

**NOTES ON THE GEYSER
ERUPTIONS IN THE LOWER
GEYER BASIN OF YELLOWSTONE
NATIONAL PARK DURING THE
1990'S**

**AS RECORDED BY
DAVID STARCK**

INTRODUCTION

In the early 1990's my wife and I met a man we know only as "John" at Great Fountain and later at Fountain Geysers. He was kind enough to tell us enough about geysers and their eruptive cycles that the two of us got hooked on geysers. We spent 9 hours one day waiting for Fountain Geyser to erupt with no luck. Later we spent another entire day at Artemesia waiting without any success. But the lack of success was actually a blessing as we got to see more of the entire eruptive cycles of these two geysers. From then on, we really found ourselves relaxing by various geysers. We'd choose a geyser or two to "sit on" each day of our vacation and got to see some wonderful sights. We haven't seen any Steamboats or even Giants, but we've seen most of the other major geysers.

Fountain Geyser was always elusive. It was an 8 mile drive from our cabin and we always had trouble seeing it. So, in 1994 I decided to spend some time there watching cycles. Since that time, I've spent much of my Yellowstone time in the Lower Geyser Basin standing near Fountain Geyser noting eruption times of all the geysers that can be seen from the Fountain Geyser area. Most of my attention has been paid to the smaller geysers surrounding Fountain Geyser in an attempt to try to better forecast an upcoming eruption of Fountain itself.

So Jet Geyser, Twig Geyser, Spasm Geyser, Clepsydra Geyser, UNNG-FTN2 (which I call "Sizzler Geyser", suggested to me by T. Scott Bryan) and, of course, Fountain Geyser have been my main focus.

All of the above geysers have been proven to have some internal connection with Fountain Geyser. My intent was to see if eruptive patterns of any or all of these geysers could lead to a better understanding of the eruptive behavior of Fountain Geyser. I have not found any startling discoveries, but lots of interesting connections and minor changes taking place each year.

During the summers of 1994 -1996, 1998 and 2000, I recorded well over 1000 eruptions of Jet Geyser and close to 60 eruptions of Fountain Geyser. Along with those eruptions, I've recorded numerous eruptions of geysers in the Kaleidoscope area. The names of those geysers were obtained from other gazers and from T. Scott Bryan's book "The Geysers of Yellowstone". Some of the names were descriptive names like "2nd Tree Geyser" which erupted frequently in 1998. On the east side of Deep Blue Pool, it was one of Deep Blue's vents. But since it was directly in line with the 2nd lone tree in the Kaleidoscope area, I called it that to give it a name. "Frolic Geyser" is probably #41 or 42 in Rocco Paperiello's map of the Fountain area on p. 148 of "Transactions, Volume IV" (both of which are UNNG's). Some gazer told me that one of the tour-guides began calling it that and the name was a good one, so I've used it here in my notes.

UNNG-FTN2 or "Super Frying Pan" or (as I call it) "Sizzler" appears to be changing somewhat from year to year. Enclosed are close-up photographs of it taken in August 1995. It would be interesting to take the same pictures in the future and compare. (See Figures 1 – 4)

Figure 1 shows Sizzler Geyser's main vent (which is really a small pool during eruptions) and the immediate surrounding area.

Figure 2 shows Jet Geyser in the background and Sizzler Geysers vents in the middle and foreground.

Figures 3 and 4 are close-up pictures of the main vent of Sizzler Geyser.

Fountain Geyser tends to erupt after its pool fills to a certain level, and stays at that level for some time (on the order of 1-2 hours). But the pool does not fill up the same amount each cycle, so I attempted to keep track of the pool level during the course of my data-taking. Unfortunately, I couldn't use a tape measure since I couldn't walk out to the crater. I chose a "cave" in the far rim of the crater (the north rim) which is quite apparent as you stand on the boardwalk looking out at the crater. Figures 5 and 6 that follow, show the "cave".

Figure 5 shows Fountain Geyser's crater with the "cave" on the far rim.

Figure 6 shows a close-up view of the "cave". Note that the nearly horizontal streak above the "cave" is the top of the crater's rim.

In 1994, I decided that the top of this "cave" was 8" below the top of the crater's rim. So, if the geyser erupted when the pool level was at the top of the "cave", I called it 8" below the top of the rim. If it erupted from a point above or below that top-of-the-cave point, I estimated it from the 8" point. Later I decided that the 8" was more like one foot, but I decided to keep my earlier reference. So when you see that Fountain erupted from "10" below the rim" that means 2" below the top of the cave.

I always set my watch to the "official time" upon entering the geyser basins. The seconds were not set exactly, so they could be off. Most of the reason for recording to the closest second (rather than the recommended closest minute) was the action of Jet Geyser. In order to obtain good durations and intervals, I found it necessary to keep times to the second. Catching exact start and stop times for Jet became easier as time went on. Jet makes distinctive sounds as it begins its eruption, so using a combination of sight and sound, it became easy to record times with a great deal of accuracy.

Figure 7 shows Jet Geyser in eruption.

Figure 8 shows Jet Geyser's multiple cones.

The first few pages of the notes consist of a summary of all the information gathered during the years that I took notes in the area.

What follows are more specific notes in chronological order. There are 4 sections to each day's notes:

Section 1: A chart showing when the various geysers erupted relative to each other.

Section 2: A pair of graphs showing the consecutive intervals and durations of Jet geyser eruptions. Note that these are consecutive eruptions and are designed to show what happens to Jet Geyser's frequent eruptions during the course of a Fountain Geyser cycle.

Section 3: A table of Jet Geyser eruption times and the calculated intervals and durations. This was the data used to make the graphs in Section 2.

Section 4: The raw data from which all of the above charts and graphs are taken. This includes times of other Yellowstone geyser eruptions and pertinent information about weather conditions.

Although I have tried to be as accurate as possible in all of my data and calculations, it is always possible that small mistakes have crept in. I mean to share this information with others who might be able to add it to their own data. I also want to share it for historical purposes with those who may wish in the future to see what was happening in the Lower Geyser Basin at the end of the last century.

David Starck
October 10, 2000



FIGURE 1

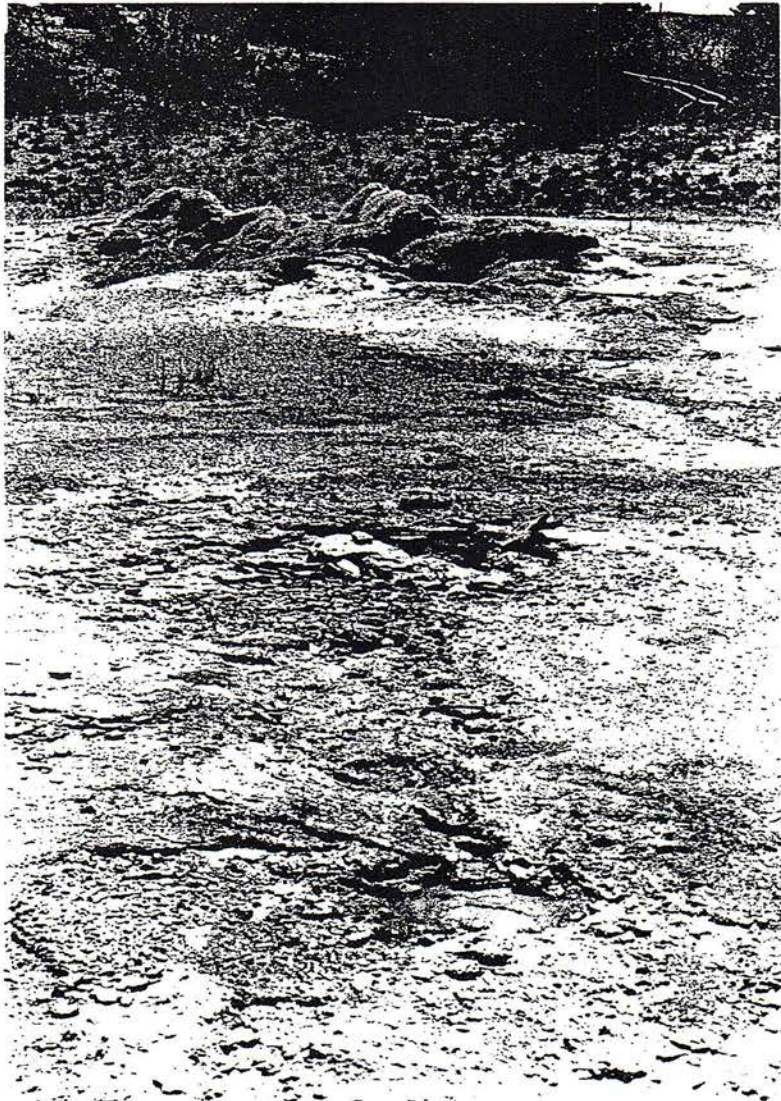


FIGURE 2



FIGURE 3



FIGURE 4

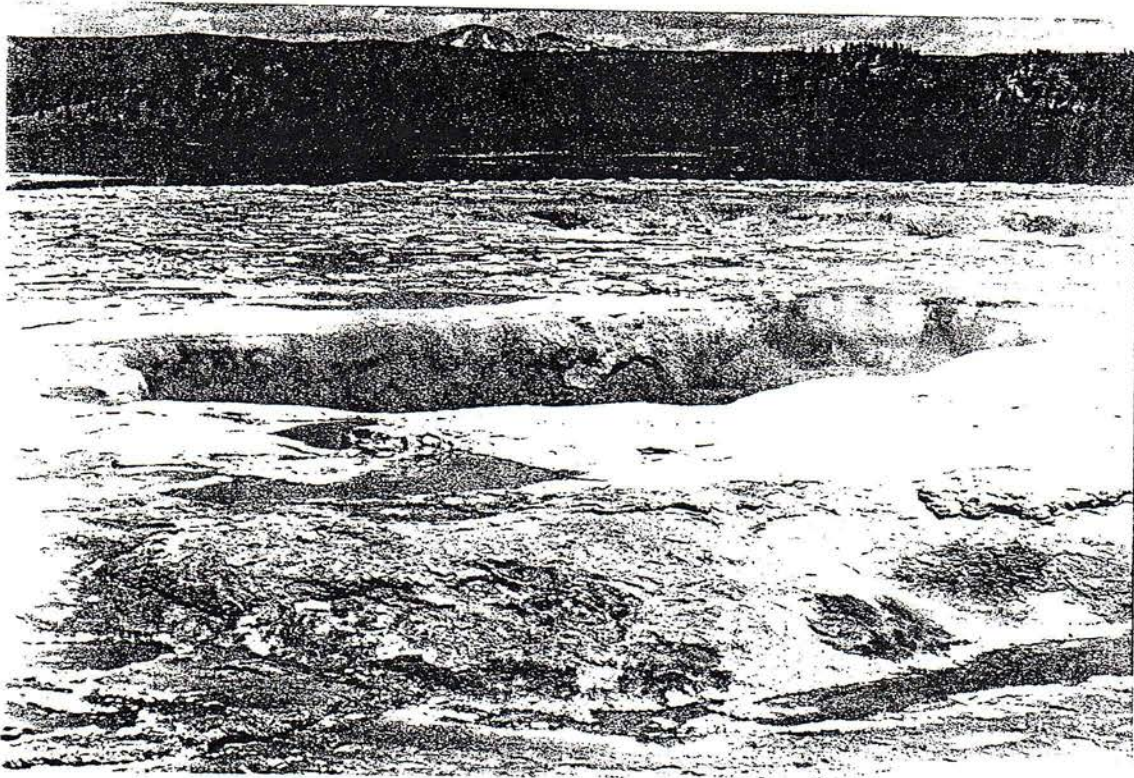


FIGURE 5



FIGURE 6

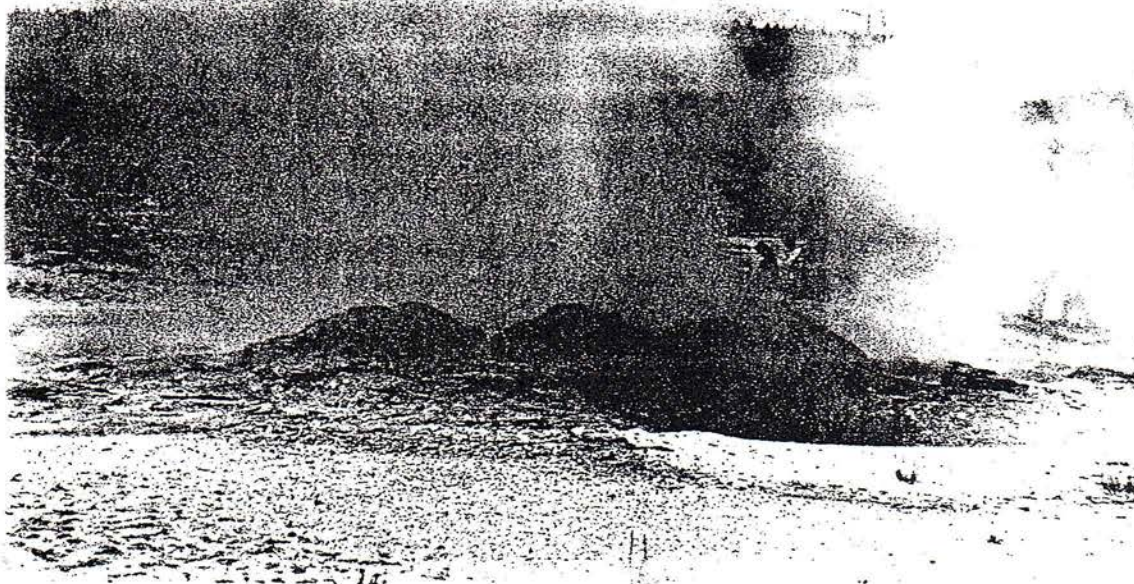


FIGURE 7

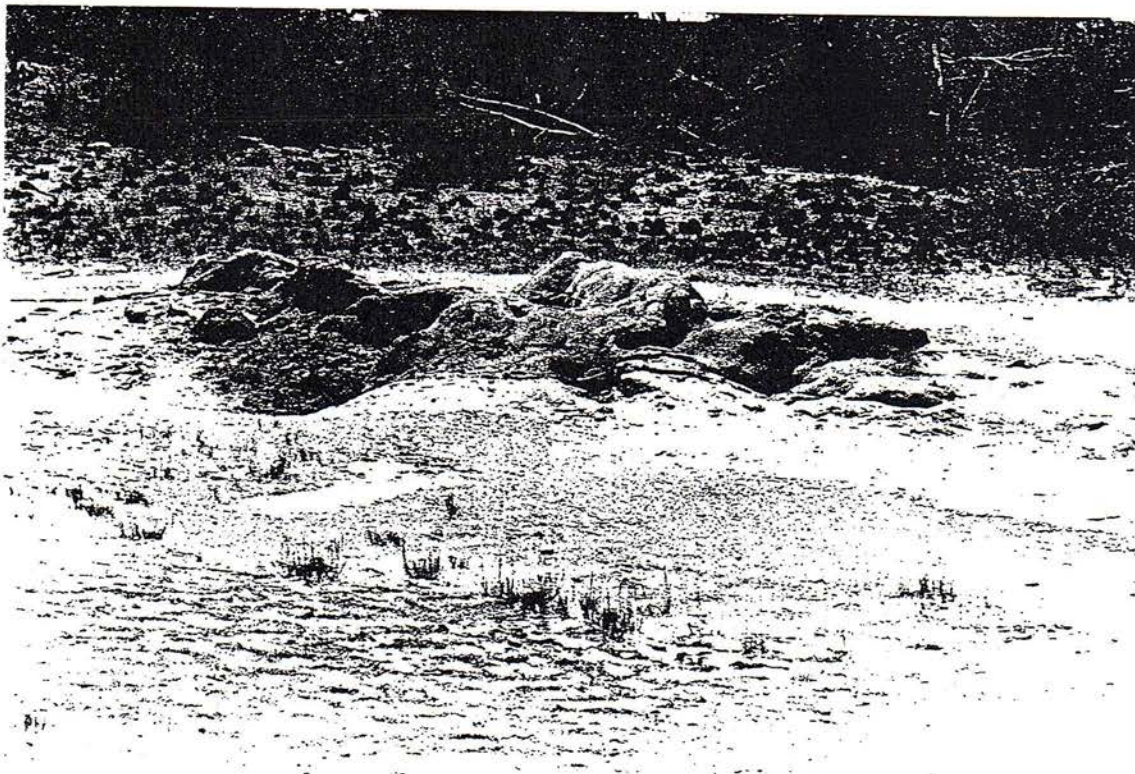


FIGURE 8

FOUNTAIN GEYSER INFORMATION LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK

DATE	TIME OF FOUNTAIN ERUPTION	TIME FOUNTAIN FINISHED	DURATION OF FOUNTAIN	INTERVAL SINCE LAST	POOL DEPTH INCHES	TIME OF PRIOR SIZZLER	TIME BEFORE FOUNTAIN	MEAN JET INTERVALS			MEAN JET DURATIONS				
								BEFORE	DURING FOUNTAIN	AFTER	BEFORE	DURING FOUNTAIN	AFTER		
09-Jul-94	13:45:00	14:22:00	0:37:00	N/A	2-3"	13:33:00	0:12:00	0:09:00	0:02:55	N/A	N/A	N/A	N/A	N/A	N/A
10-Jul-94	12:34:00	13:12:00	0:38:00	N/A	2-3"	N/A	N/A	0:05:00	0:03:00	0:04:20	N/A	N/A	N/A	N/A	N/A
	16:28:00	16:59:00	0:31:00	3:54:00	6-8"	N/A	N/A	0:04:20	0:04:00	N/A	N/A	N/A	N/A	N/A	N/A
11-Jul-94	15:55:00	16:28:00	0:33:00	N/A	12-14"	14:19:00	1:36:00	0:08:00	0:02:49	N/A	N/A	0:00:58	0:00:29	N/A	N/A
12-Jul-94	19:43:00	20:18:00	0:35:00	N/A	12-14"	19:32:00	0:11:00	0:08:51	0:02:14	N/A	N/A	0:01:03	N/A	N/A	N/A
19-Aug-94	10:02:00	10:39:00	0:37:00	N/A	N/A	N/A	N/A	N/A	0:02:39	0:07:47	0:07:47	N/A	N/A	N/A	N/A
	18:03:00	18:41:00	0:38:00	8:01:00	10-11"	16:42:00	1:21:00	0:07:47	0:02:42	N/A	N/A	0:01:00	N/A	N/A	N/A
24-Aug-94	19:16:00	19:50:00	0:34:00	N/A	10"	17:45:00	1:31:00	0:08:03	0:02:39	N/A	N/A	0:00:58	0:00:24	N/A	N/A
25-Aug-94	19:47:40	20:26:00	0:38:20	N/A	12"	17:38:00	2:09:40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26-Aug-94	12:41:00	13:12:00	0:31:00	N/A	10"	11:59:00	0:42:00	0:09:36	0:02:54	N/A	N/A	0:01:06	0:00:28	N/A	N/A
27-Aug-94	10:10:00	10:48:00	0:38:00	N/A	4-5"	10:19:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
94 MEANS			0:35:29	5:57:30	8.5"		1:06:06								

FOUNTAIN GEYSER INFORMATION LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK

DATE	TIME OF FOUNTAIN ERUPTION	TIME FOUNTAIN FINISHED	DURATION OF FOUNTAIN	INTERVAL SINCE LAST	POOL DEPTH INCHES	TIME OF PRIOR SIZZLER	TIME SIZZ BEFORE FOUNTAIN	MEAN JET INTERVALS			MEAN JET DURATIONS		
								BEFORE	DURING	AFTER	BEFORE	DURING	AFTER
09-Jul-95	12:54:00	13:25:00	0:31:00	N/A	8"	12:02:00	0:52:00	0:10:54	0:02:36	N/A	0:01:04	0:00:24	N/A
	19:08:00	19:39:00	0:31:00	6:14:00	12"	18:53:00	0:15:00	0:10:27	0:02:05	N/A	0:01:02	0:00:24	N/A
10-Jul-95	14:51:00	15:22:00	0:31:00	N/A	10-11"	N/A	N/A	N/A	0:03:20	N/A	N/A	0:00:31	N/A
11-Jul-95	15:42:00	16:13:00	0:31:00	N/A	12"	14:02:00	1:40:00	0:08:51	0:03:50	N/A	0:01:00	0:00:28	N/A
12-Jul-95	12:07:00	12:42:00	0:35:00	N/A	5"	N/A	N/A	0:09:45	0:02:24	N/A	0:00:40	0:00:31	N/A
	18:04:00	18:33:00	0:29:00	5:57:00	14"	17:38:00	0:26:00	0:05:20	0:02:46	N/A	0:00:55	0:00:31	N/A
13-Jul-95	16:38:16	17:08:47	0:30:31	N/A	8"	14:25:00	2:13:16	0:10:05	0:02:34	N/A	0:00:58	0:00:24	N/A
14-Jul-95	10:31:14	11:03:00	0:31:46	N/A	12"	N/A	N/A	0:06:59	0:02:33	N/A	0:01:04	0:00:30	N/A
15-Jul-95	9:45:00	10:15:00	0:30:00	N/A	16"	9:19:00	0:26:00	N/A	0:02:05	0:08:57	N/A	0:00:26	0:01:00
	18:21:00	18:53:00	0:32:00	8:36:00	11"	18:09:00	0:12:00	0:08:57	0:02:02	N/A	0:01:00	0:00:30	0:01:04
17-Jul-95	9:14:00E	9:43:00	N/A	N/A	N/A	N/A	N/A	N/A	0:02:38	0:12:56	N/A	0:00:30	N/A
	15:45:45	16:17:00	0:31:15	N/A	10"	15:20:00	0:25:45	0:12:56	0:02:22	N/A	0:01:04	0:00:29	N/A
18-Jul-95	11:07:00	11:37:00	0:30:00	N/A	13"	N/A	N/A	0:08:55	0:03:26	N/A	0:00:58	0:00:31	0:01:01
	18:48:42	19:19:29	0:30:47	7:41:42	9"	17:53:00	0:55:42	0:10:12	0:02:49	N/A	0:01:01	0:00:32	N/A
20-Jul-95	10:19:00	10:51:00	0:32:00	N/A	16-17"	9:25:00	0:54:00	0:05:34	0:02:03	0:05:52	0:00:57	0:00:28	0:00:54
	17:08:00	17:40:00	0:32:00	6:49:00	18-19"	14:51:00	2:17:00	0:05:52	0:02:26	N/A	0:00:54	0:00:29	N/A
21-Jul-95	8:38:00*	N/A	N/A	N/A	N/A	N/A	N/A	0:07:07	N/A	N/A	0:00:58	N/A	N/A
22-Jul-95	11:53:00	12:25:30	0:32:30	N/A	11"	10:32:00	1:21:00	0:08:43	0:02:51	N/A	0:01:03	0:00:29	N/A
	18:02:00E	18:18:00	N/A	N/A	N/A	N/A	N/A	N/A	0:02:00	N/A	N/A	N/A	N/A
23-Jul-95	11:00:00	11:30:00	0:30:00	N/A	15"	10:43:54	0:16:06	0:07:23	0:02:18	0:05:43	0:00:55	0:00:24	0:00:51
	17:37:00	18:07:00	0:30:00	6:37:00	15"	N/A	N/A	0:05:43	0:02:29	N/A	0:00:51	0:00:26	N/A
25-Jul-95	12:52:00	13:24:00	0:32:00	N/A	9.5"	11:24:00	1:28:00	0:09:06	0:02:40	N/A	0:01:03	N/A	N/A
27-Jul-95	13:09:51	13:37:39	0:27:48	N/A	14.5"	11:40:00	1:29:51	0:10:56	0:02:55	0:09:47	0:01:00	0:00:29	0:00:40
	19:27:00	19:56:00	0:29:00	6:17:09	14"	19:08:00	0:19:00	0:09:47	0:02:24	N/A	0:00:40	0:00:23	N/A
28-Jul-95	19:46:00E	20:16:00	N/A	N/A	N/A	N/A	N/A	N/A	0:01:40	0:10:00	N/A	N/A	N/A
	8:19:00	8:51:00	0:32:00	N/A	9"	N/A	N/A	0:09:49	0:02:46	0:09:49	N/A	0:00:27	0:00:59
29-Jul-95	14:09:00	14:38:00	0:29:00	5:50:00	14"	12:57:00	1:12:00	0:09:49	0:02:57	0:08:31	0:00:59	0:00:30	0:01:02
	21:14:00	21:46:00	0:32:00	7:05:00	9"	N/A	N/A	0:08:31	N/A	N/A	0:01:02	N/A	N/A
30-Jul-95	11:30:43	12:03:00	0:32:17	N/A	8"	N/A	N/A	0:09:25	0:02:59	N/A	0:01:04	0:00:30	N/A
	17:18:00E	17:25:00	N/A	N/A	8.5"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20-Aug-95	15:08:00	15:41:00	0:33:00	N/A	8"	15:00:00	0:08:00	0:06:38	0:01:37	N/A	0:00:44	N/A	N/A
23-Aug-95	16:18:00	16:51:00	0:33:00	N/A	8"	14:08:00	2:10:00	0:07:37	0:02:43	N/A	0:01:02	0:00:22	N/A
95 MEANS			0:31:09	6:47:26	11.5"		1:00:02						

