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Coso Monitoring Program October 1991 Through September 1992

by
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and
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for the
Public Works Department*

DECEMBER 1992

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NAVAL AIR WEAPONS STATION
CHINA LAKE, CA 93555-6001



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FOREWORD

This report presents the status of the Coso Monitoring Program conducted for the period October 1991 through September 1992 by the Naval Air Weapons Station (NAWS), China Lake, Calif. The investigation, funded under the NAWS Coso Geothermal Development Program, is being conducted to provide baseline information on hydrology and surface geothermal activity in the Coso Hot Springs area.

Comarco personnel aided in the successful completion of the 1991-92 Coso Monitoring Program under contract N60530-88-D-0019 for the Public Works Department, NAWS.

This report was reviewed for technical accuracy by S. C. Bjornstad.

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30 December 1992

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INTRODUCTION

The Coso Monitoring Program was initiated in 1978 to gather baseline data on the surface and near-surface geothermal activity at Devils Kitchen and Coso Hot Springs, the main thermal sites within the Coso Known Geothermal Area (Coso KGRA). This report represents the fifteenth year of continual baseline data collection.

Some changes in activity were noted at the thermal sites since the last report, as well as some equipment failures. For example, Well 4P-2 is no longer used as a monitoring station due to changes that occurred during the last reporting period and Devils Kitchen has been temporarily taken off line due to inconsistent recorded steam flow data. As of 30 September 1992, the cause of the inconsistency had not been isolated. These and other activities will be detailed in the individual site discussions.

Monitoring sites of the Coso Hot Springs area and type of data collected at each site are presented in Table 1. The location of each site is shown in Figure 1.

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TABLE 1. Monitoring Functions and Locations.

Monitored sites	Continuous steam flow	Continuous water level	Period water level	Continuous steam temperature	Period steam temperature	Ambient temperature	Barometric pressure	Relative humidity	Water level photography	Water chemistry
Schoeber's Resort (4A-2, 3).....	X		X							
Well 4H-4.....	X									
Well 4H-8.....			X ^b	X						
Well 4A-4.....				X					X	
Well 4P-1.....		X		X					X	
Well 4K-1.....			X ^b	X					X	
Devils Kitchen.....	X								X	
Observation Well No. 1.....		X ^a							X	
Observation Well No. 2.....		X ^a								
Observation Well No. 3.....		X ^a								
South Pool.....		X ^a		X				X	X	
Weather Station No. 1.....					X	X	X			

^a Weekly monitoring.

^b Less than weekly.

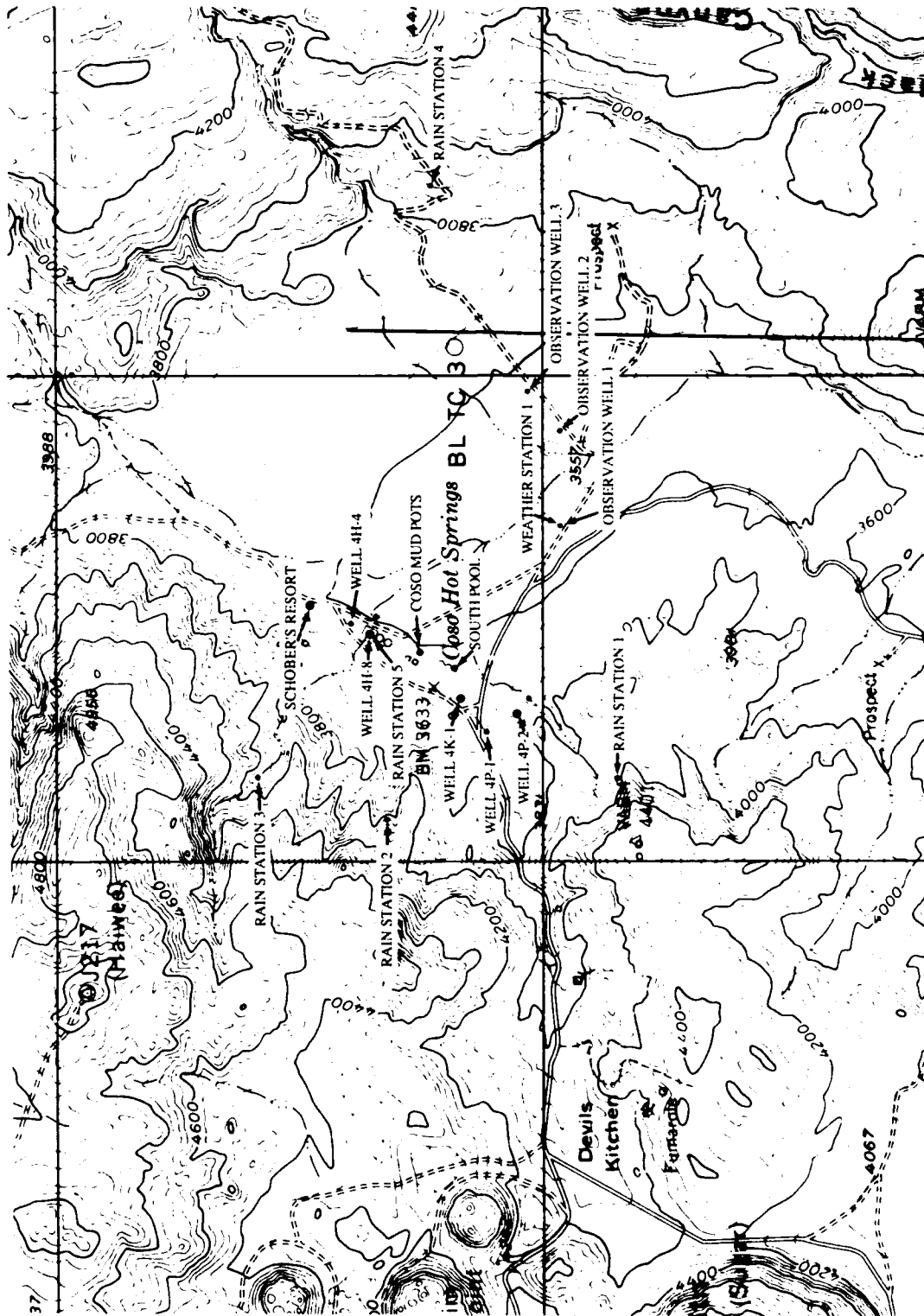


FIGURE 1. Coso Known Geothermal Area Monitoring Sites.

TEMPERATURE AND STEAM FLOW MONITORING

Steam flow is presently measured at three sites and steam temperature is monitored at one of these sites. One site is located within Devils Kitchen and the other sites are along the Coso Hot Springs - Airport Lake Fault. Temperature data are used as collected, while the steam flow data are converted from graph units to steam flow in pounds per hour. The conversion factors for steam flow data are calculated using the standard orifice equation for gas flow. The Barton pressure differential meters and temperature recorders are calibrated yearly. Periodic manometer readings were taken to ensure the data recorded were accurate.

DEVILS KITCHEN

Steam flow at Devils Kitchen is monitored using a 25-inch water column Barton differential pressure unit (DPU) and recorder. The conversion factor based on an orifice size of 1.387 inches is 40.23. Daily high and low steam flow data collected at Devils Kitchen for the period of this report are presented in Appendix A, Table A-1. These data are shown graphically in Figure 2. The mean flow and standard deviations for high and low steam flow are presented in Table 2.

Since 7 January 1992 recorded data have been erratic. The problem appears to be a deterioration in the steam collector, causing minute corroded particles to move with the steam and become trapped inside the bellows of the DPU. The system was cleaned and flushed with distilled water and filled with new anti-freeze. All plumbing was checked for leaks and the unit was calibrated. The Barton block manifold was also replaced, however the problem persisted. The DPU was replaced on 1 June 1992. The problem appeared to be solved, but 2 weeks later it returned. Manometer readings were taken one to three times per week from 7 January 1992 to 15 September 1992. These data are shown graphically in Figure 2 and presented in Table 3. The average reading was 351.2, with a high of 355.2 and low of 347.2. Based on these manometer readings, there has been no decrease in the steam flow. On 21 September 1992, the 4-inch piping from the well casing to the orifice was removed to enable the well to blow any particles out. The plan is to reconnect the system in mid-December to see if the problem has been solved.

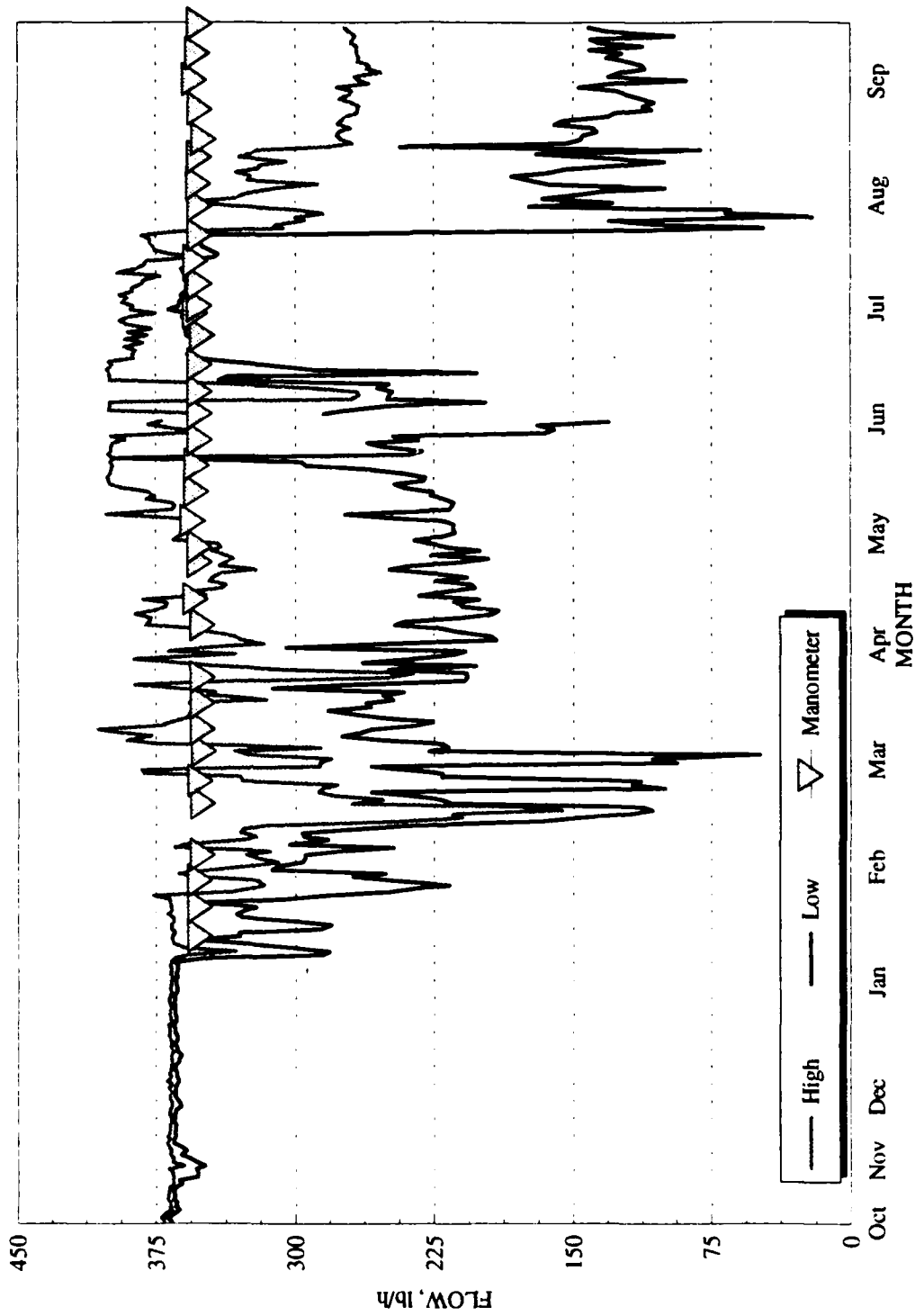


FIGURE 2. Devils Kitchen Steam Flow, 1 October 1991 through 30 September 1992.

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TABLE 2. Devils Kitchen Statistical Steam Flow.

