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September 3, 1981



U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II - Suite 3100
101 Marietta Street, NW
Atlanta, Georgia 30303

REFERENCE:
RII: JPO
50-321/50-366
I&E Bulletin
79-15

ATTENTION: Mr. James P. O'Reilly

GENTLEMEN:

In response to the inquiry provided to our site staff and contained in the Commission's May 4, 1981, memo, Georgia Power Company is pleased to provide you with an update of our response to I&E Bulletin 79-15.

Very truly yours,

J. T. Beckham, Jr.

RDB/mb

Attachments

xc: M. Manry
R. F. Rogers, III
J. Fair, I&E Bethesda

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This is in response to IEB 79-15; two previous responses have been submitted dated 9-7-79, and 10-31-79. An NRC letter, dated 5-4-81, was received asking for clarifications on certain pump modifications to Unit 1 RHR Service Water Pumps and also requesting additional information on running times and availability for the following Unit 2 pumps: Standby Plant Service Water Pump (2P41-C002), Core Spray Pumps (2E21-C001A & B), Residual Heat Removal Service Water Pumps (2E11-C001A-D), and the Residual Heat Removal Pumps (2E11-C002A-D). Additional data for the pumps in question was compiled from July 31st, 1981, back to the last dates for which data had already been submitted for those pumps (in the site response dated 10-31-79). This data has been compiled in Figures 1 through 5. Figure 1 lists the time span each pump was available for service, the hours the pump was run during that time, and the reason the pump was declared inoperable. Figures 2 through 5 list the individual pumps run times each day, from the date of the last data gathered for the 10-31-79, response up to the end of July of this year. The following is a summary of the data:

Hatch Unit 1 (RHR Service Water Pumps, 1E11-C001A-D)

The NRC inquired as to why the Unit 1 RHR Service Water Pumps have not had modifications similar to those performed on the Unit 1 Plant Service Water Pumps (ie: pump and line shafts with hard chrome plating at all bearing journal points, provide grease lubrication to the suction bell plug, and replace bronze bowl bearings with cutless rubber bearings). The pump and line shafts for the Unit 1 RHRSW pumps are currently supplied with hard chrome plated bearing surfaces. Because the RHR Service Water pumps are primarily used for shutdown cooling purposes, they are not run almost continuously as are the Plant Service Water pumps. Plant Hatch has not experienced the problems in bearing life with the RHR Service Water pumps as had been experienced with the Plant Service Water pumps. It is the opinion, currently, of site engineering and maintenance personnel that the modifications performed on Unit 1 Plant Service Water pumps are not required on RHR Service Water pumps. It should be pointed out that the NRC mentioned in their May 4th letter that some of the Unit 1 RHRSW pumps had been rebuilt in 1979; however, no Unit 1 RHR Service Water pumps have become inoperable since those pumps were rebuilt.

Hatch Unit 2

A. Standby Plant Service Water pump (2P41-C002)

The NRC requested further information on the SB PSW pump similar to that provided in the response of 10-31-79. Reviewing site records revealed that the information provided to the NRC on 10-31-79, was incomplete, so pump run times were researched back to mid April of 1978. As can be seen by reviewing sheet 1 of Figure 1 ("Pump Availability") and Figure 2 ("SBPSW Pump Run Times"), there have been three instances of pump inoperability. It is the sites opinion that only the second instance, occurring on 1-14-80 can legitimately be considered a case of pump degradation. (See Figure 1 for further details)

B. Core Spray Pumps (2E21-C001A & B)

The NRC requested further information on the CS pumps similar to that provided in the response of 10-31-79.

As can be seen by reviewing sheet 2 of Figure 1 and Figure 3 ("Core Spray Pump Run Times"), no instances of pump inoperability have occurred since the last response.

C. Residual Heat Removal Service Water Pumps (2E11-C001A-D)

The NRC requested further information on the RHRSW pumps similar to that provided in the response of 10-31-79.

A review of sheet 3 of Figure 1 and Figure 4 ("RHR Service Water Pump Run Times") reveals only two instances from June 14, 1979, to July 31, 1981, where any of the RHRSW pumps were inoperable; in both cases the pump was inoperable due to debris lodging in the pump impellers. The first case occurred on 3-19-80, to the "D" RHRSW pump and the second occurred on 6-25-81, to the "A" RHRSW pump.

D. Residual Heat Removal Pumps (2E11-C002A-D)

The NRC requested further information on the RHR pumps similar to that provided in the response of 10-31-79.

As can be seen by reviewing sheet 4 of Figure 1 and Figure 5 ("RHR Pump Run Times"), no instances of pump inoperability have occurred since the last response.

Pump Availability

Pump	Time Available	Run Time	Reason for Inop./Remarks
P41-C002	4/14/78 - 1/15/80 1/14/80	65 hrs. 30 min.	Pump's 1 st stage impeller rendered inoperable by disengagement of associated lock collet. Ref: LER # 1-80-007.
P41-C002	1/22/80 - 10/29/80 1/14/80 - 10/28/80	39 hrs. 30 min.	Slight wear evident on inside diameter of pump bowlassy. New wear rings installed. Ref: LER # 2-80-145.
P41-C002	11/24/80 10/29/80 - 6/25/81	22 hrs.	Debris was blocking flow into pump, pump reinstalled and returned to service. Ref: LER # 2-81-666.

Pump	Time Available	Run Time	Reason for Inop./Remarks
E11-C001A	6/14/79-6/25/81	962 hrs. 15min	Debris found lodged in impellers, pump reinstalled. Ref: LER # 2-81-63.
E11-C001A	6/26/81-7/20/81	3 hrs. 15min	End of report data, pump operable.
E11-C001B	6/14/79-7/28/81	2,135 hrs.	End of report data, pump operable.
E11-C001C	6/14/79-7/21/81	1275 hrs. 15min	End of report data, pump operable.
E11-C001D	3/18/80 6/14/79- 3/16/82	411 hrs.	Debris found. lodged in impeller cleaned by divers. Ref: LER # 2-80-24.
E11-C001D	3/19/80-7/17/81	619 hrs.	End of report data, pump operable.

Pump	Date	Duration
2P41-0002	4/14/78	1 hr. 30 min
"	4/18/78	1 hr. 45 min
"	5/18/79	2 hrs.
"	5/26/78	2 hrs. 30 min
"	5/29/78	1 hr. 30 min
"	5/31/78	1 hr.
"	6/1/78	2 hr. 10 min
"	6/3/78	45 min
"	7/1/78	1 hr. 15 min
"	8/9/78	3 hrs.
"	8/19/78	1 hr. 45 min
"	9/4/78	2 hrs.
"	9/30/78	1 hrs. 30 min
"	10/30/78	2 hrs. 15 min
"	11/29/78	4 hrs.
"	12/29/78	1 hr. 15 min
"	1/27/79	1 hr. 45 min
"	2/3/79	1 hr.
"	2/24/79	1 hr. 30 min
"	3/31/79	1 hr. 15 min
"	4/10/79	1 hr. 15 min.
"	4/14/79	2 hrs
"	5/9/79	1 hr. 15 min
"	6/1/79	2 hrs.
"	7/29/79	8 hrs. 30 min.
"	8/1/79	1 hr.
"	8/29/79	1 hr.

