Carmen Johnson

Fac/Perm/Co ID #	Date	Doc ID#
94-01	4/19/12	DIN

September 4, 1998

SEP 1998
Received
Solid Waste
Section

Ms. Cheryl Marks
Hydrogeologist
North Carolina Environment and Natural Resources
Division of Waste Management, Solid Waste Permitting Branch
P.O Box 29603
Raleigh, NC 27611-9603

Subject: Ground Water Modeling Data and Results for Weyerhaeuser Paper Company Proposed Landfill, Plymouth, North Carolina
RMT Job No. 05101.01

Dear Ms. Marks:

RMT, Inc., North Carolina (RMT) was retained by Weyerhaeuser Paper Company (Weyerhaeuser) to evaluate the effect of improving or restoring drainage features along the east boundary of their No. 3 landfill site in Plymouth, North Carolina. RMT performed preliminary groundwater modeling of Weyerhaeuser's proposed landfill site using MODFLOW, version 2.61, to demonstrate that drainage improvement would result in lowering the groundwater surface on portions of the site. The drainage improvements at the southeast corner of the landfill have recently been made and water levels are now being measured at frequent intervals. However, in the absence of long-term historical data, the modeled groundwater effects are intended to be used in establishing landfill base grades.

In follow up to our discussion in our meeting on August 10, 1998, we have assembled the groundwater modeling package and "raw" groundwater data for your review and comment. It includes the following:

1. A Technical Memorandum presenting model setup and results, an electronic copy of RMT's MODFLOW files, and the hydrogeologic cross-sections used for this model (Drawing Numbers 46749-C04 and 46749-C05). The MODFLOW files for two groundwater simulations are provided on the attached floppy disk. The first file, Land3.zip contains MODFLOW files used to approximate the groundwater surface prior to drainage improvements. The second file, Land5.zip, contains MODFLOW files incorporating drain nodes, used to evaluate the effect of drainage improvements on the water table surface. Please find the Magnetic Media Disclaimer also included. The cross-sections reflect the seasonal high groundwater elevations. They have not been modified to reflect the model results.

RMT, Inc., North Carolina
100 Verdae Blvd. - 29607-3825
P.O. Box 16778 - 29606-6778
Greenville, SC
864/281-0030 - 864/281-0288 FAX

2. Site plan showing the drainage improvement that was modeled and the area that will be affected (Drawing Number 46749-C02). This site plan also includes the locations of the new peizometers, recently installed at the site.

3. Raw historical groundwater levels in summary tables and hydrograph format. Note that the "LF" designations on the tables and the hydrographs are the same "MW" designations on the site plans and associated documents. The "LFO" designations on the tables and the hydrographs are the same as the "OW" designations on the site plans and associated documents. why not keep them the same!

4. Seasonal High Water Table Configuration Map from April 1993 (Drawing Number 46749-C03)

5. Modeled water table map showing the modification of the seasonal high water table in 1993 as affected by proposed drainage improvements according to the MODFLOW model (Drawing Number SK-71698-1).

6. Daily precipitation data obtained by Station 316853, Plymouth, North Carolina, from January 1, 1989 through May 31, 1998.

7. Well construction diagrams and boring logs for OW-1 through OW-7, MW-1A, MW-6A, and MW-8 were readily available and are included here. Additional information is included on the cross-sections. Well construction diagrams and boring logs from the recently installed observation wells OW-8 through OW-15 are not yet available.

Since groundwater elevations are key to proceeding with the design of the landfill, we anxiously await your feedback. If you have any questions or need additional information, please call me or Jon Freitag at (864) 281-0030.

Sincerely,

RMT, Inc., North Carolina

Dan O. Madison P.G.
Consulting Hydrogeologist

NORTH CAROLINA LICENSED SEAL 249 GEOLOGIST DAN O. MADISON, JR.

Attachments:

xc: Joe Kloeker - Weyerhaeuser
Wynne Shaw - Weyerhaeuser
Mack Jones - Weyerhaeuser
Kent Nilsson - RMT, Inc.
Central Files (2)

Attachment 1

Technical Memorandum

Date: April 6, 1998

To: Kent Nilsson

xc: Weyerhaeuser Project File (5101.01)

From: Jon Freitag

Project No: **5101.01**

Subject: Preliminary Modeling Results

A three dimensional, finite difference groundwater flow model was developed to evaluate the affect of improving drainage features along the east boundary of the Weyerhaeuser property in Plymouth, North Carolina. The model was developed using Visual MODFLOW, version 2.61, by Waterloo Hydrologic. Steady state simulations were run to approximate the groundwater configuration measured in April 1993, and to evaluate the changes in the water table configuration resulting from drainage enhancements.

The groundwater flow model consists of the following three layers from top to bottom: 1) Sand and clay, 2) Silty sand, and 3) Clay. Model layers represent hydro-facies developed based on information from boring and test pit logs, as defined with assistance from Ken Gillon. Hydraulic conductivity values assigned to layer 1 range from 5.0×10^{-4} to 9.0×10^{-4} cm/sec. Hydraulic conductivity values assigned to layer 2 range from 5.0×10^{-4} to 1.0×10^{-2} cm/sec. A uniform hydraulic conductivity distribution of 1.0×10^{-4} cm/sec was assigned to layer 3. Initial hydraulic conductivity values were assigned based on slug test results, then adjusted as necessary to approximate the general shape of the April 1993 groundwater surface.

Four types of boundary conditions were used: drains, recharge, constant head boundaries and no flow boundaries. Constant head boundaries were used to simulate Welch Creek, located along the west side of the site, and Little Mill Creek, located along the northeast side of the site. Portions of the north and northeast sides of the model were also assigned as constant head

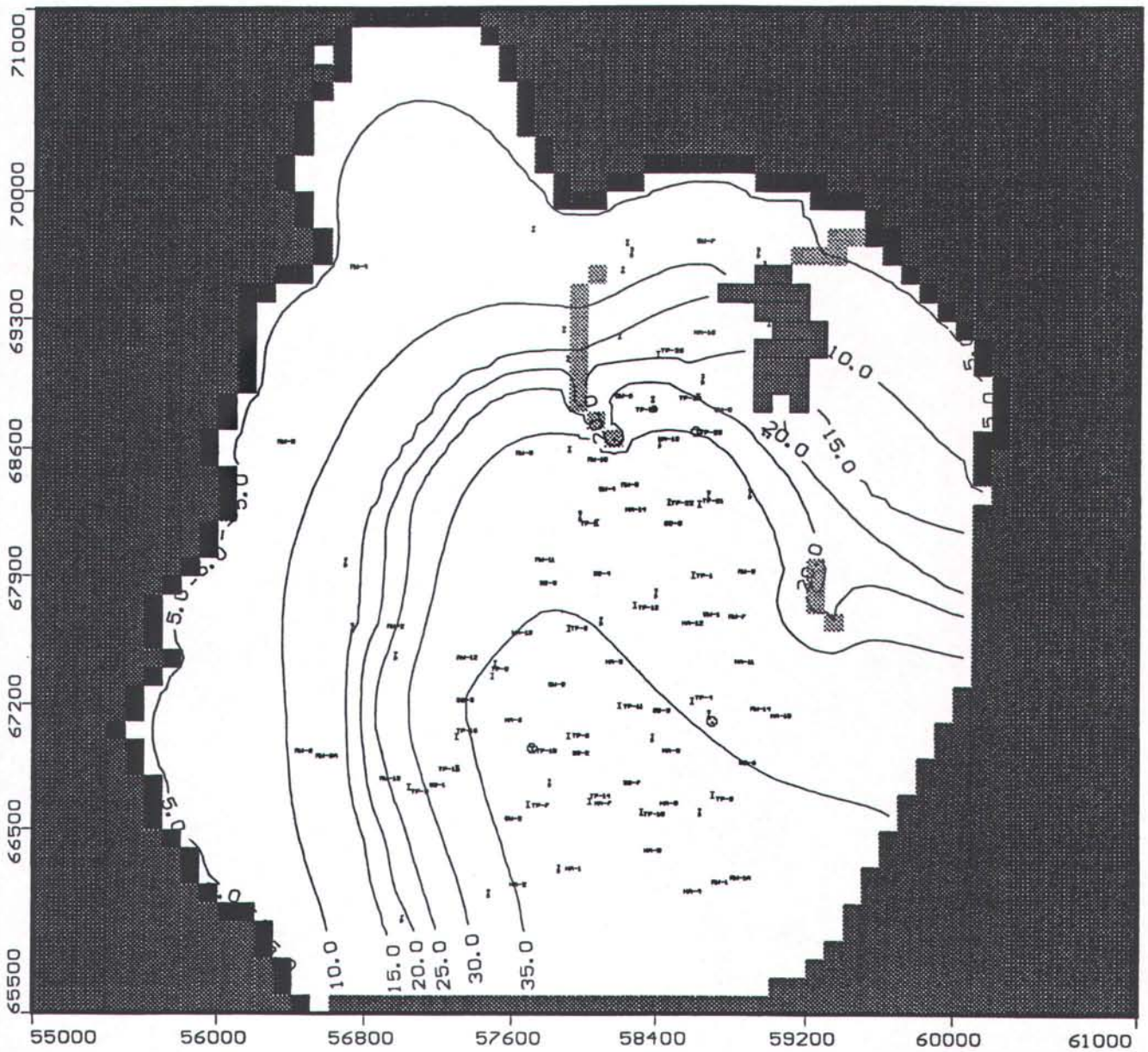
boundaries to simulate equipotential lines, and allow groundwater to discharge from the modeled area. No flow boundaries were assigned along the southern edge of the model, parallel to flow lines depicted on the April 1993 water table configuration map. Drains were used to simulate existing ditches and drainageways that, based on the water table configuration, remove groundwater from the aquifer system. Recharge was distributed across the model area to represent precipitation that infiltrates to the water table. The reacharge value assigned to the majority of the modeled area was 6 inches per year. Recharge was decreased to 1 inch per year over steeply sloped portions of the site where more runoff of precipitation (and less infiltration) would be expected.

Following the approximation of the April 1993 water table configuration, drains were added to the model along the east side of the site to simulate the affect of future drainage enhancements on the water table configuration. The total length of the enhanced drain is 3,890 feet, with the drain elevation starting at 0 feet above mean sea level at the northern end of the model and rising to 33 feet above mean sea level at the southern end of the model. A drain conductance of 1×10^{-3} cm/sec was used to approximate a sand and gravel material in the base of the drain.

The results of this simulation showed approximately a 4 to 5 foot decrease in water levels in the interior portion of the model. Based on the results of the preliminary modeling, drainage enhancements could result in a significant decrease in water levels at the site and allow the design capacity of the landfill to be increased. Because this groundwater flow simulation was conducted under steady-state conditions and in a preliminary mode (has not undergone comprehensive calibration and verification steps), the magnitude of the water level decrease should be considered approximations.

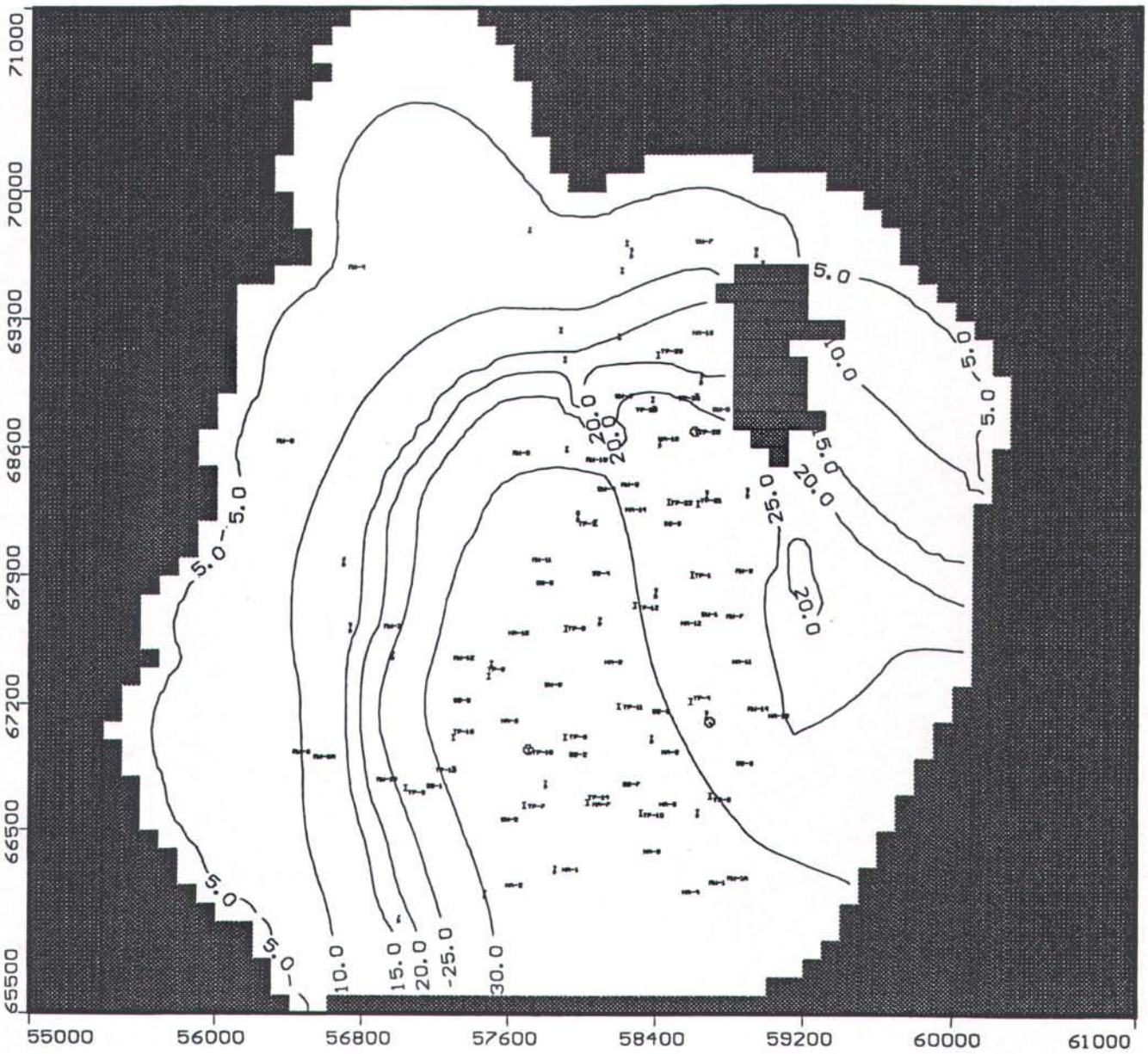
Attachments: 1) Modeled water table surface prior to drainage enhancements

2) Modeled water table surface resulting from drainage enhancements



RMT – Ann Arbor, MI
27 Apr 98

Visual MODFLOW v.2.61, (C) 1995–1997
Waterloo Hydrogeologic, Inc.
NC: 60 NR: 55 NL: 3
Current Layer: 2



RMT – Ann Arbor, MI
27 Apr 98

Visual MODFLOW v.2.61, (C) 1995–1997
Waterloo Hydrogeologic, Inc.
NC: 60 NR: 55 NL: 3
Current Layer: 2

TABLE 2

SUMMARY OF IN-SITU HYDRAULIC CONDUCTIVITY TEST RESULTS

WEYERHAEUSER
PLYMOUTH, NC

MAY 22-23, 1990

WELL DESIGNATION	HYDRAULIC CONDUCTIVITY (cm/sec)
OW-1	3.5×10^{-2}
OW-2	3.0×10^{-4}
OW-3	3.8×10^{-3}
OW-4	1.1×10^{-3}
OW-5	6.9×10^{-6}
OW-6	4.3×10^{-6}
OW-7	1.1×10^{-1}
MW-1A	4.0×10^{-3}
MW-6A	7.2×10^{-5}
MW-8	6.0×10^{-3}
MW-1[1]	2.1×10^{-3}
MW-2[1]	2.5×10^{-2}
MW-3[1]	2.5×10^{-3}
MW-4[1]	3.3×10^{-3}
MW-5[1]	1.5×10^{-3}
MW-6[1]	1.4×10^{-3}
MW-7[1]	3.3×10^{-4}

[1] Measured during Preliminary Site Characterization Phase.

MAGNETIC MEDIA DISCLAIMER

Client Name: Weyerhaeuser
Project No.: 5101.01

Recipient acknowledges that any and all templates, programs, and data (all hereafter referred to as "Data") provided on magnetic media of any form by RMT, Inc. ("RMT") to Recipient were produced as an instrument of service for the single usage provided under the contract for the project services performed by RMT for Recipient. Recipient further acknowledges that RMT was not engaged to provide a usable documented data system, compilation, or program to Recipient or any other party. ***Usage of such Data by anyone other than RMT for any purpose, including follow-up work for the same project, is not warranted by RMT.*** Recipient agrees that RMT shall not be liable in any manner for any subsequent usage of the Data provided on magnetic media.

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(Recipient)

By _____
Signature

_____
Printed Name

_____
Title

_____
Date

Attachment 1 and 2

Drawings Under Seperate Cover

Attachment 3

GROUND WATER ELEVATION DATA
WEYERHAEUSER LANDFILL
PLYMOUTH, NORTH CAROLINA
E096-007

Where ground surface + TOC

SITE	DATE	MP ELEVATION	TIME	DEPTH TO WATER	WATER ELEV.
LF-01	8/16/89	37.59	0:00	4	33.59
LF-01	8/16/90	37.59	0:00	7.91	29.68
LF-01	11/20/90	37.59	0:00	11.42	26.17
LF-01	12/14/90	37.59	0:00	8.88	28.71
LF-01	1/14/91	37.59	0:00	8.17	29.42
LF-01	2/14/91	37.59	0:00	6.21	31.38
LF-01	3/20/91	37.59	0:00	5.42	32.17
LF-01	4/2/93	37.59	0:00	2.92	34.67
LF-01	6/4/93	37.59	0:00	6.21	31.38
LF-01	8/17/93	37.59	0:00	8.29	29.3
LF-01	9/20/93	37.59	0:00	8.88	28.71
LF-01	10/14/93	37.59	0:00	9.25	28.34
LF-01	11/29/93	37.59	0:00	9	28.59
LF-01	12/22/93	37.59	0:00	8.27	29.32
LF-01	1/10/94	37.59	0:00	8.12	29.47
LF-01	2/22/94	37.59	0:00	5.53	32.06
LF-01	5/23/94	37.59	0:00	7.05	30.54
LF-01	6/21/94	37.59	0:00	7.96	29.63
LF-01	7/27/94	37.59	0:00	9	28.59
LF-01	10/20/94	37.57	15:45	7.95	29.62
LF-01	2/28/95	37.57	13:28	4.92	32.65
LF-01	4/20/95	37.59	10:15	6.76	30.83
LF-01	1/26/96	37.59	13:30	7.05	30.54
LF-01	10/7/96	37.59	15:05	5.9	31.69
LF-01	11/5/96	37.59	17:22	4.65	32.94
LF-01	12/4/96	37.59	14:48	5.96	31.63
LF-01	1/8/97	37.59	14:11	4.25	33.34
LF-01	2/5/97	37.59	14:06	4.38	33.21
LF-01	3/6/97	37.59	15:17	4.31	33.28
LF-01	4/4/97	37.59	14:47	4.71	32.88
LF-01	5/9/97	37.59	0:00	5.21	32.38
LF-01	6/5/97	37.59	0:00	6.54	31.05
LF-01	6/5/97	37.59	10:01	6.54	31.05
LF-01	7/8/97	37.59	0:00	8.1	29.49
LF-01	7/8/97	37.59	9:56	8.1	29.49
LF-01	8/5/97	37.59	15:37	8.28	29.31
LF-01	9/9/97	37.59	10:07	9.07	28.52
LF-01	10/7/97	37.59	13:48	8.93	28.66

LF-01	11/4/97	37.59	10:18	8.83	28.76
LF-01	12/10/97	37.59	12:07	8.05	29.54
LF-01	4/17/98	37.59	13:05	4.38	33.21
LF-01A	11/20/90	37.62	0:00	31.54	6.08
LF-01A	12/14/90	37.62	0:00	28.5	9.12
LF-01A	1/14/91	37.62	0:00	28.42	9.2
LF-01A	2/14/91	37.62	0:00	28	9.62
LF-01A	3/20/91	37.62	0:00	27.67	9.95
LF-01A	4/2/93	37.62	0:00	23.79	13.83
LF-01A	6/4/93	37.62	0:00	25.54	12.08
LF-01A	8/17/93	37.62	0:00	27.54	10.08
LF-01A	9/20/93	37.62	0:00	28.25	9.37
LF-01A	10/14/93	37.62	0:00	28.5	9.12
LF-01A	11/29/93	37.62	0:00	28.45	9.17
LF-01A	12/22/93	37.62	0:00	28.33	9.29
LF-01A	1/10/94	37.62	0:00	28.69	8.93
LF-01A	2/22/94	37.62	0:00	27.8	9.82
LF-01A	5/23/94	37.62	0:00	27.3	10.32
LF-01A	6/21/94	37.62	0:00	27.93	9.69
LF-01A	7/27/94	37.62	0:00	28.57	9.05
LF-01A	10/20/94	37.58	15:44	28.72	8.86
LF-01A	2/28/95	37.62	13:29	27.26	10.36
LF-01A	4/20/95	37.62	10:20	27.15	10.47
LF-01A	1/26/96	37.62	13:33	28.1	9.52
LF-01A	10/7/96	37.62	15:06	26.55	11.07
LF-01A	11/5/96	37.62	17:20	26.06	11.56
LF-01A	12/4/96	37.62	14:49	26.47	11.15
LF-01A	1/8/97	37.62	14:09	26.13	11.49
LF-01A	2/5/97	37.62	14:05	25.9	11.72
LF-01A	3/6/97	37.62	15:16	25.91	11.71
LF-01A	4/4/97	37.62	14:45	25.9	11.72
LF-01A	5/9/97	37.62	0:00	26.08	11.54
LF-01A	6/5/97	37.62	0:00	26.74	10.88
LF-01A	6/5/97	37.62	10:00	26.74	10.88
LF-01A	7/8/97	37.62	0:00	27.58	10.04
LF-01A	7/8/97	37.62	9:54	27.58	10.04
LF-01A	8/5/97	37.62	15:36	27.99	9.63
LF-01A	9/9/97	37.62	10:05	28.46	9.16
LF-01A	10/7/97	37.62	13:47	28.55	9.07
LF-01A	11/4/97	37.62	10:16	28.74	8.88
LF-01A	12/10/97	37.62	12:06	28.32	9.3
LF-01A	4/17/98	37.62	13:04	25.04	12.58
LF-02	8/16/89	27.68	0:00	20.33	7.35
LF-02	8/16/90	27.68	0:00	21.79	5.89
LF-02	11/20/90	27.68	0:00	21.58	6.1
LF-02	12/14/90	27.68	0:00	21.71	5.97
LF-02	1/14/91	27.68	0:00	21.5	6.18
LF-02	2/14/91	27.68	0:00	21.21	6.47
LF-02	3/20/91	27.68	0:00	21.13	6.55

LF-02	4/2/93	27.68	0:00	18.88	8.8
LF-02	6/4/93	27.68	0:00	20.12	7.56
LF-02	8/17/93	27.68	0:00	21.46	6.22
LF-02	9/20/93	27.68	0:00	21.79	5.89
LF-02	10/14/93	27.68	0:00	21.83	5.85
LF-02	11/29/93	27.68	0:00	21.66	6.02
LF-02	1/10/94	27.68	0:00	22.04	5.64
LF-02	2/22/94	27.68	0:00	21.35	6.33
LF-02	5/23/94	27.68	0:00	21.62	6.06
LF-02	6/21/94	27.68	0:00	22	5.68
LF-02	7/27/94	27.68	0:00	22.49	5.19
LF-02	10/20/94	27.54	15:10	22.39	5.15
LF-02	2/28/95	27.68	12:54	21.08	6.6
LF-02	4/20/95	27.68	9:25	21.59	6.09
LF-02	1/26/96	27.68	13:00	21.84	5.84
LF-02	10/7/96	27.68	15:20	20.94	6.74
LF-02	11/5/96	27.68	17:05	20.73	6.95
LF-02	12/4/96	27.68	15:01	21	6.68
LF-02	1/8/97	27.68	14:43	19.69	7.99
LF-02	2/5/97	27.68	14:14	20.61	7.07
LF-02	3/6/97	27.68	14:28	20.57	7.11
LF-02	4/4/97	27.68	14:52	20.51	7.17
LF-02	5/9/97	27.68	0:00	20.59	7.09
LF-02	6/5/97	27.68	0:00	21.13	6.55
LF-02	6/5/97	27.68	10:40	21.13	6.55
LF-02	7/8/97	27.68	0:00	21.73	5.95
LF-02	7/8/97	27.68	10:56	21.73	5.95
LF-02	8/5/97	27.68	16:08	21.98	5.7
LF-02	9/9/97	27.68	10:46	22.22	5.46
LF-02	10/7/97	27.68	14:30	22.08	5.6
LF-02	11/4/97	27.68	10:46	22.08	5.6
LF-02	12/10/97	27.68	12:40	21.8	5.88
LF-02	4/17/98	27.68	14:25	19.89	7.79
LF-03	8/16/89	10.7	0:00	5.92	4.78
LF-03	8/16/90	10.7	0:00	6.12	4.58
LF-03	11/20/90	10.7	0:00	6.12	4.58
LF-03	12/14/90	10.7	0:00	6.21	4.49
LF-03	1/14/91	10.7	0:00	5.92	4.78
LF-03	2/14/91	10.7	0:00	5.96	4.74
LF-03	3/20/91	10.7	0:00	5.83	4.87
LF-03	4/2/93	10.7	0:00	4.92	5.78
LF-03	6/4/93	10.7	0:00	5.79	4.91
LF-03	8/17/93	10.7	0:00	6.29	4.41
LF-03	9/20/93	10.7	0:00	6.33	4.37
LF-03	10/14/93	10.7	0:00	6.38	4.32
LF-03	11/29/93	10.7	0:00	6.17	4.53
LF-03	1/10/94	10.7	0:00	6.5	4.2
LF-03	2/22/94	10.7	0:00	6.4	4.3
LF-03	5/23/94	10.7	0:00	6.75	3.95

LF-03	6/21/94	10.7	0:00	6.9	3.8
LF-03	7/27/94	10.7	0:00	7.12	3.58
LF-03	10/20/94	10.57	15:15	6.95	3.62
LF-03	2/28/95	10.7	13:04	6.32	4.38
LF-03	4/20/95	10.7	9:40	6.51	4.19
LF-03	10/7/96	10.7	15:27	6.2	4.5
LF-03	11/5/96	10.7	17:03	6.12	4.58
LF-03	12/4/96	10.7	15:08	6.22	4.48
LF-03	1/8/97	10.7	14:46	6.04	4.66
LF-03	2/5/97	10.7	14:25	6.02	4.68
LF-03	3/6/97	10.7	14:31	5.96	4.74
LF-03	4/4/97	10.7	15:00	5.99	4.71
LF-03	5/9/97	10.7	0:00	6.03	4.67
LF-03	6/5/97	10.7	0:00	6.34	4.36
LF-03	6/5/97	10.7	10:43	6.34	4.36
LF-03	7/8/97	10.7	0:00	6.71	3.99
LF-03	7/8/97	10.7	11:02	6.71	3.99
LF-03	8/5/97	10.7	16:11	6.76	3.94
LF-03	9/9/97	10.7	10:50	6.92	3.78
LF-03	10/7/97	10.7	14:38	6.9	3.8
LF-03	11/4/97	10.7	10:57	6.7	4
LF-03	12/10/97	10.7	12:44	6.48	4.22
LF-03	4/17/98	10.7	14:35	5.75	4.95
LF-04	8/16/89	12.09	0:00	7.79	4.3
LF-04	8/16/90	12.09	0:00	8.75	3.34
LF-04	11/20/90	12.09	0:00	8.13	3.96
LF-04	12/14/90	12.09	0:00	8.17	3.92
LF-04	1/14/91	12.09	0:00	7.75	4.34
LF-04	2/14/91	12.09	0:00	7.5	4.59
LF-04	3/20/91	12.09	0:00	7.33	4.76
LF-04	4/2/93	12.09	0:00	6.85	5.24
LF-04	6/4/93	12.09	0:00	7.46	4.63
LF-04	8/17/93	12.09	0:00	8.15	3.94
LF-04	9/20/93	12.09	0:00	8.29	3.8
LF-04	10/14/93	12.09	0:00	8.5	3.59
LF-04	11/29/93	12.09	0:00	8.08	4.01
LF-04	1/10/94	12.09	0:00	8.38	3.71
LF-04	2/22/94	12.09	0:00	8.05	4.04
LF-04	5/23/94	12.09	0:00	8.71	3.38
LF-04	6/21/94	12.09	0:00	8.71	3.38
LF-04	7/27/94	12.09	0:00	8.99	3.1
LF-04	10/20/94	11.9	15:25	8.72	3.18
LF-04	2/28/95	12.09	12:57	7.96	4.13
LF-04	4/20/95	12.09	9:30	8.43	3.66
LF-04	1/26/96	12.09	13:10	8.24	3.85
LF-04	10/7/96	12.09	15:32	7.79	4.3
LF-04	11/5/96	12.09	16:59	7.85	4.24
LF-04	12/4/96	12.09	15:13	7.85	4.24
LF-04	1/8/97	12.09	14:50	7.73	4.36

LF-04	2/5/97	12.09	14:31	7.74	4.35
LF-04	3/6/97	12.09	14:36	7.65	4.44
LF-04	4/4/97	12.09	15:05	7.68	4.41
LF-04	5/9/97	12.09	0:00	7.68	4.41
LF-04	6/5/97	12.09	0:00	8.07	4.02
LF-04	6/5/97	12.09	10:47	8.07	4.02
LF-04	7/8/97	12.09	0:00	8.44	3.65
LF-04	7/8/97	12.09	11:15	8.44	3.65
LF-04	8/5/97	12.09	16:16	8.55	3.54
LF-04	9/9/97	12.09	10:54	8.71	3.38
LF-04	10/7/97	12.09	14:43	8.57	3.52
LF-04	11/4/97	12.09	11:01	8.42	3.67
LF-04	12/10/97	12.09	12:48	8.2	3.89
LF-04	4/17/98	12.09	14:39	7.41	4.68
LF-05	8/16/89	39.16	0:00	12.17	26.99
LF-05	8/16/90	39.16	0:00	13.2	25.96
LF-05	11/20/90	39.16	0:00	13.46	25.7
LF-05	12/14/90	39.16	0:00	13.67	25.49
LF-05	1/14/91	39.16	0:00	13.33	25.83
LF-05	2/14/91	39.16	0:00	13.25	25.91
LF-05	3/20/91	39.16	0:00	14.25	24.91
LF-05	4/2/93	39.16	0:00	10.54	28.62
LF-05	6/4/93	39.16	0:00	11.46	27.7
LF-05	8/17/93	39.16	0:00	12.67	26.49
LF-05	9/20/93	39.16	0:00	13.17	25.99
LF-05	10/14/93	39.16	0:00	13.33	25.83
LF-05	11/29/93	39.16	0:00	13.42	25.74
LF-05	1/10/94	39.16	0:00	14.11	25.05
LF-05	2/22/94	39.16	0:00	13.12	26.04
LF-05	5/23/94	39.16	0:00	13.41	25.75
LF-05	6/21/94	39.16	0:00	13.72	25.44
LF-05	7/27/94	39.16	0:00	14.15	25.01
LF-05	10/20/94	39.14	16:14	14.04	25.1
LF-05	2/28/95	39.14	12:50	13.44	25.7
LF-05	4/20/95	39.16	9:50	13.03	26.13
LF-05	1/26/96	39.16	12:55	13.75	25.41
LF-05	10/7/96	39.16	13:55	12.85	26.31
LF-05	11/5/96	39.16	16:28	12.65	26.51
LF-05	12/4/96	39.16	13:53	12.58	26.58
LF-05	1/8/97	39.16	13:22	12.25	26.91
LF-05	2/5/97	39.16	13:24	12.28	26.88
LF-05	3/6/97	39.16	14:19	12.2	26.96
LF-05	4/4/97	39.16	14:09	12.19	26.97
LF-05	5/9/97	39.16	0:00	12.29	26.87
LF-05	6/5/97	39.16	0:00	12.8	26.36
LF-05	6/5/97	39.16	9:25	12.8	26.36
LF-05	7/8/97	39.16	0:00	13.43	25.73
LF-05	7/8/97	39.16	9:15	13.43	25.73
LF-05	8/5/97	39.16	14:52	13.64	25.52