Date	High daily flow, lb/h		Low daily flow, lb/h	
	Mean	Standard deviation	Mean	Standard Deviation
1 Oct 91 - 30 Sept 92	347.3	43.0	269.1	91.5

TABLE 3. Devils Kitchen Manometer Readings

Date	lb/h	Date	lb/h
13 Jan 92	351.6	2 June 92	351.6
21 Jan 92	351.6	8 June 92	351.6
28 Jan 92	351.6	15 June 92	351.6
4 Feb 92	350.0	23 June 92	350.0
18 Feb 92	350.0	29 June 92	354.0
24 Feb 92	351.6	1 July 92	351.6
3 Mar 92	349.6	7 July 92	351.6
9 Mar 92	350.0	13 July 92	354.0
16 Mar 92	350.0	20 July 92	351.6
23 Mar 92	350.0	28 July 92	351.6
6 Apr 92	350.0	4 Aug 92	352.0
13 Apr 92	354.0	11 Aug 92	351.6
23 Apr 92	351.6	17 Aug 92	349.2
27 Apr 92	351.6	24 Aug 92	351.2
4 May 92	355.2	1 Sept 92	354.4
12 May 92	353.2	8 Sept 92	352.8
19 May 92	353.2	16 Sept 92	351.6
26 May 92	351.6		

WELL 4P-2

Well 4P-2 was discontinued as a monitoring station on 1 October 1991. Steam temperature has been checked monthly and has remained consistent with past reports. Fluid sampling has been attempted periodically but the well remains dry. Recently, the steam flow rate appears to have increased, although not enough to warrant re-installing the monitoring equipment. We will continue to observe this well and will re-install a DPU when warranted.

WELL 4H-4

The daily steam flow for 4H-4 is presented in Appendix A, Table A-2. The mean flow data and the standard deviations for the high and low daily steam flow at this site are presented in Table 4. These data are shown graphically in Figure 3. This site is equipped with a 25-inch water column DPU meter and recorder.

TABLE 4. 4H-4 Statistical Steam Flow.

Date	High daily flow, lb/h		Low daily flow, lb/h	
	Mean	Standard deviation	Mean	Standard deviation
1 Oct 91 - 30 Sept 92	185.7	4.7	178.4	5.5

WELL 4A-2 AND 4A-3

The daily steam flow and temperature data for Wells 4A-2 and 4A-3 at Schoeber's Resort are presented in Appendixes A and B, Table A-3 and Table B-1. The mean data and standard deviations are presented for high and low daily steam flow (Table 5) and for high and low daily steam temperature (Table 6). Data are shown graphically in Figures 4 and 5. Steam flow is recorded using a 50-inch column DPU and recorder. There is no mechanical reason for the drop in steam flow on 16 June 1992. Manometer readings were taken and the data is reliable.

TABLE 5. 4A-2 and 4A-3 Statistical Steam Flow.

Date	High daily flow, lb/h		Low daily flow, lb/h	
	Mean	Standard deviation	Mean	Standard deviation
1 Oct 91 - 30 Sept 92	1290.4	44.6	1261.5	47.9

TABLE 6. 4A-2 and 4A-3 Statistical Steam Temperature.

Date	High daily flow, °F		Low daily flow, °F	
	Mean	Standard deviation	Mean	Standard deviation
1 Oct 91 - 30 Sept 92	226.7	2.3	221.9	1.9

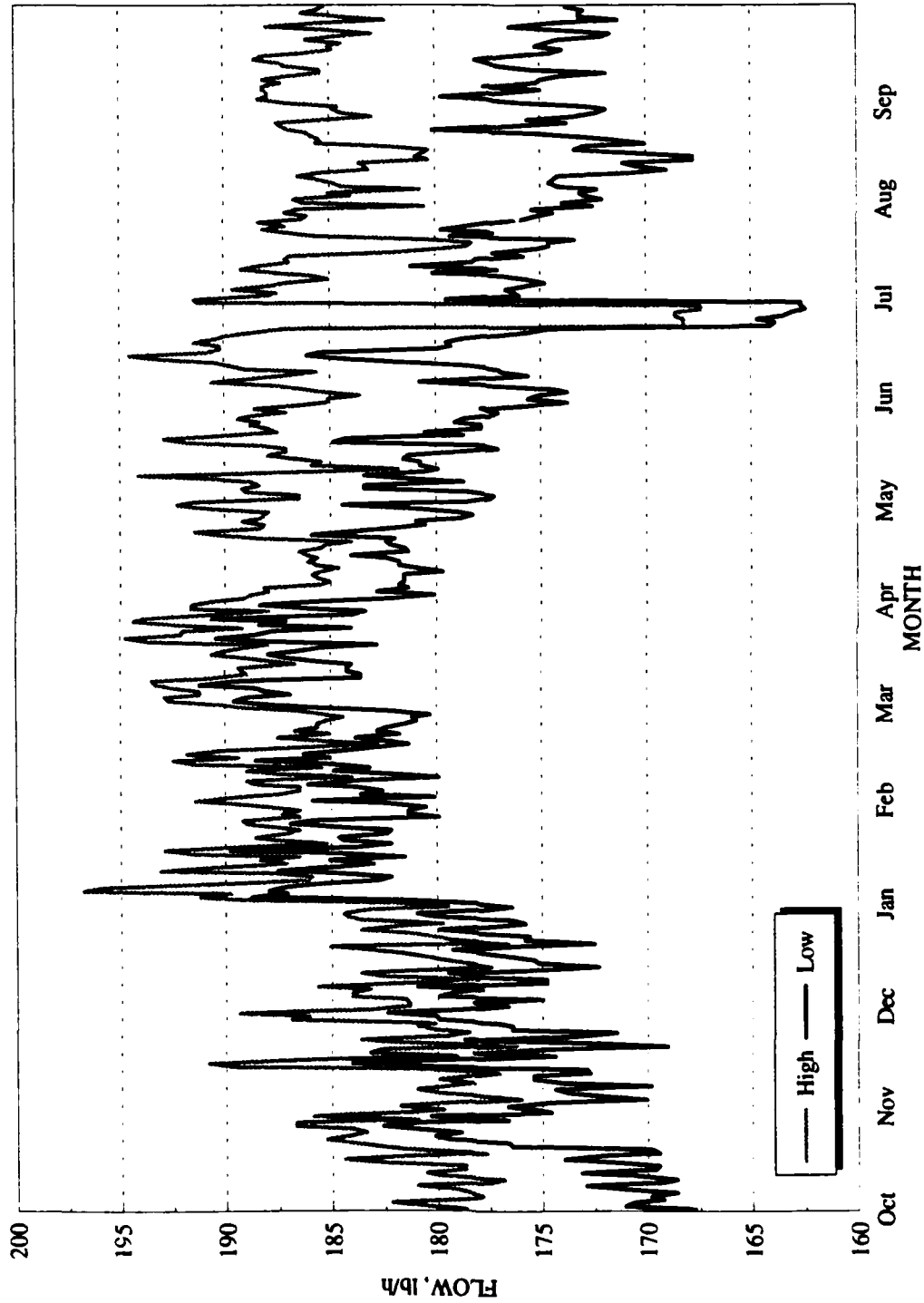


FIGURE 3. Wells 4H-4 Steam Flow, 1 October 1991 through 30 September 1992.

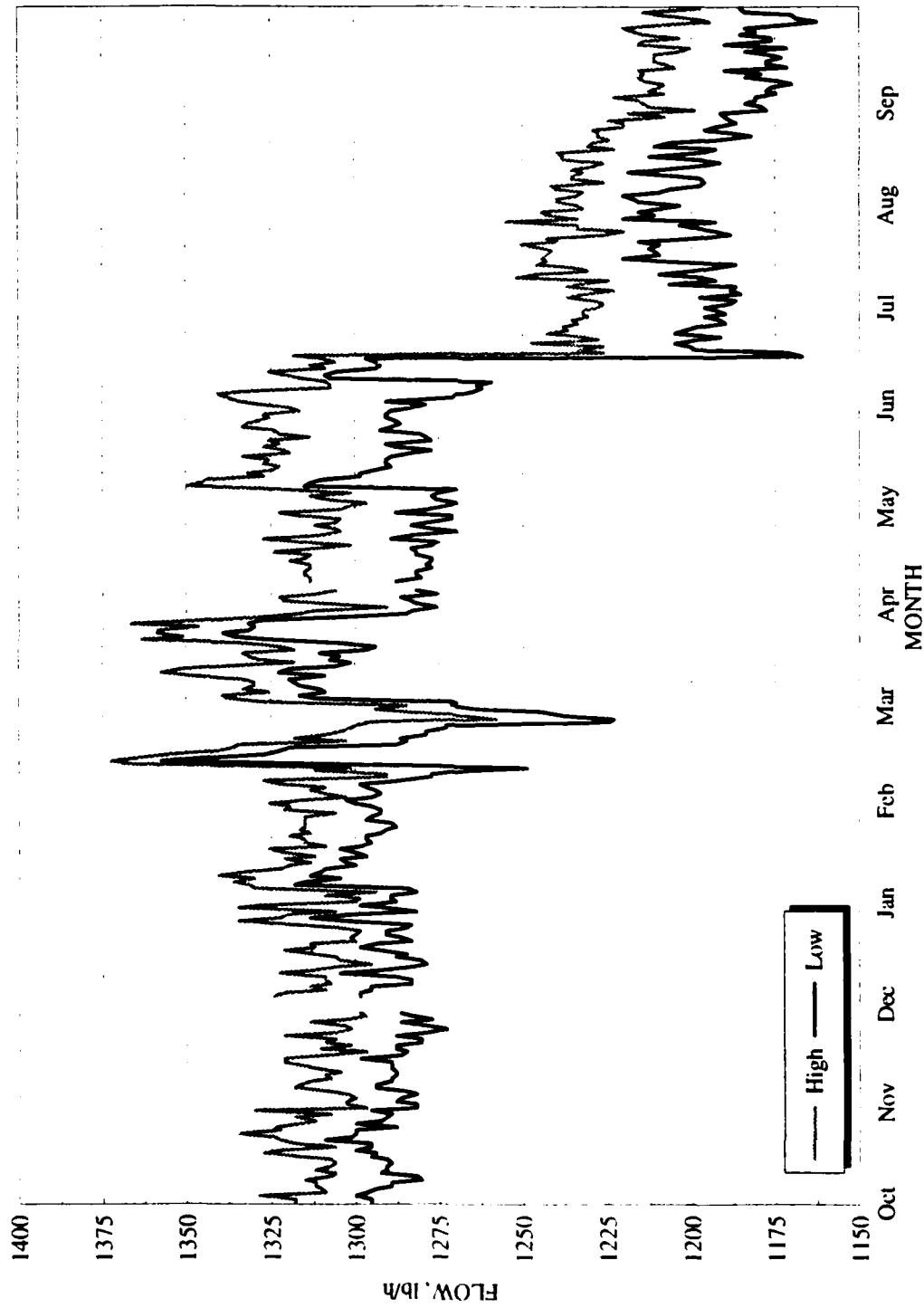


FIGURE 4. Wells 4A-2 and 4A-3 Steam Flow, 1 October 1991 through 30 September 1992.