Pump	Date	Duration
2P41-C002	9/1/79	1 hr. 15 min
"	9/9/79	1 hr.
"	9/18/79	1 hr. 15 min.
"	9/19/79	25 min.
"	10/30/79	4 hrs.
"	11/13/79	2 min.
"	11/21/79	1 hr. 30 min.
"	11/29/79	2 hrs.
"	12/28/79	1 hr. 30 min.
"	1/14/80	1 hr.
"	1/22/80	45 min
"	1/23/80	2 min.
"	1/24/80	3 min
"	1/25/80	4 min
"	1/30/80	1 hr. 15 min
"	1/31/80	2 hrs.
"	2/19/80	1 hr.
"	2/26/80	1 hr. 45 min.
"	2/28/80	1 hr.
"	3/4/80	1 hr. 30 min.
"	3/11/80	1 hr. 30 min
"	3/24/80	1 hr.
"	4/4/80	Estimated 1 hr.
"	4/16/80	1 hr.
"	4/28/80	1 hr 15 min.
"	5/10/80	1 hr. 15 min.
"	5/29/80	3 hrs. 30 min.

Pump	Date	Duration
2P41-C002	6/1/80	2 hrs.
"	6/28/80	1 hr. 45 min.
"	6/29/80	2 hrs.
"	6/30/80	1 hr. 45 min.
"	7/28/80	1 hr. 15 min.
"	8/1/80	2 hrs. 15 min.
"	8/23/80	1 hr. 15 min.
"	8/29/80	2 hrs.
"	9/17/80	1 hr.
"	9/24/80	1 hr. 15 min.
"	10/3/80	1 hr. 45 min.
"	10/7/80	15 min.
"	10/29/80	Run time unknown; Pump Inop
"	11/24/80	Estimated @ 1 hr.
"	12/5/80	"
"	12/13/80	"
"	12/21/80	"
"	1/24/81	1 hr.
"	1/28/81	1 hr. 15 min.
"	2/13/81	1 hr. 15 min.
"	2/15/81	Est @ 1 hr.
"	2/27/81	Est @ 1 hr.
"	3/7/81	2 hrs. 15 min.
"	3/21/81	1 hr. 15 min.
"	3/29/81	1 hr. 45 min.
"	4/26/81	1 hr.
"	5/2/81	1 hr. 15 min.

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Pump	Date	Duration
ERT-COOL A	1/13/79	15 min.
"	1/29/79	3 hrs.
"	2/12/79	15 min.
"	3/29/79	30 min.
"	4/7/79	15 min.
"	4/12/79	1 hr.
"	5/17/79	30 min.
"	6/17/79	2 hrs.
"	7/12/79	15 min.
"	8/12/79	2 hrs. 30 min.
"	9/14/79	15 min.
"	11/12/79	15 min.
"	12/6/79	1 hr. 15 min.
"	12/12/79	15 min.
"	1/14/80	15 min.
"	2/12/80	2 hrs. 15 min.
"	3/31/80	45 min.
"	4/4/80	30 min.
"	4/15/80	30 min.
"	5/10/80	15 min.
"	5/21/80	15 min.
"	6/3/80	4 hrs. 30 min.
"	7/3/80	15 min.
"	8/4/80	45 min.
"	8/5/80	15 min.
"	9/3/80	15 min.
"	10/3/80	15 min.

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(Date	Duration
2E234001B	5/17/79	30 min.
"	6/17/79	1 hr.
"	7/12/79	15 min.
"	8/12/79	2 hrs, 15 min.
"	9/14/79	15 min.
"	10/5/79	15 min.
"	11/12/79	15 min.
"	12/6/79	1 hr. 15 min.
"	12/12/79	15 min.
"	1/14/80	15 min.
"	2/13/80	1 hr. 15 min.
"	4/4/80	30 min.
"	4/10/80	1 hr. 15 min.
"	5/10/80	30 min.
"	5/21/80	15 min.
"	6/3/80	1 hr. 30 min.
"	7/3/80	15 min.
"	8/4/80	30 min.
"	9/3/80	15 min.
"	9/19/80	1 hr.
"	10/3/80	15 min.
"	11/1/80	15 min.
"	2/12/81	1 hr. 30 min.
"	2/13/81	30 min.
"	3/3/81	15 min.
"	4/3/81	15 min.
"	5/6/81	1 hr.

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15 min.

Pump	Date	Duration
2E11-C001A	6/14/79	6 hrs.
"	6/20/79	5 hrs. 15 min
"	6/26/79	2 hrs.
"	6/27/79	5 hrs.
"	7/8/79	1 hr.
"	7/11/79	6 hrs.
"	7/12/79	5 hrs.
"	7/19/79	11 hrs. 15 min
"	7/21/79	7 hrs. 30 min
"	7/22/79	20 hrs. 30 min
"	8/1/79	30 min
("	8/13/79	6 hrs.
"	8/15/79	1 hr. 15 min
"	8/16/79	1 hrs. 15 min
"	8/17/79	2 hrs.
"	8/19/79	2 hrs. 30 min
"	8/25/79	1 hr. 30 min
"	8/26/79	3 hrs. 30 min
"	8/27/79	2 hrs. 30 min
"	8/28/79	12 hrs.
"	9/7/79	15 min
"	9/9/79	7 hrs. 30 min
"	9/10/79	4 hrs. 30 min
"	9/11/79	5 hrs. 45 min
("	9/13/79	1 hr. 15 min
"	9/23/79	2 hrs.
"	9/27/79	1 hr. 30 min

Pump	Date	Duration
ZE11-C001A	9/28/79	8 hrs, 45 min
"	10/1/79	4 hrs
"	10/4/79	4 hrs, 15 min
"	10/10/79	21 hrs
"	10/11/79	24 hrs
"	10/12/79	1 hr.
"	10/13/79	15 min
"	11/1/79	1 hr.
"	11/3/79	10 hrs, 30 min
"	11/7/79	15 min.
"	11/10/79	3 hrs, 30 min.
(")	11/29/79	4 hrs.
"	12/8/79	15 min.
"	2/6/80	2 hrs, 30 min
"	2/10/80	15 min.
"	3/7/80	24 hrs.
"	3/8/80	14 hrs, 30 min
"	3/11/80	9 hrs.
"	3/12/80	24 hrs.
"	3/13/80	15 hrs, 30 min.
"	3/14/80	24 hrs.
"	3/15/80	"
"	3/16/80	7 hrs
"	3/18/80	12 hrs.
(")	3/19/80	24 hrs.
"	3/20/80	"
"	3/21/80	"

Pump	Date	Duration
2E11-C001A	3/22/80	24 hrs.
"	3/24/80	"
"	3/25/80	"
"	3/26/80	"
"	3/27/80	"
"	3/28/80	"
"	3/29/80	16 hrs.
"	4/9/80	16 hrs. 30 min
"	4/10/80	23 hrs.
"	4/11/80	24 hrs.
"	4/12/80	12 hrs.
"	4/16/80	1 hr.
"	4/19/80	24 hrs.
"	4/20/80	21 hrs. 30 min.
"	4/21/80	1 hr.
"	4/24/80	"
"	5/14/80	15 min
"	5/21/80	11 hrs.
"	5/27/80	3 hrs. 30 min.
"	6/1/80	2 hrs. 15 min
"	6/7/80	15 min.
"	6/10/80	15 min.
"	6/15/80	45 min
"	6/27/80	18 hrs. 15 min
"	6/28/80	8 hrs. 45 min
"	7/8/80	21 hrs.
"	7/11/80	16 hrs.