LF-05	9/9/97	39.16	9:25	13.78	25.38
LF-05	10/7/97	39.16	13:22	13.82	25.34
LF-05	11/4/97	39.16	9:35	13.74	25.42
LF-05	12/10/97	39.16	12:32	13.42	25.74
LF-05	4/17/98	39.16	13:37	12.23	26.93
LF-06	8/16/89	14.02	0:00	10	4.02
LF-06	8/16/90	14.02	0:00	11.5	2.52
LF-06	11/20/90	14.02	0:00	10.58	3.44
LF-06	12/14/90	14.02	0:00	10.58	3.44
LF-06	1/14/91	14.02	0:00	10.17	3.85
LF-06	2/14/91	14.02	0:00	10	4.02
LF-06	3/20/91	14.02	0:00	10	4.02
LF-06	4/2/93	14.02	0:00	8.08	5.94
LF-06	6/4/93	14.02	0:00	10.21	3.81
LF-06	8/17/93	14.02	0:00	10.94	3.08
LF-06	9/20/93	14.02	0:00	11	3.02
LF-06	10/14/93	14.02	0:00	10.88	3.14
LF-06	11/29/93	14.02	0:00	10.5	3.52
LF-06	1/10/94	14.02	0:00	10.63	3.39
LF-06	2/22/94	14.02	0:00	10.6	3.42
LF-06	5/23/94	14.02	0:00	11.22	2.8
LF-06	6/21/94	14.02	0:00	11.5	2.52
LF-06	7/27/94	14.02	0:00	11.85	2.17
LF-06	10/20/94	13.88	15:06	11.14	2.74
LF-06	2/28/95	14.02	13:12	10.33	3.69
LF-06	4/20/95	14.02	9:50	11.04	2.98
LF-06	1/26/96	14.02	13:15	10.67	3.35
LF-06	10/7/96	14.02	15:22	10.32	3.7
LF-06	11/5/96	14.02	17:09	10.32	3.7
LF-06	12/4/96	14.02	15:05	10.53	3.49
LF-06	1/8/97	14.02	14:39	10.3	3.72
LF-06	2/5/97	14.02	14:17	10.38	3.64
LF-06	3/6/97	14.02	14:25	10.4	3.62
LF-06	4/4/97	14.02	14:55	10.35	3.67
LF-06	5/9/97	14.02	0:00	10.43	3.59
LF-06	6/5/97	14.02	0:00	10.79	3.23
LF-06	6/5/97	14.02	10:38	10.78	3.24
LF-06	7/8/97	14.02	0:00	11.36	2.66
LF-06	7/8/97	14.02	10:52	11.36	2.66
LF-06	8/5/97	14.02	16:05	11.44	2.58
LF-06	9/9/97	14.02	10:44	11.53	2.49
LF-06	10/7/97	14.02	14:26	11.21	2.81
LF-06	11/4/97	14.02	10:51	11.06	2.96
LF-06	12/10/97	14.02	12:37	6.76	7.26
LF-06	4/17/98	14.02	14:28	9.93	4.09
LF-06A	11/20/90	14.05	0:00	10.08	3.97
LF-06A	12/14/90	14.05	0:00	10.08	3.97
LF-06A	1/14/91	14.05	0:00	9.83	4.22
LF-06A	2/14/91	14.05	0:00	9.58	4.47

LF-06A	3/20/91	14.05	0:00	9.51	4.54
LF-06A	4/2/93	14.05	0:00	8.37	5.68
LF-06A	6/4/93	14.05	0:00	9.54	4.51
LF-06A	8/17/93	14.05	0:00	10.38	3.67
LF-06A	9/20/93	14.05	0:00	10.37	3.68
LF-06A	10/14/93	14.05	0:00	10.33	3.72
LF-06A	11/29/93	14.05	0:00	10	4.05
LF-06A	1/10/94	14.05	0:00	10.25	3.8
LF-06A	2/22/94	14.05	0:00	10.08	3.97
LF-06A	5/23/94	14.05	0:00	10.55	3.5
LF-06A	6/21/94	14.05	0:00	10.9	3.15
LF-06A	7/27/94	14.05	0:00	11.27	2.78
LF-06A	10/20/94	13.39	15:07	10.69	2.7
LF-06A	2/28/95	14.05	13:10	9.78	4.27
LF-06A	4/20/95	14.05	9:45	10.43	3.62
LF-06A	1/26/96	14.05	13:20	10.29	3.76
LF-06A	10/7/96	14.05	15:23	9.8	4.25
LF-06A	11/5/96	14.05	17:08	9.73	4.32
LF-06A	12/4/96	14.05	15:04	9.94	4.11
LF-06A	1/8/97	14.05	14:37	9.71	4.34
LF-06A	2/5/97	14.05	14:18	9.72	4.33
LF-06A	3/6/97	14.05	14:23	9.73	4.32
LF-06A	4/4/97	14.05	14:56	9.72	4.33
LF-06A	5/9/97	14.05	0:00	9.81	4.24
LF-06A	6/5/97	14.05	0:00	10.17	3.88
LF-06A	6/5/97	14.05	10:37	10.17	3.88
LF-06A	7/8/97	14.05	0:00	10.77	3.28
LF-06A	7/8/97	14.05	10:51	10.77	3.28
LF-06A	8/5/97	14.05	16:04	10.84	3.21
LF-06A	9/9/97	14.05	10:42	10.99	3.06
LF-06A	10/7/97	14.05	14:27	10.69	3.36
LF-06A	11/4/97	14.05	10:50	10.57	3.48
LF-06A	12/10/97	14.05	12:38	10.27	3.78
LF-06A	4/17/98	14.05	14:27	9.22	4.83
LF-07	8/16/89	36.33	0:00	6.96	29.37
LF-07	8/16/90	36.33	0:00	10.83	25.5
LF-07	11/20/90	36.33	0:00	11.17	25.16
LF-07	12/14/90	36.33	0:00	11.17	25.16
LF-07	1/14/91	36.33	0:00	10.75	25.58
LF-07	2/14/91	36.33	0:00	9.75	26.58
LF-07	3/20/91	36.33	0:00	9.92	26.41
LF-07	4/2/93	36.33	0:00	5.92	30.41
LF-07	6/4/93	36.33	0:00	9.38	26.95
LF-07	8/17/93	36.33	0:00	11.58	24.75
LF-07	9/20/93	36.33	0:00	11.75	24.58
LF-07	10/14/93	36.33	0:00	12.12	24.21
LF-07	11/29/93	36.33	0:00	11.96	24.37
LF-07	12/22/93	36.33	0:00	11.54	24.79
LF-07	1/10/94	36.33	0:00	12.02	24.31

LF-07	2/22/94	36.33	0:00	11.05	25.28
LF-07	5/23/94	36.33	0:00	11.93	24.4
LF-07	6/21/94	36.33	0:00	11.74	24.59
LF-07	7/27/94	36.33	0:00	14.49	21.84
LF-07	10/20/94	36.35	15:50	12.7	23.65
LF-07	2/28/95	36.33	13:33	11.05	25.28
LF-07	4/20/95	36.33	9:55	11.08	25.25
LF-07	1/26/96	36.33	13:45	12.37	23.96
LF-07	10/7/96	36.33	15:13	10.91	25.42
LF-07	11/5/96	36.33	17:26	10	26.33
LF-07	12/4/96	36.33	14:35	10.03	26.3
LF-07	1/8/97	36.33	14:22	9.3	27.03
LF-07	2/5/97	36.33	13:59	9.03	27.3
LF-07	3/6/97	36.33	15:05	8.65	27.68
LF-07	4/4/97	36.33	14:31	5.83	30.5
LF-07	5/9/97	36.33	0:00	9.01	27.32
LF-07	6/5/97	36.33	0:00	9.82	26.51
LF-07	6/5/97	36.33	9:37	9.82	26.51
LF-07	7/8/97	36.33	0:00	10.52	25.81
LF-07	7/8/97	36.33	9:43	10.52	25.81
LF-07	8/5/97	36.33	15:29	11.03	25.3
LF-07	9/9/97	36.33	9:58	11.69	24.64
LF-07	10/7/97	36.33	13:41	11.86	24.47
LF-07	11/4/97	36.33	10:08	11.77	24.56
LF-07	12/10/97	36.33	12:00	11.86	24.47
LF-07	4/17/98	36.33	13:53	9.43	26.9
LF-08	11/20/90	36.19	0:00	29.71	6.48
LF-08	12/14/90	36.19	0:00	29.46	6.73
LF-08	1/14/91	36.19	0:00	29.67	6.52
LF-08	2/14/91	36.19	0:00	29.33	6.86
LF-08	3/20/91	36.19	0:00	29.25	6.94
LF-08	4/2/93	36.19	0:00	26.83	9.36
LF-08	6/4/93	36.19	0:00	27.88	8.31
LF-08	8/17/93	36.19	0:00	29.25	6.94
LF-08	9/20/93	36.19	0:00	29.67	6.52
LF-08	10/14/93	36.19	0:00	29.83	6.36
LF-08	11/29/93	36.19	0:00	29.69	6.5
LF-08	12/22/93	36.19	0:00	29.54	6.65
LF-08	1/10/94	36.19	0:00	30.07	6.12
LF-08	2/22/94	36.19	0:00	29.5	6.69
LF-08	5/23/94	36.19	0:00	29.43	6.76
LF-08	6/21/94	36.19	0:00	29.44	6.75
LF-08	7/27/94	36.19	0:00	30.25	5.94
LF-08	10/20/94	36.12	15:55	29.81	6.31
LF-08	2/28/95	36.19	13:40	28.82	7.37
LF-08	4/20/95	36.19	10:30	29.03	7.16
LF-08	1/26/96	36.19	14:30	29.66	6.53
LF-08	10/7/96	36.19	14:00	28.55	7.64
LF-08	11/5/96	36.19	16:52	28.29	7.9

LF-08	12/4/96	36.19	14:10	28.5	7.69
LF-08	1/8/97	36.19	13:27	28.26	7.93
LF-08	2/5/97	36.19	13:31	28.07	8.12
LF-08	3/6/97	36.19	14:43	28.08	8.11
LF-08	4/4/97	36.19	14:15	28.02	8.17
LF-08	5/9/97	36.19	0:00	28.05	8.14
LF-08	6/5/97	36.19	0:00	28.57	7.62
LF-08	6/5/97	36.19	10:30	28.57	7.62
LF-08	7/8/97	36.19	0:00	29.1	7.09
LF-08	7/8/97	36.19	9:20	29.1	7.09
LF-08	8/5/97	36.19	15:03	29.33	6.86
LF-08	9/9/97	36.19	9:31	29.65	6.54
LF-08	10/7/97	36.19	13:26	29.62	6.57
LF-08	11/4/97	36.19	9:41	29.62	6.57
LF-08	12/10/97	36.19	11:36	29.37	6.82
LF-08	4/17/98	36.19	13:42	27.5	8.69
LFO-01	12/14/90	36.98	0:00	29.13	7.85
LFO-01	1/14/91	36.98	0:00	29.08	7.9
LFO-01	2/14/91	36.98	0:00	28.75	8.23
LFO-01	3/20/91	36.98	0:00	28.5	8.48
LFO-01	4/2/93	36.98	0:00	25.5	11.48
LFO-01	6/4/93	36.98	0:00	26.65	10.33
LFO-01	8/17/93	36.98	0:00	28.33	8.65
LFO-01	9/20/93	36.98	0:00	28.92	8.06
LFO-01	10/14/93	36.98	0:00	29.12	7.86
LFO-01	11/29/93	36.98	0:00	29.04	7.94
LFO-01	12/22/93	36.98	0:00	28.94	8.04
LFO-01	1/10/94	36.98	0:00	29.38	7.6
LFO-01	2/22/94	36.98	0:00	28.8	8.18
LFO-01	5/23/94	36.98	0:00	28.45	8.53
LFO-01	6/21/94	36.98	0:00	28.45	8.53
LFO-01	7/27/94	36.98	0:00	29.41	7.57
LFO-01	10/20/94	36.89	15:51	29.55	7.34
LFO-01	2/28/95	36.98	13:34	28.63	8.35
LFO-01	4/20/95	36.98	10:00	28.31	8.67
LFO-01	1/26/96	36.98	13:50	29.08	7.9
LFO-01	10/7/96	36.98	15:12	28.92	8.06
LFO-01	11/5/96	36.98	17:25	27.51	9.47
LFO-01	12/4/96	36.98	14:34	27.82	9.16
LFO-01	1/8/97	36.98	14:21	27.52	9.46
LFO-01	2/5/97	36.98	13:57	27.3	9.68
LFO-01	3/6/97	36.98	15:07	27.31	9.67
LFO-01	4/4/97	36.98	14:30	27.25	9.73
LFO-01	6/5/97	36.98	9:36	27.86	9.12
LFO-01	7/8/97	36.98	9:41	28.51	8.47
LFO-01	8/5/97	36.98	15:28	28.82	8.16
LFO-01	9/9/97	36.98	9:56	29.22	7.76
LFO-01	10/7/97	36.98	13:39	29.25	7.73
LFO-01	11/4/97	36.98	10:07	29.36	7.62

LFO-01	12/10/97	36.98	11:58		29.04	7.94
LFO-01	4/17/98	36.98	13:52		26.58	10.4
LFO-02	12/14/90	33.83	0:00	D		
LFO-02	1/14/91	33.83	0:00	D		
LFO-02	2/14/91	33.83	0:00		11.04	22.79
LFO-02	3/20/91	33.83	0:00		11.25	22.58
LFO-02	4/2/93	33.83	0:00		3.73	30.1
LFO-02	6/4/93	33.83	0:00		7.92	25.91
LFO-02	8/17/93	33.83	0:00	D		
LFO-02	9/20/93	33.83	0:00	D		
LFO-02	10/14/93	33.83	0:00	D		
LFO-02	11/29/93	33.83	0:00	D		
LFO-02	12/22/93	33.83	0:00	D		
LFO-02	1/10/94	33.83	0:00	D		
LFO-02	2/22/94	33.83	0:00		13.45	20.38
LFO-02	5/23/94	33.83	0:00		14.75	19.08
LFO-02	6/21/94	33.83	0:00	D		
LFO-02	7/27/94	33.83	0:00	D		
LFO-02	10/20/94	33.61	15:37	D		
LFO-02	2/28/95	33.83	13:23		12.23	21.6
LFO-02	4/20/95	33.83	10:10		14.69	19.14
LFO-02	1/26/96	33.83	14:00		13.92	19.91
LFO-02	10/7/96	33.83	15:00		14.3	19.53
LFO-02	12/4/96	33.83	14:42		12.77	21.06
LFO-02	1/8/97	33.83	13:59		11.52	22.31
LFO-02	2/5/97	33.83	13:53		11.08	22.75
LFO-02	3/6/97	33.83	15:23		11.28	22.55
LFO-02	4/4/97	33.83	14:38		11.92	21.91
LFO-02	6/5/97	33.83	9:47	D		
LFO-02	7/8/97	33.83	9:29	D		
LFO-02	8/5/97	33.83	15:59	D		
LFO-02	9/9/97	33.83	10:35	D		
LFO-02	10/7/97	33.83	14:14	D		
LFO-02	11/4/97	33.83	10:40	D		
LFO-02	12/10/97	33.83	12:31	D		
LFO-03	12/14/90	45.58	0:00		20.79	24.79
LFO-03	1/14/91	45.58	0:00		21.08	24.5
LFO-03	2/14/91	45.58	0:00		21.25	24.33
LFO-03	3/20/91	45.58	0:00		21.33	24.25
LFO-03	4/2/93	45.58	0:00	D		
LFO-03	8/17/93	45.58	0:00		19.83	25.75
LFO-03	9/20/93	45.58	0:00		20.44	25.14
LFO-03	10/14/93	45.58	0:00		20.75	24.83
LFO-03	11/29/93	45.58	0:00		21.27	24.31
LFO-03	12/22/93	45.58	0:00		21.27	24.31
LFO-03	1/10/94	45.58	0:00		22.25	23.33
LFO-03	2/22/94	45.58	0:00		22.37	23.21
LFO-03	5/23/94	45.58	0:00		21.75	23.83
LFO-03	6/21/94	45.58	0:00		21.34	24.24

LFO-03	7/27/94	45.58	0:00	21.71	23.87
LFO-03	10/20/94	45.5	15:33	22.5	23
LFO-03	2/28/95	45.58	13:19	22.84	22.74
LFO-03	4/20/95	45.58	10:05	21.48	24.1
LFO-03	1/26/96	45.58	13:25	20.62	24.96
LFO-03	10/7/96	45.58	14:57	21.38	24.2
LFO-03	12/4/96	45.58	14:39	20.56	25.02
LFO-03	1/8/97	45.58	14:03	20.72	24.86
LFO-03	2/5/97	45.58	13:48	20.39	25.19
LFO-03	3/6/97	45.58	15:28	20.15	25.43
LFO-03	4/4/97	45.58	14:35	20.14	25.44
LFO-03	6/5/97	45.58	9:43	20.66	24.92
LFO-03	7/8/97	45.58	10:42	20.93	24.65
LFO-03	8/5/97	45.58	15:55	21.23	24.35
LFO-03	9/9/97	45.58	10:32	21.61	23.97
LFO-03	10/7/97	45.58	14:13	21.87	23.71
LFO-03	11/4/97	45.58	10:36	22.06	23.52
LFO-03	12/10/97	45.58	12:27	22.26	23.32
LFO-03	4/17/98	45.58	14:21	18.91	26.67
LFO-04	12/14/90	36.95	0:00	15	21.95
LFO-04	1/14/91	36.95	0:00	15	21.95
LFO-04	2/14/91	36.95	0:00	14.71	22.24
LFO-04	3/20/91	36.95	0:00	14.67	22.28
LFO-04	4/2/93	36.95	0:00	12.12	24.83
LFO-04	6/4/93	36.95	0:00	13.6	23.35
LFO-04	8/17/93	36.95	0:00	14.33	22.62
LFO-04	9/20/93	36.95	0:00	14.67	22.28
LFO-04	10/14/93	36.95	0:00	14.88	22.07
LFO-04	11/29/93	36.95	0:00	14.88	22.07
LFO-04	12/22/93	36.95	0:00	9.79	27.16
LFO-04	1/10/94	36.95	0:00	15.25	21.7
LFO-04	2/22/94	36.95	0:00	14.75	22.2
LFO-04	5/23/94	36.95	0:00	14.85	22.1
LFO-04	6/21/94	36.95	0:00	15.14	21.81
LFO-04	7/27/94	36.95	0:00	14.42	22.53
LFO-04	10/20/94	36.85	15:56	15.75	21.1
LFO-04	2/28/95	36.95	13:38	15.12	21.83
LFO-04	4/20/95	36.95	10:25	14.96	21.99
LFO-04	1/26/96	36.95	14:25	16.27	20.68
LFO-04	11/5/96	36.95	16:51	14.87	22.08
LFO-04	12/4/96	36.95	14:11	14.97	21.98
LFO-04	1/8/97	36.95	13:30	14.74	22.21
LFO-04	2/5/97	36.95	13:29	14.63	22.32
LFO-04	3/6/97	36.95	14:41	14.51	22.44
LFO-04	4/4/97	36.95	14:16	14.43	22.52
LFO-04	6/5/97	36.95	10:28	14.68	22.27
LFO-04	7/8/97	36.95	9:19	15.09	21.86
LFO-04	8/5/97	36.95	15:01	15.27	21.68
LFO-04	9/9/97	36.95	9:29	15.47	21.48

LFO-04	10/7/97	36.95	13:24	15.48	21.47
LFO-04	11/4/97	36.95	9:39	15.41	21.54
LFO-04	12/10/97	36.95	11:35	5.41	31.54
LFO-04	4/17/98	36.95	13:41	14.28	22.67
LFO-05	12/14/90	34.1	0:00	16.5	17.6
LFO-05	1/14/91	34.1	0:00	14.42	19.68
LFO-05	2/14/91	34.1	0:00	13.83	20.27
LFO-05	3/20/91	34.1	0:00 D		
LFO-05	4/2/93	34.1	0:00	12.92	21.18
LFO-05	6/4/93	34.1	0:00	13.9	20.2
LFO-05	8/17/93	34.1	0:00	14.38	19.72
LFO-05	9/20/93	34.1	0:00 D		
LFO-05	10/14/93	34.1	0:00	14.88	19.22
LFO-05	11/29/93	34.1	0:00	13.88	20.22
LFO-05	12/22/93	34.1	0:00	13.6	20.5
LFO-05	1/10/94	34.1	0:00	14.01	20.09
LFO-05	2/22/94	34.1	0:00	14.05	20.05
LFO-05	5/23/94	34.1	0:00	14.8	19.3
LFO-05	6/21/94	34.1	0:00	14.72	19.38
LFO-05	7/27/94	34.1	0:00	15	19.1
LFO-05	10/20/94	33.99	16:00	14.12	19.87
LFO-05	2/28/95	34.1	13:42	13.72	20.38
LFO-05	4/20/95	34.1	10:45	14.62	19.48
LFO-05	1/26/96	34.1	14:15	14.3	19.8
LFO-05	10/7/96	34.1	14:07	14.35	19.75
LFO-05	11/5/96	34.1	16:32	14.29	19.81
LFO-05	12/4/96	34.1	14:27	14.58	19.52
LFO-05	1/8/97	34.1	13:36	14.26	19.84
LFO-05	2/5/97	34.1	13:34	14.47	19.63
LFO-05	3/6/97	34.1	14:50	14.31	19.79
LFO-05	4/4/97	34.1	14:18	14.29	19.81
LFO-05	6/5/97	34.1	10:17	14.3	19.8
LFO-05	7/8/97	34.1	9:23	14.97	19.13
LFO-05	8/5/97	34.1	15:06	15.06	19.04
LFO-05	9/9/97	34.1	9:33	15.22	18.88
LFO-05	10/7/97	34.1	13:29	14.89	19.21
LFO-05	11/4/97	34.1	9:45	14.32	19.78
LFO-05	12/10/97	34.1	11:40	14.81	19.29
LFO-05	4/17/98	34.1	13:44	14.93	19.17
LFO-06	1/14/90	34.27	0:00	23.75	10.52
LFO-06	12/14/90	34.27	0:00	23.75	10.52
LFO-06	3/20/91	34.27	0:00	20.33	13.94
LFO-06	4/2/93	34.27	0:00	15.92	18.35
LFO-06	6/4/93	34.27	0:00	17.67	16.6
LFO-06	8/17/93	34.27	0:00	18.75	15.52
LFO-06	9/20/93	34.27	0:00	19.08	15.19
LFO-06	10/14/93	34.27	0:00	19.29	14.98
LFO-06	11/29/93	34.27	0:00	19.46	14.81
LFO-06	12/22/93	34.27	0:00	19.44	14.83

LFO-06	1/10/94	34.27	0:00	19.81	14.46
LFO-06	2/22/94	34.27	0:00	18.83	15.44
LFO-06	5/23/94	34.27	0:00	19.12	15.15
LFO-06	6/21/94	34.27	0:00	19.5	14.77
LFO-06	7/27/94	34.27	0:00	19.93	14.34
LFO-06	10/20/94	34.09	16:03	19.55	14.54
LFO-06	2/28/95	34.27	13:50	18.48	15.79
LFO-06	4/20/95	34.27	10:50	18.68	15.59
LFO-06	1/26/96	34.27	14:20	18.14	16.13
LFO-06	10/7/96	34.27	14:15	18.08	16.19
LFO-06	11/5/96	34.27	16:45	18.39	15.88
LFO-06	12/4/96	34.27	14:22	19.14	15.13
LFO-06	1/8/97	34.27	13:46	19.27	15
LFO-06	2/5/97	34.27	13:38	19.3	14.97
LFO-06	3/6/97	34.27	14:55	19.44	14.83
LFO-06	4/4/97	34.27	14:21	19.23	15.04
LFO-06	6/5/97	34.27	10:24	19.38	14.89
LFO-06	7/8/97	34.27	9:28	20.07	14.2
LFO-06	8/5/97	34.27	15:09	20.39	13.88
LFO-06	9/9/97	34.27	9:36	20.58	13.69
LFO-06	10/7/97	34.27	13:32	20.48	13.79
LFO-06	11/4/97	34.27	9:49	20.49	13.78
LFO-06	12/10/97	34.27	11:42	20.38	13.89
LFO-06	4/17/98	34.27	13:46	19.98	14.29
LFO-07	12/14/90	24.47	0:00	19.21	5.26
LFO-07	1/14/91	24.47	0:00	19	5.47
LFO-07	2/14/91	24.47	0:00	18.92	5.55
LFO-07	3/20/91	24.47	0:00	18.88	5.59
LFO-07	4/2/93	24.47	0:00	17.71	6.76
LFO-07	6/4/93	24.47	0:00	18.42	6.05
LFO-07	8/17/93	24.47	0:00	18.96	5.51
LFO-07	9/20/93	24.47	0:00	19.17	5.3
LFO-07	10/14/93	24.47	0:00	19.29	5.18
LFO-07	11/29/93	24.47	0:00	19.04	5.43
LFO-07	12/22/93	24.47	0:00	19.83	4.64
LFO-07	1/10/94	24.47	0:00	19.38	5.09
LFO-07	2/22/94	24.47	0:00	19.2	5.27
LFO-07	5/23/94	24.47	0:00	19.3	5.17
LFO-07	6/21/94	24.47	0:00	19.58	4.89
LFO-07	7/27/94	24.47	0:00	19.87	4.6
LFO-07	10/20/94	24.35	16:07	19.69	4.66
LFO-07	2/28/95	24.47	13:45	19.15	5.32
LFO-07	4/20/95	24.47	10:55	19.3	5.17
LFO-07	1/26/96	24.47	14:10	11.47	13
LFO-07	10/7/96	24.47	14:25	19.08	5.39
LFO-07	11/5/96	24.47	16:39	18.97	5.5
LFO-07	12/4/96	24.47	14:17	19.02	5.45
LFO-07	1/8/97	24.47	13:42	18.88	5.59
LFO-07	2/5/97	24.47	13:42	18.87	5.6

LFO-07	3/6/97	24.47	15:00	18.83	5.64
LFO-07	4/4/97	24.47	14:25	18.8	5.67
LFO-07	6/5/97	24.47	10:21	19.04	5.43
LFO-07	7/8/97	24.47	9:31	19.32	5.15
LFO-07	8/5/97	24.47	15:14	19.39	5.08
LFO-07	9/9/97	24.47	9:41	19.58	4.89
LFO-07	10/7/97	24.47	13:35	14.47	10
LFO-07	11/4/97	24.47	9:51	19.35	5.12
LFO-07	12/10/97	24.47	11:45	19.47	5
LFO-08	5/9/97	36.63	0:00	7.33	29.3
LFO-08	6/5/97	36.63	0:00	9.18	27.45
LFO-08	6/5/97	36.63	9:46	9.18	27.45
LFO-08	7/8/97	36.63	0:00	10.43	26.2
LFO-08	7/8/97	36.63	9:46	10.43	26.2
LFO-08	8/5/97	36.63	15:31	10.8	25.83
LFO-08	9/9/97	36.63	9:59	11.53	25.1
LFO-08	10/7/97	36.63	13:43	11.6	25.03
LFO-08	11/4/97	36.63	10:11	11.35	25.28
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LFO-08	4/17/98	36.63	14:00	7.62	29.01
LFO-09	5/9/97	33.67	0:00	3.93	29.74
LFO-09	6/5/97	33.67	0:00	4.57	29.1
LFO-09	6/5/97	33.67	9:53	4.57	29.1
LFO-09	7/8/97	33.67	0:00	5.82	27.85
LFO-09	7/8/97	33.67	9:51	5.82	27.85
LFO-09	8/5/97	33.67	15:33	6.1	27.57
LFO-09	9/9/97	33.67	10:02	7.14	26.53
LFO-09	10/7/97	33.67	13:45	4.07	29.6
LFO-09	11/4/97	33.67	10:13	6.46	27.21
LFO-09	12/10/97	33.67	12:04	6.06	27.61
LFO-09	4/17/98	33.67	14:02	3.35	30.32
LFO-10	5/9/97	38.88	0:00	5.65	33.23
LFO-10	6/5/97	38.88	0:00	7.1	31.78
LFO-10	6/5/97	38.88	10:04	7.1	31.78
LFO-10	7/8/97	38.88	0:00	8.58	30.3
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LFO-10	8/5/97	38.88	15:38	8.81	30.07
LFO-10	9/9/97	38.88	10:08	8.76	30.12
LFO-10	10/7/97	38.88	13:50	8.32	30.56
LFO-10	11/4/97	38.88	10:20	8.44	30.44
LFO-10	12/10/97	38.88	12:10	7.53	31.35
LFO-10	4/17/98	38.88	14:07	4.02	34.86
LFO-11	5/9/97	39.52	0:00	6.74	32.78
LFO-11	6/5/97	39.52	0:00	8.31	31.21
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LFO-11	7/8/97	39.52	0:00	10.3	29.22
LFO-11	7/8/97	39.52	10:10	10.3	29.22
LFO-11	8/5/97	39.52	15:43	10.98	28.54
LFO-11	9/9/97	39.52	10:15	11.41	28.11