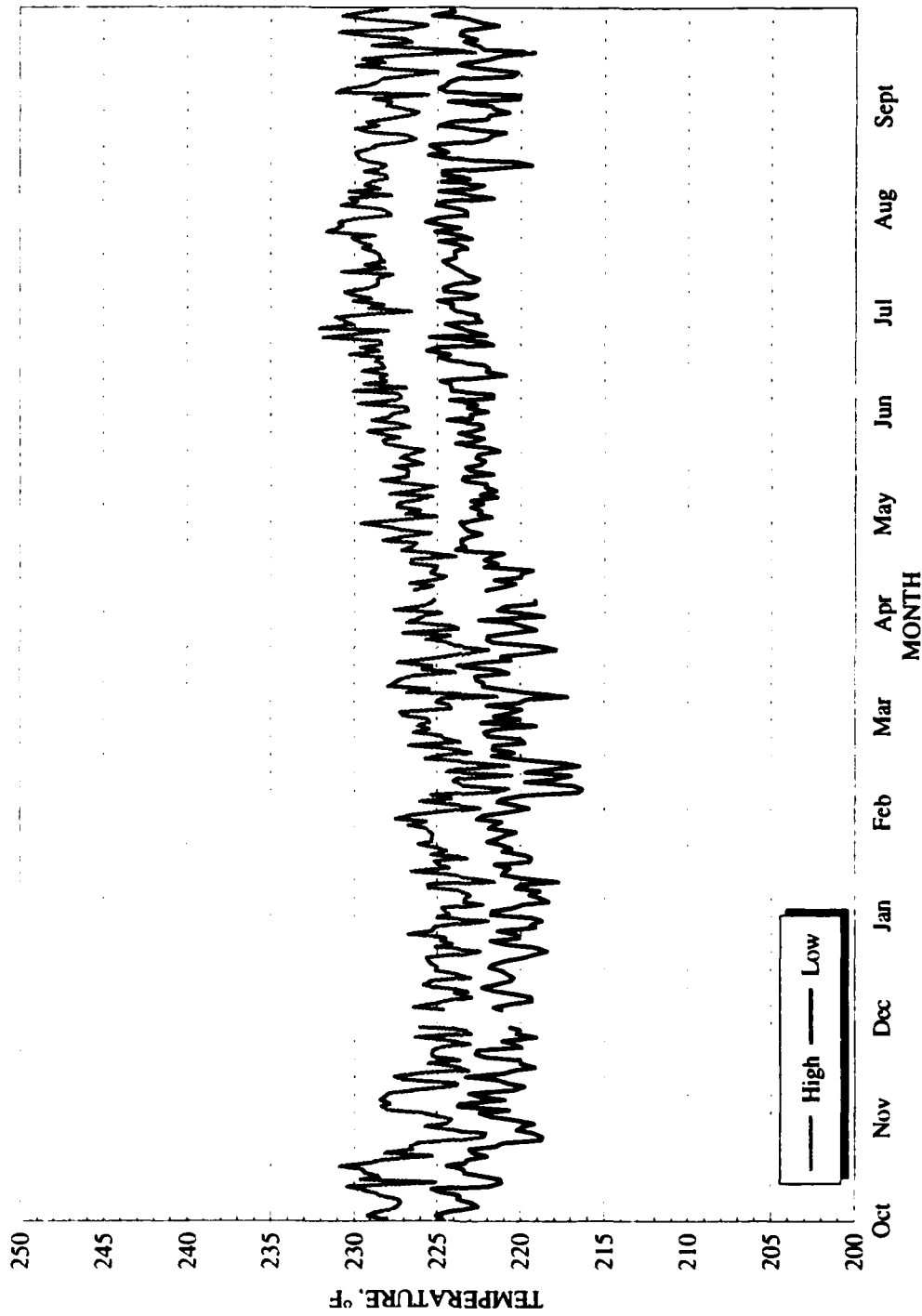


FIGURE 5. Wells 4A-2 and 4A-3 Steam Temperature, 1 October 1991 through 30 September 1992.

COSO HOT SPRINGS MUDFIELD PHOTOGRAPHIC INVESTIGATION

A weekly photographic investigation was initiated in January 1978 to document the fluctuation in fluid levels in several of the more prominent mud pots in the Coso KGRA. This project has continued into the steam-production and power-generation stages of the geothermal development.

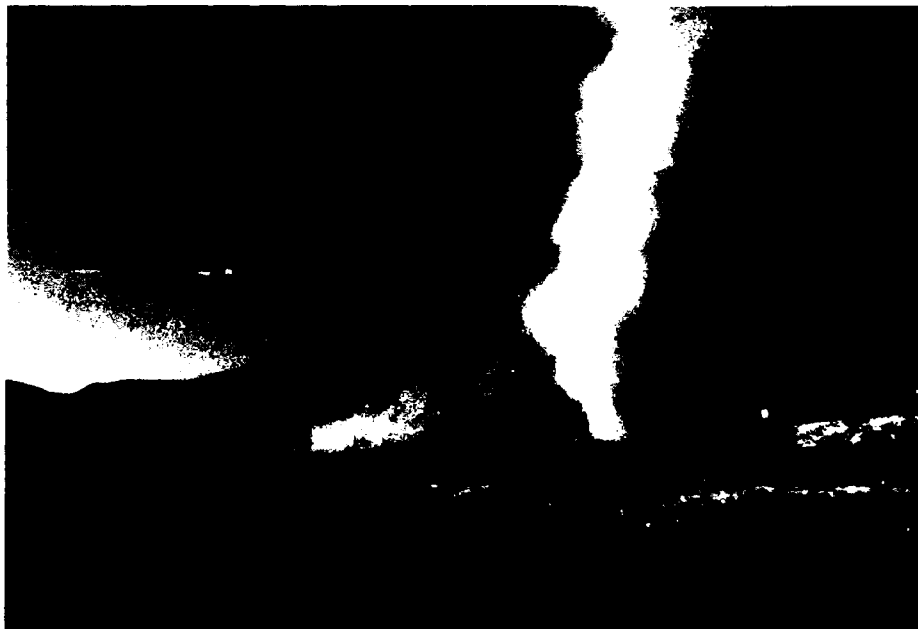
Steam and weather conditions often combine to partially obscure the Coso Resort area, limiting the usefulness of traditional photography locations. As stated in Reference 1, nine new photo sites were chosen. These sites are distributed in and around the resort area so photographs can be taken each week that clearly show the physical status of the thermal activity. Figures 6 through 17 illustrate seasonal variations at several Coso Resort sites. The sites are listed in Table 7 and shown in Figure 18.

TABLE 7. Photographic Sites and Views.

Site Number	Primary view from each site
1	South Pool looking north
2	Overall Resort Mudfield looking southwest, and northwest
3	Overall Resort Mudfield looking southwest, west, north, and northeast
4	Mudfield looking west, north, and northwest
5	Mudfield looking south, southwest, and west
6	Mudfield looking south, southeast, and east
7	North side of Mudfield looking south
8	Crater 4KC-8 looking south, southeast, and east
9	Crater 4KC-8 looking northeast



(a) Site 1 looking north.



(b) Site 5 looking south.

FIGURE 6. Coso Hot Springs, 22 October 1991.



(c) Site 6 looking south.



(d) Site 8 looking south.

FIGURE 6. (Contd.)

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(a) Site 1 looking north.



(b) Site 2 looking southwest.

FIGURE 7. Coso Hot Springs, 12 November 1991.

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(c) Site 5 looking southwest.



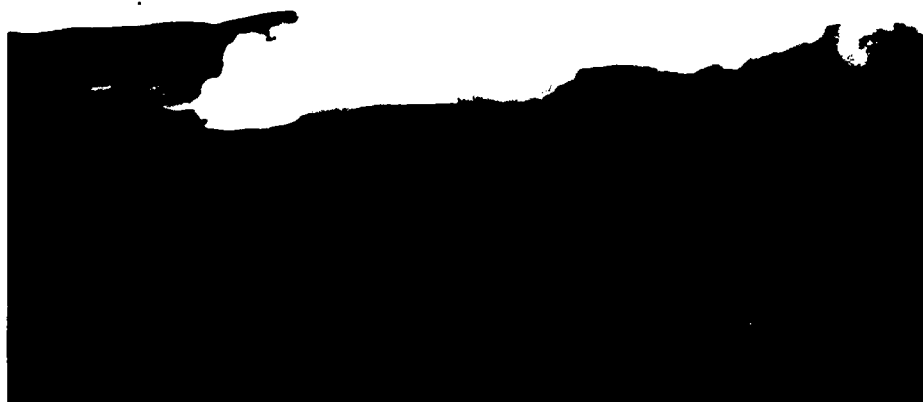
(d) Site 8 looking southeast.

FIGURE 7. (Contd.)

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(a) Site 1 looking north.



(b) Site 7 looking south.

FIGURE 8. Coso Hot Springs, 17 December 1991.

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(c) Site 5 looking southeast.



(d) Site 6 looking southeast.

FIGURE 8. (Contd.)



(a) Site 1 looking north.



(b) Southwest of Site 1 looking north.

FIGURE 9. Coso Hot Springs, 30 January 1992.



(c) Site 5 looking south.



(d) Site 2 looking northwest.

FIGURE 9. (Contd.)

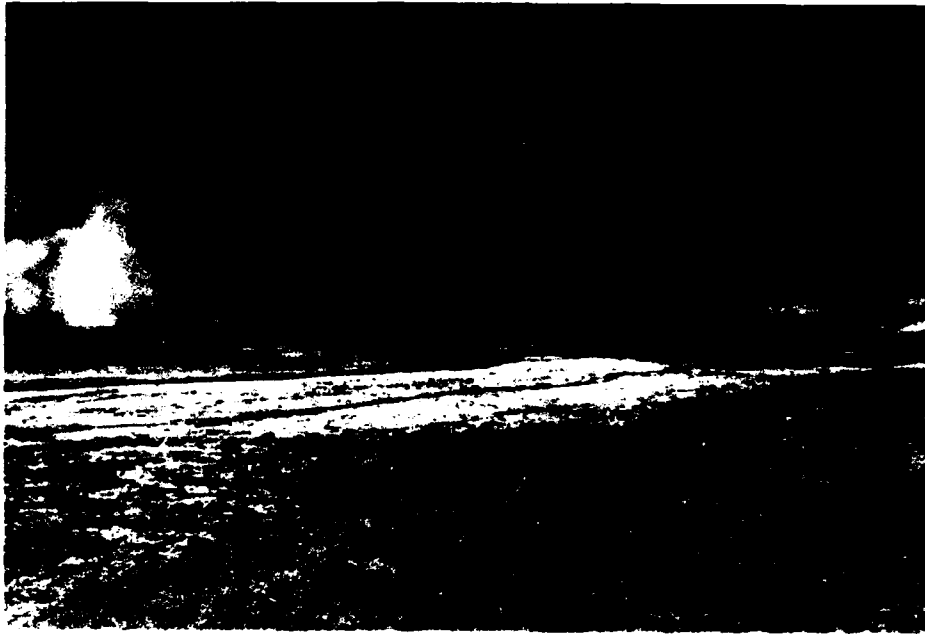


(a) Site 1 looking north.



(b) Site 7 looking south.

FIGURE 10. Coso Hot Springs, 25 February 1992.



(c) Site 5 looking west.



(d) Site 8 looking south.

FIGURE 10. (Contd.)



(a) Site 1 looking north.



(b) Site 2 looking northwest.

FIGURE 11. Coso Hot Springs, 17 March 1992.



(c) Site 3 looking southwest.



(d) Site 4 looking west.

FIGURE 11. (Contd.)



(a) Site 1 looking north.



(b) Site 3 looking west.

FIGURE 12. Coso Hot Springs, 28 April 1992.



(c) Site 4 looking northwest.



(d) Site 4 looking north.

FIGURE 12. (Contd.)



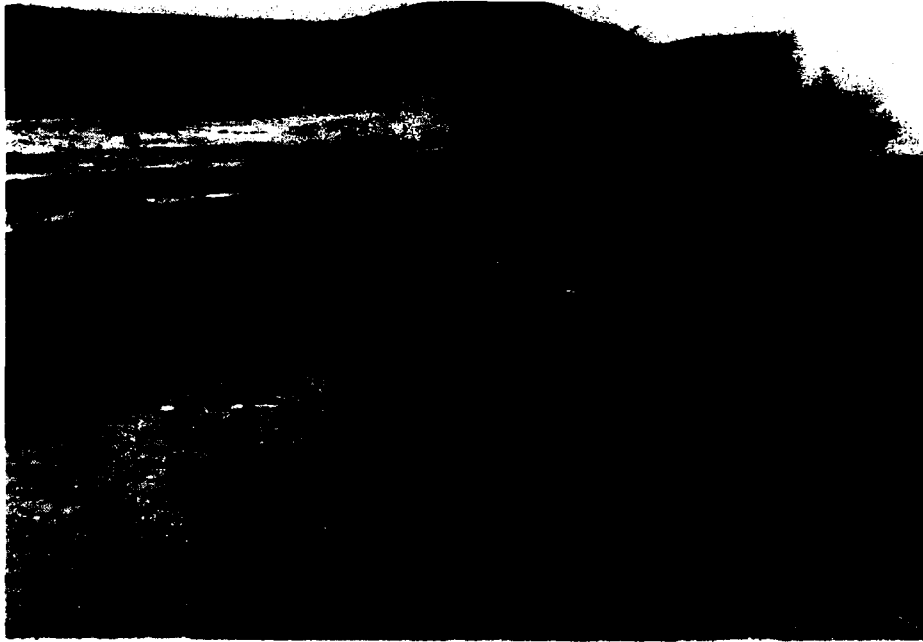
(a) Site 1 looking north.



(b) Site 3 looking north.

FIGURE 13. Coso Hot Springs, 21 May 1992.

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(c) Site 6 looking east.



(d) Site 8 looking south.

FIGURE 13. (Contd.)