Pump	Date	Duration
2E11-C003A	7/12/80	10 hrs. 30 min.
"	7/14/80	4 hrs. 45 min.
"	7/20/80	15 min.
"	7/26/80	3 hrs. 30 min.
"	7/27/80	24 hrs.
"	7/28/80	9 hrs.
"	8/2/80	30 min.
"	8/11/80	1 hr.
"	8/19/80	2 hrs. 30 min.
"	8/26/80	5 hrs. 45 min.
"	8/27/80	45 min.
"	9/8/80	8 hrs.
"	9/9/80	7 hrs.
"	9/14/80	30 min.
"	10/8/80	15 min.
"	10/25/80	"
"	10/27/80	5 hrs. 45 min.
"	11/7/80	3 hrs. 45 min.
"	12/27/80	30 min.
"	1/25/81	5 hrs.
"	2/13/81	"
"	2/14/81	15 min.
"	3/9/81	"
"	3/13/81	3 hrs.
"	4/7/81	15 min.
"	5/11/81	"
"	5/19/81	4 hrs. 30 min.

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Pump	Date	Duration
ZE11-COOLP	6/14/79	1 hr. 45 min.
"	6/19/79	7 hrs.
"	6/20/79	15 hrs.
"	6/21/79	11 hrs. 15 min.
"	6/27/79	6 hrs. 30 min.
"	6/28/79	24 hrs.
"	6/29/79	"
"	6/30/79	"
"	7/1/79	"
"	7/2/79	"
"	7/3/79	"
"	7/4/79	11 hrs. 30 min.
"	7/7/79	7 hrs. 30 min.
"	7/8/79	2 hrs. 30 min.
"	7/10/79	18 hrs. 15 min.
"	7/12/79	30 min.
"	7/13/79	1 hr. 30 min.
"	7/14/79	24 hrs.
"	7/24/79	1 hr. 45 min.
"	7/25/79	4 hrs. 30 min.
"	7/26/79	2 hrs.
"	8/3/79	10 hrs. 45 min.
"	8/4/79	24 hrs.
"	8/5/79	2 hrs. 30 min.
"	8/7/79	30 min.
"	8/9/79	16 hrs.
"	8/10/79	8 hrs.

Temp	Date	Duration
ZE11-CC018	8/26/79	19 hrs, 15 min.
"	8/27/79	18 hrs.
"	8/31/79	1 hr, 15 min
"	9/5/79	1 hr.
"	9/7/79	11 hrs, 45 min.
"	9/8/79	16 hrs.
"	9/9/79	24 hrs.
"	9/10/79	8 hrs.
"	9/12/79	9 hrs, 30 min.
"	9/13/79	6 hrs.
"	9/16/79	5 hrs, 30 min.
"	9/17/79	14 hrs.
"	9/19/79	4 hrs, 45 min.
"	10/9/79	15 hrs.
"	10/10/79	6 hrs, 30 min.
"	10/11/79	8 hrs.
"	10/13/79	15 min.
"	10/26/79	6 hrs, 30 min.
"	11/4/79	17 hrs, 30 min.
"	11/5/79	7 hrs, 30 min.
"	11/7/79	15 min.
"	11/22/79	3 hrs, 45 min.
"	11/29/79	2 hrs.
"	12/30/79	3 hrs, 45 min.
"	12/8/79	15 min.
"	12/23/79	4 hrs, 45 min.
"	1/26/80	8 hrs.

Temp	Date	Duration
ZE11-0001P	1/27/80	24 hrs.
"	1/28/80	16 hrs.
"	2/6/80	8 hrs, 15 min.
"	2/10/80	15 min.
"	3/1/80	2 hrs, 15 min
"	3/2/80	24 hrs.
"	3/3/80	"
"	3/4/80	"
"	3/5/80	"
"	3/6/80	"
"	3/7/80	3 hrs, 30 min
"	3/8/80	15 min
"	4/3/80	"
"	4/9/80	"
"	4/10/80	3 hrs.
"	4/12/80	8 hrs, 15 min.
"	4/13/80	24 hrs
"	4/14/80	"
"	4/15/80	20 hrs.
"	4/16/80	23 hrs.
"	4/17/80	24 hrs.
"	4/18/80	19 hrs, 45 min.
"	5/9/80	10 hrs, 15 min.
"	5/10/80	24 hrs.
"	5/11/80	"
"	5/12/80	"
"	5/13/80	"

Temp	Date	Duration
ZE11-CC01P	5/14/80	2 hrs, 45 min.
"	5/21/80	15 min.
"	5/24/80	1 hr, 30 min.
"	5/28/80	6 hrs.
"	5/30/80	10 hrs, 15 min.
"	6/3/80	12 hrs.
"	6/4/80	12 hrs, 45 min.
"	6/5/80	13 hrs.
"	6/7/80	15 min.
"	6/10/80	9 hrs.
"	6/12/80	2 hrs, 45 min.
"	6/16/80	4 hrs, 30 min.
"	6/18/80	8 hrs.
"	6/20/80	"
"	6/25/80	2 hrs, 15 min.
"	6/26/80	13 hrs, 30 min.
"	6/28/80	3 hrs, 45 min.
"	6/29/80	24 hrs.
"	6/30/80	8 hrs, 15 min.
"	7/1/80	11 hrs, 45 min.
"	7/2/80	24 hrs.
"	7/3/80	"
"	7/4/80	"
"	7/5/80	17 hrs, 45 min.
"	7/8/80	20 hrs, 45 min.
"	7/9/80	8 hrs.
"	7/10/80	"

Pump	Date	Duration
ZE11-001B	7/11/80	24 hrs.
"	7/17/80	"
"	7/13/80	12 hrs. 45 min.
"	7/17/80	3 hrs. 30 min.
"	7/21/80	4 hrs.
"	7/27/80	1 hr. 30 min.
"	7/28/80	14 hrs.
"	7/29/80	24 hrs.
"	7/30/80	"
"	7/32/80	10 hrs. 30 min.
"	8/2/80	9 hrs. 15 min.
"	8/3/80	8 hrs.
"	8/4/80	30 min.
"	8/8/80	30 min.
"	8/11/80	15 min.
"	8/20/80	3 hrs.
"	8/21/80	5 hrs.
"	8/22/80	15 hrs.
"	8/26/80	2 hrs.
"	8/27/80	8 hrs. 30 min.
"	8/28/80	12 hrs. 15 min.
"	9/4/80	7 hrs. 30 min.
"	9/6/80	30 min.
"	9/12/80	5 hrs. 15 min.
"	9/28/80	3 hrs. 30 min.
"	9/29/80	20 hrs.
"	9/30/80	1 hr.

