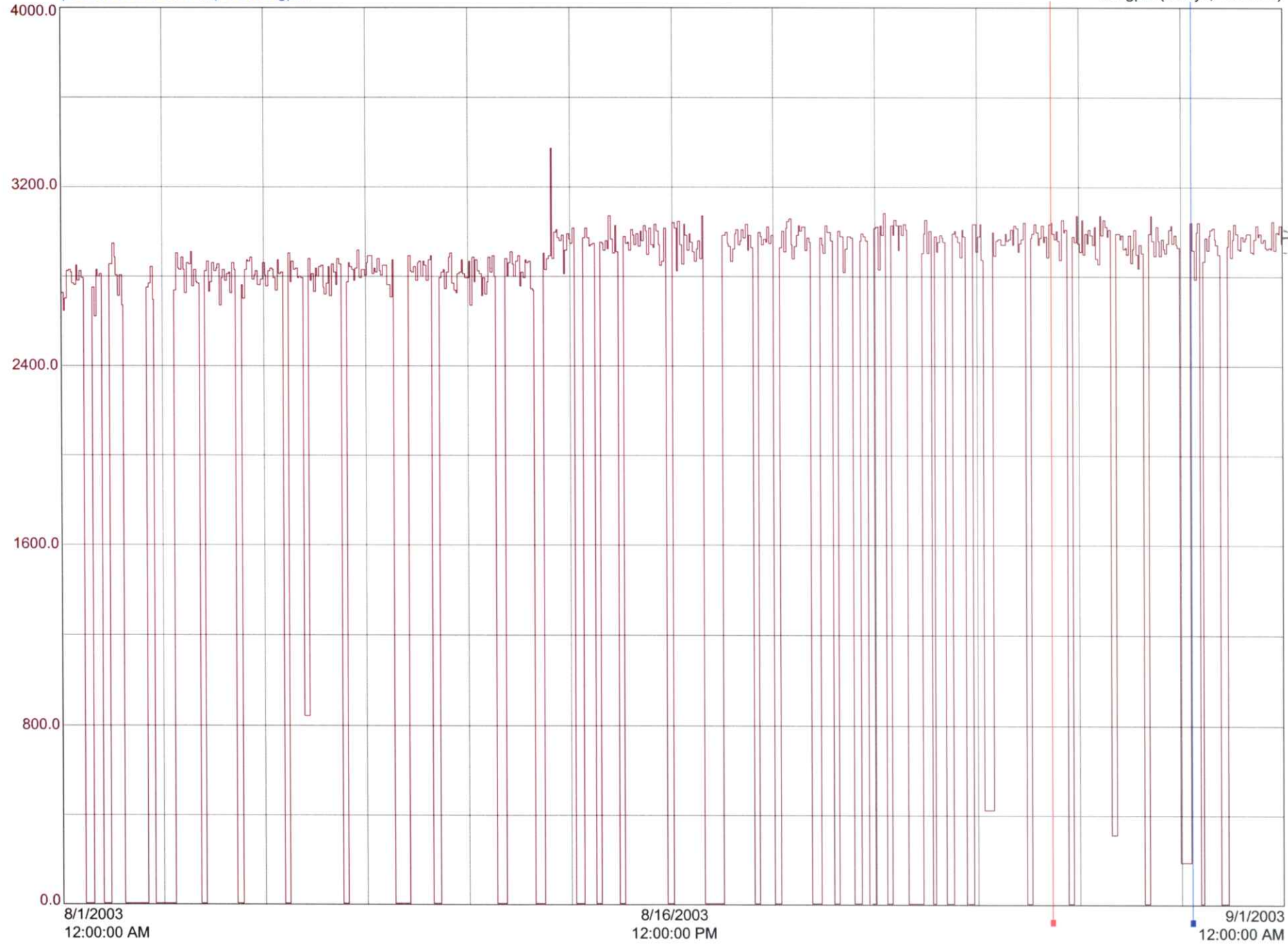
IndustrialSQL Server: Trend

South Well #4 Flow (MyInSQL:SOUTH_WELL4_FLOW)

Cyclic

(8/26/2003 3:21:34 AM) 3041.0 gpm
(8/29/2003 5:14:48 PM) 3041.0 gpm

0.0 gpm (3 days, 13:53:15)



IndustrialSQL Server: Trend

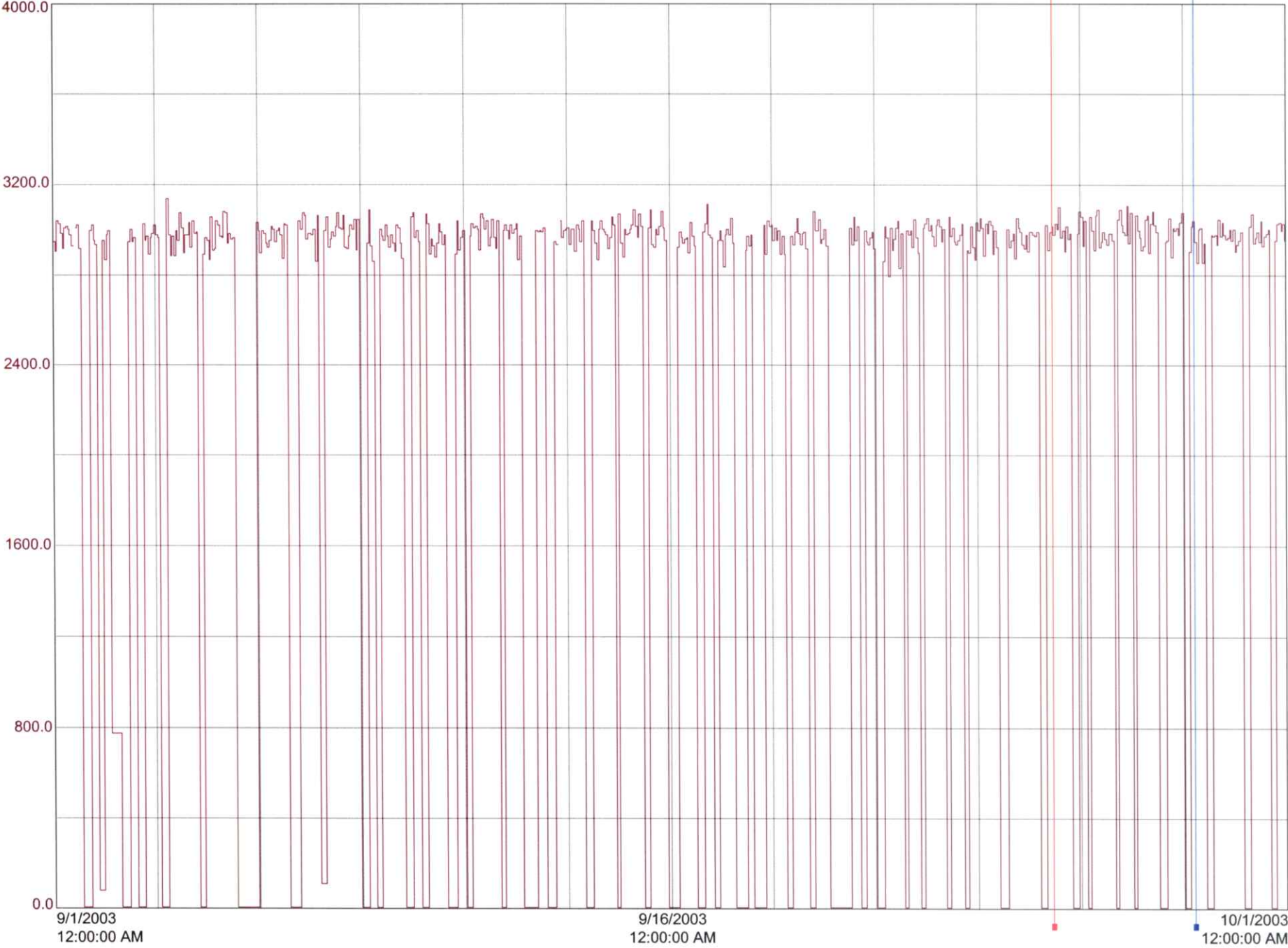
South Well #4 Flow (MySQL:SOUTH_WELL4_FLOW)

Cyclic

(9/25/2003 7:53:46 AM) 3020.0 gpm

(9/28/2003 7:00:47 PM) 3043.0 gpm

23.0 gpm (3 days, 11:07:01)



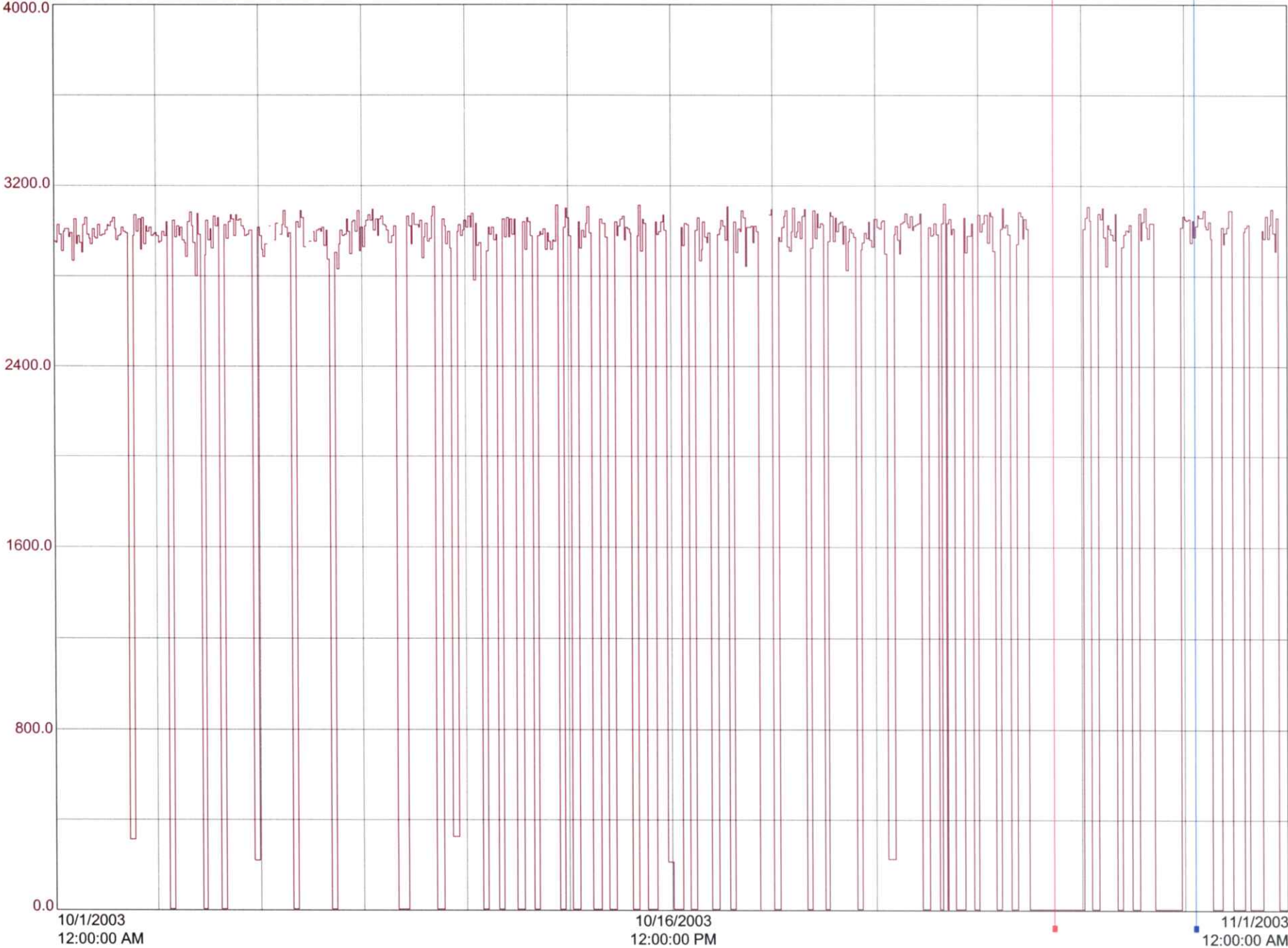
IndustrialSQL Server: Trend

South Well #4 Flow (MySQL:SOUTH_WELL4_FLOW)

Cyclic

(10/26/2003 3:21:34 AM) 0.0 gpm
(10/29/2003 5:14:48 PM) 2971.0 gpm

2971.0 gpm (3 days, 13:53:15)



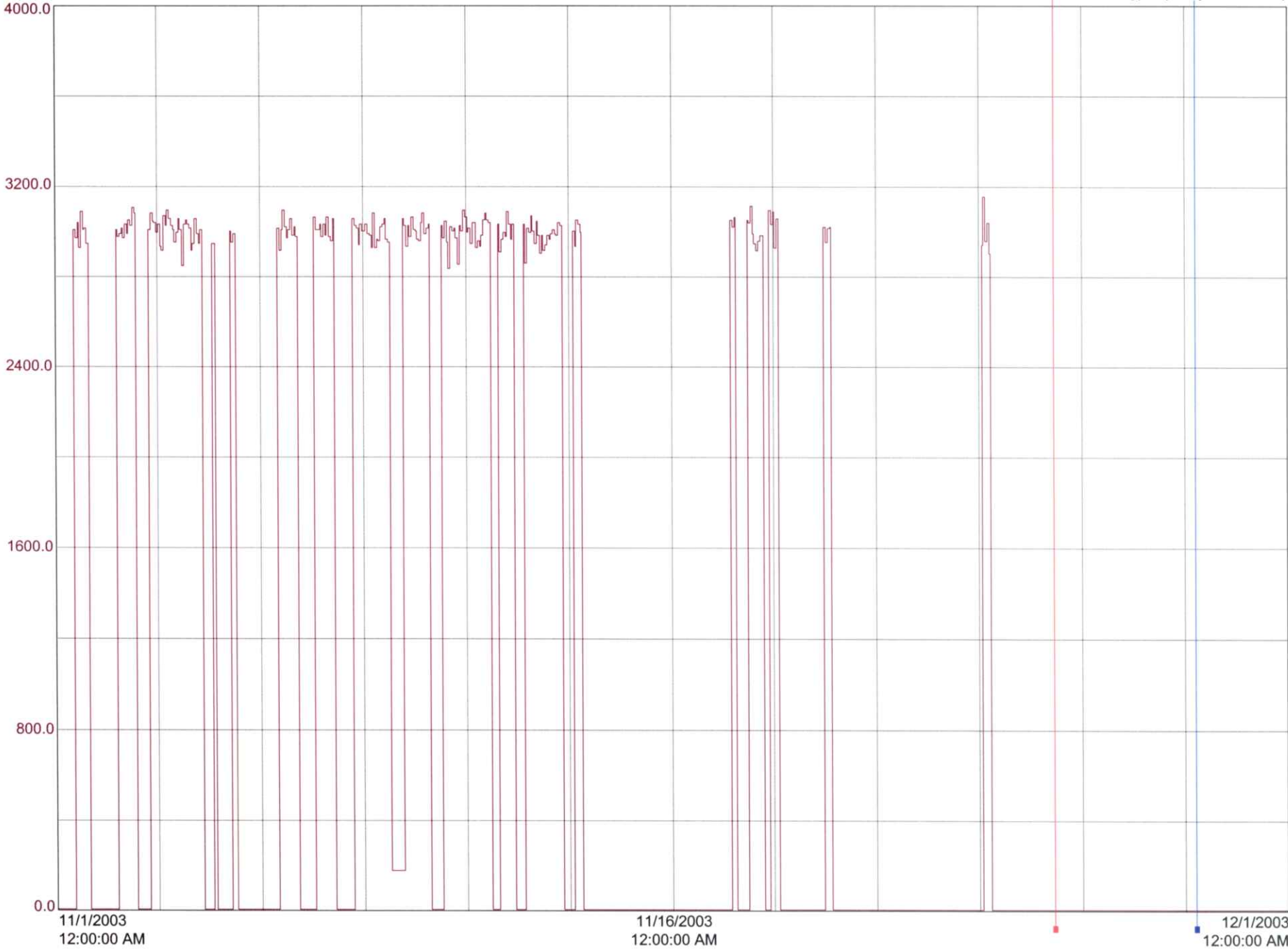
IndustrialSQL Server: Trend

South Well #4 Flow (MySQL:SOUTH_WELL4_FLOW)

Cyclic

(11/25/2003 7:53:46 AM) 0.0 gpm
(11/28/2003 7:00:47 PM) 0.0 gpm

0.0 gpm (3 days, 11:07:01)



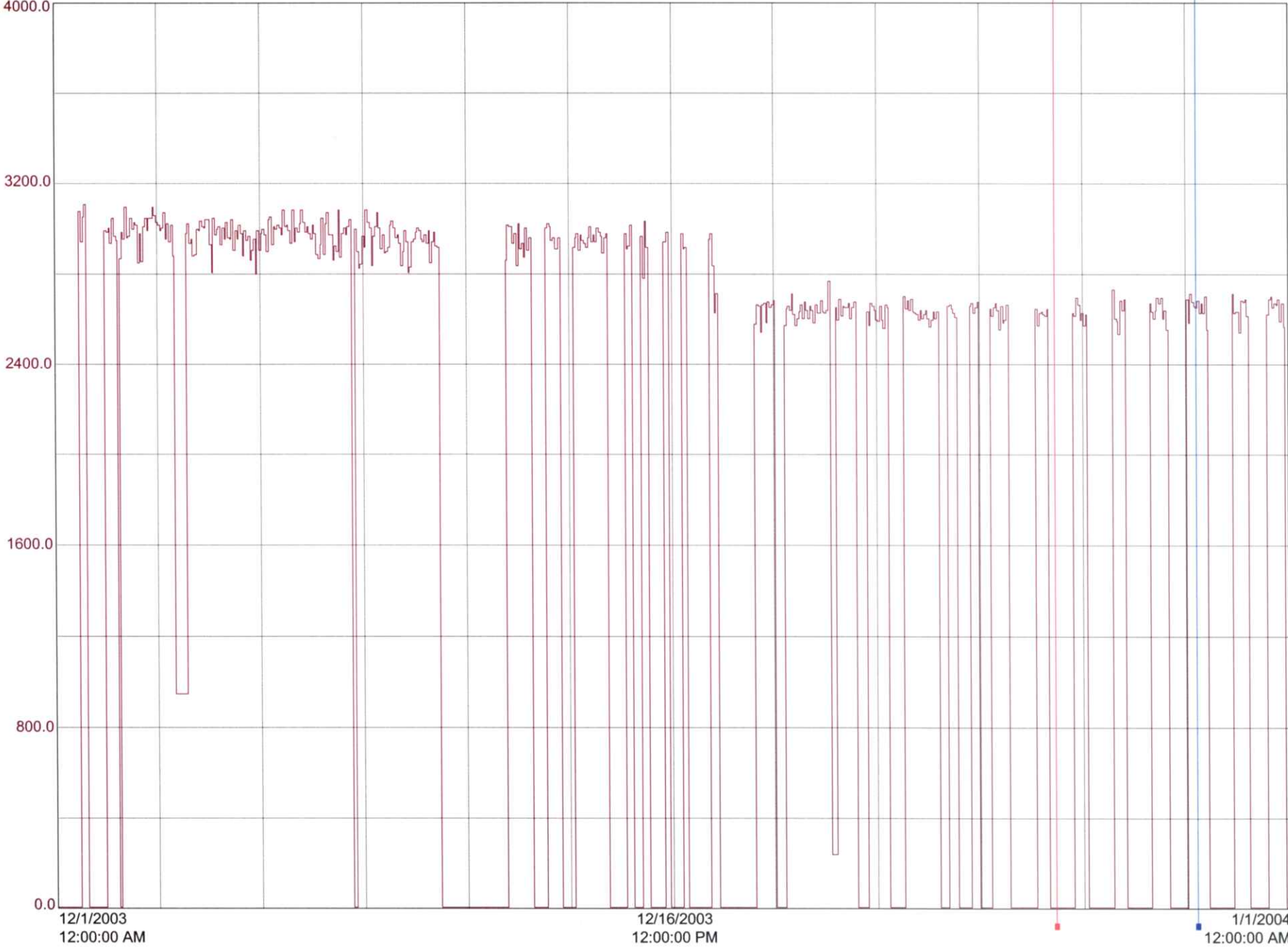
IndustrialSQL Server: Trend

South Well #4 Flow (MyInSQL:SOUTH_WELL4_FLOW)

Cyclic

(12/26/2003 3:21:34 AM) 0.0 gpm
(12/29/2003 5:14:48 PM) 2652.0 gpm

2652.0 gpm (3 days, 13:53:15)

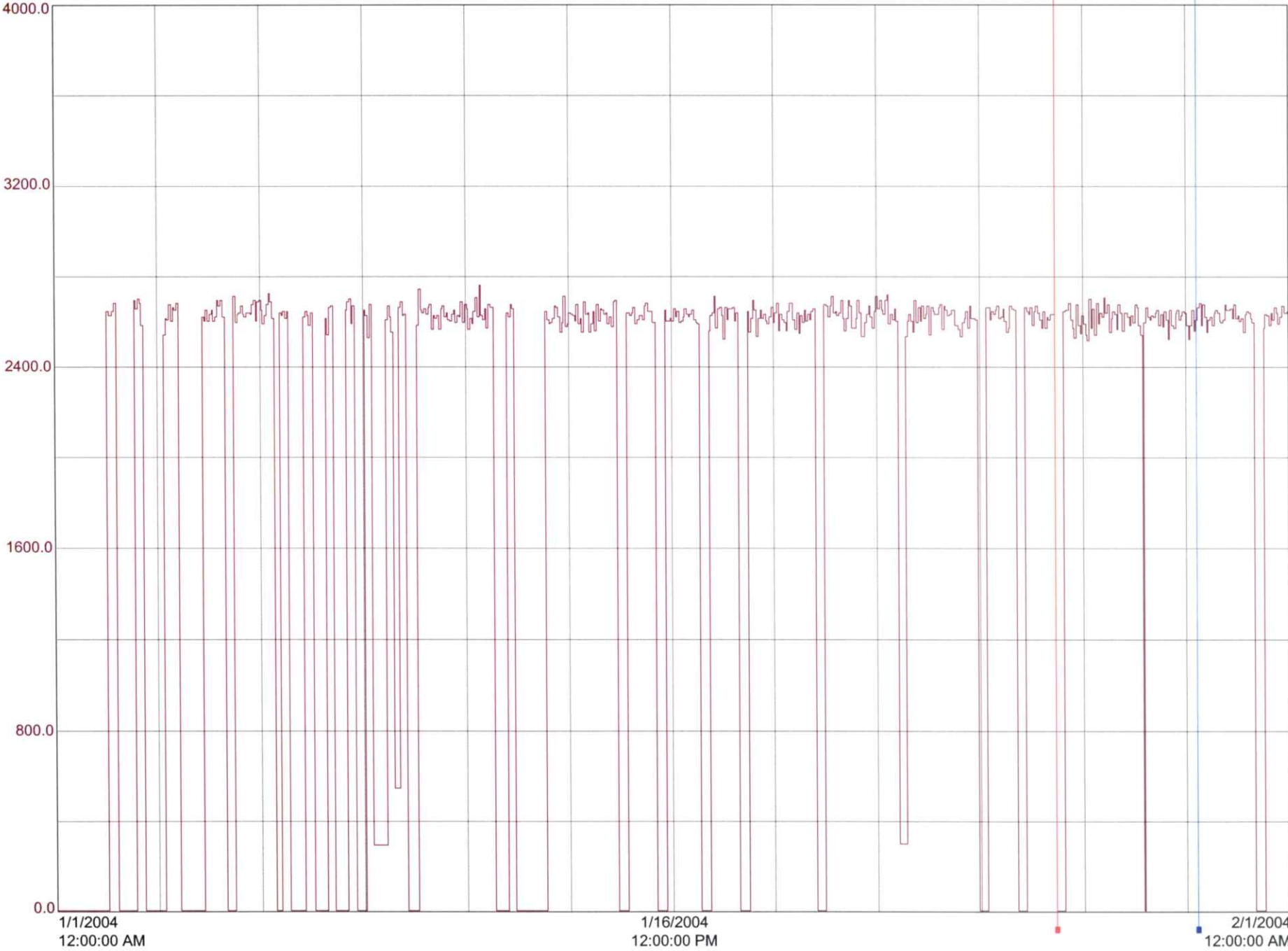


South Well #4 Flow (MyInSQL:SOUTH_WELL4_FLOW)

Cyclic

(1/26/2004 3:21:34 AM) 0.0 gpm
(1/29/2004 5:14:48 PM) 2609.0 gpm

2609.0 gpm (3 days, 13:53:15)



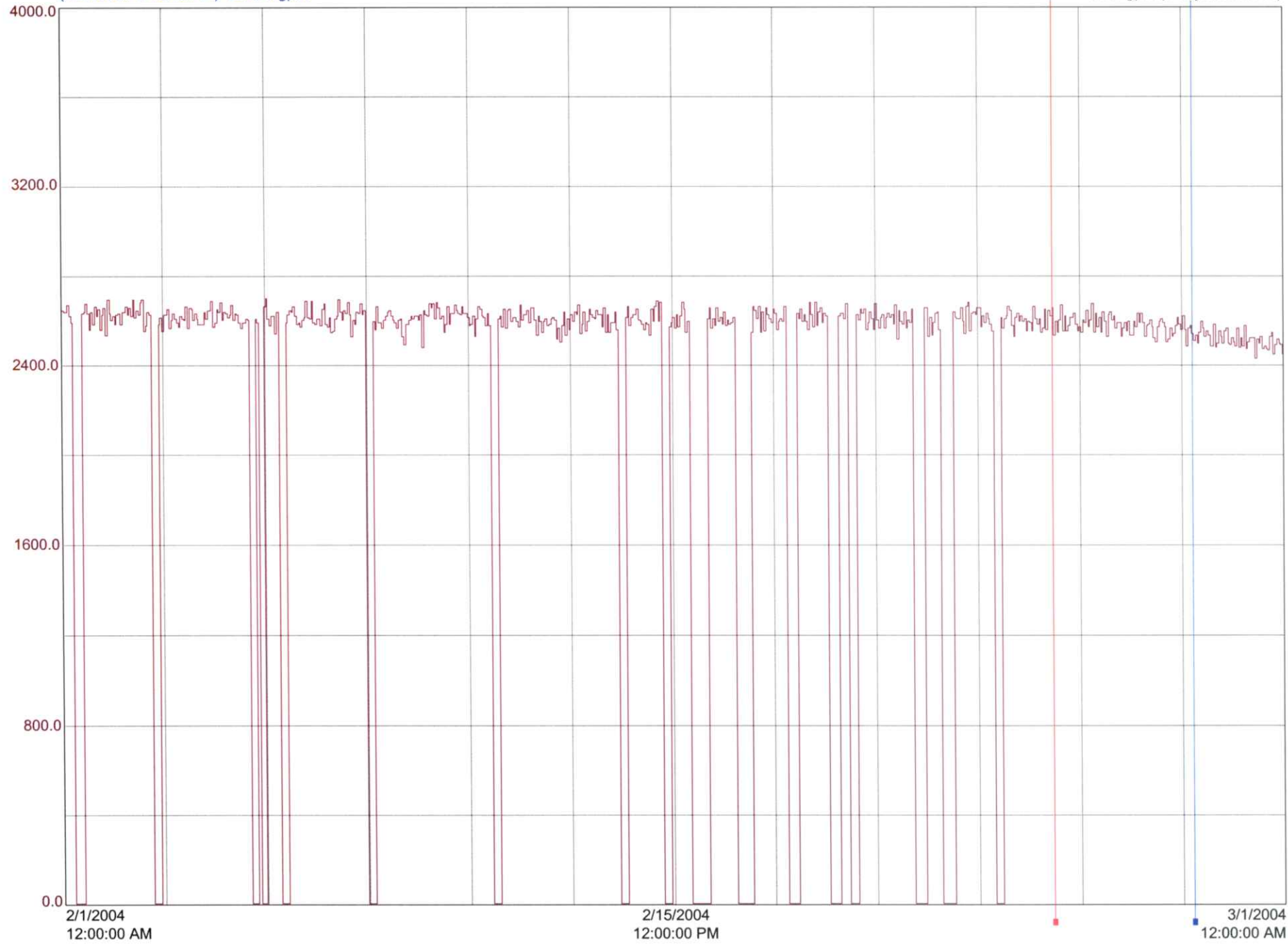
IndustrialSQL Server: Trend

South Well #4 Flow (MyInSQL:SOUTH_WELL4_FLOW)

Cyclic

(2/24/2004 12:25:58 PM) 2661.0 gpm
(2/27/2004 8:46:45 PM) 2543.0 gpm

-118.0 gpm (3 days, 08:20:47)

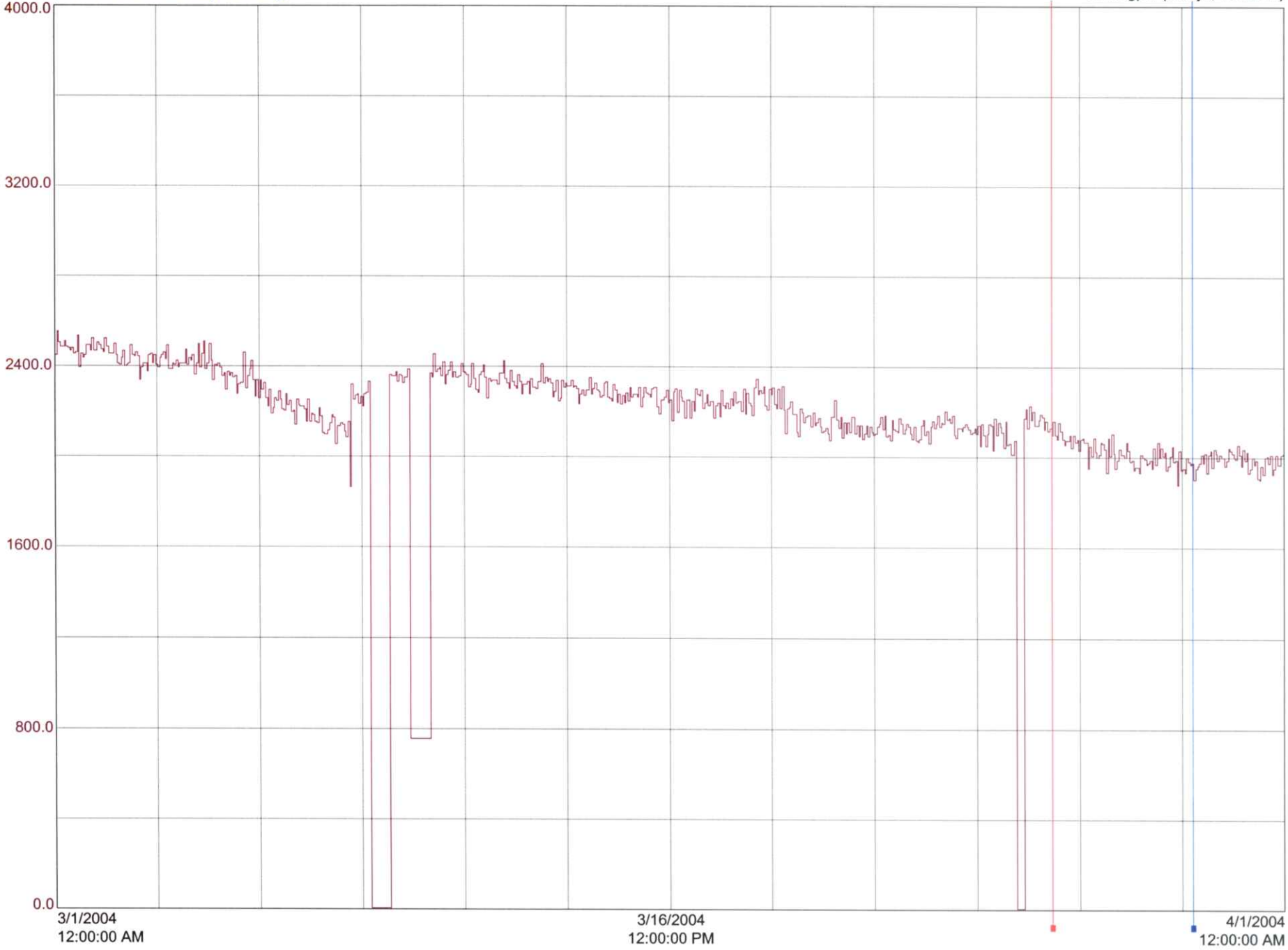


South Well #4 Flow (MySQL:SOUTH_WELL4_FLOW)