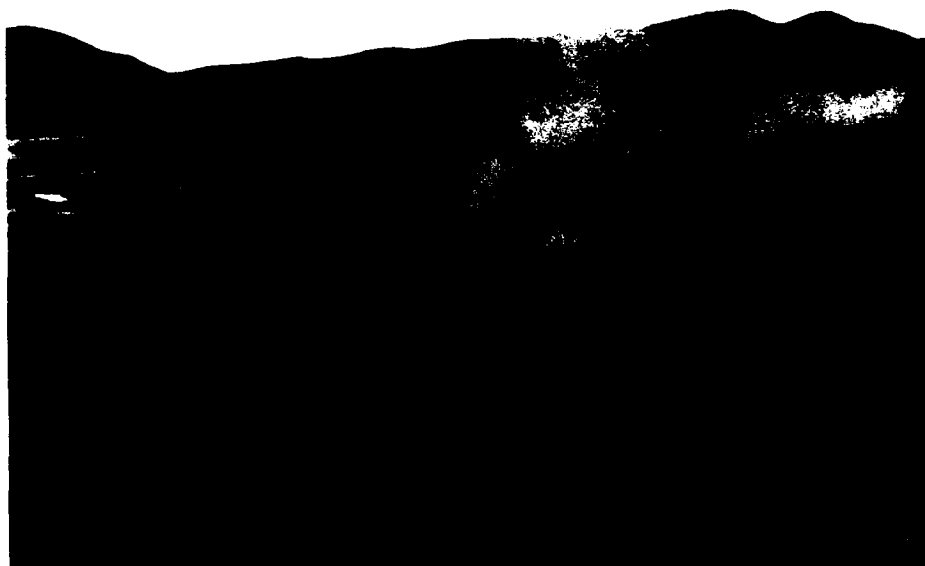


(a) Site 1 looking north.



(b) Site 5 looking southwest.

FIGURE 14. Coso Hot Springs, 2 June 1992.

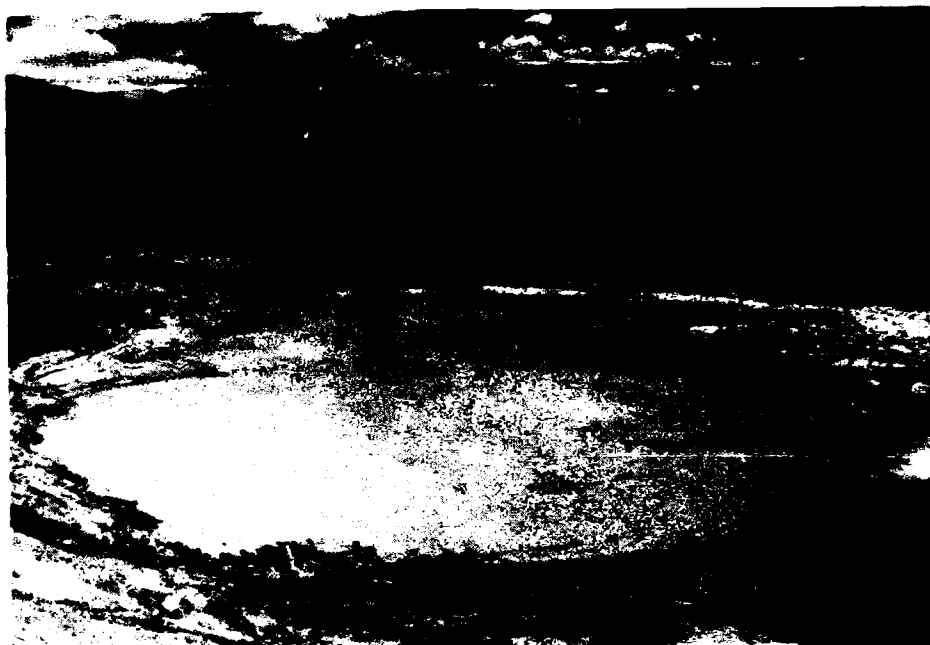


(c) Site 6 looking southeast.



(d) Site 8 looking south.

FIGURE 14. (Contd.)



(a) Site 1 looking north.



(b) Site 4 looking west.

FIGURE 15. Coso Hot Springs, 27 July 1992.



(c) Site 6 looking southeast.



(d) Site 8 looking south.

FIGURE 15. (Contd.)



(a) Site 1 looking north.



(b) Site 5 looking west.

FIGURE 16. Coso Hot Springs, 5 August 1992.

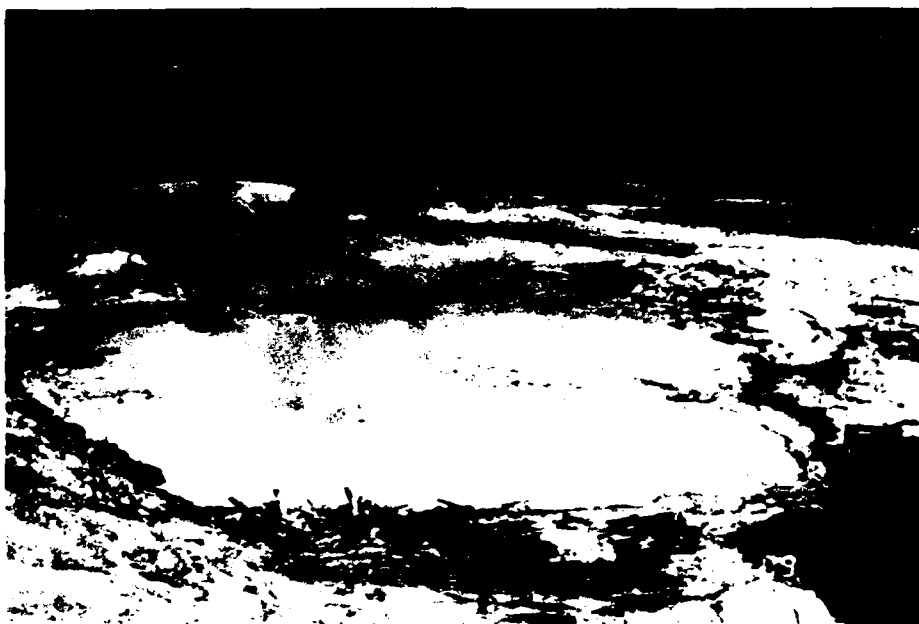


(c) Site 6 looking southeast.



(d) Site 8 looking south.

FIGURE 16. (Contd.)



(a) Site 1 looking north.



(b) Site 8 looking south.

FIGURE 17. Coso Hot Springs, 8 September 1992.



(c) Site 3 looking northeast.



(d) Site 5 looking west.

FIGURE 17. (Contd.)

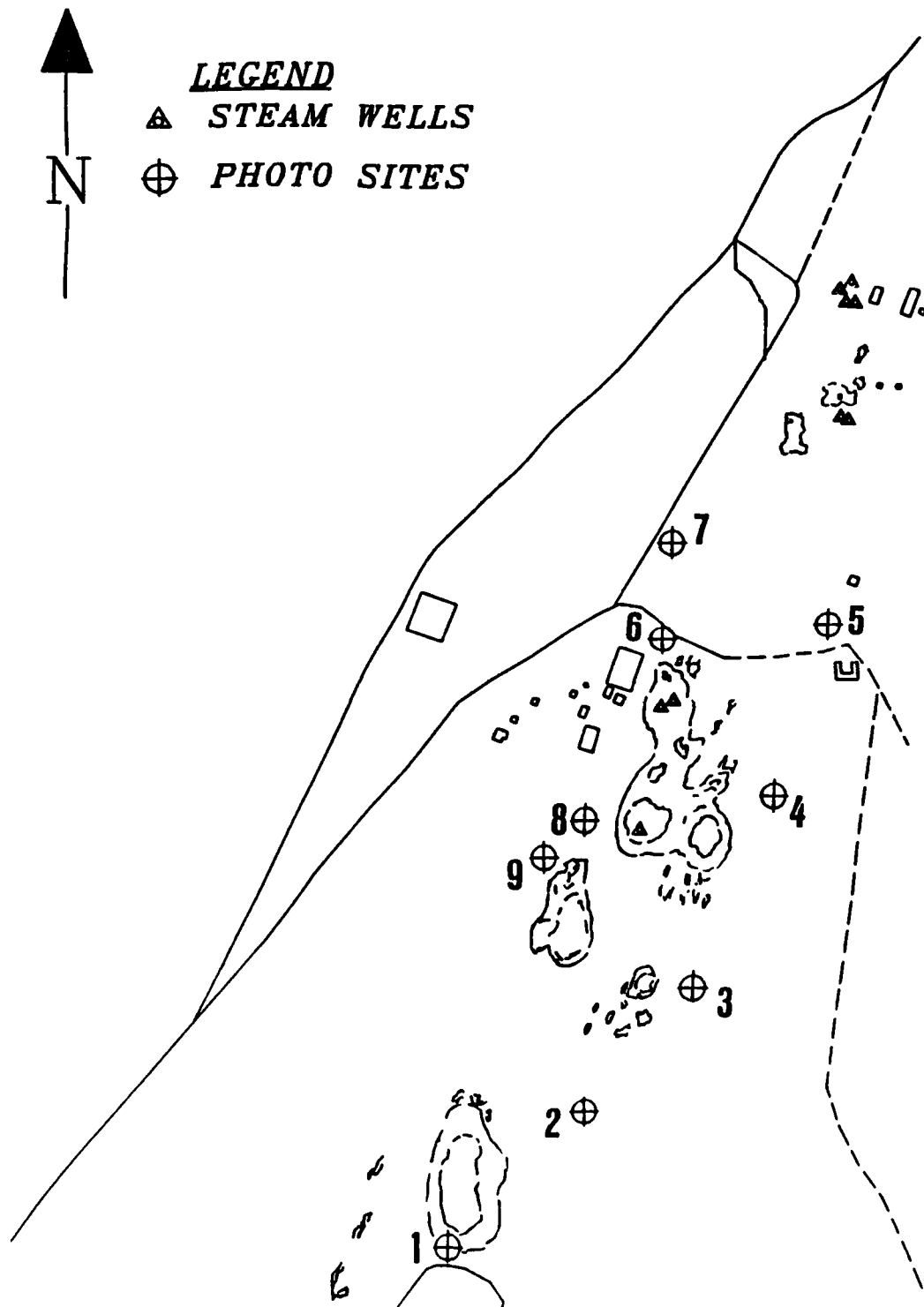


FIGURE 18. Photographic Locations

WATER LEVEL MONITORING

OBSERVATION WELLS

Water levels are presently monitored in six wells. Water levels are measured weekly at Wells 4P-1, Observation Wells (OB) 1, 2, and 3, and occasionally at Wells 4K-1 and 4A-4. These data can be seen in Table 8. Water levels at Wells 4P-1, 4K-1, and 4A-4 are measured with a modified Fisher electric water level meter because steam condensate accumulates on the probe of the Solist meter causing erroneous readings. The Solist meter is used at OB 1, 2, and 3. The water-filled pipe and manometer readings are used as secondary and comparison methods in case the Solist meter fails.

SOUTH POOL

The South Pool water level continues the pattern of seasonal fluctuation (2 to 4 feet), while the average level continues (as it has since 1988) to be above historic levels (Figure 19). Weekly water temperature has not been recorded since 4 June 1991 when it became too hazardous to reach the water safely. During this period, the water level was above 3619.8 feet, visible on the scale mounted on the steam hut. As indicated in Table 9 and Figure 20, the high water level was 3622.0 feet from 3 March 1992 to 17 March 1992. Mud buildup in the pool obscured the scale when water levels began the annual decline. The last visible water level on the scale was 3621.3 feet on 21 April 1992. Photographic comparisons with known elevations were used to extrapolate the water levels that were not readable on the scale. The average water temperature has been approximately 167°F during this period. Temperatures are measured infrequently with a 36-inch thermometer secured to a 20-foot extension pole.

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TABLE 8. Observation Well Water Level Data.