LFO-11	10/7/97	39.52	13:54	11.47	28.05
LFO-11	11/4/97	39.52	10:23	11.57	27.95
LFO-11	12/10/97	39.52	12:14	11.08	28.44
LFO-11	4/17/98	39.52	14:11	4.07	35.45
LFO-12	5/9/97	39.44	0:00	7.79	31.65
LFO-12	6/5/97	39.44	0:00	9.41	30.03
LFO-12	6/5/97	39.44	9:54	9.41	30.03
LFO-12	7/8/97	39.44	0:00	10.8	28.64
LFO-12	7/8/97	39.44	10:15	10.8	28.64
LFO-12	8/5/97	39.44	15:50	11.45	27.99
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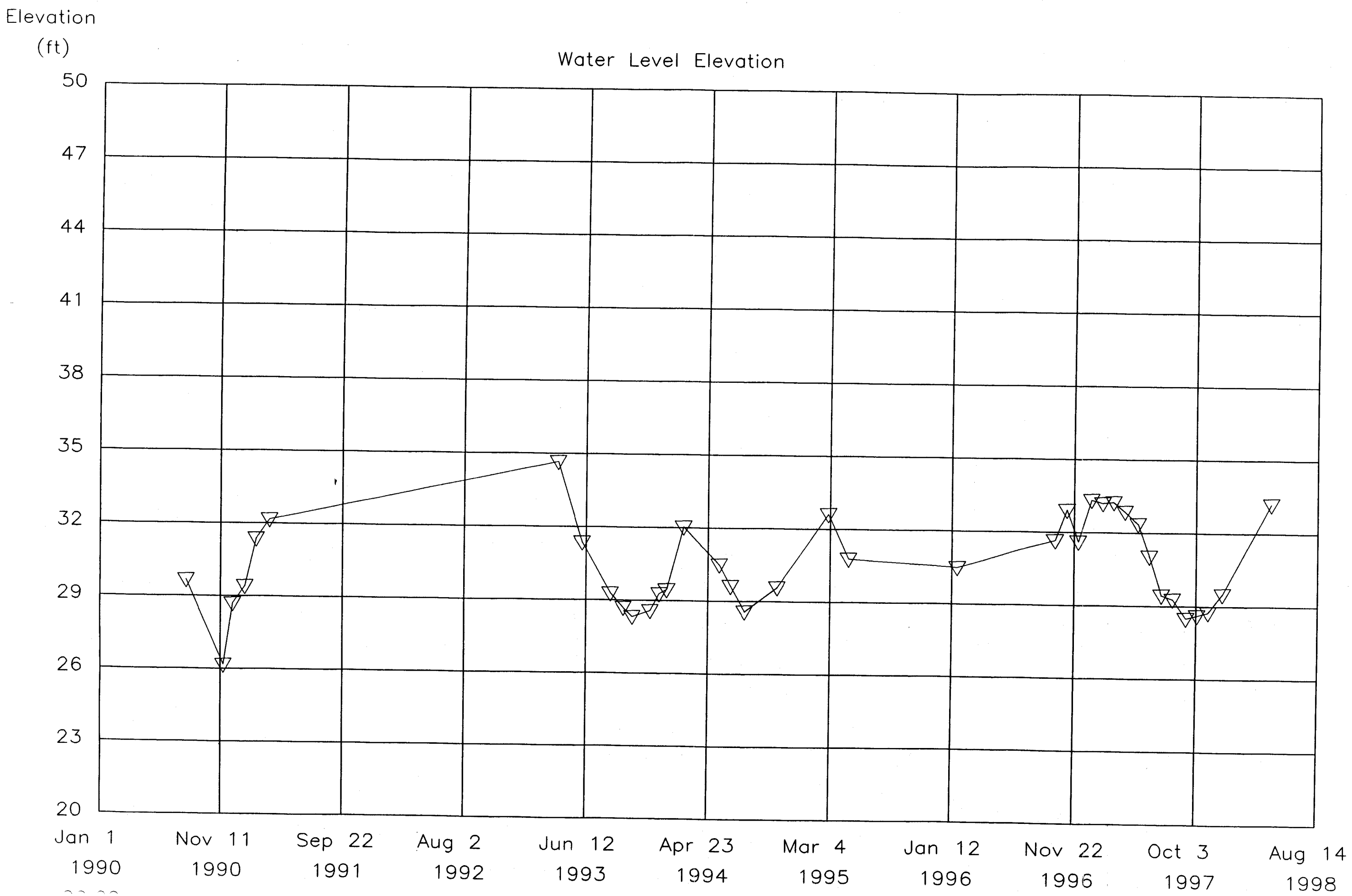
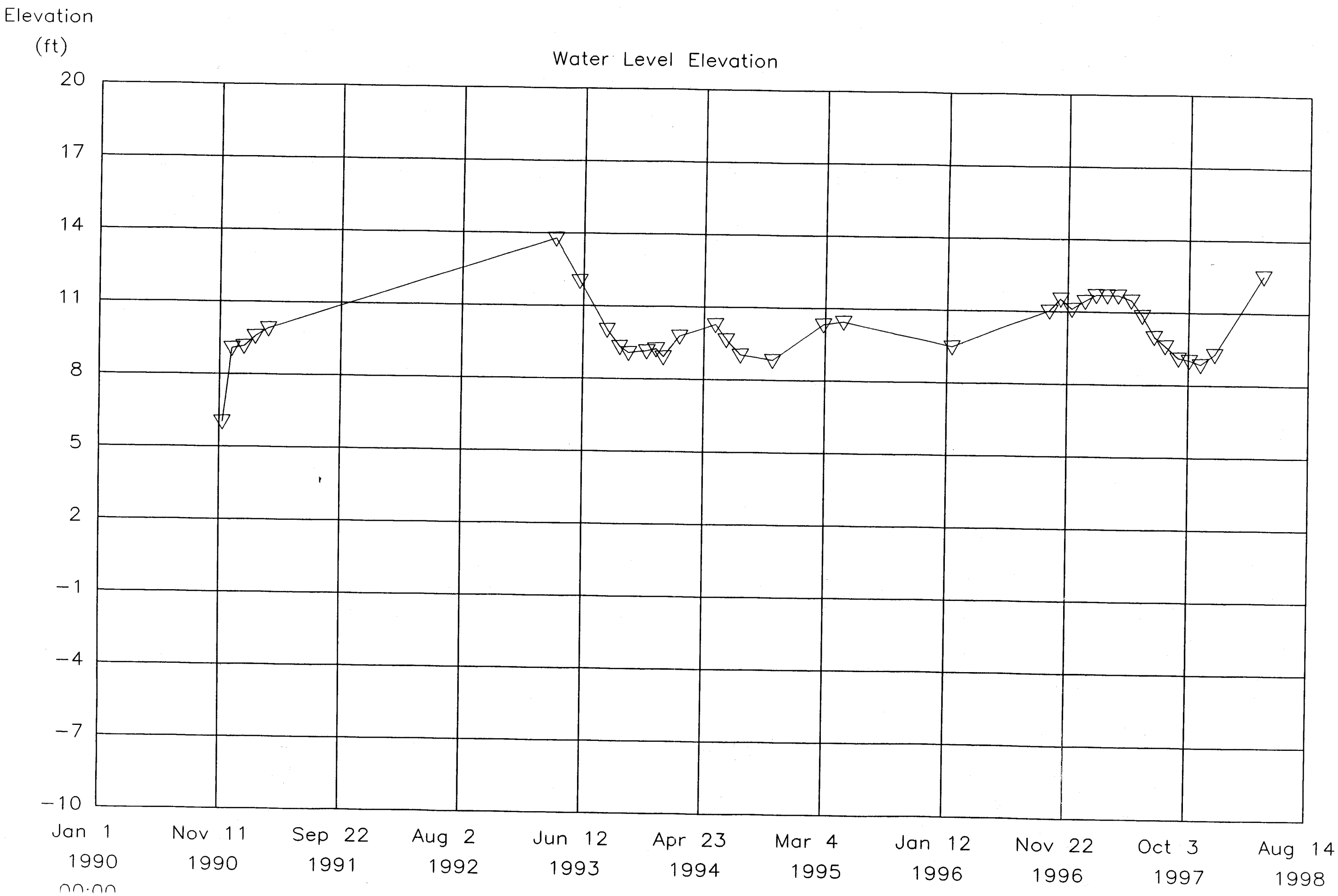
LFO-12	10/7/97	39.44	14:00	12.26	27.18
LFO-12	11/4/97	39.44	10:31	12.54	26.9
LFO-12	12/10/97	39.44	12:18	12.47	26.97
LFO-12	4/17/98	39.44	14:16	5.83	33.61
LFO-13	5/9/97	38.96	0:00	8.24	30.72
LFO-13	6/5/97	38.96	0:00	9.51	29.45
LFO-13	6/5/97	38.96	9:30	9.51	29.45
LFO-13	7/8/97	38.96	0:00	10.93	28.03
LFO-13	7/8/97	38.96	10:21	10.93	28.03
LFO-13	8/5/97	38.96	15:21	11.78	27.18
LFO-13	9/9/97	38.96	9:50	12.47	26.49
LFO-13	10/7/97	38.96	14:03	12.64	26.32
LFO-13	11/4/97	38.96	9:59	12.82	26.14
LFO-13	12/10/97	38.96	11:51	12.51	26.45
LFO-13	4/17/98	38.96	13:49	6.59	32.37
LFO-14	5/9/97	39.89	0:00	10.57	29.32
LFO-14	6/5/97	39.89	0:00	11.41	28.48
LFO-14	6/5/97	39.89	9:33	11.41	28.48
LFO-14	7/8/97	39.89	0:00	12.53	27.36
LFO-14	7/8/97	39.89	10:35	12.53	27.36
LFO-14	8/5/97	39.89	15:25	13.18	26.71
LFO-14	9/9/97	39.89	9:53	13.77	26.12
LFO-14	10/7/97	39.89	14:09	13.98	25.91
LFO-14	11/4/97	39.89	10:05	14.2	25.69
LFO-14	12/10/97	39.89	11:55	14.32	25.57
LFO-14	4/17/98	39.89	13:54	9.21	30.68
LFO-15	5/9/97	41.61	0:00	15.25	26.36
LFO-15	6/5/97	41.61	0:00	15.57	26.04
LFO-15	6/5/97	41.61	9:50	15.57	26.04
LFO-15	7/8/97	41.61	0:00	16.06	25.55
LFO-15	7/8/97	41.61	10:26	16.06	25.55
LFO-15	8/5/97	41.61	16:25	16.48	25.13
LFO-15	9/9/97	41.61	10:30	16.97	24.64
LFO-15	10/7/97	41.61	14:21	17.22	24.39
LFO-15	11/4/97	41.61	10:34	17.45	24.16
LFO-15	4/17/98	41.61	14:18	13.43	28.18

(2) Measurements Based on Mean Sea Level

Site: LF-01


Elevation
(ft)
Water Level Elevation
50
47
44
41
38
35
32
29
26
23
20
Jan 1
1990
Nov 11
1990
Sep 22
1991
Aug 2
1992
Jun 12
1993
Apr 23
1994
Mar 4
1995
Jan 12
1996
Nov 22
1996
Oct 3
1997
Aug 14
1998

Site: LF-01A


Elevation
(ft)
Water Level Elevation
20
17
14
11
8
5
2
-1
-4
-7
-10
Jan 1
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00:00
Nov 11
1990
Sep 22
1991
Aug 2
1992
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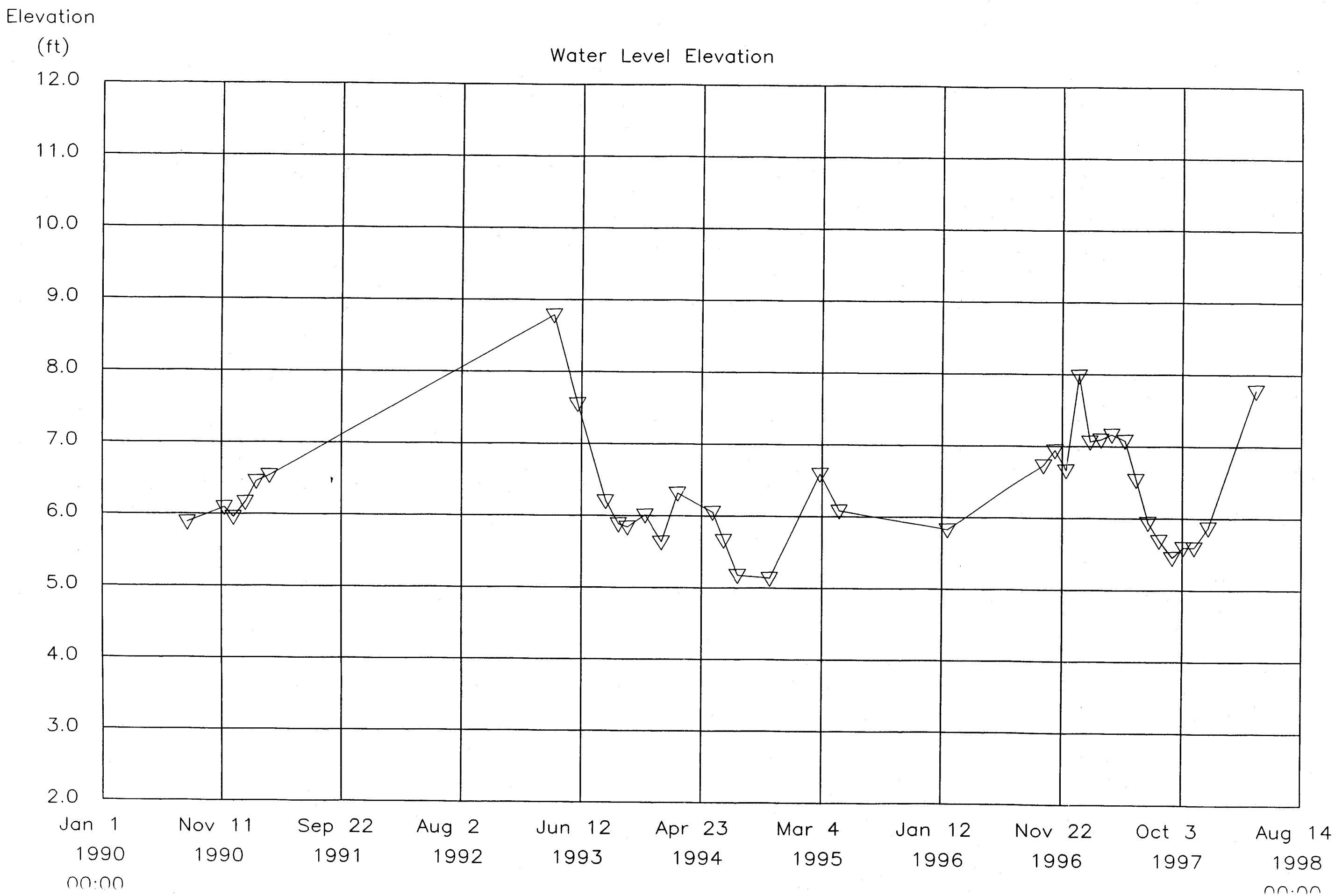
Apr 23
1994
Mar 4
1995
Jan 12
1996
Nov 22
1996
Oct 3
1997
Aug 14
1998

Site: LF-02


Elevation
(ft)
Water Level Elevation
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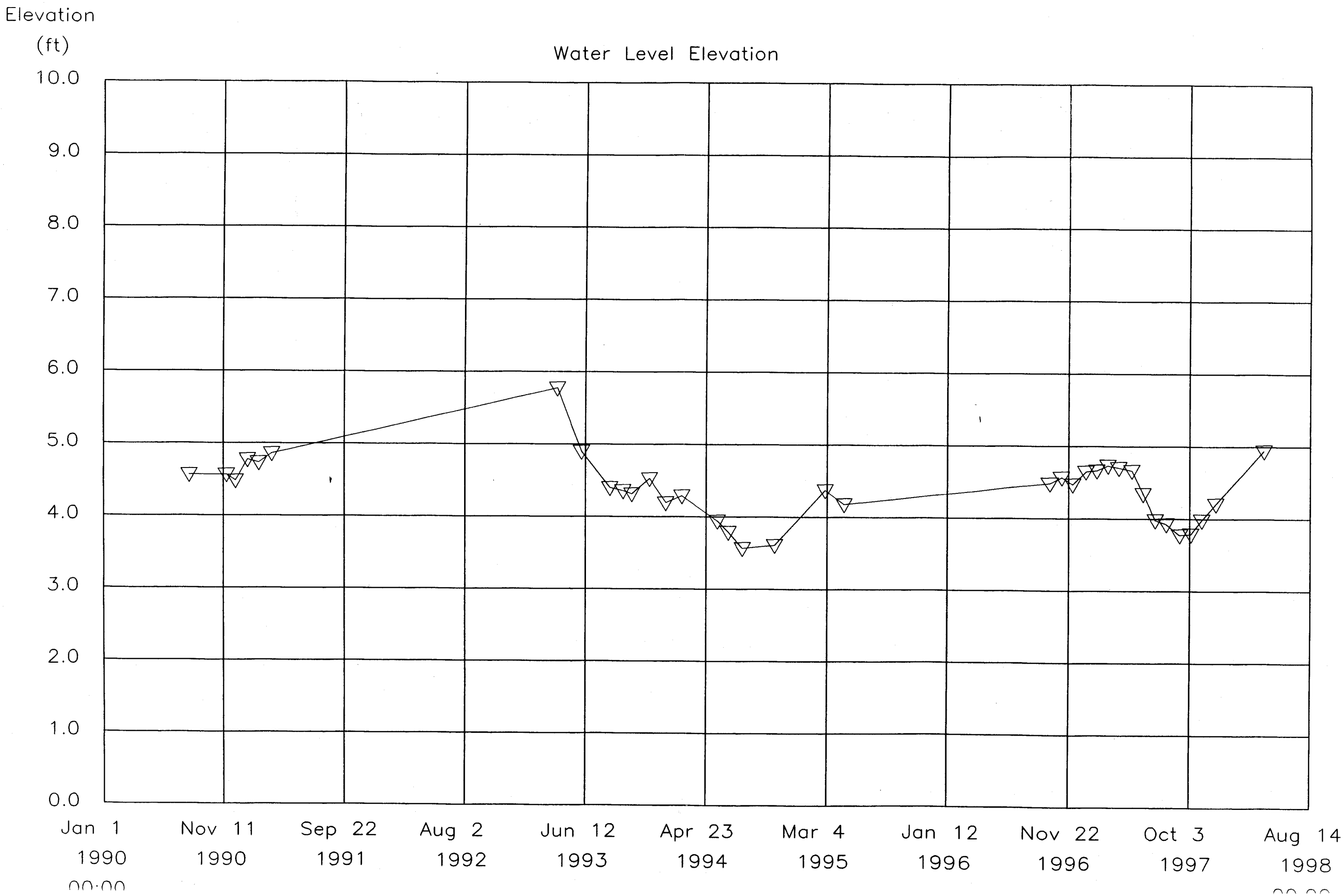
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
Jan 1 1990 00:00
Nov 11 1990
Sep 22 1991
Aug 2 1992
Jun 12 1993
Apr 23 1994
Mar 4 1995
Jan 12 1996
Nov 22 1996
Oct 3 1997
Aug 14 1998 00:00

Site: LF-03


Elevation
(ft)
Water Level Elevation
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9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Jan 1
1990
00:00
Nov 11
1990
Sep 22
1991
Aug 2
1992
Jun 12
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Apr 23
1994
Mar 4
1995
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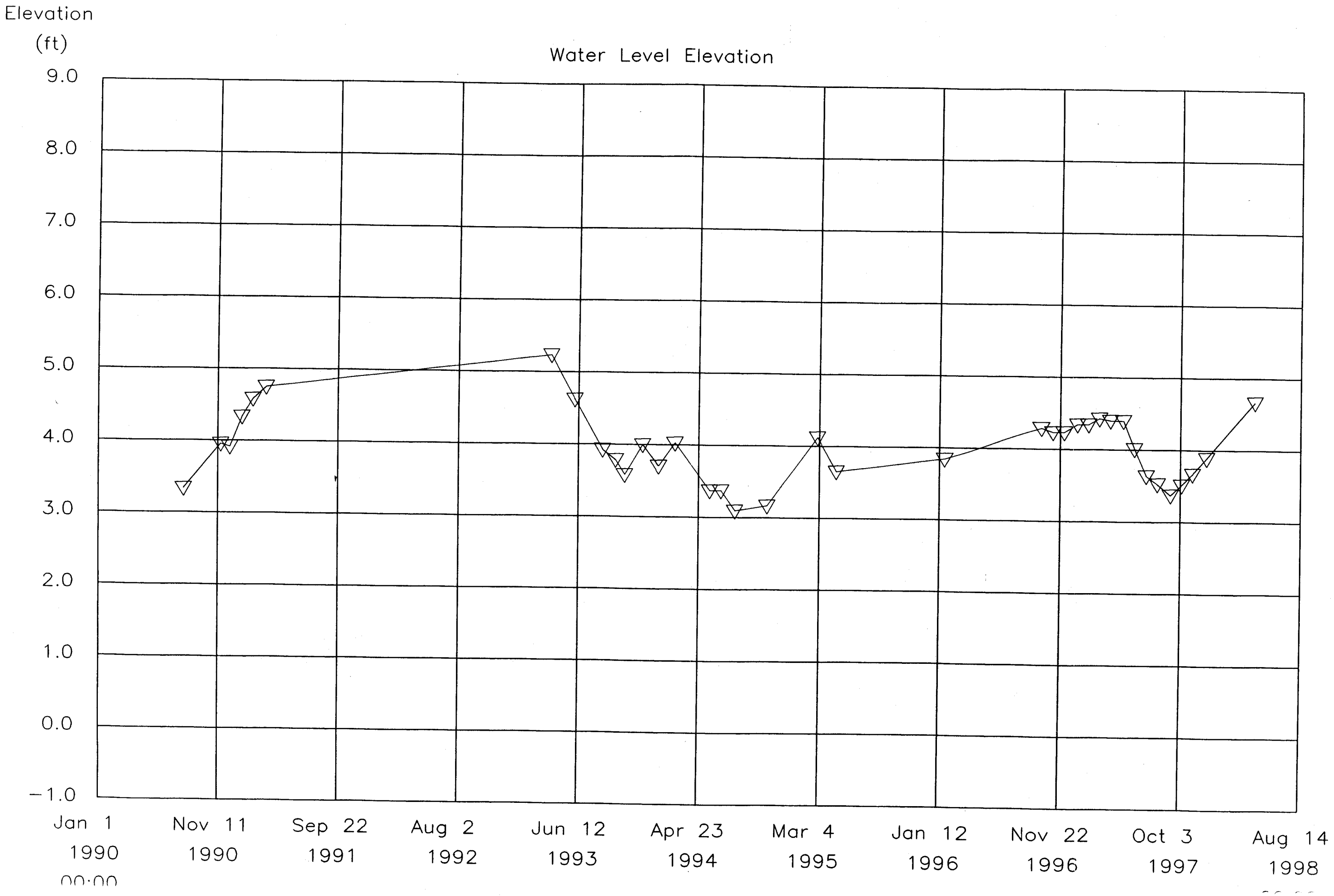
1996
Nov 22
1996
Oct 3
1997
Aug 14
1998

Site: LF-04


Elevation
(ft)
Water Level Elevation
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8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
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Aug 2 1992
Jun 12 1993
Apr 23 1994
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Jan 12 1996
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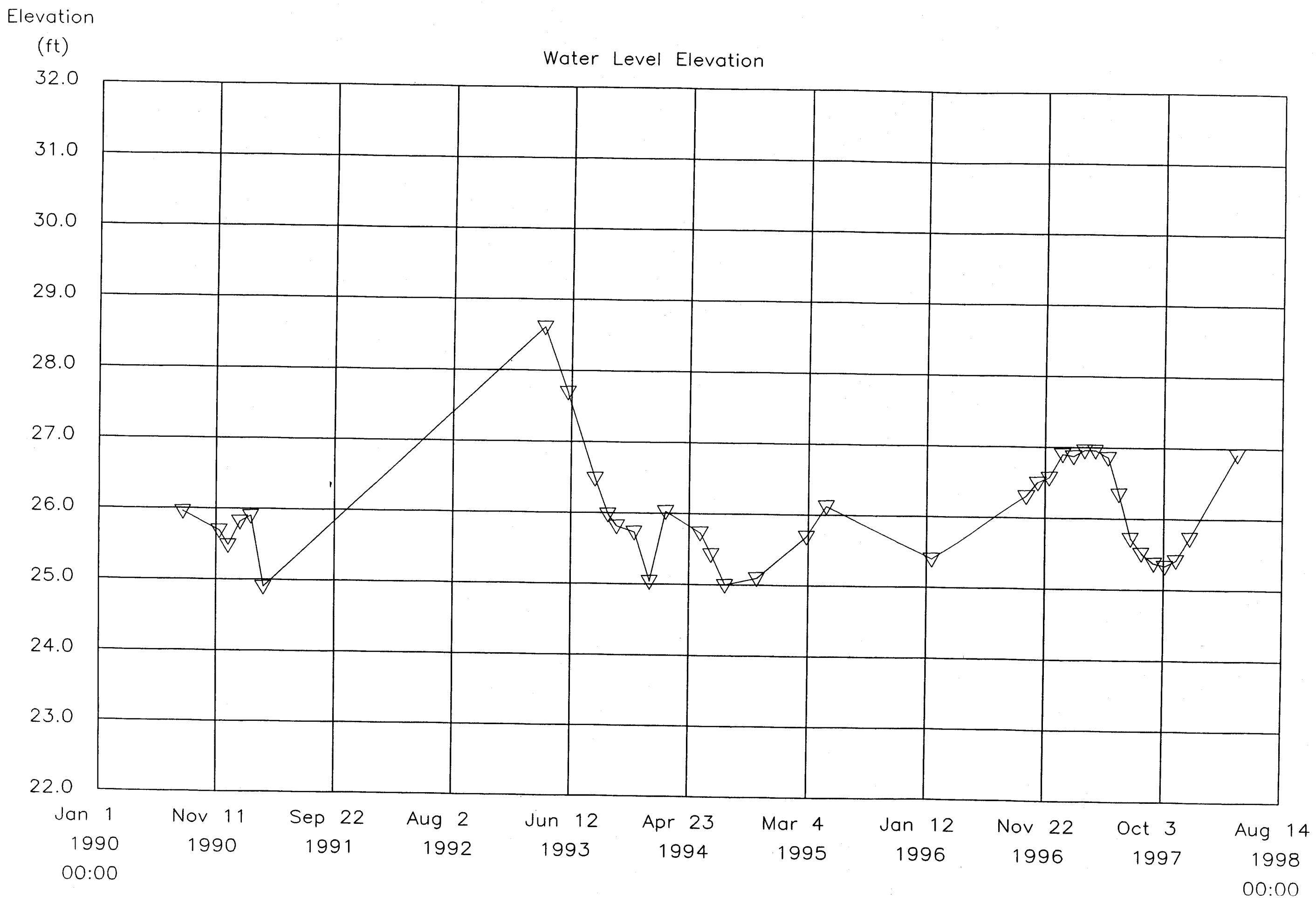
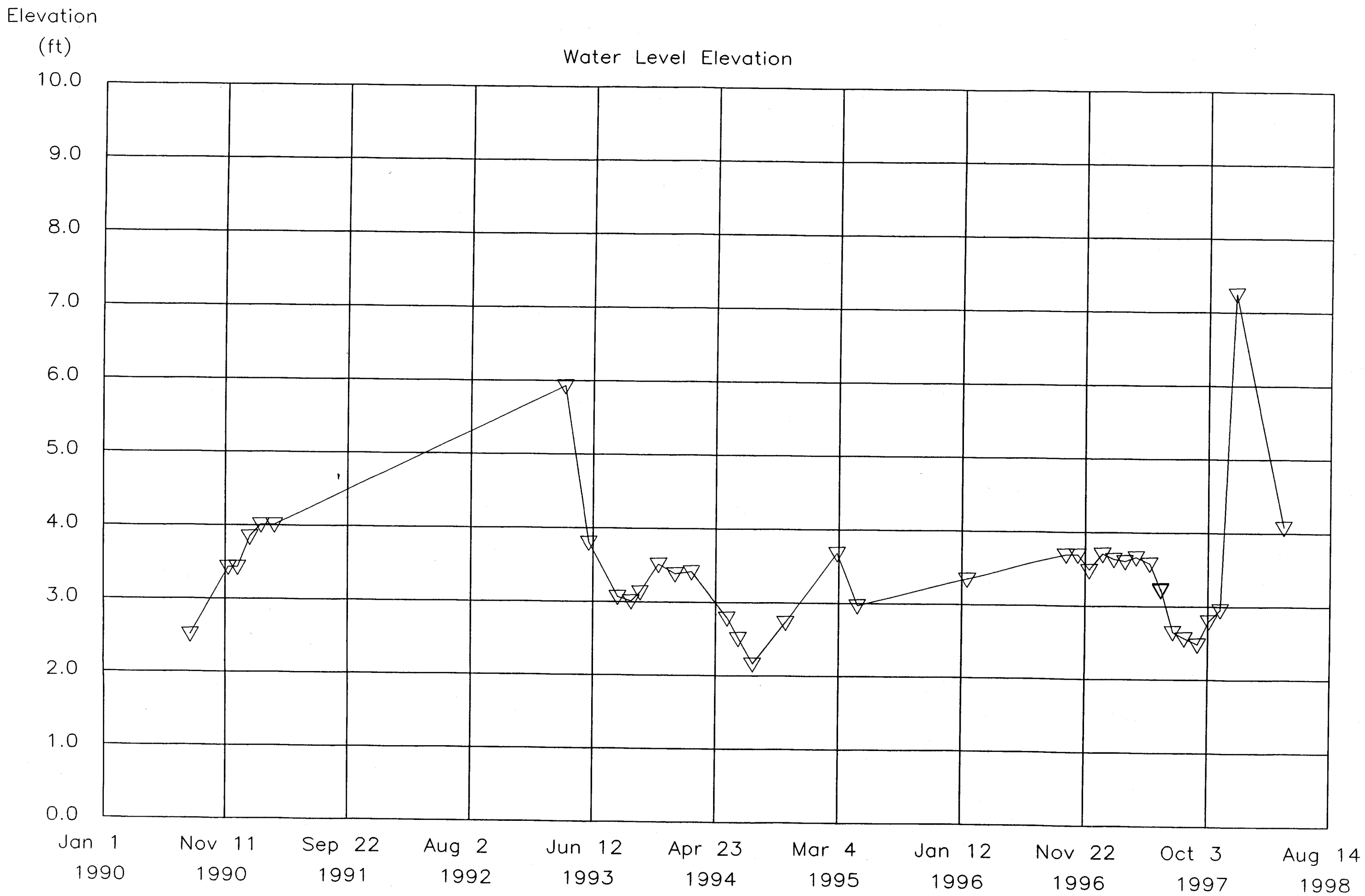
Aug 14 1998

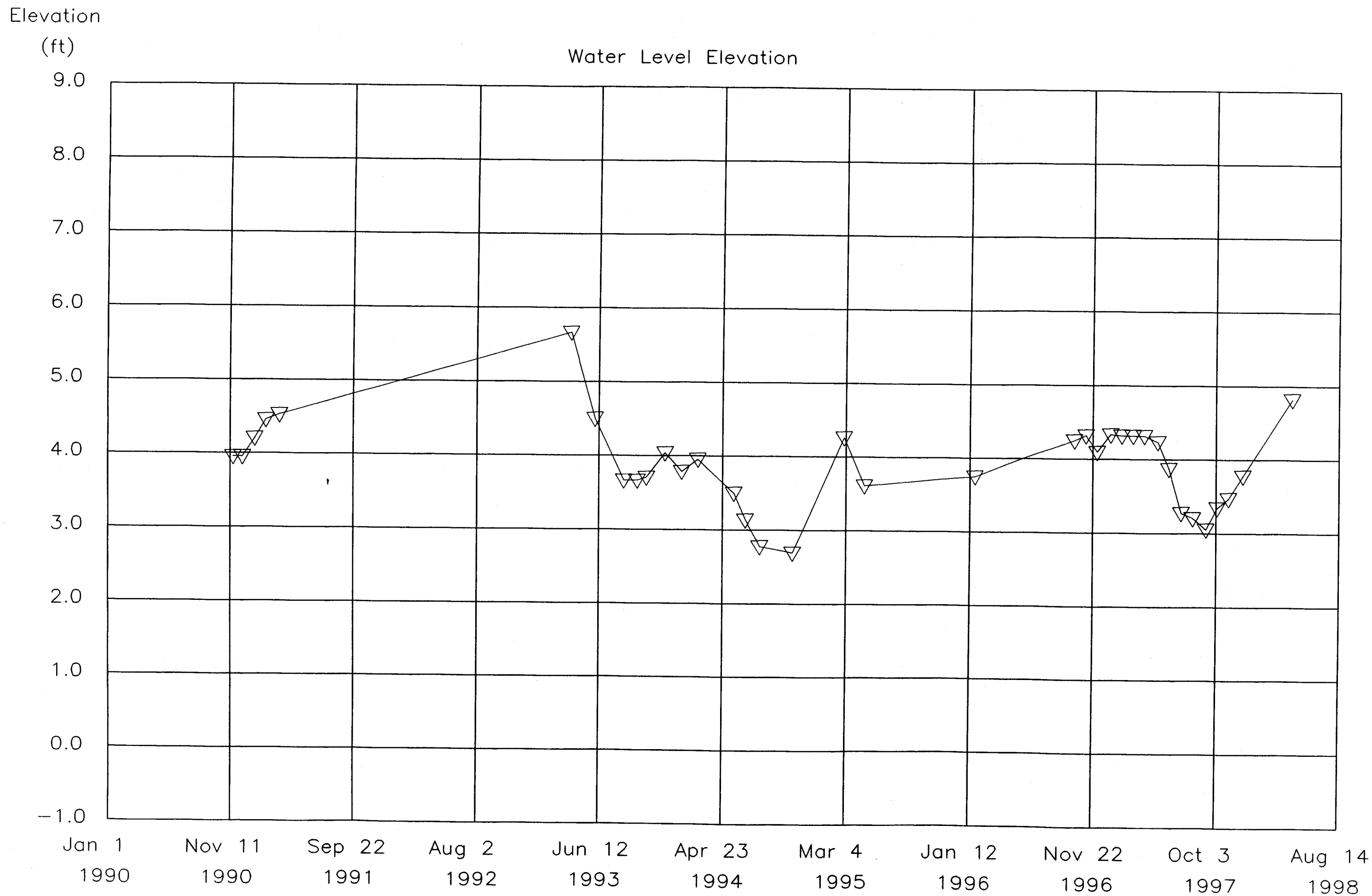
Site: LF-05


Elevation
(ft)
Water Level Elevation
32.0
31.0
30.0
29.0
28.0
27.0
26.0
25.0
24.0
23.0
22.0
Jan 1
1990
00:00
Nov 11
1990
Sep 22
1991
Aug 2
1992
Jun 12
1993
Apr 23
1994
Mar 4
1995
Jan 12
1996
Nov 22
1996
Oct 3
1997
Aug 14
1998
00:00