FOUNTAIN GEYSER INFORMATION LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK

DATE	TIME OF FOUNTAIN ERUPTION	TIME FOUNTAIN FINISHED	DURATION OF FOUNTAIN	INTERVAL SINCE LAST	POOL DEPTH INCHES	TIME OF PRIOR SIZZLER	TIME SIZE BEFORE FOUNTAIN	MEAN JET INTERVALS			MEAN JET DURATIONS		
								BEFORE FOUNTAIN	DURING FOUNTAIN	AFTER FOUNTAIN	BEFORE FOUNTAIN	DURING FOUNTAIN	AFTER FOUNTAIN
30-Jun-96	18:55:37	19:27:51	0:32:14	N/A	9"	18:16:00	0:39:37	0:08:05	0:02:37	N/A	0:00:57	0:00:26	N/A
01-Jul-96	9:18:43	9:54:37	0:35:54	N/A	6"	N/A	N/A	N/A	0:02:46	0:09:06	N/A	0:00:30	0:01:03
02-Jul-96	16:48:38	17:20:19	0:31:41	7:29:55	8"	15:03:00	1:45:38	0:09:06	0:02:49	N/A	0:01:03	0:00:27	N/A
03-Jul-96	12:42:12	13:14:16	0:32:04	N/A	12"	11:19:18	1:22:54	0:06:26	0:02:18	0:08:56	0:00:56	0:00:24	0:01:05
03-Jul-96	19:11:11	19:42:56	0:31:45	6:28:59	13"	18:56:00	0:15:11	0:08:56	0:01:59	N/A	0:01:05	0:00:21	N/A
03-Jul-96	15:04:00	15:35:16	0:31:16	N/A	10"	14:20:00	0:44:00	0:07:44	0:02:38	N/A	0:01:00	0:00:25	N/A

96 MEANS 0:32:29 6:59:27 9.7" 0:57:28

NO 1997 DATA

22-Jul-98	11:00:00	11:34:43	0:34:43	N/A	N/A	N/A	N/A	N/A	0:02:49	0:08:30	N/A	0:00:30	0:01:06
23-Jul-98	19:55:21	20:31:00	0:35:39	8:55:21	12"	19:52:30	0:02:51	0:08:30	0:01:50	N/A	0:01:06	0:00:25	N/A
27-Jul-98	10:02:00	10:39:13	0:37:13	N/A	12"	9:55:00	0:07:00	N/A	0:02:05	0:07:45	N/A	0:00:28	0:00:56
28-Jul-98	17:24:00	17:58:24	0:34:24	7:22:00	12"	16:57:19	0:26:41	0:07:45	0:02:43	N/A	0:00:56	0:00:29	N/A
29-Jul-98	12:30:28	13:06:20	0:35:52	N/A	12"	11:39:02	0:51:26	0:08:56	0:02:56	0:08:38	0:01:04	0:00:32	0:01:04
31-Jul-98	21:45:00	22:21:00	0:36:00	9:14:32	12"	19:29:34	2:15:26	0:08:38	N/A	N/A	0:01:04	0:00:31	N/A
98 MEANS	12:45:17	13:21:00	0:35:43	N/A	12"	N/A	N/A	0:07:32	0:02:32	N/A	0:01:03	0:00:30	N/A
	10:03:14	10:37:08	0:33:54	N/A	10"	N/A	N/A	0:09:06	0:02:37	N/A	0:01:01	0:00:27	N/A
	12:03:58	12:37:32	0:33:34	N/A	10"	N/A	N/A	N/A	0:02:54	0:09:10	N/A	0:00:27	0:01:00
	20:00:08	20:33:47	33:39:00	7:56:10	11"	19:47:30	0:12:38	0:09:10	0:02:34	N/A	0:01:00	0:00:32	N/A

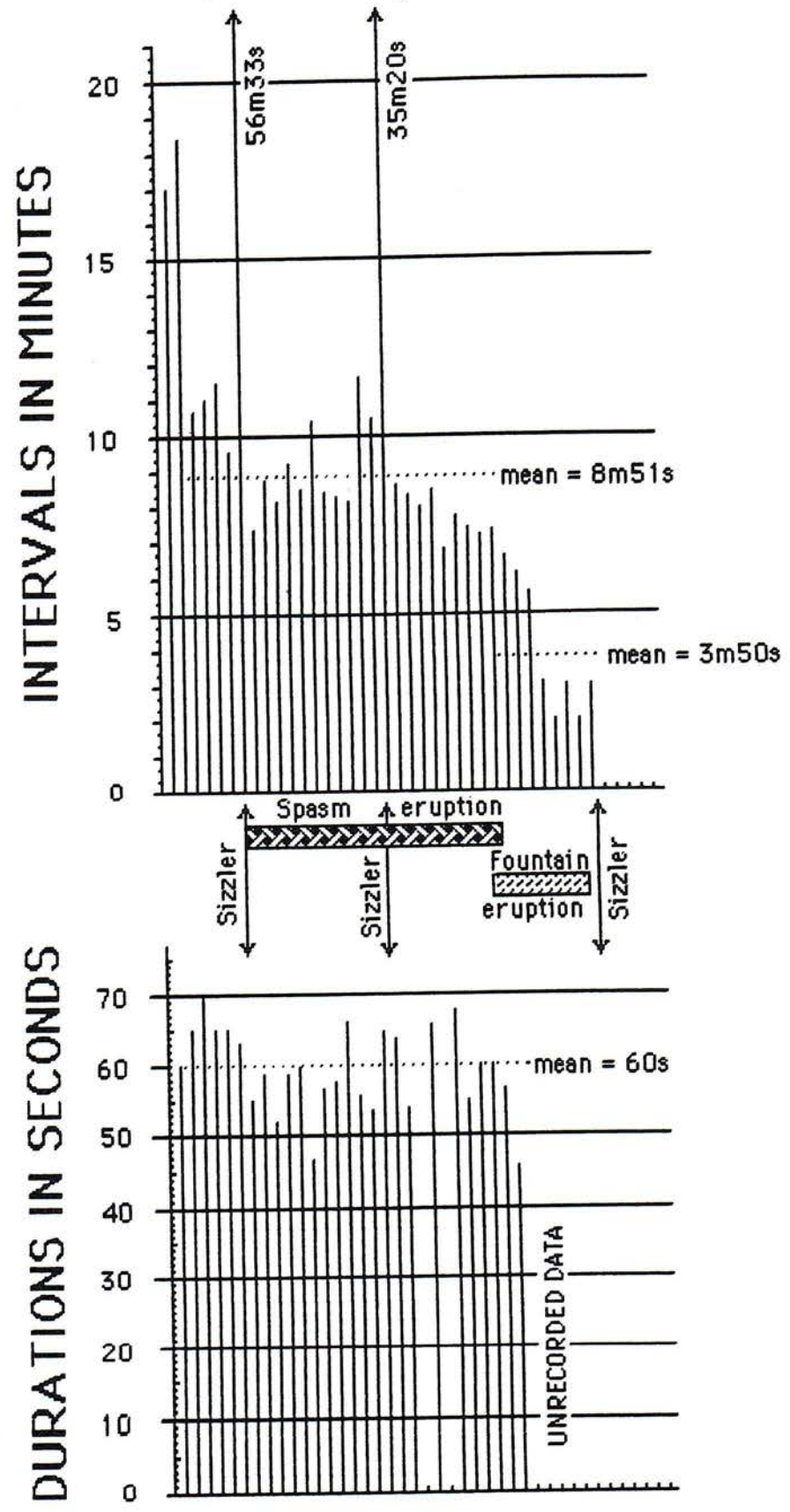
98 MEANS 3:53:36 8:22:01 11.4" 0:44:41

NO 1999 DATA

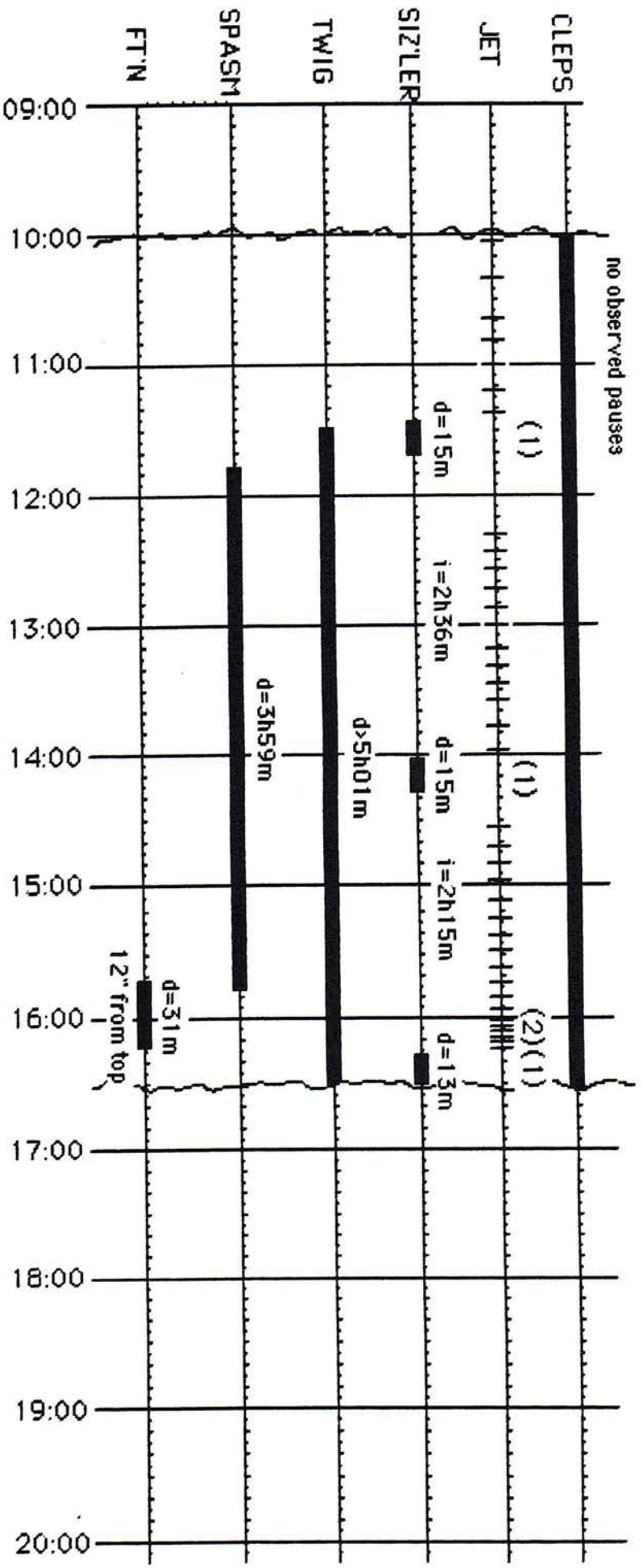
FOUNTAIN GEYSER INFORMATION LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK

DATE	TIME OF FOUNTAIN ERUPTION	TIME FOUNTAIN FINISHED	DURATION OF FOUNTAIN	INTERVAL SINCE LAST	POOL DEPTH INCHES	TIME OF PRIOR SIZZLER FOUNTAIN	TIME SIZZ BEFORE FOUNTAIN	MEAN JET INTERVALS			MEAN JET DURATIONS			
								BEFORE FOUNTAIN	DURING FOUNTAIN	AFTER FOUNTAIN	BEFORE FOUNTAIN	DURING FOUNTAIN	AFTER FOUNTAIN	
06-Aug-00	16:55:00	17:26:00	0:31:??	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
07-Aug-00	15:10:59	15:47:26	0:36:27	N/A	12"	13:31:34	1:39:25	0:09:40	0:02:23	0:07:38	0:01:01	0:00:27	0:00:39	
10-Aug-00	14:56:??	15:35:14	0:39:??	N/A	6"	N/A	N/A	0:12:53	0:02:48	0:07:05	0:01:06	0:00:29	0:00:48	
11-Aug-00	15:15:55	15:46:50	0:30:55	N/A	13"	10:51:50	4:24:05	0:10:20	0:02:14	N/A	0:01:01	0:00:24	N/A	
15-Aug-00	16:19:58	16:50:42	0:30:44	N/A	15"	14:54:30	1:25:28	0:09:56	0:02:32	0:08:42	0:00:55	0:00:26	0:00:34	
17-Aug-00	10:29:34	11:00:56	0:31:22	N/A	10"	N/A	N/A	0:08:07	0:02:23	0:10:53	0:01:03	0:00:28	0:01:03	
	19:47:??	20:19:11	0:32:??	09:18:??	6"	16:30:??	3:17:??	0:10:53	0:02:47	N/A	0:01:03	0:00:31	N/A	
00 MEANS			0:32:22	09:18:??	10.3"	13:05:58	2:29:39							

CONSECUTIVE JET GEYSER INTERVALS AND DURATIONS JULY 11, 1995



JULY 11, 1995



(1) Jet stopped erupting when Sizzler erupted.

(2) As soon as Fountain erupted, Jet went into its quick mode. But when Sizzler erupted 4m after Fountain finished, Jet stopped erupting.

JULY 10TH (MONDAY)

12:38 Percolator
 13:04 West Triplet
 13:20 Grand (2m30s after Turban's eruption) (It had 10 bursts !!!!!)
 (plus a large afterburst) !!!
 13:38 Rift (IE)
 13:48 11th burst (later called an afterburst) of Grand
 13:54 more smaller afterbursts
 13:54 Daisy
 14:00 still more afterbursts
 14:04 West Triplet off
 14:08 Grand still going to 20'

 14:44 Arrived at Fountain - Spasm on - Clepsydra on - Twig off - Sizzler off - Ft'n
 pool at 10-11"
 14:44:16 Jet (61 s)
 14:51 Fountain ! (10-11" from top) *****
 14:52:39 Jet (54 s)
 14:56 Sizzler on
 14:57 Clepsydra into steam phase
 14:58:38 Jet (38 s)
 15:01 Spasm flooded (>17m)
 15:01 Morning's Thief (IE)
 15:04:04 Jet (30 s)
 15:06:53 Jet (17+ s)
 15:09:21 Jet (31 s)
 15:12 Spasm boiled
 15:12:04 Jet (28 s)
 15:14:43 Jet (32 s)
 15:16 Sizzler off (20 m)
 15:16:35 Jet (17 s)
 15:18:04 Jet (27 s)
 15:19:50 Jet (16 s)
 15:21:10 Jet (29 s)
 15:22 Fountain off (31 m) ++++++
 15:24:15 Jet (17 s)
 15:35 Clepsydra still going - Spasm off - Sizzler off - Twig off -
 15:36:50 Jet (?)

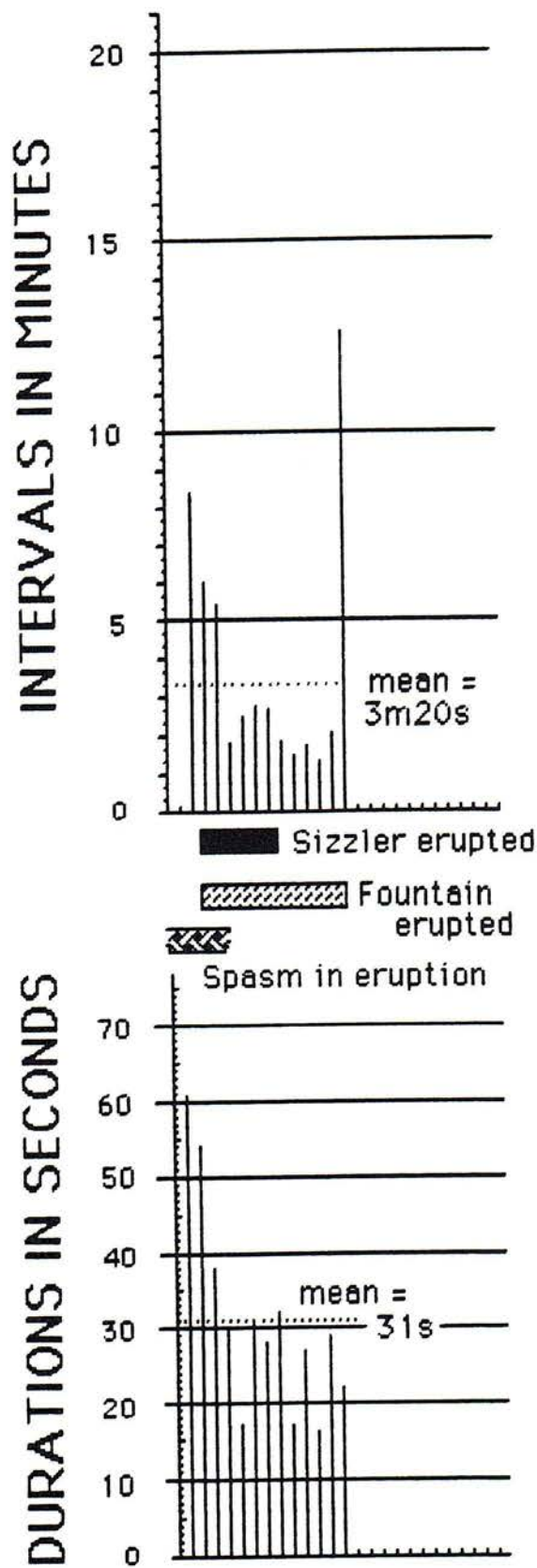
1

**JET GEYSER DATA
LOWER GEYSER BASIN
YELLOWSTONE NATIONAL PARK
JULY 10, 1995**

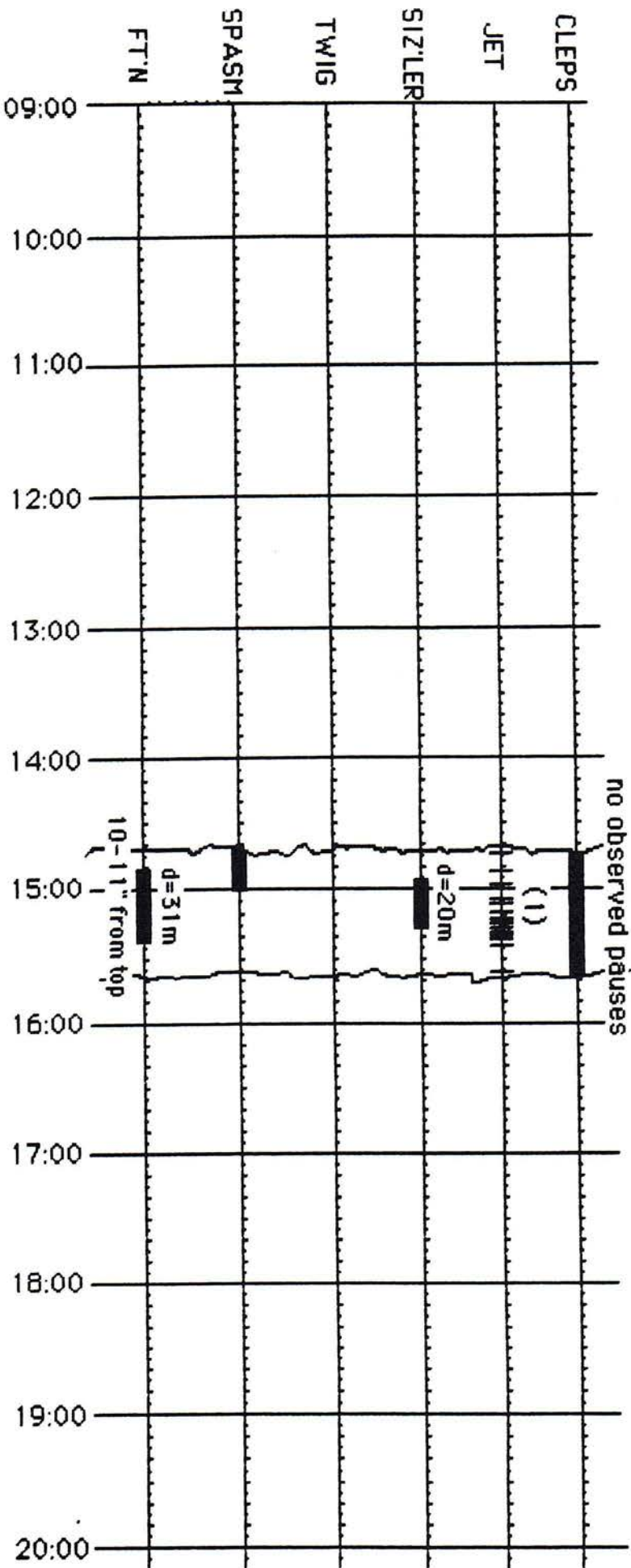
START TIME	END TIME	INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING
14:44:16	14:45:17	*		0:01:01		NO	NO
14:52:39	14:53:33	0:08:23		0:00:54		YES	NO
14:58:38	14:59:16	0:05:59		0:00:38		YES	YES
15:04:04	15:04:34	0:05:26		0:00:30		YES	YES
15:06:53	15:07:10	0:02:49		0:00:17		YES	YES
15:09:21	15:09:52	0:02:28		0:00:31		YES	YES
15:12:04	15:12:32	0:02:43		0:00:28		YES	YES
15:14:43	15:15:15	0:02:39		0:00:32		YES	YES
15:16:35	15:16:52	0:01:52		0:00:17		YES	NO
15:18:04	15:18:31	0:01:29		0:00:27		YES	NO
15:19:50	15:20:06	0:01:46		0:00:16		YES	NO
15:21:10	15:21:39	0:01:20		0:00:29		YES	NO
15:24:15	15:24:37	0:03:05	0:03:20	0:00:22	0:00:31	NO	NO
15:36:50		*		*	#####	NO	NO

BLANK INDICATES MISSED DATA
INDICATES IMPOSSIBLE CALCULATION
* DATA NOT INCLUDED IN MEAN CALCULATIONS

CONSECUTIVE JET GEYSER INTERVALS AND DURATIONS JULY 10, 1995



JULY 10, 1995



(1) Jet continued its series of eruptions during Sizzler's eruption because Fountain was in eruption.