Date	Well depth to water, ft.					Date	Well depth to water, ft.				
	4P-1	4K-1	OB-1	OB-2	OB-3		4P-1	4K-1	OB-1	OB-2	OB-3
1 Oct 91	56.2	50.5	155.0	194.3	382.4	30 Mar 92	56.6	a	158.3	194.2	382.2
8 Oct 91	55.8	50.5	155.2	194.4	382.4	6 Apr 92	56.3	a	158.3	194.3	382.3
15 Oct 91	55.9	50.5	155.3	194.4	382.4	13 Apr 92	56.1	a	158.4	194.3	382.3
22 Oct 91	55.8	50.5	155.3	194.4	382.4	22 Apr 92	55.8	a	158.6	194.3	382.3
29 Oct 91	55.8	50.5	155.3	194.4	382.4	28 Apr 92	55.8	a	158.6	194.3	382.3
5 Nov 91	56.0	50.5	155.3	194.3	382.4	4 May 92	55.7	a	158.7	194.3	382.3
13 Nov 91	56.0	50.4	155.4	194.3	382.4	11 May 92	55.5	a	158.9	194.2	382.4
18 Nov 91	56.0	50.3	155.6	194.3	382.4	20 May 92	55.4	a	158.9	194.2	382.2
22 Nov 91	56.0	50.2	155.7	194.2	382.4	26 May 92	55.2	a	159.0	194.3	382.3
27 Nov 91	56.0	50.0	155.8	194.2	382.3	1 Jun 92	55.1	a	159.1	194.3	382.3
4 Dec 92	56.0	49.8	155.9	194.1	382.3	8 Jun 92	55.1	a	159.1	194.3	382.3
9 Dec 92	56.0	49.7	155.9	194.1	382.3	17 Jun 92	55.0	53.1	159.3	194.3	382.2
16 Dec 92	56.0	49.7	156.2	194.1	382.3	24 Jun 92	54.9	53.3	159.4	194.2	382.2
23 Dec 92	56.1	49.5	156.3	194.1	382.3	6 Jul 92	54.9	53.8	159.5	194.3	382.3
30 Dec 92	56.1	49.3	156.5	194.1	382.3	14 Jul 92	54.6	53.5	159.5	194.3	382.3
6 Jan 92	56.1	49.3	156.8	194.1	382.3	20 Jul 92	54.1	53.1	159.7	194.3	382.3
14 Jan 92	56.1	49.2	156.9	194.1	382.3	27 Jul 92	54.6	52.5	159.9	194.3	382.3
21 Jan 92	56.1	49.2	157.0	194.1	382.3	3 Aug 92	54.6	52.3	160.2	194.3	382.4
27 Jan 92	56.2	50.3	157.1	194.1	382.3	11 Aug 92	54.6	51.8	160.4	194.2	382.2
6 Feb 92	56.4	50.6	157.1	194.1	382.3	17 Aug 92	53.7	51.4	160.1	194.3	382.3
13 Feb 92	56.5	52.8	157.3	194.1	382.3	25 Aug 92	53.6	51.2	160.3	194.3	382.3
19 Feb 92	56.7	53.6	157.3	194.1	382.3	1 Sept 92	53.5	51.1	160.4	194.4	382.3
24 Feb 92	56.7	54.4	157.4	194.1	382.3	8 Sept 92	53.6	51.1	161.1	194.3	382.3
2 Mar 92	56.8	55.3	157.4	194.1	382.3	15 Sept 92	54.6	51.3	161.1	194.3	382.3
10 Mar 92	56.8	56.2	157.6	194.1	382.3	22 Sept 92	54.6	50.6	160.8	194.3	382.4
16 Mar 92	56.8	a	157.9	194.3	382.3	29 Sept 92	54.6	49.6	160.6	194.3	382.4
24 Mar 92	56.6	a	157.9	194.3	382.3						

* Well dry

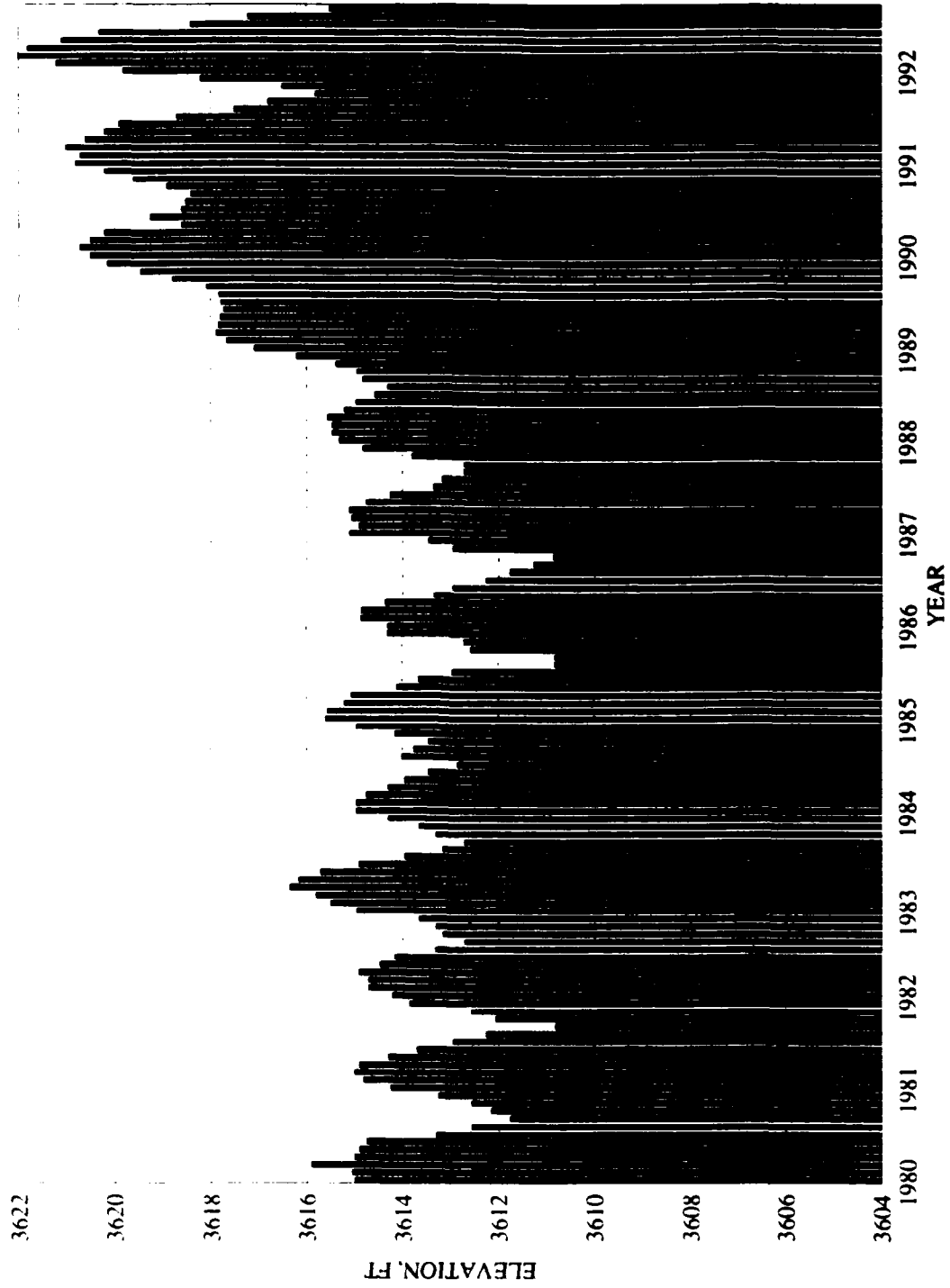


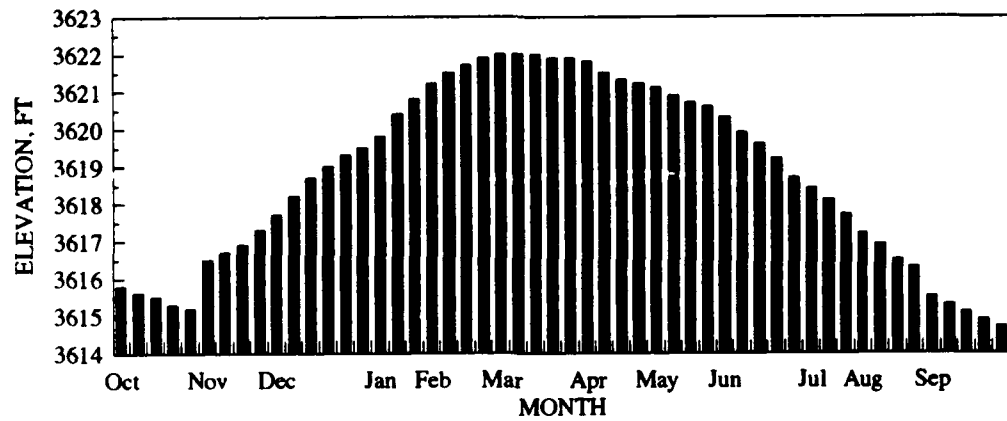
FIGURE 19 . South Pool Elevations, January 1980 Through September 1992.

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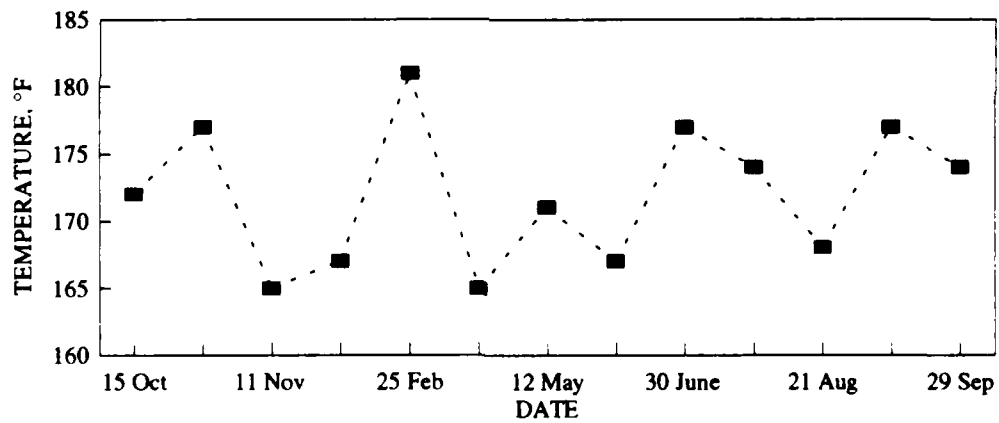
TABLE 9. South Pool Elevation and Temperature Changes.

Date	Estimated Elevation, ft	Water temperature, °F	Date	Estimated elevation, ft	Water temperature, °F
1 Oct 91	3615.8		31 Mar 92	3621.9	
8 Oct 91	3615.6		6 Apr 92	3621.8	
15 Oct 91	3615.5	172	14 Apr 92	3621.5	
22 Oct 91	3615.3		21 Apr 92	3621.3	
29 Oct 91	3615.2	177	28 Apr 92	3621.2	
3 Nov 91	3616.5		5 May 92	3621.1	
10 Nov 91	3616.7		12 May 92	3620.9	171
16 Nov 91	3616.9		21 May 92	3620.7	
24 Nov 91	3617.3	165	27 May 92	3620.6	167
1 Dec 91	3617.7		2 Jun 92	3620.3	
7 Dec 91	3618.2	164	9 Jun 92	3619.9	
15 Dec 91	3618.7		16 Jun 92	3621.7	
21 Dec 91	3619.0		23 Jun 92	3619.2	
28 Dec 91	3619.3		30 Jun 92	3618.7	177
31 Dec 91	3619.5		14 Jul 92	3618.4	
13 Jan 92	3619.8		21 Jul 92	3618.1	174
17 Jan 92	3620.4	167	28 Jul 92	3617.7	
28 Jan 92	3620.8		4 Aug 92	3617.2	
7 Feb 92	3621.2		11 Aug 92	3616.9	
13 Feb 92	3621.5		18 Aug 92	3616.5	168
18 Feb 92	3621.7		25 Aug 92	3616.3	
25 Feb 92	3621.9	181	1 Sep 92	3615.5	
3 Mar 92	3622.0		8 Sep 92	3615.3	
11 Mar 92	3622.0		15 Sep 92	3615.1	177
17 Mar 92	3622.0	165	22 Sep 92	3614.9	
24 Mar 92	3621.9		29 Sep 92	3614.7	174

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(a) South pool elevation



(b) South pool temperature

FIGURE 20. South Pool Elevation and Temperature.

RAINFALL AT COSO RESORT AREA AND ROSE VALLEY

Rainfall in the Coso Hot Springs basin is monitored at five rain station sites, as shown in Figure 1. Instrumentation at each site consists of a battery-operated long-term strip recorder that is triggered by a tipping bucket. This year there were no interruptions in rainfall data collection caused by equipment failures. Rain stations are checked for proper operation prior to any weather front that may bring rain to the area.