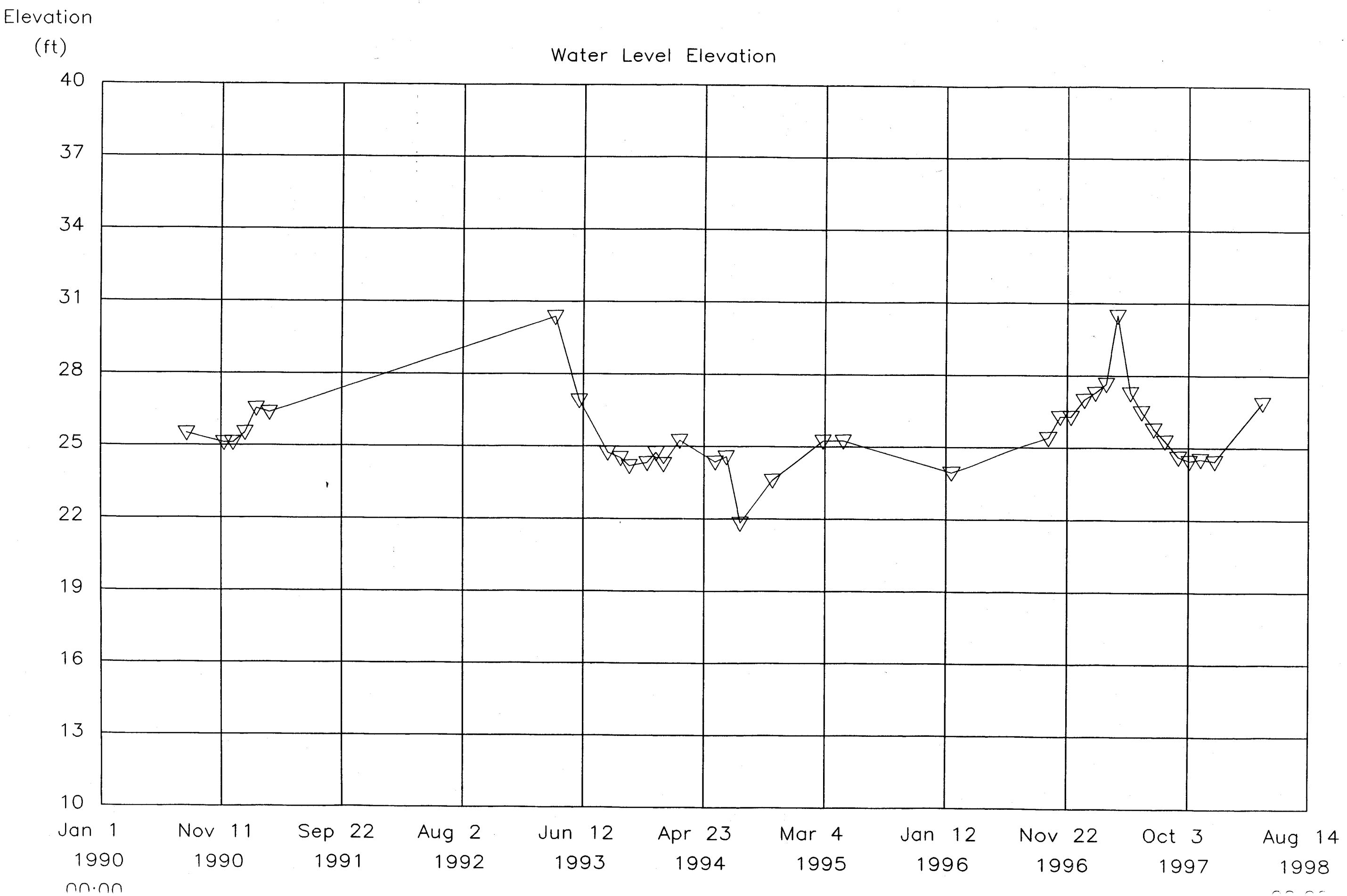
Site: LF-06


Elevation
(ft)
Water Level Elevation
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Jan 1 1990
Nov 11 1990
Sep 22 1991
Aug 2 1992
Jun 12 1993
Apr 23 1994
Mar 4 1995
Jan 12 1996
Nov 22 1996
Oct 3 1997
Aug 14 1998

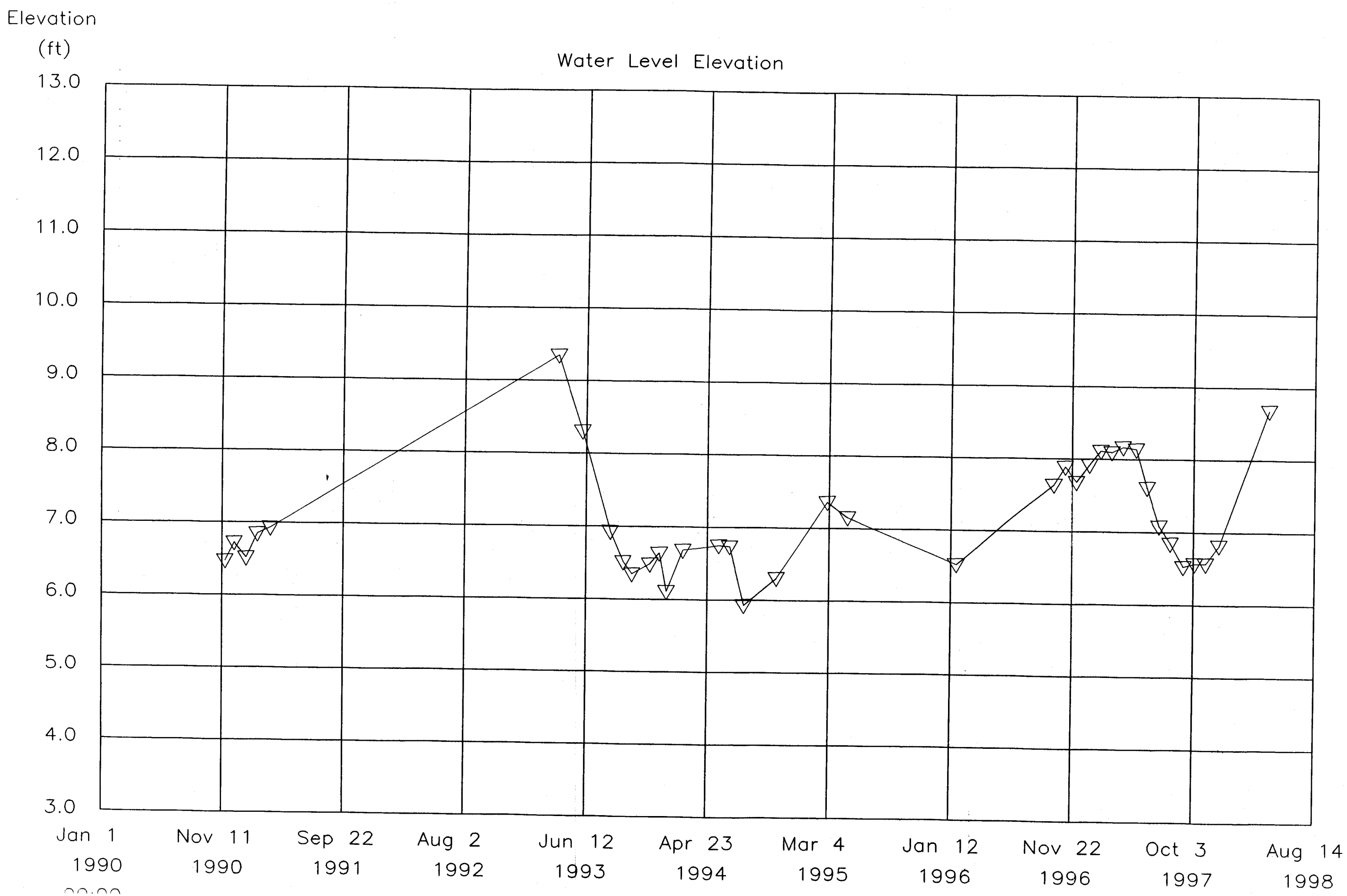
Site: LF-06A


Elevation
(ft)
Water Level Elevation
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
Jan 1 1990
Nov 11 1990
Sep 22 1991
Aug 2 1992
Jun 12 1993
Apr 23 1994
Mar 4 1995
Jan 12 1996
Nov 22 1996
Oct 3 1997
Aug 14 1998

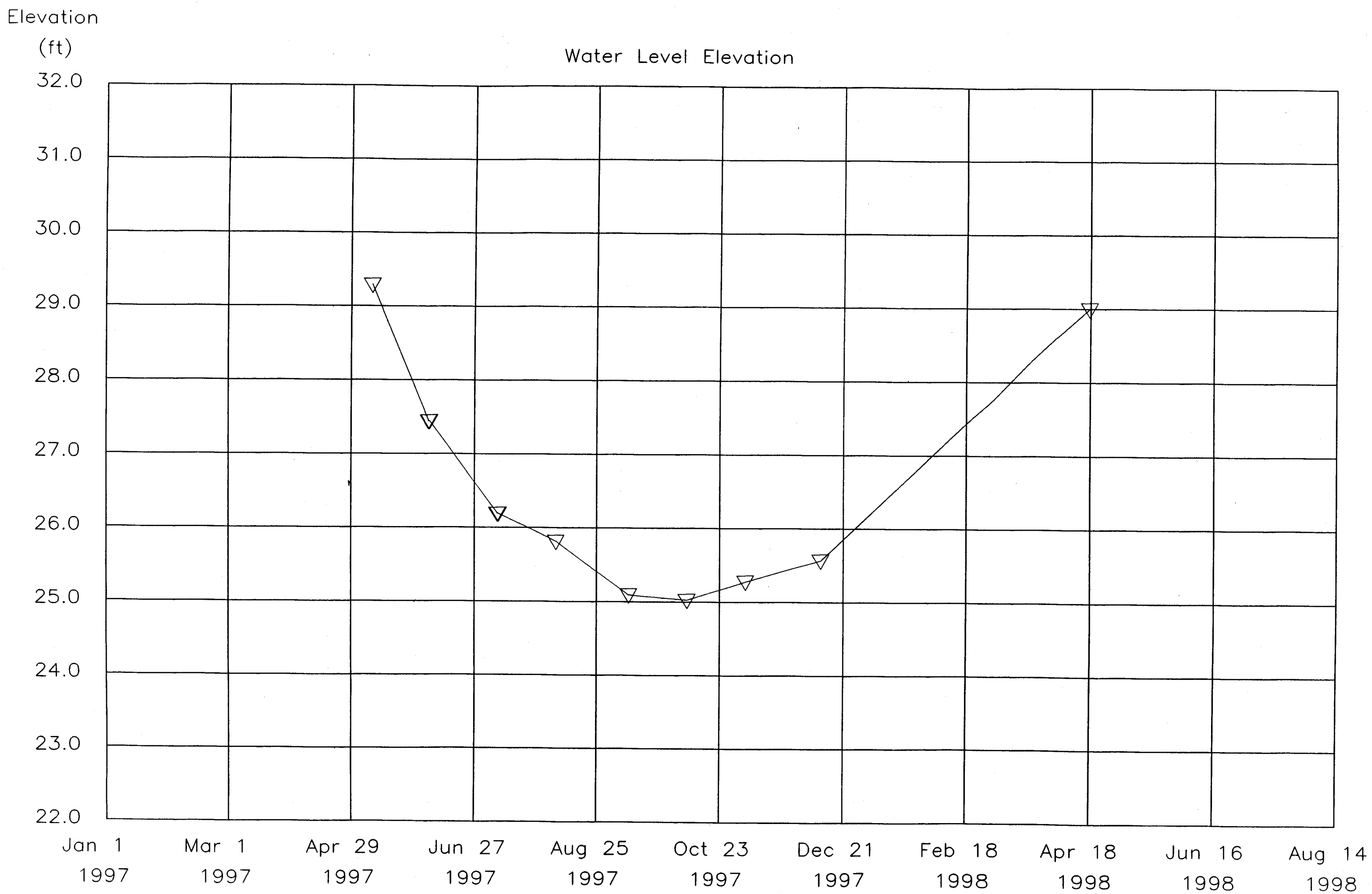
Site: LF-07


Elevation
(ft)
Water Level Elevation
40
37
34
31
28
25
22
19
16
13
10
Jan 1
1990
00:00
Nov 11
1990
Sep 22
1991
Aug 2
1992
Jun 12
1993
Apr 23
1994
Mar 4
1995
Jan 12
1996
Nov 22
1996
Oct 3
1997
Aug 14
1998

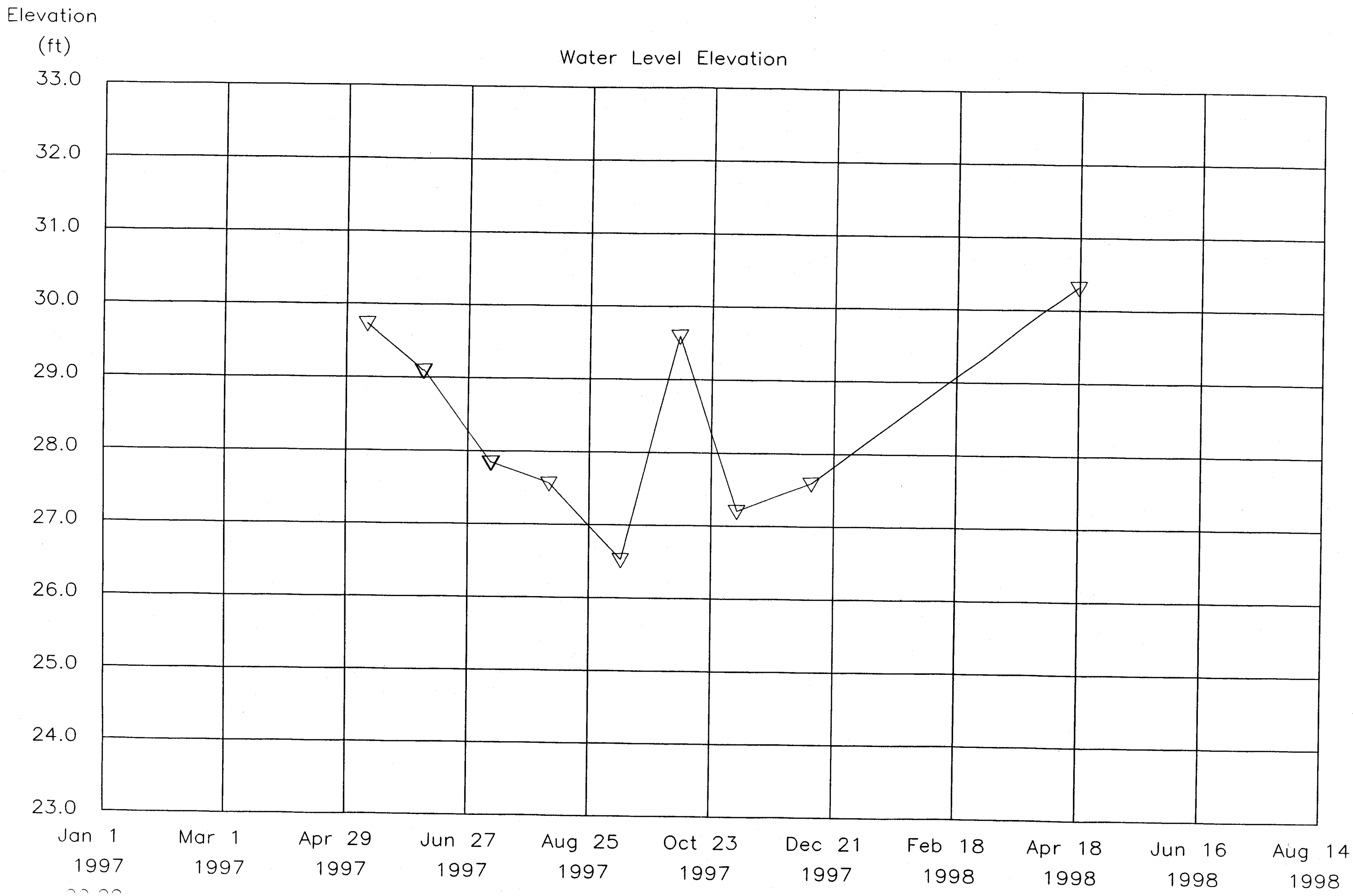
Site: LF-08


Elevation
(ft)
Water Level Elevation
13.0
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
Jan 1 1990
Nov 11 1990
Sep 22 1991
Aug 2 1992
Jun 12 1993
Apr 23 1994
Mar 4 1995
Jan 12 1996
Nov 22 1996
Oct 3 1997
Aug 14 1998

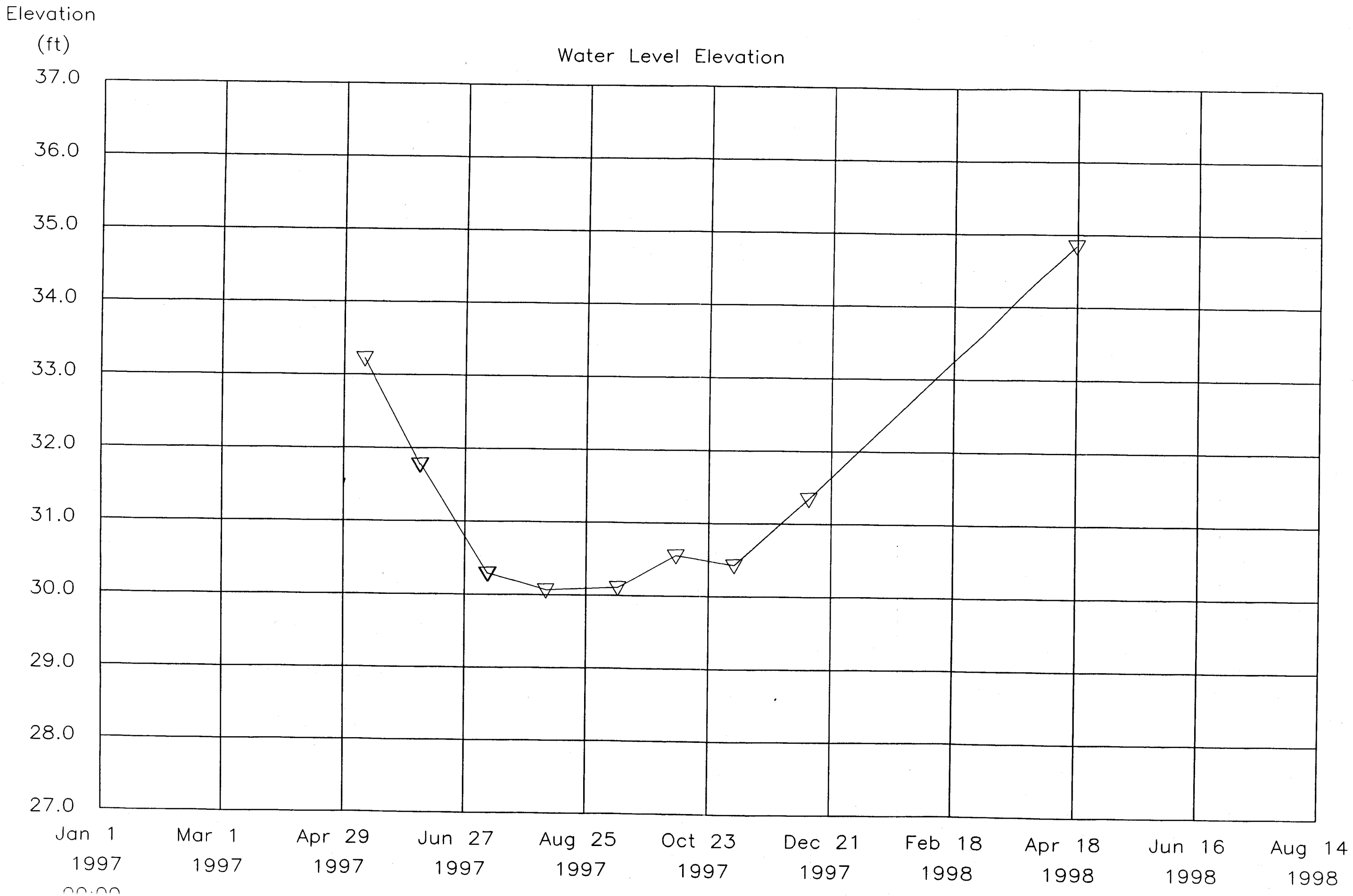
Site: LFO-08


Elevation
(ft)
Water Level Elevation
32.0
31.0
30.0
29.0
28.0
27.0
26.0
25.0
24.0
23.0
22.0
Jan 1 1997
Mar 1 1997
Apr 29 1997
Jun 27 1997
Aug 25 1997
Oct 23 1997
Dec 21 1997
Feb 18 1998
Apr 18 1998
Jun 16 1998
Aug 14 1998

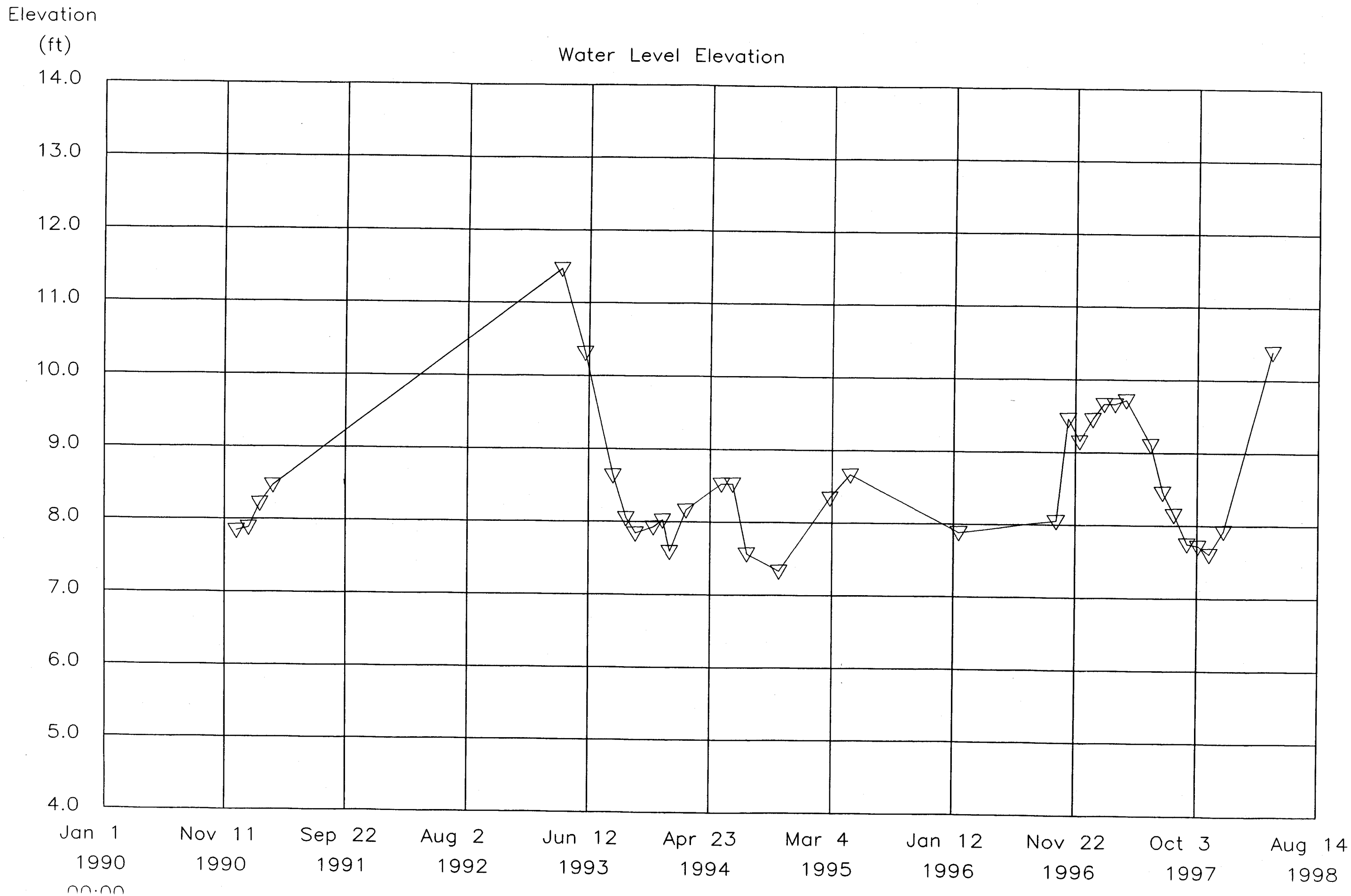
Site: LFO-09


Elevation
(ft)
Water Level Elevation
33.0
32.0
31.0
30.0
29.0
28.0
27.0
26.0
25.0
24.0
23.0
Jan 1 1997
Mar 1 1997
Apr 29 1997
Jun 27 1997
Aug 25 1997
Oct 23 1997
Dec 21 1997
Feb 18 1998
Apr 18 1998
Jun 16 1998
Aug 14 1998

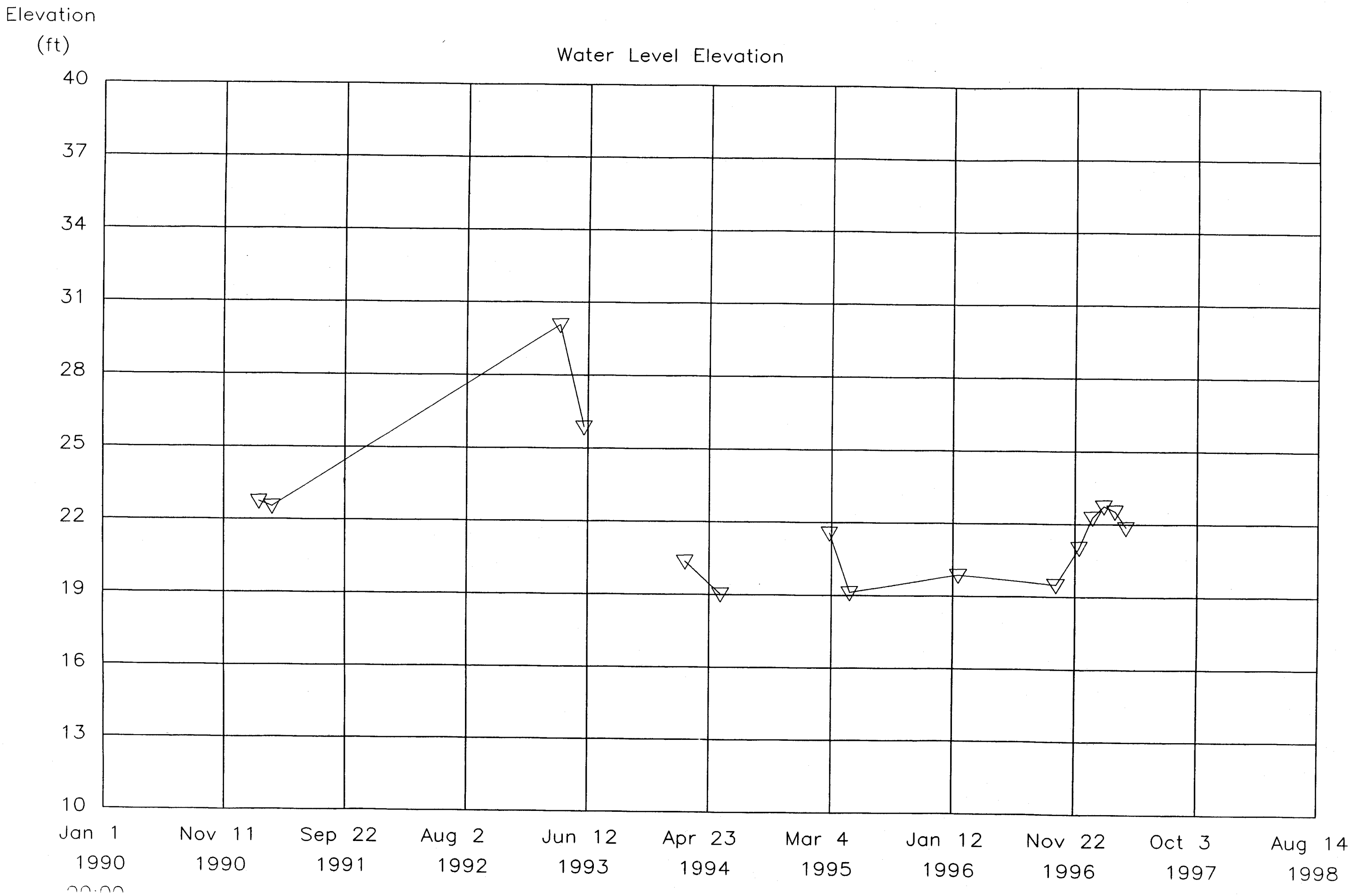
Site: LFO-10


Elevation
(ft)
Water Level Elevation
37.0
36.0
35.0
34.0
33.0
32.0
31.0
30.0
29.0
28.0
27.0
Jan 1 1997 00:00
Mar 1 1997
Apr 29 1997
Jun 27 1997
Aug 25 1997
Oct 23 1997
Dec 21 1997
Feb 18 1998
Apr 18 1998
Jun 16 1998
Aug 14 1998