18:07:06 Jet (65 s)
18:10 Sub
18:17:00 Jet (67 s)
18:27:02 Jet (69 s)
18:38:12 Jet (62 s)
18:48 Drain ?
18:50:43 Jet (?)
18:53 Sizzler on
19:00 Honeycomb
19:04 Deep Blue dual w/Honeycomb
19:08 Fountain ! (12" from top) w/ Deep Blue (6h 14m interval)*****
19:12 Sizzler off (19 m)
19:16:08 Jet (30 s)
19:18:13 Jet (17 s)
19:19:46 Jet (31 s)
19:21:34 Jet (?)
19:23:24 Jet (16 s)
19:24:59 Jet (16 s)
19:26 Spasm flooded (2h 59 m)
19:26:31 Jet (13 s)
19:27:50 Jet (30 s)
19:30:30 Jet (30 s)
19:33:06 Jet (31 s)
19:35:45 Jet (29 s)
19:38:23 Jet (?)
19:39 Fountain off (31 m) +++++
19:27 Kaleidoscope or Drain
19:34 Deep Blue
19:35 Deep Blue
19:41:05 Jet (?)
19:51 Twig off (>2h 4m)(probably 3h 38m)
19:51:23 Jet (42 s)
19:56:51 Jet (50 s)
19:58 Deep Blue
20:03:50 Jet (45 s)

12:41:10 Jet (72 s)
 12:49:00 Jet (61 s)
 12:54 Fountain ! (8" from top) *****
 12:55:43 Jet (30 s)
 12:59:29 Jet (26 s)
 13:00 Spasm flooded and off (2h 23m)
 13:01 Clepsydra steam vent began pounding
 13:02:27 Jet (26 s)
 13:05:26 Jet (26 s)
 13:08:11 Jet (30 s)
 13:11:00 Jet (28 s)
 13:13:39 Jet (?)
 13:16:17 Jet (?)
 13:17 Bear Claw
 13:18:55 Jet (28 s)
 13:20:40 Jet (one burst)
 13:21:49 Jet (25 s)
 13:21 Spasm still bubbling
 13:24:21 Jet (?)
 13:25 Fountain off (31 m) ++++++
 13:26:53 Jet (?)
 13:33 Bear Claw
 13:35 Deep Blue
 13:42:42 Jet (51 s)
 14:00 Frolic
 ***** (lunch break)
 14:33 Jet (?)
 14:36 Twig spudded
 14:51:47 Jet (66 s)
 15:13 Twig sputts
 15:19:58 Jet (25 s)
 15:20 Twig spudded
 15:21:46 Jet (48 s)
 15:32:12 Jet (59 s)
 15:34 Twig spudded fairly constantly
 15:44 Kaleidoscope
 15:56:48 Jet (70 s)
 15:58 Twig spudded
 16:00 Sizzler on
 16:13 Twig on
 16:16 Sizzler off (16 m)
 16:27 Spasm on
 17:00 wind and rain storm

 17:45 Frolic
 17:47 Twig on, Spasm on, Clepsydra on, Ft'n pool at 13-14"
 17:48:01 Jet (62 s)
 17:57:08 Jet (76 s)
 18:01 Ft'n pool at 12"

JULY 9TH (SUNDAY)

08:51 Ft'n pool at 18", Jet was growling Clepsydra is on, everything else was off
08:56:06 Jet (68 s)
09:02:13 Bear Claw (center vent)
09:19:09 Jet (75 s)
09:23 Sizzler on
09:23 Frolic
09:39 Sizzler off (16 m)
09:54 Twig spuffed
09:57 Twig spuffed
10:05 Deep Blue - big burst - left side continued
10:16 Ft'n pool up to about 12" from top
10:25 Sub
10:32 Spasm began to fill (murky water)
10:37 Spasm overflowed into West Vent
10:37:34 Jet (70 s)
10:46 Spasm began overflow toward Jelly
10:49 Large burst from Kaleidescope area
10:50 Another series of bursts from Kaleidescope area
10:53 Another series of smaller bursts from same area - big one too !
10:54:14 Jet (66 s)
10:55 Ft'n pool up about 1-2" (still about 12" from top)
10:56 Kaleidescope area continued to burst
10:58 Spasm overflow reached Jelly
11:05:16 Jet (64 s)
11:09:55 Waves out back of Ft'n (10" from top)
11:14:24 Jet (70 s)
11:15 Deep Blue
11:22:37 Jet (62 s)
11:27 Kaleidescope ?
11:29 Ft'n pool to 10 - 11" - Drain still going off - Angle and several others in
Sprinkler group going off - Ft'n pool hot
11:32:17 Jet (61 s)
11:35 Kaleidescope? good show! 2x height of trees
11:31 Kaleidescope ?
11:41 Sub (above rim)
11:41 Deep Blue (wide bursts)
11:41:55 Jet (69 s)
11:51:09 Jet (63 s)
11:59:50 Jet (?)
11:59 Kaleidescope or Drain?
12:02 Sub
12:02 Sizzler on
12:12 Bear Claw (Center and West vents)
12:17 Sizzler off (15 m)
12:28 Frolic
12:33 Sub
12:35 Deep Blue

**JET GEYSER DATA
LOWER GEYSER BASIN
YELLOWSTONE NATIONAL PARK
JULY 09, 1995**

START TIME	END TIME	INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING
19:18:13	19:18:30	0:02:05		0:00:17		YES	NO
19:19:46	19:20:17	0:01:33		0:00:31		YES	NO
19:21:34		0:01:48		#####		YES	NO
19:23:24	19:23:40	0:01:50		0:00:16		YES	NO
19:24:59	19:25:15	0:01:35		0:00:16		YES	NO
19:26:31	19:26:44	0:01:32		0:00:13		YES	NO
19:27:50	19:28:20	0:01:19		0:00:30		YES	NO
19:30:30	19:31:00	0:02:40		0:00:30		YES	NO
19:33:06	19:33:37	0:02:36		0:00:31		YES	NO
19:35:45	19:36:14	0:02:39		0:00:29		YES	NO
19:38:23		0:02:38		#####		YES	NO
19:41:05		0:02:42	0:02:05	#####	0:00:24	NO	NO
19:51:23	19:52:05	0:10:18		0:00:42		NO	NO
19:56:51	19:57:41	0:15:46		0:00:50		NO	NO
20:03:50	20:04:35	0:06:59		0:00:45		NO	NO
			0:11:01		0:00:46		

BLANK CELL = MISSED DATA

INDICATES CALCULATION NOT POSSIBLE
* DATA NOT INCLUDED IN MEAN CALCULATIONS

1

JET GEYSER DATA LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK JULY 09, 1995

START TIME	END TIME		INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING
8:56:06	8:57:14	*			0:01:08		NO	NO
9:19:09	9:20:24		0:23:03		0:01:15		NO	NO
10:37:34	10:38:44	*	1:18:25		0:01:10		NO	YES
10:54:14	10:55:20		0:16:40		0:01:06		NO	NO
11:05:16	11:06:20		0:11:02		0:01:04		NO	NO
11:14:24	11:15:34		0:09:08		0:01:10		NO	NO
11:22:37	11:23:39		0:08:13		0:01:02		NO	NO
11:32:17	11:33:18		0:09:40		0:01:01		NO	NO
11:41:55	11:43:04		0:09:38		0:01:09		NO	NO
11:51:09	11:52:12		0:09:14		0:01:03		NO	NO
11:59:50			0:08:41		* #####		NO	NO
12:41:10	12:42:22	*	0:41:20		0:01:12		NO	YES
12:49:00	12:50:01		0:07:50		0:01:01		NO	NO
12:55:43	12:56:13		0:06:43	0:10:54	0:00:30	0:01:04	YES	NO
12:59:29	12:59:55		0:03:46		0:00:26		YES	NO
13:02:27	13:02:53		0:02:58		0:00:26		YES	NO
13:05:26	13:05:52		0:02:59		0:00:26		YES	NO
13:08:11	13:08:41		0:02:45		0:00:30		YES	NO
13:11:00	13:11:28		0:02:49		0:00:28		YES	NO
13:13:39			0:02:39		#####		YES	NO
13:16:39			0:03:00		#####		YES	NO
13:18:55	13:19:23		0:02:16		0:00:28		YES	NO
13:20:40	13:20:43		0:01:45		0:00:03		YES	NO
13:21:49	13:22:14		0:01:09		0:00:25		YES	NO
13:24:21			0:02:32		#####		YES	NO
13:26:53			0:02:32	0:02:36	#####	0:00:24	NO	NO
13:42:42	13:43:33	*	0:15:49		* 0:00:51		NO	NO
LEFT AREA								
14:33:00		*			* #####		NO	NO
14:51:47	14:52:53		0:18:47		0:01:06		NO	NO
15:19:58	15:20:23		0:28:11		0:00:25		NO	NO
15:21:46	15:22:38		0:01:48		0:00:52		NO	NO
15:32:12	15:33:11		0:10:26		0:00:59		NO	NO
15:56:48	15:57:58		0:24:36	0:16:46	0:01:10	0:00:54	NO	NO
WIND AND RAIN STORM								
17:48:01	17:49:03	*			0:01:02		NO	NO
17:57:08	17:58:24		0:09:07		0:01:16		NO	NO
18:07:06	18:08:11		0:09:58		0:01:05		NO	NO
18:17:00	18:18:07		0:09:54		0:01:07		NO	NO
18:27:02	18:28:11		0:10:02		0:01:09		NO	NO
18:38:12	18:39:14		0:11:10		0:01:02		NO	NO
18:50:43			0:12:31		#####		NO	NO
19:16:08	19:16:38	*	0:25:25	0:10:27	0:00:30	0:01:02	YES	YES

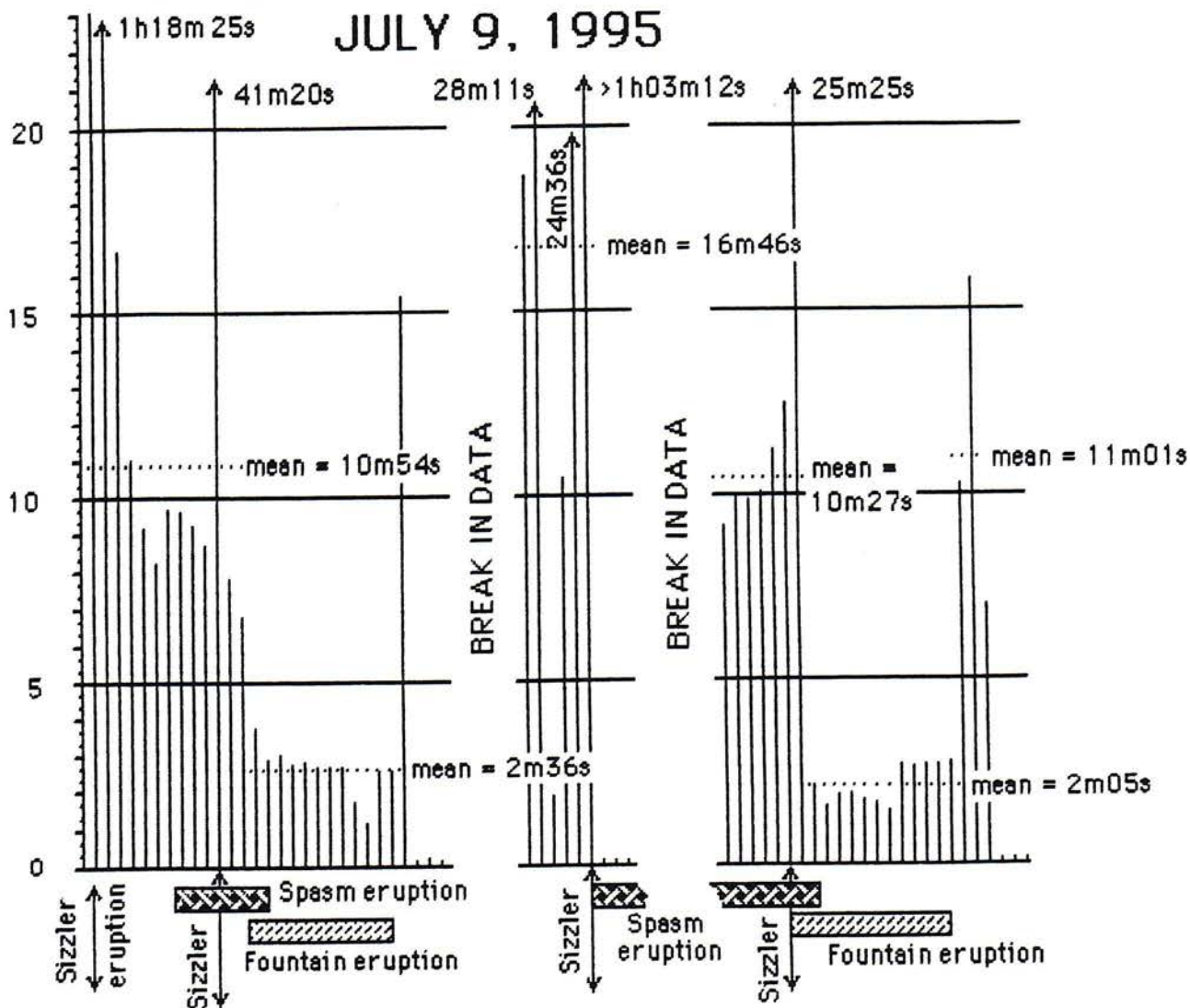
BLANK CELL = MISSED DATA

INDICATES CALCULATION NOT POSSIBLE
* DATA NOT INCLUDED IN MEAN CALCULATIONS

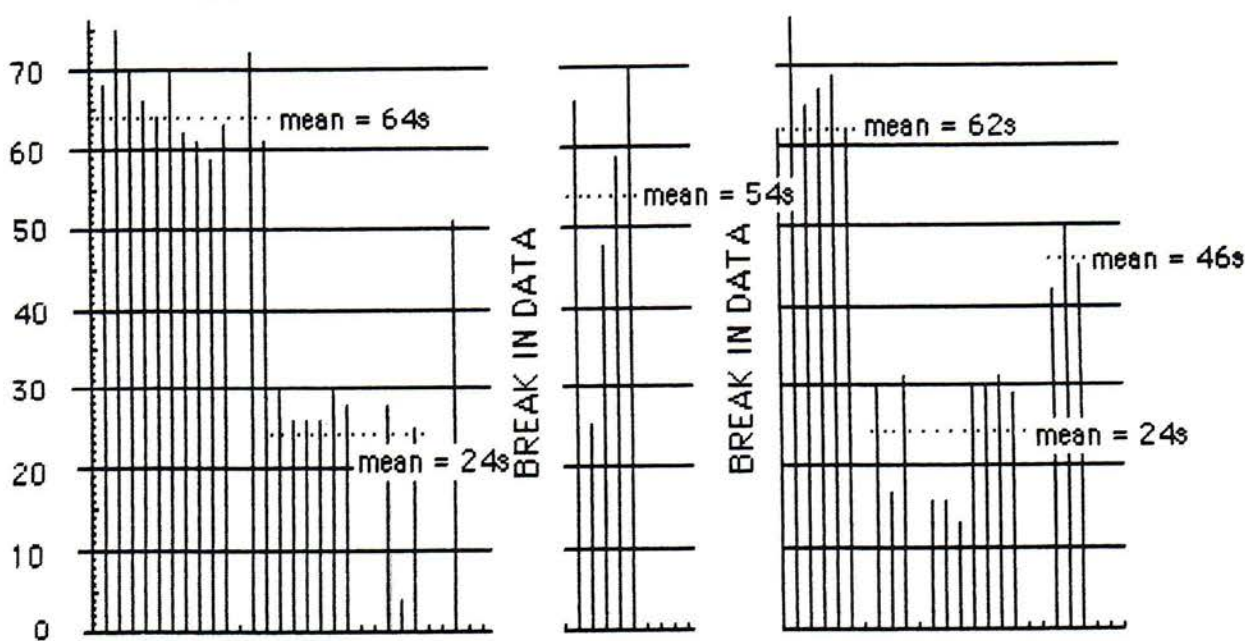
CONSECUTIVE JET GEYSER INTERVALS AND DURATIONS

JULY 9, 1995

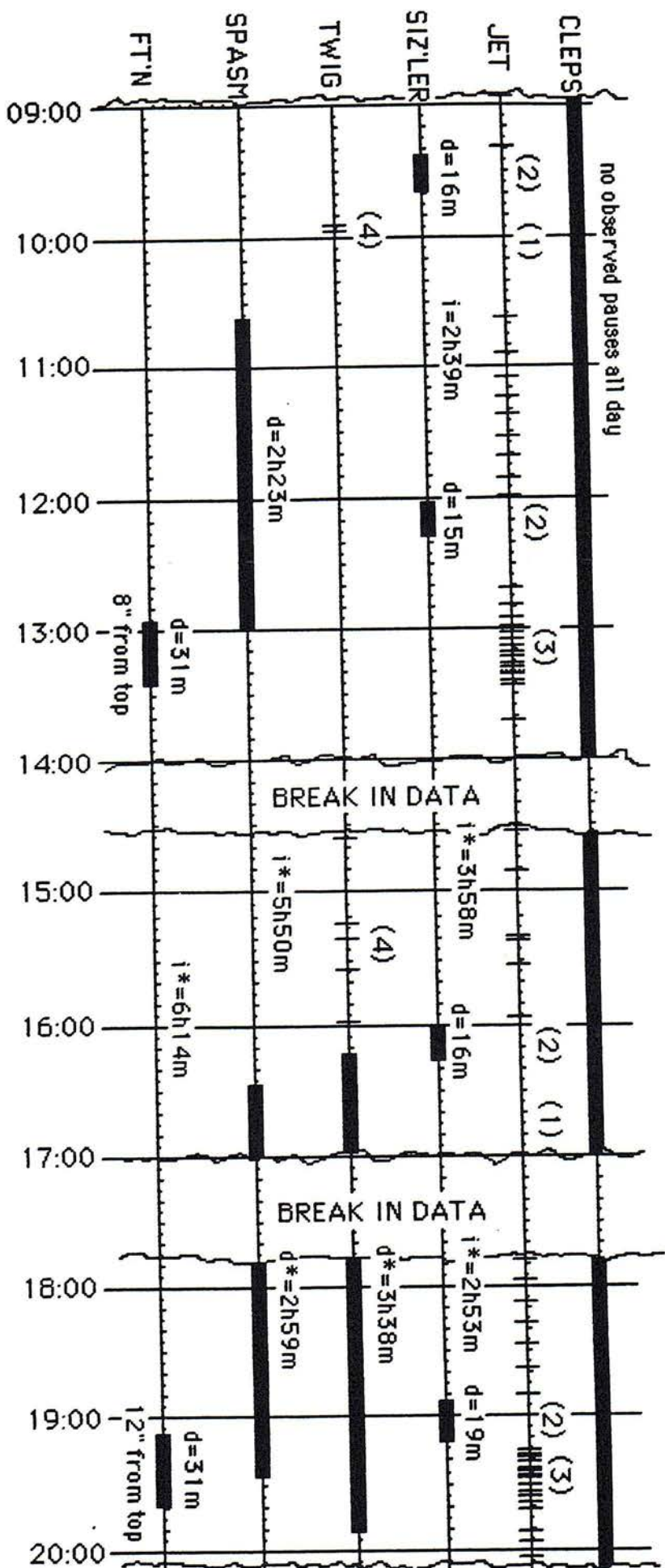
INTERVALS IN MINUTES



DURATIONS IN SECONDS



JULY 9, 1995



(1) Jet setbacks after Sizzler eruptions seemed long on this day.

(2) Sizzler always turned Jet off as long as Fountain was not in eruption.

(3) Jet cut both its interval and its duration roughly in half during Fountain eruptions.

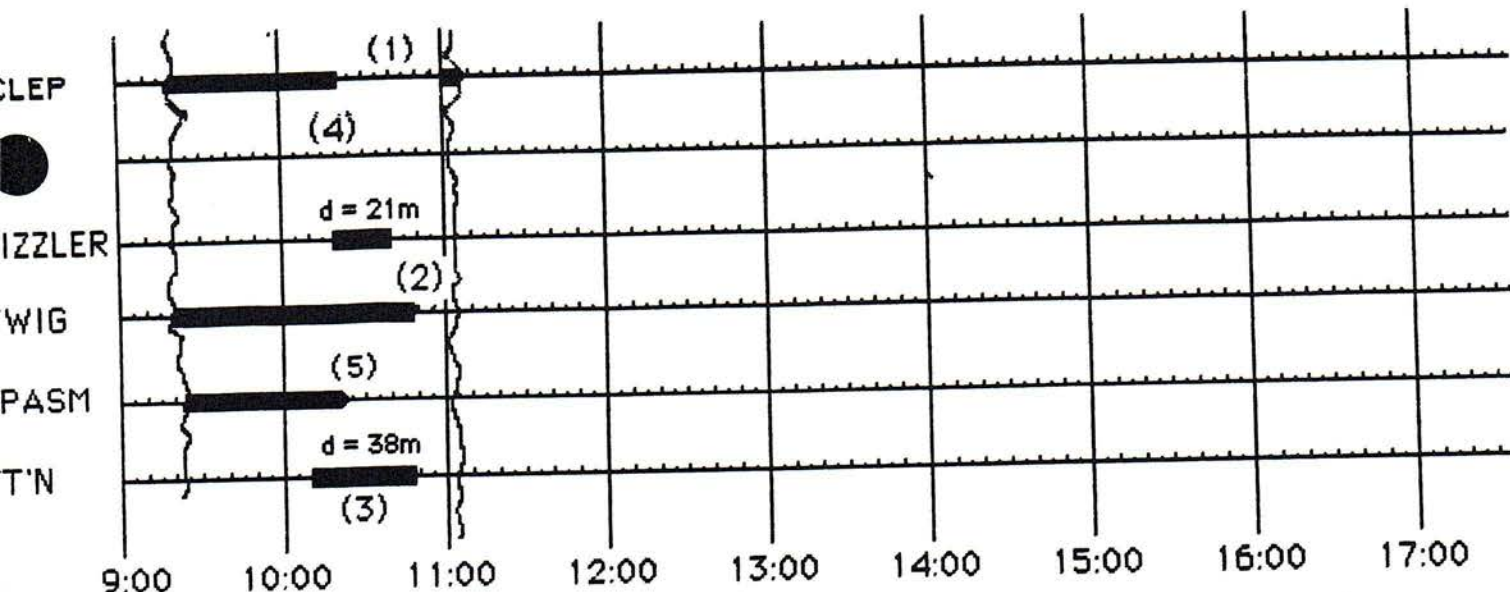
(4) Twig would sput several times before it would begin erupting.