Temp	Date	Duration
ZE11-C001B	10/1/80	15 min.
"	10/4/80	6 hrs.
"	10/8/80	15 min.
"	10/9/80	2 hrs. 15 min.
"	10/11/80	2 hrs. 30 min.
"	10/24/80	15 hrs. 30 min.
"	10/27/80	5 hrs. 45 min.
"	11/2/80	19 hrs. 45 min.
"	11/3/80	19 hrs. 45 min.
"	11/4/80	6 hrs. 15 min.
"	11/7/80	15 min.
(12/27/80	30 min.
"	12/28/80	15 min.
"	1/14/81	8 hrs. 30 min.
"	1/15/81	24 hrs.
"	1/16/81	"
"	1/17/81	"
"	1/18/81	"
"	1/19/81	"
"	1/20/81	"
"	1/21/81	9 hrs. 30 min.
"	1/25/81	5 hrs. 15 min.
"	2/1/81	30 min.
"	2/12/81	3 hrs.
(2/13/81	7 hrs. 30 min.
"	2/14/81	18 hrs. 15 min.
"	2/15/81	13 hrs. 30 min.

Temp	Date	Duration
ZE11-CC01P	2/16/81	19 hrs, 15 min.
"	2/17/81	24 hrs,
"	2/80/81	23 hrs,
"	2/20/81	10 hrs, 30 min.
"	2/24/81	11 hrs, 30 min.
"	3/9/81	3 hrs, 45 min.
"	3/10/81	24 hrs,
"	3/11/81	"
"	3/12/81	21 hrs,
"	3/28/81	3 hrs,
"	3/29/81	5 hrs, 15 min.
() "	3/30/81	4 hrs, 30 min.
"	4/7/81	15 min.
"	4/10/81	5 hrs,
"	5/3/81	7 hrs, 30 min.
"	5/11/81	15 min.
"	5/31/81	11 hrs, 15 min.
"	6/4/81	5 hrs, 15 min.
"	6/5/81	9 hrs,
"	6/9/81	1 hr, 30 min.
"	6/10/81	4 hrs,
"	6/13/81	15 min.
"	6/17/81	1 hr, 30 min.
"	6/19/81	2 hrs, 30 min.
() "	6/20/81	7 hrs,
"	6/22/81	15 hrs,
"	6/23/81	"

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Pump	Date	Duration
2E11-0001C	6/14/79	1 hr, 45 min.
"	6/16/79	1 hr, 30 min.
"	6/20/79	3 hrs, 45 min.
"	7/12/79	15 min.
"	7/19/79	10 hrs, 45 min.
"	7/21/79	7 hrs, 30 min.
"	8/7/79	30 min.
"	8/13/79	4 hrs.
"	8/27/79	5 hrs.
"	8/28/79	15 min.
"	8/29/79	1 hr.
"	9/7/79	15 min.
"	9/9/79	3 hrs, 30 min.
"	9/10/79	8 hrs.
"	9/11/79	1 hr, 15 min.
"	9/13/79	"
"	9/21/79	1 hr, 30 min.
"	9/27/79	"
"	9/28/79	2 hrs, 30 min.
"	9/29/79	2 hrs, 45 min.
"	9/30/79	2 hrs, 30 min.
"	10/11/79	8 hrs.
"	10/13/79	1 hr, 30 min.
"	11/1/79	15 min.
"	11/7/79	"
"	11/21/79	"
"	12/8/79	"

Pump	Date	Duration
2E11-00030	1/20/80	2 hrs.
"	1/21/80	4 hrs. 30 min
"	2/10/80	15 min.
"	2/16/80	"
"	2/22/80	3 hrs. 45 min.
"	2/27/80	"
"	3/18/80	9 hrs. 30 min.
"	3/19/80	24 hrs.
"	3/10/80	"
"	3/11/80	15 hrs.
"	3/13/80	30 min.
"	3/16/80	17 hrs.
"	3/17/80	24 hrs.
"	3/18/80	12 hrs.
"	3/29/80	8 hrs.
"	3/30/80	24 hrs.
"	3/31/80	22 hrs. 15 min.
"	4/1/80	24 hrs.
"	4/2/80	16 hrs.
"	4/3/80	22 hrs.
"	4/4/80	20 hrs.
"	4/5/80	16 hrs.
"	4/6/80	24 hrs.
"	4/7/80	"
"	4/8/80	"
"	4/9/80	4 hrs. 45 min.
"	4/24/80	1 hr.

Pump	Date	Duration
2E11-CCX1C	5/14/80	6 hrs. 45 min.
"	6/7/80	15 min.
"	6/9/80	3 hrs. 15 min.
"	6/18/80	7 hrs.
"	6/19/80	6 hrs. 15 min.
"	6/20/80	1 hr.
"	7/2/80	30 min.
"	7/5/80	10 hrs.
"	7/6/80	24 hrs.
"	7/7/80	7 hrs.
"	7/8/80	2 hrs. 30 min.
("	7/11/80	8 hrs.
"	8/3/80	15 min.
"	8/7/80	15 min.
"	8/11/80	"
"	8/28/80	5 hrs. 45 min.
"	9/8/80	6 hrs. 30 min.
"	9/14/80	30 min.
"	10/8/80	15 min.
"	10/23/80	1 hr. 30 min.
"	10/25/80	13 hrs.
"	10/26/80	17 hrs. 30 min.
"	11/4/80	18 hrs.
("	11/5/80	24 hrs.
"	11/6/80	"
"	11/7/80	20 hrs. 15 min.
"	11/8/80	24 hrs.