Cyclic

(3/26/2004 3:21:34 AM) 2099.0 gpm
(3/29/2004 5:14:48 PM) 1975.0 gpm

-124.0 gpm (3 days, 13:53:15)



[2]

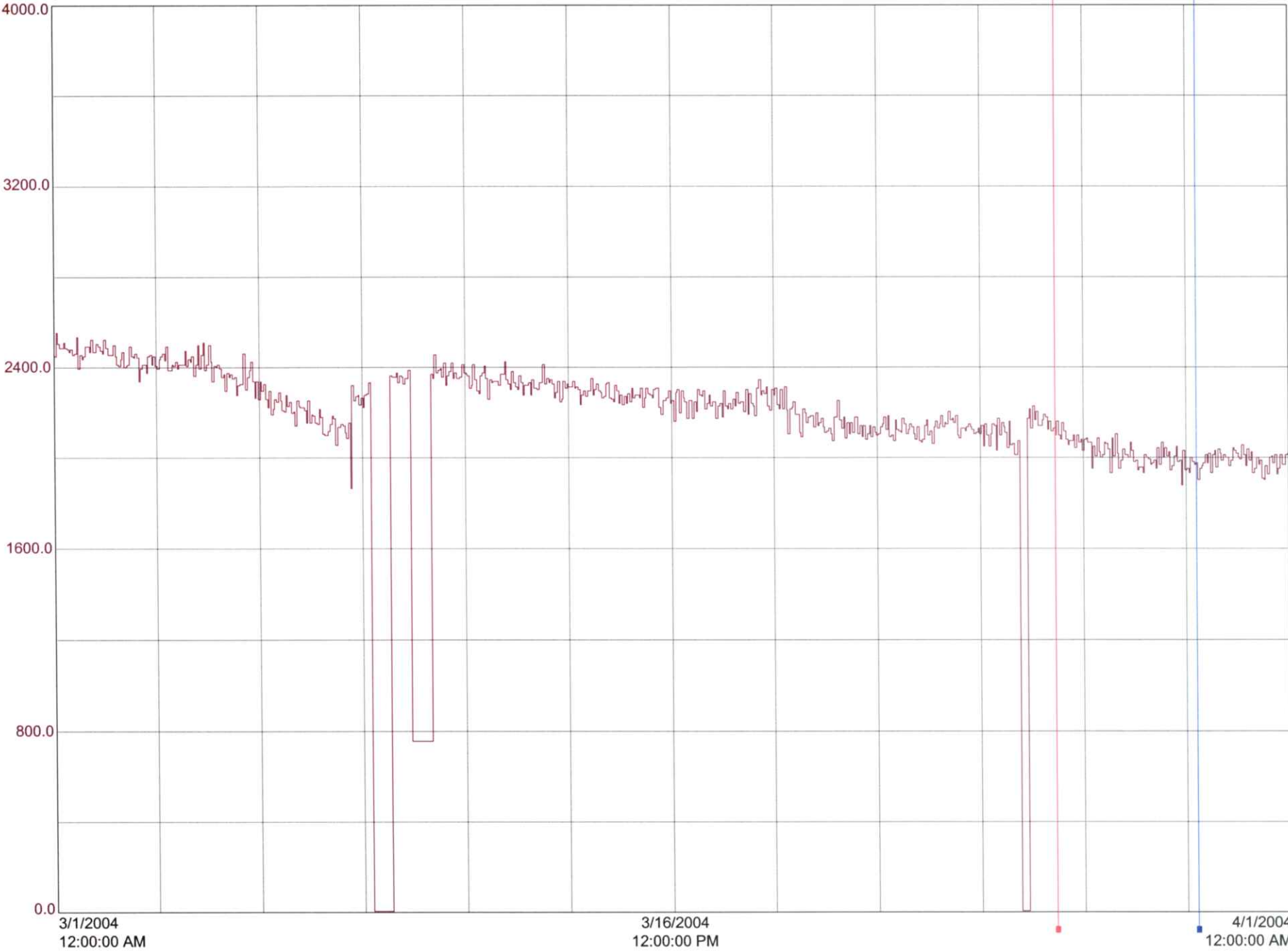
IndustrialSQL Server: Trend

South Well #4 Flow (MySQL:SOUTH_WELL4_FLOW)

Cyclic

(3/26/2004 3:21:34 AM) 2099.0 gpm
(3/29/2004 5:14:48 PM) 1975.0 gpm

-124.0 gpm (3 days, 13:53:15)



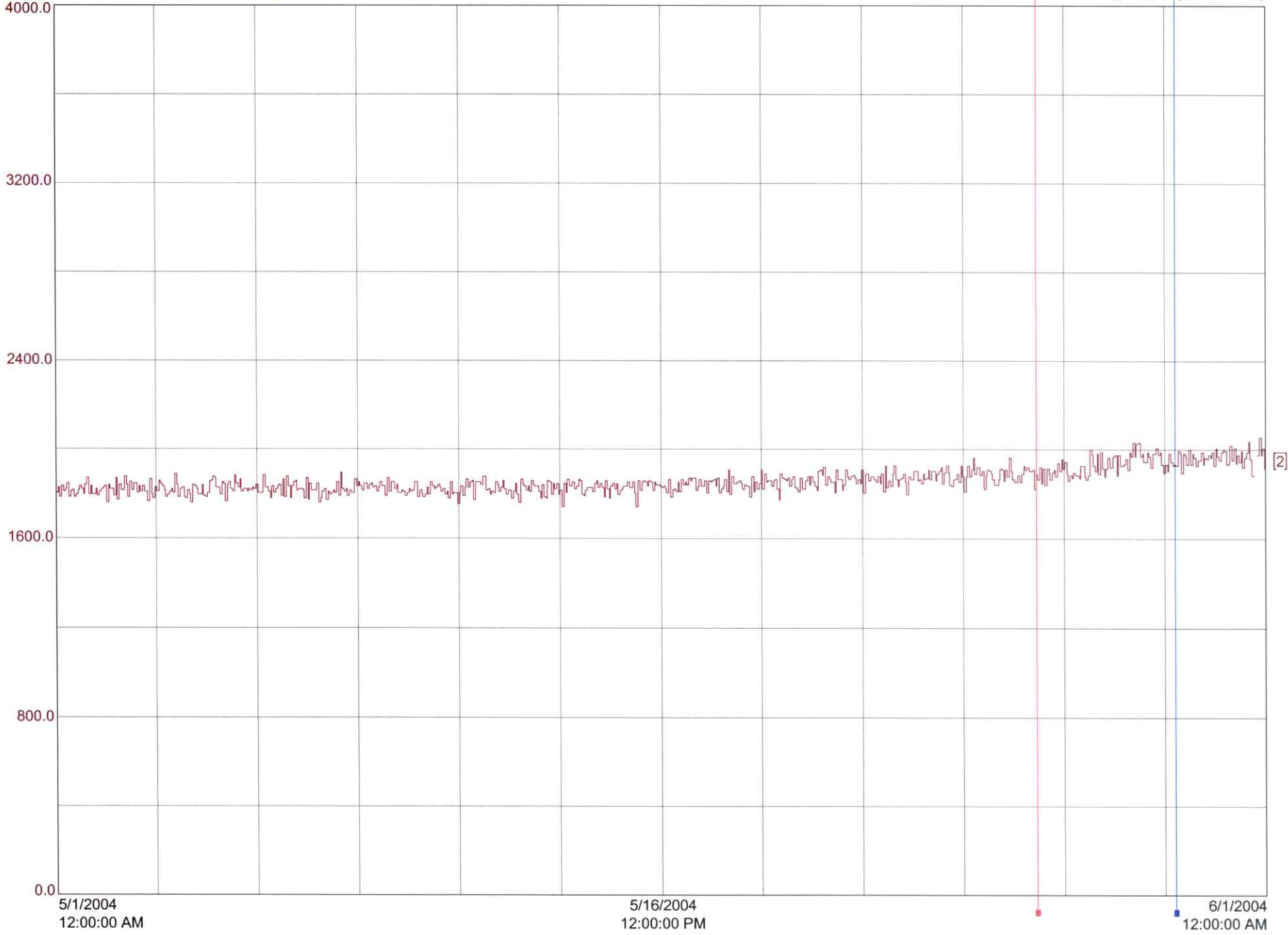
IndustrialSQL Server: Trend

South Well #4 Flow (MySQL:SOUTH_WELL4_FLOW)

Cyclic

(5/26/2004 3:21:34 AM) 1888.0 gpm
(5/29/2004 5:14:48 PM) 1930.0 gpm

42.0 gpm (3 days, 13:53:15)



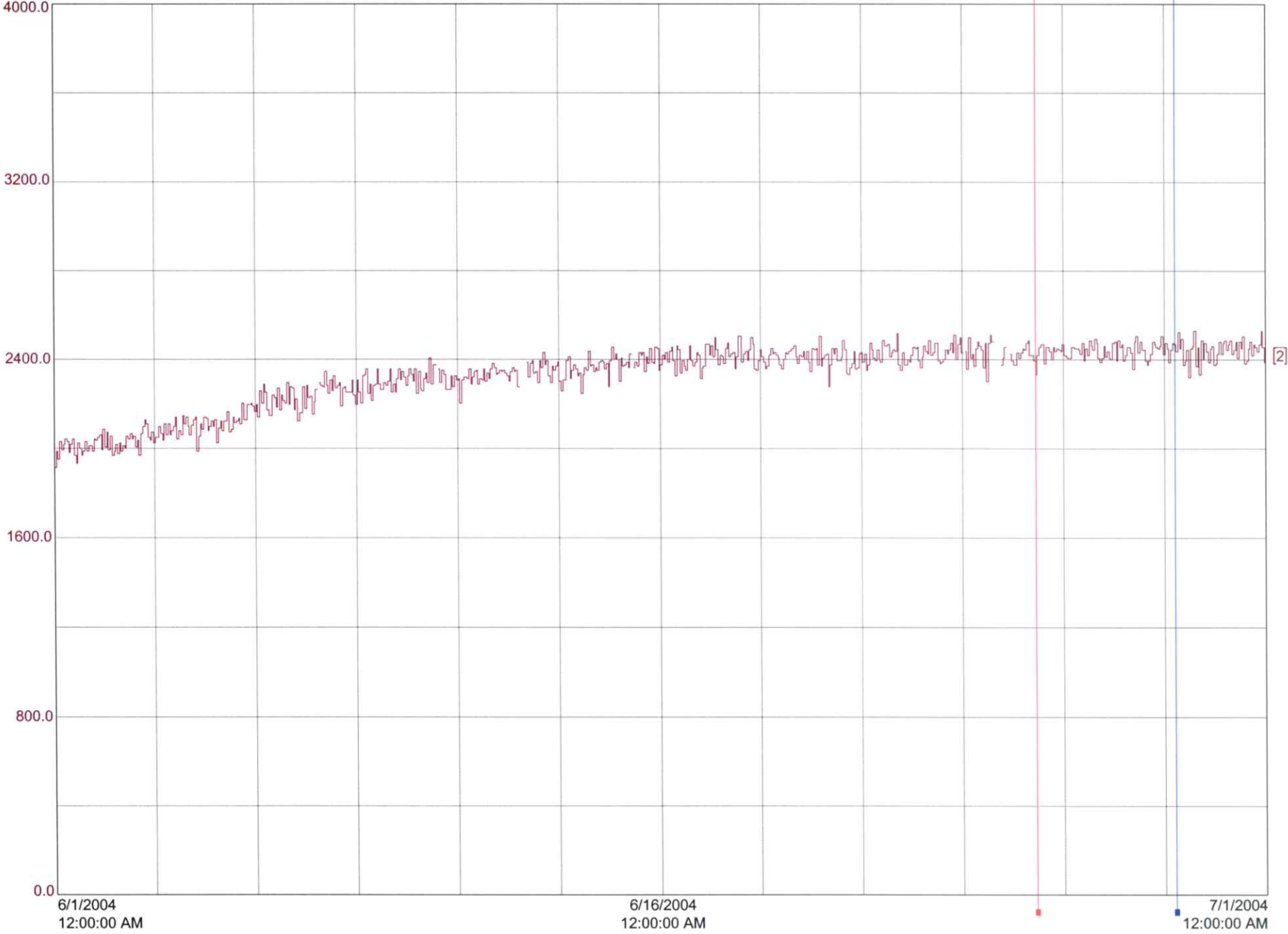
IndustrialSQL Server: Trend

South Well #4 Flow (MySQL:SOUTH_WELL4_FLOW)

Cyclic

(6/25/2004 7:53:46 AM) 2334.0 gpm
(6/28/2004 7:00:47 PM) 2466.0 gpm

132.0 gpm (3 days, 11:07:01)



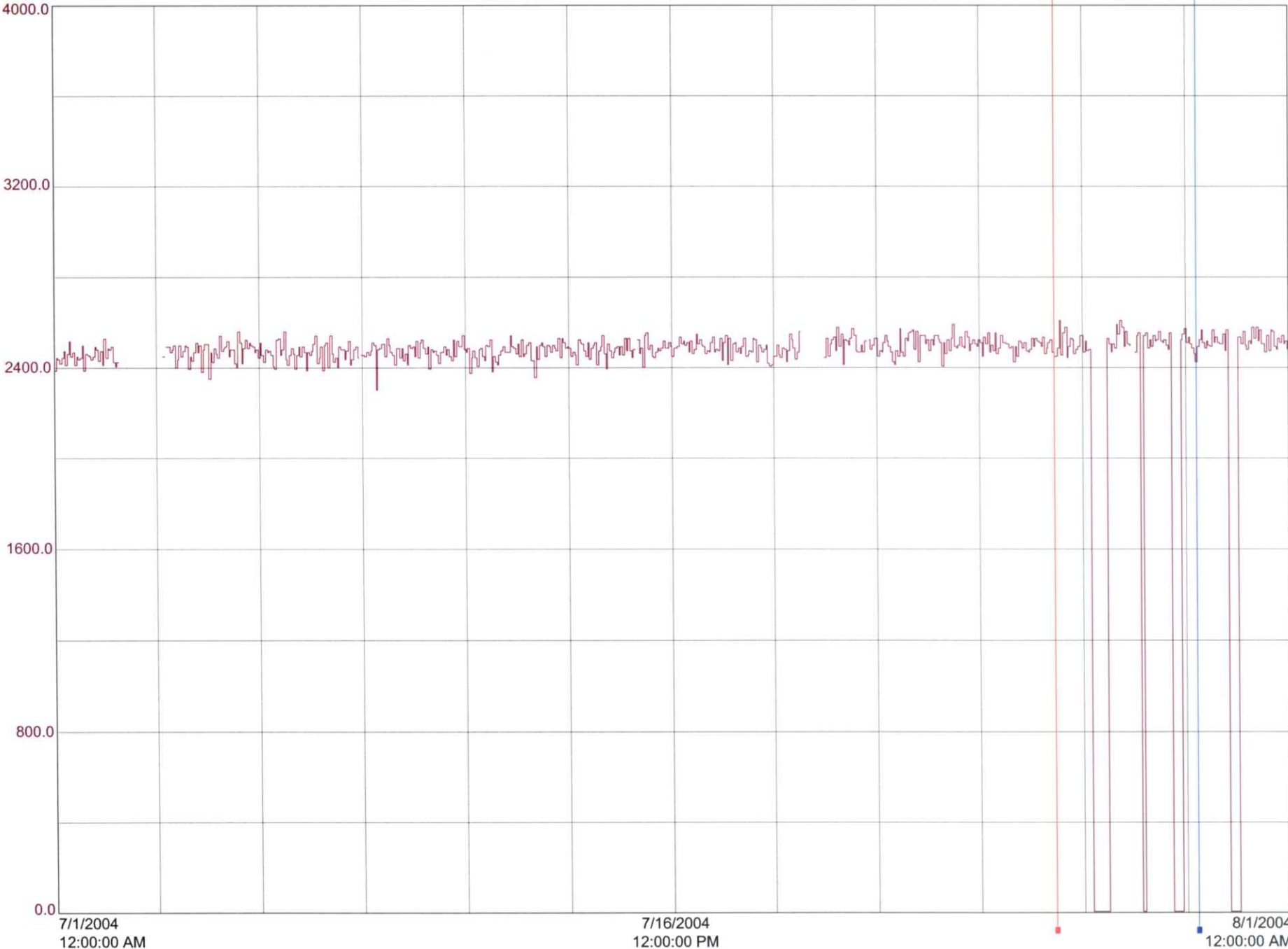
IndustrialSQL Server: Trend

South Well #4 Flow (MySQL:SOUTH_WELL4_FLOW)

Cyclic

(7/26/2004 3:21:34 AM) 2450.0 gpm
(7/29/2004 5:14:48 PM) 2428.0 gpm

-22.0 gpm (3 days, 13:53:15)



IndustrialSQL Server: Trend

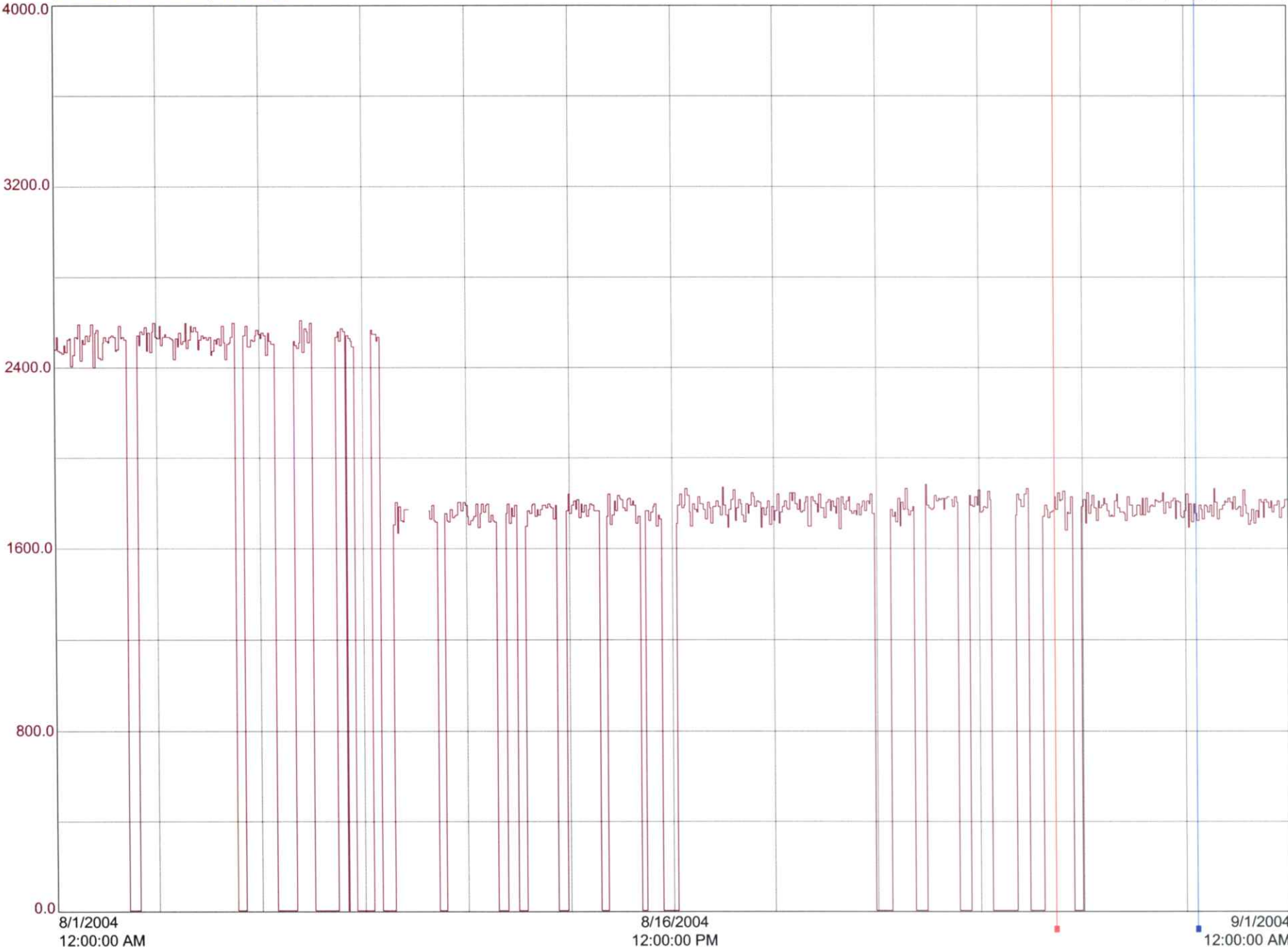
South Well #4 Flow (MySQL:SOUTH_WELL4_FLOW)

Cyclic

(8/26/2004 3:21:34 AM) 1827.0 gpm

(8/29/2004 5:14:48 PM) 1756.0 gpm

-71.0 gpm (3 days, 13:53:15)



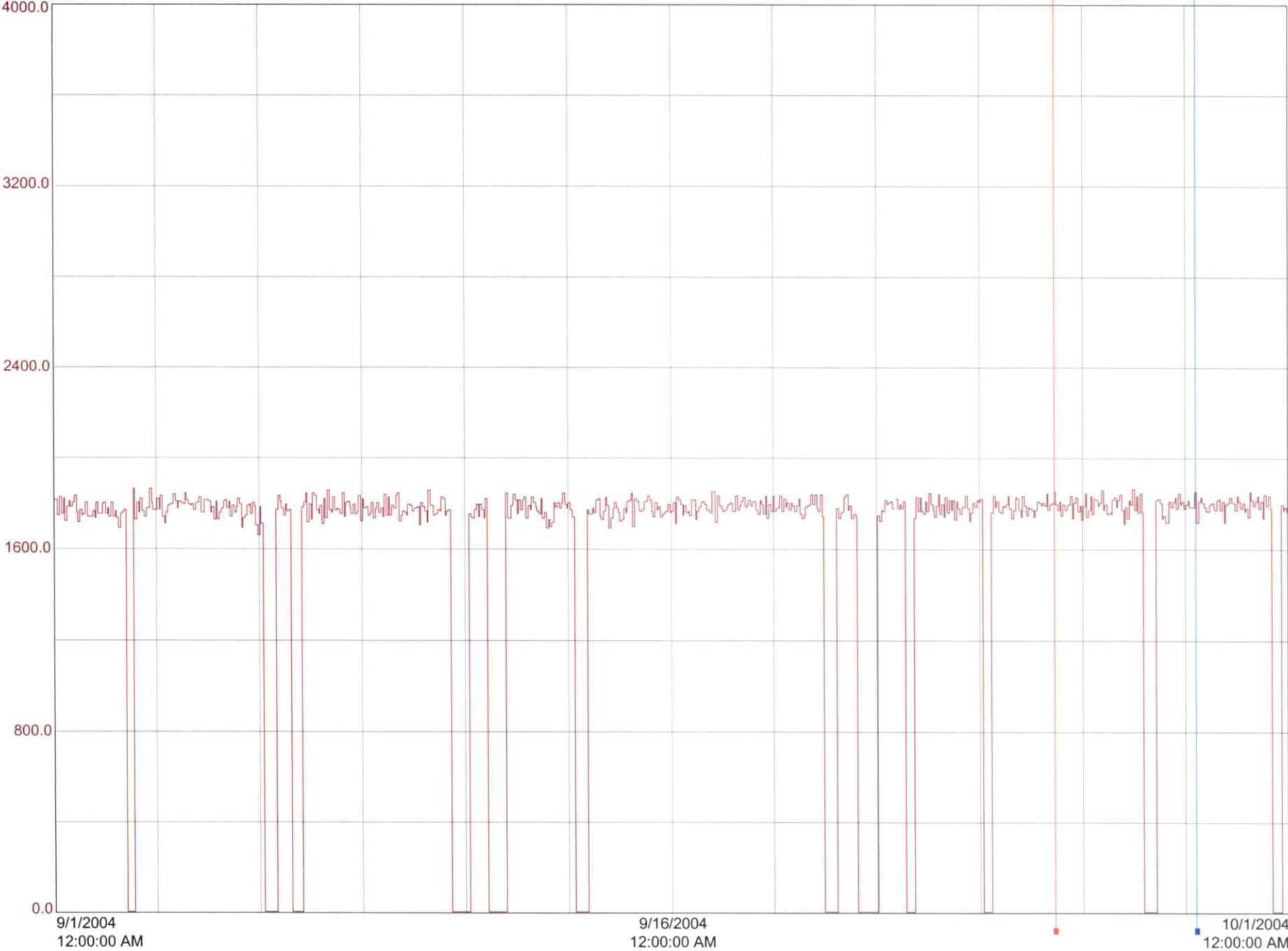
IndustrialSQL Server: Trend

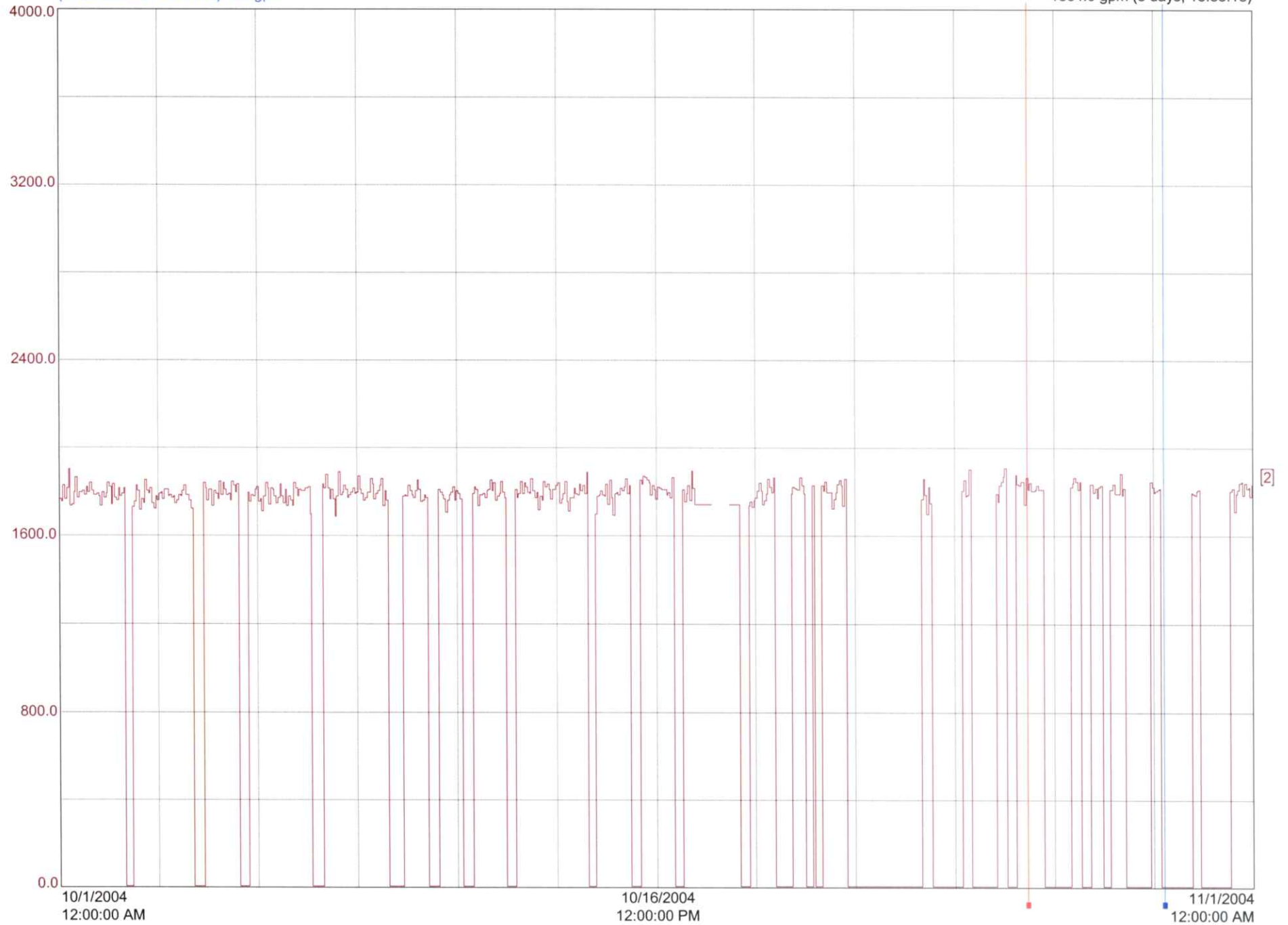
South Well #4 Flow (MySQL:SOUTH_WELL4_FLOW)

Cyclic

(9/25/2004 7:53:46 AM) 1850.0 gpm
(9/28/2004 7:00:47 PM) 1849.0 gpm

-1.0 gpm (3 days, 11:07:01)