1995 GEYSER OBSERVATIONS

JULY 6TH (SATURDAY)

17:35	Sawmill (IE)
17:36	Spasmodic (IE)
17:36	Old Tardy (IE)
18:01	Old Faithful (IE)
18:16	Daisy
19:15	Plume

AUGUST 27, 1994



- (1) CLEPSYDRA DIED 11m INTO FOUNTAIN'S ERUPTION AND STAYED COMPLETELY DEAD FOR 40m. AT ONE POINT AFTER FOUNTAIN STOPPED ERUPTING, THE ENTIRE AREA WAS QUIET. EVEN NEW BELLEFONTAINE SEEMED TO BE DEAD FOR A MINUTE OR TWO. FITFUL WAS THE NEAREST GEYSER TO BE IN ERUPTION. IT WAS ERIE !
- (2) HERE TWIG AND FOUNTAIN ENDED AT THE SAME TIME.
- (3) FOUNTAIN'S POOL WAS VERY HIGH - ABOUT 4-5 INCHES BELOW THE TOP OF THE CRATER. IT ERUPTED FROM THIS SAME LEVEL. AFTER THE ERUPTION ENDED, THE POOL DID NOT EMPTY AS USUAL. IT WAS QUITE VISIBLE FROM THE BOARDWALK ABOUT 18" BELOW THE TOP OF THE CRATER.
- (4) JET WAS DOING ITS USUAL ERUPTIONS DURING THIS TIME PERIOD, BUT I DID NOT RECORD THE TIMES.
- (5) SPASM'S STOP TIME WAS UNRECORDED.

AUGUST 27, 1994 RAW DATA

9:10 CLEPSYDRA (IE) TWIG (IE) SPASM (IE)
9:20 FROLIC erupted
10:02 FROLIC erupted (d = 52m)
10:10 FOUNTAIN erupted
10:19 SIZZLER erupted
10:21 CLEPSYDRA died completely
10:40 SIZZLER off
10:48 FOUNTAIN off
10:48 TWIG off
11:01 CLEPSYDRA resumed erupting

AUGUST 26, 1994 RAW DATA

11:06	Twig (IE)	13:20	Honeycomb erupted.
11:06	Spasm (IE)		It had 13 meter high wide bursts
11:06	Clepsydra (IE)		which lasted over 9m. It
11:06	Ft'n pool level at 10"		looked like a slower Fountain
11:06	Jelly pool was		eruption with 5-60s pauses
	flooded		between bursts.
11:12:51	Jet (60s)	13:29	Left the area to see
11:23:34	Jet (62s)		Great Fountain
11:23	Frolic erupted		
11:35:59	Jet (59s)		
11:45:55	Jet (65s)		
11:59	Sizzler erupted		
12:11	Clepsydra pounded		
	before Fountain erupted		
12:13	Twig off		
12:15	Sizzler off (d=16m)		
12:15:55	Jet (92s) weak start		
12:22:55	Jet (59s)		
12:24	Clepsydra continued		
	to pound in steam phase		
12:31:52	Jet (68s)		
12:40	Jet (?)		
12:40	Ft'n pool began to		
	surge		
12:41	Fountain erupted ***		
12:45:20	Jet (?)		
12:47:32	Jet (~30s)		
12:49:09	Jet (?)		
12:49	Spasm pool flooded		
	and off (d>1h 43m)		
12:52:09	Jet (31s)		
12:55:00	Jet (27s)		
12:57:46	Jet (27s)		
13:00:35	Jet (27s)		
13:02	Spasm bubbled up		
	through flooded pool		
13:03:18	Jet (24s)		
13:05	Clepsydra mostly		
	in steam phase		
13:06:09	Jet (?)		
13:08:38	Jet (26s)		
13:11:16	Jet (?)		
13:12	Fountain off (d=31m)		
13:14:51	Jet (29s)		

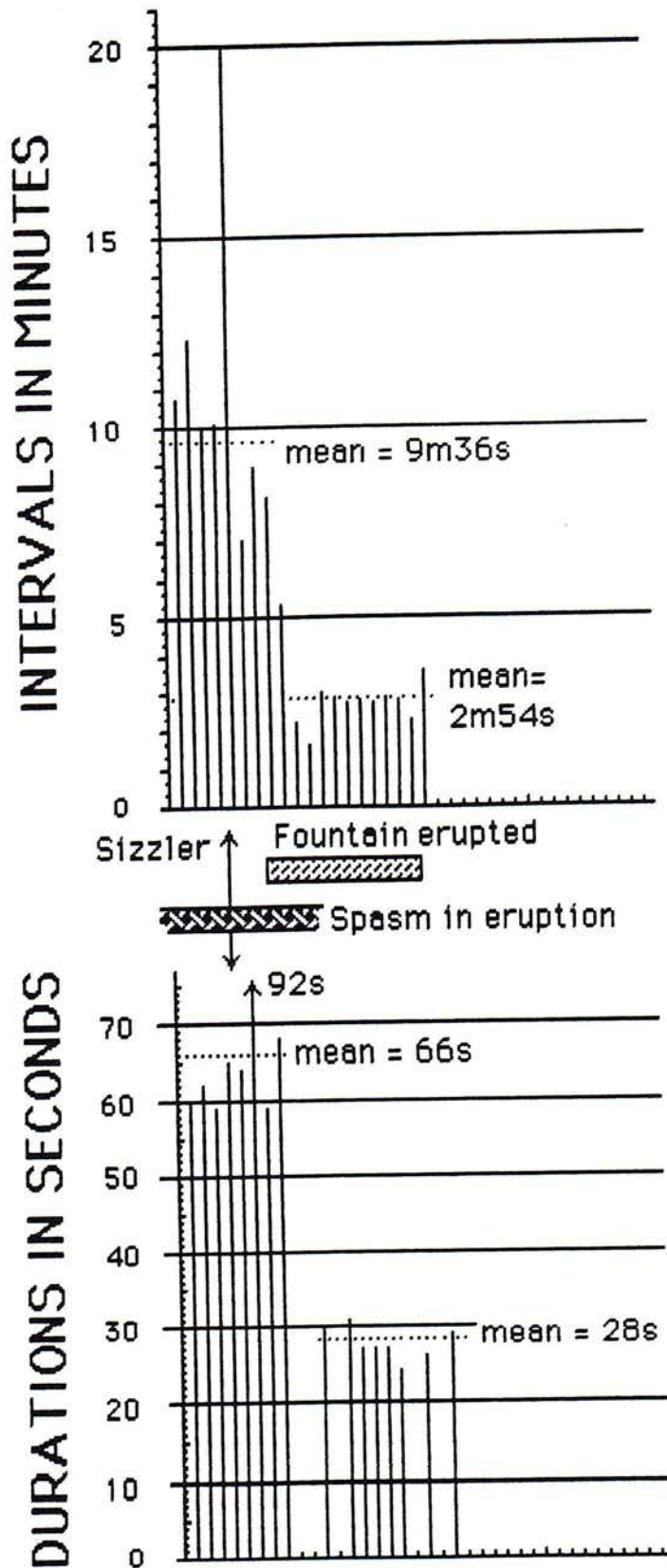
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JET GEYSER DATA LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK AUGUST 26, 1994

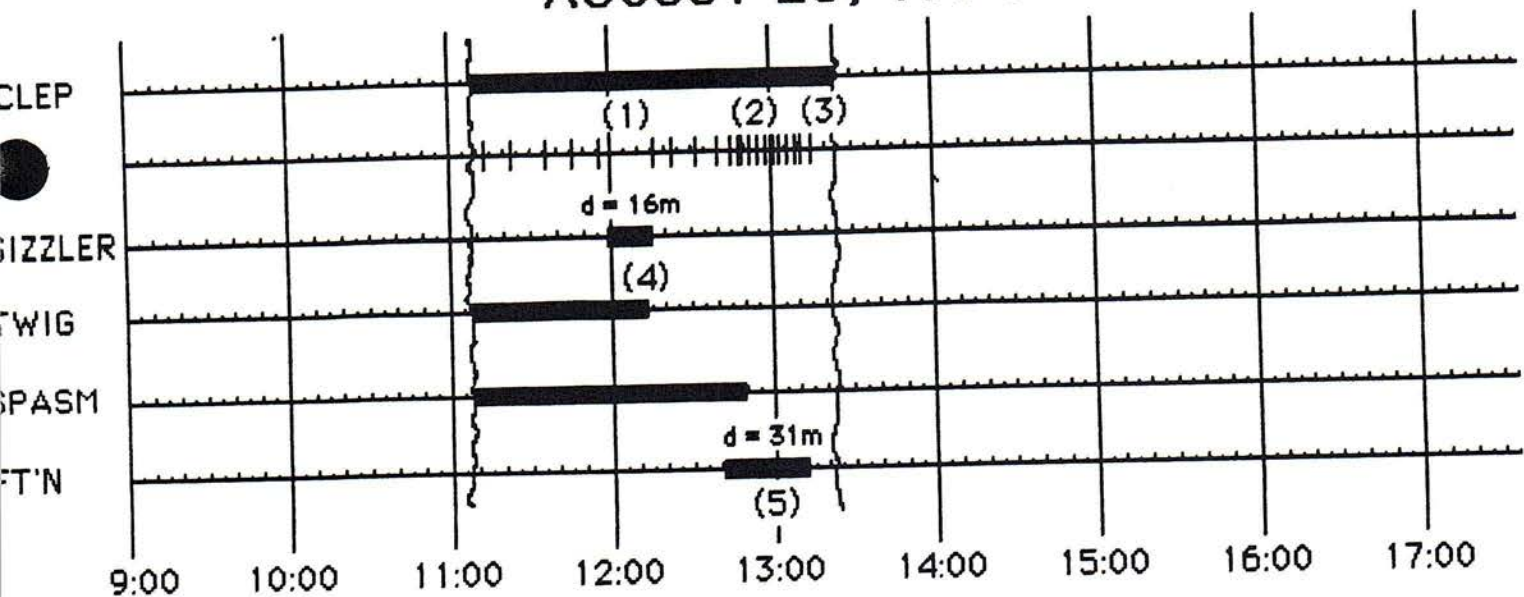
START TIME	END TIME	INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING
11:12:51	11:13:51			0:01:00		NO	NO
11:23:34	11:24:36	0:10:43		0:01:02		NO	NO
11:35:59	11:36:58	0:12:25		0:00:59		NO	NO
11:45:55	11:47:00	0:09:56		0:01:05		NO	NO
11:55:59	11:57:03	0:10:04		0:01:04		NO	NO
12:15:55	12:17:27	* 0:19:56		0:01:32		NO	YES
12:22:55	12:23:54	0:07:00		0:00:59		NO	NO
12:31:52	12:33:00	0:08:57		0:01:08		NO	NO
12:40:00		0:08:08	0:09:36	* #####	0:01:06	YES	NO
12:45:20		0:05:20		* #####		YES	NO
12:47:32	12:48:02	0:02:12		0:00:30		YES	NO
12:49:09		0:01:37		* #####		YES	NO
12:52:09	12:52:40	0:03:00		0:00:31		YES	NO
12:55:00	12:55:27	0:02:51		0:00:27		YES	NO
12:57:46	12:58:13	0:02:46		0:00:27		YES	NO
13:00:35	13:01:02	0:02:49		0:00:27		YES	NO
13:03:18	13:03:42	0:02:43		0:00:24		YES	NO
13:06:09		0:02:51		* #####		YES	NO
13:08:58	13:09:24	0:02:49		0:00:26		YES	NO
13:11:16		0:02:18		* #####		YES	NO
13:14:51	13:15:20	0:03:35	0:02:54	0:00:29	0:00:28	NO	NO
LEFT AREA							

BLANK INDICATES MISSED DATA
INDICATES IMPOSSIBLE CALCULATION
* DATA NOT INCLUDED IN MEAN CALCULATIONS

CONSECUTIVE JET GEYSER INTERVALS AND DURATIONS AUGUST 26, 1994



AUGUST 26, 1994



- (1) JET STOPS AS SIZZLER ERUPTS WITHOUT FOUNTAIN ERUPTING.
- (2) JET DECREASES ITS INTERVAL (AND ITS DURATION) AS FOUNTAIN ERUPTS.
- (3) JET STOPS AT THE END OF FOUNTAIN'S ERUPTION
- (4) TWIG SEEMED TO RESPOND TO SIZZLER'S ERUPTION. BOTH WERE VERY POWERFUL ERUPTIONS AND SEEMED TO EXPEND ENERGY TOGETHER.
- (5) FOUNTAIN'S POOL LEVEL REMAINED AT ABOUT 10" BELOW THE TOP OF THE CRATER DURING THIS ENTIRE OBSERVATION AND THE ERUPTION OCCURRED FROM THIS SAME DEPTH. THE 1-2 MINUTE SURGE IN THE POOL LEVEL WAS EVIDENT JUST BEFORE THE ERUPTION.

AUGUST 25, 1994 RAW DATA

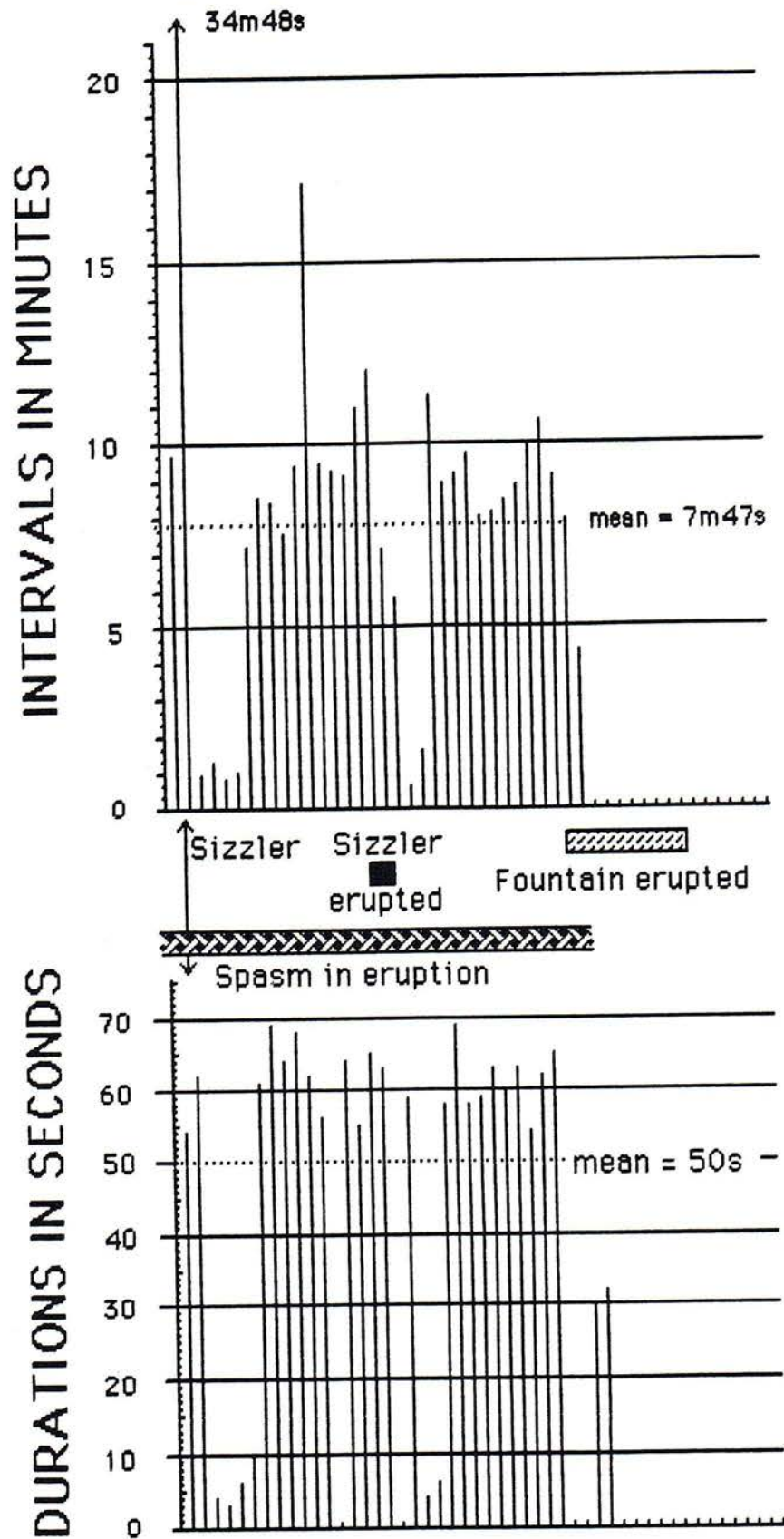
09:28	Fountain erupted (NS)from OFVC logbook *****	17:18	I first noticed Twig's Satellite spouting 18" from right edge (SE) of Twig's pool
15:07	Twig sputtered	17:23:10	Jet (65s)
15:07	Spasm (IE)	17:34:04	Jet (63s)
15:07	Clepsydra (IE)	17:38	Sizzler erupted (i=2h 18m)
15:07	Ft'n pool about 12" below top	17:39	Frolic erupted
15:07	Jelly pool was full	17:46	Jet (?) powerful with Sizzler *
15:07:42	Jet (54s)	17:53:10	Jet (59s) Sizzler still in steam phase at the time *
15:17:22	Jet (62s)	17:55	Sizzler off (d=17m)
15:19	Frolic erupted	17:58:59	Jet (sputtered)
15:20	Sizzler erupted	17:59:30	Jet (sputtered)
15:37	Sizzler off (d=17m)	18:01:16	Jet (58s)
15:48	Twig sputtered	18:12:37	Jet (69s)
15:50	Sub over the rim	18:17	Frolic erupted (i=38m)
15:52:10	Jet (sputtered)	18:18	Twig still pulsing
15:52:20	Twig sputtered	18:21:32	Jet (58s)
15:53:06	Jet (sputtered)	18:30:45	Jet (59s)
15:54:26	Jet (sputtered)	18:40:28	Jet (63s)
15:55:14	Jet (sputtered for 10s)	18:48:29	Jet (60s)
15:56:18	Jet (61s) weak eruption-no energy	18:56:36	Jet (63s)
16:02	Twig sputtered	19:05:06	Jet (54s)
16:03:31	Jet (69s) strong eruption	19:07	Frolic erupted (i=50m)
16:08	Twig sputtered	19:14:00	Jet (62s)
16:12:13	Jet (64s) good eruption	19:23:55	Jet (65s)
16:18	Twig sputtered	19:34:52	Jet (?)
16:20:13	Jet (68s) good eruption	19:41	Frolic erupted (i=34m)
16:23	Twig sputtered	19:43:37	Jet (?)
16:28:24	Jet (62s)	19:46:48	Fountain pool began to surge
16:29	Twig pool visible and sputtered	19:47	Sizzler erupted (i=2h 09m)
16:36	Twig sputtered	19:47:40	Fountain erupted ****
16:37:56	Jet (56s)	19:51:36	Jet (~30s)
16:45	Twig pool back up and sputtered	19:52	Spasm off (d>4h 45m)
16:52	Twig sputtered	19:55	Clepsydra steam vent pounded
16:55:08	Jet (?)	19:56:03	Jet (32s)
17:00	Ft'n pool still at 12"	20:00	Frolic erupted (i=19m)
17:02	Twig pool began to rise	20:05	Sizzler off (d=18m)
17:03	Twig erupted - pulsing mode like yesterday	20:26	Fountain off (d=38m) ****
17:04:41	Jet (64s)		
17:14:00	Jet (55s)		

JET GEYSER DATA
LOWER GEYSER BASIN
YELLOWSTONE NATIONAL PARK
AUGUST 25, 1994

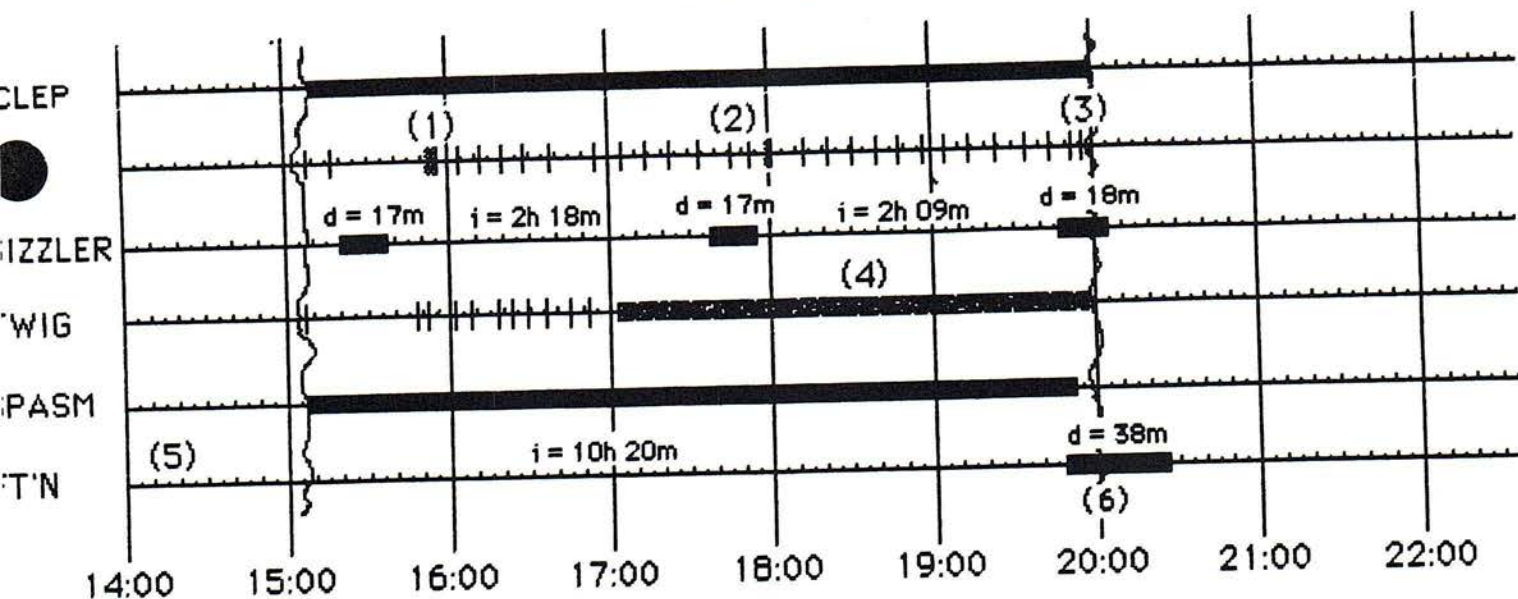
START TIME	END TIME	INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING
				0:00:54		NO	NO
15:07:42	15:08:36	*		0:01:02		NO	NO
15:17:22	15:18:24		0:09:40	0:00:04		NO	YES
15:52:10	15:52:14	*	0:34:48	0:00:03		NO	NO
15:53:06	15:53:09		0:00:56	0:00:06		NO	NO
15:54:26	15:54:32		0:01:20	0:00:10		NO	NO
15:55:14	15:55:24		0:00:48	0:01:01		NO	NO
15:56:18	15:57:19		0:01:04	0:01:09		NO	NO
16:03:31	16:04:40		0:07:13	0:01:04		NO	NO
16:12:13	16:13:17		0:08:42	0:01:08		NO	NO
16:20:43	16:21:51		0:08:30	0:01:02		NO	NO
16:28:24	16:29:26		0:07:41	0:00:56		NO	NO
16:37:56	16:38:52		0:09:32	#####		NO	NO
16:55:08			0:17:12	0:01:04		NO	NO
17:04:41	17:05:45		0:09:33	0:00:55		NO	NO
17:14:00	17:14:55		0:09:19	0:01:05		NO	NO
17:23:10	17:24:15		0:09:10	0:01:03		NO	NO
17:34:04	17:35:07		0:10:54	#####		NO	YES
17:46:00		**	0:11:56	0:00:59		NO	YES
17:53:10	17:54:09	**	0:07:10	0:00:04		NO	NO
17:58:59	17:59:03		0:05:49	0:00:06		NO	NO
17:59:38	17:59:44		0:00:39	0:00:58		NO	NO
18:01:16	18:02:14		0:01:38	0:01:09		NO	NO
18:12:37	18:13:46		0:11:21	0:00:58		NO	NO
18:21:32	18:22:30		0:08:55	0:00:59		NO	NO
18:30:45	18:31:44		0:09:13	0:01:03		NO	NO
18:40:28	18:41:31		0:09:43	0:01:00		NO	NO
18:48:29	18:49:29		0:08:01	0:01:03		NO	NO
18:56:36	18:57:39		0:08:07	0:00:54		NO	NO
19:05:06	19:06:00		0:08:30	0:01:02		NO	NO
19:14:00	19:15:02		0:08:54	0:01:05		NO	NO
19:23:55	19:25:00		0:09:55	#####		NO	NO
19:34:32			0:10:37	#####		NO	NO
19:43:39			0:09:07	0:00:30	0:00:50	YES	YES
19:51:36	19:52:06		0:07:57	0:00:32		YES	YES
19:56:03	19:56:35	*	0:04:27				
LEFT AREA							
** JET CONTINUED TO ERUPT WITH SIZZLER ERUPTING AND FOUNTAIN NOT ERUPTING. UNUSUAL EVENT!							