Pump	Date	Duration
2E11-10000	11/9/80	24 hrs.
"	11/10/80	"
"	11/11/80	"
"	11/12/80	"
"	11/13/80	"
"	11/14/80	"
"	11/15/80	"
"	11/16/80	"
"	11/17/80	"
"	11/18/80	2 hrs.
"	12/8/80	15 min.
("	12/27/80	30 min.
"	1/25/81	12 hrs.
"	1/26/81	24 hrs.
"	1/27/81	"
"	1/28/81	"
"	1/29/81	8 hrs.
"	1/30/81	24 hrs.
"	1/31/81	"
"	2/1/81	"
"	2/2/81	"
"	2/3/81	"
"	2/4/81	"
"	2/5/81	"
"	2/6/81	"
"	2/7/81	"
"	2/8/81	"

Pump	Date	Duration
2E11-00010	2/9/81	24 hrs.
"	2/11/81	13 hrs. 30 min.
"	2/12/81	12 hrs. 45 min.
"	2/13/81	5 hrs.
"	2/14/81	15 min.
"	3/9/81	"
"	3/12/81	6 hrs. 30 min.
"	3/13/81	21 hrs.
"	4/7/81	15 min.
"	4/21/81	"
"	4/22/81	"
"	4/23/81	"
"	5/11/81	"
"	5/19/81	1 hr. 15 min.
"	6/12/81	2 hrs. 30 min.
"	6/13/81	15 min.
"	6/19/81	30 min.
"	6/21/81	15 min.
"	6/23/81	1 hr. 30 min.
"	6/24/81	3 hrs.
"	6/25/81	30 min.
"	7/5/81	7 hrs. 30 min.
"	7/13/81	15 min.
"	7/20/81	12 hrs. 30 min.
"	7/21/81	8 hrs. 30 min.
"		
"		

Ref	Date	Duration
E11-0001D	6/14/79	5 hrs. 45 min.
"	6/15/79	2 hrs. 15 min.
"	6/16/79	8 hrs.
"	6/19/79	15 mins.
"	6/20/79	3 hrs. 45 min.
"	6/21/79	11 hrs. 15 min.
"	6/27/79	1 hr. 15 min.
"	7/4/79	10 hrs. 15 min.
"	7/5/79	13 hrs. 30 min.
"	7/6/79	23 hrs.
"	7/7/79	24 hrs.
"	7/8/79	9 hrs. 45 min.
"	7/12/79	30 min.
"	7/19/79	7 hrs.
"	7/21/79	11 hrs. 30 min.
"	7/22/79	24 hrs.
"	7/24/79	9 hrs. 15 min.
"	7/28/79	5 hrs. 30 min.
"	7/29/79	12 hrs. 45 min.
"	7/31/79	2 hrs.
"	8/2/79	8 hrs.
"	8/3/79	4 hrs. 15 min.
"	8/4/79	18 hrs.
"	8/7/79	9 hrs. 30 min.
"	8/8/79	9 hrs. 15 min.
"	8/13/79	2 hrs.
"	8/18/79	1 hr. 45 min.
"	8/19/79	8 hrs. 45 min.

id	Date	Duration
E13-00010	8/20/79	5 hrs. 30 min.
"	8/26/79	4 hrs. 30 min.
"	8/27/79	14 hrs. 45 min.
"	8/28/79	14 hrs.
"	8/29/79	2 hrs.
"	8/30/79	2 hrs. 30 min.
"	9/1/79	5 hrs.
"	9/2/79	4 hrs.
"	9/3/79	9 hrs. 45 min.
"	9/4/79	3 hrs. 45 min.
"	9/6/79	9 hrs. 45 min.
"	9/7/79	11 hrs. 15 min.
(")	9/8/79	6 hrs.
"	9/9/79	16 hrs.
"	9/12/79	1 hr. 30 min.
"	9/13/79	6 hrs.
"	9/16/79	14 hrs. 45 min.
"	9/25/79	1 hr. 30 min.
"	10/5/79	45 min.
"	10/11/79	8 hrs.
"	10/13/79	15 min.
"	10/17/79	2 hrs.
"	11/7/79	15 min.
"	11/26/79	30 min.
"	11/27/79	45 min.
(")	11/28/79	3 hrs.
"	11/29/79	2 hrs.
"	12/8/79	15 min.

Pump	Date	Duration
2E11-C001D	12/14/79	3 hrs.
"	1/12/80	1 hr. 30 min.
"	1/28/80	2 hrs.
"	2/6/80	6 hrs. 30 min.
"	2/10/80	15 min.
"	2/27/80	30 min.
"	3/8/80	15 min.
"	3/19/80	"
"	4/3/80	"
"	4/10/80	3 hrs.
"	4/21/80	16 hrs.
"	4/24/80	14 hrs.
"	4/25/80	4 hrs.
"	5/14/80	2 hrs. 45 min.
"	5/21/80	15 min.
"	5/25/80	4 hrs.
"	6/7/80	15 min.
"	6/12/80	4 hrs. 15 min.
"	6/13/80	2 hrs. 45 min.
"	6/15/80	5 hrs. 30 min.
"	6/18/80	11 hrs.
"	6/21/80	18 hrs.
"	6/22/80	24 hrs.
"	6/23/80	"
"	6/24/80	5 hrs. 30 min.
"	6/25/80	2 hrs. 15 min.
"	7/2/80	15 min.

Pump	Date	Duration
2E11-C001D	7/6/80	45 min.
"	7/7/80	24 hrs.
"	7/8/80	3 hrs. 15 min.
"	7/11/80	8 hrs.
"	7/13/80	3 hrs.
"	7/14/80	10 hrs. 15 min.
"	7/25/80	3 hrs. 15 min.
"	8/8/80	30 min.
"	9/20/80	"
"	9/25/80	6 hrs. 45 min.
"	10/8/80	15 min.
"	10/9/80	2 hrs. 15 min.
"	10/13/80	3 hrs. 30 min.
"	10/22/80	30 min.
"	10/30/80	2 hrs. 30 min.
"	11/7/80	30 min.
"	12/27/80	"
"	12/28/80	15 min.
"	1/8/81	9 hrs. 15 min.
"	1/9/81	24 hrs.
"	1/10/81	"
"	1/11/81	"
"	1/12/81	"
"	1/13/81	"
"	1/14/81	15 hrs. 30 min.
"	1/21/81	14 hrs. 30 min.
"	1/22/81	24 hrs.

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Pump	Date	Duration
2E11-0001D	1/23/81	24 hrs.
"	1/24/81	"
"	1/29/81	8 hrs.
"	2/1/81	30 min.
"	2/10/81	5 hrs. 30 min.
"	2/13/81	1 hr.
"	2/14/81	5 hrs. 45 min.
"	2/20/81	30 min.
"	2/21/81	4 hrs. 30 min.
"	3/7/81	17 hrs. 30 min.
"	3/8/81	24 hrs.
"	3/9/81	20 hrs. 15 min.
"	4/6/81	2 hrs. 30 min.
"	4/7/81	7 hrs. 15 min.
"	4/10/81	1 hr.
"	5/11/81	15 min.
"	5/31/81	7 hrs.
"	6/13/81	15 min.
"	6/22/81	3 hrs. 15 min.
"	6/23/81	1 hr.
"	6/24/81	10 hrs. 45 min.
"	6/25/81	13 hrs. 15 min.
"	7/1/81	13 hrs. 45 min.
"	7/3/81	2 hrs. 15 min.
"	7/5/81	7 hrs. 30 min.
"	7/6/81	2 hrs.
"	7/13/81	30 min.
"	7/17/81	15 hrs.