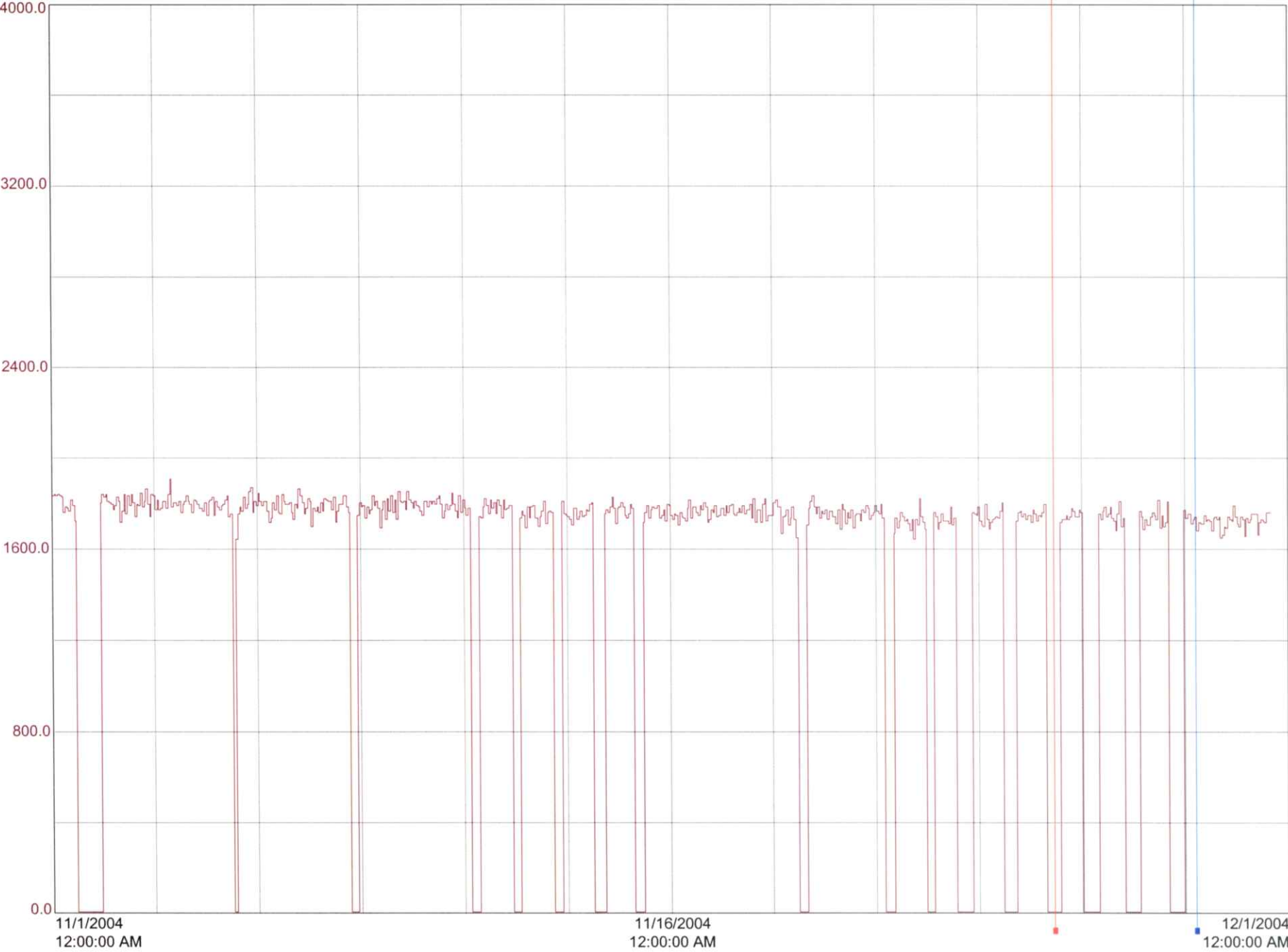
IndustrialSQL Server: Trend

South Well #4 Flow (MyInSQL:SOUTH_WELL4_FLOW)

Cyclic

(11/25/2004 7:53:46 AM) 0.0 gpm
(11/28/2004 7:00:47 PM) 1743.0 gpm

1743.0 gpm (3 days, 11:07:01)



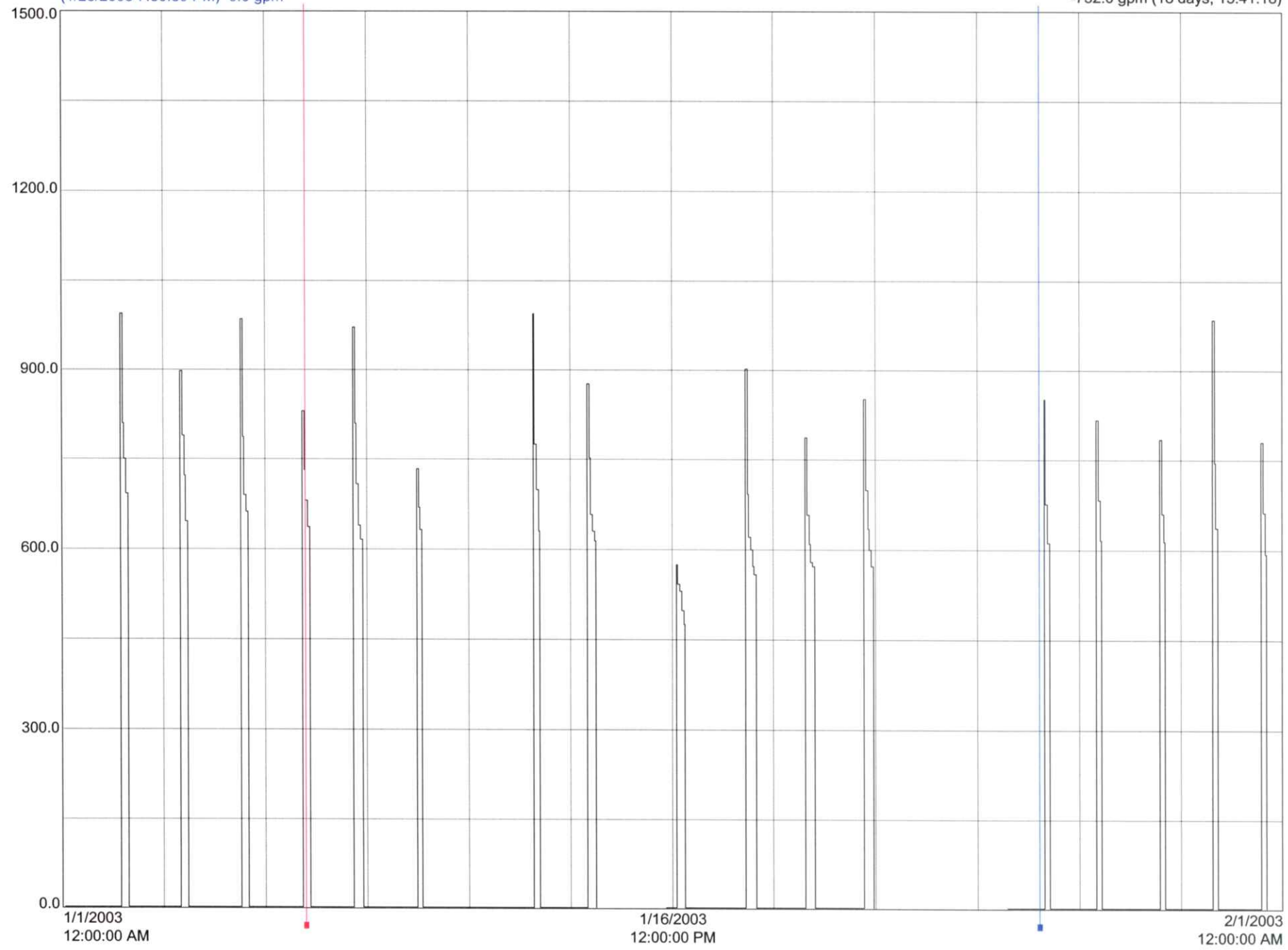
Well #1

(MyInSQL:H_WELL1_FLOW)

Cyclic

(1/7/2003 4:09:21 AM) 732.0 gpm
(1/25/2003 7:50:39 PM) 0.0 gpm

-732.0 gpm (18 days, 15:41:18)

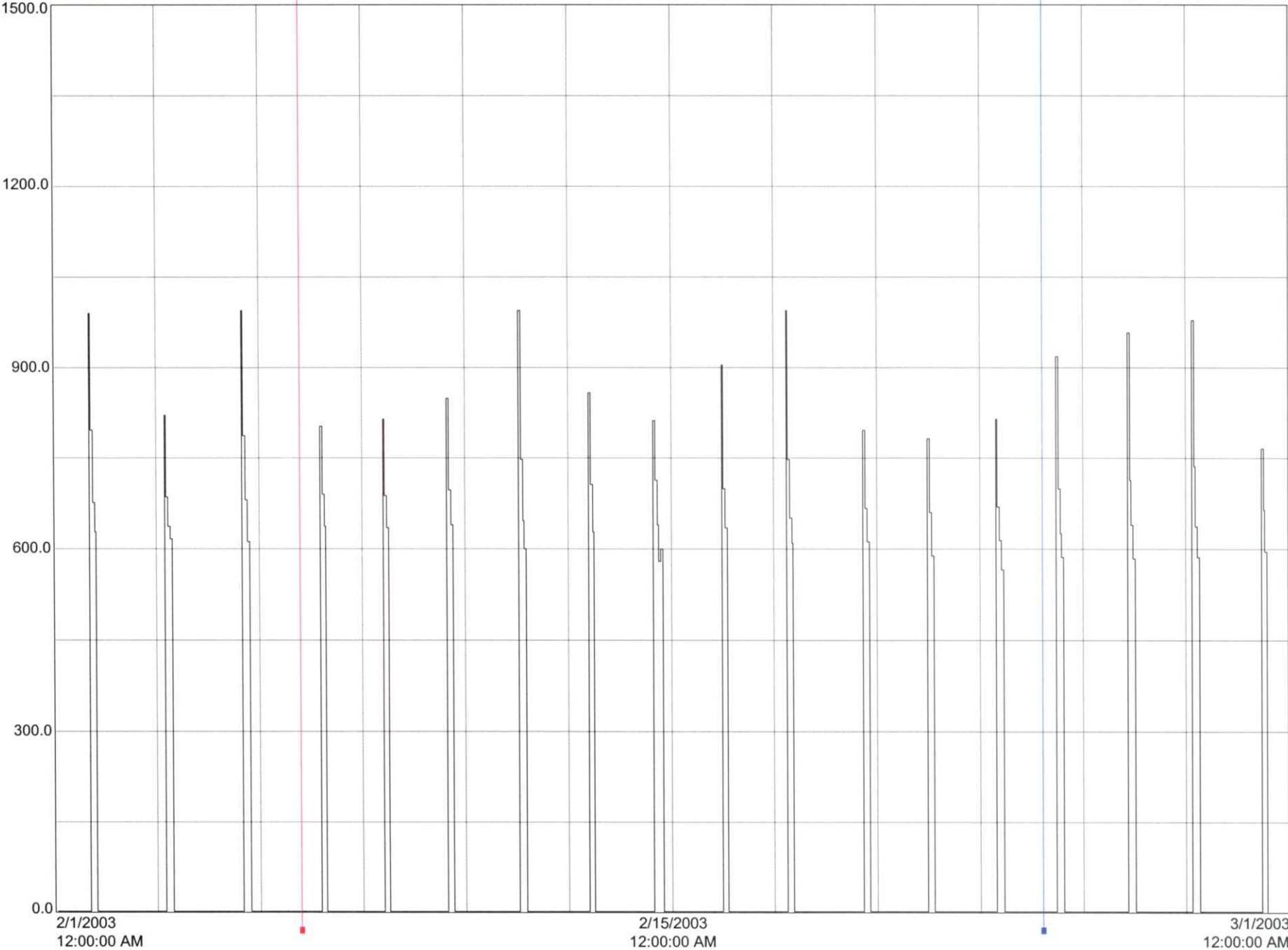


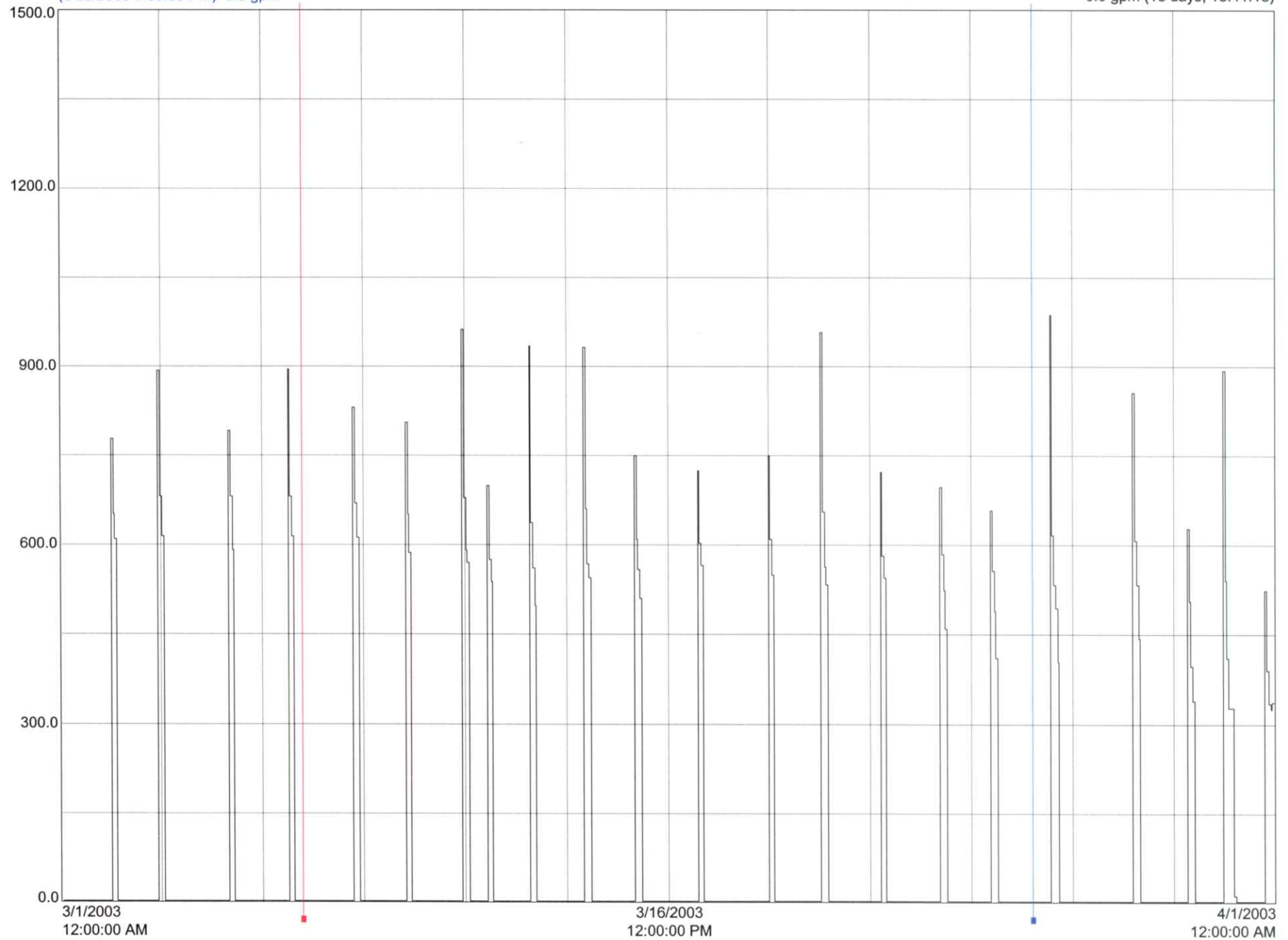
(MyInSQL:H_WELL1_FLOW)

Cyclic

(2/6/2003 1:49:05 PM) 0.0 gpm
(2/23/2003 10:10:55 AM) 0.0 gpm

0.0 gpm (16 days, 20:21:49)



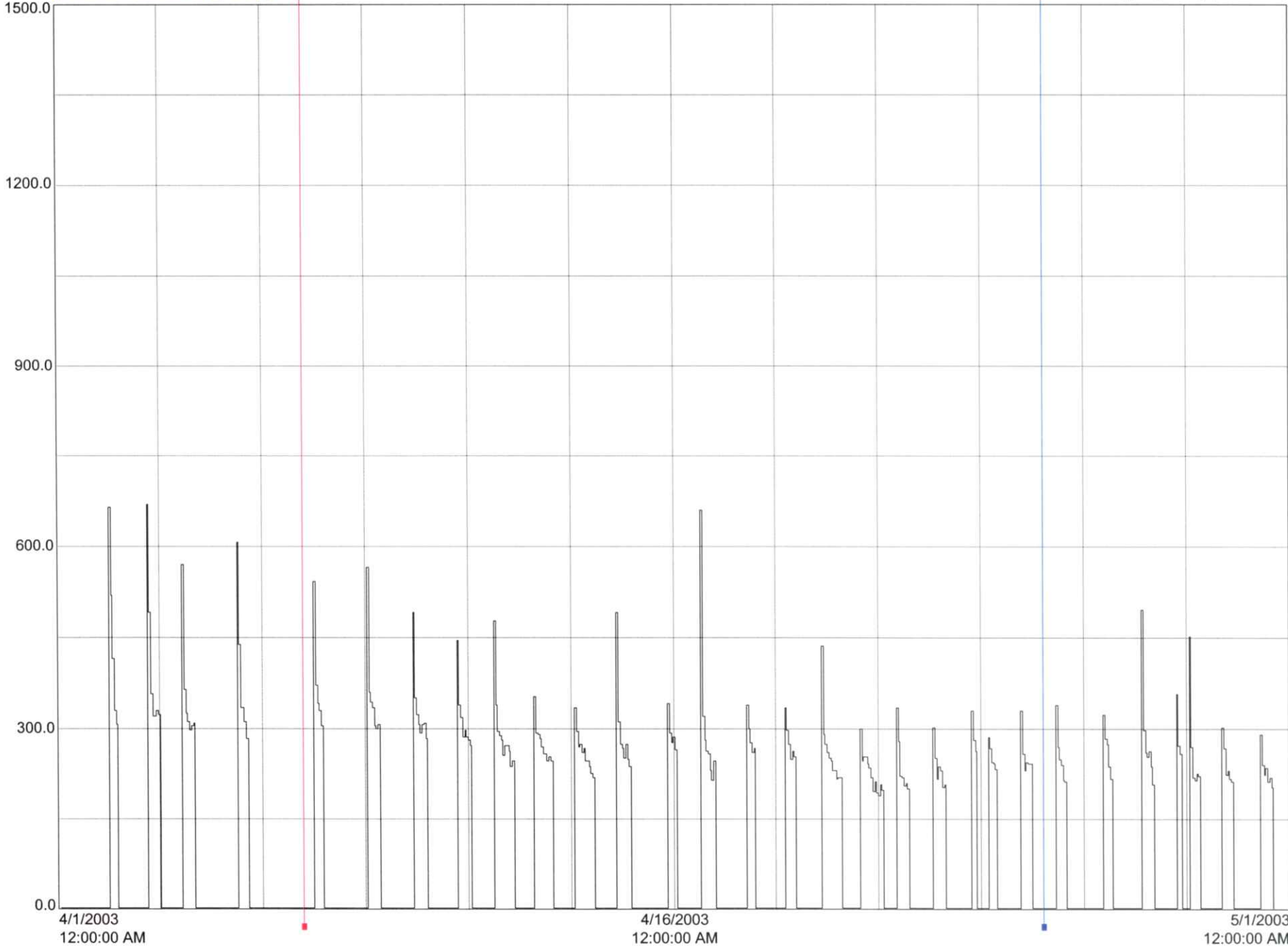


(MySQL:H_WELL1_FLOW)

Cyclic

(4/6/2003 11:22:36 PM) 0.0 gpm
(4/25/2003 12:37:24 AM) 0.0 gpm

0.0 gpm (18 days, 01:14:48)

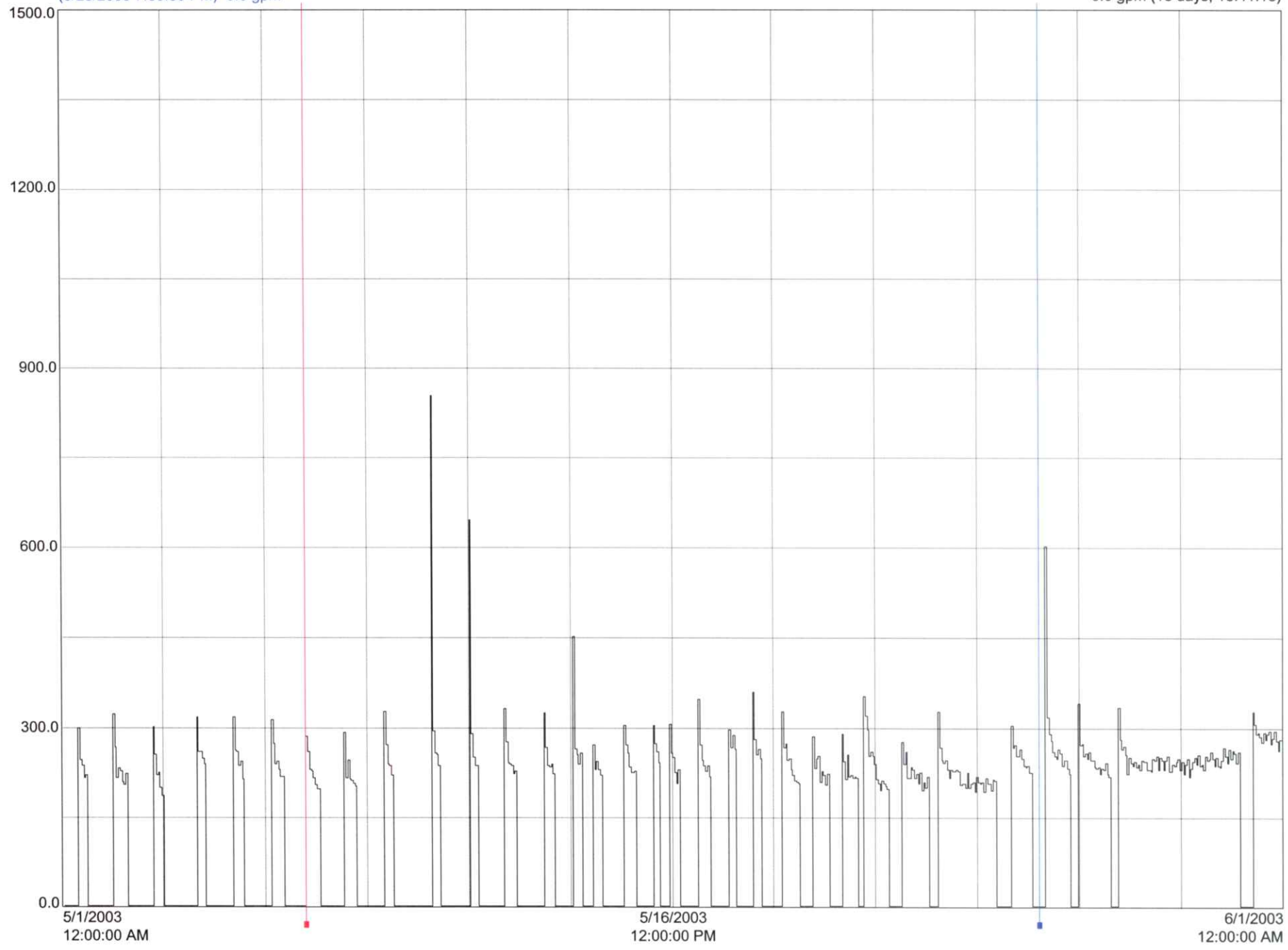


(MySQL:H_WELL1_FLOW)

Cyclic

(5/7/2003 4:09:21 AM) 0.0 gpm
(5/25/2003 7:50:39 PM) 0.0 gpm

0.0 gpm (18 days, 15:41:18)

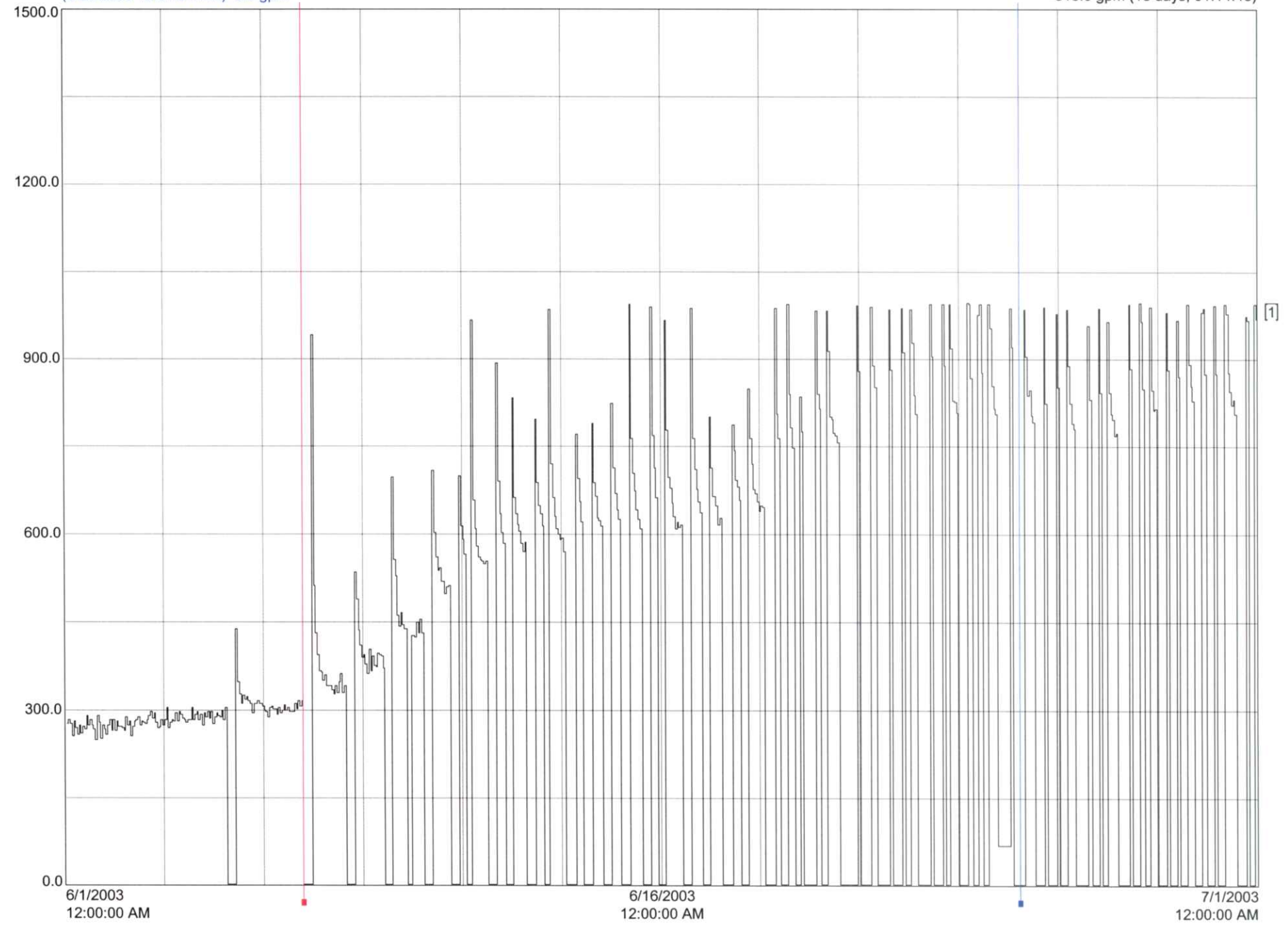


(MySQL:H_WELL1_FLOW)

Cyclic

(6/6/2003 11:22:36 PM) 315.0 gpm
(6/25/2003 12:37:24 AM) 0.0 gpm

-315.0 gpm (18 days, 01:14:48)

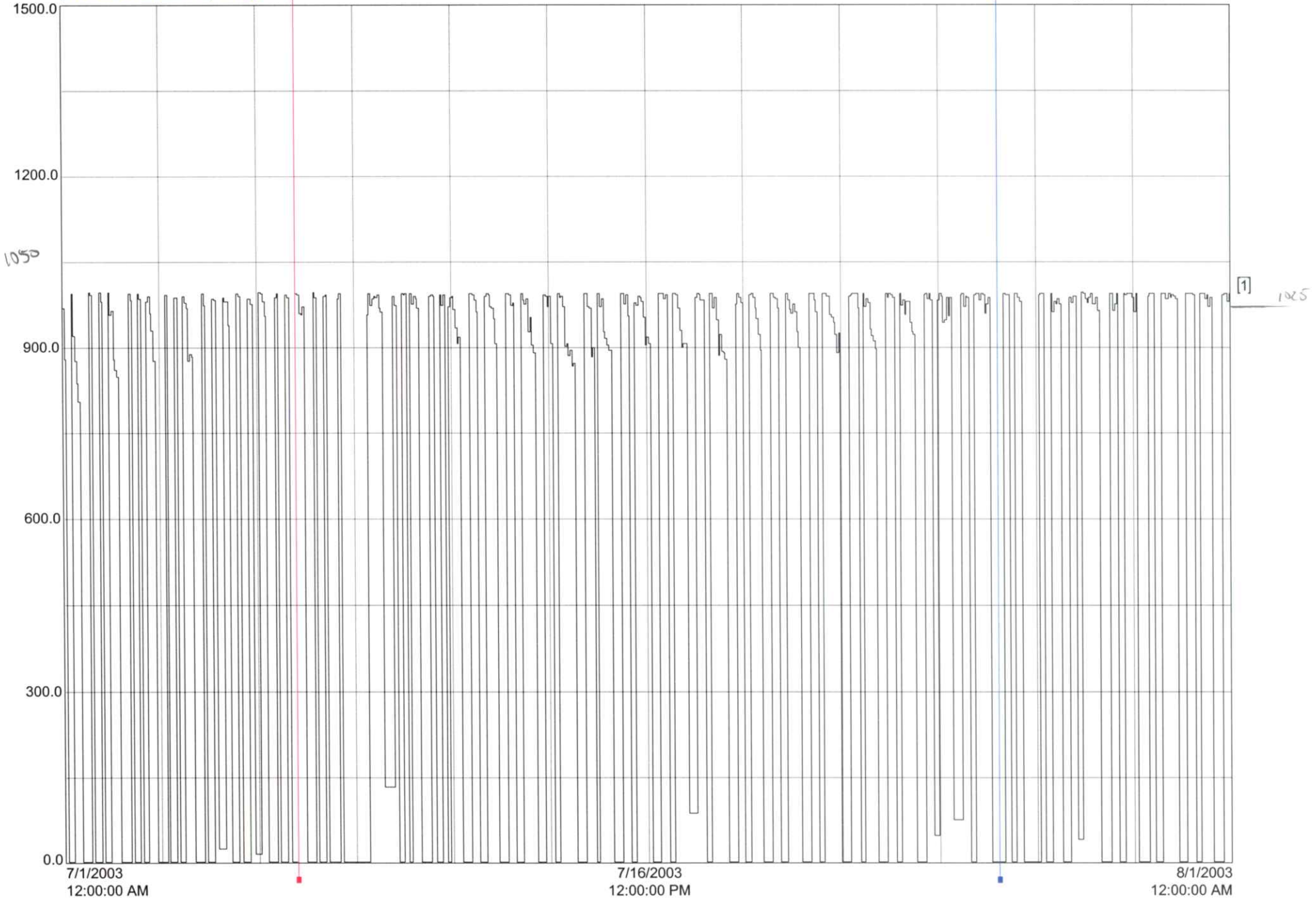


(MySQL:H_WELL1_FLOW)