BLANK INDICATES MISSED DATA
INDICATES IMPOSSIBLE CALCULATION
* DATA NOT INCLUDED IN MEAN CALCULATIONS

CONSECUTIVE JET GEYSER INTERVALS AND DURATIONS AUGUST 25, 1994



AUGUST 25, 1994



- (1) JET HAD ERUPTED PRIOR TO SIZZLER'S ERUPTION, SHUT DOWN DURING SIZZLER'S ERUPTION AND THEN SEEMED TO HAVE TROUBLE STARTING UP AGAIN AFTER SIZZLER STOPPED. THE FIRST THREE ERUPTIONS CONSISTED OF ONE OR TWO WEAK SPLASHES. THE NEXT ERUPTION LASTED ONLY 10s AND THE NEXT LASTED FOR 61s, BUT WAS WEAKER THAN NORMAL. THE 6TH ERUPTION WAS A POWERFUL ONE AND THEREAFTER, JET GOT INTO ITS GROOVE AGAIN.
- (2) JET BROKE ITS PATTERN HERE AS IT ERUPTED TWICE DURING SIZZLER'S ERUPTION WITHOUT FOUNTAIN ERUPTING. THE FIRST ERUPTION WAS A POWERFUL ONE WITH SIZZLER IN FULL ERUPTION. THE SECOND ONE WAS A NORMAL ENERGY JET ERUPTION WITH SIZZLER IN ITS LAST DYING STEAM PHASE.
- (3) JET CONTINUED TO ERUPT AS SIZZLER ERUPTED SINCE FOUNTAIN WAS ALSO ERUPTING.
- (4) TWIG CONTINUED ITS "PULSING MODE" AS IT DID YESTERDAY. (SEE FOOTNOTES BELOW AUGUST 24, 1994 GRAPH)
- (5) FOUNTAIN HAD ERUPTED AT 09:28 (NS) ACCORDING TO OLD FAITHFUL VISITOR'S CENTER LOGBOOK.
- (6) FOUNTAIN'S POOL LEVEL REMAINED AT ABOUT 12" BELOW THE TOP OF THE CRATER FOR THE ENTIRE TIME OF OBSERVATION. IT WAS SURGING UP AND DOWN ABOUT 1-2 INCHES EVERY 10 MINUTES OR SO. ALMOST 2 MINUTES BEFORE THE ERUPTION, I FIRST NOTICED SMALL WAVES ON THE SURFACE OF THE POOL. THESE LED TO LARGER WAVES AND WATER EVENTUALLY FLOODED OUT THE BACK CHANNEL BEFORE THE SAME TWO VENTS NEAREST THE BOARDWALK BEGAN THE ERUPTION.

AUGUST 24, 1994 RAW DATA

16:55	Spasm (IE)	19:38:55	Jet (25s)
16:55	Jelly pool full	19:39	Sizzler erupted
16:55	Ft'n pool was 10" below top	19:41:37	Jet (20s)
		19:44:00	Jet (28s)
		19:46:40	Jet (?)
16:55	Clepsydra (IE)	19:49:12	Jet (?)
		19:50	Fountain off (d= 34m) ***
16:57:22	Jet (60s)	19:51:44	Jet (?)
17:01	Frolic	19:55	Ft'n pool out of sight from boardwalk
17:06:09	Jet (53s)	19:58	Sizzler off (d=19m)
17:14:14	Jet (61s)		
17:15:50	Twig erupted—quite powerful start, then died for about 10s, then bursts again. Pulsing water in crater—burst, down, pulsing pool, burst, down ..		
17:24:51	Jet (60s)		
17:30	Frolic		
17:32:56	Jet (55s)		
17:42:00	Jet (66s)		
17:45	Sizzler erupted		
17:59	Sizzler off (d=14m)		
18:01:07	Jet (54s)		
18:05:46	Jet (54s)		
18:12:15	Jet (58s)		
18:20:34	Jet (63s)		
18:28:22	Jet (63s)		
18:35:58	Jet (57s)		
18:38	Twig drained and off (d=1h 22m)		
18:43	Frolic		
18:44:22	Jet (63s)		
18:53:17	Jet (70s)		
19:02:48	Jet (61s)		
19:11:06	Jet (58s)		
19:16	Fountain erupted **		
19:17:21	Jet (38s)		
19:19	Spasm still going		
19:21:11	Jet (31s)		
19:21	Spasm flooded and off (d>2h 26m)		
19:23	Clepsydra pounded		
19:24:31	Jet (30s)		
19:27:35	Jet (27s)		
19:30:23	Jet (30s)		
19:33:12	Jet (25s)		
19:34:58	Jet (one burst)		
19:36:09	Jet (23s)		

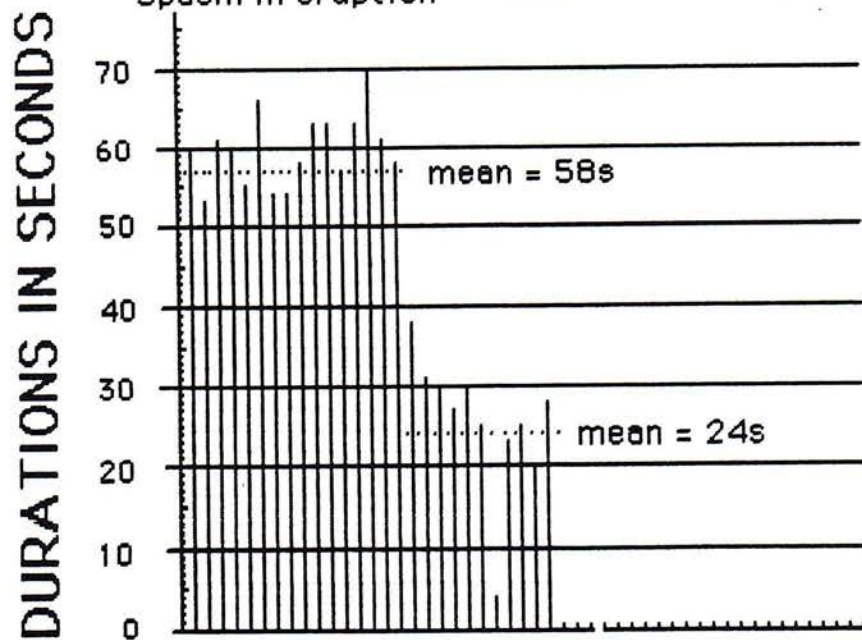
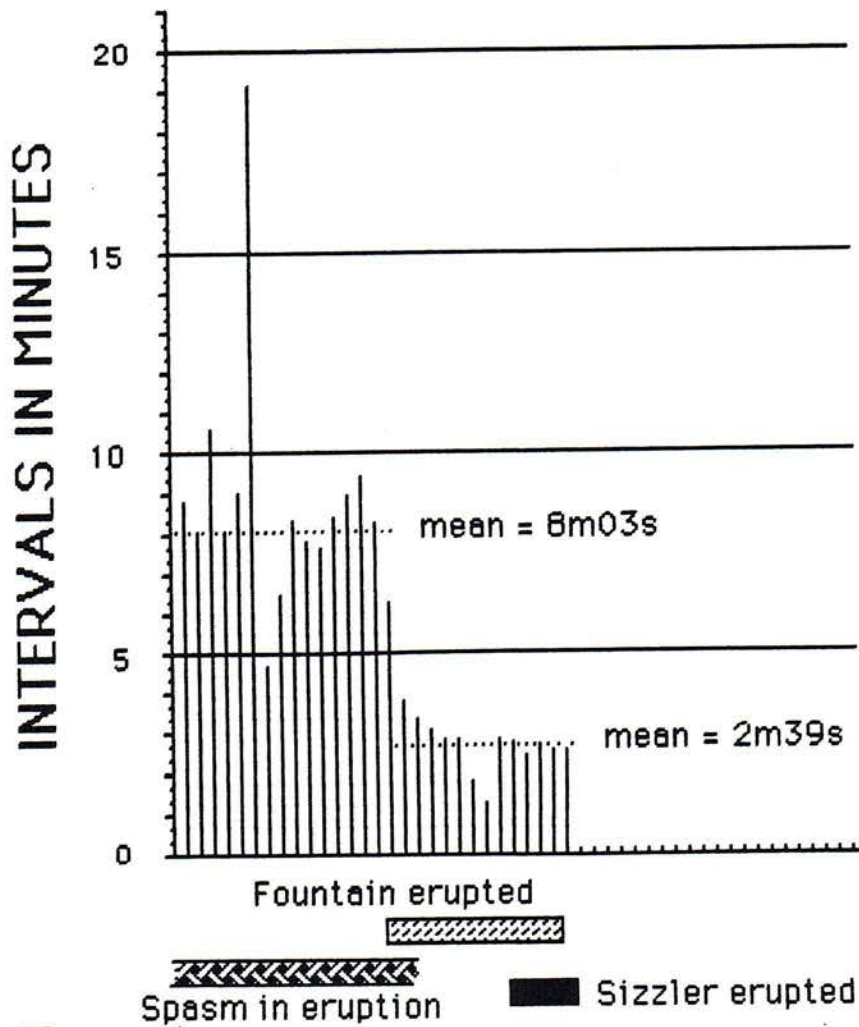
1

JET GEYSER DATA LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK AUGUST 24, 1994

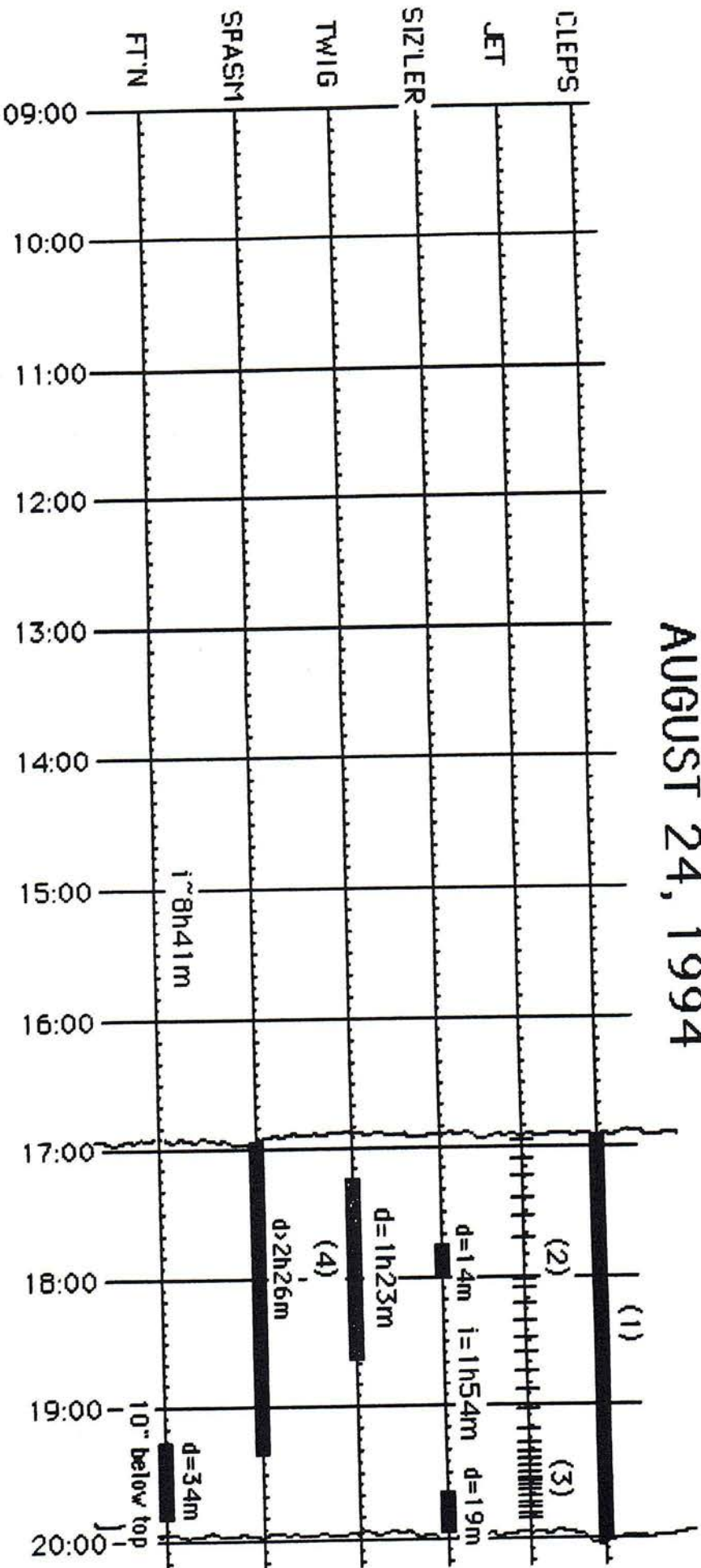
START TIME	END TIME		INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING
16:57:22	16:58:22	*			0:01:00		NO	NO
17:06:09	17:07:02		0:08:47		0:00:53		NO	NO
17:14:14	17:15:15		0:08:05		0:01:01		NO	NO
17:24:51	17:25:51		0:10:37		0:01:00		NO	NO
17:32:56	17:33:51		0:08:05		0:00:55		NO	NO
17:42:00	17:43:06		0:09:04		0:01:06		NO	NO
18:01:07	18:02:01	*	0:19:07		0:00:54		NO	YES
18:05:46	18:06:40		0:04:39		0:00:54		NO	NO
18:12:15	18:13:13		0:06:29		0:00:58		NO	NO
18:20:34	18:21:37		0:08:19		0:01:03		NO	NO
18:28:22	18:29:25		0:07:48		0:01:03		NO	NO
18:35:58	18:36:55		0:07:36		0:00:57		NO	NO
18:44:22	18:45:25		0:08:24		0:01:03		NO	NO
18:53:17	18:54:27		0:08:55		0:01:10		NO	NO
19:02:48	19:03:49		0:09:31		0:01:01		NO	NO
19:11:06	19:12:04		0:08:18		0:00:58		NO	NO
19:17:21	19:17:59		0:06:15	0:08:03	0:00:38	0:00:58	YES	NO
19:21:11	19:21:42		0:03:50		0:00:31		YES	NO
19:24:31	19:25:01		0:03:20		0:00:30		YES	NO
19:27:35	19:28:02		0:03:04		0:00:27		YES	NO
19:30:23	19:30:53		0:02:48		0:00:30		YES	NO
19:33:12	19:33:37		0:02:49		0:00:25		YES	NO
19:34:58	19:35:03		0:01:46		0:00:05		YES	NO
19:36:09	19:36:32		0:01:11		0:00:23		YES	NO
19:38:55	19:39:20		0:02:46		0:00:25		YES	NO
19:41:37	19:41:57		0:02:42		0:00:20		YES	YES
19:44:00	19:44:28		0:02:23		0:00:28		YES	YES
19:46:40			0:02:40		* #####		YES	YES
19:49:12			0:02:32		* #####		YES	YES
19:51:44			0:02:32	0:02:39	* #####	0:00:24	NO	YES
LEFT AREA							NO	NO

BLANK INDICATES MISSED DATA
INDICATES IMPOSSIBLE CALCULATION
* DATA NOT INCLUDED IN MEAN CALCULATIONS

CONSECUTIVE JET GEYSER INTERVALS AND DURATIONS AUGUST 24, 1994



AUGUST 24, 1994



- (1) no observed Clepsydra pauses
- (2) Jet stopped its series of eruptions as Sizzler erupted without Fountain, but resumed its series 2m after Sizzler quit.
- (3) Jet began its quick series shortly after Fountain erupted.
- (4) During this very short eruption of Twig Geyser, Twig erupted in a "pulsing" mode that I had never seen before. Its pool would fill, then pulse up and down about an inch until a small series of bursts would break the surface. Then the pool would drop a few inches and the pulsing would begin again until a small series of bursts would break the surface. The height of the bursts was about normal or a bit less than normal. But the number of bursts in any given time span was very low. Each cycle took about 30s.

AUGUST 19, 1994 RAW DATA

10:02	Fountain erupted ** (from Lynn Stephens)	13:34	Ft'n pool ~ 15" below top-waves	16:50	Kaleidescope-big burst
10:23	Twig (IE)		evident in pool - Jelly	16:53:30	Jet (?) w/Sizzler
10:23	Clepsydra (IE)		pool 10" below top	16:55	Kaleidescope
10:24	Jet (?)	13:42	Water evident in Spasm	16:56	Sizzler off (d=14m)
10:26	Spasm flooded & off	13:48	Ft'n pool up an inch	16:58:48	Jet (62s)
10:26:45	Jet (28s)	13:58	Jet (~90s)	17:01	Kaleidescope
10:29:31	Jet (32s)	14:05	Jet (~60s)	17:05:56	Jet (60s)
10:32:03	Jet (31s)	14:17:15	Jet (67s)	17:13	Jet (?)
10:34:40	Jet (31s)	14:21	Sizzler erupted	17:21:11	Jet (55s)
10:37:13	Jet (29s)	14:34	Sizzler off (d=13m)	17:29:23	Jet (68s)
10:39	FOUNTAIN off (d= 37m)**	14:40	Ft'n pool up to 12"	17:37:25	Jet (74s)
10:39:52	Jet (33s)	14:40	Jelly pool up to 6"	17:45	Frolic erupted
10:43	Sub steamed	14:40	Spasm pool empty	17:47:22	Jet (68s)
10:48	Bear Claw	14:45	Spasm pool coming up fast	17:56:46	Jet (63s)
10:50	Twig drained and off	14:49	Spasm pool drains	18:01	Ft'n pool began surge
10:50	Ft'n drained out of sight	14:51:04	Jet (a single burst)	18:03	Fountain erupted **
10:50	Spasm almost drained	14:55:54	Jet (82s) good eruption	18:04	Jet(?)
10:50	Jelly pool 1 1/2" below top	14:57	Spasm erupted from a low pool with cloudy water	18:08	Jet (?)
10:50	Morning pool low, but visible from boardwalk	14:59	Spasm large burst 2 meters above pool level	18:11	Jet (?)
11:16	Morning pool dropped almost out of sight	15:03:18	Jet (58s) large 4-5 meter burst from main vent	18:14	Jet (?)
11:36	Sizzler erupted	15:08	Spasm water cleared up	18:17	Jet (?)
11:49	Sizzler off (d=13m)	15:09	Spasm pool began overflow	18:20	Jet (?)
11:49	Ft'n pool visible from boardwalk	15:10:24	Jet (59s)	18:23	Jet (?)
12:10	Twig sputtered for 1m	15:11	Frolic erupted	18:24	Jet (?)
12:19	Deep Blue erupted with 5 large, wide bursts 15-17 meters high.	15:12	Ft'n pool holding at 12"	18:25	Jet (?)
12:19	Firehose dropped in height	15:18:29	Jet (70s)	18:26	Jet (?)
12:57	Deep Blue	15:26:15	Jet (61s)	18:31	Jet (?)
13:00	Ft'n pool up to ~18" below top - Spasm remained empty. Jelly pool was 12" below top. Small waves evident in Ft'n pool	15:34:02	Jet (63s)	18:33	Jet (?)
13:23	Twig tried to start for 20s.	15:41:48	Jet (68s)	18:36	Jet (?)
13:25	Twig sputtered	15:45	Sub (single burst)	18:39	Jet (?)
13:27	Clepsydra weakened - Morning's pool filled to ~12" from top	15:46	Deep Blue erupted	18:41	Jet (?)
		15:49:23	Jet (55s)	18:41	Ft'n off (d=38m)**
		15:56:30	Jet (67s)	18:49	Sizzler off (d=16m)
		15:59	Sub over rim	18:52	Ft'n pool is empty
		16:01	Jelly pool is full	18:56:53	Jet (54s)
		16:01	Morning pool was boiling	19:20	Sub over rim
		16:04:09	Jet (62s)	19:29	Sub steamed
		16:07	Ft'n pool up to 10-11"	19:38	Sub over rim
		16:12:56	Jet (62s)	19:40	Left the area
		16:21:18	Jet (66s)		
		16:28:37	Jet (?)		
		16:36:01	Jet (69s)		
		16:42	Sizzler erupted (i=2h 21m)		
		16:46	Spasm off (d=1h 49m)		

**JET GEYSER DATA
LOWER GEYSER BASIN
YELLOWSTONE NATIONAL PARK
AUGUST 19, 1994**

START TIME	END TIME	INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING	
18:28:00		0:03:00		*	#####	YES	NO	
18:31:00		0:03:00		*	#####	YES	NO	
18:33:00		0:02:00		*	#####	YES	NO	
18:36:00		0:03:00		*	#####	YES	YES	
18:39:00		0:03:00		*	#####	YES	YES	
18:56:53	18:57:47	* 0:17:53	0:02:42		0:00:54	0:00:54	NO	NO
LEFT AREA								
** JET WAS NOT ERUPTING DURING THIS 3 1/4 HOUR PERIOD.								
*** THIS IS THE ONLY TIME I HAVE EVER SEEN JET ERUPT WHEN								
SIZZLER WAS ERUPTING WITHOUT FOUNTAIN ERUPTING.								