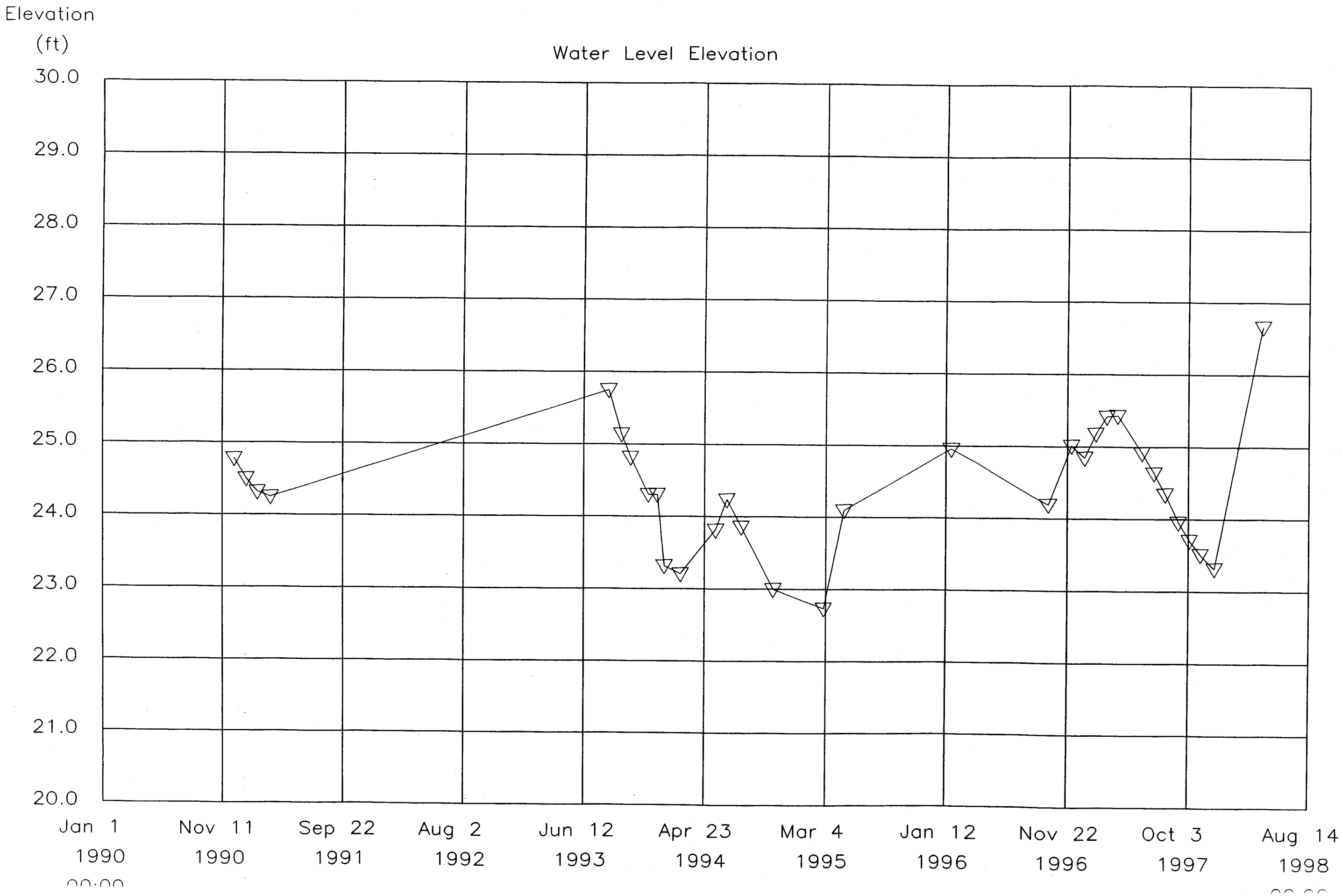
Site: LFO-01


Elevation
(ft)
Water Level Elevation
14.0
13.0
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
Jan 1 1990 00:00
Nov 11 1990
Sep 22 1991
Aug 2 1992
Jun 12 1993
Apr 23 1994
Mar 4 1995
Jan 12 1996
Nov 22 1996
Oct 3 1997
Aug 14 1998

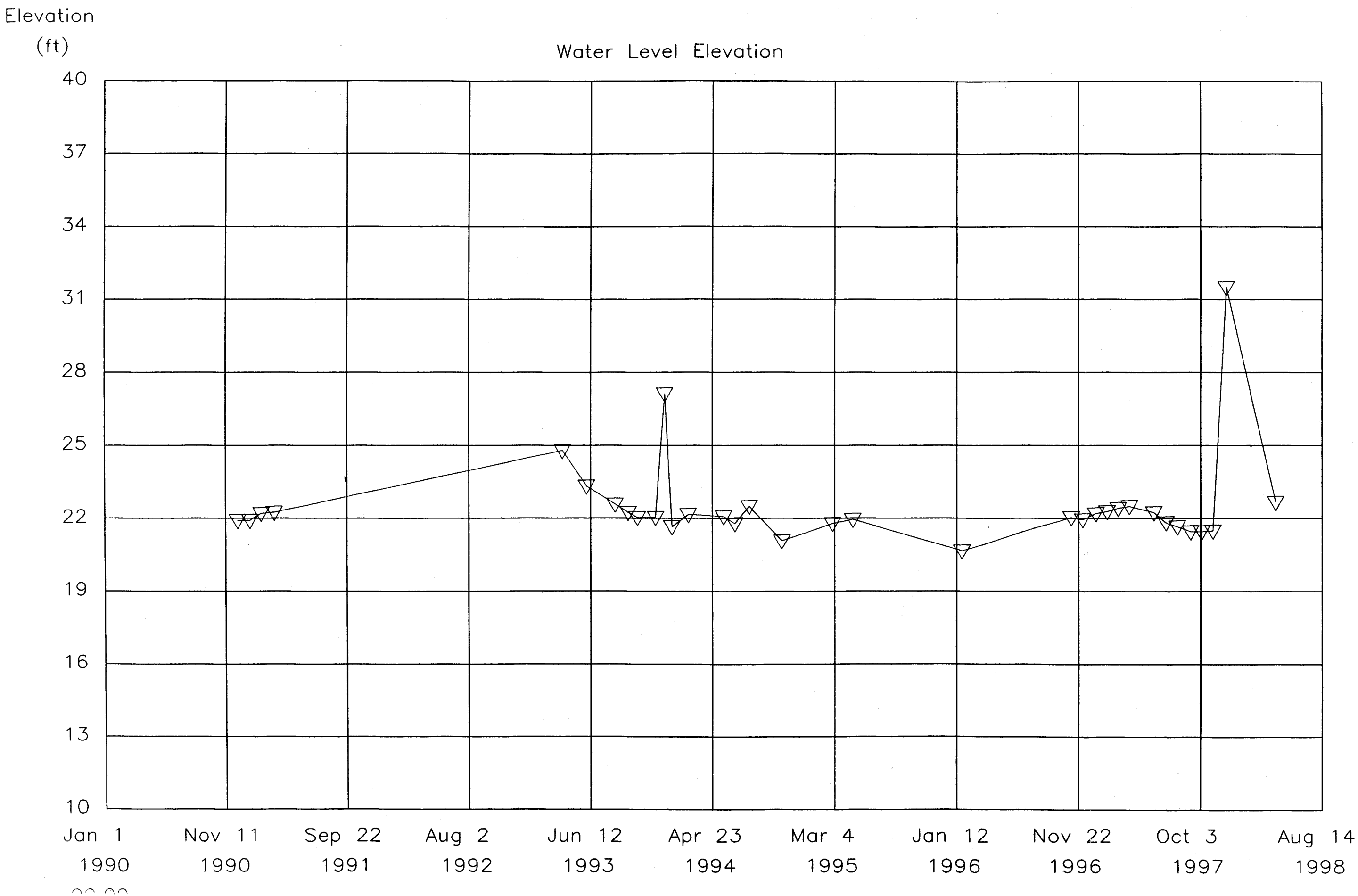
Site: LFO-02


Elevation
(ft)
Water Level Elevation
40
37
34
31
28
25
22
19
16
13
10
Jan 1
1990
Nov 11
1990
Sep 22
1991
Aug 2
1992
Jun 12
1993
Apr 23
1994
Mar 4
1995
Jan 12
1996
Nov 22
1996
Oct 3
1997
Aug 14
1998

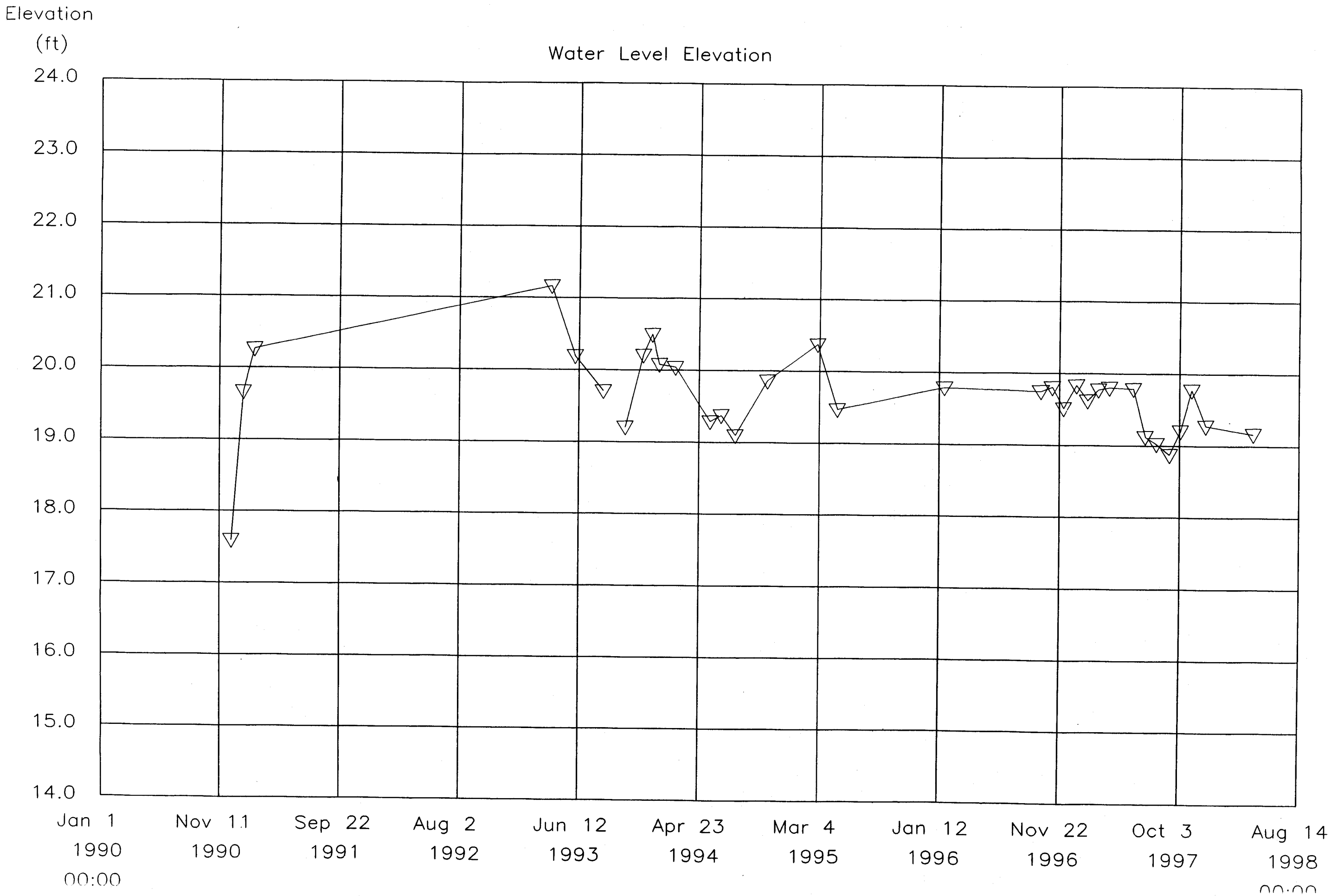
Site: LFO-03


Elevation
(ft)
Water Level Elevation
30.0
29.0
28.0
27.0
26.0
25.0
24.0
23.0
22.0
21.0
20.0
Jan 1
1990
Nov 11
1990
Sep 22
1991
Aug 2
1992
Jun 12
1993
Apr 23
1994
Mar 4
1995
Jan 12
1996
Nov 22
1996
Oct 3
1997
Aug 14
1998

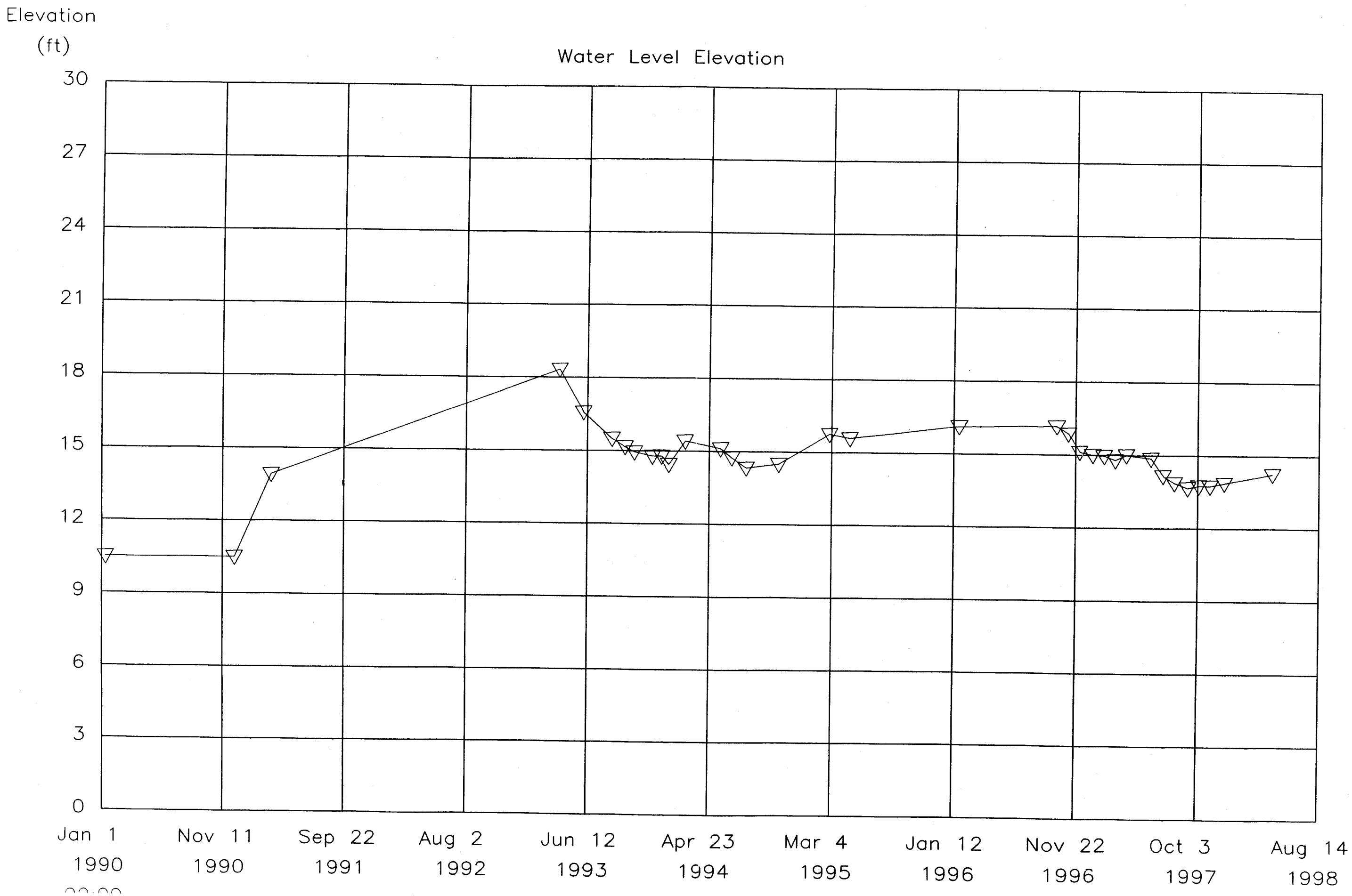
Site: LFO-04


Elevation
(ft)
Water Level Elevation
40
37
34
31
28
25
22
19
16
13
10
Jan 1
1990
Nov 11
1990
Sep 22
1991
Aug 2
1992
Jun 12
1993
Apr 23
1994
Mar 4
1995
Jan 12
1996
Nov 22
1996
Oct 3
1997
Aug 14
1998

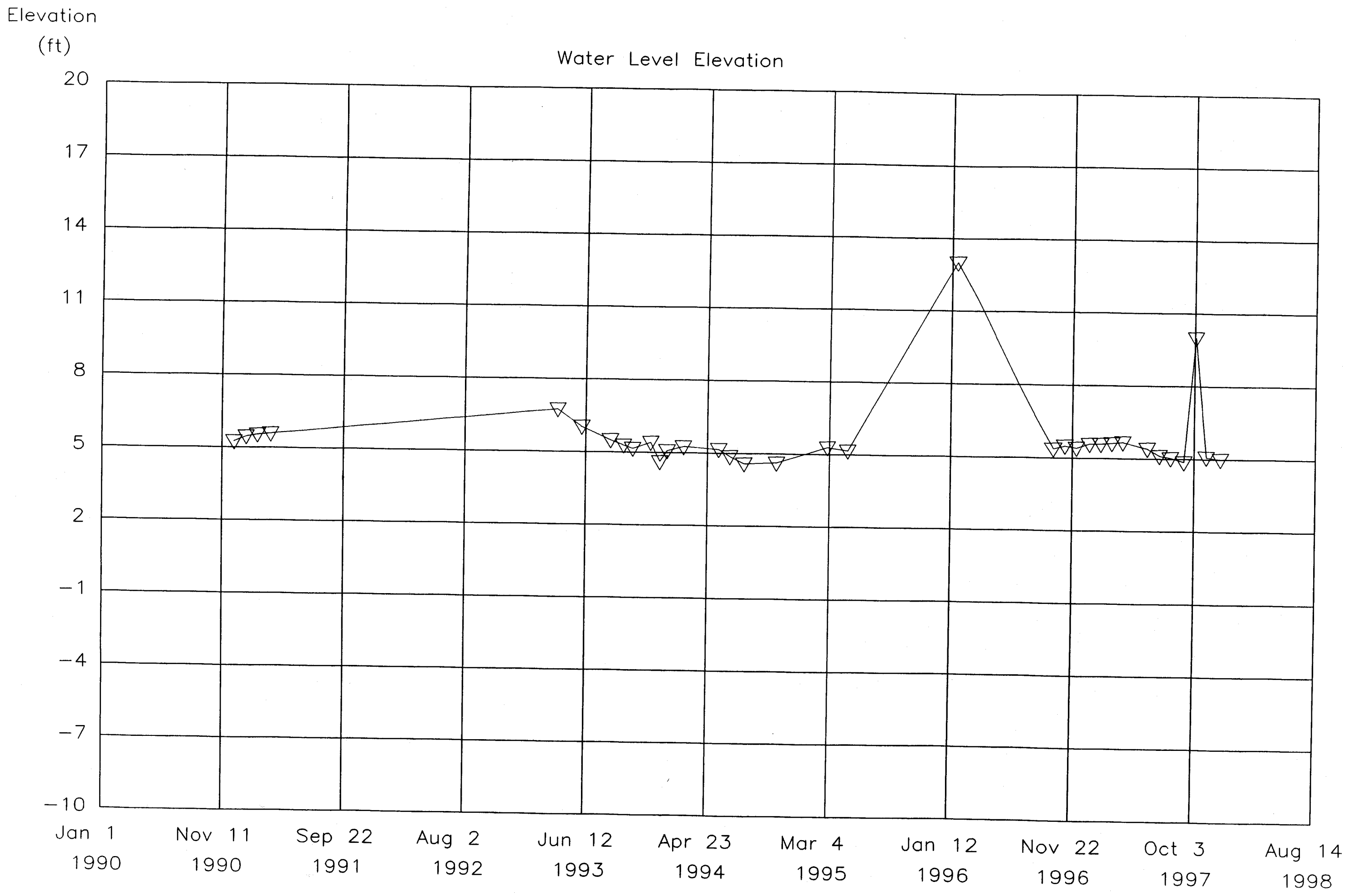
Site: LFO-05


Elevation
(ft)
Water Level Elevation
24.0
23.0
22.0
21.0
20.0
19.0
18.0
17.0
16.0
15.0
14.0
Jan 1 1990 00:00
Nov 11 1990
Sep 22 1991
Aug 2 1992
Jun 12 1993
Apr 23 1994
Mar 4 1995
Jan 12 1996
Nov 22 1996
Oct 3 1997
Aug 14 1998 00:00

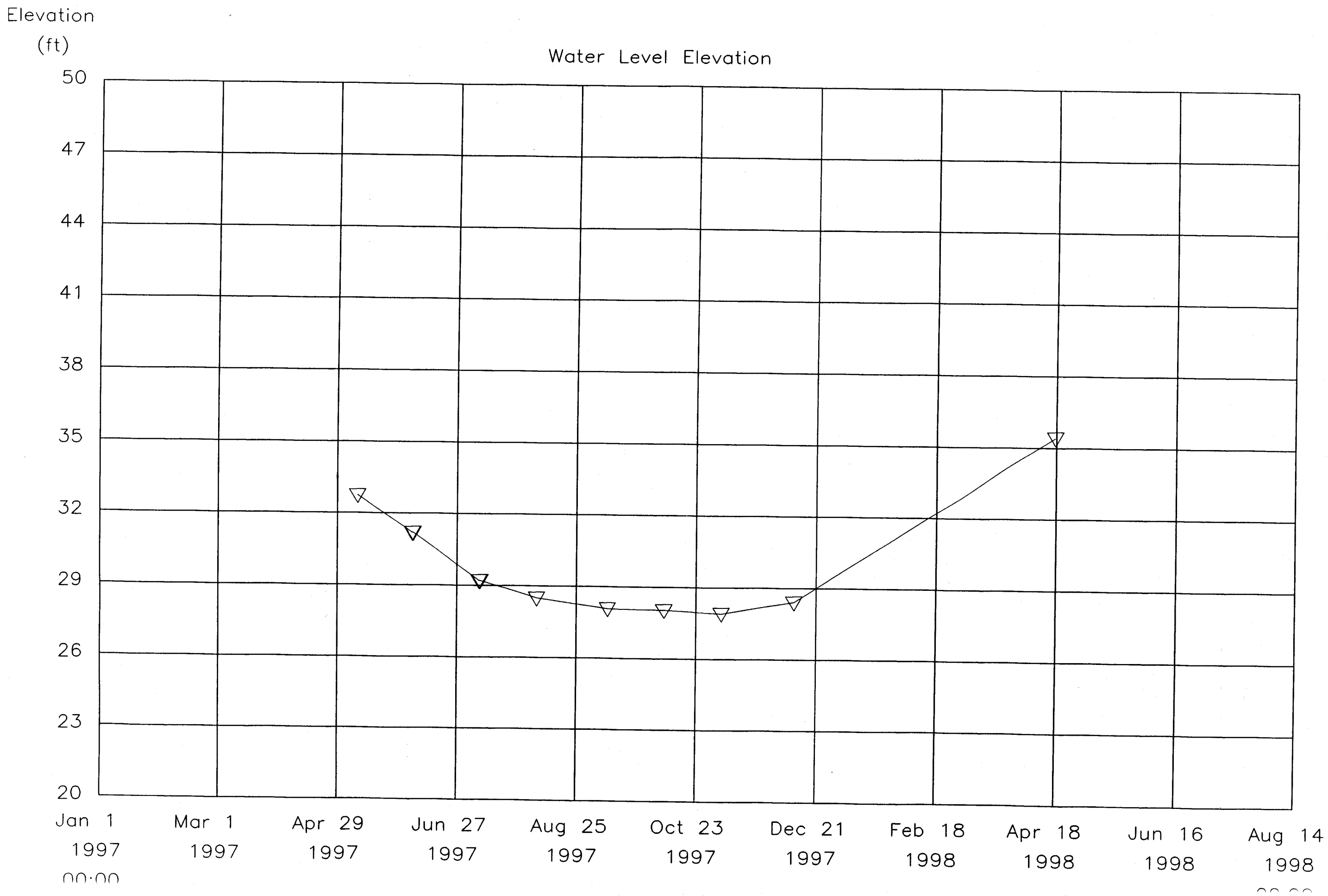
Site: LFO-06


Elevation
(ft)
Water Level Elevation
30
27
24
21
18
15
12
9
6
3
0
Jan 1
1990
Nov 11
1990
Sep 22
1991
Aug 2
1992
Jun 12
1993
Apr 23
1994
Mar 4
1995
Jan 12
1996
Nov 22
1996
Oct 3
1997
Aug 14
1998

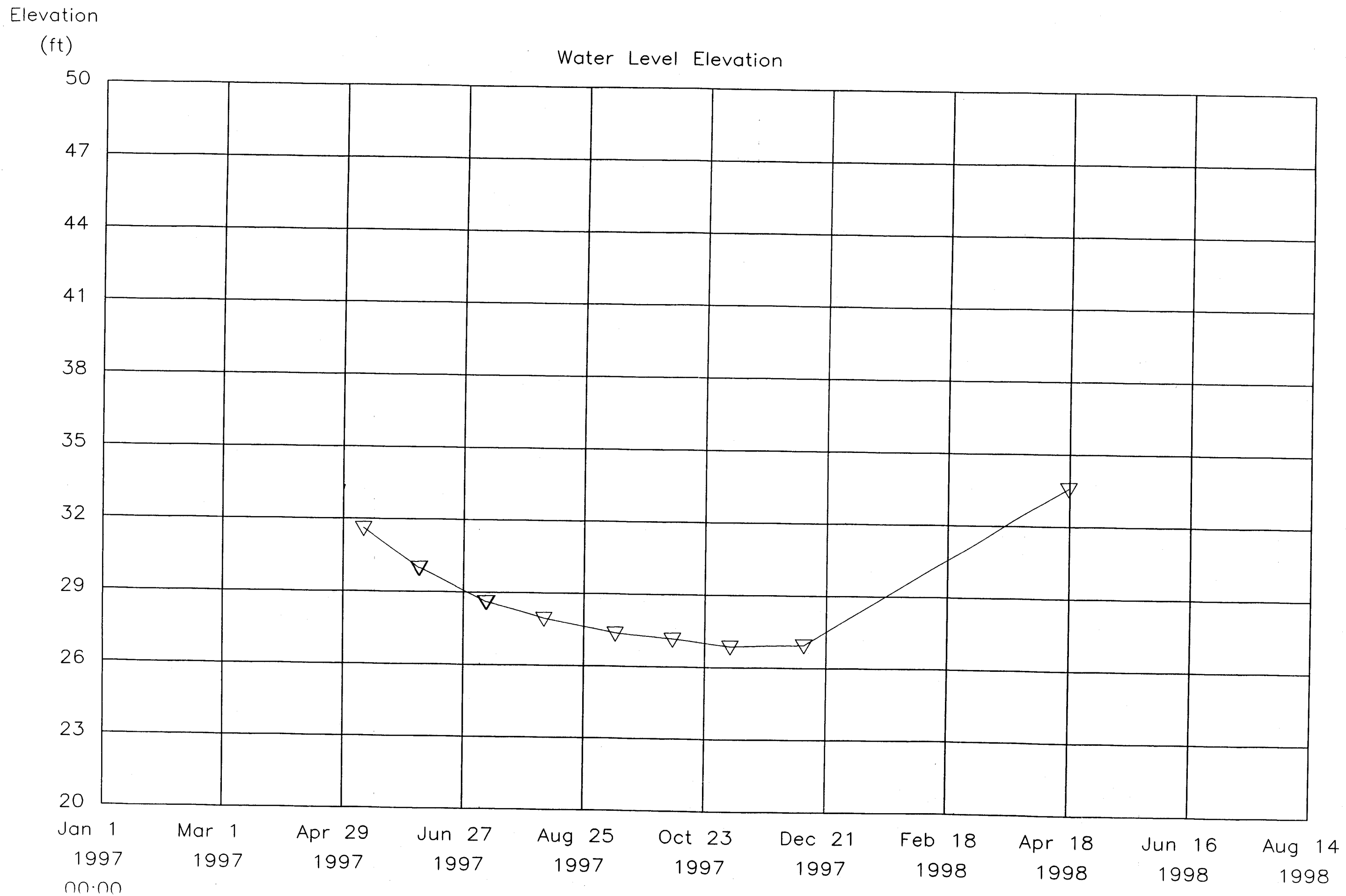
Site: LFO-07


Elevation
(ft)
Water Level Elevation
20
17
14
11
8
5
2
-1
-4
-7
-10
Jan 1
1990
Nov 11
1990
Sep 22
1991
Aug 2
1992
Jun 12
1993
Apr 23
1994
Mar 4
1995
Jan 12
1996
Nov 22
1996
Oct 3
1997
Aug 14
1998

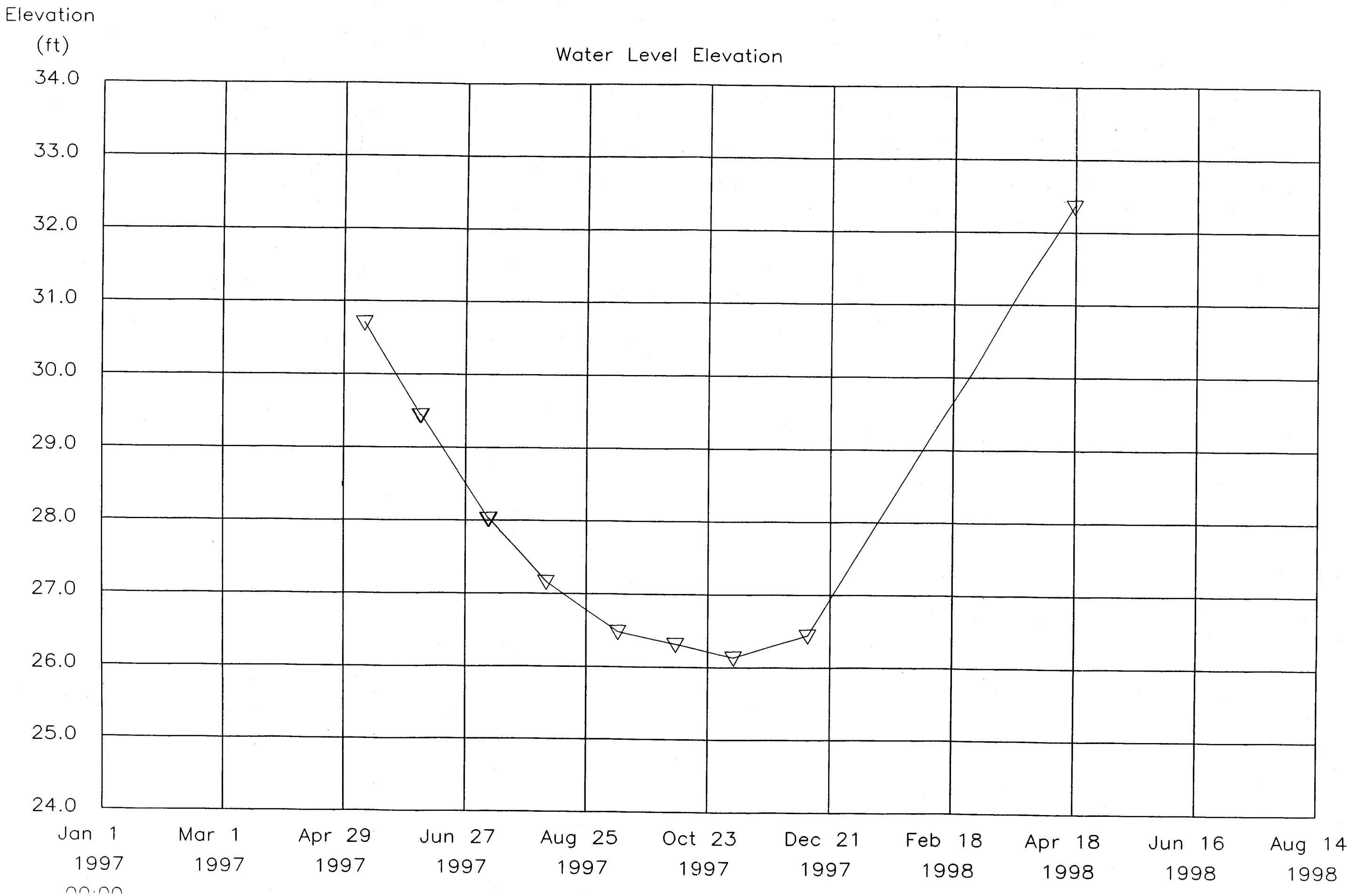
Site: LFO-11


Elevation
(ft)
Water Level Elevation
50
47
44
41
38
35
32
29
26
23
20
Jan 1
1997
00:00
Mar 1
1997
Apr 29
1997
Jun 27
1997
Aug 25
1997
Oct 23
1997
Dec 21
1997
Feb 18
1998
Apr 18
1998
Jun 16
1998
Aug 14
1998