BHR Pump Run Times

<u>Pump</u>	<u>Date</u>	<u>Duration</u>
2E11-C002 A	6/11/79	30 min.
"	6/13/79	6 hrs. 30 min.
"	6/14/79	1 hr.
"	6/16/79	1 hr. 15 min.
"	6/20/79	1.3 hrs. 15 min.
"	6/26/79	2 hrs.
"	6/27/79	5 hrs.
"	7/5/79	15 min.
"	7/8/79	30 min.
"	7/11/79	4 hrs. 15 min.
"	7/12/79	4 hrs. 30 min.
("	8/6/79	30 min.
"	8/12/79	2 hr. 15 min.
"	8/15/79	1 hr. 15 min.
"	8/16/79	9 hrs. 15 min.
"	8/17/79	2 hrs.
"	8/19/79	2 hrs.
"	8/24/79	1 hr. 15 min.
"	8/25/79	"
"	8/26/79	3 hrs. 15 min.
"	8/27/79	6 hrs.
"	8/28/79	11 hr. 15 min.
"	9/6/79	15 min.
"	9/11/79	4 hrs.
"	9/15/79	2 hrs.
"	9/17/79	9 hrs. 15 min.
"	9/18/79	8 hrs.

Tump	Date	Duration
2E11-C002A	9/21/79	1 hr. 15 min.
"	9/22/79	2 hrs. 15 min.
"	9/29/79	2 hrs. 15 min.
"	9/30/79	2 hrs. 45 min.
"	10/4/79	2 hrs. 30 min.
"	10/10/79	21 hrs.
"	10/11/79	23 hrs. 30 min.
"	10/12/79	1 hr.
"	11/3/79	10 hrs. 45 min.
"	11/7/79	15 min.
"	11/10/79	3 hrs. 30 min.
("	12/5/79	15 min.
"	12/14/79	1 hr. 30 min.
"	12/18/79	3 hrs. 45 min.
"	1/12/80	15 min.
"	1/18/80	3 hrs.
"	1/19/80	1 hr. 45 min.
"	1/20/80	6 hrs. 30 min.
"	1/21/80	4 hrs. 30 min.
"	1/28/80	15 min.
"	2/6/80	2 hrs. 30 min.
"	2/22/80	"
"	3/2/80	15 min.
"	3/7/80	19 hrs. 30 min.
("	3/8/80	24 hrs.
"	3/9/80	"
"	3/10/80	"

Tamp	Date	Duration
2E11-C002A	3/11/80	24 hrs.
"	3/12/80	"
"	3/13/80	16 hrs.
"	3/14/80	24 hrs.
"	3/29/80	16 hrs.
"	3/30/80	19 hrs.
"	3/31/80	7 hrs.
"	4/3/80	5 hrs. 45 min.
"	4/4/80	24 hrs.
"	4/5/80	23 hrs. 30 min.
"	4/6/80	23 hrs. 45 min.
("	4/7/80	24 hrs.
"	4/8/80	"
"	4/9/80	11 hrs. 45 min.
"	4/10/80	20 hrs.
"	4/11/80	18 hrs.
"	4/12/80	10 hrs.
"	4/16/80	1 hr.
"	4/17/80	15 min.
"	4/19/80	24 hrs.
"	4/20/80	21 hrs.
"	4/23/80	23 hrs.
"	4/24/80	21 hrs.
"	4/25/80	12 hrs. 15 min.
("	5/5/80	15 min.
"	5/6/80	30 min.
"	5/14/80	6 hrs. 30 min.

Pump	Date	Duration
2E11-C002A	5/21/80	12 hrs
"	5/27/80	3 hrs.
"	6/1/80	2 hrs. 30 min.
"	6/9/80	15 min.
"	6/27/80	18 hrs. 15 min.
"	6/28/80	8 hrs. 45 min.
"	7/5/80	8 hrs
"	7/11/80	16 hrs.
"	7/12/80	10 hrs. 30 min.
"	7/14/80	4 hrs. 45 min.
"	7/20/80	30 min.
"	7/26/80	2 hrs. 30 min.
"	7/27/80	24 hrs.
"	7/28/80	8 hrs. 30 min.
"	8/5/80	30 min.
"	8/19/80	2 hrs.
"	8/26/80	5 hrs.
"	8/27/80	45 min.
"	9/8/80	9 hrs. 30 min.
"	9/9/80	7 hrs.
"	9/11/80	15 min.
"	10/6/80	"
"	2/11/81	2 hrs. 30 min.
"	2/12/81	5 hrs. 30 min.
"	2/13/81	5 hrs.
"	3/10/81	30 min.
"	4/7/81	"

Tump	Date	Duration
2E11-C002A	5/6/81	15 min.
"	5/19/81	2 hrs. 15 min.
"	6/5/81	15 min.
"	6/11/81	3 hrs. 30 min.
"	6/12/81	11 hrs.
"	6/16/81	10 hrs.
"	6/17/81	5 hrs. 30 min.
"	6/23/81	10 hrs.
"	6/24/81	17 hrs. 45 min.
"	7/7/81	15 min.
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Tump	Date	Duration
2E11-0002B	6/11/79	5 hrs.
"	6/15/79	2 hrs.
"	6/16/79	8 hrs.
"	6/19/79	6 hrs.
"	6/20/79	3 hrs. 30 min.
"	6/21/79	12 hrs.
"	6/27/79	6 hrs. 30 min.
"	6/28/79	24 hrs.
"	6/29/79	"
"	6/30/79	"
"	7/1/79	"
("	7/2/79	"
"	7/3/79	"
"	7/4/79	21 hrs. 45 min.
"	7/5/79	13 hrs. 30 min.
"	7/6/79	23 hrs.
"	7/8/79	6 hrs. 30 min.
"	7/10/79	18 hrs. 30 min.
"	7/13/79	1 hr. 30 min.
"	7/14/79	24 hrs.
"	7/15/79	1 hrs.
"	7/20/79	30 min.
"	7/21/79	6 hrs. 30 min.
"	7/24/79	10 hrs. 30 min.
("	7/25/79	5 hrs.
"	7/28/79	6 hrs. 30 min.
"	7/29/79	12 hrs. 45 min.

Pump	Date	Duration
2511-C002B	7/31/79	2 hrs.
"	8/2/79	8 hrs. 45 min.
"	8/3/79	10 hrs. 45 min.
"	8/4/79	24 hrs.
"	8/5/79	2 hrs. 30 min.
"	8/6/79	15 min.
"	8/7/79	10 hrs.
"	8/8/79	"
"	8/9/79	16 hrs.
"	8/10/79	8 hrs.
"	8/14/79	1 hr.
"	8/18/79	1 hr. 45 min.
"	8/22/79	2 hrs.
"	8/23/79	"
"	8/26/79	12 hrs. 30 min.
"	8/28/79	13 hrs.
"	8/30/79	2 hrs. 30 min.
"	8/31/79	1 hr. 15 min.
"	9/1/79	45 min.
"	9/2/79	4 hrs. 15 min.
"	9/3/79	9 hrs. 45 min.
"	9/4/79	4 hrs.
"	9/5/79	1 hr. 15 min.
"	9/6/79	15 min.
"	9/7/79	22 hrs. 45 min.
"	9/8/79	16 hrs. 30 min.
"	9/9/79	24 hrs.