BLANK INDICATES MISSED DATA
INDICATES IMPOSSIBLE CALCULATION
* DATA NOT INCLUDED IN MEAN CALCULATIONS

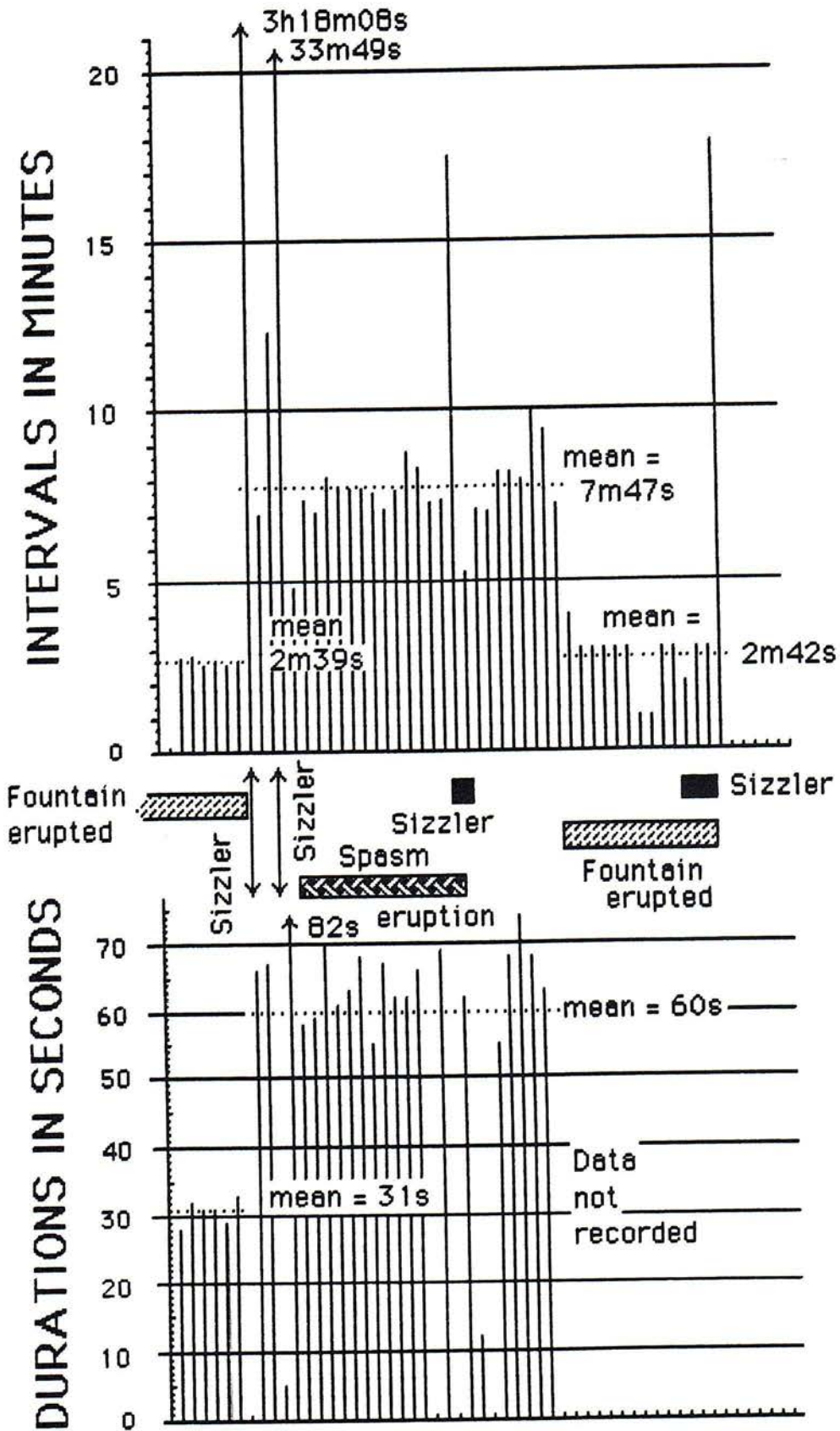
1

JET GEYSER DATA LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK AUGUST 19, 1994

START TIME	END TIME	INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING
10:24:00		*		* #####		YES	NO
10:26:45	10:27:13	0:02:45		0:00:28		YES	NO
10:29:31	10:30:03	0:02:46		0:00:32		YES	NO
10:32:03	10:32:34	0:02:32		0:00:31		YES	NO
10:34:40	10:35:11	0:02:37		0:00:31		YES	NO
10:37:13	10:37:42	0:02:33		0:00:29		YES	NO
10:39:52	10:40:25	0:02:39	0:02:39	0:00:33	0:00:31	NO	NO
13:58:00		** 3:18:08		* #####		NO	YES
14:05:00	14:06:06	0:07:00		0:01:06		NO	NO
14:17:15	14:18:22	0:12:15		0:01:07		NO	NO
14:51:04	14:51:09	* 0:33:49		0:00:05		NO	YES
14:55:54	14:57:16	0:04:50		0:01:22		NO	NO
15:03:18	15:04:16	0:07:24		0:00:58		NO	NO
15:10:24	15:11:23	0:07:06		0:00:59		NO	NO
15:18:29	15:19:39	0:08:05		0:01:10		NO	NO
15:26:15	15:27:16	0:07:46		0:01:01		NO	NO
15:34:02	15:35:05	0:07:47		0:01:03		NO	NO
15:41:48	15:42:56	0:07:46		0:01:08		NO	NO
15:49:23	15:50:18	0:07:35		0:00:55		NO	NO
15:56:30	15:57:37	0:07:07		0:01:07		NO	NO
16:04:09	16:05:11	0:07:39		0:01:02		NO	NO
16:12:56	16:13:58	0:08:47		0:01:02		NO	NO
16:21:18	16:22:24	0:08:22		0:01:06		NO	NO
16:28:37		0:07:19		* #####		NO	NO
16:36:01	16:37:10	0:07:24		0:01:09		NO	NO
16:53:30		*** 0:17:29		* #####		NO	YES
16:58:48	16:59:50	0:05:18		0:01:02		NO	YES
17:05:56	17:06:08	0:07:08		0:00:12		NO	NO
17:13:00		0:07:04		* #####		NO	NO
17:21:11	17:22:06	0:08:11		0:00:55		NO	NO
17:29:23	17:30:31	0:08:12		0:01:08		NO	NO
17:37:25	17:38:39	0:08:02		0:01:14		NO	NO
17:47:22	17:48:30	0:09:57		0:01:08		NO	NO
17:56:46	17:57:49	0:09:24		0:01:03		NO	NO
18:04:00		0:07:14	0:07:47	* #####	0:01:00	YES	NO
18:08:00		0:04:00		* #####		YES	NO
18:11:00		0:03:00		* #####		YES	NO
18:14:00		0:03:00		* #####		YES	NO
18:17:00		0:03:00		* #####		YES	NO
18:20:00		0:03:00		* #####		YES	NO
18:23:00		0:03:00		* #####		YES	NO
18:24:00		0:01:00		* #####		YES	NO
18:25:00		0:01:00		* #####		YES	NO

BLANK INDICATES MISSED DATA
INDICATES IMPOSSIBLE CALCULATION
* DATA NOT INCLUDED IN MEAN CALCULATIONS

CONSECUTIVE JET GEYSER INTERVALS AND DURATIONS AUGUST 19, 1994



(5) Twig tried to fill its' pool twice, but never did erupt and stayed off the rest of the observed time.

(6) Fountain was in eruption when I arrived, so the pool depth was not recorded. I got the start time from someone who was there.

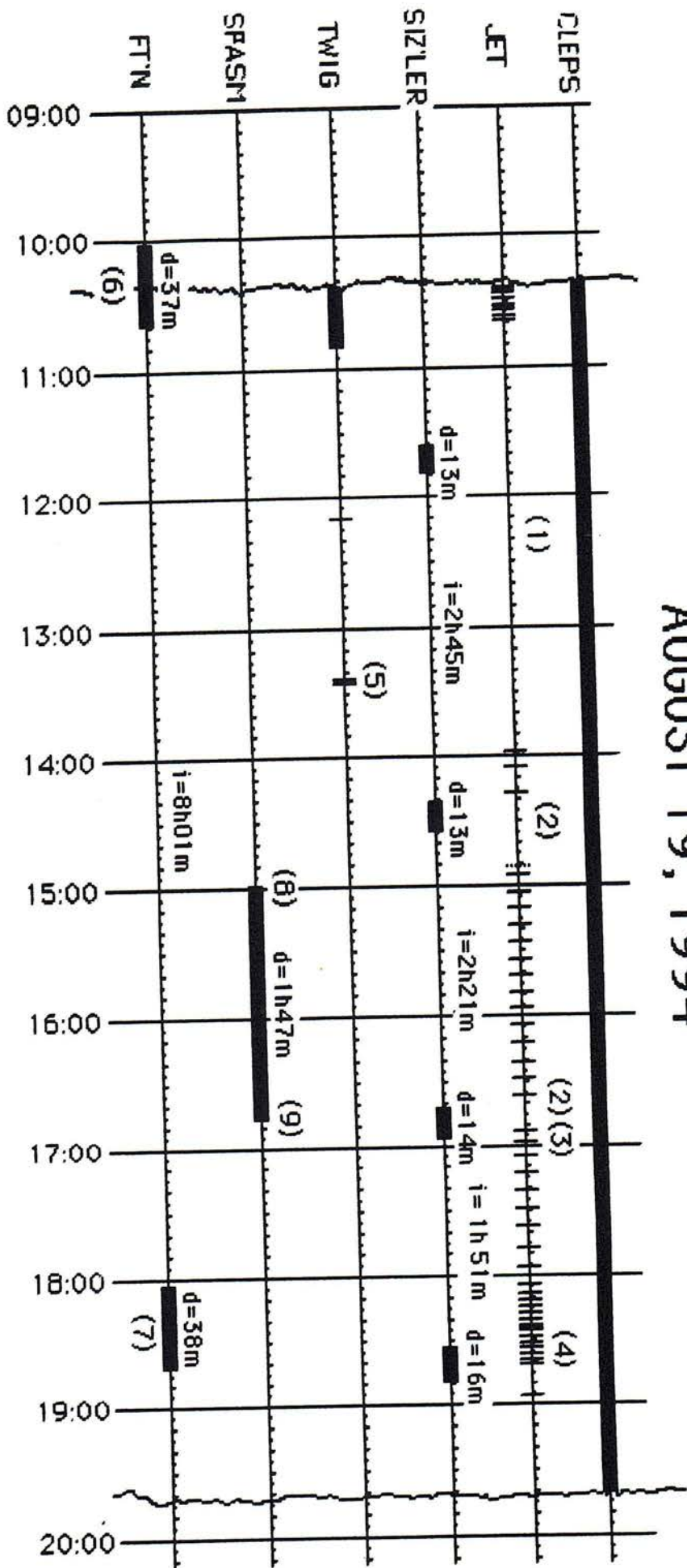
(7) I estimated Fountain's pool level to be 10-11 inches below the top of the crater prior to the eruption. During the 8 hour interval, Fountain's pool level looked like this:

TIME AFTER AM ERUPTION	TIME BEFORE PM ERUPTION	POOL LEVEL BELOW TOP OF
10m	7h50m	out of sight from boardwalk
1h45m	6h15m	barely visible from boardwalk
3h30m	4h30m	estimated 15" below top
4h40m	3h20m	estimated 12" below top
6h	2h	estimated 10-11" below top
8h	0m	estimated 10-11" below top

(8) Spasm began its eruption with cloudy, murky water for the first 10m.

(9) Spasm drained 1h17m before Fountain's eruption and did not erupt again. This was the first time that I had observed Fountain begin an eruption without Spasm in eruption.

AUGUST 19, 1994



(1) Jet was off for 3h 18m of Fountain's 8h 01m interval. Also, Jet began erupting again 4h 05m before Fountain's second eruption. (Not a real good indicator for Fountain's eruption)

(2) Note here that Jet stops erupting when Sizzler erupts without Fountain erupting.

(3) Here Jet breaks the pattern of not erupting when Sizzler is erupting without Fountain. At 16:53:30 Jet erupts near the end of Sizzler's eruption.

(4) Here Jet continues to erupt during Sizzler's eruption because Fountain is also in eruption.

JULY 12, 1994 RAW DATA

14:45	Sizzler (IE)	20:07	Jet (?)
14:45	Twig (IE)	20:09	Jet (?)
14:45	Spasm was dry	20:10	Jet (?)
14:45	Ft'n pool out of sight	20:13	Jet (?)
14:49	Ft'n pool just visible	20:14	Jet (?)
	from boardwalk	20:15	Jet (?)
14:51	Sizzler off (d>9m)	20:18	Jet (?)
15:36	Spasm erupted	20:18	Fountain off (d=35m)
about this time I observed three		20:21	Jet (?)
tremendous explosive bursts from		20:34	Jet (?)
the Kaleidoscope area spaced about		20:34	Twig off (d=1h 34m)
5m apart. Possibly Drain Geyser			
according to Rocco Paperiello @			
Great Fountain.			

17:50 Great Fountain
superburst!

18:26	Jet (IE)
18:26	Twig tried to erupt
18:26	Clepsydra (IE)
18:26	Spasm (IE)
18:26	Ft'n pool was at 12"
	from top - small waves
	coming out back channel
18:33	Jet (68s)
18:49	Jet (60s)
18:56	Jet (64s)
19:00	Twig erupted
19:03	Jet (63s)
19:11	Jet (67s)
19:20	Jet (62s)
19:28	Jet (56s) good
	eruption
19:32	Sizzler erupted -
	going up 1.5 meter (5')
	in powerful bursts
19:43	Fountain erupted ***
19:50	Fountain large burst -
	estimated at 30-35
	meters (80-100')
19:52	Jet (?)
19:52	Morning's Thief (or West
	Satellite) boiled up 1 meter
	(2-3') high while Fountain erupted
19:55	Jet (?)
19:58	Jet (?)
20:01	Jet (?)
20:04	Jet (?)
20:06	Jet (?)

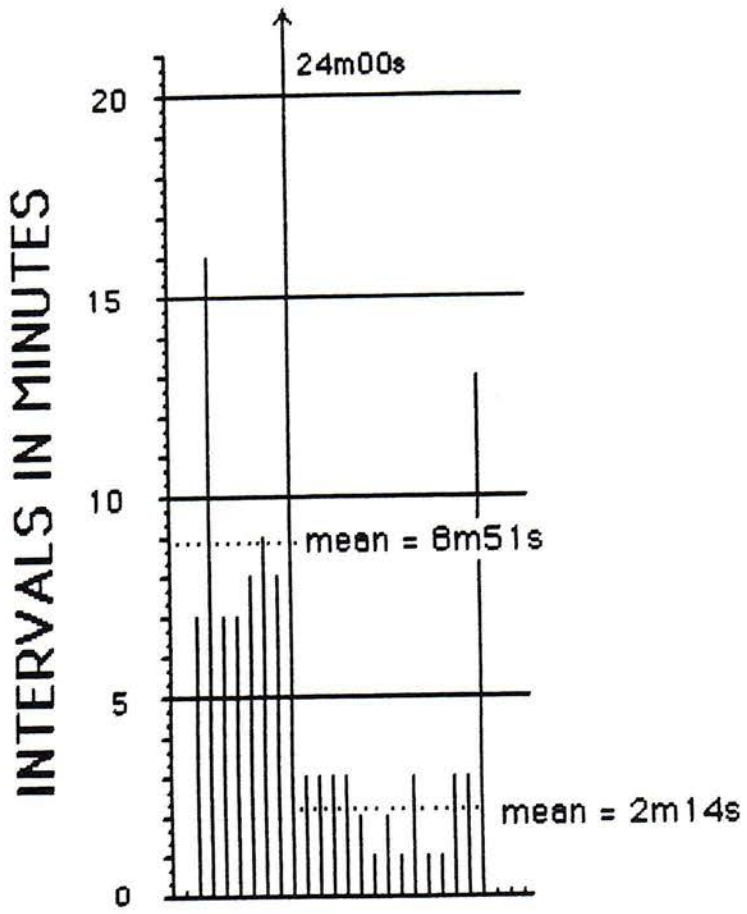
1

JET GEYSER DATA LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK JULY 12, 1994

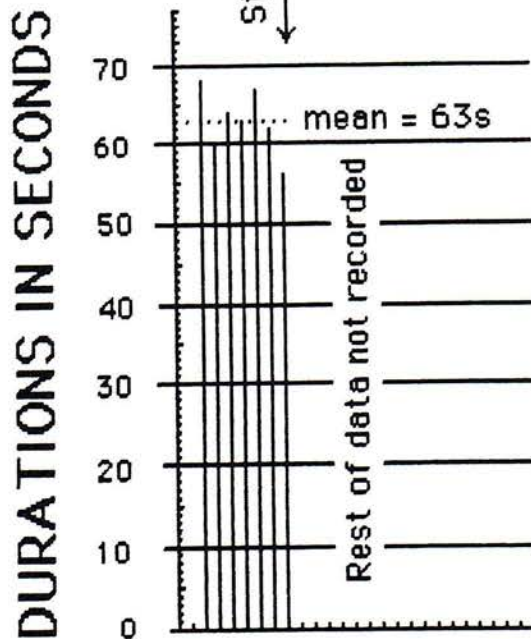
START TIME	END TIME	INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING
18:26:00		*		*	#####	NO	NO
18:33:00	18:34:08	0:07:00		0:01:08		NO	NO
18:49:00	18:50:00	0:16:00		0:01:00		NO	NO
18:56:00	18:57:04	0:07:00		0:01:04		NO	NO
19:03:00	19:04:03	0:07:00		0:01:03		NO	NO
19:11:00	19:12:07	0:08:00		0:01:07		NO	NO
19:20:00	19:21:02	0:09:00		0:01:02		NO	NO
19:28:00	19:28:56	0:08:00		0:00:56		NO	NO
19:52:00		* 0:24:00	0:08:51	* #####	0:01:03	YES	YES
19:55:00		0:03:00		* #####		YES	NO
19:58:00		0:03:00		* #####		YES	NO
20:01:00		0:03:00		* #####		YES	NO
20:04:00		0:03:00		* #####		YES	NO
20:06:00		0:02:00		* #####		YES	NO
20:07:00		0:01:00		* #####		YES	NO
20:09:00		0:02:00		* #####		YES	NO
20:10:00		0:01:00		* #####		YES	NO
20:13:00		0:03:00		* #####		YES	NO
20:14:00		0:01:00		* #####		YES	NO
20:15:00		0:01:00		* #####		YES	NO
20:18:00		0:03:00		* #####		YES	NO
20:21:00		0:03:00	0:02:14	* #####	#####	NO	NO
20:34:00		* 0:13:00		* #####		NO	NO
LEFT AREA							

BLANK INDICATES MISSED DATA
INDICATES IMPOSSIBLE CALCULATION
* DATA NOT INCLUDED IN MEAN CALCULATIONS

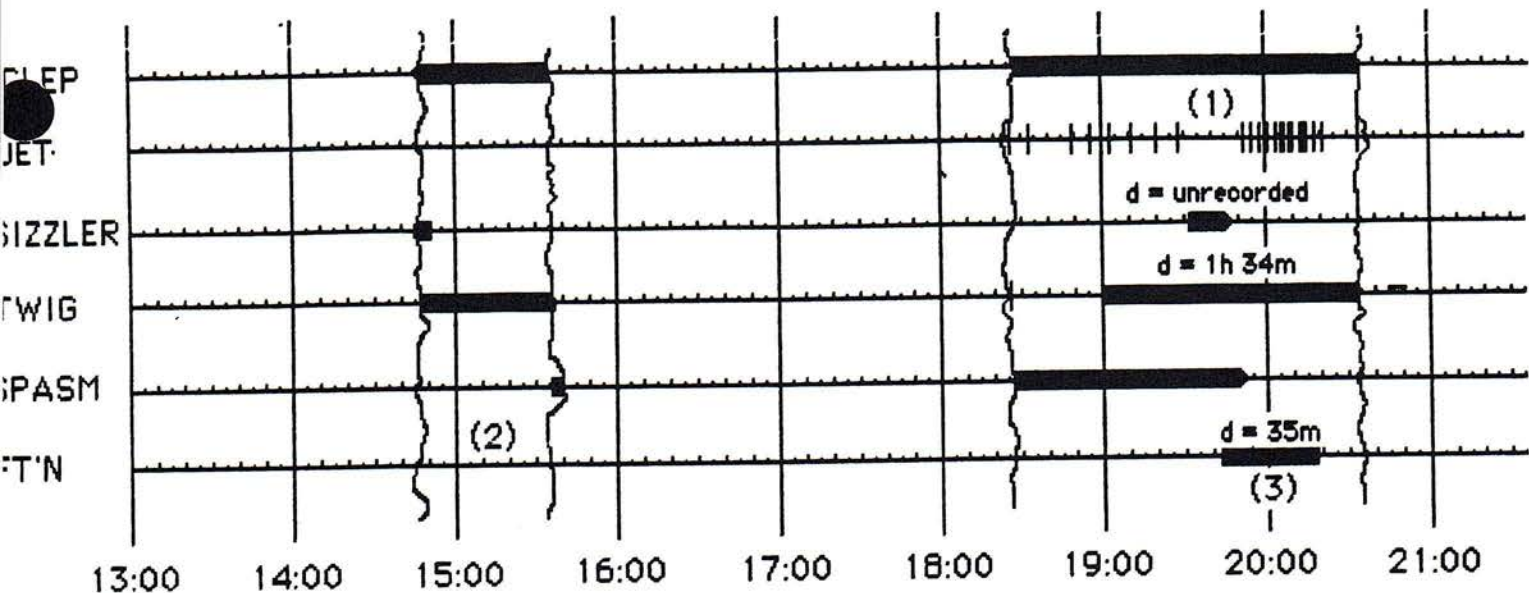
CONSECUTIVE JET GEYSER INTERVALS AND DURATIONS JULY 12, 1994



Spasm eruption
 Fountain eruption



JULY 12, 1994



(1) HERE AGAIN, JET STOPPED ERUPTING WHEN SIZZLER ERUPTED WITHOUT FOUNTAIN. BUT NOTE ALSO THAT AS SOON AS FOUNTAIN ERUPTED, JET STARTED ERUPTING WITH SIZZLER.

(2) FOUNTAIN'S POOL WAS JUST BARELY VISIBLE FROM THE BOARDWALK - ABOUT 18 INCHES BELOW TOP OF CRATER.