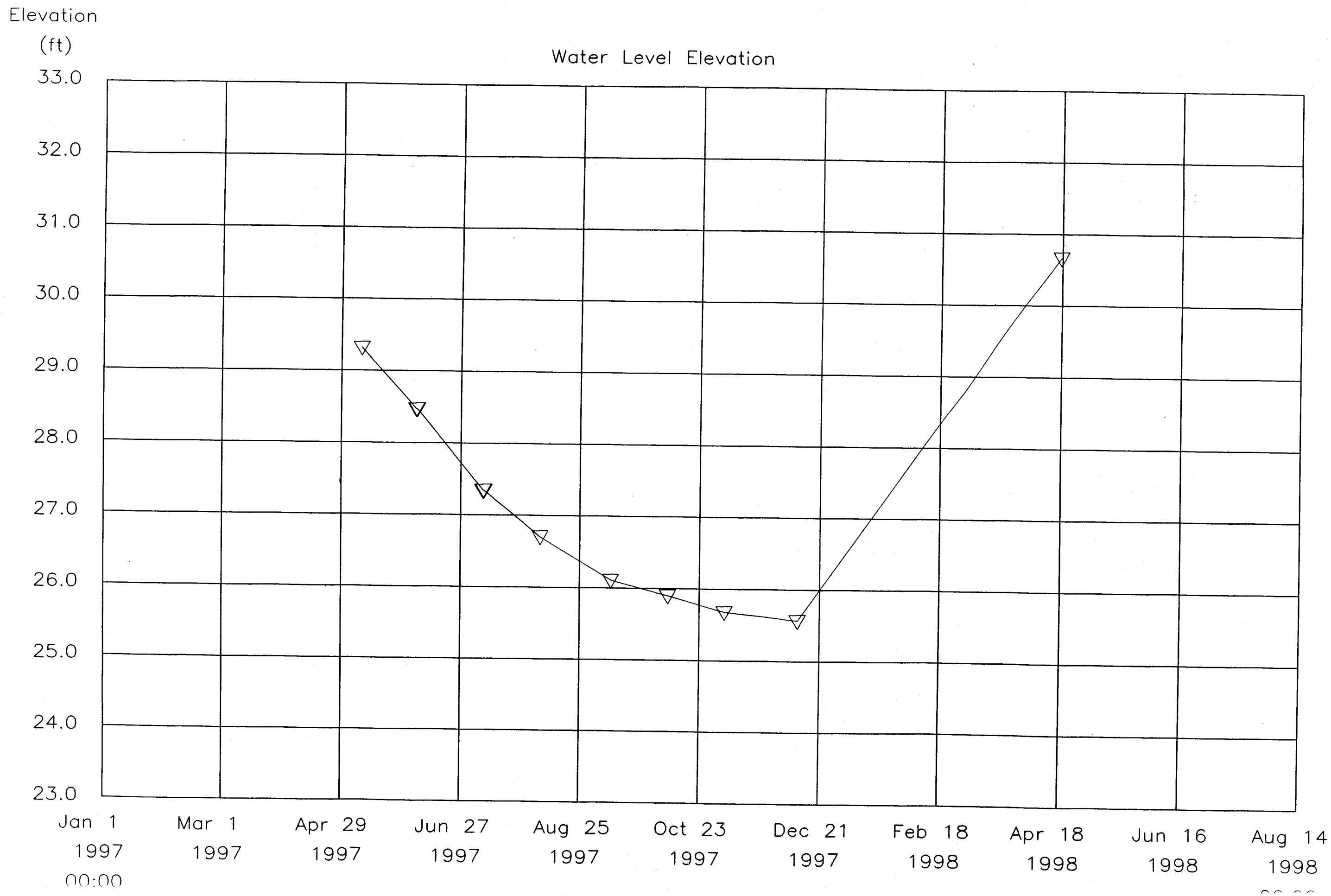
Site: LFO-12


Elevation
(ft)
Water Level Elevation
50
47
44
41
38
35
32
29
26
23
20
Jan 1
1997
00:00
Mar 1
1997
Apr 29
1997
Jun 27
1997
Aug 25
1997
Oct 23
1997
Dec 21
1997
Feb 18
1998
Apr 18
1998
Jun 16
1998
Aug 14
1998

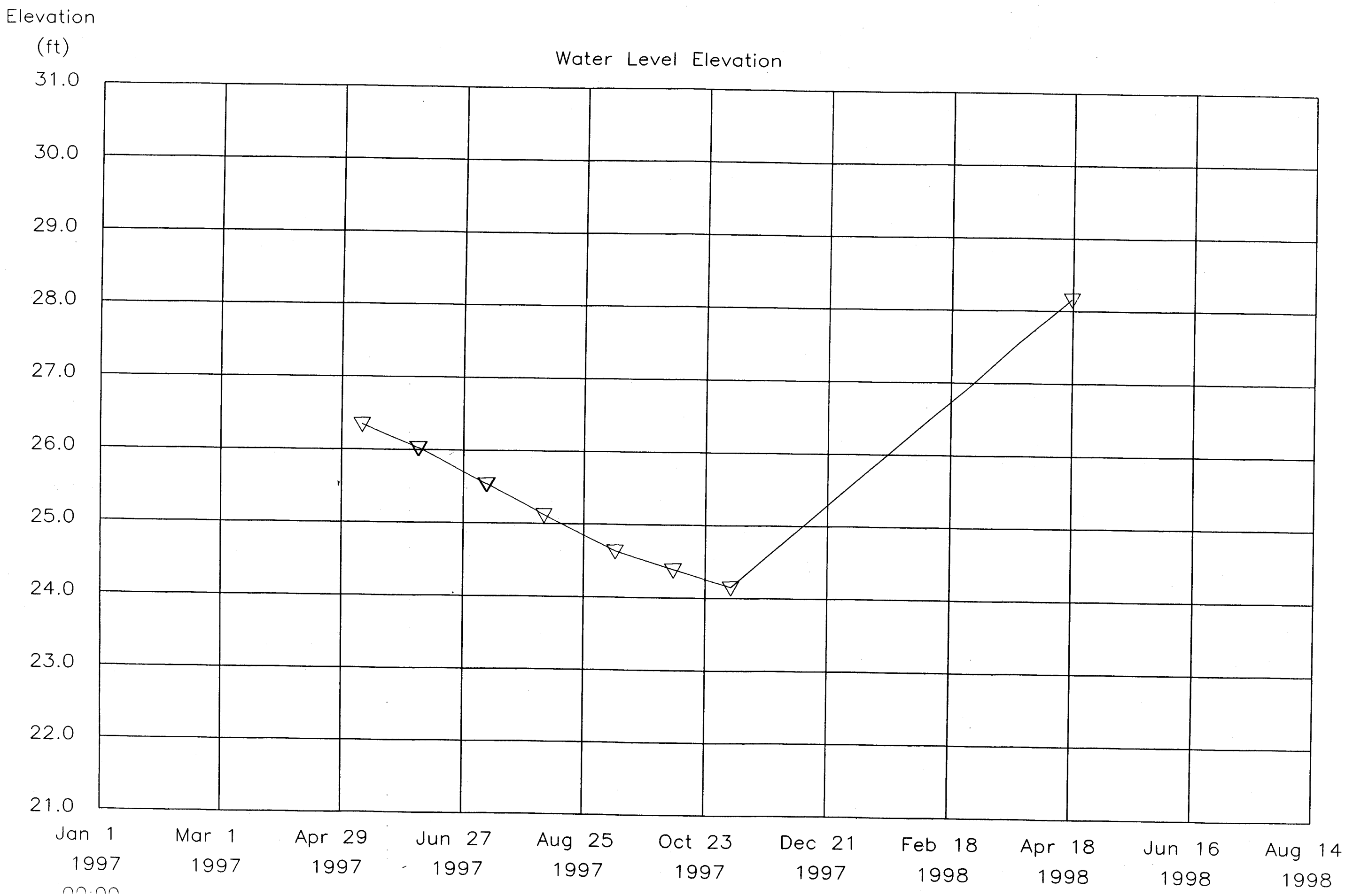
Site: LFO-13


Elevation
(ft)
Water Level Elevation
34.0
33.0
32.0
31.0
30.0
29.0
28.0
27.0
26.0
25.0
24.0
Jan 1 1997 00:00
Mar 1 1997
Apr 29 1997
Jun 27 1997
Aug 25 1997
Oct 23 1997
Dec 21 1997
Feb 18 1998
Apr 18 1998
Jun 16 1998
Aug 14 1998

Site: LFO-14


Elevation
(ft)
Water Level Elevation
33.0
32.0
31.0
30.0
29.0
28.0
27.0
26.0
25.0
24.0
23.0
Jan 1 1997 00:00
Mar 1 1997
Apr 29 1997
Jun 27 1997
Aug 25 1997
Oct 23 1997
Dec 21 1997
Feb 18 1998
Apr 18 1998
Jun 16 1998
Aug 14 1998

Site: LFO-15


Elevation
(ft)
Water Level Elevation
31.0
30.0
29.0
28.0
27.0
26.0
25.0
24.0
23.0
22.0
21.0
Jan 1 1997 00:00
Mar 1 1997
Apr 29 1997
Jun 27 1997
Aug 25 1997
Oct 23 1997
Dec 21 1997
Feb 18 1998
Apr 18 1998
Jun 16 1998
Aug 14 1998

Attachments [redacted] 4 and 5

Drawings Under Seperate Cover

Attachment 6

Station: (316853) PLYMOUTH_EXP_STN,NC
Year: 1989
Element: Precipitation (in)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	.49	0	0	.24	1.20	0	0	.14	0	1.69	0	0
2	0	0	0	0	1.08	0	0	0	0	1.98	.05	0
3	.30	0	1.05	0	0	0	.02	0	0	0	.64	0
4	.05	0	.22	0	0	.62	0	0	0	0	0	0
5	0	.33	.02	0	.03	.18	.14	0	.03	0	0	0
6	.17	.10	.18	.42	.31	.52	.16	0	0	0	0	0
7	0	.22	.77	.35	.09	.15	.01	0	0	0	0	0
8	0	0	.51	.26	0	.38	.07	.53	0	.09	.50	1.30
9	.44	0	.09	.04	0	.60	0	.03	0	0	1.25	1.04
10	.35	0	0	.02	1.41	0	0	.65	0	0	0	.24
11	0	0	0	.66	0	0	0	.07	0	0	0	0
12	.20	0	0	0	0	0	0	.95	0	0	0	0
13	.08	0	.34	0	.24	.14	.90	.42	0	0	0	.20
14	0	0	.91	0	0	.20	.46	1.29	0	0	.05	0
15	.07	0	0	1.41	.12	0	0	.09	.19	0	.05	0
16	.01	0	.04	.23	.43	0	1.42	0	.37	0	.19	0
17	0	.42	0	0	.04	0	.49	0	1.28	0	0	0
18	0	.09	0	0	0	0	4.07	0	0	.37	0	0
19	0	.39	.43	0	0	0	0	.56	1.74	3.53	0	.36
20	0	0	0	0	0	.02	.05	.11	1.07	.13	0	.20
21	0	.58	1.21	0	0	1.10	0	0	0	0	0	.01
22	0	.13	.15	0	.25	.33	0	.02	.15	0	0	0
23	.10	.05	.40	0	.30	.97	0	0	.62	0	0	0
24	0	0m	.95	0	0	.21	.05	.04	0	0	1.16	.14
25	0	0	0	0	0	0	.01	0	.36	0	0	0
26	0	0	0	0	0	0	0	0	1.35	0	0	0
27	0	.22	0	.47	0	0	.02	0	0	0	0	0
28	0	1.05	0	.63	0	0	0	0	0	0	0	.01
29	0		0	.55	0	.40	.31	0	0	0	.25	0
30	0		.35	2.00	0	0	0	0	.40	0	0	.01
31	0		0		0		0	0		.59		.25
Sum	2.26	3.58	7.62	7.28	5.50	5.82	8.18	4.90	7.56	8.38	4.14	3.76

Data values are for 24 hours ending at 17:00

Station: (316853) PLYMOUTH_EXP_STN,NC
Year: 1990
Element: Precipitation (in)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	.58	0	0	.60	0	0	0	.30	0	0	0	0
2	0	0	0	0	.20	0	.55	0	0	0	0	0
3	.02	0	1.05	.05	.20	0	0	0	.30	0	0	0
4	0	.11	.70	0	1.15	.15	0	0	0	0	0	.10
5	0	.05	0	0	0	.70	0	0	0	.14	0	0
6	.29	.12	0	0	.39	0	.41	.46	0	.01	0	0
7	.05	0	0	.20	0	0	.60	1.15	0	0	0	0
8	.87	0	0	0	0	0	0	.13	.33	0	0	.94
9	0	0	0	0	0	0	0	1.75	.01	0	0	0
10	0	.14	0	0	.43	0	0	.53	0	0	1.99	0
11	0	.02	0	.46	.34	0	0	0	0	0	.01	0
12	0	0	0	0	0	0	0	0	0	.32	0	0
13	0	0	0	0	.22	0	.46	0	1.18	0	0	0
14	0	0	0	0	0	0	.11	0	.06	.10	0	0
15	0	0	0	0	0	0	.01	.10	0	0	0	.05
16	0	0	0	0	0	0	0	.35	0	0	0	0
17	0	0	0	0	.02	0	1.05	.27	0	0	.03	0
18	0	0	1.43	0	0	0	0	0	0	0	.01	0
19	0	.58	0	0	0	.76	0	0m	0	0	0	.15
20	0	0	0	0	0	0	.05	1.25	0	0	0	0
21	.31	0	0	0	.20	0	0	.01	0	0	0	.25
22	0	0	0	0	.96	.42	0	0	0	0	0	0
23	0	1.05	0	0	.95	0	0	1.11	0	1.22	0	.03
24	0	.17	0	0	0	.90	0	.08	0	0	0	0
25	0	0	0	0	0	0	0	.01	0	0	0	0
26	0	0	0	0	0	0	0	1.94	0	1.60	0	0
27	0	0	.03	0	0	0	.14	0	0	0	0	.01
28	0	0	0	.03	1.38	0	.01	0	0	0	.03	.13
29	.31		1.25	.38	3.30	.32	0	0	0	0	.19	.02
30	0		.57	1.24	0	0	0	.23	.06	0	0	0
31	.20		.42		0		0	0		0		.01
Sum	2.63	2.24	5.45	2.96	9.74	3.25	3.39	9.67	1.94	3.39	2.26	1.69

Data values are for 24 hours ending at 17:00

Station: (316853) PLYMOUTH_EXP_STN,NC
Year: 1991
Element: Precipitation (in)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	1.58	0	0	0	0
2	.88	0	.69	0	0	0	.04	.06	0	0	0	0
3	.03	0	.30	0	0	0	0	.23	.02	.93	.01	0
4	.20	0	0	0	0	0	.24	0	0	0	0	.41
5	0	0	0	0	0	0	.18	0	0	2.54	0	0
6	0	0	0	0	0	0	0	0	.58	.01	0	0
7	.16	.57	.01	0	0	0	0	2.20	.20	.01	0	0
8	.49	.55	.14	0	0	0	0	0	0	0	0	0
9	.28	0	.01	0	0	0	0	.02	0	0	.58	0
10	0	0	0	0	0	0	.24	.11	0	0	.87	0
11	.10	0	0	0	0	0	.13	0	0	0	0	0
12	.80	0	0	0	0	0	.51	.14	0	0	0	0
13	.08	0	.40	0	0	0	.01	.08	0	0	0	0
14	0	.05	.25	.06	.09	0	0	.32	0	0	0	0
15	0	0	0	.04	0	0	0	.05	0	.25	0	0
16	.22	0	0	.11	0	0	0	.02	0	.09	0	0
17	0	0	0	0	0	0	0	0	0	1.19	0	0
18	0	.09	.80	0	.12	1.52	.03	.06	.05	0	0	0
19	0	0	0	0	.16	.59	0	.25	0	0	0	0
20	1.17	0	0	1.82	.20	.17	.21	1.70	.43	0	0	0
21	.05	0	0	.15	.04	1.71	.18	.03	0	0	0	0
22	0	.01	.19	.07	0	.22	0	.01	0	0	0	0
23	0	.01	0	.01	0	.99	0	0	0	0	0	0
24	.13	.02	0	0	0	0	0	0	.22	0	0	.87
25	.15	0	0	0	0	0	.02	.02	.01	0	0	0
26	0	.01	0	0	0	0	.79	.08	1.65	0	0	0
27	0	0	0	0	.06	0	.08	.62	0	0	0	.62
28	.14	0	0	1.66	.30	0	1.29	0	0	0	0	.15
29	0		.28	0	0	0	.29	0	0	0	0	1.05
30	.42		4.75	0	0	.07	.88	0	0	0	0	0
31	.09		0		0		.47	0		0		0
Sum	5.39	1.31	7.82	3.92	0.97	5.27	5.59	7.58	3.16	5.02	1.46	3.10

Data values are for 24 hours ending at 17:00

Station: (316853) PLYMOUTH_EXP_STN,NC
Year: 1992
Element: Precipitation (in)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	.10	0	0	0	.05
2	0	0	0	.11	0	0	0	0	0	0	0	0
3	.57	0	0	0	0	0	0	0	0	0	.59	0
4	.57	0	0	0	0	0	.09	0	0	1.06	.22	0
5	.09	0	0	.14	.30	1.25	0	.51	2.17	.37	.64	0
6	0	0	0	0	.01	.43	.24	0	.21	0	0	0
7	0	0	.08	0	.31	0	.04	0	0	0	0	0
8	0	0	.43	0	1.20	0	0	0	0	0	0	0
9	.05	0	0	0	0	.42	0	0	0	.16	0	0
10	.04	0	0	0	0	.92	0	1.26	0	.01	0	1.47
11	.02	0	.15	0	0	0	0	0	0	.14	0	.02
12	0	0	0	0	0	0	0	.93	0	.01	.07	.04
13	.18	.52	0	0	0	0	0	.76	0	0	.49	0
14	.21	0	0	0	0	0	0	1.25	0	0	0	0
15	0	.08	0	0	0	0	0	1.50	0	0	0	0
16	0	.04	.05	.24	0	0	0	2.06	0	0	0	0
17	0	0	0	0	0	0	0	.22	0	.02	0	.03
18	0	.06	0	0	0	0	0	.41	0	0	0	0
19	0	.16	.25	0	.40	0	1.05	0	0	0	0	0
20	0	0	.06	0	.24	0	.02	.70	.25	0	0	.41
21	0	0	0	0	0	.40	0	.01	.45	0	0	0
22	0	0	0	1.21	0	0	0	0	.05	0	0	0
23	.69	.19	.58	0	0	0	.88	0	.54	0	0	0
24	0	0	0	0	0	0	.37	0	0	0	0	.09
25	0	.10	0	.04	0	.12	.29	0	.09	0	.67	0
26	0	.02	.87	.08	.58	1.25	0	0	0	0	1.44	0
27	0	0	.06	0	0	.68	0	0	0	0	1.25	0
28	1.15	0	0	0	0	0	1.75	.05	.55	0	.09	.85
29	0	0	0	0	0	0	0	.04	.12	0	0	.15
30	0		0	0	1.58	0	0	0	0	0	0	.03
31	0		.16		.09		0	0		.68		0
Sum	3.57	1.17	2.69	1.82	4.71	5.47	4.73	9.80	4.43	2.45	5.46	3.14

Data values are for 24 hours ending at 17:00

Station: (316853) PLYMOUTH_EXP_STN,NC
Year: 1993
Element: Precipitation (in)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	.03	0	.20	0	0	0
3	0	0	.24	0	0	0	.09	.47	0	0	0	0
4	0	0	1.10	0	0	0	.12	.40	0	0	0	0
5	1.43	0	0	.30	.80	1.37	0	0	.89	0	.13	.36
6	.32	0	.02	1.58	.11	.55	0	.25	.17	0	.24	0
7	.30	0	0	0	0	0	0	.58	0	0	0	0
8	2.11	.56	0	0	0	0	0	.04	0	.80	0	0
9	1.14	0	0	.03	0	0	0	0	.03	.13	.44	0
10	.18	0	0	.50	0	0	0	0	0	.02	0	0
11	.02	0	0	.10	0	0	.13	0	0	.42	0	.39
12	.25	.56	0	0	0	.05	0	0	0	0	0	0
13	.05	.02	1.90	0	.18	.10	0	1.53	0	0	0	0
14	0	0	.09	0	.12	0	.01	0	0	0	0	0
15	0	0	0	0	0	.28	0	0	0	0	0	.78
16	1.11	.10	0	.75	0	0	0	0	.85	0	0	.28
17	.05	0	.32	.05	0	0	0	0	.35	1.60	0	0
18	0	0	0	0	0	0	0	0	.15	0	0	0
19	0	0	0	0	.83	0	0	0	.08	0	0	.03
20	0	.03	0	0	.05	0	0	0	0	0	.04	0
21	0	.03	0	0	0	0	0	0	.05	0	0	.94
22	.53	.15	0	.12	0	1.35	0	0	0	.01	0	0
23	0	0	0	0	0	0	0	0	0	0	0	.34
24	0	0	.45	0	0	0	.24	0	0	0	0	.02
25	.70	0	.03	0	0	0	.13	0	0	0	0	0
26	.02	.86	0	.55	.39	.28	0	0	0	.85	0	0
27	0	.05	1.45	.17	0	.02	0	0	.65	.64	.20	0
28	0	0	0	0	0	0	0	0	0	.14	.66	0
29	0		.14	0	0	0	0	0	0	0	0	0
30	0		.10	0	.10	.35	.16	0	0	1.30	0	0
31	0		0		.89		0	0		.31		0
Sum	8.21	2.36	5.84	4.15	3.47	4.35	0.91	3.27	3.42	6.22	1.71	3.14

Data values are for 24 hours ending at 17:00

Station: (316853) PLYMOUTH_EXP_STN,NC
Year: 1994
Element: Precipitation (in)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	.05	0	0	0	0	0	0	0	0	0
2	.93	0	4.30	0	.34	0	0	0	.67	0	.01	0
3	.30	0	.17	0	.02	.04	0	.16	2.33	0	0	0
4	.53	0	0	0	1.92	0	0	.04	0	0	0	0
5	0	.26	0	0	.20	0	0	.01	0	0	0	.70
6	0	.02	0	0	.05	.08	0	.76	0	0	0	0
7	0	0	0	.19	0	0	0	0	0	0	0	0
8	.05	0	0	0	.81	1.11	0	0	0	0	0	0
9	0	0	.06	0	.01	0	0	0	0	0	0	0
10	0	0	.46	0	0	0	0	0	0	.19	0	0m
11	0	.85	.25	0	0	.10	.05	0	0	0	0	.37
12	.63	.63	0	0	0	.86	.01	.15	0	0	0	0
13	.19	.01	0	.79	0	0	.24	0	0	.02	0	.02
14	0	0	.46	0	0	0	0	0	0	2.40	0	.06
15	.07	0	0	0	0	0	0	1.06	0	1.16	0	.08
16	0	0	0	.25	0	0	0	.15	0	0	.60	0
17	0	0	0	0	0	1.56	.15	.90	0	0	.43	.36
18	1.04	0	0	0	0	.21	.10	.01	0	0	1.51	.05
19	0	0	.22	0	0	0	0	.15	.12	0	.05	0
20	0	0	0	0	0	0	.17	0	0	.01	0	0
21	0	0	.03	0	.02	0	.21	1.28	0	.03	.10	0
22	0	0	.15	.15	0	0	.10	0	1.95	0	.22	0
23	0	.35	0	0	0	0	.96	0	0	.07	0	.21
24	0	1.30	0	0	0	.50	0	0	0	0	0	.12
25	0	0	.11	0	0	.03	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	.27	0	.15	0	.39	1.22	.25	.58	0	.03	.35	0
28	.83	0	.04	0	0	0	1.10	0	0	0	.13	0
29	0		.64	.52	0	.71	.04	0	0	0	0	0
30	0		0	.49	0	.02	.01	.80	0	0	.19	0
31	.39		.09		0		0	0		.17		.02
Sum	5.23	3.42	7.18	2.39	3.76	6.44	3.39	6.05	5.07	4.08	3.59	1.99

Data values are for 24 hours ending at 17:00

Station: (316853) PLYMOUTH_EXP_STN,NC
Year: 1995
Element: Precipitation (in)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	1.20	0	.13	0	0	0	0	0	.22	0
2	.27	0	.20	.02	.53	0	.74	0	.24	0	.48	0
3	0	0	0	0	0	.29	.76	0	0	0	.88	0
4	0	.22	.40	0	0	0	.15	0	0	1.74	.05	0
5	0	0	0	0	.07	.04	.58	0	0	.14	0	0
6	0	0	.28	0	0	3.33	0	0	0	.20	0	0
7	.88	0	.03	0	0	2.04	.02	.44	.25	.38	.78	.84
8	0	.22	.28	0	0	0	0	0	.14	0	.44	0
9	0	0	1.28	0	0	0	0	.07	1.34	0	0	.95
10	0	.07	.02	0	.16	0	0	.30	0	0	0	0
11	0	.46	0	0	0	0	.12	.11	0	0	.78	0
12	.04	.07	0	0	.30	.93	0	0	0	0	0	0
13	.06	0	0	.26	0	.70	0	0	0	0	.05	0
14	.03	0	0	0	.49	.01	0	.98	0	.40	.47	0
15	1.20	.79	0	0	.01	0	0	0	0	1.10	0	0
16	.15	2.00	0	0	0	0	0	.05	.66	.02	0	.09
17	0	.45	0	0	0	0	0	.05	.33	0	0	0
18	0	1.21	0	0	0	.03	0	0	0	0	0	.03
19	.10	.11	0	0	.09	.07	.05	0	0	0	0	.59
20	.45	0	0	0	0	.01	0	0	0	0	0	0
21	0	0	.21	0	0	0	0	0	0	.98	0	.05
22	0	0	0	0	0	.06	0	0	.40	0	0	0
23	.05	0	.01	.06	0	0	0	0	.23	0	0	0
24	.05	0	0	.77	0	0	0	0	0	0	0	0
25	0	0	0	0	0	.94	.87	0	0	0	.15	0
26	0	0	0	0	0	.12	0	.57	0	0	0	0
27	0	0	0	0	1.69	.50	0	.12	.01	.27	0	0
28	.23	1.44	0	0	.08	.15	0	1.99	0	.42	0	0
29	.09		0	0	.14	.68	0	0	0	0	.05	0
30	.08		0	.90	0	.10	.14	0	0	0	0	0
31	0		0		0		0	0		0		.09
Sum	3.68	7.04	3.91	2.01	3.69	10.00	3.43	4.68	3.60	5.65	4.35	2.64

Data values are for 24 hours ending at 17:00

Station: (316853) PLYMOUTH_EXP_STN,NC
Year: 1996
Element: Precipitation (in)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	.16	0	0	.66	.10	0	0m	1.10	0	0	0	.23
2	.10	.83	.60	.05	0	0	.01	.88	0	.01	1.13	.09
3	.04	.14	0	0	0	.02	.29	1.61	.01	.04	0	.05
4	0	0m	0	0	0	0	.16	.75	1.40	0	0	0
5	0	.49	0	0	0	.22	0	1.30	.05	0	0	0
6	0	0	.13	.40	.07	0	0	0	1.41	0	0	.50
7	1.42	0	.86	.25	.11	0	0	0	2.66	0	.06	1.01
8	0	0	.65	0	.09	2.49	0	0	.07	6.05	0	.22
9	.06	0	0	.60	.01	1.20	0	0	0m	0	.83	0
10	0	0	0	.04	0	.93	0	0	0m	0	0	0
11	0	0	0	0	0	.96	.20	0	.74	0	0	0
12	.77	0	0	0	.05	.02	1.56	.10	1.30	0	0	0
13	0	0	0	0	0	.05	2.21	.30	.05	0	0	.07
14	0	0	0	0	.02	0	0m	.07	0	0	.03	0
15	0	.36	.37	.05	.01	0	.08	0	0	0	0	0
16	.05	.30	.14	.15	.40	0	.02	0	0	0	0	.01
17	0	.07	.12	.02	.42	0	0	.51	3.16	0	0	0
18	.10	0	0	0	0	0	0	.06	0	0	.06	.11
19	1.15	0	.12	0	0	.17	0	0	0	1.33	.20	.64
20	.01	.40	0	.02	0	.05	0	0	0	0	0	0
21	.03	1.10	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	.04	0	.95	0
23	0	0	0	0	0	0	.10	0	0	0	.02	0
24	.30	0	0	.18	0	0	.09	0	0	0	0	0
25	0	0	0	0	1.89	.53	.35	0	0	0	0	.13
26	0	0	.15	.07	.05	0	1.44	0	0	0	.12	0
27	.70	0	0	.07	0	0	0	.63	0	0	0	.36
28	0	0	1.10	0	.70	0	.70	.55	0	0	0	.02
29	0	0	.05	.02	.07	0	.10	.36	.24	0	0	0
30	.12		0	.53	.15	0	0	0	.03	0	0	0
31	.30		.05		0		.10	0		0		.19
Sum	5.31	3.69	4.34	3.11	4.14	6.64	7.41	8.22	11.16	7.43	3.40	3.63

Data values are for 24 hours ending at 17:00

Station: (316853) PLYMOUTH_EXP_STN,NC
Year: 1997
Element: Precipitation (in)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	.11	0	0	0	0	1.17	.02	0	.08	0	1.23	.25
2	.60	0	0	0	0	.20	.61	0	0	0	.28	0
3	0	0	.10	0	.60	0	.01	0	.35	0	0	0
4	0	0	0	0	0	.07	0	0	.02	0	0	.04
5	0	.40	0	0	0	0	0	.60	0	0	0	0
6	0	0	.36	0	0	0	1.22	1.18	0	0	0	0
7	.05	0	0	0	0	.12	0	0	0	0	.27	0
8	0	.77	0	0	0	0	1.31	0	0	0	.04	0
9	1.01	.02	0	0	.11	0	0	0	0	0	0	.13
10	.12	.02	0	0	.17	0	.09	0	.11	0	0	.17
11	.01	.10	0	0	0	0	.17	0	1.55	0	0	0
12	0	0	0	.34	0	.10	0	0	1.62	0	0	.09
13	0	0	0	.26	.26	0	0	.22	0	0	.82	0
14	0	.56	.80	0	.48	.05	0	0	0	0	.43	0
15	0	.75	0	0	0	.40	0	0	0	0	0	0
16	.89	0	0	0	0	0	0	0	0	.19	.02	0
17	0	.05	0	0	0	0	.50	0	0	.27	0	0
18	0	0	0	0	0	0	0	.60	.08	.16	0	0
19	0	0	.80	0	0	.03	0	.05	0	.70	0	0
20	0	0	.11	0	.35	0	0	.16	0	0	0	0
21	0	.11	0	0	0	0	0	3.21	0	0	0	0
22	0	.06	0	1.83	0	0	0	3.21	0	.38	0	.76
23	.04	0	0	.31	0	0	.82	0	0	0	.02	.10
24	0	0	0	1.20	0	0	.65	0	.20	0	0	.17
25	.32	0	0	0	.09	0	0	0	.45	.13	0	.42
26	.01	0	.95	0	.65	0	0	0	0	.12	0	0
27	0	.10	0	.10	0	.46	0	0	.04	.29	0	.56
28	.20	0	0	.33	0	0	0	0	1.08	0	0	.10
29	0		.42	.88	0	0	0	.07	0	0	0	.40
30	0		0	0	0	0	.16	0	0	0	1.25	.10
31	0		.13		0		0	0		.03		0
Sum	3.36	2.94	3.67	5.25	2.71	2.60	5.56	9.30	5.58	2.27	4.36	3.29

Data values are for 24 hours ending at 17:00

Station: (316853) PLYMOUTH_EXP_STN,NC
Year: 1998
Element: Precipitation (in)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	.45	.55	0m	0m	0m	0m	0m	0m	0m
2	0	0	0	.22	0	0m	0m	0m	0m	0m	0m	0m
3	0	.20	.02	0	0	0m	0m	0m	0m	0m	0m	0m
4	0	2.35	0	.71	.05	0m	0m	0m	0m	0m	0m	0m
5	0	.38	0	0	1.59	0m	0m	0m	0m	0m	0m	0m
6	0	.05	0	0	0	0m	0m	0m	0m	0m	0m	0m
7	.02	.11	.05	0	0	0m	0m	0m	0m	0m	0m	0m
8	.45	.15	.65	0	.94	0m	0m	0m	0m	0m	0m	0m
9	0	0	.85	.64	.03	0m	0m	0m	0m	0m	0m	0m
10	0	0	0	.22	0	0m	0m	0m	0m	0m	0m	0m
11	0	0	0	0	0	0m	0m	0m	0m	0m	0m	0m
12	0	.55	0	0	.04	0m	0m	0m	0m	0m	0m	0m
13	.15	0	0	0	.08	0m	0m	0m	0m	0m	0m	0m
14	0	.03	0	.10	.02	0m	0m	0m	0m	0m	0m	0m
15	.82	0	0	0	0	0m	0m	0m	0m	0m	0m	0m
16	.81	.05	.07	0	0	0m	0m	0m	0m	0m	0m	0m
17	.11	1.80	0	.06	.85	0m	0m	0m	0m	0m	0m	0m
18	.03	0	1.05	0	0	0m	0m	0m	0m	0m	0m	0m
19	1.39	0	1.46	0	0	0m	0m	0m	0m	0m	0m	0m
20	.25	.08	.03	0	0	0m	0m	0m	0m	0m	0m	0m
21	0	0	.26	0	0	0m	0m	0m	0m	0m	0m	0m
22	0	0	.02	.21	0	0m	0m	0m	0m	0m	0m	0m
23	1.46	.35	0	0	.85	0m	0m	0m	0m	0m	0m	0m
24	.11	.10	0	0	.05	0m	0m	0m	0m	0m	0m	0m
25	.07	0	0	0	0	0m	0m	0m	0m	0m	0m	0m
26	0	0	0	0	0	0m	0m	0m	0m	0m	0m	0m
27	.23	0	0	0	.14	0m	0m	0m	0m	0m	0m	0m
28	1.06	.12	0	.04	0	0m	0m	0m	0m	0m	0m	0m
29	.03		0	0	0	0m	0m	0m	0m	0m	0m	0m
30	0		0	0	0	0m	0m	0m	0m	0m	0m	0m
31	0		0		0		0m	0m		0m		0m
Sum	6.99	6.32	4.46	2.65	5.19	0m	0m	0m	0m	0m	0m	0m

Data values are for 24 hours ending at 17:00
Data values following May 31, 1998 are for 24 hours ending at -32768:00 am

The status of daily data in the CIRRUS database is as follows:

Weather wire data available through 08/27/98
Preliminary data from National Climatic Data Center thru 05/31/98
Final quality-controlled data from National Climatic Data Center thru 01/31/98

Attachment 7

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-1
SHEET NO. 1 OF 3

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD MUD ROTARY

PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 34.5
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
1	SS	4-6-6-6	50			SILT (ML) - some very fine sand; brown. .5
						CLAY (CL) - trace fine grained sand; stiff; tan.
2	UD		0			CLAY (CL) - sandy (fine grained); silty; tan, gray, orange.
						- Increasing sand.
3	UD		100		5	6.0
4	SS	2-2-3-4	75			SILTY SAND (SM) - fine grained; trace clay; interlaminated gray and orange.
5	UD		65			- interlaminated with silty clay; micaceous; gray.
					10	- gray
6	SS	4-3-10-18	75			- more clayey
					15	- fine to medium grained; gray
7	SS	9-4-2-2	50			17.8
						SILTY SAND (SM) - as above, interbedded with CLAY (CL); silty; stiff; slightly micaceous; blue green and tan.
8	SS	3-4	100			SILTY CLAY (CL) - stiff; slightly micaceous; blue

GENERAL NOTES

DATE STARTED 20 APR 90
DATE COMPLETED 21 APR 90
RIG MOBILE B-56
CREW CHIEF TODD JOHNSON
LOGGED BTG CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ N/A
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME 5-4-90/1120 DEPTH 23.85 FT. BGS

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-1
SHEET NO. 2 OF 3
PROJECT NAME WEYERHAEUSER
PROJECT NO. 467.42
LOCATION PLYMOUTH, NC
INSTALLATION
CONTRACTOR LAW ENGINEERING
SURFACE ELEV. 34.5
DRILLING METHOD MUD ROTARY
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
9	UD		100			green, tan.
						SILT (MH) - as determined from laboratory analysis.
10	SS	33-5-6-6	85		25	Change to 5 7/8 in. bit at 21.5 ft.
11	SS	3-3-4-6	100		30	
12	SS	4-4-4-5	100			
13	SS	3-4-4-6	100		35	SILTY CLAY (CL) - as above; with trace fine grained sand.
14	SS	23-43-47-54	50			SILTY SAND (SM) - fine grained; gray. 37.3
					40	SILTY SAND (SM) - fine to medium grained; trace coarse grained sand; laminated; tan; trace shell fragments.