Cyclic

(7/7/2003 4:09:21 AM) 0.0 gpm
(7/25/2003 7:50:39 PM) 0.0 gpm

0.0 gpm (18 days, 15:41:18)

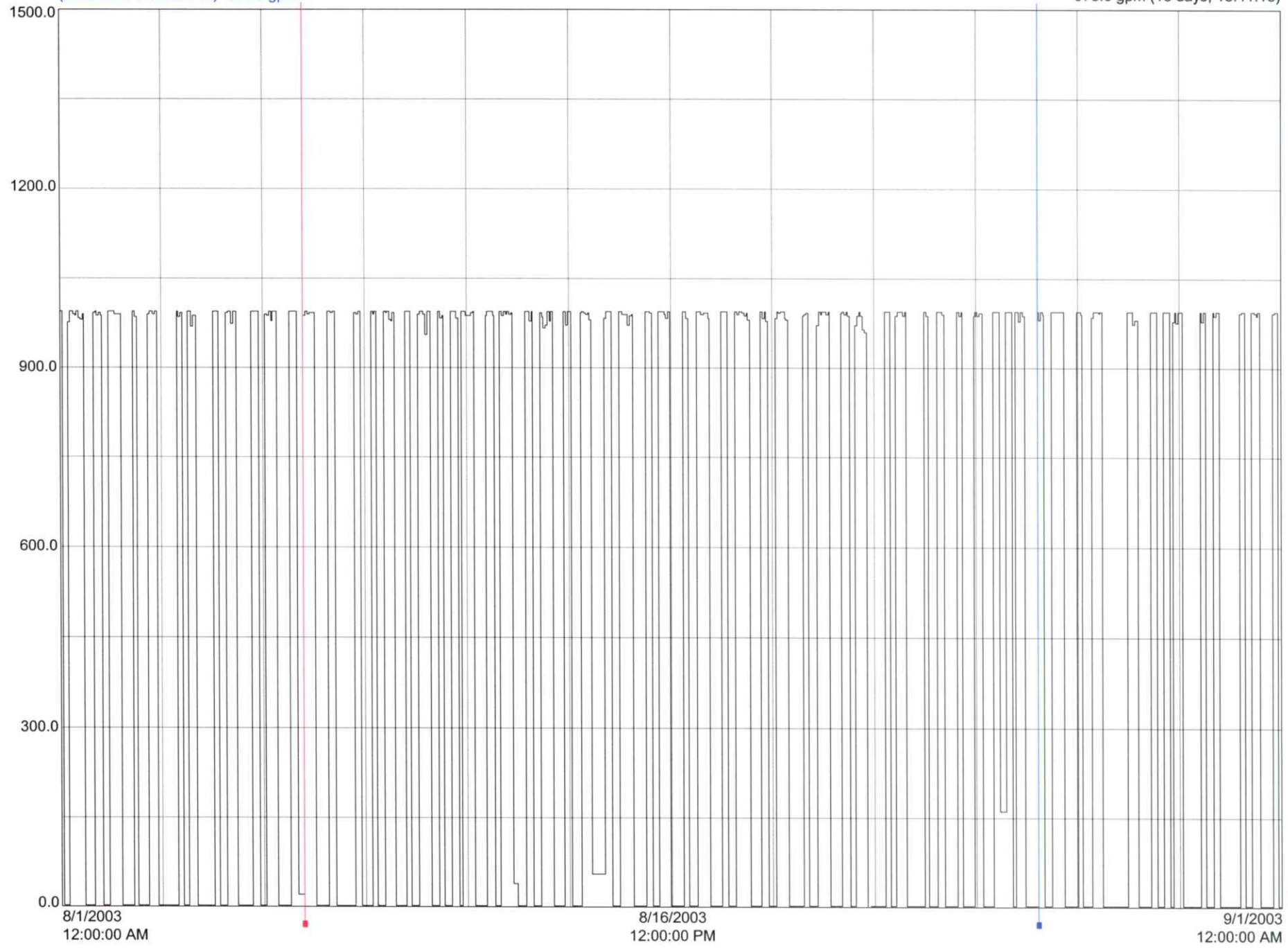


(MySQL:H_WELL1_FLOW)

Cyclic

(8/7/2003 4:09:21 AM) 19.0 gpm
(8/25/2003 7:50:39 PM) 994.0 gpm

975.0 gpm (18 days, 15:41:18)



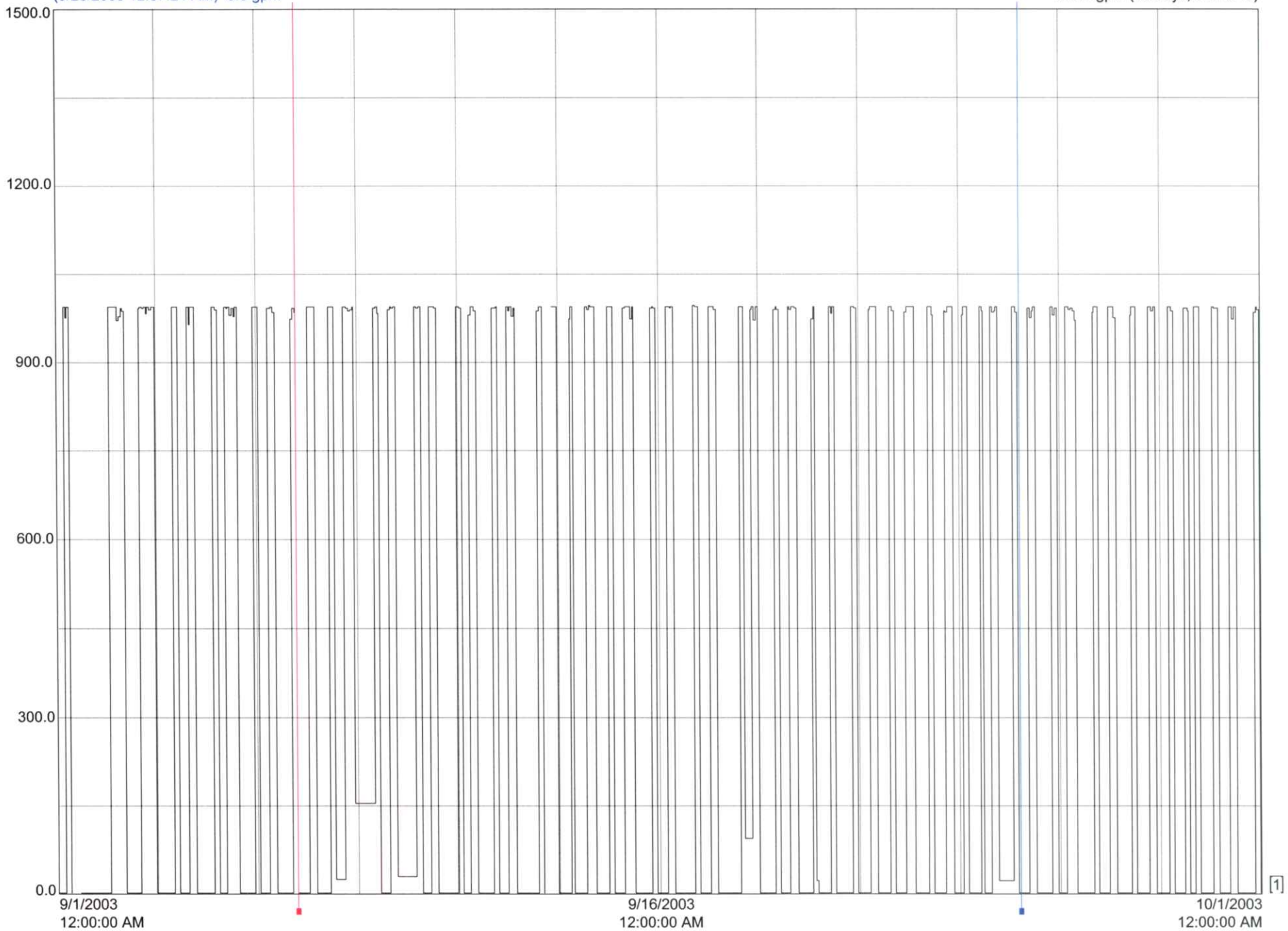
(MySQL:H_WELL1_FLOW)

Cyclic

(9/6/2003 11:22:36 PM) 986.0 gpm

(9/25/2003 12:37:24 AM) 0.0 gpm

-986.0 gpm (18 days, 01:14:48)



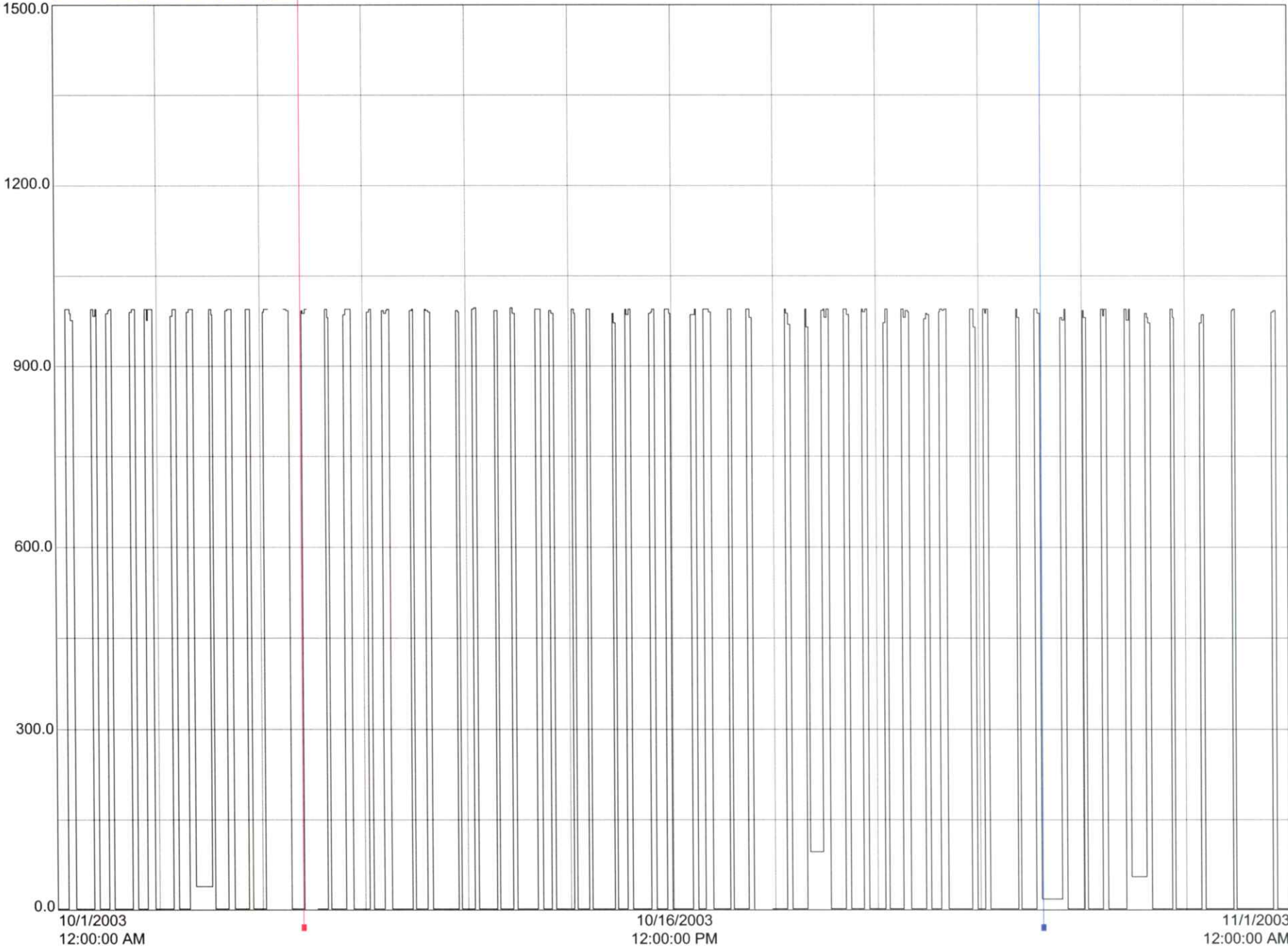
IndustrialSQL Server: Trend

(MySQL:H_WELL1_FLOW)

Cyclic

(10/7/2003 4:09:21 AM) 0.0 gpm
(10/25/2003 7:50:39 PM) 17.0 gpm

17.0 gpm (18 days, 15:41:18)

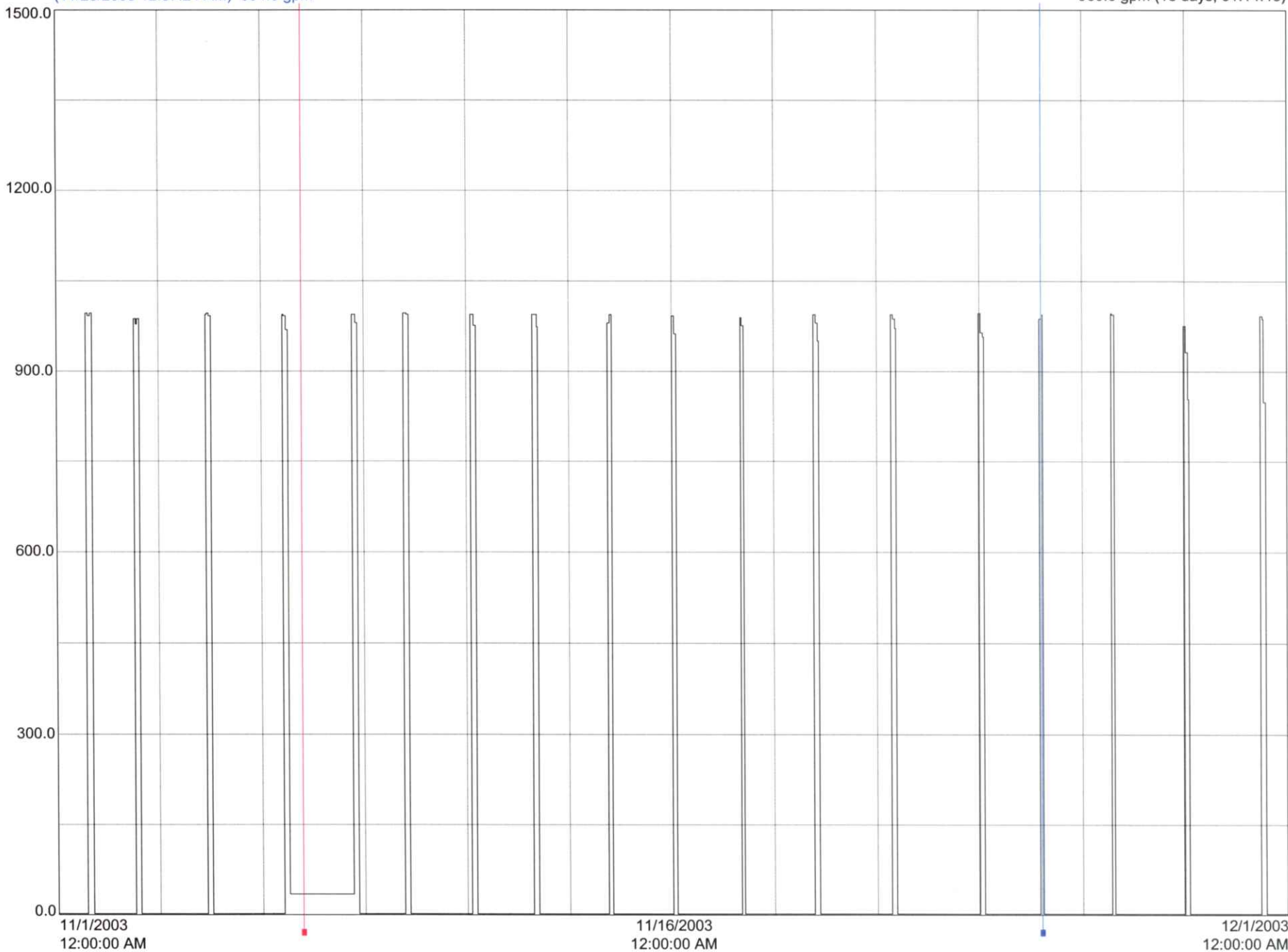


(MySQL:H_WELL1_FLOW)

Cyclic

(11/6/2003 11:22:36 PM) 34.0 gpm
(11/25/2003 12:37:24 AM) 994.0 gpm

960.0 gpm (18 days, 01:14:48)

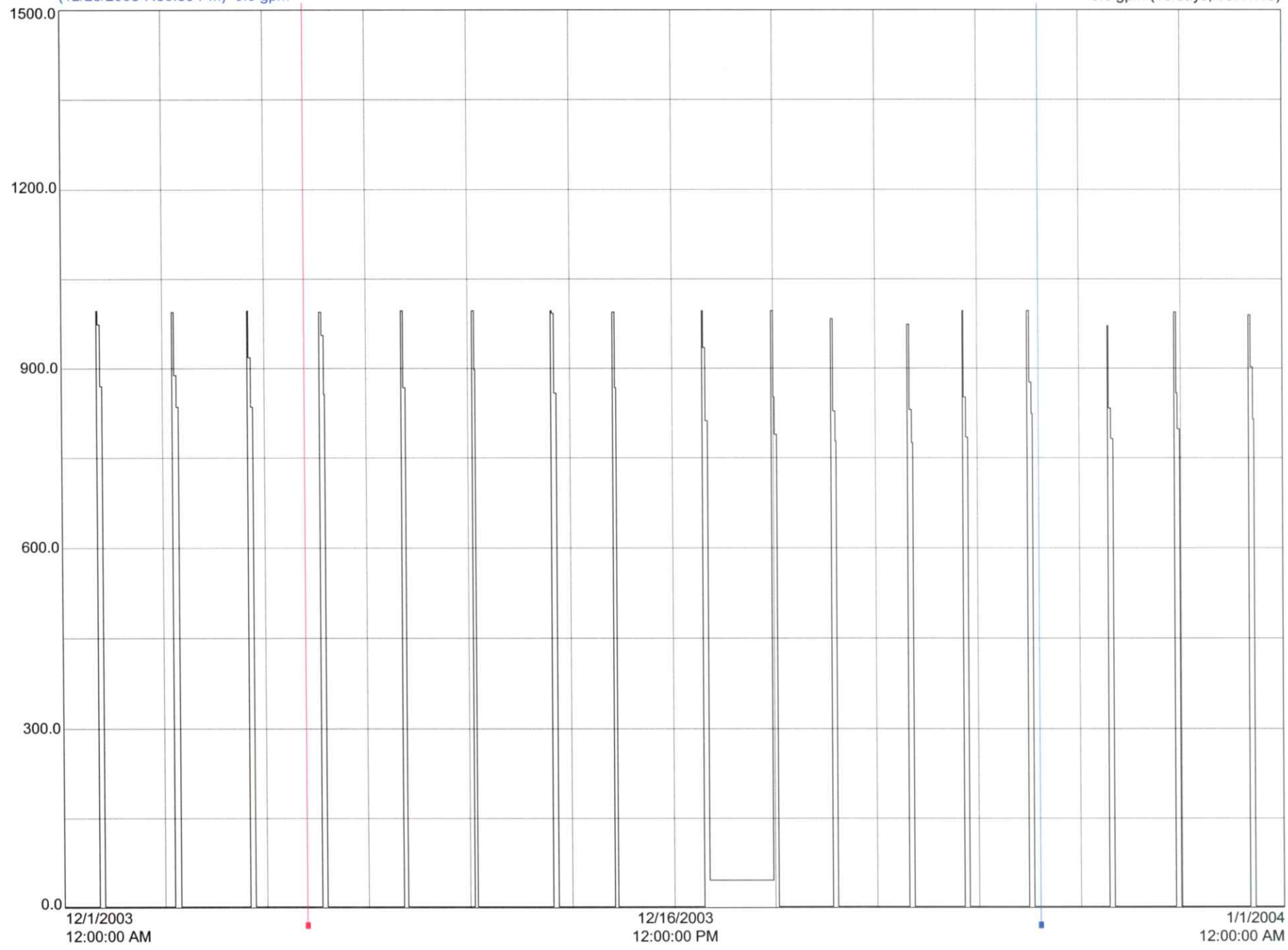


(MySQL:H_WELL1_FLOW)

Cyclic

(12/7/2003 4:09:21 AM) 0.0 gpm
(12/25/2003 7:50:39 PM) 0.0 gpm

0.0 gpm (18 days, 15:41:18)

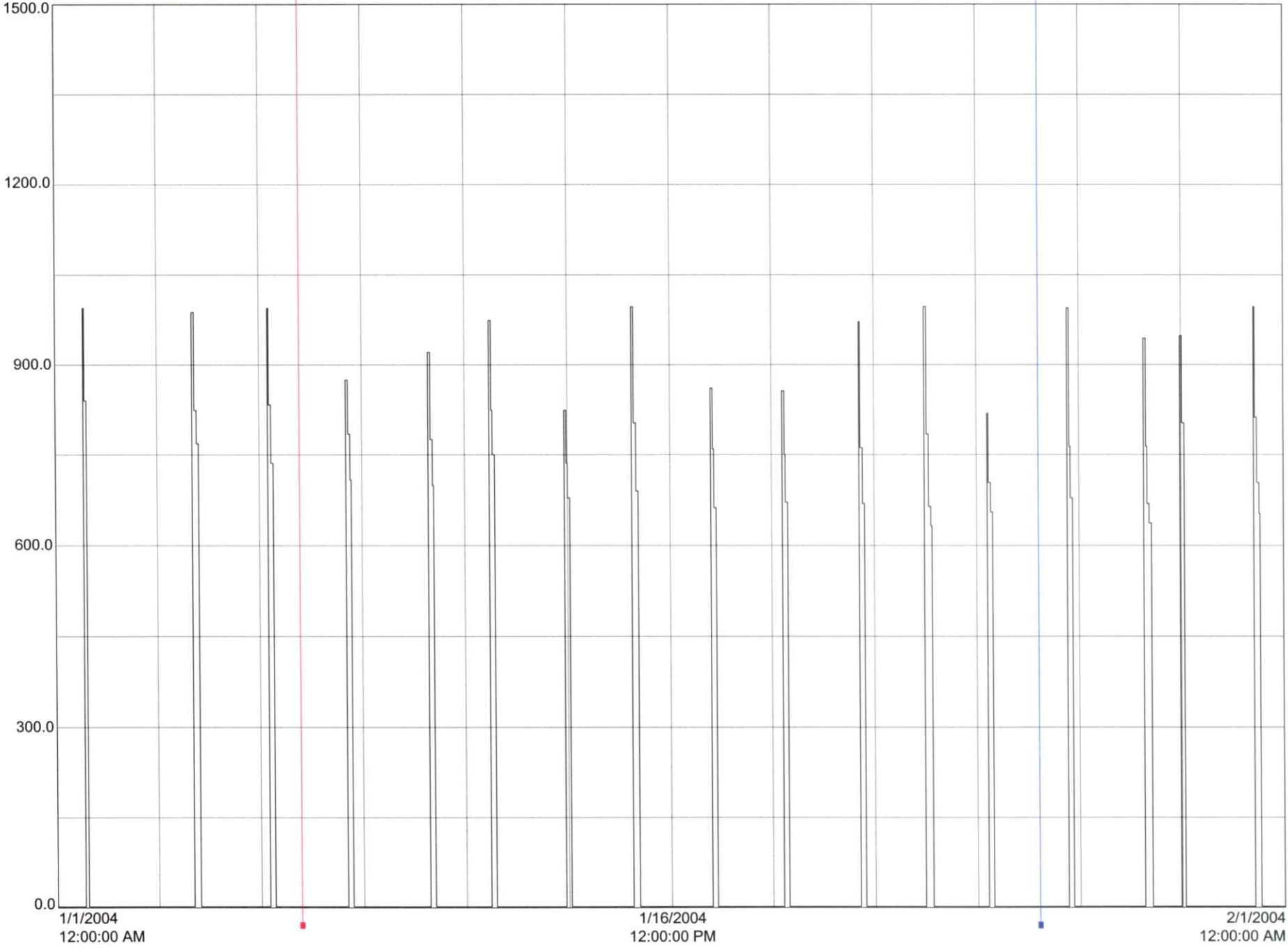


(MySQL:H_WELL1_FLOW)

Cyclic

(1/7/2004 4:09:21 AM) 0.0 gpm
(1/25/2004 7:50:39 PM) 0.0 gpm

0.0 gpm (18 days, 15:41:18)

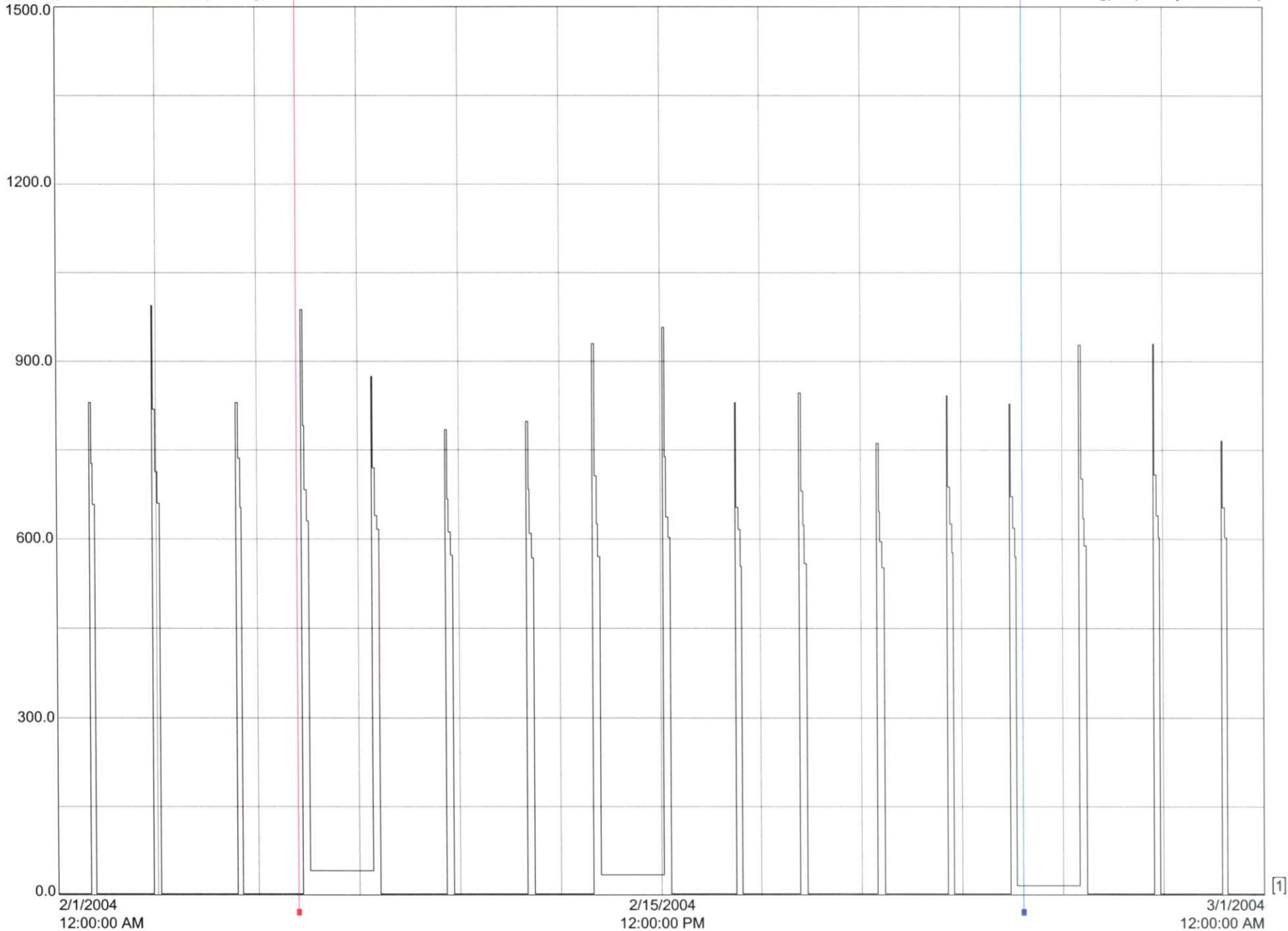


(MyInSQL:H_WELL1_FLOW)

Cyclic

(2/6/2004 6:35:51 PM) 0.0 gpm
(2/24/2004 5:24:09 AM) 14.0 gpm

14.0 gpm (17 days, 10:48:19)

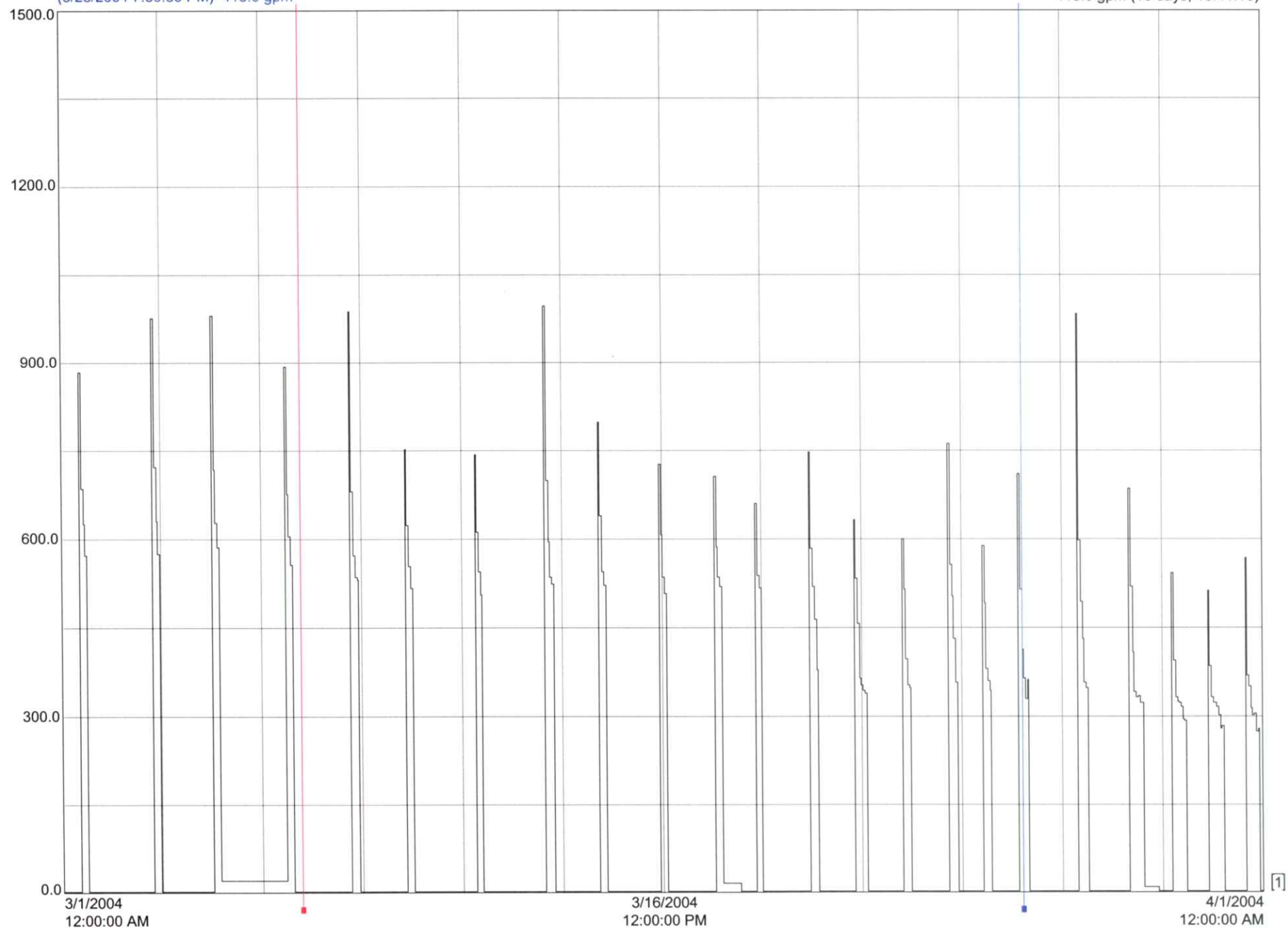


(MySQL:H_WELL1_FLOW)