Pump	Date	Duration
2E11-C002B	9/10/79	8 hrs.
"	9/11/79	15 min.
"	9/12/79	9 hrs. 30 min.
"	9/13/79	6 hrs.
"	9/16/79	20 hrs.
"	9/17/79	14 hrs.
"	9/19/79	4 hrs. 45 min.
"	9/24/79	1 hr. 30 min.
"	9/25/79	2 hrs.
"	10/5/79	15 min.
"	10/9/79	15 hrs.
"	10/10/79	6 hrs. 30 min.
"	10/17/79	1 hr. 30 min.
"	10/24/79	1 hr. 15 min.
"	10/26/79	6 hrs. 30 min.
"	11/3/79	45 min.
"	11/4/79	17 hrs. 30 min.
"	11/5/79	7 hrs. 30 min.
"	11/26/79	1 hr.
"	11/27/79	4 hrs. 15 min.
"	11/29/79	4 hrs.
"	11/30/79	3 hrs. 45 min.
"	12/5/79	15 min.
"	12/14/79	4 hrs. 30 min.
"	12/23/79	4 hrs. 15 min.
"	1/12/80	15 min.
"	1/26/80	3 hrs. 15 min.

Pump	Date	Duration
2E11-C002 B	1/27/80	24 hrs.
"	1/28/80	18 hrs.
"	1/30/80	45 min.
"	1/31/80	4 hrs. 45 min.
"	2/6/80	14 hrs. 45 min.
"	2/27/80	15 min.
"	3/1/80	1 hr. 15 min.
"	3/2/80	24 hrs.
"	3/3/80	"
"	3/4/80	"
"	3/5/80	"
"	3/6/80	"
"	3/7/80	3 hrs. 30 min.
"	4/10/80	1 hr. 15 min.
"	4/11/80	1 hr.
"	4/12/80	15 hrs.
"	4/13/80	24 hrs.
"	4/14/80	23 hrs. 30 min.
"	4/15/80	20 hrs.
"	4/16/80	22 hrs.
"	4/27/80	16 hrs.
"	4/28/80	19 hrs. 45 min.
"	4/29/80	2 hrs. 20 min.
"	4/21/80	16 hrs.
"	4/24/80	14 hrs.
"	4/25/80	4 hrs.
"	4/30/80	2 hrs. 30 min.

Temp	Date	Duration
2E11-C002B	5/5/80	15 min.
"	5/9/80	10 hrs, 15 min.
"	5/10/80	24 hrs.
"	5/11/80	23 hrs. 30 min.
"	5/12/80	23 hrs. 45 min.
"	5/13/80	24 hrs.
"	5/14/80	10 hrs. 30 min.
"	5/17/80	9 hrs. 15 min.
"	5/21/80	15 min.
"	5/24/80	1 hr. 30 min.
"	5/28/80	6 hrs.
"	5/30/80	10 hrs.
"	6/3/80	9 hrs.
"	6/4/80	12 hrs 45 min.
"	6/5/80	13 hrs. 15 min.
"	6/10/80	9 hrs. 15 min.
"	6/12/80	7 hrs.
"	6/15/80	5 hrs.
"	6/16/80	4 hrs. 30 min.
"	6/18/80	8 hrs.
"	6/21/80	18 hrs.
"	6/22/80	24 hrs.
"	6/23/80	"
"	6/24/80	5 hrs. 30 min.
"	6/25/80	4 hrs. 30 min.
"	6/26/80	13 hrs. 30 min.
"	6/29/80	3 hrs. 30 min.

Pump	Date	Duration
2E11-C002B	6/30/80	8 hrs. 15 min.
"	7/1/80	12 hrs. 15 min.
"	7/2/80	24 hrs.
"	7/3/80	"
"	7/4/80	"
"	7/5/80	17 hrs.
"	7/10/80	8 hrs.
"	7/11/80	24 hrs.
"	7/12/80	"
"	7/13/80	12 hrs. 45 min.
"	7/17/80	3 hrs. 30 min.
"	7/21/80	4 hrs.
"	7/22/80	1 hr. 30 min.
"	7/26/80	30 min.
"	7/28/80	14 hrs.
"	7/29/80	24 hrs.
"	7/30/80	23 hrs.
"	7/31/80	10 hrs. 30 min.
"	8/2/80	9 hrs. 15 min.
"	8/3/80	8 hrs.
"	8/4/80	30 min.
"	8/5/80	15 min.
"	8/20/80	3 hrs.
"	8/24/80	5 hrs.
"	8/22/80	15 hrs.
"	8/26/80	2 hrs. 30 min.
"	8/27/80	8 hrs. 30 min.

Tump	Date	Duration
2E11-C002B	8/28/80	12 hrs. 15 min.
"	9/4/80	7 hrs. 30 min.
"	9/11/80	15 min.
"	9/12/80	5 hrs. 15 min.
"	9/25/80	6 hrs. 45 min.
"	9/26/80	8 hrs.
"	9/28/80	3 hrs. 30 min.
"	9/29/80	20 hrs.
"	9/30/80	1 hr. 15 min.
"	10/1/80	15 min.
"	10/4/80	6 hrs.
"	10/6/80	15 min.
"	10/9/80	2 hrs. 45 min.
"	10/11/80	2 hrs. 30 min.
"	10/13/80	4 hrs.
"	10/16/80	1 hr.
"	10/24/80	15 hrs.
"	10/30/80	2 hrs. 30 min.
"	11/1/80	15 min.
"	11/2/80	20 hrs.
"	11/3/80	24 hrs.
"	11/4/80	6 hrs. 15 min.
"	1/4/81	11 hrs. 15 min.
"	1/8/81	9 hrs. 30 min.
"	1/9/81	24 hrs.
"	1/10/81	"
"	1/11/81	16 hrs.

Pump	Date	Duration
2E11-C002B	1/14/81	6 hrs.
"	1/15/81	24 hrs.
"	1/16/81	"
"	1/17/81	"
"	1/18/81	"
"	1/19/81	"
"	1/20/81	"
"	1/21/81	"
"	1/22/81	"
"	1/23/81	"
"	1/24/81	"
(")	1/25/81	5 hrs. 15 min.
"	2/11/81	6 hrs.
"	2/12/81	1 hr. 45 min.
"	2/13/81	8 hrs. 30 min.
"	2/14/81	24 hrs.
"	2/15/81	15 hrs.
"	2/16/81	16 hrs. 30 min.
"	2/20/81	10 hrs. 30 min.
"	2/21/81	4 hrs. 30 min.
"	2/24/81	11 hrs. 30 min.
"	2/25/81	1 hr.
"	3/7/81	17 hrs. 30 min.
"	3/8/81	24 hrs.
(")	3/9/81	21 hrs. 45 min.
"	3/10/81	24 hrs.
"	3/11/81	15 hrs. 15 min.