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-1
SHEET NO. 3 OF 3
PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 34.5
BOREHOLE DIA. 10 IN.

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD MUD ROTARY

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY	MOISTURE			
NO.	TYPE	BLOWS			DEPTH	
15	SS	28-32-41-52	65		45	
						BORING TERMINATED AT 47.0 FEET
					50	
					55	
					60	
					65	

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-2
SHEET NO. 1 OF 2
PROJECT NAME WEYERHAEUSER
PROJECT NO. 467.42
LOCATION PLYMOUTH, NC
INSTALLATION
CONTRACTOR LAW ENGINEERING
SURFACE ELEV. 32.1
DRILLING METHOD HSA
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
1	SS	2-1-1-1	75			SILTY SAND (SM) - fine grained; gray, black; humic. .5
2	SS	3-2-2-4	90			SILTY SAND (SM) - fine grained; tan.
						SILTY SAND (SM) - fine grained; clayey; mottled tan and gray. 4.0
3	SS	1-4-3-2	100		5	SILTY SAND (SM) - as above; trace clay.
4	SS	2-2-1-1	100			7.5
5	SS	WOH-1	90		10	CLAY (CL) - trace sand (fine grained); soft; dark gray; interbedded with CLAYEY SAND (SC); dark gray; fine grained.
6	UD		100			
7	SS	12-8-4-4	50		15	15.0 SILTY SAND (SM) - fine grained; gray and tan.
						CLAYEY SAND (SC) - fine grained; slightly micaceous; light gray; interlaminated with SILTY SAND (SM); fine grained; orange-brown, tan.

GENERAL NOTES

DATE STARTED 25 APR 90
DATE COMPLETED 25 APR 90
RIG MOBILE B-56
CREW CHIEF TODD JOHNSON
LOGGED BTG CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 3.3 FT.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME 5-3-90 DEPTH 5.95 FT. BGS

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-2
SHEET NO. 2 OF 2
PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 32.1
BOREHOLE DIA. 10 IN.

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD HSA

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
8	SS	4-2-4-5	100			
						BORING TERMINATED AT 22.0 FEET
					25	
					30	
					35	
					40	

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-3
SHEET NO. 1 OF 2

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD HSA

PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 42.6
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
1	SS	2-1-2-1	50			SILTY SAND (SM) - fine grained; tan.
2	SS	3-2-2-2	75			CLAYEY SAND (SC) - fine grained; tan. 3.0
3	SS	3-3-5-7	90		5	SILTY SAND (SM) - fine grained; some roots; trace black organics; some gray mottle.
4	SS	6-7-6-7	85			8.0
5	SS	3-4	100			CLAYEY SAND (SC) - fine grained; tan, gray; interbedded with SILTY SAND (SM); fine grained; tan.
6	UD		100		10	9.0 SILTY CLAY (CL) - as determined from laboratory analysis.
7	SS	3-5-5-4	80			CLAYEY SAND (SC) - fine grained; tan; gray; interbedded with SILTY SAND (SM); fine grained; tan.
8	UD		75		15	

GENERAL NOTES

DATE STARTED 18 APR 90
DATE COMPLETED 19 APR 90
RIG MOBILE B-56
CREW CHIEF TODD JOHNSON
LOGGED BTG CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 13.0 FT. BGS
AT COMPLETION ▼ 13.5 FT. BGS
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME 5-4-90 DEPTH 14.65 FT. BGS

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-3
SHEET NO. 2 OF 2
PROJECT NAME WEYERHAEUSER
PROJECT NO. 467.42
LOCATION PLYMOUTH, NC
INSTALLATION
CONTRACTOR LAW ENGINEERING
SURFACE ELEV. 42.6
DRILLING METHOD HSA
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
						- fine to medium grained;21.0 to 21.2 ft. 21.2
9	SS	1-1-3-4	100			CLAY (CH) - moderately stiff; light gray; some clayey sand; fine grained; gray. 22.5
						SILTY SAND (SM) - fine to medium grained; tan; interlaminated with CLAYEY SAND (SC); fine grained; gray.
					25	
					30	
					35	
					40	

BORING TERMINATED AT 23.0 FEET

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-4
SHEET NO. 1 OF 1

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD HSA

PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 34.3
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
					5	No soil samples collected. See boring MW-8 for lithology.
					10	
					15	
						BORING TERMINATED AT 16.5 FEET

GENERAL NOTES

DATE STARTED 22 APR 90
DATE COMPLETED 22 APR 90
RIG MOBILE B-56
CREW CHIEF TODD JOHNSON
LOGGED BTG CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME 5-2-90 DEPTH 10.8 FT. BGS.

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-5
SHEET NO. 1 OF 2
PROJECT NAME WEYERHAEUSER
PROJECT NO. 467.42
LOCATION PLYMOUTH, NC
INSTALLATION
CONTRACTOR LAW ENGINEERING
SURFACE ELEV. 30.9
DRILLING METHOD HSA
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY BLOWS		MOISTURE	DEPTH	
1	SS	3-3-4-5	50			CLAY (CL) - trace sand (fine grained); brown, orange, green-gray.
2	SS	5-6-8-9	70			SILTY SAND (SM) - fine grained; interlaminated with clay, as above; gray-tan. 4.3
3	SS	5-6-6-6	90		5	SILTY SAND (SM) - fine grained; mottled tan and orange.
4	SS	4-5-5-5	100			
5	SS	4-2-1-2	100		∇	- as above with gray clay; 9.0-9.8 ft. 9.8
					10	SILTY CLAY (CL) - gray-purple; some fine grained sand; trace of CLAYEY SAND (SC).
6	SS	2-2-3-5	75		15	18.4
7	SS	3-3-6-6	100			SILTY CLAY (CL) - trace of sand (fine grained); micaceous; blue-green.

GENERAL NOTES

DATE STARTED 24 APR 90
DATE COMPLETED 24 APR 90
RIG MOBILE B-56
CREW CHIEF TODD JOHNSON
LOGGED BTG CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ∇ 9.0 FT.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME 4-25-90/0715 DEPTH 10.4 FT. BGS

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-5
SHEET NO. 2 OF 2
PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 30.9
BOREHOLE DIA. 10 IN.

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD HSA

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
8	SS	6-10-8-7	90			20.8
						SILTY CLAY (CL) - sandy (fine to medium grained); gray, light brown, orange; laminated; some mottled. 21.8
						BORING TERMINATED AT 22.0 FEET
					25	
					30	
					35	
					40	

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-6
SHEET NO. 1 OF 2

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD HSA

PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 31.3
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
1	SS	3-3-5-5	50			SILTY SAND (SM) - fine grained; clayey; tan. .2
2	SS	4-3-3-3	65			CLAY (CL) - silty; trace of fine grained sand; tan.
						SILTY SAND (SM) - fine grained; clayey; mottled tan and gray. 3.0
3	SS	3-3-5-4	90			
					5	SILTY SAND (SM) - fine grained; trace clay; tan and gray mottled.
4	SS	4-5-4-4	75			- clay in thin laminations; 6.0-7.0 ft.
						- gray with black laminae interbedded with tan-orange; 7.0-7.5 ft.
5	SS	3-2-3-4	100			SILTY SAND (SM) - fine grained; tan and gray mottled; interbedded with CLAY (CL); silty; sandy (fine grained).
					10	
						SILTY CLAY (CL) - trace fine grained sand; gray. 13.8
6	SS	3-5-8-6	100			
						SILTY SAND (SM) - fine grained; clayey; gray. 14.5
					15	
						SILTY SAND (SM) - fine grained; gray. 17.7
7	SS	4-5-7-7	100			SILTY CLAY (CL) - trace mica; brittle; light brown.
					▼	

GENERAL NOTES

DATE STARTED 23 APR 90
DATE COMPLETED 24 APR 90
RIG MOBILE B-56
CREW CHIEF TODD JOHNSON
LOGGED BTG CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽
AT COMPLETION ▼ 18.8 FT. BGS
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME 5-3-90/0940 DEPTH DRY

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-6
SHEET NO. 2 OF 2
PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 31.3
BOREHOLE DIA. 10 IN.

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD HSA

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
8	SS	4-5-7-8	100			
						SILTY CLAY (CL) - stiff; micaceous; blue green and brown mottled.
9	SS	5-4-5-7	100		25	
						BORING TERMINATED AT 27.0 FEET
					30	
					35	
					40	

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-7
SHEET NO. 1 OF 2
PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 21.6
BOREHOLE DIA. 10 IN.

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD HSA

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
1	SS	2-2-3-3	75			SILTY SAND (SM) - fine grained; humic; light brown. .8
2	SS	4-4-3-5	75			CLAYEY SAND (SC) - fine grained; moderately stiff; orange.
						SILTY SAND (SM) - fine grained; orange-brown.
3	SS	5-4-4-7	75			4.9
					5	CLAY (CL) - stiff; gray, brown, mottled. 5.5
4	SS	3-5-8-11	100			SILTY SAND (SM) - fine grained; orange-brown. 6.2
5	SS	4-13-14-15	60			CLAY (CL) - stiff; gray, brown, mottled. 8.0
					10	SAND (SP) - fine grained; white, brown and black laminations. 13.3
6	SS	4-8-11-10	75			SILTY SAND (SM) - fine grained; trace medium grained; laminated; tan, orange-brown.
					15	
7	SS	5-7-7-8	50			SILTY SAND (SM) - fine to medium grained; with white shell fragments; light gray to tan.

GENERAL NOTES

DATE STARTED 25 APR 90
DATE COMPLETED 25 APR 90
RIG MOBILE B-56
CREW CHIEF TODD JOHNSON
LOGGED BTG CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 15.0 FT. BGS
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME 5-2-90 DEPTH 15.8 FT. BGS

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. OW-7
SHEET NO. 2 OF 2
PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 21.6
BOREHOLE DIA. 10 IN.

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD HSA

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
8	SS	2-2-5-6	100		25	- trace clay
						BORING TERMINATED AT 26.0 FEET
					30	
					35	
					40	

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-1A
SHEET NO. 1 OF 3

PROJECT NAME WEYERHAEUSER
PROJECT NO. 467.42
LOCATION PLYMOUTH, NC
INSTALLATION
CONTRACTOR LAW ENGINEERING
SURFACE ELEV. 35.0
DRILLING METHOD MUD ROTARY
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
1	SS	4-3-3-4	100			SILTY SAND (SM) - fine grained; gray. 1.0
2	SS	3-2-3-3	75			CLAYEY SAND (SC) - fine grained; tan, gray. 2.8
3	SS	2-2-1-2	75		5	SILTY SAND (SM) - fine grained sand; trace clay; orange, tan. - scattered clay zones; 4.0-5.5 ft.
4	SS	2-1-1-WOH	100			7.4
5	SS	5-2-7-10	100			SILTY SAND (SM) - fine grained; clayey; gray. 9.0
6	UD		0		10	SILTY SAND (SM) - fine to medium grained; gray; clayey zone 9.5 to 9.8 ft; some wood fragments.
7	SS	3-8-10-14	75		15	SILTY SAND (SM) - fine grained; gray. 18.5
						CLAY (CH) - stiff; gray-brown. 19.0
						SILTY SAND (SM) - fine to medium grained; gray; coarsening downward.

GENERAL NOTES

DATE STARTED 17 APR 90
DATE COMPLETED 18 APR 90
RIG MOBILE B-56
CREW CHIEF TODD JOHNSON
LOGGED BTG CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ N/A
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME 5-3-90/1020 DEPTH 23.0 FT. BGS

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-1A
SHEET NO. 2 OF 3
PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 35.0
BOREHOLE DIA. 10 IN.

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD MUD ROTARY

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
8	SS	11-12-5-5	100			SILTY CLAY (CL) - very stiff; light blue green.
9	UD		100			CLAYEY SILT (ML) - as determined from laboratory analysis. Change to 5 7/8 in. bit at 23.0 ft.
						SILTY CLAY (CL) - very stiff; light blue green.
					25	- trace medium grained sand
10	SS	4-4-5-6	100			CLAYEY SILT (ML) - as determined from laboratory analysis.
					30	SILTY CLAY (CL) - trace sand (medium grained); very stiff; light blue green.
11	SS	3-4-5-6	20			
					35	
						SAND (SP-SM) - fine to medium grained; some coarse sand; gray.
12	SS	20-41-50/5	50			
					40	
						SILTY SAND (SM) - fine to medium grained, some coarse; with quartz pebbles; gray.

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-1A
SHEET NO. 3 OF 3
PROJECT NAME WEYERHAEUSER
PROJECT NO. 467.42
LOCATION PLYMOUTH, NC
INSTALLATION
CONTRACTOR LAW ENGINEERING
SURFACE ELEV. 35.0
DRILLING METHOD MUD ROTARY
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
13	SS	28-32-39-33	100			44.5
					45	SILTY SAND (SM) - fine to medium grained; trace coarse sand; laminated; trace shell fragments; tan, some dark brown.
						BORING TERMINATED AT 46.0 FEET
					50	
					55	
					60	
					65	

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-6A
SHEET NO. 1 OF 3

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD MUD ROTARY

PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 11.5
BOREHOLE DIA. 6 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
1	SS	2-2-1-2	65			SILTY SAND (SM) - very fine grained; light brown, some tan mottle.
2	SS	3-2-2-3	50			SILTY SAND (SM) - very fine grained; clayey; tan. 2.5
3	SS	3-5-5-4	50			SILTY SAND (SM) - as above; no clay. 4.5
					5	SILTY SAND (SM) - fine grained; humic; tan, dark brown.
4	SS	2-3-5-7	40			6.7
						SILTY SAND (SM) - fine grained; light gray.
5	SS	6-9-10-4	50			CLAYEY SAND (SC) - fine to medium grained; trace coarse sand; tan-gray. 8.5
					10	SILTY SAND (SM) - fine to medium grained; mottled black, brown, tan, gray.
6	SS	4-4-3-5	75			SILTY SAND (SM) - fine to medium grained; trace coarse grained sand; tan; and alternating (< .1 foot) SILT (ML) laminae; clayey; micaceous; gray.
					15	
7	SS	6-8-8-9	75			SILTY SAND (SM) - fine grained; tan; some black heavy mineral laminae.

GENERAL NOTES

DATE STARTED 19 APR 90
DATE COMPLETED 19 APR 90
RIG MOBILE B-56
CREW CHIEF TODD JOHNSON
LOGGED BTG CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ N/A
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME 5-3-90 DEPTH 7.2 FT. BGS

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-6A
SHEET NO. 2 OF 3
PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 11.5
BOREHOLE DIA. 6 IN.

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD MUD ROTARY

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
8	SS	8-9-8-9	65			24.0
					25	CLAYEY SAND (SC) - fine grained; micaceous; silty; light gray, brown.
9	SS	8-8-16-50/4"	82			SILTY SAND (SM) - fine to coarse grained; tan, gray; with black laminations; interbedded (approx. 0.5 foot) with CLAY (CL); sandy (fine to medium grained); micaceous; gray green, brown mottle.
10	SS	88/6"	100		30	SILTY SAND (SM) - fine to medium grained; brown to dark brown; some CLAYEY SAND (SC). -laminated; 33.0-35.0 ft.
11	SS	11-15-22-27	50			
					35	
12	SS	17-25-30-24	50			- trace clay, mica.
					40	
						SILT (ML) - clayey; some very fine grained sand; gray (Yorktown Fm.?)
13	SS	5-7-8-9	100			

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-6A
SHEET NO. 3 OF 3
PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 11.5
BOREHOLE DIA. 6 IN.

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD MUD ROTARY

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
					45	
						SILTY SAND (SM) - fine grained sand; fine to very coarse shell hash (gastropods, pelecypods, corals); gray.
14	SS	15-21-19-19	90			
15	SS	16-13-32-50	100		50	
						BORING TERMINATED AT 52.0 FEET
					55	
					60	
					65	

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-8
SHEET NO. 1 OF 3

PROJECT NAME WEYERHAEUSER
PROJECT NO. 467.42
LOCATION PLYMOUTH, NC
INSTALLATION
CONTRACTOR LAW ENGINEERING
SURFACE ELEV. 34.3
DRILLING METHOD MUD ROTARY
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
1	SS	6-6-7-10	50			SILTY SAND (SM) - fine grained; trace clay; brown. .4
2	UD		50			CLAY (CL) - silty; trace fine grained sand; orange, gray mottle.
3	SS	6-8-9-10	65		5	SILTY SAND (SM) - fine grained; trace clay in occasional thin partings (< .1 foot); mottled tan and orange. - no clay; 7.0-7.2 feet
4	SS	6-7-7-8	60			
5	SS	6-6-8-9	50		10	SILTY SAND (SM) - fine grained; interlaminated orange and gray, black (heavy minerals); trace clay.
6	SS	9-15-23-17	50		15	- no clay; 13.0-15.0 ft.
7	SS	3-3-3-5	90			SILTY CLAY (CL) - stiff; trace mica; mottled brown and blue green.

GENERAL NOTES

DATE STARTED 21 APR 90
DATE COMPLETED 23 APR 90
RIG MOBILE B-56
CREW CHIEF TODD JOHNSON
LOGGED BTG CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ N/A
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME 5-1-90 DEPTH 26.8 FT.BGS

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-8
SHEET NO. 2 OF 3
PROJECT NAME WEYERHAEUSER
PROJECT NO. 467.42
LOCATION PLYMOUTH, NC
INSTALLATION
CONTRACTOR LAW ENGINEERING
SURFACE ELEV. 34.3
DRILLING METHOD MUD ROTARY
BOREHOLE DIA. 10 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
8	UD		100			CLAY (CH) - as determined from laboratory analysis.
9	SS	18-5-4-4	100		25	Change to 5 7/8 in. bit at 20.2 ft.
10	SS	3-3-5-7	100		30	SILT (ML) - some clay; as determined from laboratory analysis.
						CLAYEY SAND (SC) - fine grained; some zones more sandy.
11	SS	4-5-5-12	90		35	36.5
12	SS	23-31-32-44	75			SILTY SAND (SM) - fine grained; trace clay; gray, blue green. 36.8
					40	SILTY SAND (SM) - fine grained; trace clay; tan, gray, some black.
13	SS	11-15-	50			- some medium grained sand.

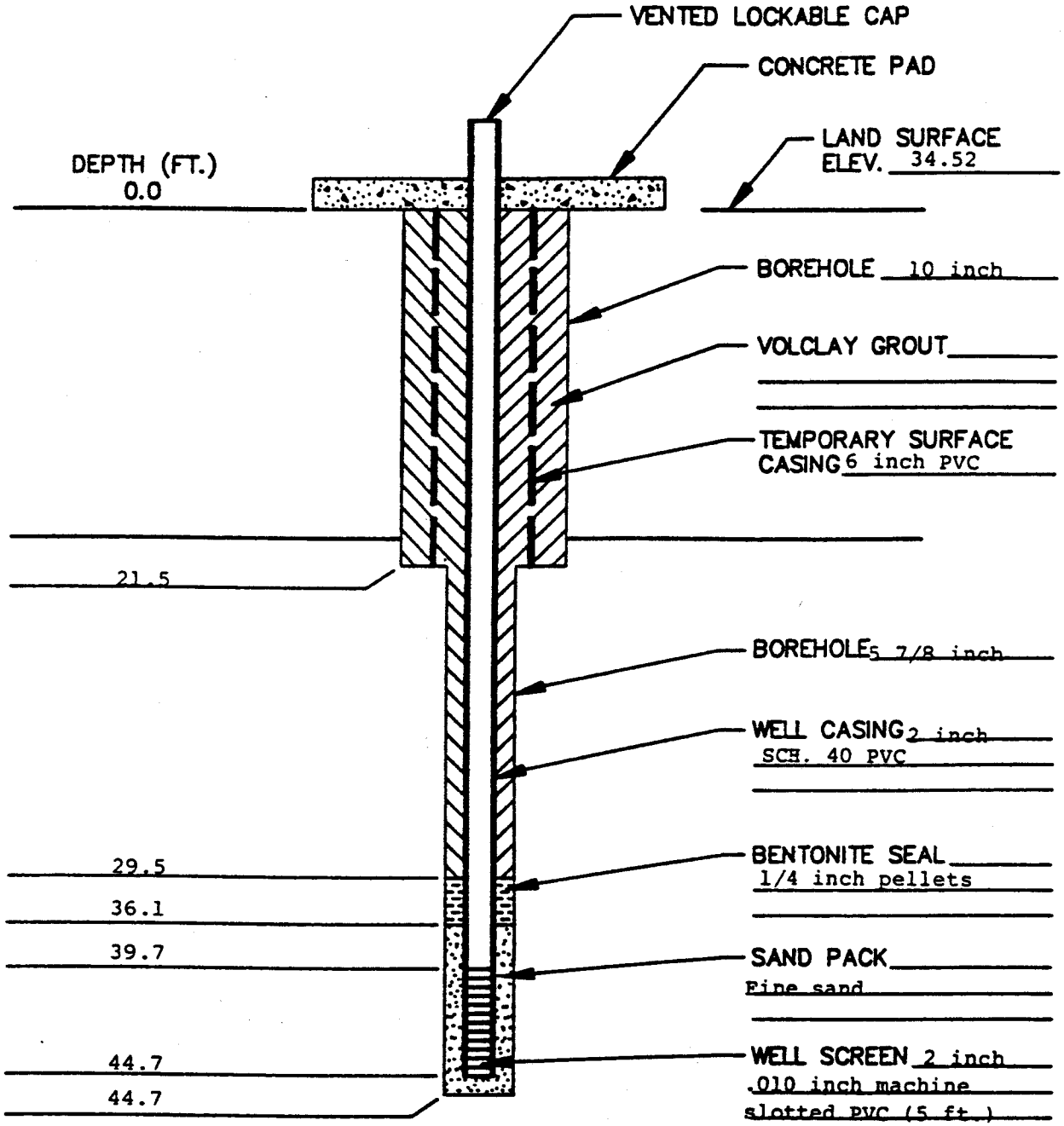
LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-8
SHEET NO. 3 OF 3
PROJECT NO. 467.42
INSTALLATION
SURFACE ELEV. 34.3
BOREHOLE DIA. 10 IN.

PROJECT NAME WEYERHAEUSER
LOCATION PLYMOUTH, NC
CONTRACTOR LAW ENGINEERING
DRILLING METHOD MUD ROTARY

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	BLOWS			DEPTH	
		29-51				
					45	BORING TERMINATED AT 45.0 FEET
					50	
					55	
					60	
					65	