Cyclic

(3/7/2004 4:09:21 AM) 0.0 gpm
(3/25/2004 7:50:39 PM) 413.0 gpm

413.0 gpm (18 days, 15:41:18)

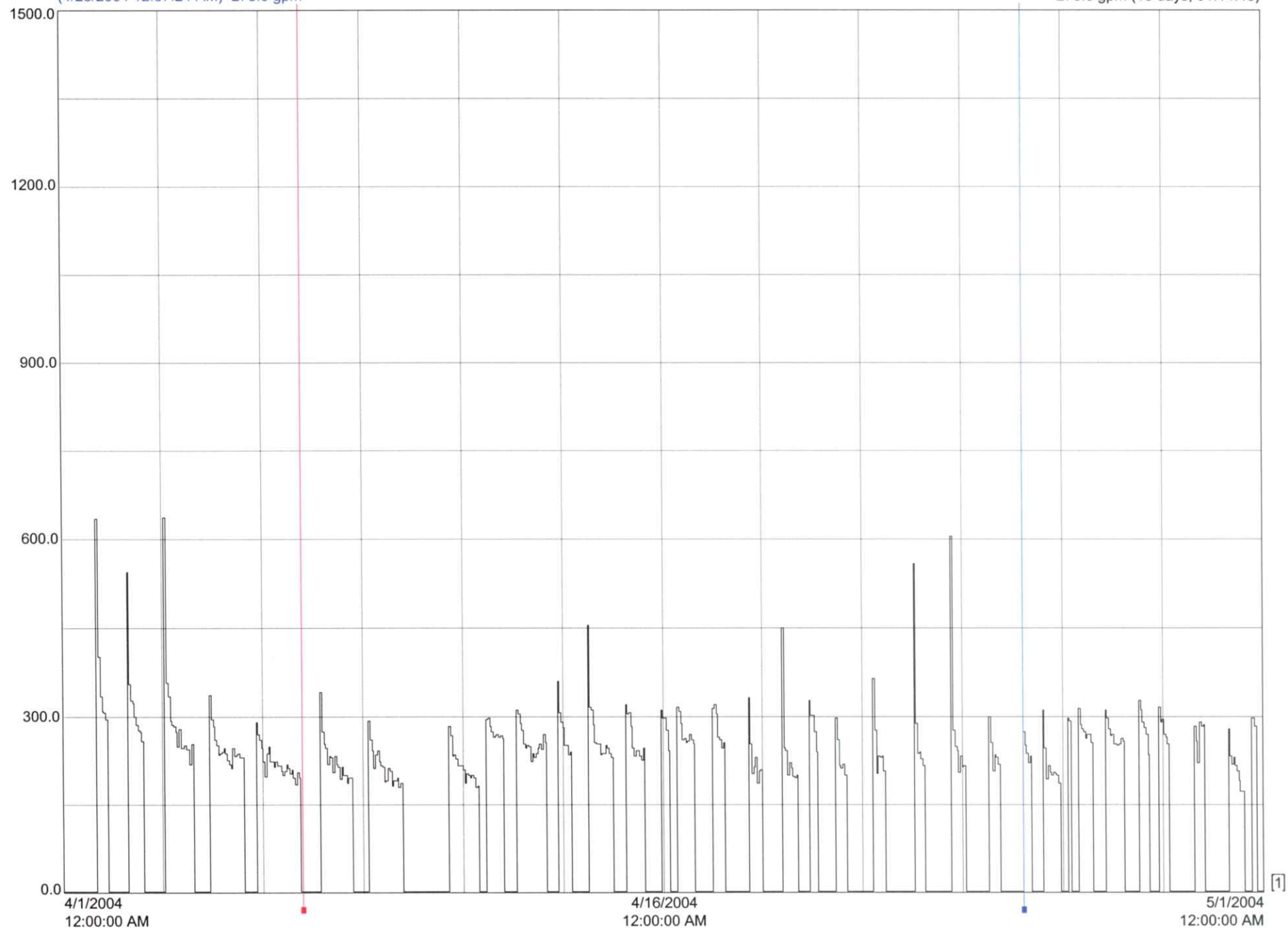


(MySQL:H_WELL1_FLOW)

Cyclic

(4/6/2004 11:22:36 PM) 0.0 gpm
(4/25/2004 12:37:24 AM) 273.0 gpm

273.0 gpm (18 days, 01:14:48)



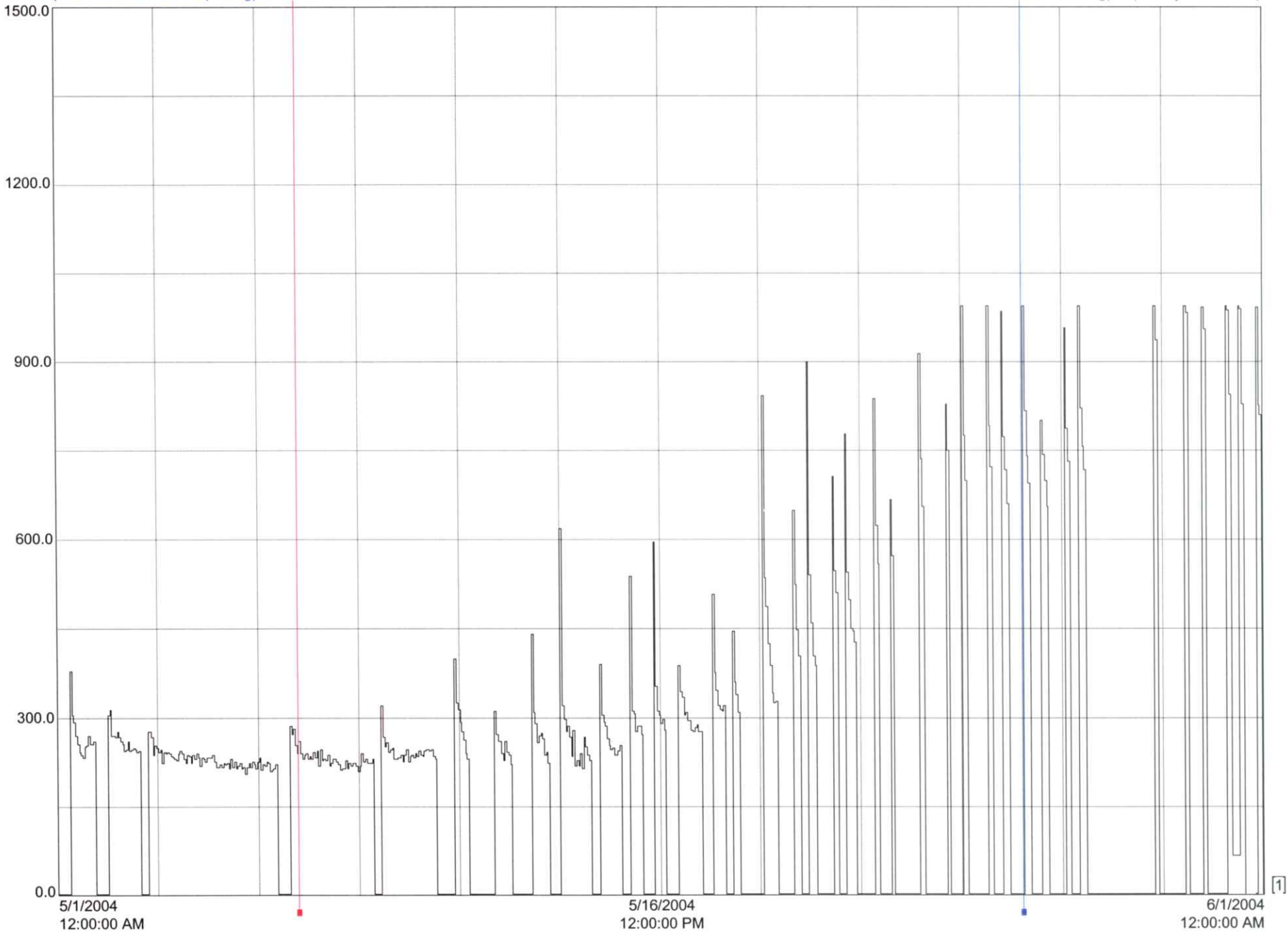
(MySQL:H_WELL1_FLOW)

Cyclic

(5/7/2004 4:09:21 AM) 239.0 gpm

(5/25/2004 7:50:39 PM) 0.0 gpm

-239.0 gpm (18 days, 15:41:18)

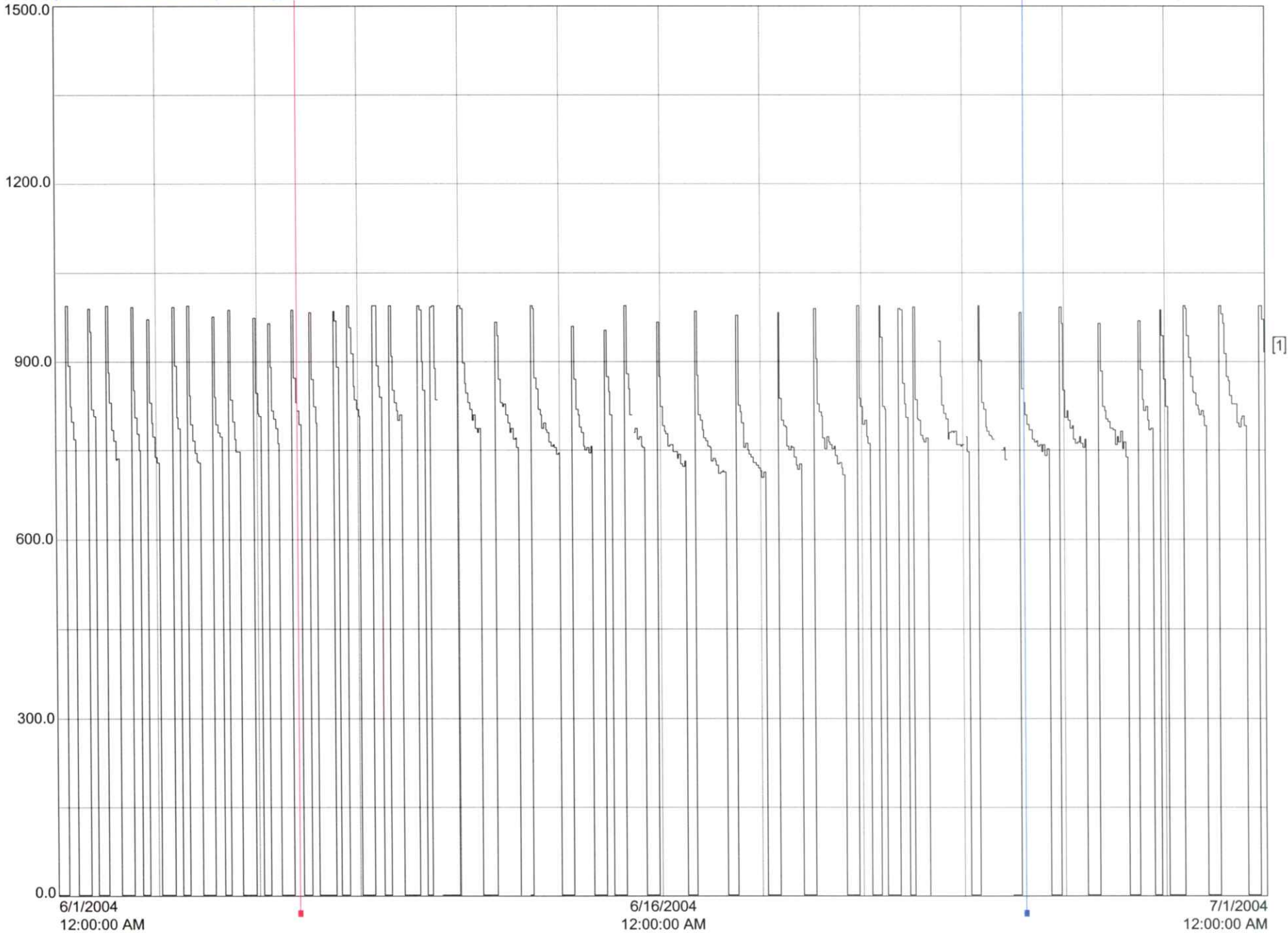


(MySQL:H_WELL1_FLOW)

Cyclic

(6/6/2004 11:22:36 PM) 831.0 gpm
(6/25/2004 12:37:24 AM) 832.0 gpm

1.0 gpm (18 days, 01:14:48)

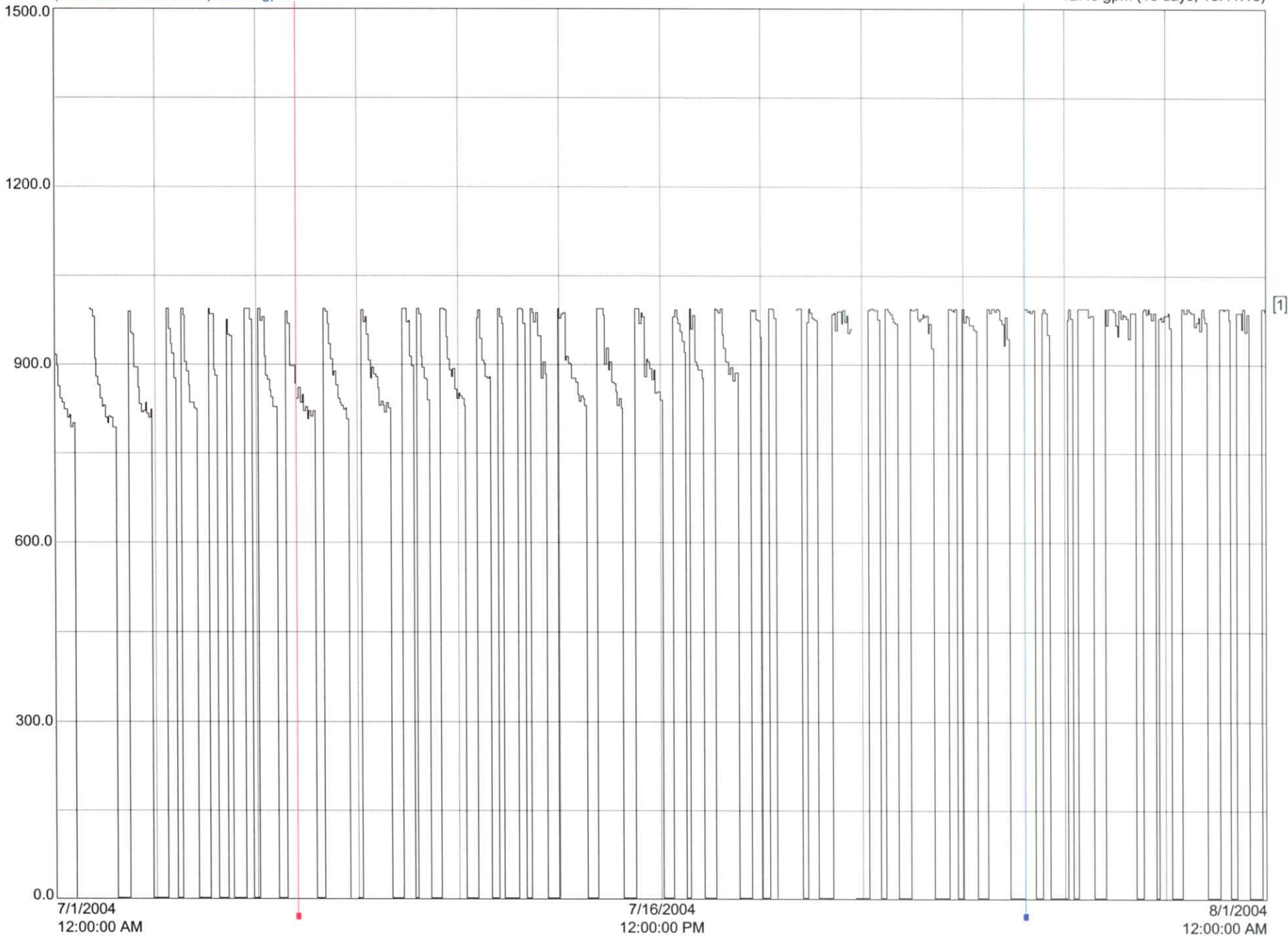


(MySQL:H_WELL1_FLOW)

Cyclic

(7/7/2004 4:09:21 AM) 868.0 gpm
(7/25/2004 7:50:39 PM) 995.0 gpm

127.0 gpm (18 days, 15:41:18)

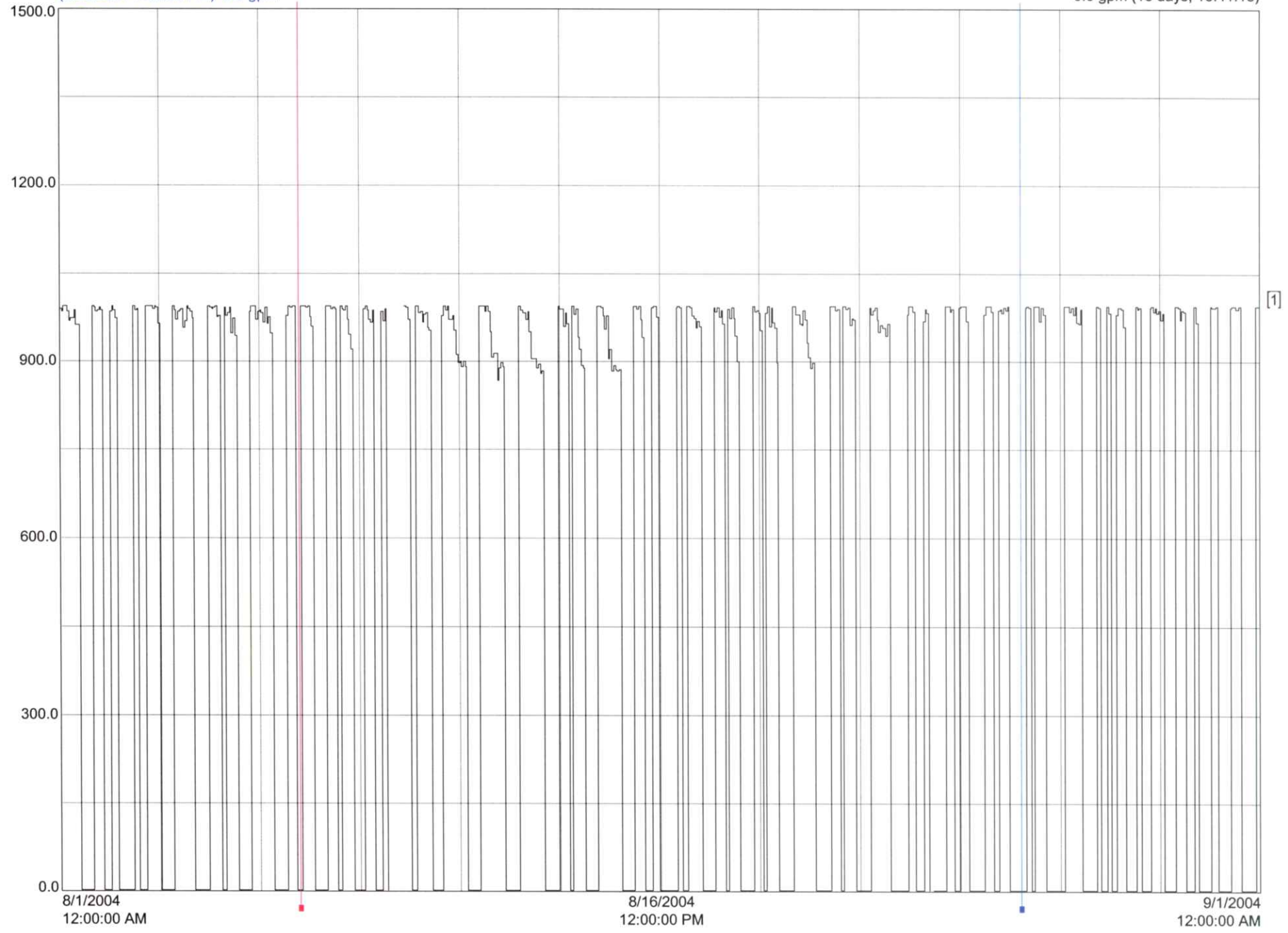


(MySQL:H_WELL1_FLOW)

Cyclic

(8/7/2004 4:09:21 AM) 0.0 gpm
(8/25/2004 7:50:39 PM) 0.0 gpm

0.0 gpm (18 days, 15:41:18)

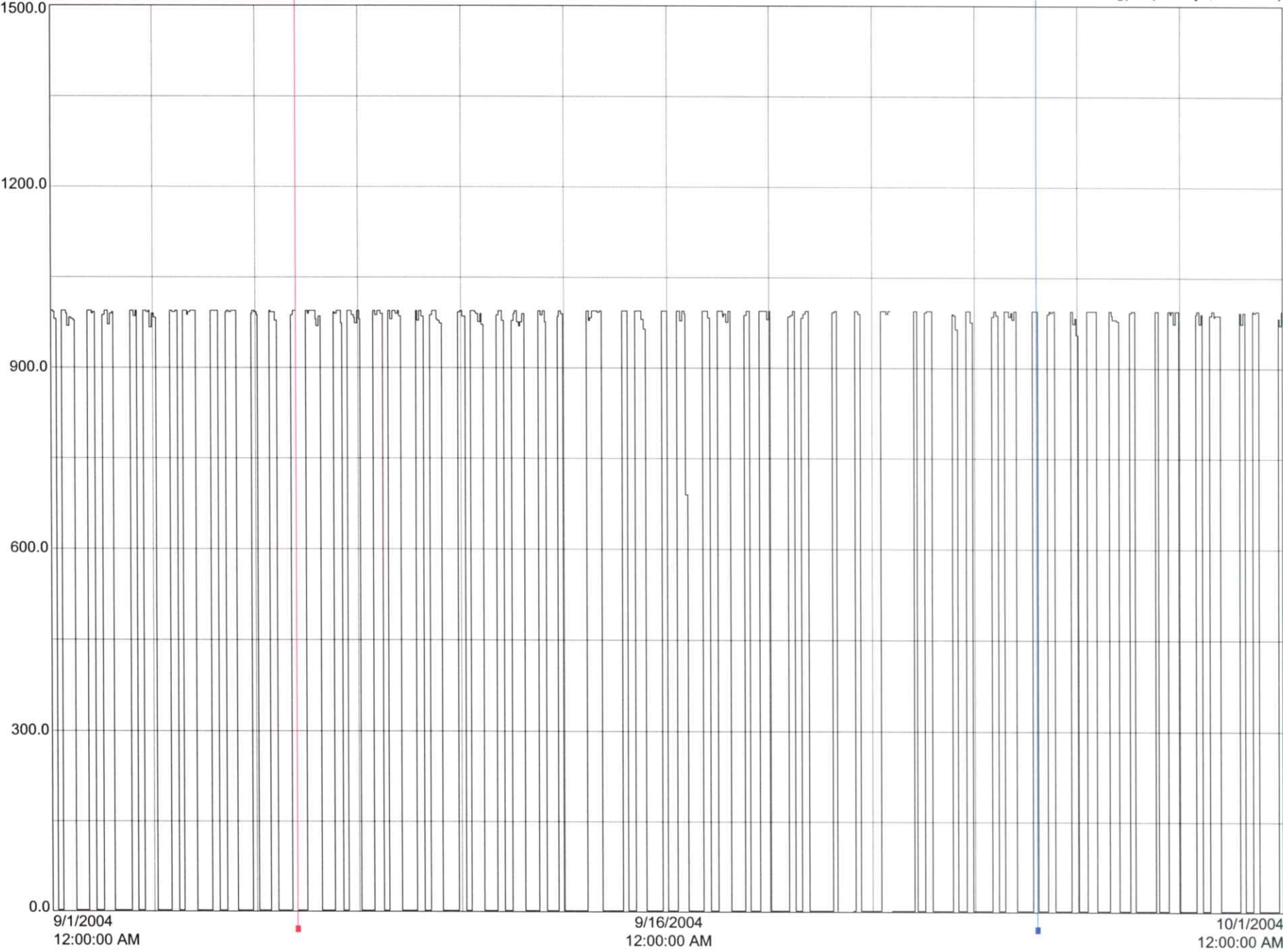


(MyInSQL:H_WELL1_FLOW)

Cyclic

(9/6/2004 11:22:36 PM) 995.0 gpm
(9/25/2004 12:37:24 AM) 995.0 gpm

0.0 gpm (18 days, 01:14:48)

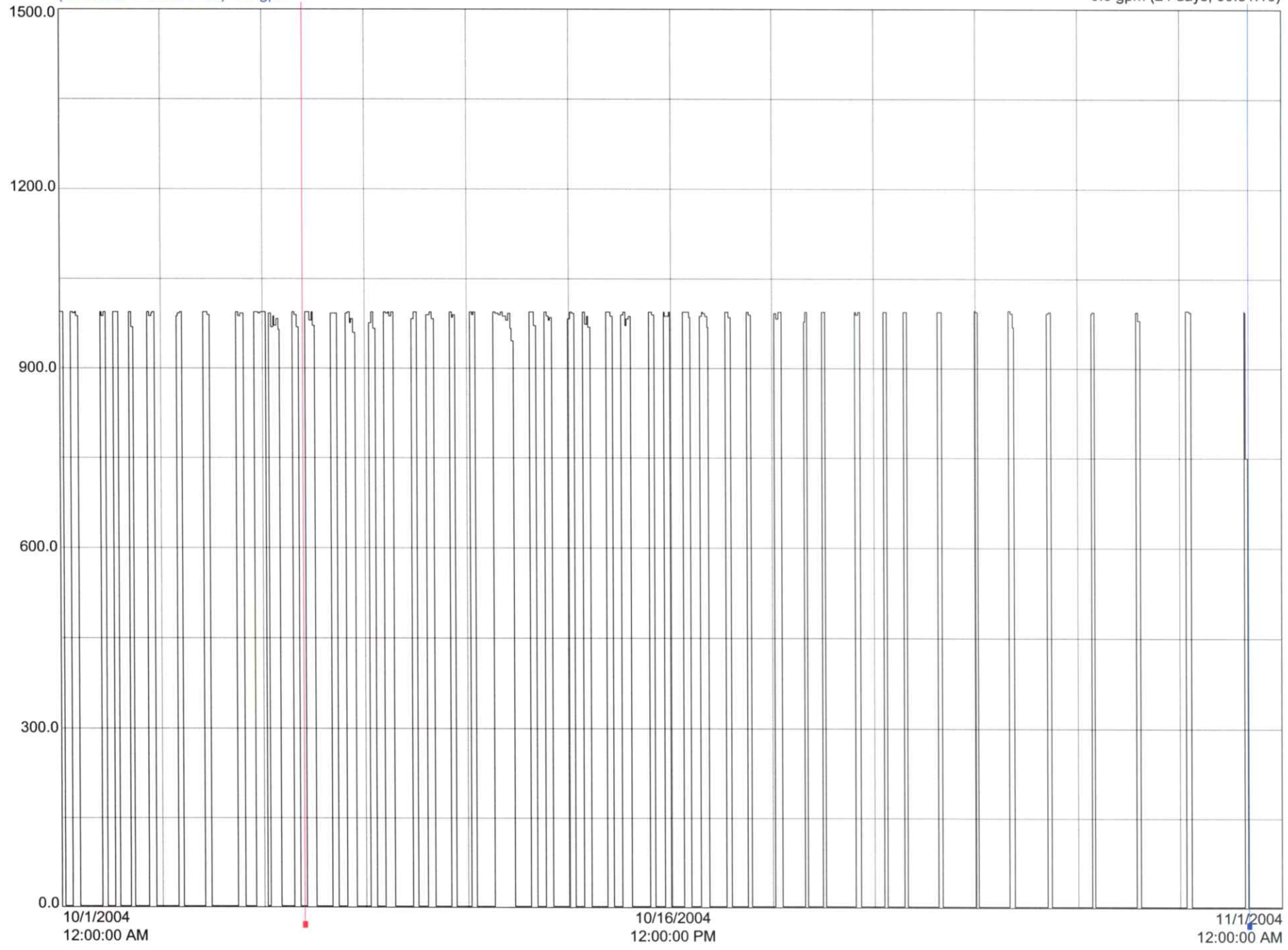


(MySQL:H_WELL1_FLOW)

Cyclic

(10/7/2004 4:09:21 AM) 0.0 gpm
(10/31/2004 4:40:31 AM) 0.0 gpm

0.0 gpm (24 days, 00:31:10)



5)

Cyc

(11)

(11)

5:19



11

1.