(3) FOUNTAIN ERUPTED FROM A LOW POOL ABOUT 12 TO 14 INCHES BELOW THE TOP OF THE CRATER. 7 MINUTES INTO THIS ERUPTION, THERE WAS A SUPERBURST THAT WENT UP AN ESTIMATED 80 TO 100 FEET HIGH. THERE FOLLOWED THREE OTHER LARGE BURSTS DURING THE COURSE OF THE ERUPTION THAT WERE IN THE 60 TO 75 FOOT HIGH CATEGORY. ALL IN ALL, A SPECTACULAR ERUPTION. AND THIS WAS LESS THAN 2 HOURS AFTER GREAT FOUNTAIN HAD A SPECTACULAR SUPERBURST.

JULY 11, 1994 RAW DATA

12:52	Spasm (IE)	16:27	Jet (32s)
12:52	Ft'n pool was low - about 12-14" below rim	16:28	Fountain off (d=33m)
12:58	Jet (long, but not powerful)	16:30	Jet (20s)
13:05	Jet	16:35	Sizzler off (d=18m)
13:05	Twig started to fill, then disappeared	16:45	Twig off (d=2h 20m)
13:13	Jet (short)	17:02	Jet (65s)
13:20	Jet (60s)*	17:14	Jet (57s)
13:32	Jet (60s)	17:20	Left the area to watch Giantess
13:34	Twig tried again, then disappeared		
13:40	Jet (60s)		
13:40	Twig tried again		
13:48	Jet (60s)		
13:52	Twig tried again		
13:56	Jet (~45s)		
13:59	Twig tried again		
14:05	Jet (63s)		
14:07	Twig tried harder - but without success		
14:13	Jet (57s)		
14:19	Twig tried again		
14:19	Sizzler erupted		
14:25	Twig erupted finally		
14:33	Sizzler off (d=14m)		
14:35	Jet (60s)		
14:39	Jet (63s)		
14:46	Jet (59s)		
14:53	Jet (59s)		
15:00	Jet (60s)		
15:09	Jet (60s)		
15:18	Jet (63s)		
15:26	Jet (61s)		
15:35	Jet (66s)		
15:44	Jet (62s)		
15:54	Jet (?)		
15:55	Fountain erupted ***		
15:59	Jet (33s)		
16:03	Jet (35s)		
16:06	Jet (30s)		
16:09	Jet (40s)		
16:11	Jet (30s)		
16:14	Jet (30s)		
16:17	Jet (21s)		
16:17	Sizzler erupted (i- 1h 58m)		
16:19	Jet (17s)		
16:22	Jet (?)		
16:24	Jet (31s)		

* Jet's durations were timed with a stopwatch and
recorded in parentheses

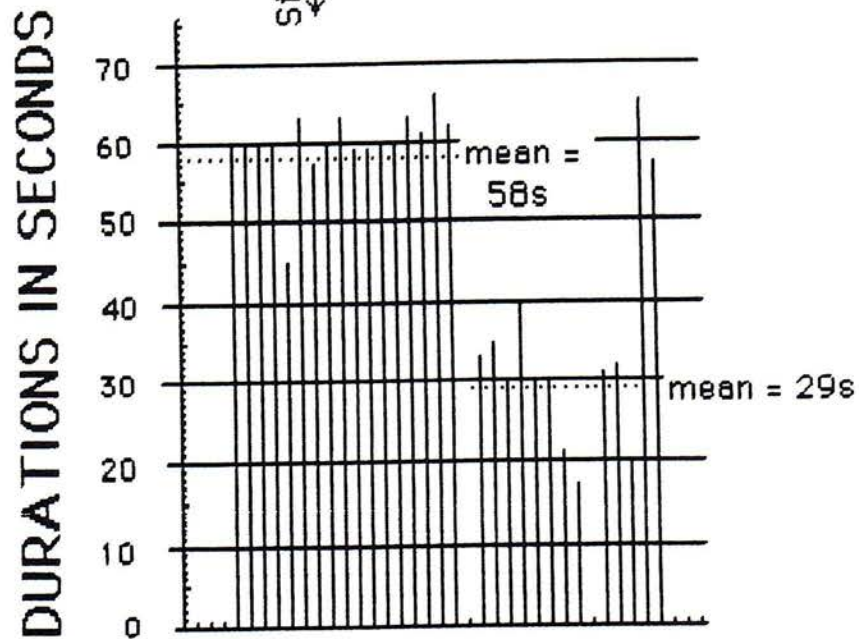
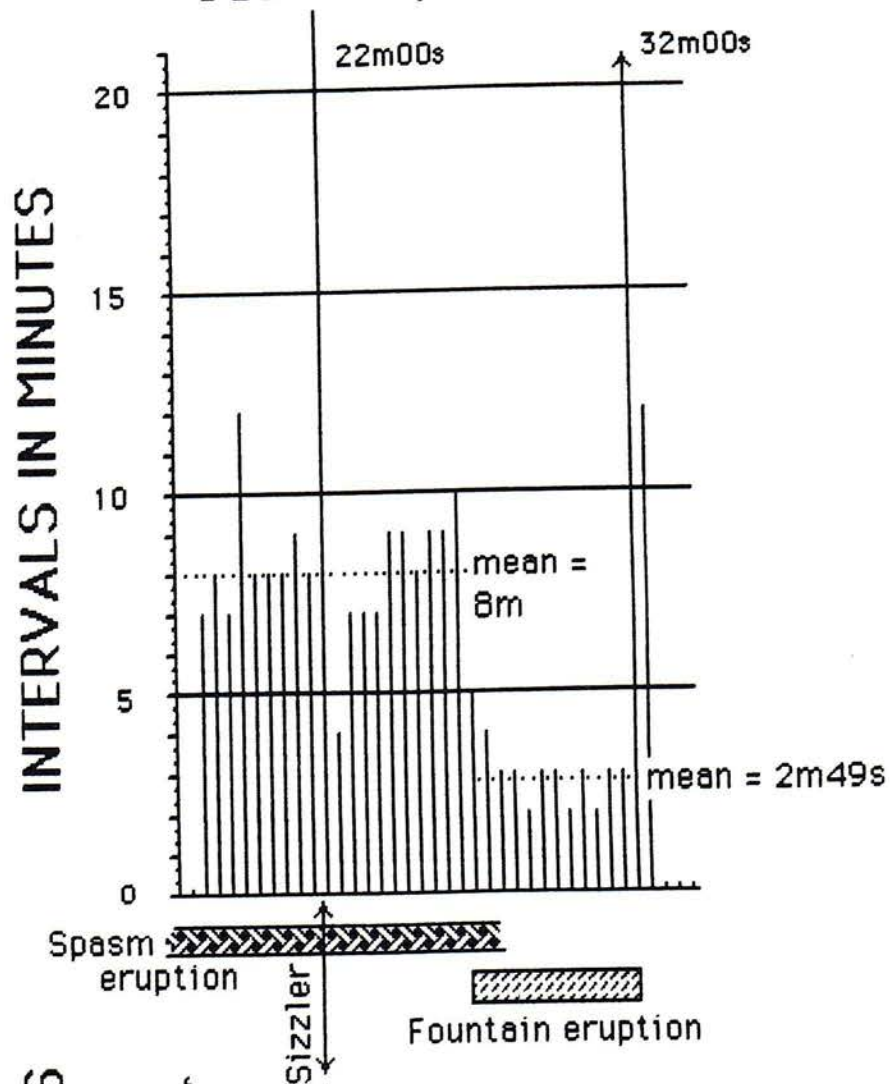
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JET GEYSER DATA LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK JULY 11, 1994

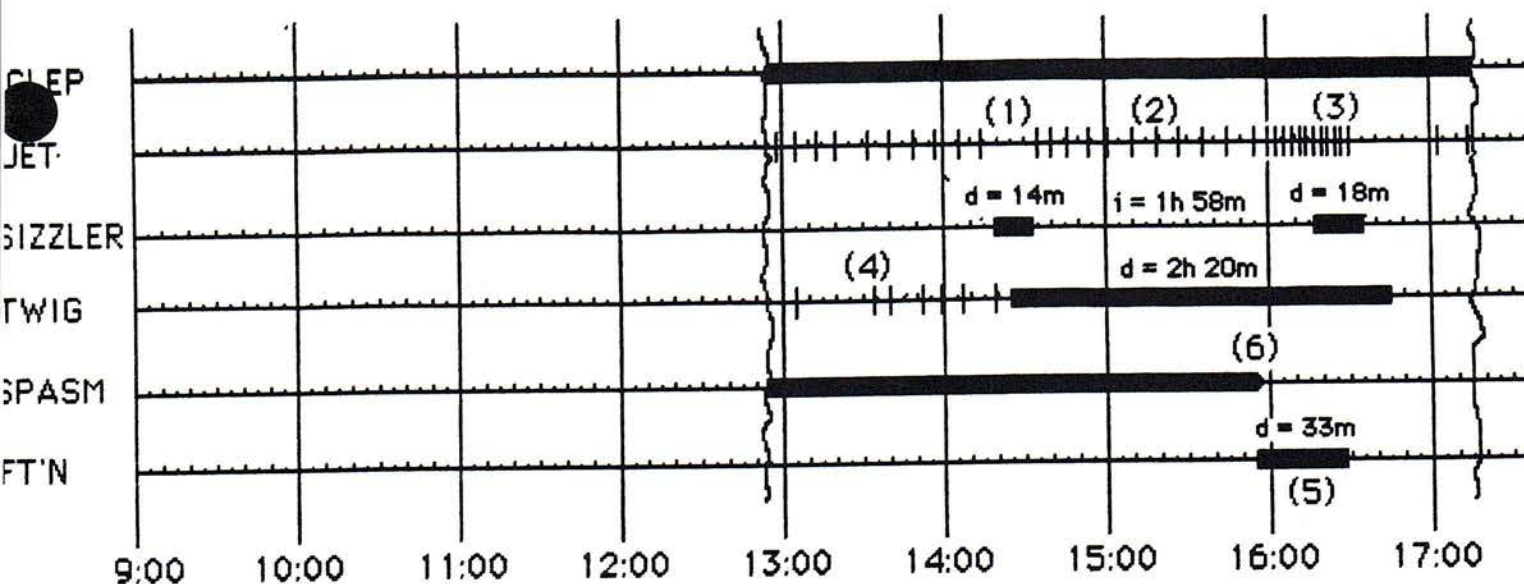
START TIME	END TIME	INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING	
12:58:00		*		*	#####	NO	NO	
13:05:00		0:07:00		*	#####	NO	NO	
13:13:00		0:08:00		*	#####	NO	NO	
13:20:00	13:21:00	0:07:00			0:01:00	NO	NO	
13:32:00	13:33:00	0:12:00			0:01:00	NO	NO	
13:40:00	13:41:00	0:08:00			0:01:00	NO	NO	
13:48:00	13:49:00	0:08:00			0:01:00	NO	NO	
13:56:00	13:56:45	0:08:00			0:00:45	NO	NO	
14:05:00	14:06:03	0:09:00			0:01:03	NO	NO	
14:13:00	14:13:57	0:08:00			0:00:57	NO	NO	
14:35:00	14:36:00	* 0:22:00			0:01:00	NO	YES	
14:39:00	14:40:03	0:04:00			0:01:03	NO	NO	
14:46:00	14:46:59	0:07:00			0:00:59	NO	NO	
14:53:00	14:53:59	0:07:00			0:00:59	NO	NO	
15:00:00	15:01:00	0:07:00			0:01:00	NO	NO	
15:09:00	15:10:00	0:09:00			0:01:00	NO	NO	
15:18:00	15:19:03	0:09:00			0:01:03	NO	NO	
15:26:00	15:27:01	0:08:00			0:01:01	NO	NO	
15:35:00	15:36:06	0:09:00			0:01:06	NO	NO	
15:44:00	15:45:02	0:09:00			0:01:02	NO	NO	
15:54:00		0:10:00		*	#####	NO	NO	
15:59:00	15:59:33	0:05:00	0:08:00		0:00:33	0:00:58	YES	NO
16:03:00	16:03:35	0:04:00			0:00:35		YES	NO
16:06:00	16:06:30	0:03:00			0:00:30		YES	NO
16:09:00	16:09:40	0:03:00			0:00:40		YES	NO
16:11:00	16:11:30	0:02:00			0:00:30		YES	NO
16:14:00	16:14:30	0:03:00			0:00:30		YES	NO
16:17:00	16:17:21	0:03:00			0:00:21		YES	NO
16:19:00	16:19:17	0:02:00			0:00:17		YES	YES
16:22:00		0:03:00		*	#####		YES	YES
16:24:00	16:24:31	0:02:00			0:00:31		YES	YES
16:27:00	16:27:32	0:03:00			0:00:32		YES	YES
16:30:00	16:30:20	0:03:00	0:02:49		0:00:20	0:00:29	NO	YES
17:02:00	17:03:05	* 0:32:00		*	0:01:05		NO	NO
17:14:00	17:14:57	* 0:12:00		*	0:00:57		NO	NO
LEFT AREA								
NOTE: JET'S DURATIONS WERE TIMED WITH A STOPWATCH THIS DAY.								
START TIMES ARE ACCURATE ONLY TO THE NEAREST MINUTE.								

BLANK INDICATES MISSED DATA
INDICATES IMPOSSIBLE CALCULATION
* DATA NOT INCLUDED IN MEAN CALCULATIONS

CONSECUTIVE JET GEYSER INTERVALS AND DURATIONS JULY 11, 1994



JULY 11, 1994



(1) NOTE THAT JET DID NOT ERUPT WHILE SIZZLER WAS ERUPTING AND FOUNTAIN WAS NOT. (AGAIN, SEE GORDON R. BOWERS "ACTIVITY OF THE FOUNTAIN GEYSER COMPLEX" GOSA TRANSACTIONS, VOL III, P. 55)

(2) JET HAD AN INCREDIBLY CONSTANT SET OF DURATIONS MEASURED FROM 13:20 UNTIL FOUNTAIN ERUPTED AT 15:55 OF 60s, 60s, 60s, 45s, 63s, 57s, 60s, 63s, 59s, 59s, 60s, 60s, 63s, 61s, 66s, AND 62s. THEN FOUNTAIN ERUPTED AND JET'S DURATIONS DROPPED TO 33s, 35s, 30s, 40s, 30s, 30s, 21s, 17s, unrecorded, 31s, 32s AND 20s. AFTER FOUNTAIN STOPPED, JET'S DURATIONS WENT BACK TO 65s AND 57s.

(3) NOTE HERE THAT JET CONTINUED TO ERUPT DURING SIZZLER'S ERUPTION WHILE FOUNTAIN WAS ALSO ERUPTING.

(4) TWIG HAD SEVERAL FALSE STARTS DURING THIS TIME PERIOD WHERE WATER BEGAN TO RISE IN THE CRATER AND WOULD BURST ONCE OR TWICE AND THEN DRAIN.

(5) FOUNTAIN ERUPTED FROM A POOL THAT WAS 12 - 14 INCHES BELOW THE TOP OF THE CRATER. WATER WAS OUT THE BACK CHANNEL, BUT JUST BARELY. THE POOL REMAINED AT THIS LEVEL FROM THE TIME THAT I ARRIVED ON THE SCENE UNTIL FOUNTAIN ERUPTED ABOUT 3 HOURS LATER. IT AGAIN ERUPTED WITH A 4 - 6 INCH SURGE OF WATER MINUTES BEFORE THE TWO SPOTS ON THE RIM OF THE CRATER NEAREST THE BOARDWALK BEGAN TO BOIL VIGOROUSLY.

(6) SPASM'S STOP WAS UNRECORDED

JULY 10, 1994 RAW DATA

10:32	Twig erupted	12:57	Spasm erupted again	16:54	Jet (medium)
10:43	Clepsydra was very weak and then quit	12:59	Jet	16:57	Jet (medium)
10:46	Clepsydra resumed	13:00	Sizzler off (d=18m)	16:59	Fountain off **** (d=31m)
10:50	Clepsydra still acted strangely - it quit for a few seconds - Twig burst when it did	13:00	Clepsydra died	17:00	Jet (short)
		13:00	Jet	17:07	Clepsydra erupted (pause=28m)
		13:02	Jet		
		13:04	Jet		
		13:06	Jet	17:13	Ft'n pool down 18"
10:52	Clepsydra died again	13:08	Jet	17:13	Spasm drained
10:53	Spasm erupted	13:10	Jet		
10:58	Clepsydra died for 9s (twice)	13:11	Clepsydra cone was dry		
		13:12	Fountain off (d=38m)***		
11:00	Clepsydra died for a second or two	13:13	Jet		
		13:21	Clepsydra began weak blurps		
11:02	Clepsydra died for 1s		*****		
11:09	Twig off (d=37m)				
11:10	Clepsydra died	15:05	Spasm (IE)		
11:20	Clepsydra died	15:05	Clepsydra (IE)		
11:21	Clepsydra died for 20s	15:05	Ft'n pool was quite full no overflow into Morning		
11:26	Clepsydra died for 2m	15:08	Jet		
11:37	Jet (one burst)	15:16	Jet		
11:37	Ft'n pool very full	15:23	Jet (small 2 bursts)		
11:39	Jet	15:24	Jet		
11:54	Jet	15:32	Jet		
11:56	Jet	15:34	Twig erupted		
11:57	Twig erupted (i=1h25m)	15:37	Jet		
12:02	Jet	15:42	Jet (weak)		
12:09	Jet	15:48	Jet (weak)		
12:16	Jet	15:51	Jet (weak)		
12:19	Jet	15:53	Jet (weak)		
12:20	Ft'n pool overflowing almost into Morning's	15:55	Jet (weak)		
		15:56	Jet (weak)		
12:21	Jet (small blurb)	16:00	Jet		
12:22	Jet (better eruption)	16:04	Jet		
12:29	Jet (small blurb)	16:06	Jelly erupted in large steam cloud		
12:30	Jet (better eruption)				
12:34	Fountain erupted ****		*****		
12:37	Jet	16:23	Jet		
12:42	Sizzler erupted	16:24	Twig off (d=50m)		
12:43	Spasm flooded and off (d=1h 50m)	16:25	Jet		
		16:28	Fountain erupted ****		
12:44	Jet	16:32	Jet (super eruption w/ rocks flying out)		
12:45	Clepsydra off				
12:49	Jet	16:33	Spasm flooded and off (d>1h28m)		
12:53	Jet				
12:55	Clepsydra blurped - so did Spasm	16:38	Jet (powerful)		
		16:39	Clepsydra died		
12:56	Jet	16:45	Jet (good one)		
12:57	Clepsydra weakly blurped	16:48	Jet (good one)		
		16:51	Jet (medium power)		

**JET GEYSER DATA
LOWER GEYSER BASIN
YELLOWSTONE NATIONAL PARK
JULY 10, 1994**

START TIME	END TIME		INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING
16:32:00		***	0:07:00	0:04:20	#####	#####	YES	NO
16:38:00		***	0:06:00		#####		YES	NO
16:45:00		***	0:07:00		#####		YES	NO
16:48:00			0:03:00		#####		YES	NO
16:51:00			0:03:00		#####		YES	NO
16:54:00			0:03:00		#####		YES	NO
16:57:00			0:03:00		#####		YES	NO
17:00:00			0:03:00	0:04:00	#####	#####	NO	NO
LEFT AREA								
			** WEAK ERUPTIONS					
			*** POWERFUL ERUPTIONS					

BLANK INDICATES MISSED DATA
INDICATES IMPOSSIBLE CALCULATION
* DATA NOT INCLUDED IN MEAN CALCULATIONS

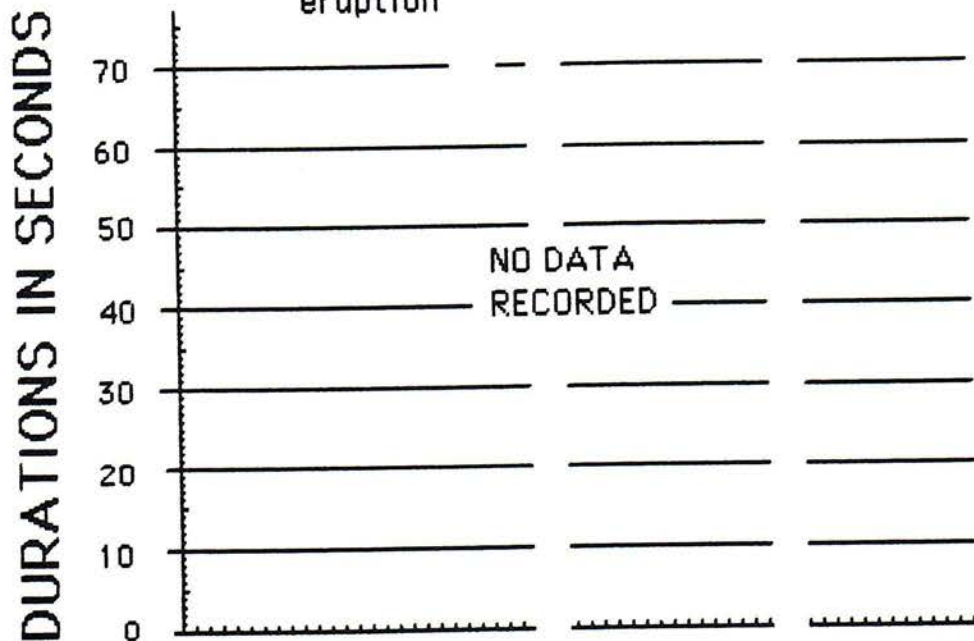
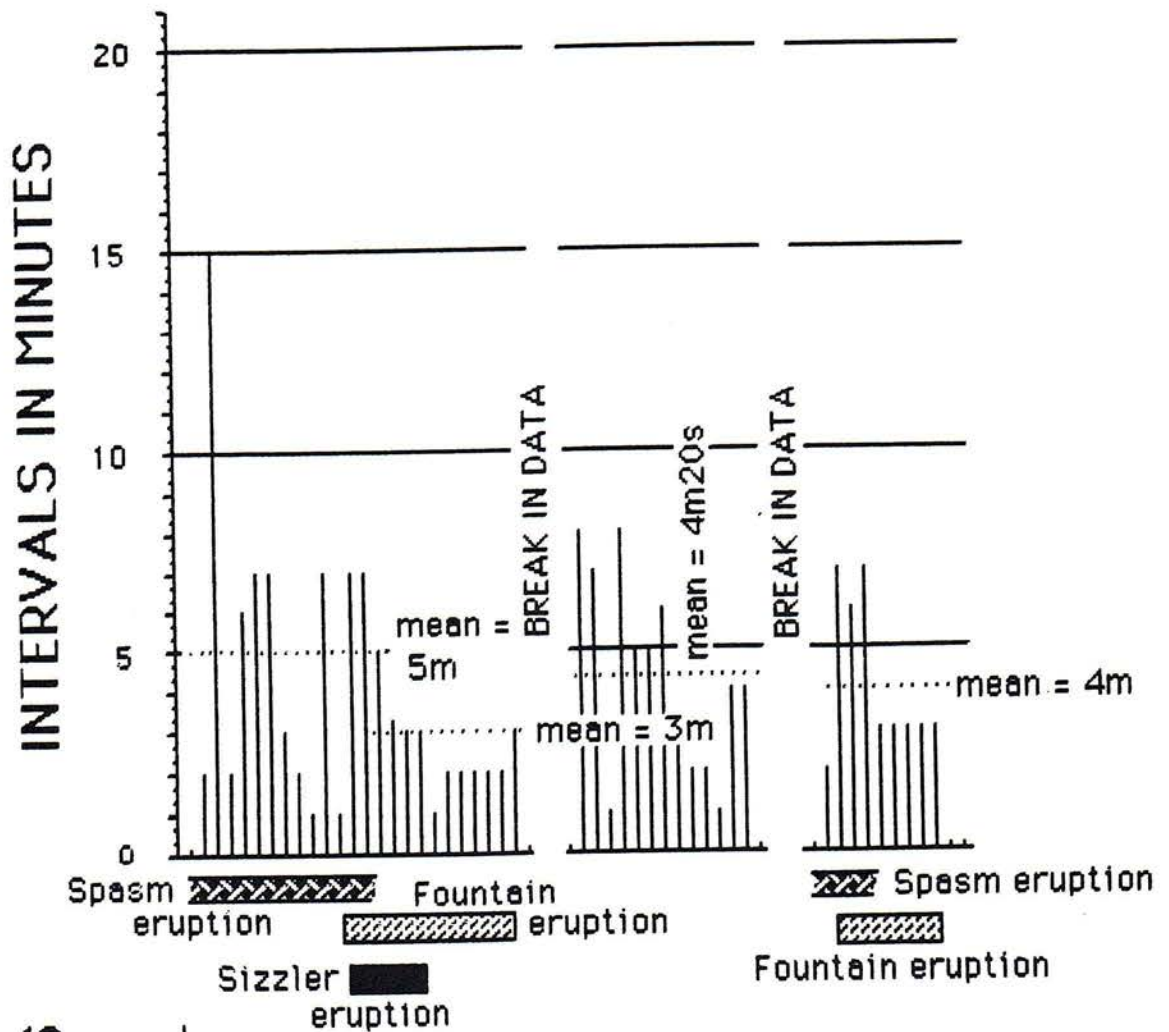
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JET GEYSER DATA LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK JULY 10, 1994