Data from the Coso stations presented in Table 10 show daily and cumulative rainfall. The Rose Valley data (Table 11) is collected at the Los Angeles Department of Water and Power Haiwee Reservoir Plant. As shown in Figures 21 and 22, the Coso area generally receives less annual rainfall than Rose Valley. This significant difference in rainfall between two such closely situated areas is not unusual given the nature of high desert storms. This year the amount of rainfall was surprisingly close between the two areas.

Comparative rainfall data for Coso Basin, Rose Valley, and Indian Wells Valley (IWV) can be found in Table 12. The Indian Wells Valley data were gathered at Armitage Field, Naval Air Warfare Center Weapons Division (NAWCWPNS), and provided by a NAWCWPNS meteorologist.

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TABLE 10. Rainfall Recorded at Coso Monitoring Stations.

Date	Tipping bucket stations (rainfall, in.)				
	1	2	3	4	5
25 Oct 91	0.02	0.04	---	---	---
26 Nov 91	0.18	0.21	---	---	---
27 Nov 91	0.19	0.18	0.01	---	0.02
28 Nov 91	0.02	0.06	---	---	0.01
29 Nov 91	0.04	---	---	---	---
6 Dec 91	0.01	---	---	---	---
8 Dec 91	---	0.02	0.01	---	---
9 Dec 91	---	0.01	0.01	---	---
18 Dec 91	0.57	---	---	---	---
27 Dec 91	0.33	---	---	0.03	---
28 Dec 91	---	---	---	0.04	---
29 Dec 91	---	0.23	0.19	---	---
30 Dec 91	---	0.81	0.74	---	---
3 Jan 92	---	---	---	0.04	0.02
4 Jan 92	---	0.03	0.08	---	0.03
5 Jan 92	---	0.05	0.05	0.06	---
6 Jan 92	---	1.18	1.27	---	---
10 Jan 92	0.01	---	---	---	---
11 Jan 92	0.06	---	---	---	---
5 Feb 92	0.03	---	---	---	---
6 Feb 92	0.94	0.03	0.05	0.01	---
7 Feb 92	---	0.77	0.81	---	0.45
8 Feb 92	---	0.04	0.02	---	0.01
10 Feb 92	---	---	---	---	0.18
11 Feb 92	---	0.31	0.29	---	0.02
12 Feb 92	---	0.56	0.58	---	0.51
13 Feb 92	---	0.87	0.84	---	0.03
14 Feb 92	---	0.16	0.14	---	---
15 Feb 92	---	---	---	---	0.14
16 Feb 92	---	---	0.27	---	---
1 Mar 92	0.06	---	---	0.08	0.02

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TABLE 10. (Contd.)

Date	Tipping bucket stations (rainfall, in.).				
	1	2	3	4	5
2 Mar 92	0.23	0.04	0.04	0.98	0.20
3 Mar 92	---	0.02	---	---	---
4 Mar 92	---	0.88	0.91	---	---
5 Mar 92	---	---	---	0.03	0.02
6 Mar 92	0.06	0.02	---	0.01	---
7 Mar 92	---	0.02	0.02	---	---
8 Mar 92	0.01	---	---	---	---
20 Mar 92	0.46	---	---	0.65	---
21 Mar 92	0.02	---	---	0.01	0.43
22 Mar 92	0.05	0.35	0.37	0.13	0.07
23 Mar 92	0.01	---	---	0.15	0.04
24 Mar 92	---	0.01	0.04	---	---
25 Mar 92	---	0.03	0.05	---	---
26 Mar 92	---	---	---	0.17	0.03
28 Mar 92	---	---	0.04	---	---
29 Mar 92	---	0.03	0.04	---	---
30 Mar 92	---	0.02	0.03	0.04	---
31 Mar 92	---	---	---	0.01	---
1 Apr 92	---	0.01	0.01	0.01	0.01
3 Apr 92	---	---	0.03	---	0.05
4 Apr 92	---	0.01	0.37	---	0.57
5 May 92	0.07	0.04	0.03	---	---
6 May 92	0.61	0.35	0.42	---	---
8 May 92	0.01	0.01	0.08	---	---
9 Jul 92	0.04	0.05	0.07	0.06	0.05
12 Jul 92	0.36	0.13	0.07	0.11	0.15
13 Jul 92	---	---	---	0.03	0.01
13 Aug 92	---	---	---	---	---
TOTAL	4.48	7.57	7.58	3.05	3.07

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TABLE 11. Rose Valley Cumulative Rainfall,
October 1991 Through September 1992.

Date	Daily, in.	Snowfall, in	Cumulative, in.
27 Oct 91	0.17	---	0.17
10 Nov 91	0.25	---	0.42
18 Nov 91	0.14	---	0.56
9 Dec 91	0.17	---	0.73
28 Dec 91	0.15	---	0.88
29 Dec 91	T	---	0.88
30 Dec 91	0.76	---	1.64
4 Jan 92	0.11	---	1.75
5 Jan 92	0.12	---	1.87
6 Jan 92	0.14	---	2.32
8 Jan 92	---	0.02	2.34
6 Feb 92	0.32	---	2.66
7 Feb 92	1.34	---	4.00
8 Feb 92	T	---	4.00
10 Feb 92	0.12	---	4.12
11 Feb 92	0.45	---	4.57
12 Feb 92	0.28	---	4.85
13 Feb 92	0.83	---	5.68
14 Feb 92	0.03	---	4.71
15 Feb 92	0.01	---	4.72
16 Feb 92	0.31	---	6.03
2 Mar 92	0.36	---	6.39
3 Mar 92	1.00	---	7.39
6 Mar 92	0.14	---	7.53
8 Mar 92	0.05	---	7.58
21 Mar 92	0.33	---	7.91
23 Mar 92	0.07	---	7.98
24 Mar 92	T	---	7.98
30 Mar 92	0.20	---	8.18
1 Apr 92	0.55	---	8.73
6 May 92	0.07	---	8.80
7 May 92	0.32	---	9.12
13 Jul 92	0.21	---	9.33
14 Jul 92	T	---	9.33
14 Aug 92	0.08	---	9.41

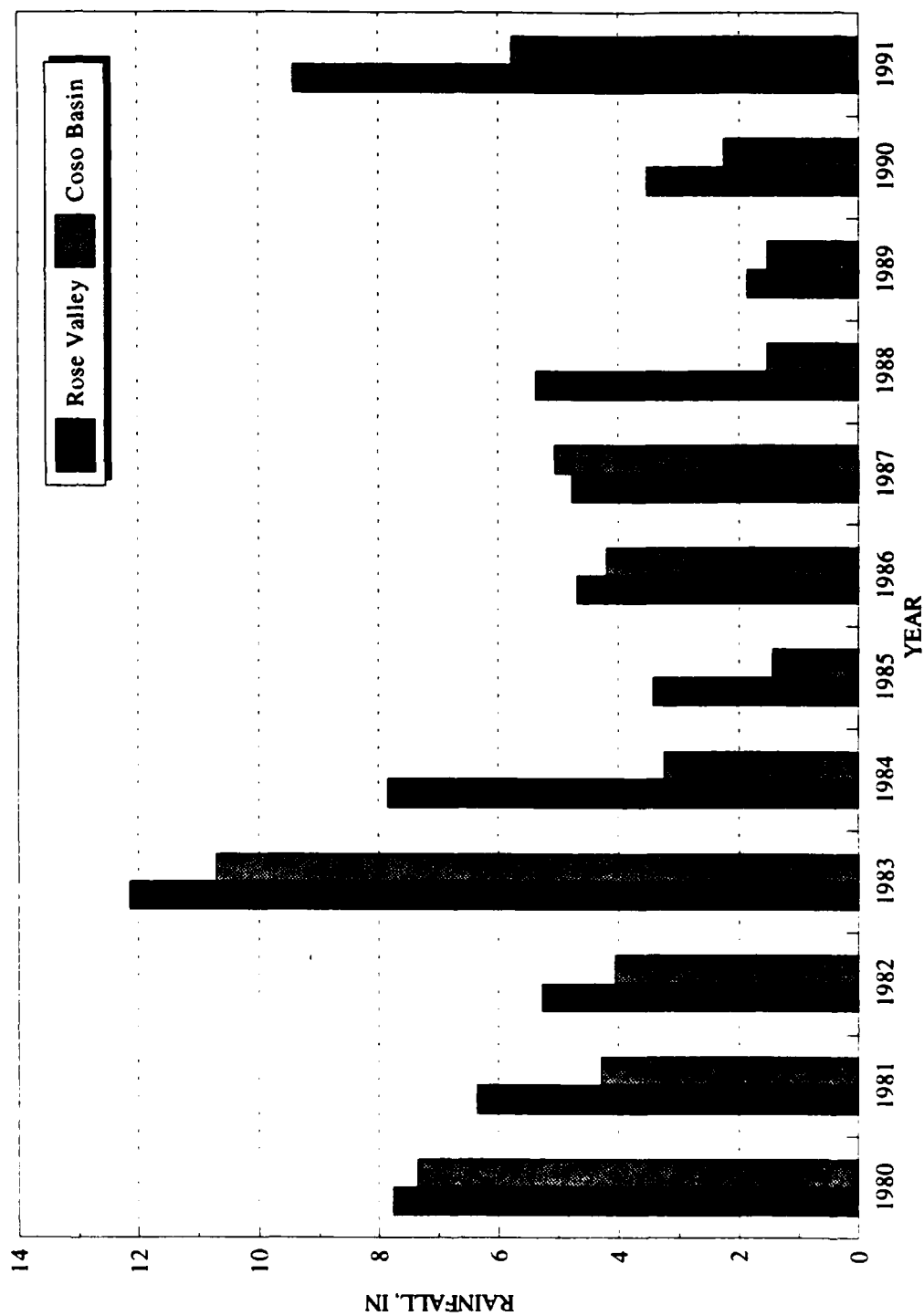


FIGURE 21. Comparison of Total Rainfall at Coso Basin and Rose Valley Sites, by Year.

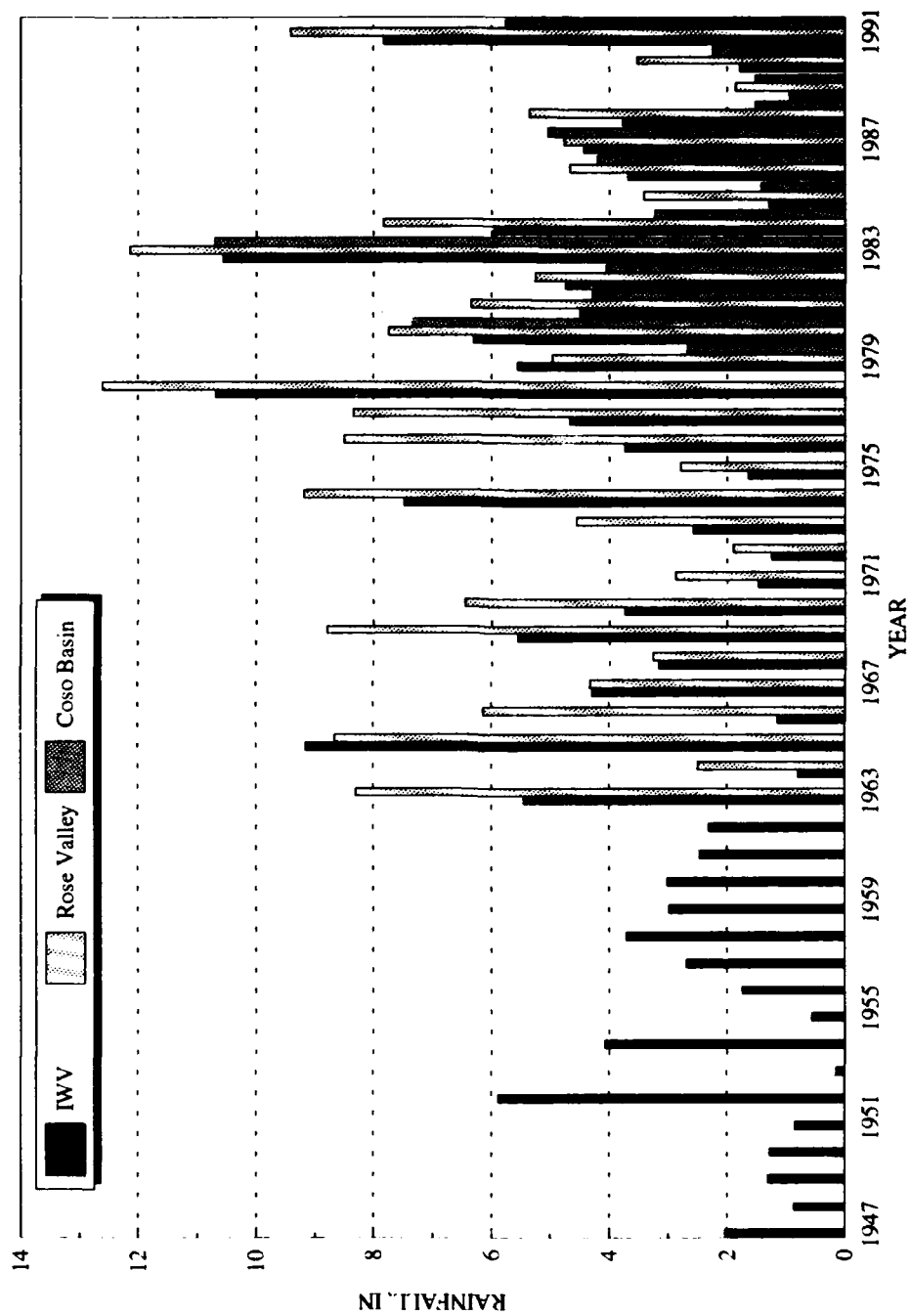


FIGURE 22. Comparison of Total Rainfall at Coso Basin, Rose Valley, and NAWC Sites, by Year.