100

Well #2

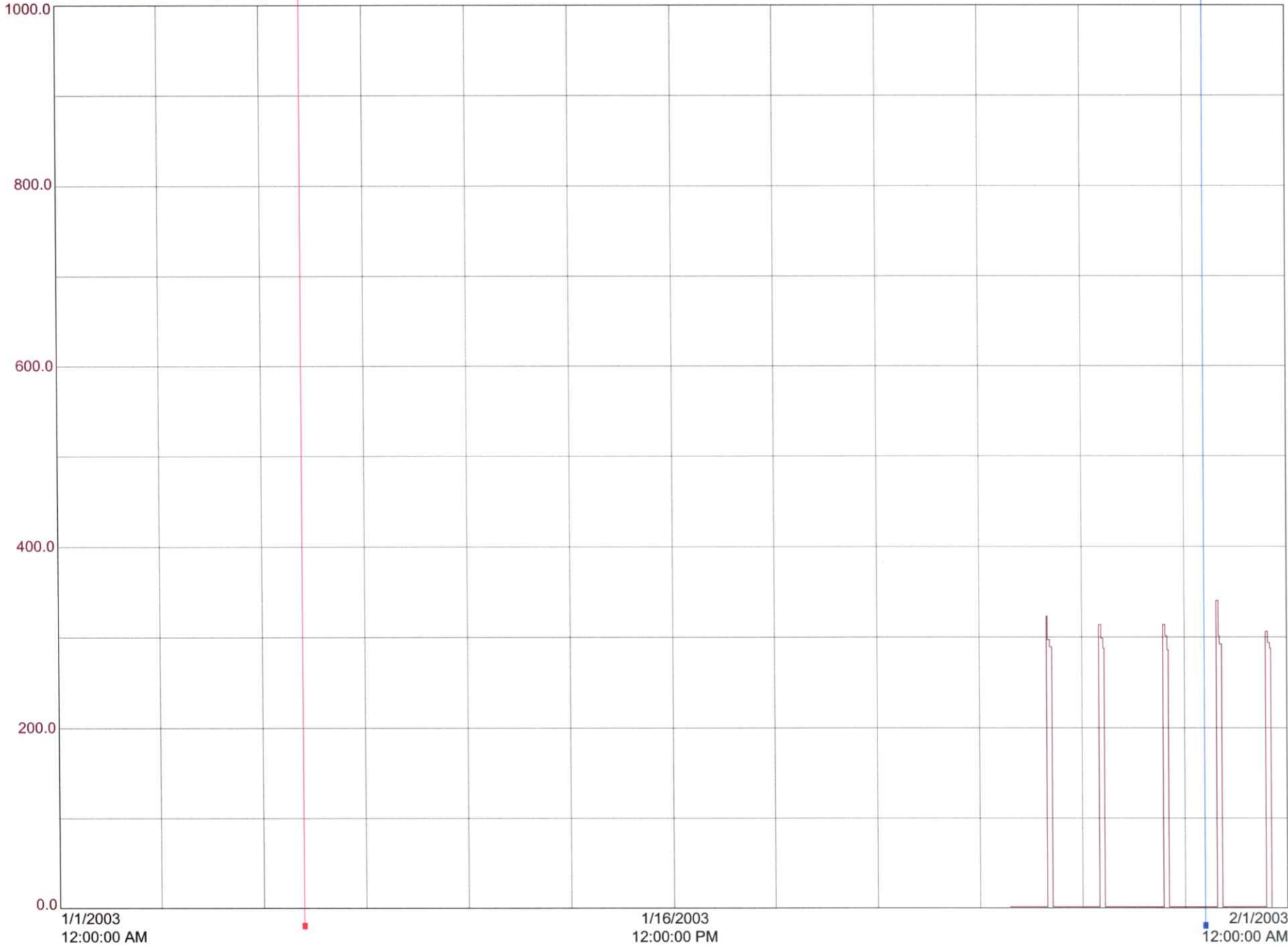
IndustrialSQL Server: Trend

(MySQL:H_WELL2_FLOW)

Cyclic

(1/7/2003 4:09:21 AM) 0.0 gpm
(1/29/2003 10:36:53 PM) 0.0 gpm

0.0 gpm (22 days, 18:27:32)

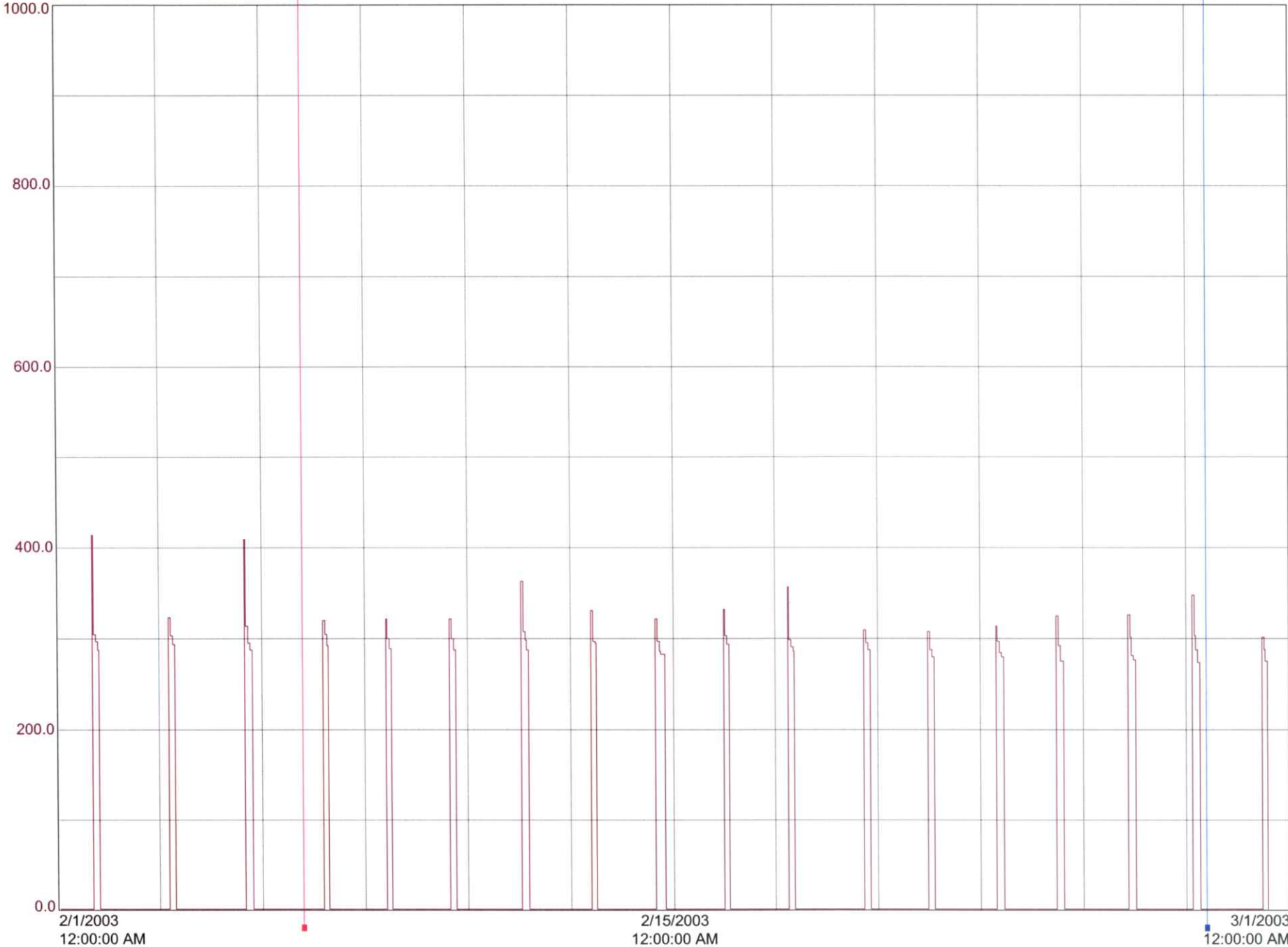


(MySQL:H_WELL2_FLOW)

Cyclic

(2/6/2003 1:49:05 PM) 0.0 gpm
(2/27/2003 3:23:38 AM) 0.0 gpm

0.0 gpm (20 days, 13:34:33)

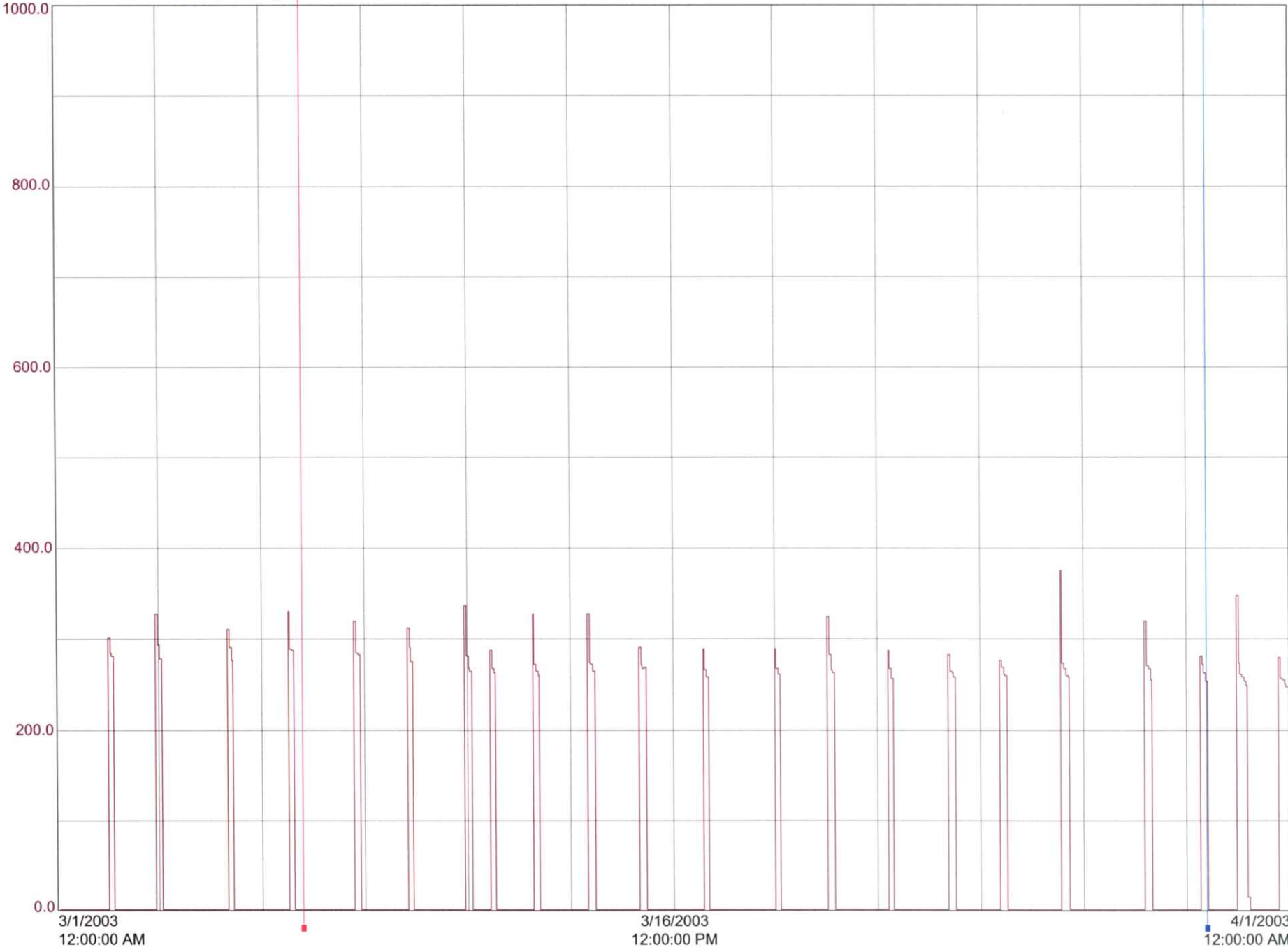


(MySQL:H_WELL2_FLOW)

Cyclic

(3/7/2003 4:09:21 AM) 0.0 gpm
(3/29/2003 10:36:53 PM) 254.0 gpm

254.0 gpm (22 days, 18:27:32)



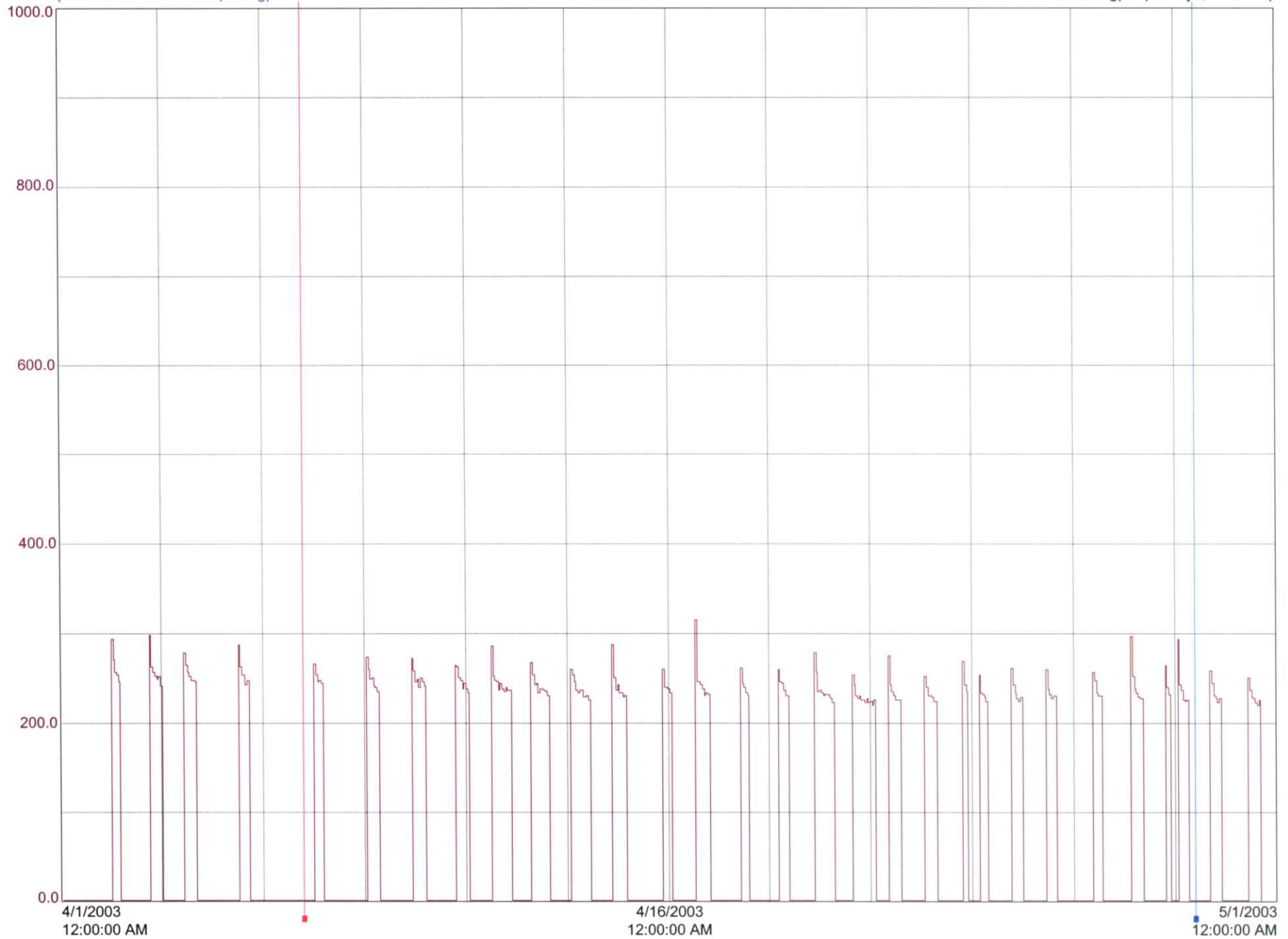
IndustrialSQL Server: Trend

(MySQL:H_WELL2_FLOW)

Cyclic

(4/6/2003 11:22:36 PM) 0.0 gpm
(4/29/2003 12:12:28 AM) 0.0 gpm

0.0 gpm (22 days, 00:49:52)



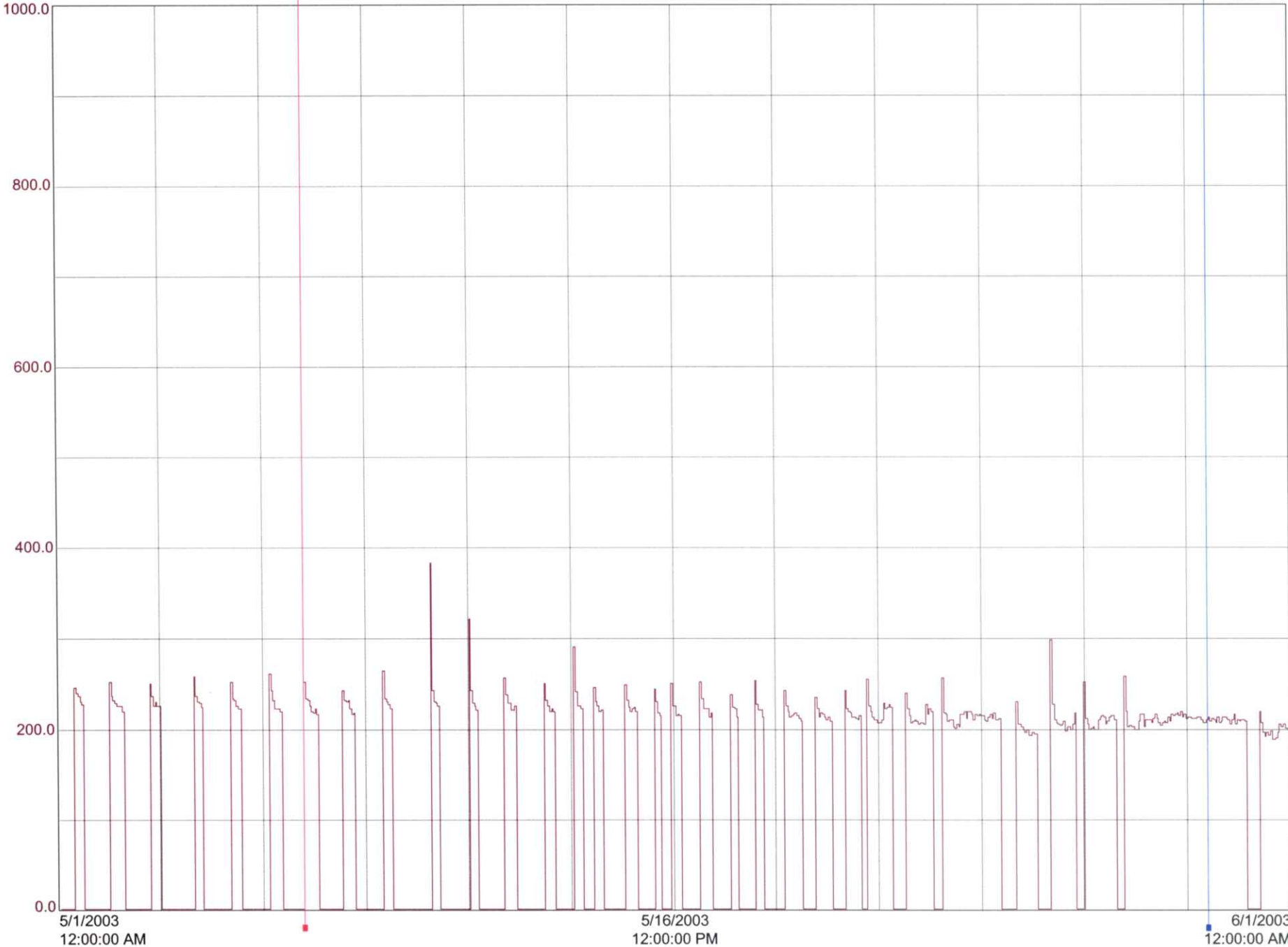
IndustrialSQL Server: Trend

(MySQL:H_WELL2_FLOW)

Cyclic

(5/7/2003 4:09:21 AM) 0.0 gpm
(5/29/2003 10:36:53 PM) 211.0 gpm

211.0 gpm (22 days, 18:27:32)



IndustrialSQL Server: Trend

(MyInSQL:H_WELL2_FLOW)

Cyclic

(6/6/2003 11:22:36 PM) 196.0 gpm
(6/29/2003 12:12:28 AM) 282.0 gpm

86.0 gpm (22 days, 00:49:52)

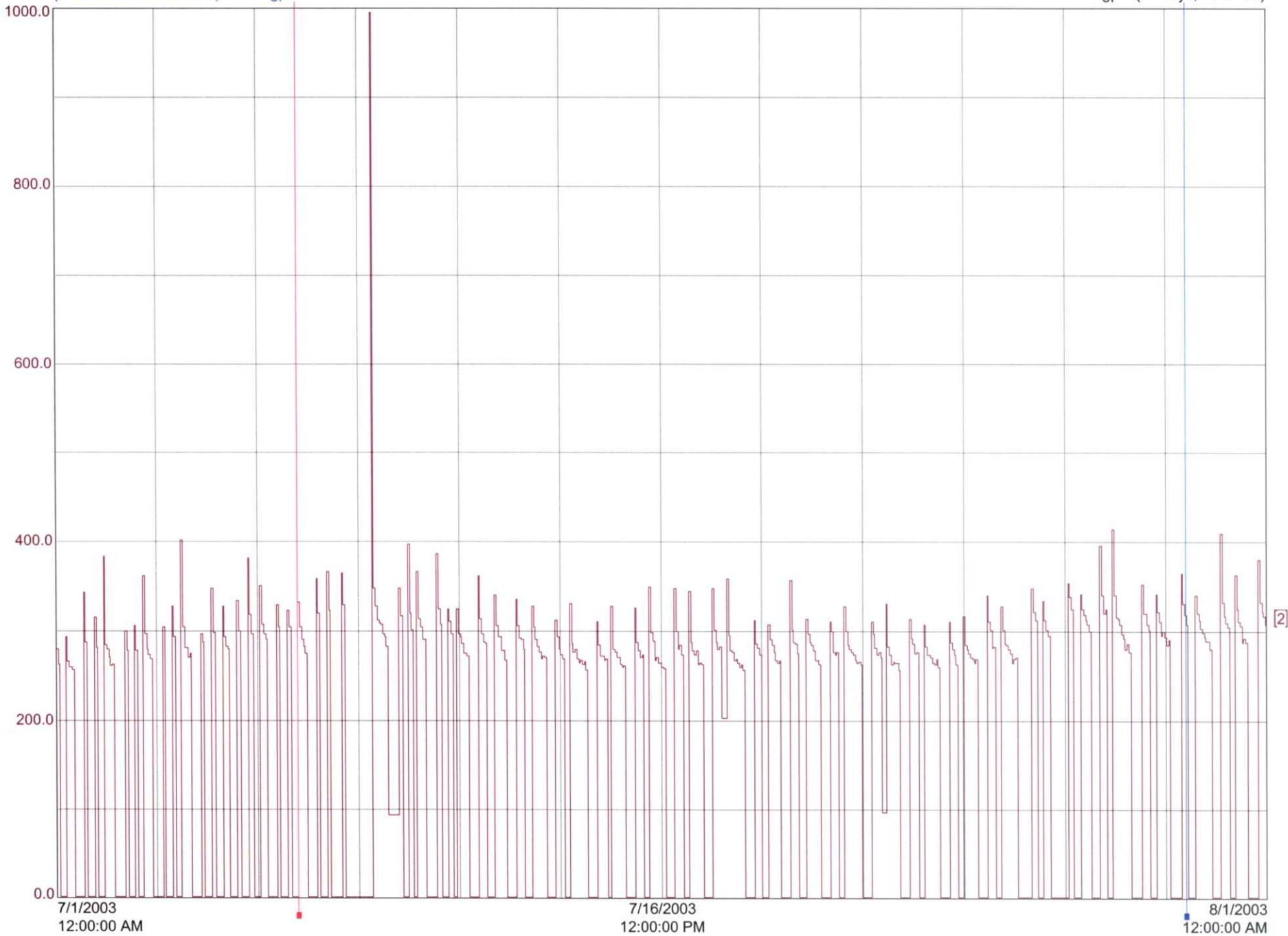


(MySQL:H_WELL2_FLOW)

Cyclic

(7/7/2003 4:09:21 AM) 0.0 gpm
(7/29/2003 10:36:53 PM) 318.0 gpm

318.0 gpm (22 days, 18:27:32)



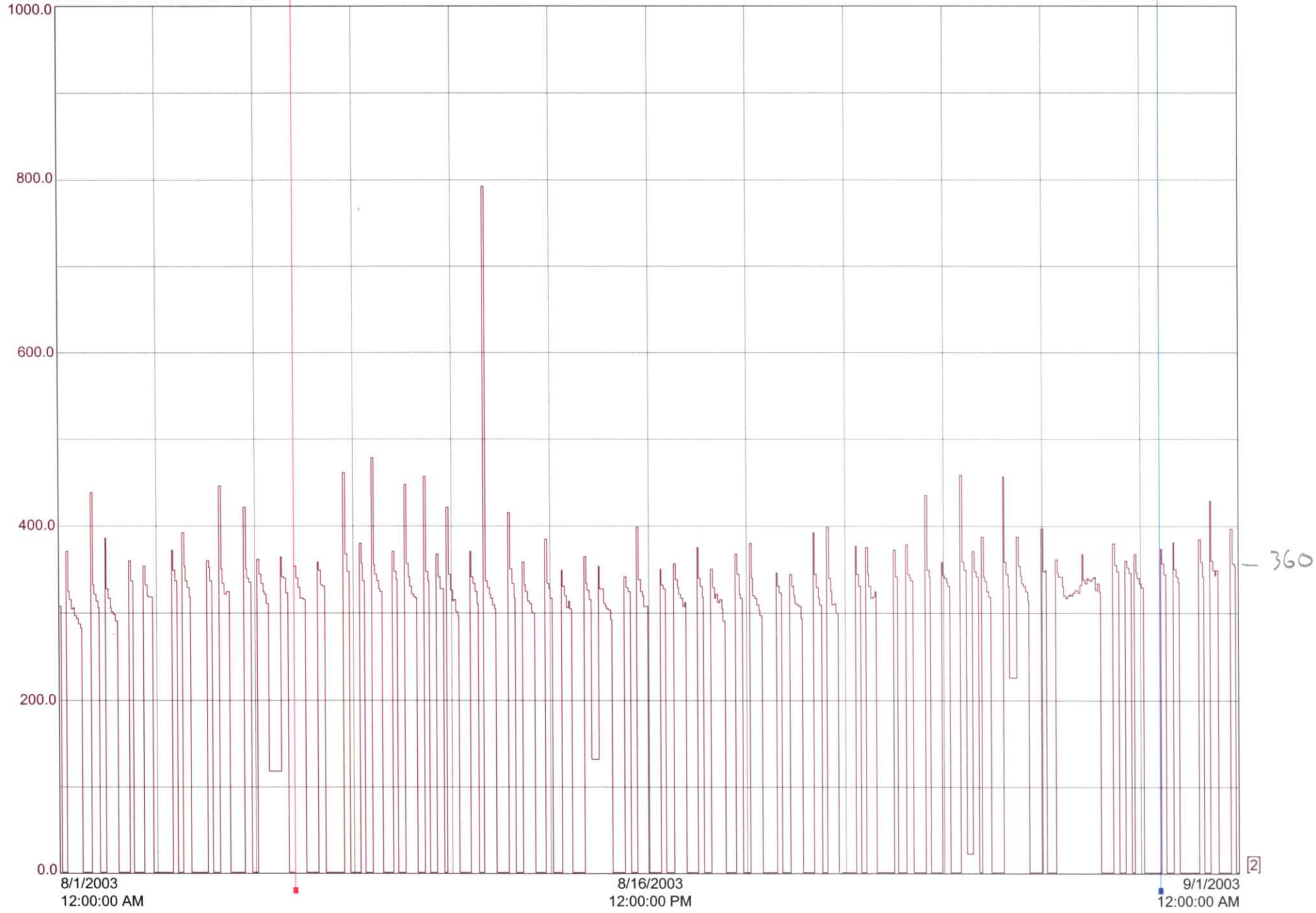
IndustrialSQL Server: Trend

(MySQL:H_WELL2_FLOW)

Cyclic

(8/7/2003 4:09:21 AM) 0.0 gpm
(8/29/2003 10:36:53 PM) 0.0 gpm

0.0 gpm (22 days, 18:27:32)



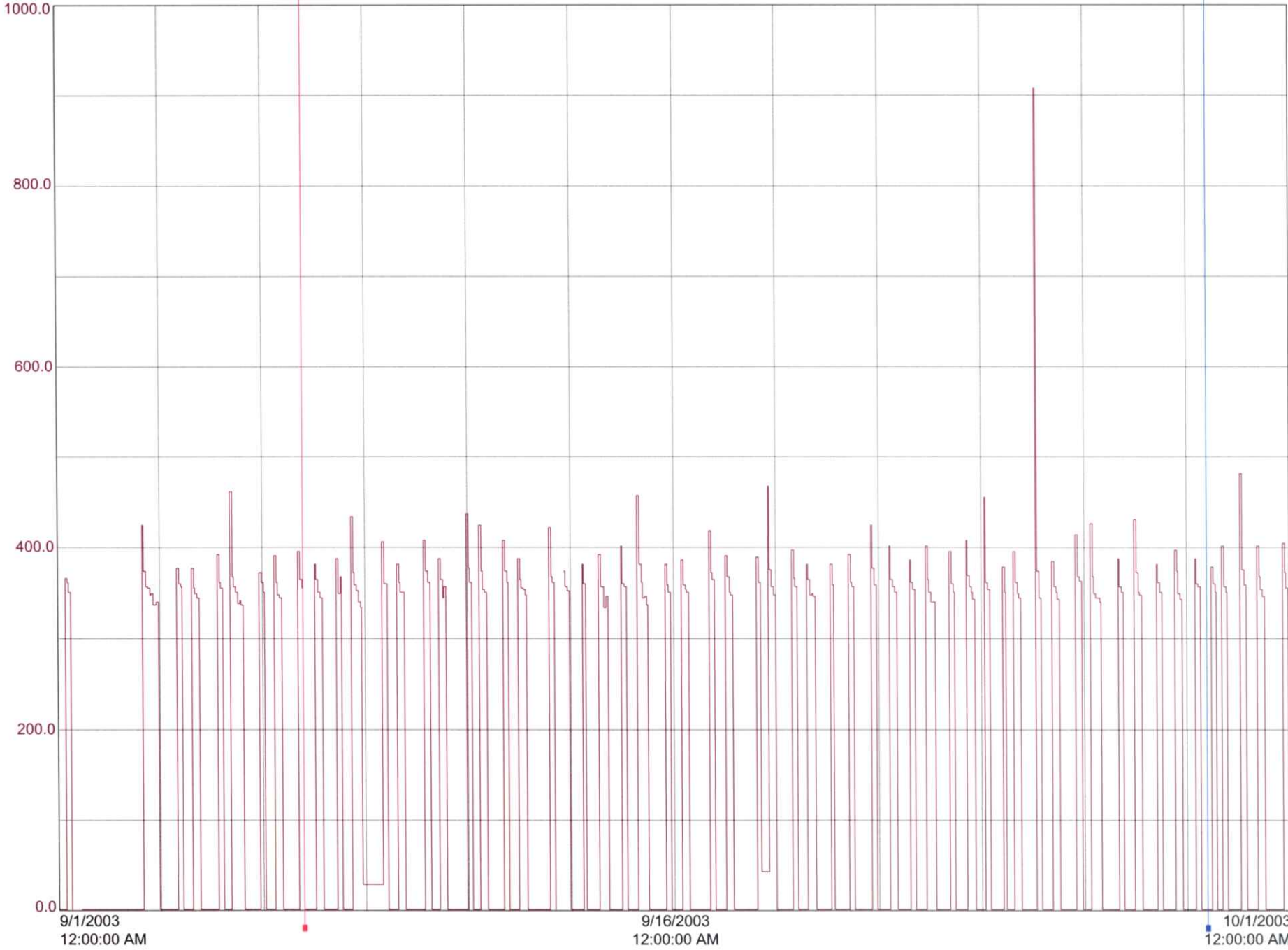
IndustrialSQL Server: Trend

(MySQL:H_WELL2_FLOW)