Pump	Date	Duration
2E11-C002B	3/12/81	1 hr. 15 min.
"	3/29/81	5 hrs. 15 min.
"	3/30/81	4 hrs. 45 min.
"	4/17/81	30 min.
"	4/10/81	45 min.
"	5/3/81	7 hrs. 30 min.
"	5/5/81	15 min.
"	5/6/81	"
"	5/31/81	6 hrs. 30 min.
"	6/3/81	30 min.
"	6/5/81	45 min.
(" "	6/17/81	1 hr.
"	6/19/81	2 hrs.
"	6/20/81	7 hrs.
"	6/22/81	15 hrs. 30 min.
"	6/23/81	14 hrs.
"	6/24/81	15 min.
"	6/26/81	30 min.
"	7/1/81	13 hrs. 45 min.
"	7/2/81	15 min.
"	7/7/81	"
"	7/8/81	2 hrs. 30 min.
"	7/9/81	5 hrs.
"	7/17/81	15 hrs.
"	7/27/81	7 hrs.
"	7/28/81	5 hrs. 15 min.
"		

Lump	Date	Duration
2E11-C002C	7/5/79	15 min.
"	7/8/79	15 min.
"	8/6/79	"
"	8/29/79	1 hr.
"	9/6/79	15 min.
"	9/9/79	11 hrs.
"	9/10/79	24 hrs.
"	9/11/79	3 hrs.
"	9/28/79	6 hrs. 30 min.
"	10/5/79	15 min.
"	10/19/79	15 min.
"	11/7/79	"
"	12/1/79	45 min.
"	12/5/79	15 min.
"	12/14/79	1 hr. 30 min.
"	1/12/80	15 min.
"	1/28/80	"
"	2/27/80	3 hrs. 45 min.
"	3/2/80	15 min.
"	3/31/80	3 hrs. 30 min.
"	4/1/80	12 hrs.
"	4/2/80	23 hrs. 30 min.
"	4/3/80	16 hrs.
"	4/9/80	8 hrs.
"	4/12/80	2 hrs. 45 min.
"	4/17/80	15 min.
"	4/26/80	4 hrs. 45 min.

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Jump	Date	Duration
2E11-C002C	5/3/80	15 min.
"	5/6/80	"
"	5/21/80	"
"	6/9/80	7 hrs.
"	6/19/80	5 hrs. 30 min.
"	6/20/80	1 hr.
"	7/3/80	8 hrs. 45 min.
"	7/6/80	24 hrs.
"	7/7/80	7 hrs.
"	7/8/80	22 hrs.
"	7/11/80	8 hrs.
(")	7/20/80	15 min.
"	8/5/80	"
"	8/28/80	5 hrs. 45 min.
"	9/11/80	15 min.
"	10/6/80	"
"	10/8/80	"
"	10/26/80	10 hrs. 45 min.
"	11/4/80	17 hrs. 45 min.
"	11/5/80	24 hrs.
"	11/17/80	14 hrs. 30 min.
"	1/25/81	16 hrs.
"	1/26/81	24 hrs.
"	1/27/81	22 hrs.
(")	1/28/81	24 hrs.
"	1/29/81	8 hrs.
"	1/30/81	24 hrs.

Pump	Date	Duration
2E11-C002C	1/31/81	18 hrs. 15 min.
"	2/1/81	24 hrs.
"	2/2/81	"
"	2/3/81	"
"	2/4/81	17 hrs. 15 min.
"	2/5/81	24 hrs.
"	2/6/81	"
"	2/7/81	"
"	2/8/81	"
"	2/9/81	"
"	2/10/81	5 hrs. 30 min.
"	2/11/81	10 hrs. 30 min.
"	2/12/81	7 hrs.
"	2/13/81	1 hr. 45 min.
"	3/10/81	30 min.
"	3/12/81	6 hrs. 15 min.
"	3/13/81	21 hrs. 30 min.
"	3/17/81	30 min.
"	3/28/81	3 hrs.
"	4/7/81	15 min.
"	5/6/81	"
"	6/5/81	"
"	6/16/81	3 hrs. 30 min.
"	6/17/81	1 hr.
"	7/7/81	15 min.
"	7/20/81	13 hrs. 15 min.
"	7/21/81	8 hrs. 30 min.

Pump	Date	Duration
2E11-C002D	6/19/79	2 hrs. 15 min.
"	6/20/79	15 min.
"	6/27/79	8 hrs. 15 min.
"	7/8/79	1 hr. 30 min.
"	7/21/79	"
"	7/22/79	"
"	7/26/79	2 hrs.
"	8/4/79	17 hrs. 45 min.
"	8/6/79	15 min.
"	8/12/79	2 hrs.
"	8/19/79	8 hrs. 45 min.
"	8/20/79	5 hrs. 30 min.
"	8/26/79	6 hrs. 30 min.
"	8/27/79	14 hrs.
"	8/29/79	2 hrs.
"	9/1/79	6 hrs. 15 min.
"	9/6/79	9 hrs. 30 min.
"	9/7/79	30 min.
"	9/8/79	5 hrs. 45 min.
"	9/9/79	15 hrs. 45 min.
"	10/5/79	15 min.
"	11/7/79	"
"	11/27/79	"
"	11/28/79	3 hrs.
"	12/3/79	15 min.
"	12/14/79	45 min.
"	1/12/80	1 hr. 30 min.

Tump	Date	Duration
2E11-C002D	2/27/80	30 min.
"	4/10/80	1 hr, 15 min.
"	4/12/80	"
"	4/16/80	1 hr,
"	4/17/80	45 min.
"	4/19/80	2 hrs, 30 min.
"	5/3/80	15 min.
"	5/21/80	"
"	5/25/80	4 hrs,
"	6/10/80	6 hrs.
"	6/13/80	3 hrs, 30 min.
("	6/18/80	11 hrs,
"	7/5/80	45 min.
"	7/6/80	"
"	7/7/80	24 hrs,
"	7/8/80	"
"	7/9/80	8 hrs.
"	7/11/80	6 hrs,
"	7/13/80	3 hrs.
"	7/14/80	10 hrs, 15 min.
"	7/25/80	3 hrs, 15 min.
"	8/5/80	15 min.
"	9/11/80	"
"	10/6/80	"
C "	10/9/80	2 hrs, 15 min.
"	11/1/80	15 min.
"	1/12/81	7 hrs, 30 min.

Jump	Date	Duration
2E11-C002D	1/13/81	10 hrs. 45 min.
"	1/29/81	8 hrs.
"	2/11/81	15 min.
"	2/12/81	"
"	2/13/81	1 hr.
"	2/16/81	11 hrs.
"	2/17/81	"
"	3/11/81	8 hrs. 30 min.
"	3/12/81	10 hrs. 15 min.
"	4/6/81	3 hrs.
"	4/7/81	7 hrs.
("	4/10/81	10 hrs.
"	5/6/81	15 min.
"	6/5/81	8 hrs. 30 min.
"	6/17/81	1 hr.
"	6/24/81	6 hrs. 15 min.
"	6/25/81	13 hrs. 15 min.
"	7/7/81	10 hrs. 45 min.
"	7/30/81	8 hrs. 45 min.
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