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TABLE 12. IWV, Rose Valley and Coso Basin
Rainfall Comparison, 1947 Through 1991.

Year	Rainfall, in.		
	IWV	Rose Valley	Coso Basin
1947	2.03	---	---
1948	0.87	---	---
1949	1.30	---	---
1950	1.28	---	---
1951	0.84	---	---
1952	5.88	---	---
1953	0.14	---	---
1954	4.07	---	---
1955	0.56	---	---
1956	1.73	---	---
1957	2.68	---	---
1958	3.70	---	---
1959	2.98	---	---
1960	3.01	---	---
1961	2.46	---	---
1962	2.31	---	---
1963	5.45	8.30	---
1964	0.78	2.49	---
1965	9.15	8.66	---
1966	1.31	6.13	---
1967	4.28	4.32	---
1968	3.16	3.26	---
1969	5.55	8.80	---
1970	3.74	6.45	---
1971	1.47	2.87	---
1972	1.24	1.90	---
1973	2.58	4.56	---
1974	7.48	9.19	---
1975	1.64	2.79	---
1976	3.74	8.50	---

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TABLE 12. (Contd.)

Year	Rainfall, in.		
	IWV	Rose Valley	Coso Basin
1977	4.67	8.34	---
1978	10.68	12.61	---
1979	5.65	4.97	2.67
1980	6.31	7.75	7.34
1981	4.49	6.34	4.28
1982	4.73	5.26	4.05
1983	10.56	12.14	10.70
1984	5.95	7.84	3.23
1985	1.29	3.42	1.42
1986	3.68	4.68	4.19
1987	4.43	4.77	5.04
1988	3.76	5.36	1.51
1989	0.94	1.85	1.51
1990	1.78	3.53	2.24
1991	7.83	9.41	5.15

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COSO HOT SPRINGS MINI-WEATHER RECORDING STATION

Weather Station No. 1 is a mini-weather station consisting of a micro-barograph and hygrothermograph. The station located adjacent to Observation Well No. 1 provides 24-hour recordings of barometric pressure, ambient temperature, and relative humidity. These data are shown graphically in Figures 23, 24, 25, and 26, and also listed in Appendix C. Missing data from the micro-barograph are the result of dead batteries and a faulty clock mechanism. The micro-barograph was removed from the weather station on 18 August for repairs. Missing data from the hygrothermograph are the result of dead batteries.

An observation comparison study (equipment calibration) is performed at the weather station semi-annually by the Range Support Branch (Code C32542) personnel using Rotronics equipment.

WATER ANALYSIS OF COSO HOT SPRINGS AREA

Water samples were collected from several sites in the Coso Hot Springs area. These samples were analyzed for a suite of geothermal constituents by B.C. Laboratories, Inc., Bakersfield, California. The results are provided in Tables 13 through 20.

Wells 4K-1, 4P-1, Observation Well No. 1, Schoeber's Well 4A-4, and the South Pool are the sites regularly analyzed. Other sites are occasionally analyzed for comparison studies of the area's water.

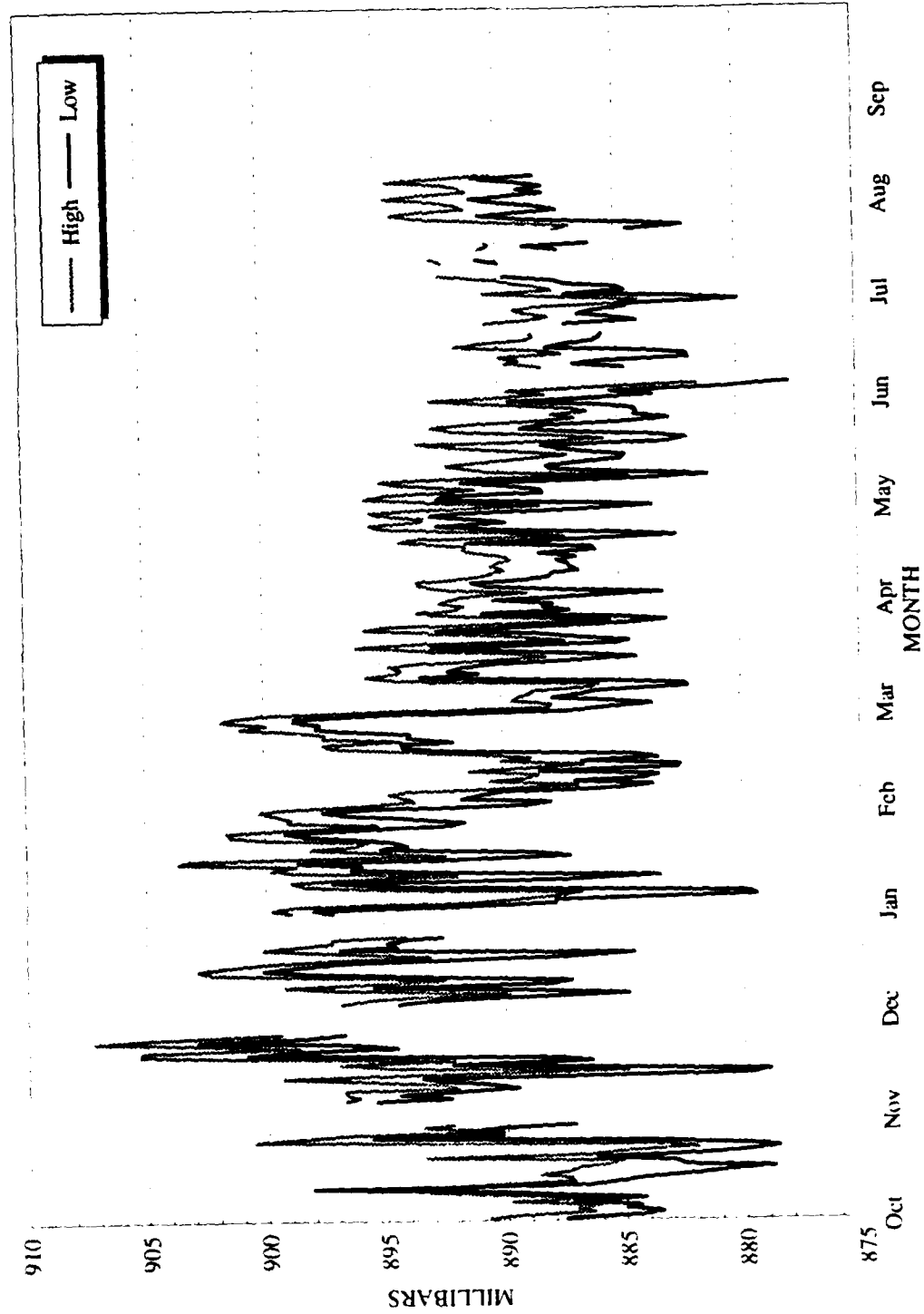


FIGURE 23. Weather Station No. 1 Barometric Pressure.

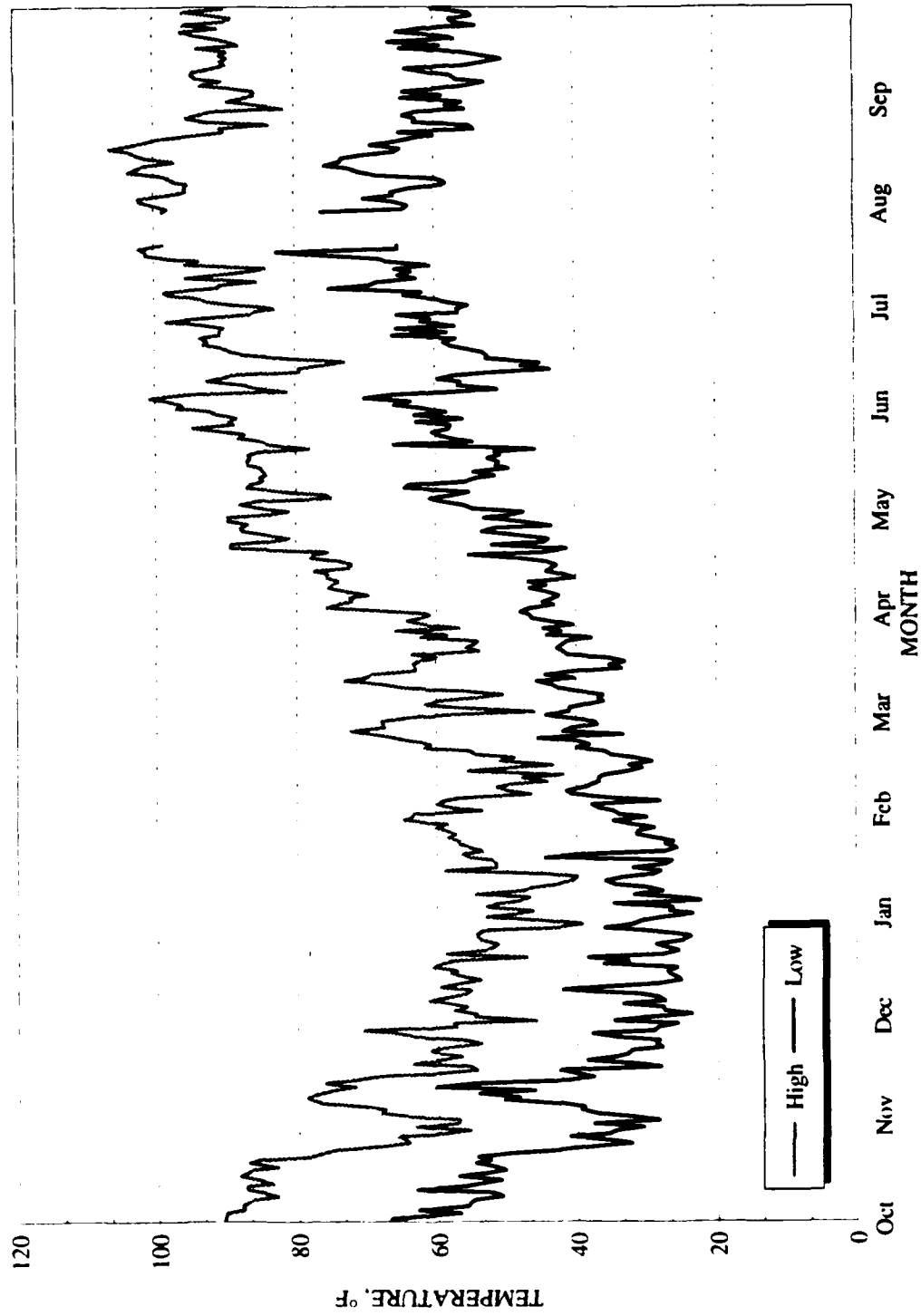


FIGURE 24. Weather Station No. 1 Ambient Temperature.