Cyclic

(9/6/2003 11:22:36 PM) 355.0 gpm
(9/29/2003 12:12:28 AM) 0.0 gpm

-355.0 gpm (22 days, 00:49:52)



IndustrialSQL Server: Trend

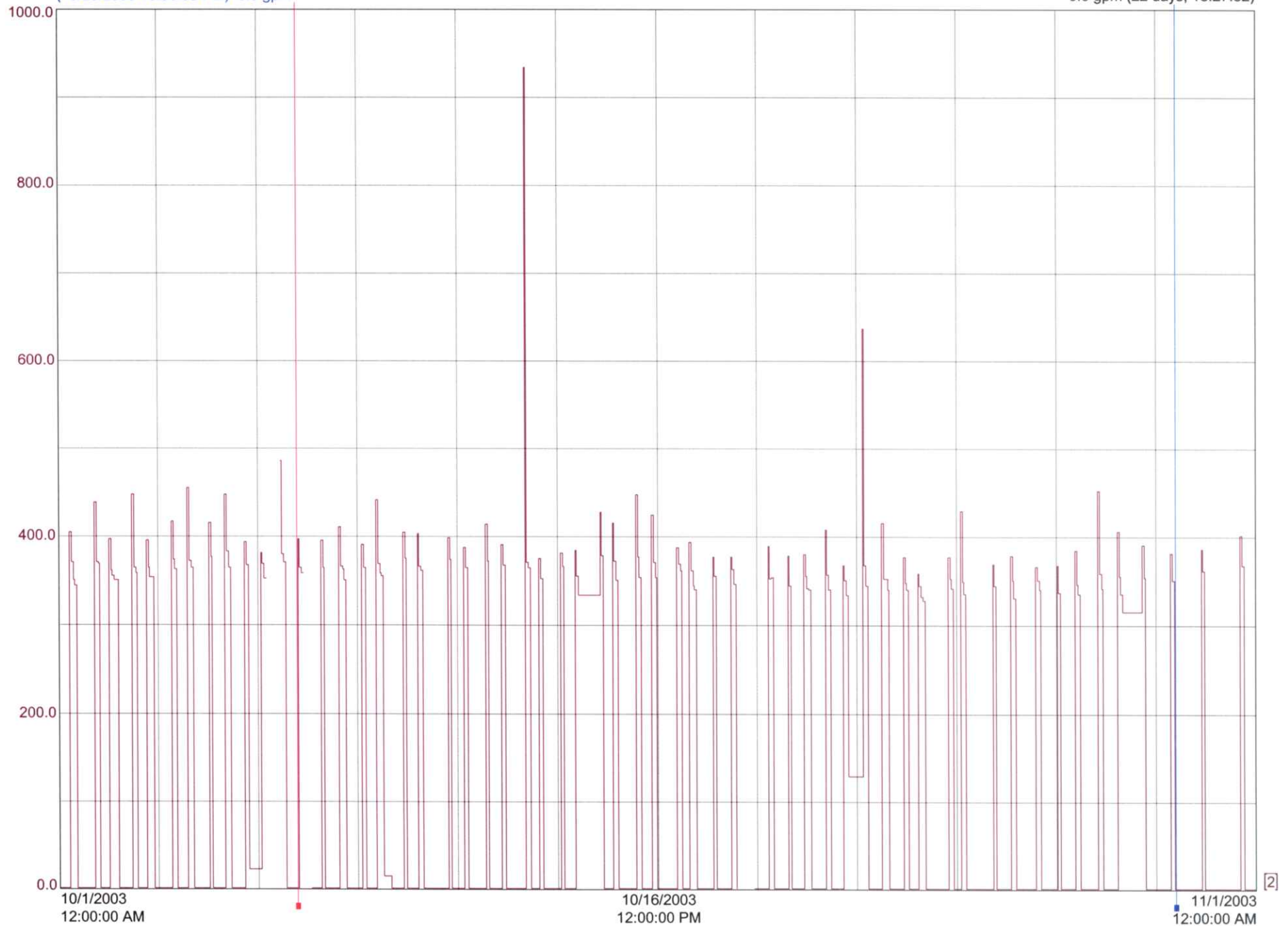
(MySQL:H_WELL2_FLOW)

Cyclic

(10/7/2003 4:09:21 AM) 0.0 gpm

(10/29/2003 10:36:53 PM) 0.0 gpm

0.0 gpm (22 days, 18:27:32)



2]

WELL

Cyclic

(12/7/2003 4:09:21 AM) 0.0 gpm

(12/29/2003 10:36:53 PM) 0.0 gpm

0.0 gpm (22 days, 18:27:32)





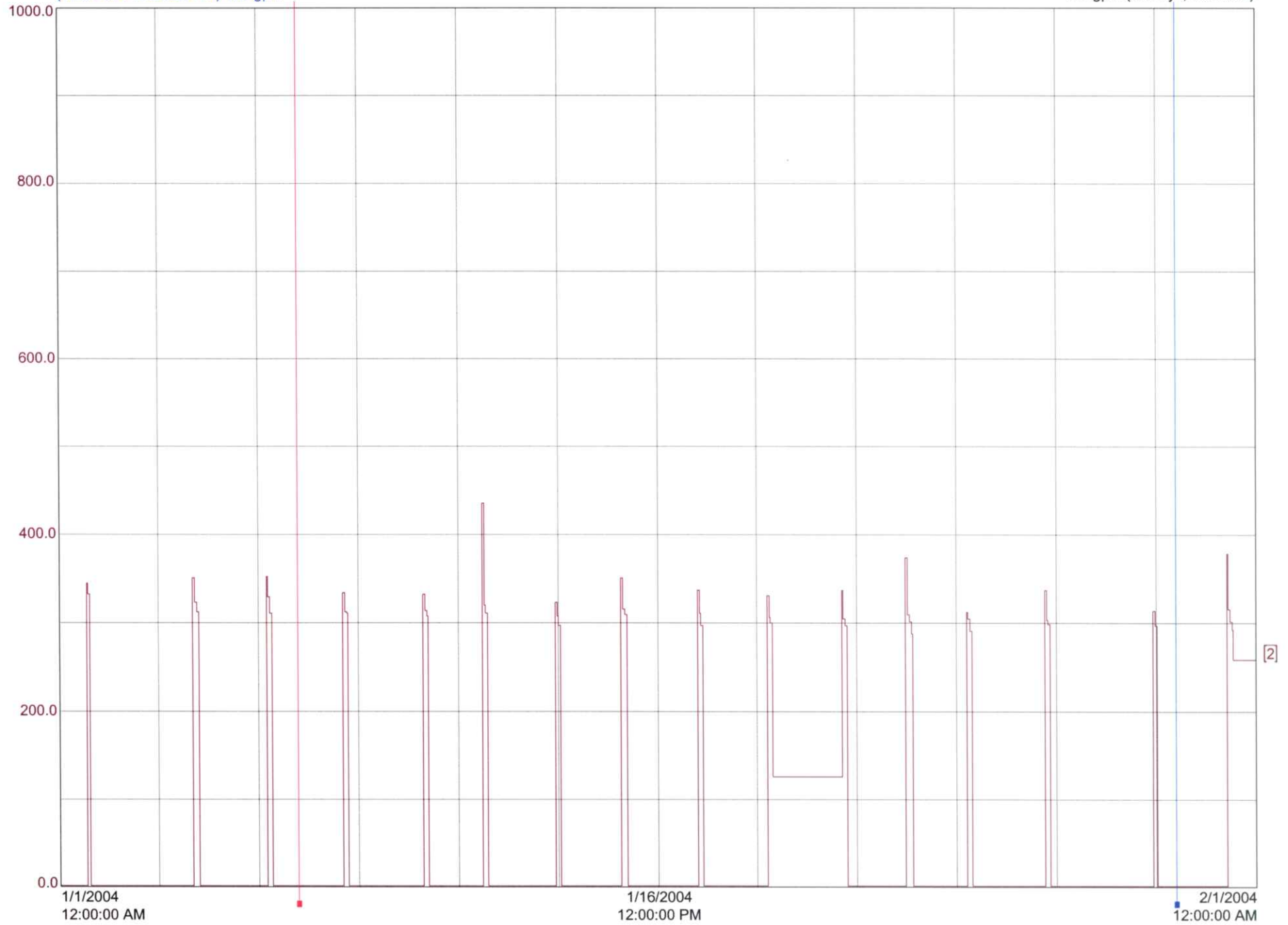
WELL2_F

Cyclic

(1/7/2004 4:09:21 AM) 0.0 gpm

(1/29/2004 10:36:53 PM) 0.0 gpm

0.0 gpm (22 days, 18:27:32)



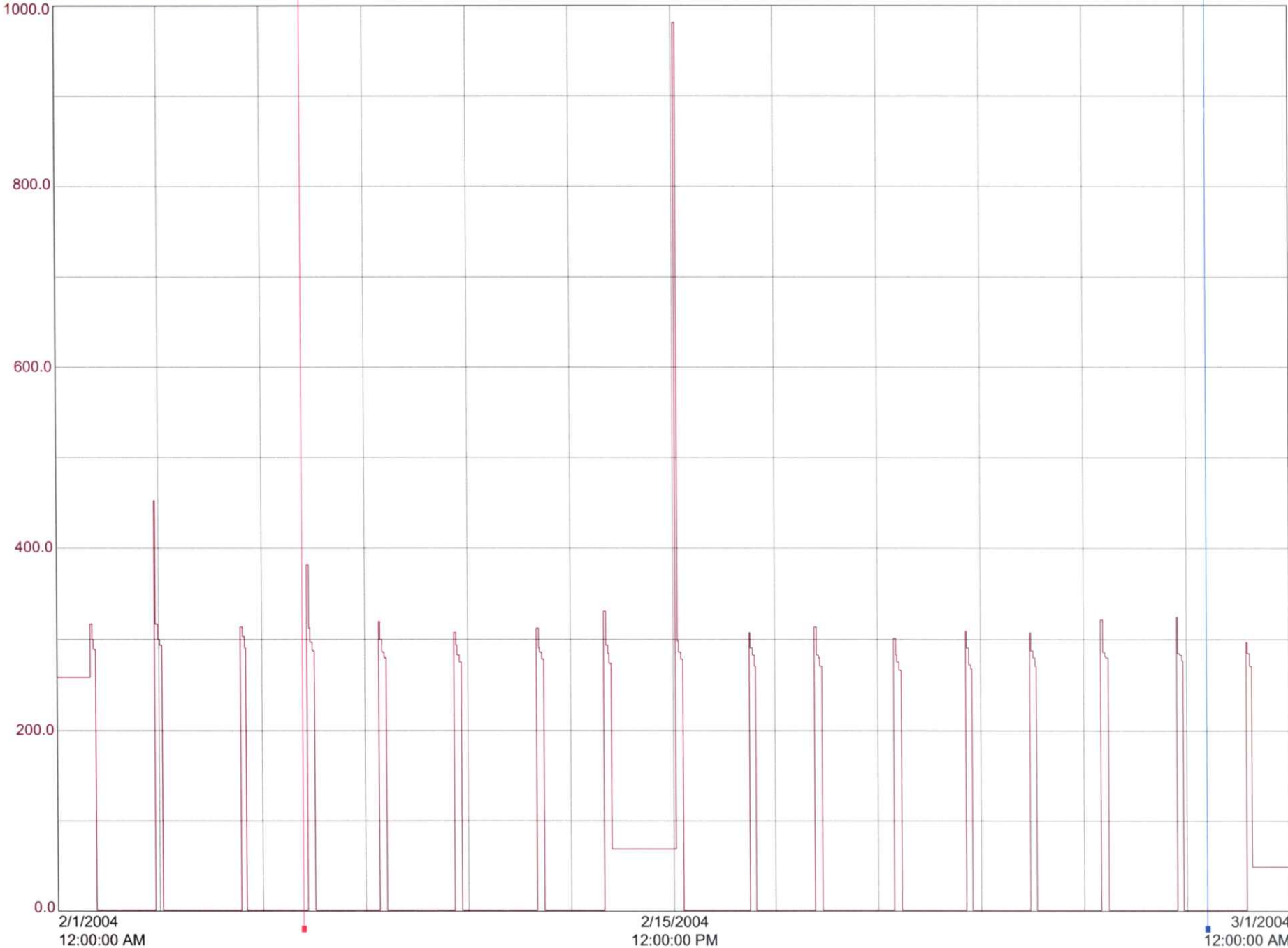
IndustrialSQL Server: Trend

(MySQL:H_WELL2_FLOW)

Cyclic

(2/6/2004 6:35:51 PM) 0.0 gpm
(2/28/2004 1:48:03 AM) 0.0 gpm

0.0 gpm (21 days, 07:12:12)



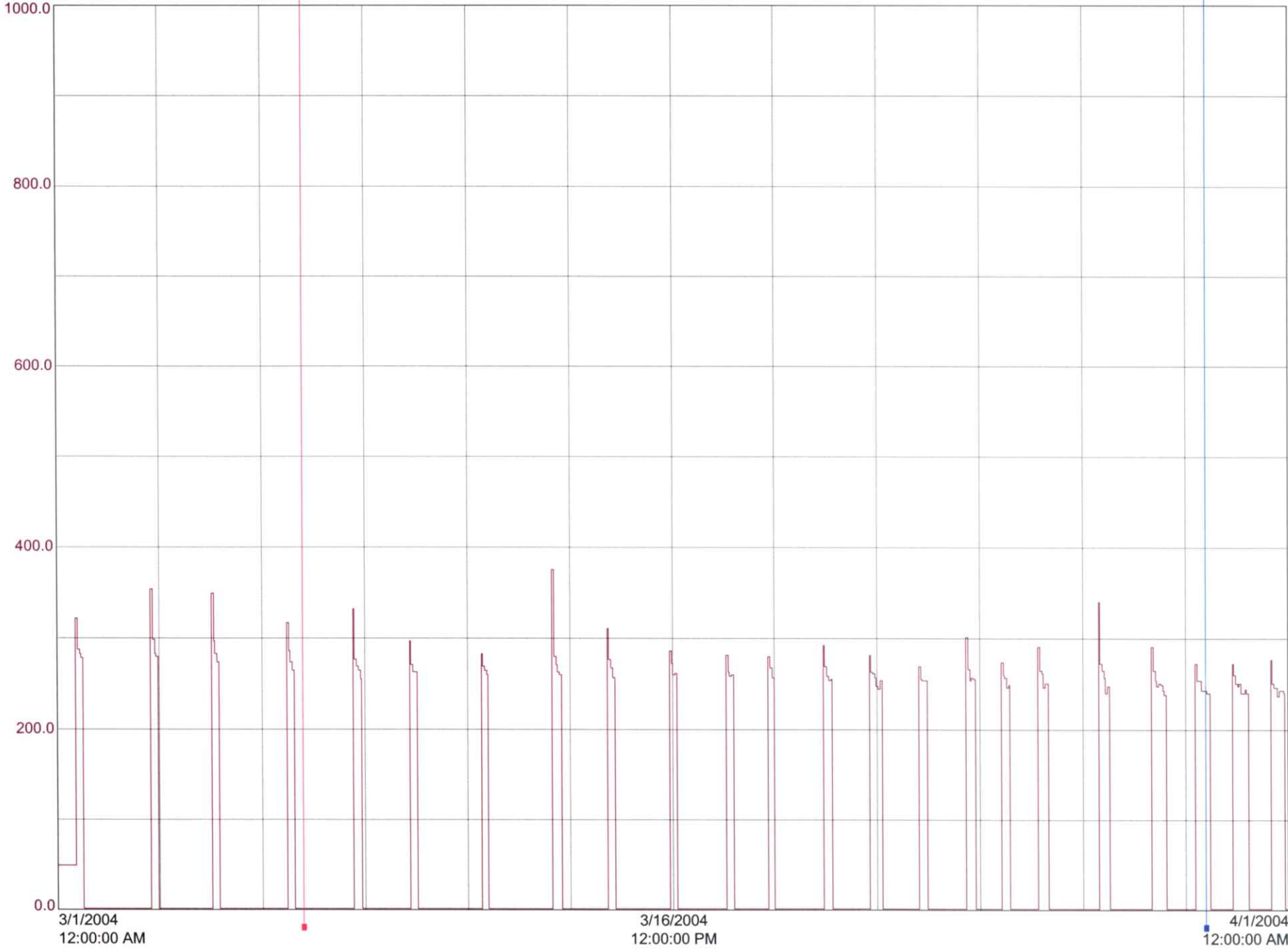
(MySQL:H_WELL2_FLOW)

Cyclic

(3/7/2004 4:09:21 AM) 0.0 gpm

(3/29/2004 10:36:53 PM) 243.0 gpm

243.0 gpm (22 days, 18:27:32)



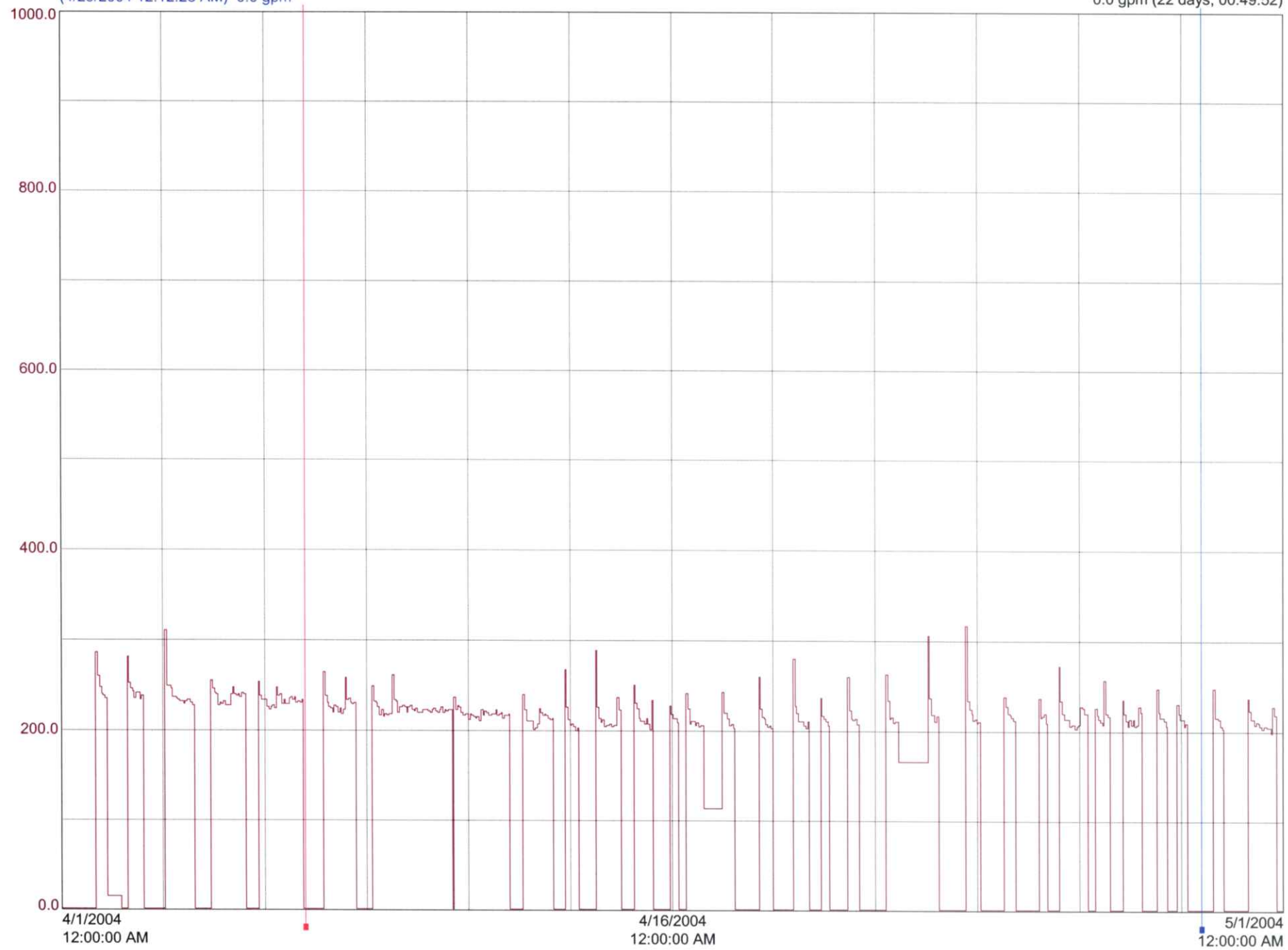
IndustrialSQL Server: Trend

(MyInSQL:H_WELL2_FLOW)

Cyclic

(4/6/2004 11:22:36 PM) 0.0 gpm
(4/29/2004 12:12:28 AM) 0.0 gpm

0.0 gpm (22 days, 00:49:52)



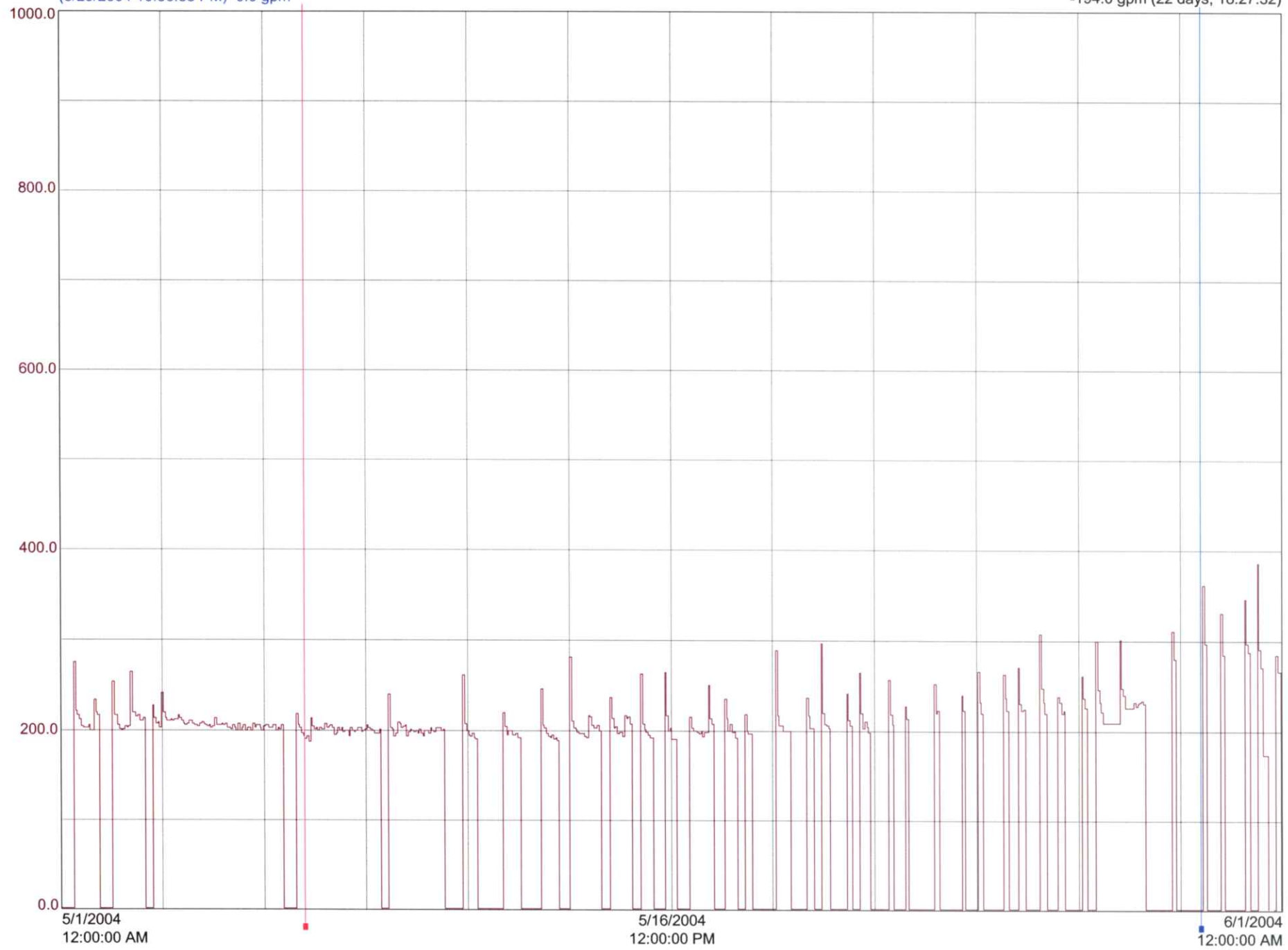
IndustrialSQL Server: Trend

(MyInSQL:H_WELL2_FLOW)

Cyclic

(5/7/2004 4:09:21 AM) 194.0 gpm
(5/29/2004 10:36:53 PM) 0.0 gpm

-194.0 gpm (22 days, 18:27:32)

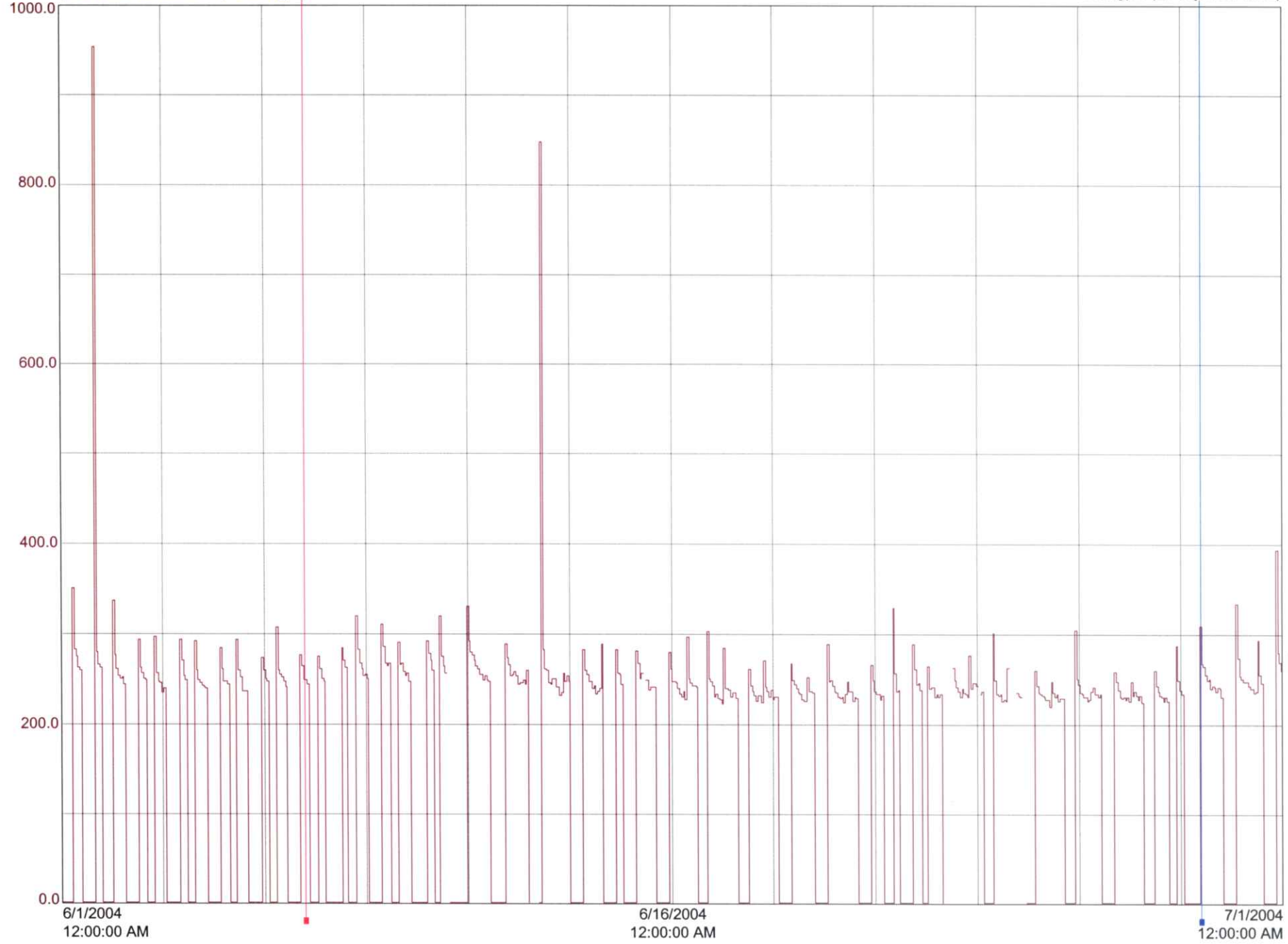


(MySQL:H_WELL2_FLOW)

Cyclic

(6/6/2004 11:22:36 PM) 249.0 gpm
(6/29/2004 12:12:28 AM) 309.0 gpm

60.0 gpm (22 days, 00:49:52)



IndustrialSQL Server: Trend

(MySQL:H_WELL2_FLOW)

Cyclic

(7/7/2004 4:09:21 AM) 261.0 gpm
(7/29/2004 10:36:53 PM) 333.0 gpm

72.0 gpm (22 days, 18:27:32)