OBSERVATION WELL CONSTRUCTION DIAGRAM

Not To Scale

PROJECT Weyerhaeuser

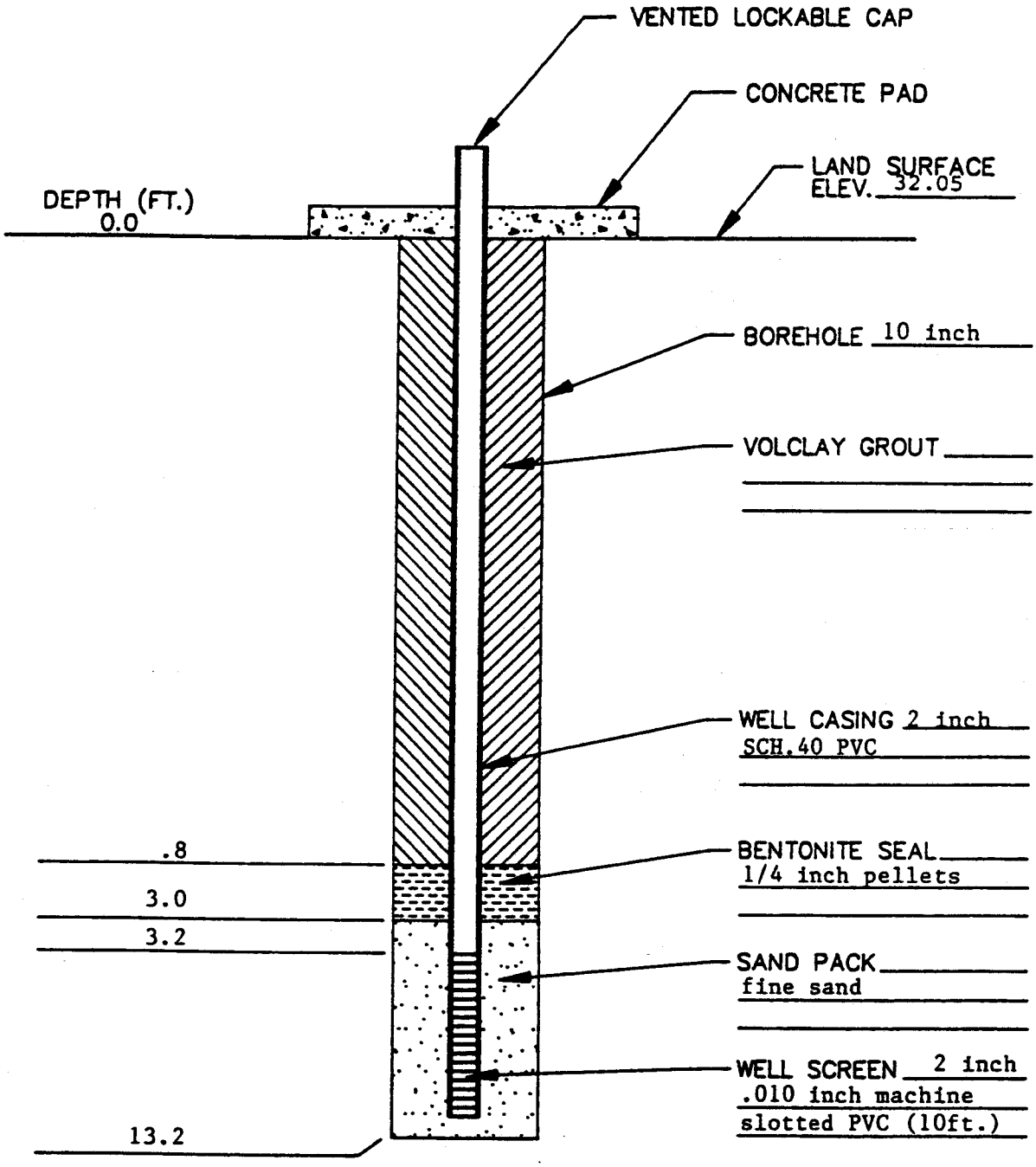
PROJECT NO. 467.42

WELL NO. OW-1 DATE INSTALLED 4-20-90

DRILLING CONTRACTOR Law Engineering

RMT GEOLOGIST B. Grothaus

RMT INC



OBSERVATION WELL CONSTRUCTION DIAGRAM

Not To Scale

PROJECT Weyerhaeuser

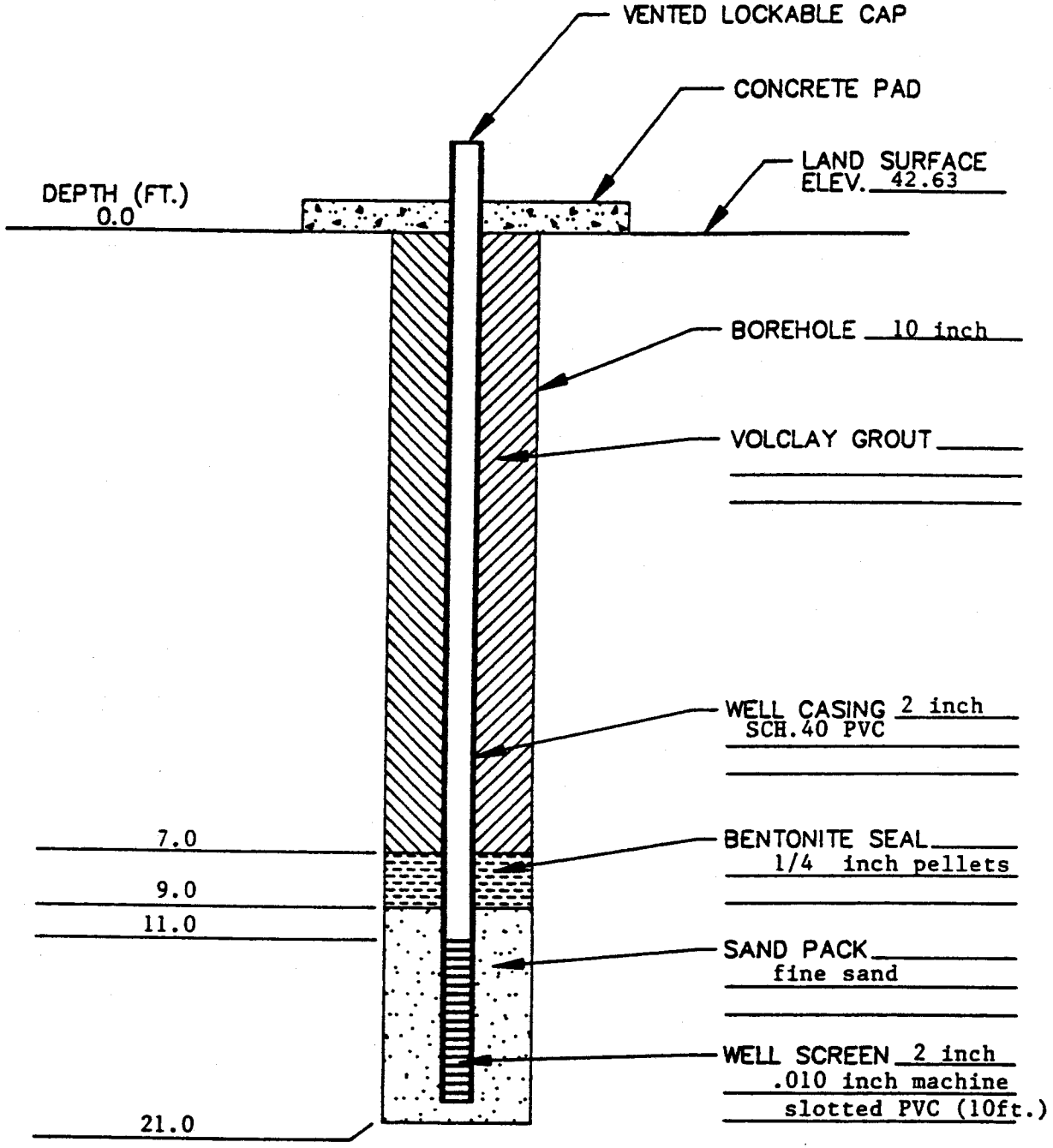
PROJECT NO. 467.42

WELL NO. OW-2 DATE INSTALLED 4/25/90

DRILLING CONTRACTOR Law Engineering

RMT GEOLOGIST B. Grothaus

RMT INC



OBSERVATION WELL CONSTRUCTION DIAGRAM

Not To Scale

PROJECT Weyerhaeuser

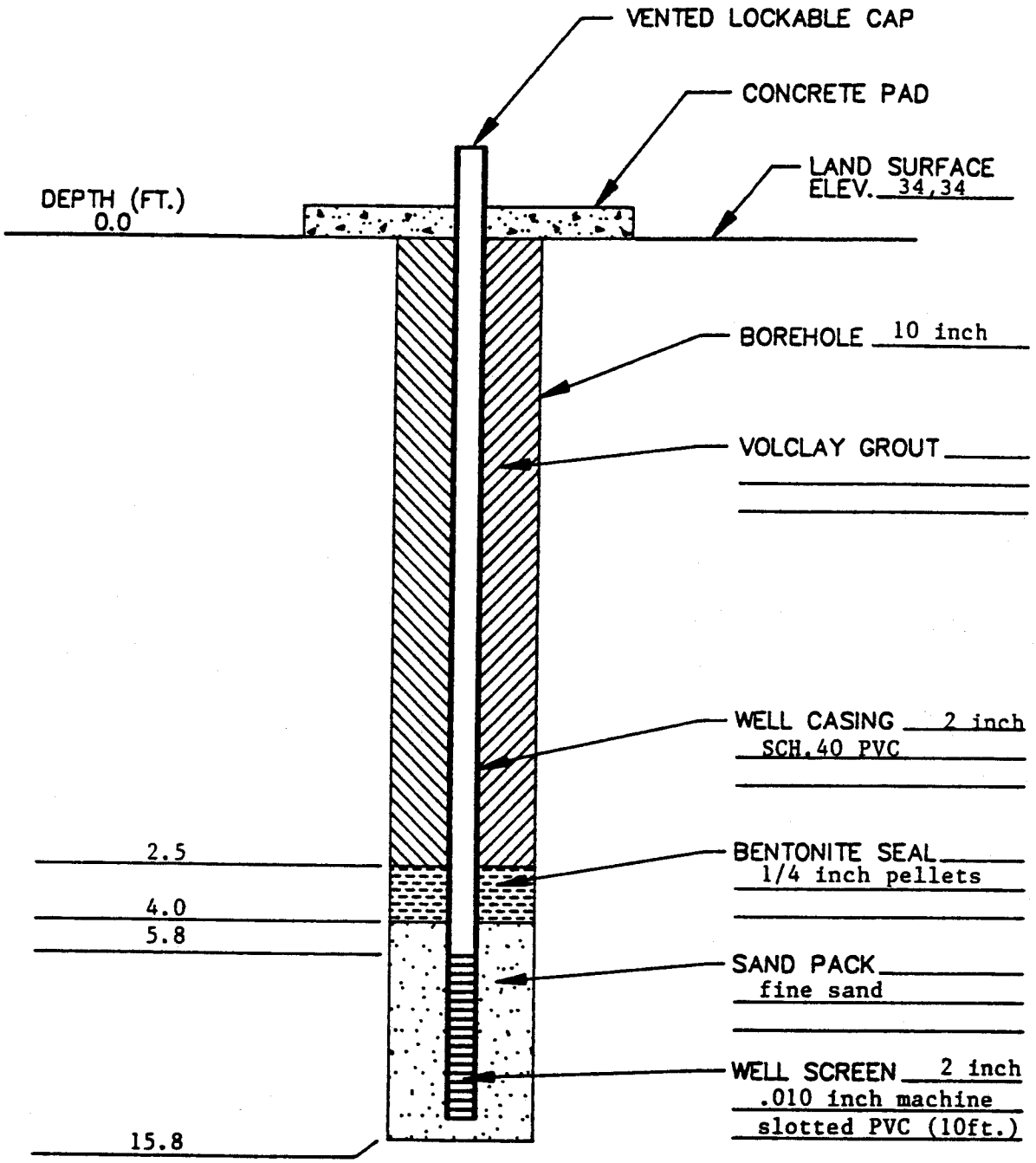
PROJECT NO. 467.42

WELL NO. OW-3 DATE INSTALLED 4/18/90

DRILLING CONTRACTOR Law Engineering

RMT GEOLOGIST B. Grothaus

RMT INC



OBSERVATION WELL CONSTRUCTION DIAGRAM

Not To Scale

PROJECT Weyerhaeuser

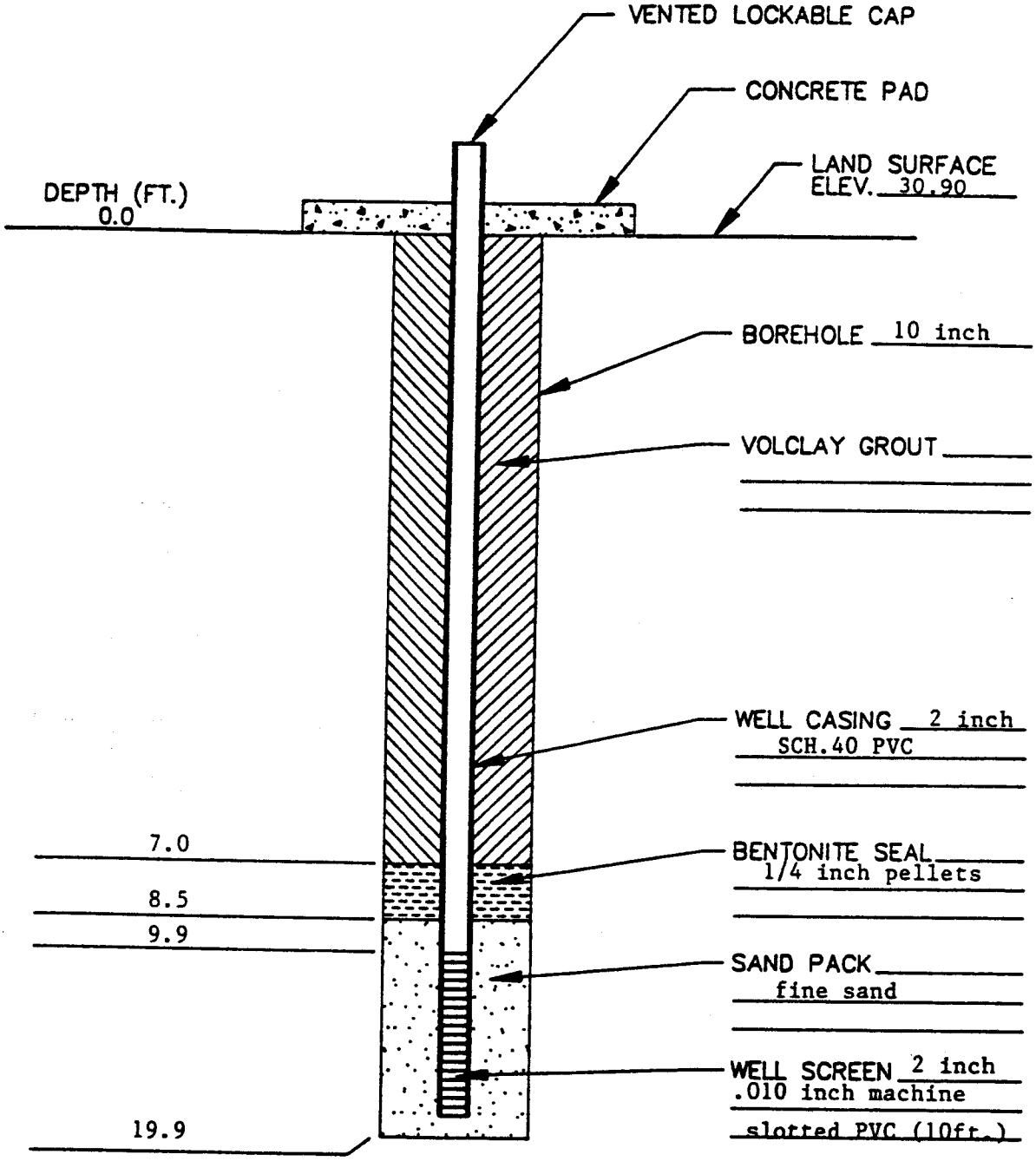
PROJECT NO. 467.42

WELL NO. OW-4 DATE INSTALLED 4/22/90

DRILLING CONTRACTOR Law Engineering

RMT GEOLOGIST B. Grothaus

RMT INC.



OBSERVATION WELL CONSTRUCTION DIAGRAM

Not To Scale

PROJECT Weyerhaeuser

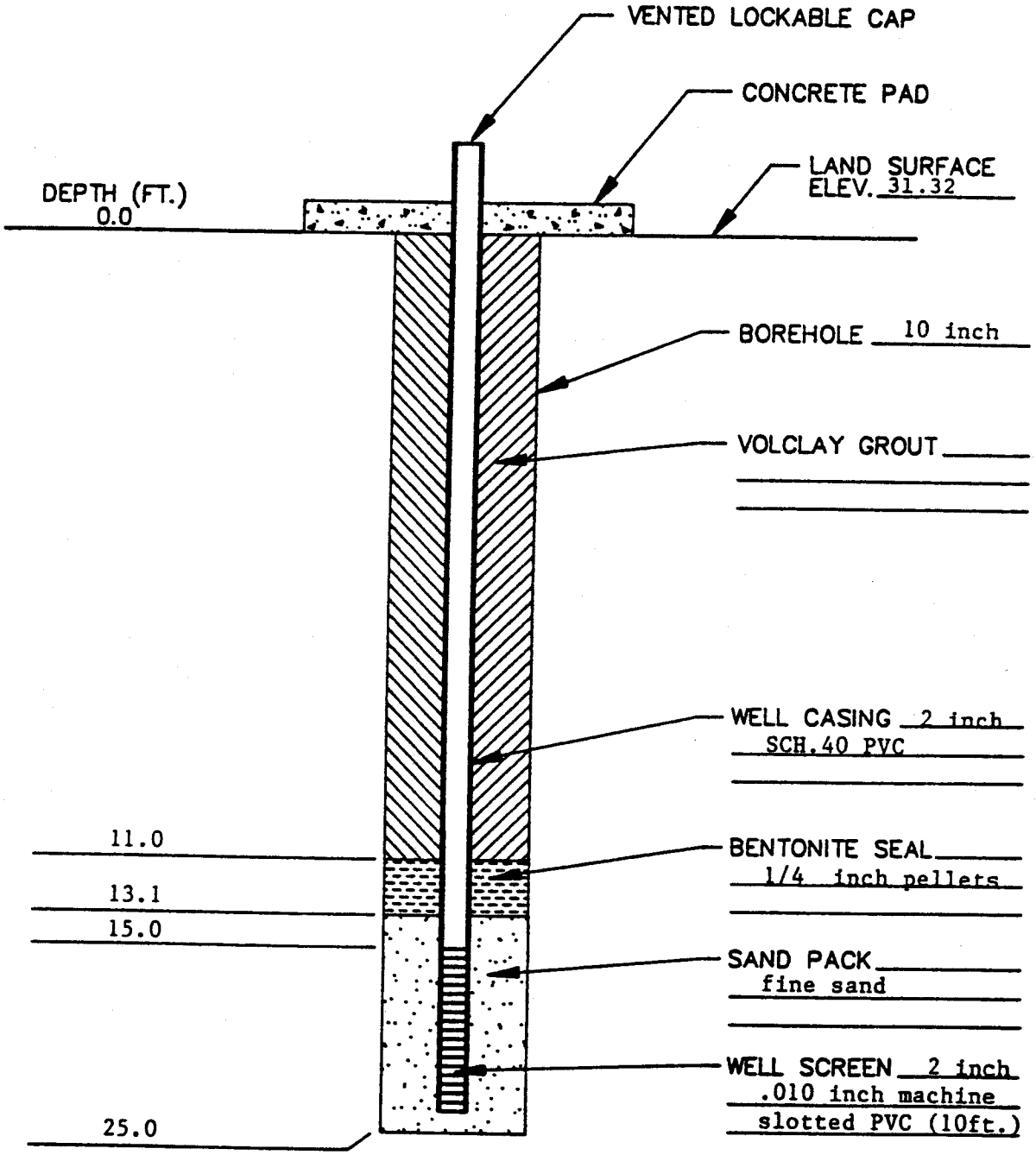
PROJECT NO. 467.42

WELL NO. OW-5 DATE INSTALLED 4/24/90

DRILLING CONTRACTOR Law Engineering

RMT GEOLOGIST B. Grothaus

RMT INC.



OBSERVATION WELL CONSTRUCTION DIAGRAM

Not To Scale

PROJECT Weyerhaeuser

PROJECT NO. 467.42

WELL NO. OW-6 DATE INSTALLED 4/24/90

DRILLING CONTRACTOR Law Engineering

RMT GEOLOGIST B. Grothaus

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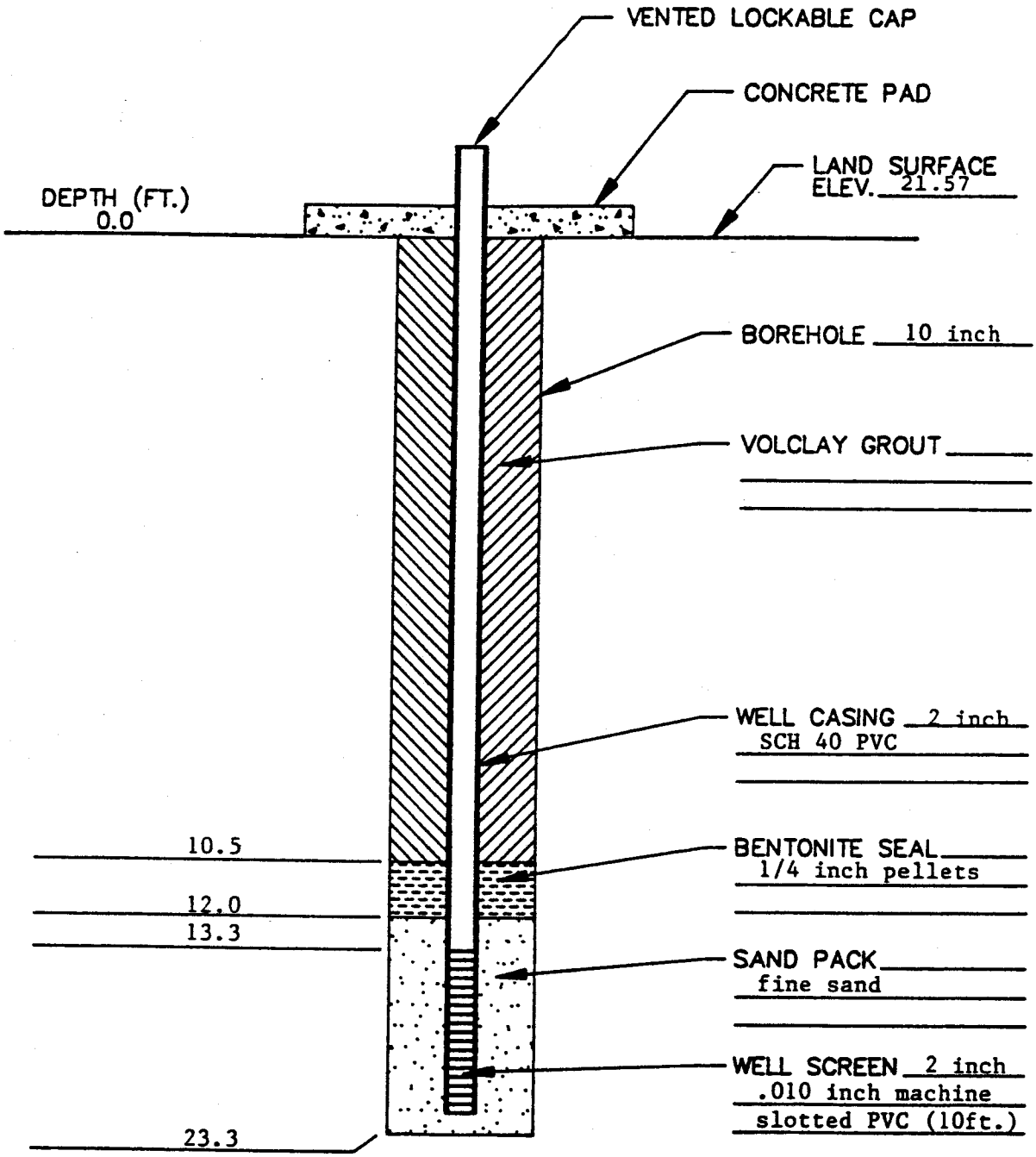


OBSERVATION WELL CONSTRUCTION DIAGRAM

Not To Scale

PROJECT Weyerhaeuser

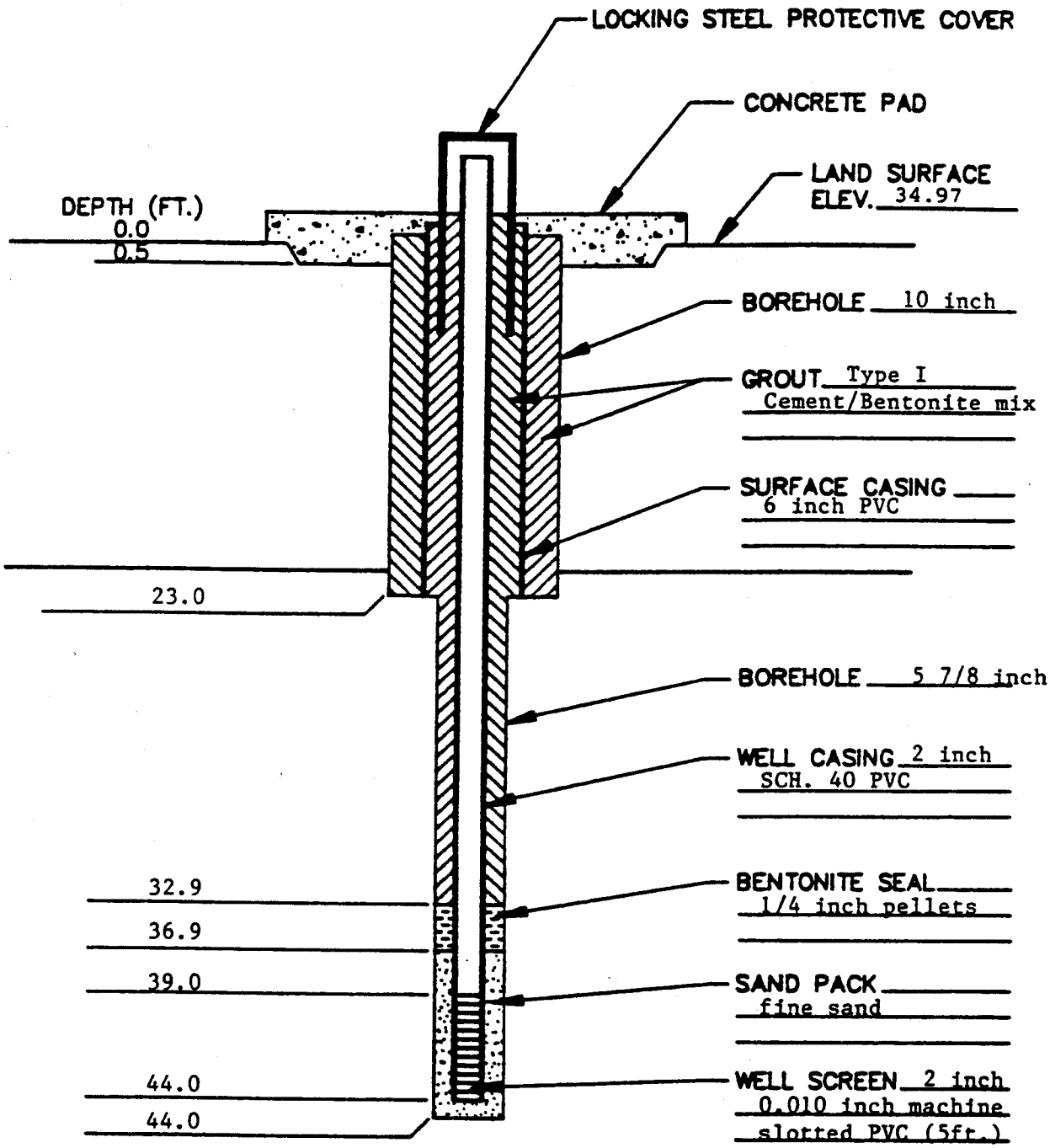
PROJECT NO. 467.42

WELL NO. OW-7 DATE INSTALLED 4/25/90

DRILLING CONTRACTOR Law Engineering

RMT GEOLOGIST B. Grothaus

RMT INC.



MONITORING WELL CONSTRUCTION DIAGRAM

Not To Scale

PROJECT Weyerhaeuser

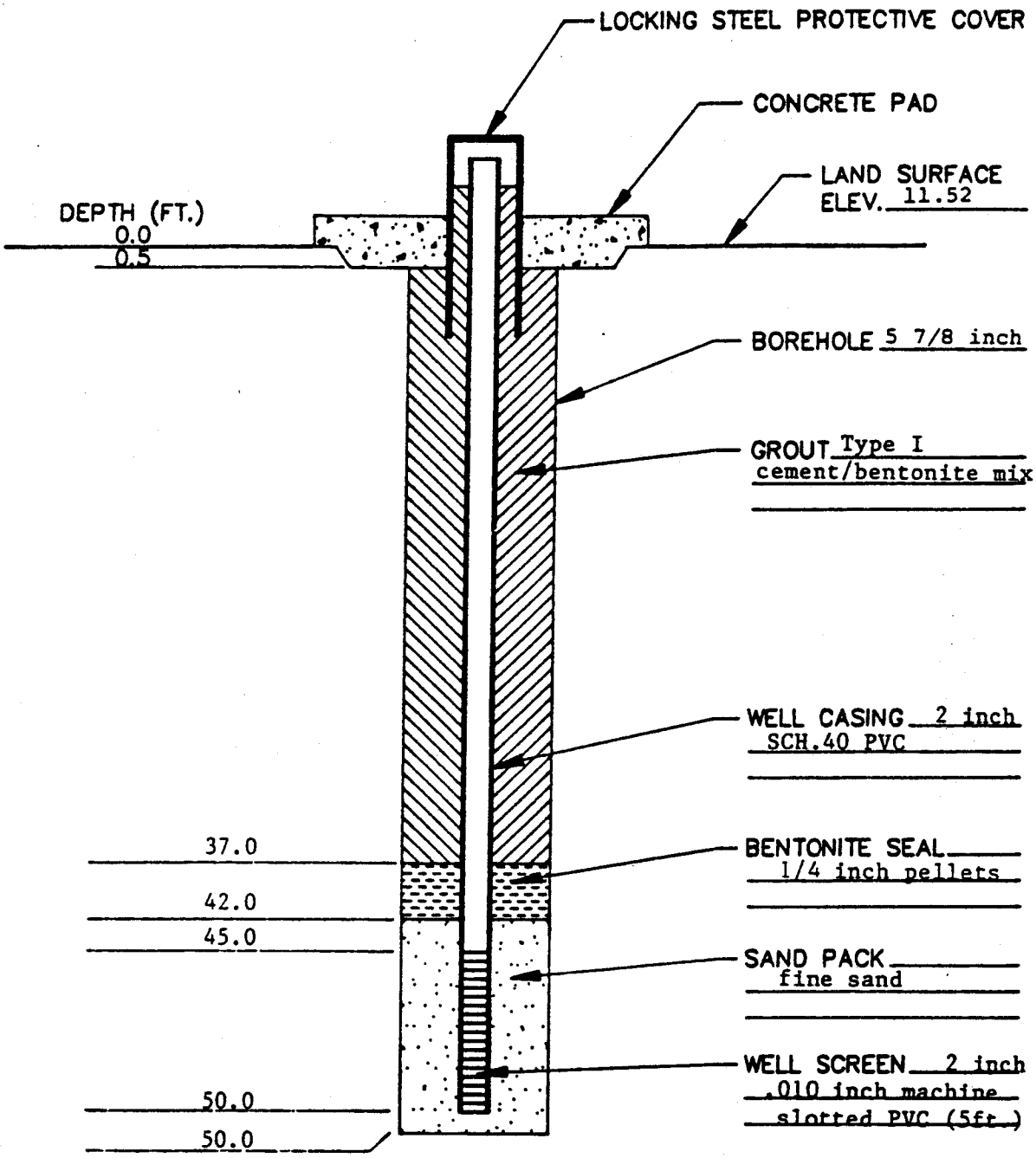
PROJECT NO. 467.42

WELL NO. MW-1A DATE INSTALLED 4/18/90

DRILLING CONTRACTOR Law Engineering

RMT GEOLOGIST B. Grothaus

RMT INC



WELL CONSTRUCTION DIAGRAM

Not To Scale

PROJECT Weyerhaeuser

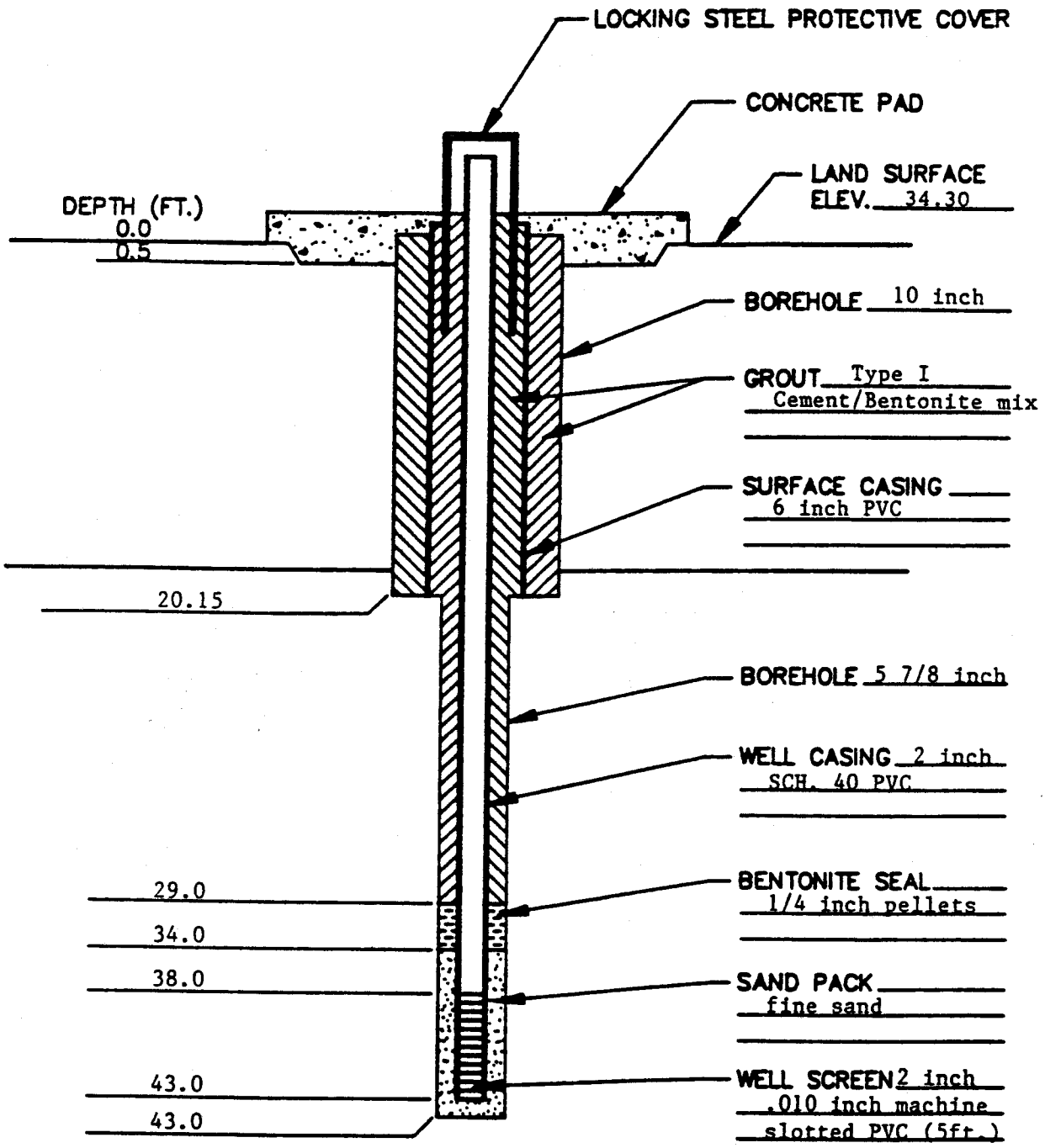
PROJECT NO. 467.42

WELL NO. MW-6A DATE INSTALLED 4/19/90

DRILLING CONTRACTOR Law Engineering

RMT GEOLOGIST B. Grothaus

RMT



MONITORING WELL CONSTRUCTION DIAGRAM

Not To Scale

PROJECT Weyerhaeuser

PROJECT NO. 467.42

WELL NO. MW-8 DATE INSTALLED 4/23/90

DRILLING CONTRACTOR Law Engineering

RMT GEOLOGIST B. Grothaus

RMT INC.