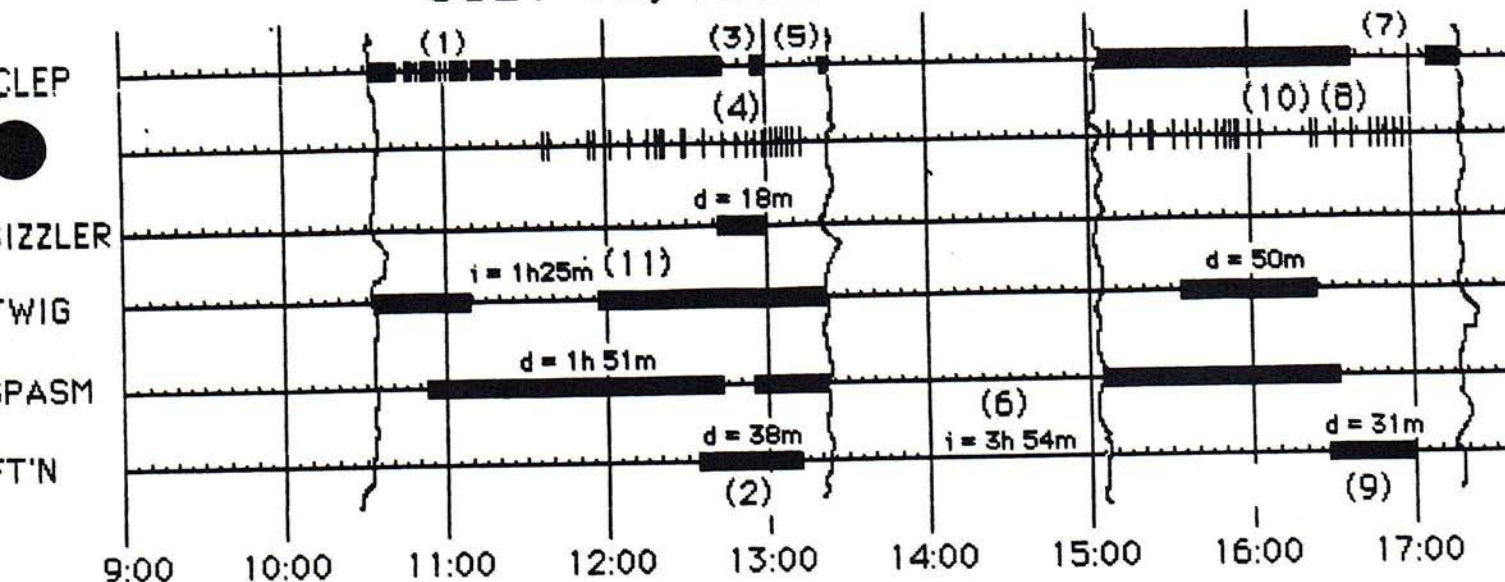
START TIME	END TIME	INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING
11:37:00	11:37:05	*		0:00:05		NO	NO
11:39:00			0:02:00	#####		NO	NO
11:54:00			0:15:00	#####		NO	NO
11:56:00			0:02:00	#####		NO	NO
12:02:00			0:06:00	#####		NO	NO
12:09:00			0:07:00	#####		NO	NO
12:16:00			0:07:00	#####		NO	NO
12:19:00			0:03:00	#####		NO	NO
12:21:00	12:21:05		0:02:00	0:00:05		NO	NO
12:22:00			0:01:00	#####		NO	NO
12:29:00	12:29:05		0:07:00	0:00:05		NO	NO
12:30:00			0:01:00	#####		NO	NO
12:37:00			0:07:00	0:05:00	#####	YES	NO
12:44:00			0:07:00	#####		YES	YES
12:49:00			0:05:00	#####		YES	YES
12:53:00			0:04:00	#####		YES	YES
12:56:00			0:03:00	#####		YES	YES
12:59:00			0:03:00	#####		YES	YES
13:00:00			0:01:00	#####		YES	NO
13:02:00			0:02:00	#####		YES	NO
13:04:00			0:02:00	#####		YES	NO
13:06:00			0:02:00	#####		YES	NO
13:08:00			0:02:00	#####		YES	NO
13:10:00			0:02:00	#####		YES	NO
13:13:00			0:03:00	0:03:00	#####	NO	NO
LEFT AREA							
15:08:00		*		#####		NO	NO
15:16:00			0:08:00	#####		NO	NO
15:23:00	15:23:10		0:07:00	0:00:10		NO	NO
15:24:00			0:01:00	#####		NO	NO
15:32:00			0:08:00	#####		NO	NO
15:37:00			0:05:00	#####		NO	NO
15:42:00		**	0:05:00	#####		NO	NO
15:48:00		**	0:06:00	#####		NO	NO
15:51:00		**	0:03:00	#####		NO	NO
15:53:00		**	0:02:00	#####		NO	NO
15:55:00		**	0:02:00	#####		NO	NO
15:56:00		**	0:01:00	#####		NO	NO
16:00:00			0:04:00	#####		NO	NO
16:04:00			0:04:00	#####		NO	NO
LEFT AREA							
16:23:00				#####		NO	NO
16:25:00			0:02:00	#####		NO	NO

BLANK INDICATES MISSED DATA
INDICATES IMPOSSIBLE CALCULATION
* DATA NOT INCLUDED IN MEAN CALCULATIONS

CONSECUTIVE JET GEYSER INTERVALS AND DURATIONS JULY 10, 1994



JULY 10, 1994



- (1) CLEPSYDRA WAS WEAK AND ACTING STRANGELY WHEN I ENTERED THE AREA. IT WOULD DIE FOR A FEW SECONDS TO A FEW MINUTES BEFORE WEAKLY BURPING A FEW TIMES.
- (2) FOUNTAIN ERUPTED FROM A VERY FULL POOL THAT WAS FLOWING INTO MORNING'S POOL. IT HAD STAYED THIS WAY FOR ABOUT AN HOUR AND A HALF BEFORE THE BIG SURGE THAT SET OFF THE ERUPTION. THE SURGE ADDS 4-6 INCHES OF WATER TO THE POOL IN ABOUT A MINUTE AND OCCURS ABOUT A MINUTE OR TWO BEFORE THE ERUPTION BEGINS.
- (3) CLEPSYDRA DIED FOR ABOUT 10 MINUTES DURING FOUNTAIN'S ERUPTION.
- (4) NOTE HERE THAT JET CONTINUED TO ERUPT WHILE SIZZLER AND FOUNTAIN ERUPTED
- (5) 12 MINUTES BEFORE THE END OF FOUNTAIN'S ERUPTION, CLEPSYDRA DIED FOR 21 MINUTES. CLEPSYDRA'S CONE WAS DRY FOR 10 MINUTES.
- (6) NOTE THE EXTREMELY SHORT INTERVAL FOR FOUNTAIN.
- (7) CLEPSYDRA DIED FOR 28 MINUTES DURING FOUNTAIN'S ERUPTION
- (8) JET HAD SOME VERY POWERFUL ERUPTIONS JUST AS FOUNTAIN BEGAN ERUPTING INCLUDING ONE WHERE SOME SMALL ROCKS WERE THROWN OUT.
- (9) THIS TIME FOUNTAIN ERUPTED FROM A POOL THAT WAS 6-8 INCHES FROM THE TOP OF THE SINTER. THE POOL WAS OUT THE BACK CHANNEL BUT WAS NOT SPREADING OUT OVER THE SINTER TOWARD MORNING'S POOL. AGAIN, THERE WAS A SURGE OF THE POOL ABOUT A MINUTE OR TWO BEFORE THE ERUPTION BEGAN.
- (10) AT 16:06 JELLY ERUPTED WITH A SINGLE BELCH OF WATER AND STEAM. FROM THE OVERLOOK, I SAW THE BIG STEAM CLOUD AND RAN DOWN TO JELLY HOPING THERE WOULD BE MORE. JELLY'S POOL WAS OVERFLOWING FROM SPASM'S RUNOFF AN HOUR BEFORE AND WAS NOW DOWN ABOUT 5 INCHES BELOW ITS RIM. ACCORDING TO A VISITOR THAT WAS SITTING ON THE BENCH ACROSS THE BOARDWALK FROM JELLY, IT HAD BOILED UP THE ENTIRE POOL TO A HEIGHT OF 3-4 FEET, EMPTYING THE POOL IN A MATTER OF A FEW SECONDS AND SENDING A LARGE AMOUNT OF RUNNOFF OUT THE BACK OF THE POOL. NOTE THAT THIS ERUPTION SEEMED TO TURN OFF JET FOR ALMOST 27 MINUTES.
- (11) TWIG'S STOPS AND STARTS DID NOT SEEM TO BE RELATED TO FOUNTAIN'S ERUPTIONS. (SEE LYNN STEPHENS' ARTICLE "TWIG GEYSER, ACTIVITY DURING 1991" IN GOSA TRANSACTIONS, VOL. V P.120)

JULY 9, 1994 RAW DATA

10:52 Jet erupted
 10:52 Spasm (IE)
 11:00 Both Ft'n and Morning
 pools were as full as I had
 ever seen them
 11:01 Jet
 11:12 Jet
 11:13 Morning boiled from a
 point in the back, left side
 of its pool during occasional
 hot periods
 11:15 Sizzler erupted
 11:30 Sizzler off (d=15m)
 11:44 Jet (weak)
 11:51 Jet
 11:55 Twig erupted
 11:59 Jet
 12:07 Jet
 12:15 Jet
 12:24 Jet
 12:34 Jet
 12:43 Jet
 12:52 Jet
 13:02 Jet
 13:11 Jet
 13:18 Twig off (d=1h 23m)
 13:20 Jet (strong)
 13:30 Jet
 13:33 Sizzler erupted (i=2h 18m)
 13:45 Fountain erupted *****
 13:48 Sizzler off (d=15m)
 13:52 Jet
 13:56 Jet
 13:56 Clepsydra began pounding
 in steam phase
 13:59 Jet
 14:02 Jet
 14:04 Jet
 14:08 Jet
 14:11 Jet
 14:13 Jet
 14:16 Jet
 14:18 Jet
 14:21 Jet
 14:22 Fountain off (d=37m) ***
 14:24 Jet

A NOTE ON THE HEIGHT OF FOUNTAIN'S POOL LEVEL:

Fountain Geyser had been erupting from
 a variety of pool levels this summer. I used a
 "cave" in the far (north) rim of the crater to
 "measure" my pool depths. If the water was
 lapping at the very top of this "cave", I called
 the depth 8". Twice that distance I called 16"
 and I was able to interpolate depths in between.
 These distances then, are all relative to the 8
 at the top of the "cave". There was no way to
 actually measure this distance.

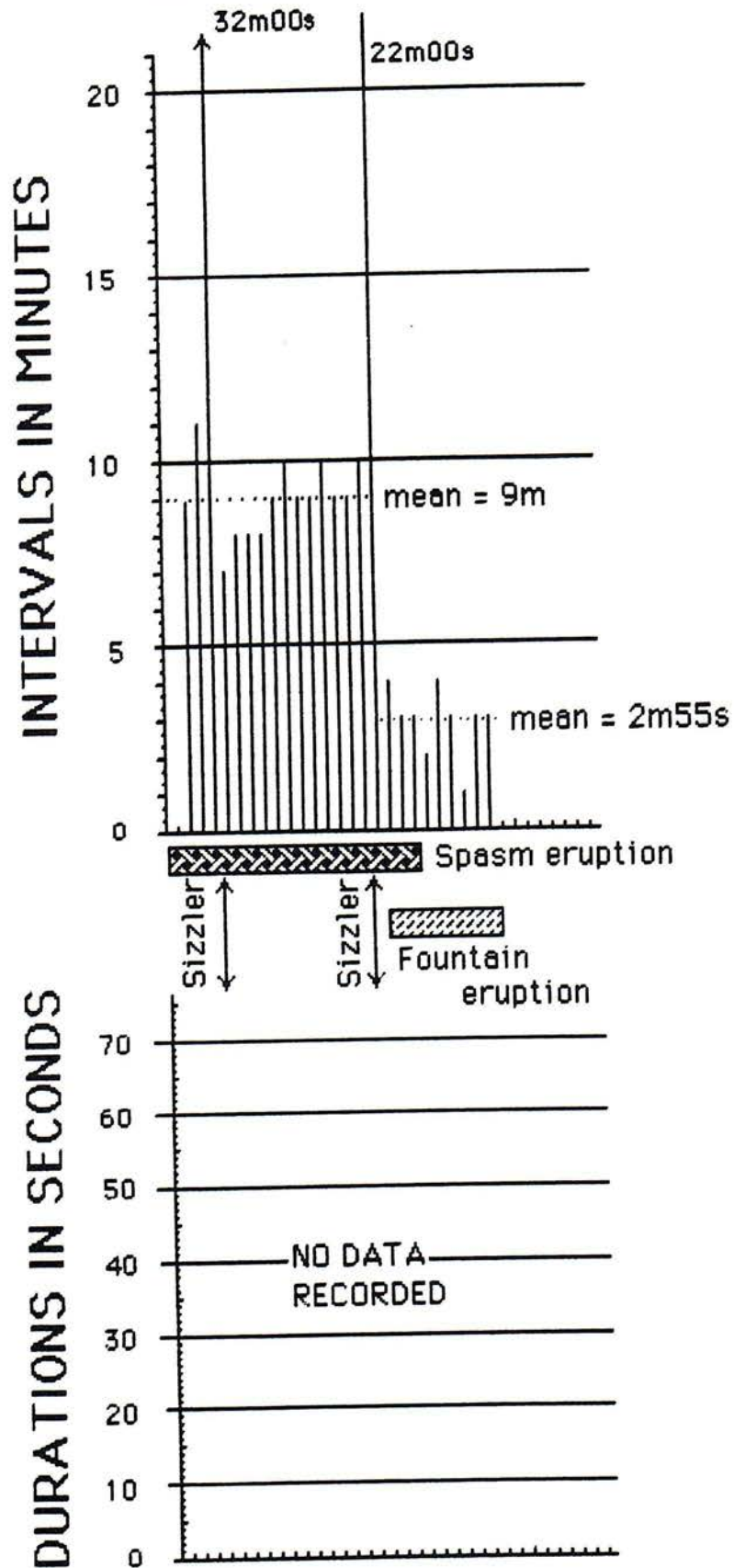
1

JET GEYSER DATA LOWER GEYSER BASIN YELLOWSTONE NATIONAL PARK JULY 9, 1994

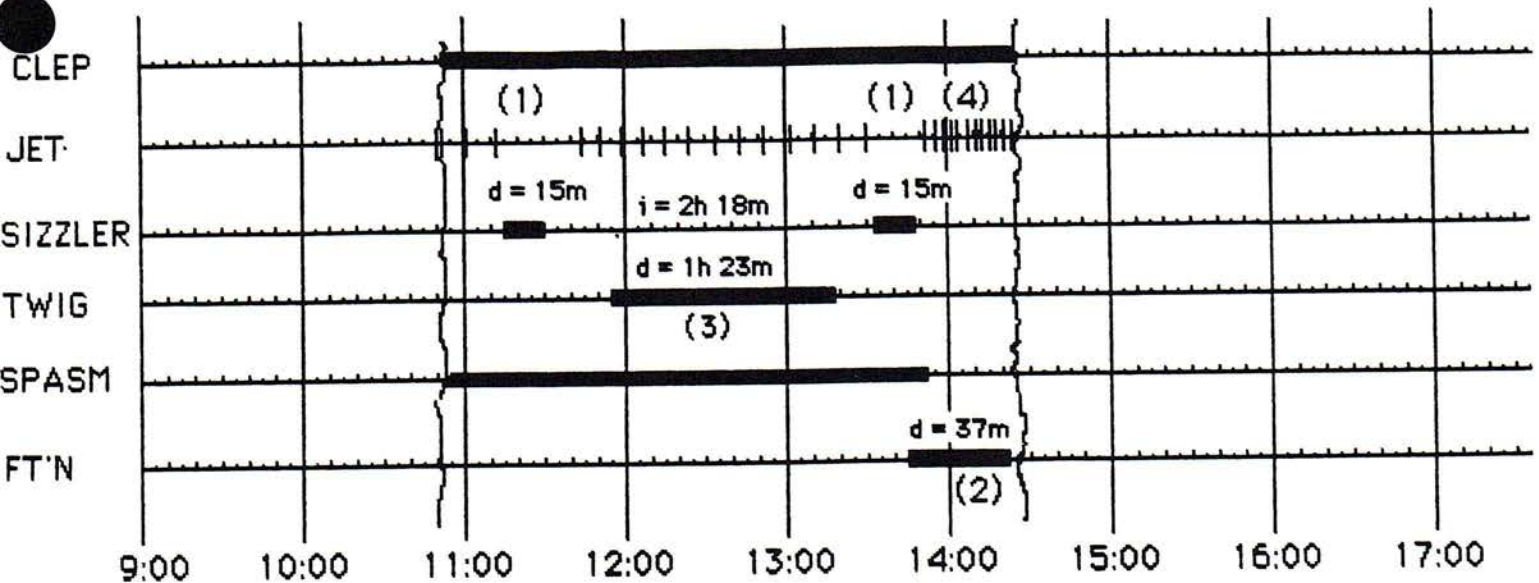
START TIME	END TIME	INTERVAL IN H:M:S	INTERVAL MEANS	DURATION IN H:M:S	DURATION MEANS	WAS FOUNTAIN ERUPTING	WAS SIZZLER ERUPTING		
10:52:00		*		*	#####	NO	NO		
11:01:00			0:09:00	*	#####	NO	NO		
11:12:00			0:11:00	*	#####	NO	NO		
11:44:00		*	0:32:00	*	#####	NO	YES		
11:51:00			0:07:00	*	#####	NO	NO		
11:59:00			0:08:00	*	#####	NO	NO		
12:07:00			0:08:00	*	#####	NO	NO		
12:15:00			0:08:00	*	#####	NO	NO		
12:24:00			0:09:00	*	#####	NO	NO		
12:34:00			0:10:00	*	#####	NO	NO		
12:43:00			0:09:00	*	#####	NO	NO		
12:52:00			0:09:00	*	#####	NO	NO		
13:02:00			0:10:00	*	#####	NO	NO		
13:11:00			0:09:00	*	#####	NO	NO		
13:20:00			0:09:00	*	#####	NO	NO		
13:30:00			0:10:00	*	#####	NO	NO		
13:52:00		*	0:22:00	0:09:00	*	#####	#####	YES	YES
13:56:00			0:04:00	*	#####	YES	NO		
13:59:00			0:03:00	*	#####	YES	NO		
14:02:00			0:03:00	*	#####	YES	NO		
14:04:00			0:02:00	*	#####	YES	NO		
14:08:00			0:04:00	*	#####	YES	NO		
14:11:00			0:03:00	*	#####	YES	NO		
14:13:00			0:02:00	*	#####	YES	NO		
14:16:00			0:03:00	*	#####	YES	NO		
14:18:00			0:02:00	*	#####	YES	NO		
14:21:00			0:03:00	*	#####	YES	NO		
14:24:00			0:03:00	0:02:55	*	#####	#####	NO	NO
LEFT AREA									

BLANK INDICATES MISSED DATA
INDICATES IMPOSSIBLE CALCULATION
* DATA NOT INCLUDED IN MEAN CALCULATIONS

CONSECUTIVE JET GEYSER INTERVALS AND DURATIONS JULY 9, 1994



JULY 9, 1994



(1) NOTE THAT IN TWO INSTANCES JET STOPPED ERUPTING WHILE "SIZZLER" ERUPTED AND FOUNTAIN WAS NOT ERUPTING. (SEE GORDON R. BOWER'S "ACTIVITY OF THE FOUNTAIN GEYSER COMPLEX" GOSA TRANSACTIONS, VOL III P.55)

FOUNTAIN ERUPTED FROM A POOL THAT WAS AS FULL AS I HAD EVER SEEN IT. I WOULD ESTIMATE THAT IT WAS ABOUT 2-3 INCHES BELOW THE TOP OF THE SINTER AND OVERFLOWING INTO MORNING'S POOL. THE SURGE A MINUTE OR SO BEFORE FOUNTAIN'S ERUPTION CARRIED THE POOL OVER THE TOP OF THE SINTER AND THE WHOLE MORNING-FOUNTAIN CRATER WAS AWASH. THE ERUPTION BEGAN WITH BOILS FROM TWO POINTS ON THE CRATER RIM CLOSEST TO THE BOARDWALK. THE POOL LEVEL REMAINED AT THIS LEVEL FOR THE 3 HOURS OF OBSERVATION PRIOR TO THE ERUPTION.

(3) NOTE HERE THAT TWIG'S ERUPTION SEEMED TO BE INDEPENDENT OF FOUNTAIN'S ERUPTION. (SEE LYNN STEPHENS' "ACTIVITY IN THE FOUNTAIN COMPLEX, LOWER GEYSER BASIN, DURING 1991 -- A SERIES" UNDER "TWIG GEYSER" GOSA TRANSACTIONS, VOL V P.120)

(4) NOTE THAT JET SHORTENS ITS INTERVALS WHEN FOUNTAIN IS ERUPTING.

The graphing technique used in the following graphs was adapted from graphs in an article by Paul Stresser "Fan and Mortar Geysers" from GOSA Transactions, Volume I