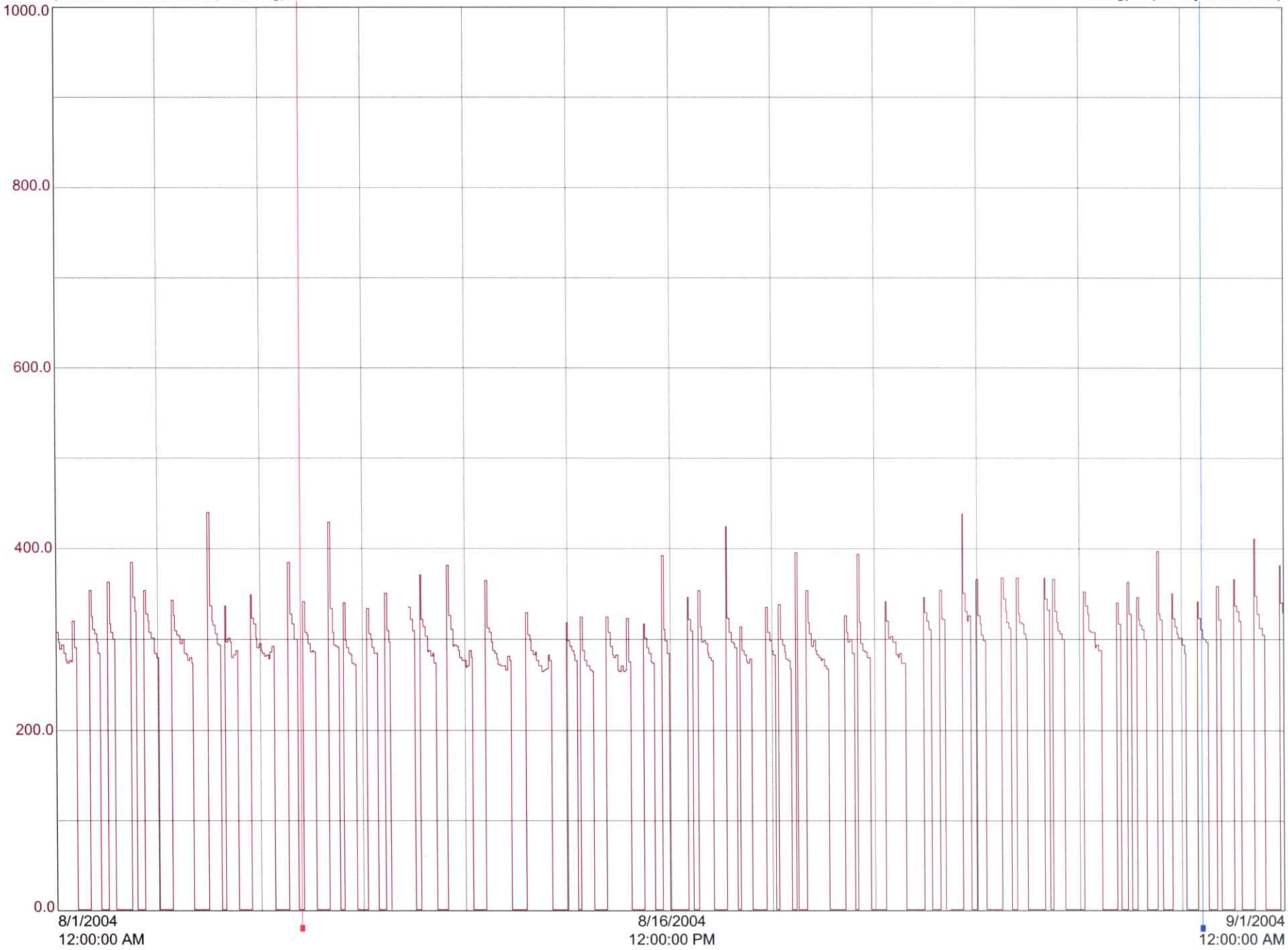
IndustrialSQL Server: Trend

(MySQL:H_WELL2_FLOW)

Cyclic

(8/7/2004 4:09:21 AM) 0.0 gpm
(8/29/2004 10:36:53 PM) 311.0 gpm

311.0 gpm (22 days, 18:27:32)



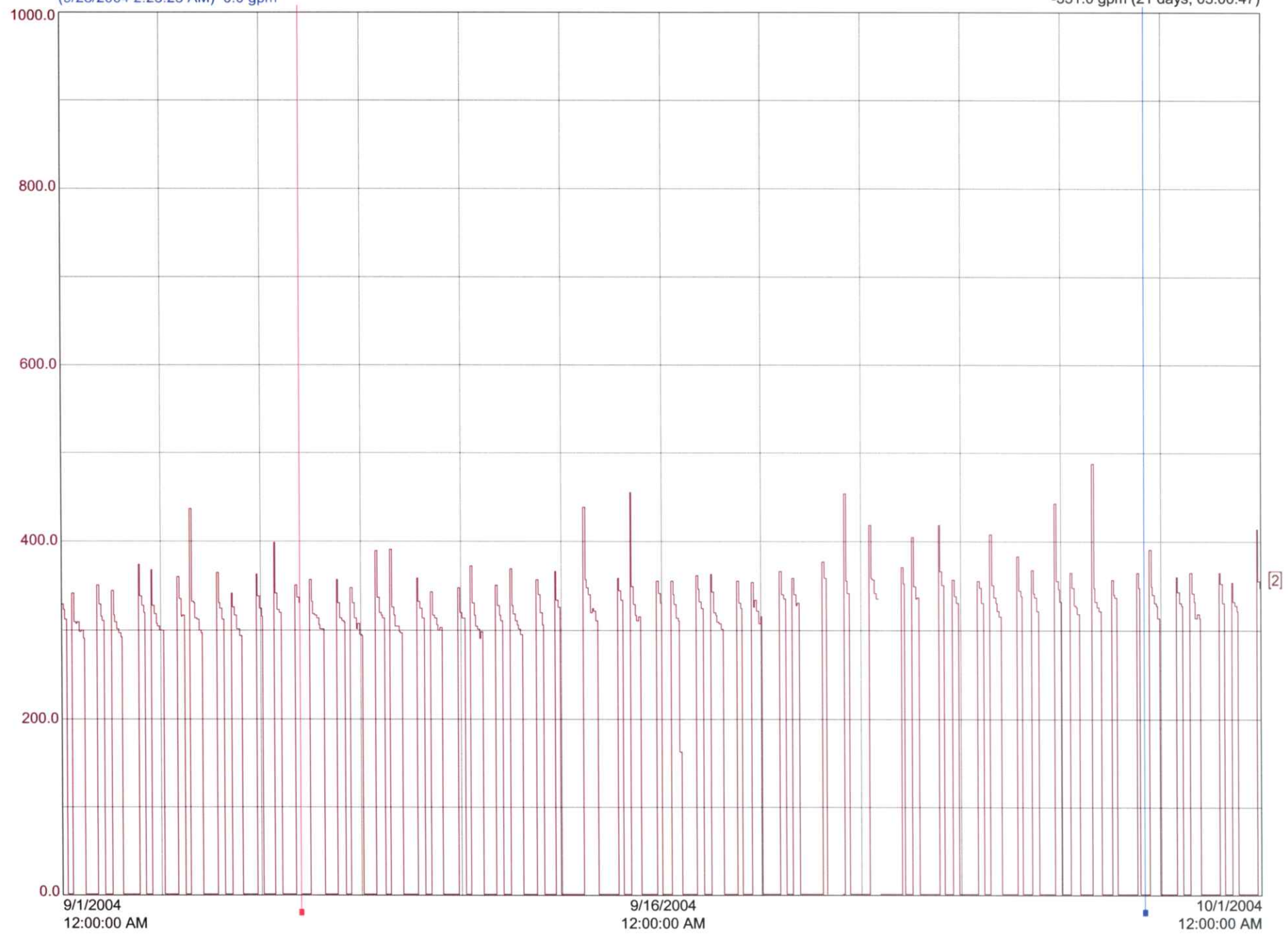
IndustrialSQL Server: Trend

(MySQL:H_WELL2_FLOW)

Cyclic

(9/6/2004 11:22:36 PM) 331.0 gpm
(9/28/2004 2:23:23 AM) 0.0 gpm

-331.0 gpm (21 days, 03:00:47)



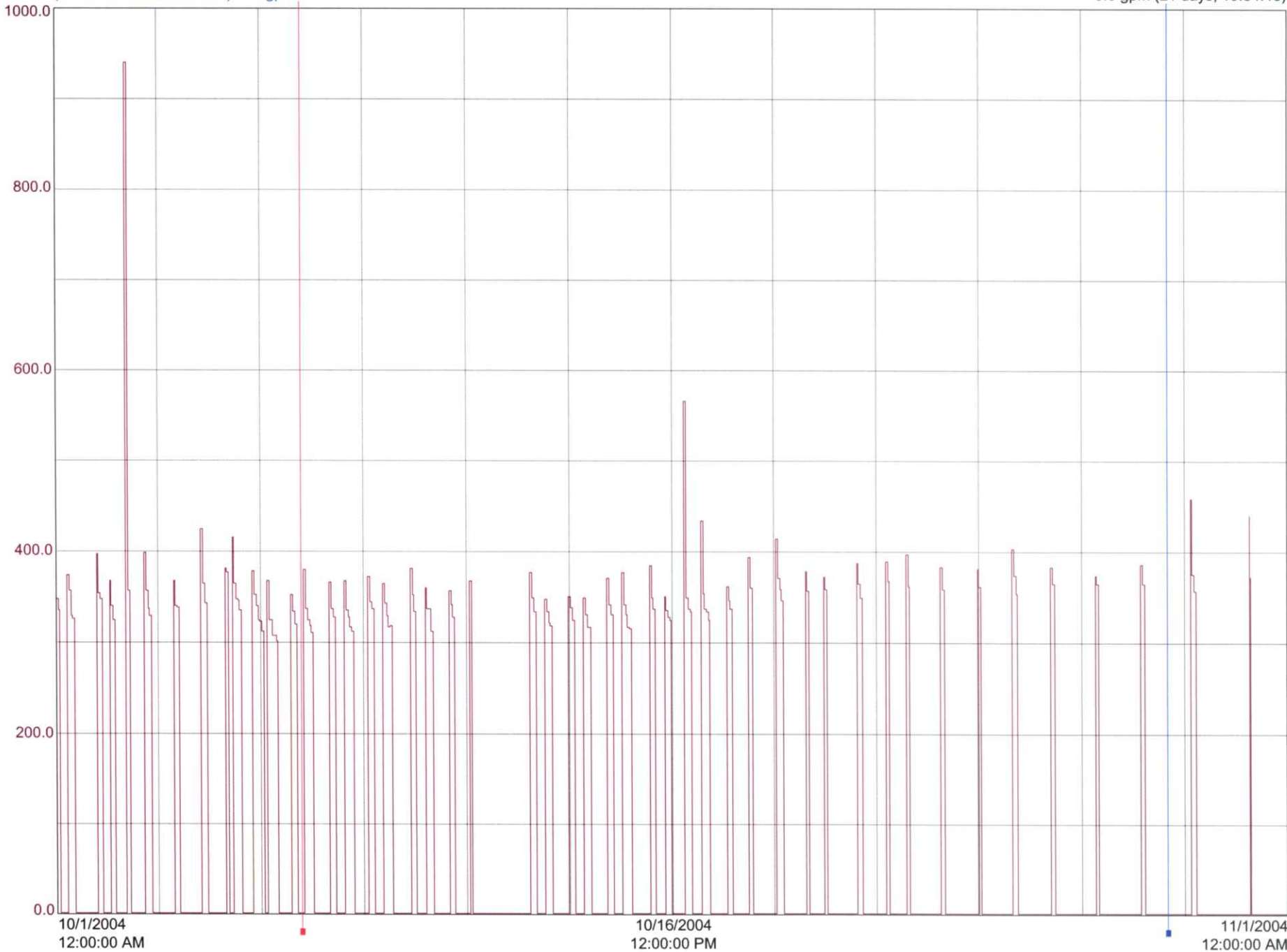
(MySQL:H_WELL2_FLOW)

Cyclic

(10/7/2004 4:09:21 AM) 0.0 gpm

(10/29/2004 12:04:09 AM) 0.0 gpm

0.0 gpm (21 days, 19:54:48)



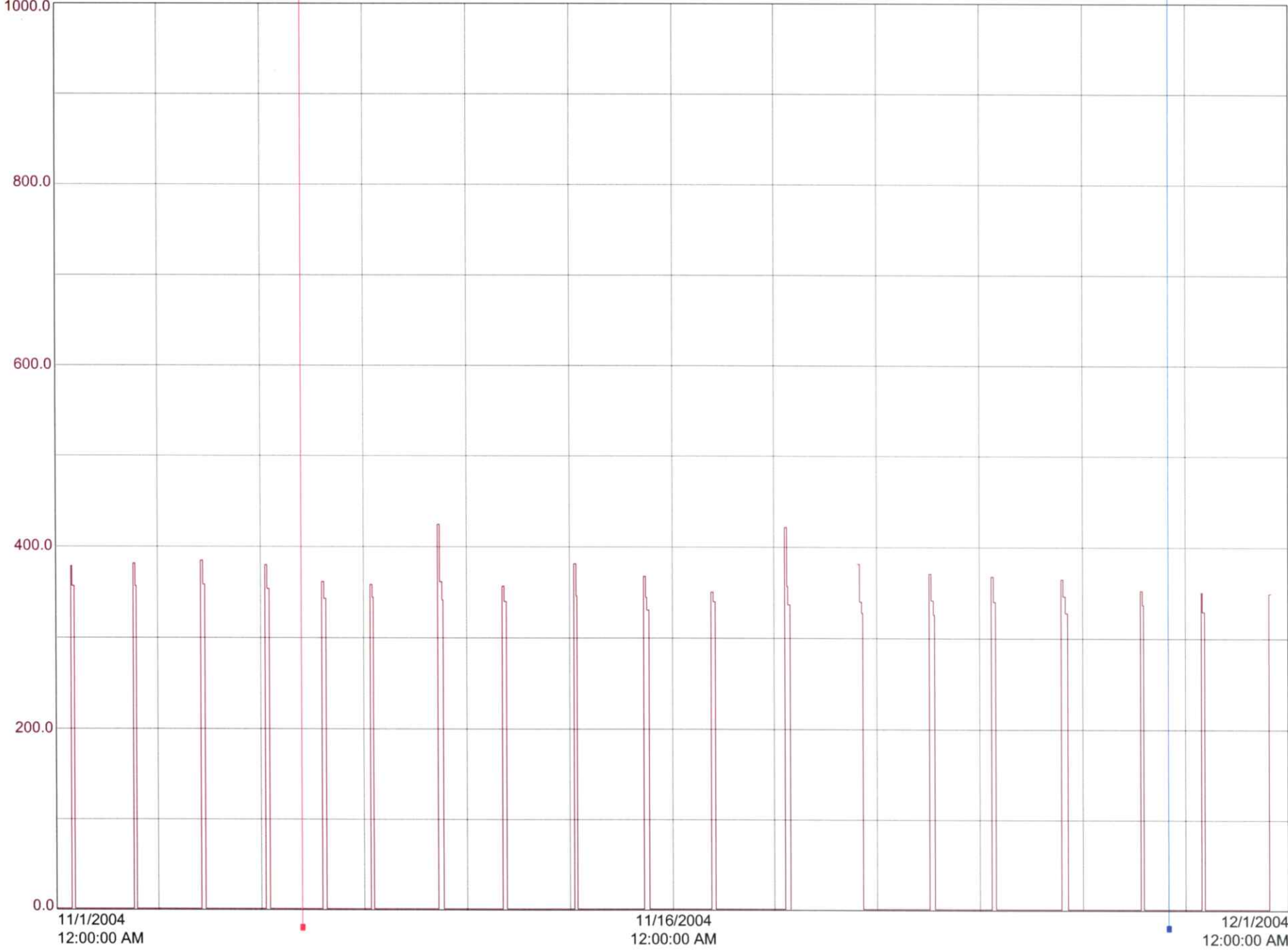
IndustrialSQL Server: Trend

(MySQL:H_WELL2_FLOW)

Cyclic

(11/6/2004 11:22:36 PM) 0.0 gpm
(11/28/2004 2:23:23 AM) 0.0 gpm

0.0 gpm (21 days, 03:00:47)



Well # 3

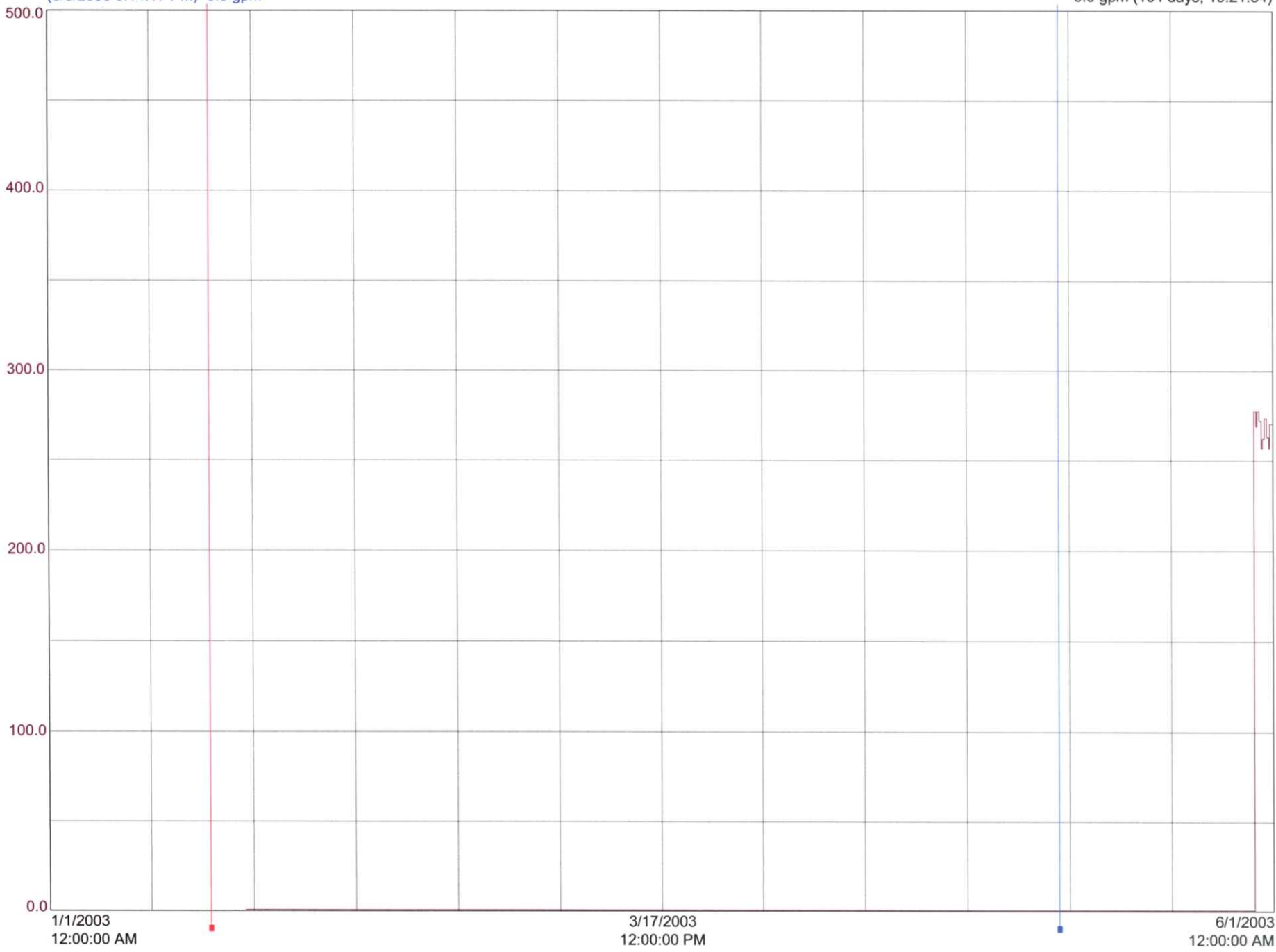
IndustrialSQL Server: Trend

South Well #3 Flow (MySQL:SOUTH_WELL3_FLOW)

Cyclic

(1/20/2003 7:52:44 PM) 0.0 gpm
(5/5/2003 3:14:17 PM) 0.0 gpm

0.0 gpm (104 days, 19:21:34)

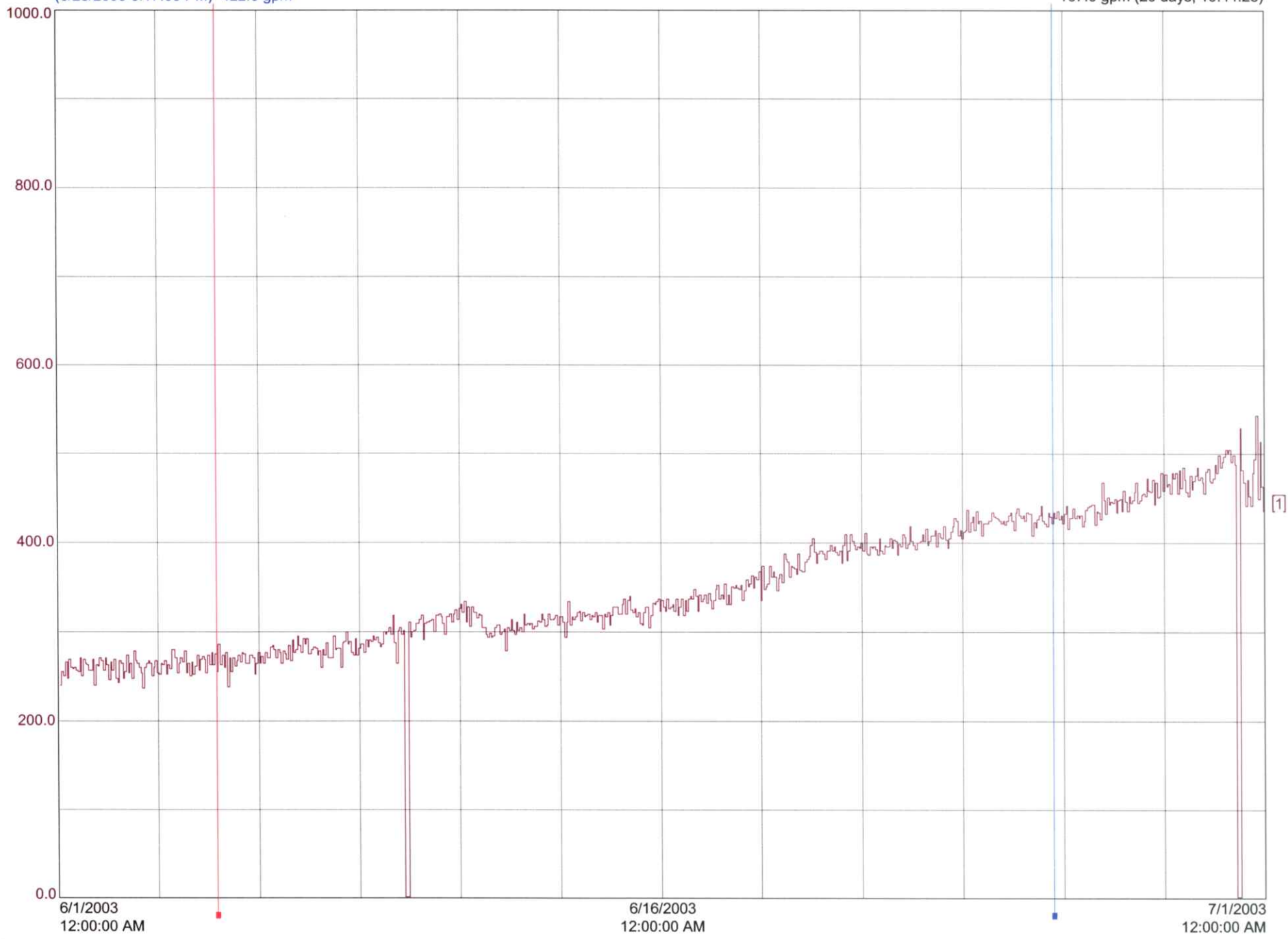


South Well #3 Flow (MySQL:SOUTH_WELL3_FLOW)

Cyclic

(6/4/2003 10:32:44 PM) 255.0 gpm
(6/25/2003 6:17:09 PM) 422.0 gpm

167.0 gpm (20 days, 19:44:25)



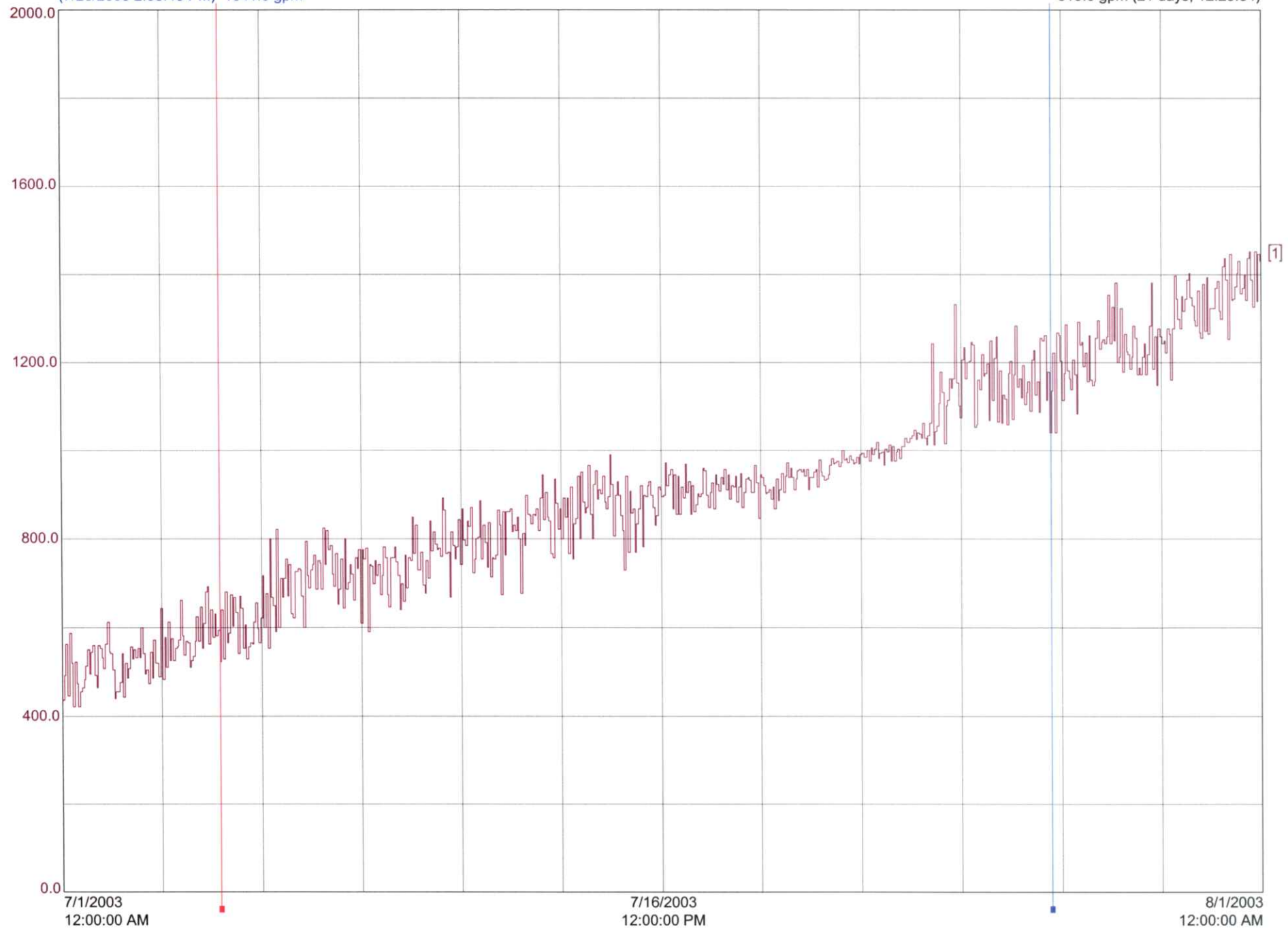
IndustrialSQL Server: Trend

South Well #3 Flow (MyInSQL:SOUTH_WELL3_FLOW)

Cyclic

(7/5/2003 1:41:49 AM) 522.0 gpm
(7/26/2003 2:05:43 PM) 1041.0 gpm

519.0 gpm (21 days, 12:23:54)



IndustrialSQL Server: Trend

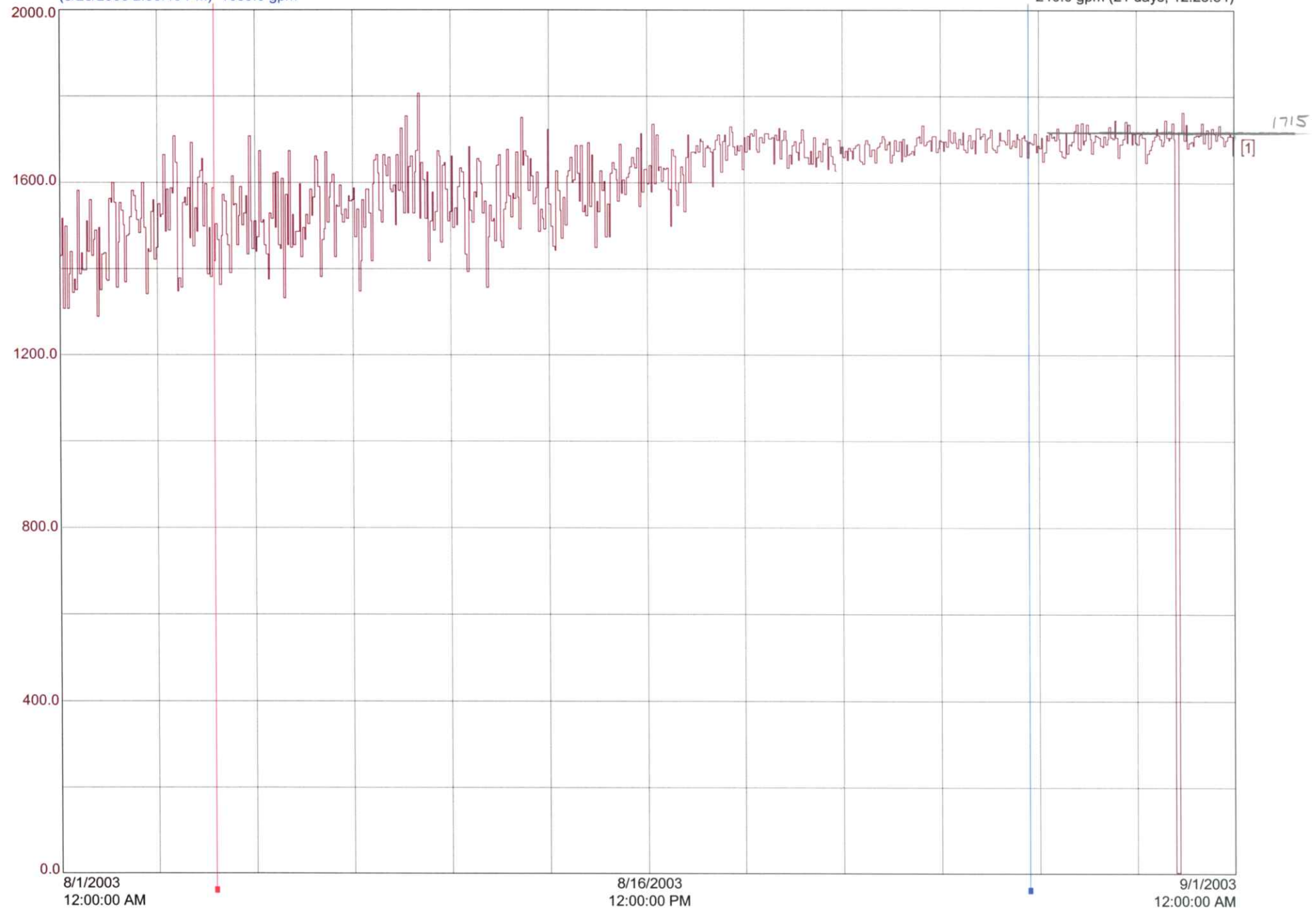
South Well #3 Flow (MySQL:SOUTH_WELL3_FLOW)

Cyclic

(8/5/2003 1:41:49 AM) 1419.0 gpm

(8/26/2003 2:05:43 PM) 1659.0 gpm

240.0 gpm (21 days, 12:23:54)



IndustrialSQL Server: Trend

South Well #3 Flow (MyInSQL:SOUTH_WELL3_FLOW)

Cyclic

(9/4/2003 10:32:44 PM) 1558.0 gpm

(9/25/2003 6:17:09 PM) 1564.0 gpm

6.0 gpm (20 days, 19:44:25)