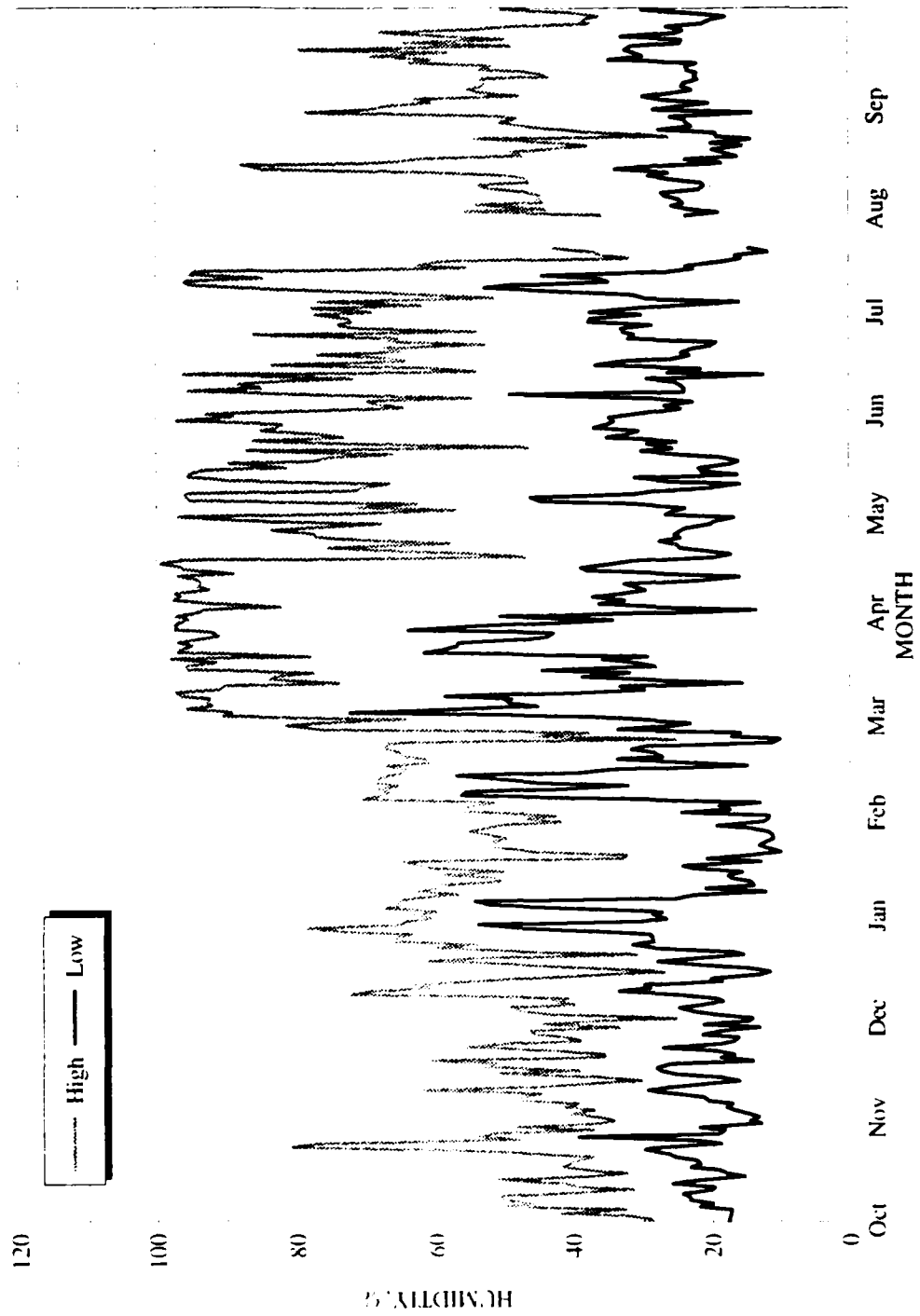


FIGURE 25. Weather Station No. 1 Relative Humidity.

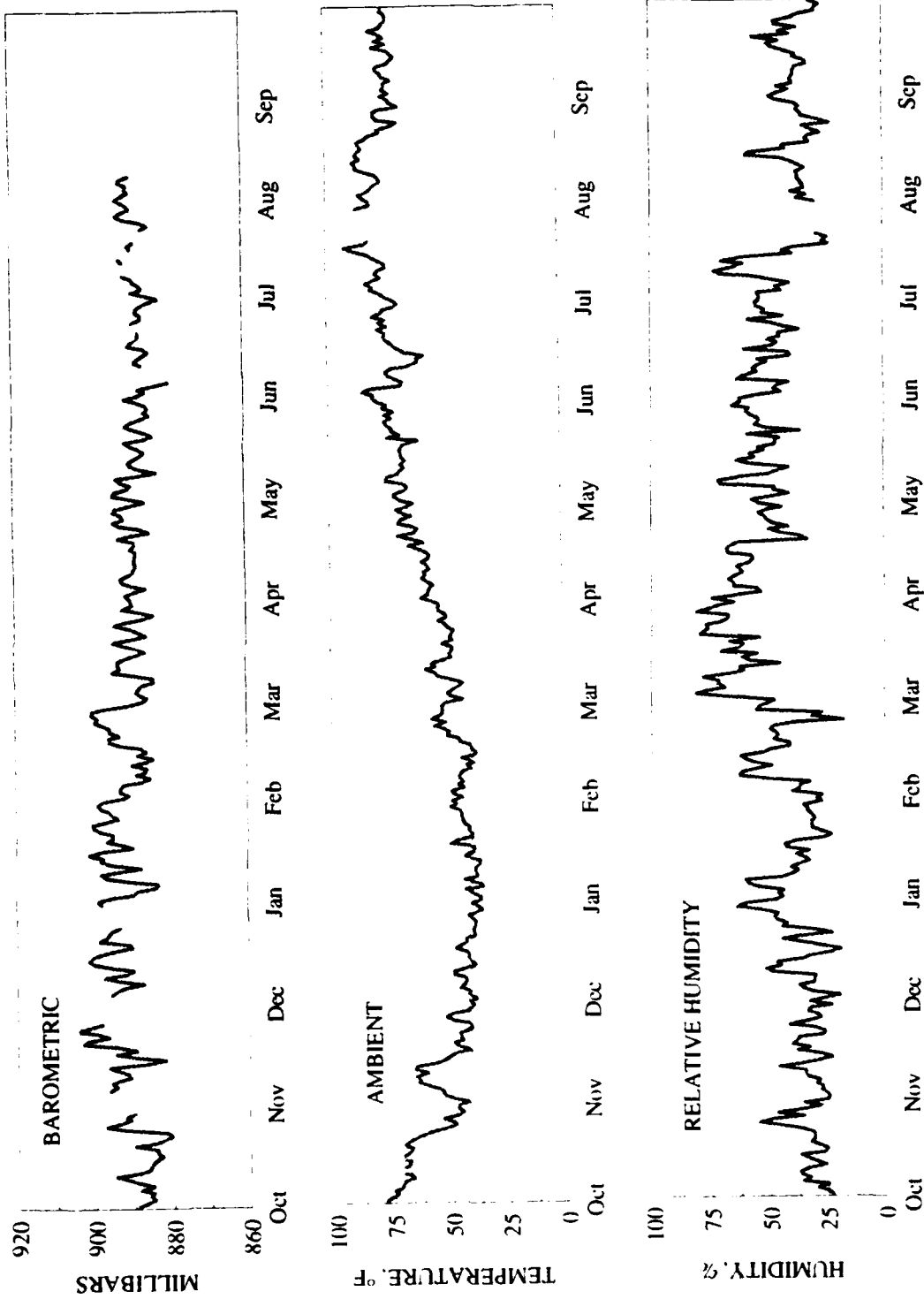


FIGURE 26. Average Highs and Lows for Weather Station No. 1
(Ambient Temperature, Barometric Pressure, and Relative Humidity).

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TABLE 13. Chemical Analysis of Devils Kitchen.

Constituent	Units	24 Mar 92	28 Jul 92	15 Sep 92
Calcium.....	mg/L	52.0	54.0	60.0
Magnesium.....	mg/L	21.0	26.0	23.0
Sodium.....	mg/L	35.0	45.0	40.0
Potassium.....	mg/L	25.0	35.0	30.0
Carbonate.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Bicarbonate.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Chloride.....	mg/L	<i>a</i>	3.7	<i>a</i>
Sulfate.....	mg/L	1040.0	1240.0	1420.0
Nitrate as NO ₃	mg/L	<i>a</i>	1.8	0.9
Fluoride.....	mg/L	0.52	0.48	0.5
Bromide.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
pH.....	pH	2.3	2.1	2.2
Electrical conductivity	µmhos/cm	4700.0	5500.0	5900.0
Total dissolved solids	mg/L	1340.0	1500.0	1450.0
Acidity as H ion.....	mg/L	13.2	18.0	18.2
Aluminum.....	µg/L	13 600.0	15 500.0	18 600.0
Antimony.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Arsenic.....	µg/L	14.3	14.0	13.0
Boron.....	µg/L	2.9	4.4	4.8
Copper.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Lithium.....	µg/L	70.0	80.0	<i>a</i>
Manganese.....	µg/L	1560.0	2000.0	2070.0
Mercury.....	µg/L	<i>a</i>	13.0	0.3
Selenium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Si as SiO ₂	mg/L	319.0	364.0	400.0
Strontium.....	µg/L	78.0	103.0	114.0
Thallium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Zinc.....	µg/L	76	74.0	76.0
Total iron.....	µg/L	41 900.0	48 600.0	47 800.0
Ammonia as NH ₃	mg/L	10.9	13.4	11.0
Nitrite nitrogen.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Ortho-phosphate.....	mg/L	1.5	1.1	0.42

a None detected

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TABLE 14. Chemical Analysis of Observation Well No. 1.

Constituent	Units	24 Mar 92	28 Jul 92	15 Sep 92
Calcium.....	mg/L	28.0	19.2	17.0
Magnesium.....	mg/L	2.8	2.5	2.2
Sodium.....	mg/L	966.0	915.0	940.0
Potassium.....	mg/L	89.0	82.0	72.0
Carbonate.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Bicarbonate.....	mg/L	215.0	222.0	217.0
Chloride.....	mg/L	1500.0	1300.0	1320.0
Sulfate.....	mg/L	89.0	80.0	63.0
Nitrate as NO ₃	mg/L	1.8	<i>a</i>	<i>a</i>
Fluoride.....	mg/L	6.6	6.8	7.0
Bromide.....	mg/L	2.6	2.4	2.6
pH.....	pH	7.4	7.4	7.6
Electrical conductivity	µmhos/cm	5600.0	5000.0	5000.0
Total dissolved solids	mg/L	3300.0	2700.0	2770.0
Aluminum.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Antimony.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Arsenic.....	µg/L	4540.0	7520.0	5630.0
Boron.....	µg/L	37.0	34.6	36.1
Copper.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Lithium.....	µg/L	9500.0	9300.0	7400.0
Manganese.....	µg/L	150.0	318.0	317.0
Mercury.....	µg/L	3.3	107.0	20.3
Selenium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Si as SiO ₂	mg/L	93.0	83.0	62.0
Strontium.....	µg/L	1480.0	1280.0	1240.0
Thallium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Zinc.....	µg/L	2900.0	3480.0	2220.0
Total iron.....	µg/L	198.0	22 600.0	12 300.0
Ammonia as NH ₃	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Nitrite nitrogen.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Ortho-phosphate.....	mg/L	0.32	0.78	0.13

a None detected

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TABLE 15. Chemical Analysis of Coso Well 4P-1.

Constituent	Units	24 Mar 92	28 Jul 92	15 Sep 92
Calcium.....	mg/L	19.3	16.3	18.3
Magnesium.....	mg/L	0.24	0.88	0.35
Sodium.....	mg/L	78.0	68.0	69.0
Potassium.....	mg/L	36.0	29.0	30.0
Carbonate.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Bicarbonate.....	mg/L	168.0	143.0	137.0
Chloride.....	mg/L	2.5	4.3	2.8
Sulfate.....	mg/L	115.0	101.0	114.0
Nitrate as NO ₃	mg/L	0.4	0.9	0.4
Fluoride.....	mg/L	0.50	0.52	0.51
Bromide.....	mg/L	0.06	<i>a</i>	<i>a</i>
pH.....	pH	8.1	7.7	7.7
Electrical conductivity	µmhos/cm	555.0	490.0	510.0
Total dissolved solids	mg/L	680.0	640.0	700.0
Aluminum.....	µg/L	1010.0	12 300.0	6040.0
Antimony.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Arsenic.....	µg/L	<i>a</i>	3.4	3.0
Boron.....	µg/L	0.13	0.14	0.10
Copper.....	µg/L	<i>a</i>	16.0	29.0
Lithium.....	µg/L	40.0	40.0	<i>a</i>
Manganese.....	µg/L	110.0	181.0	226.0
Mercury.....	µg/L	93.0	3100.0	978.0
Selenium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Si as SiO ₂	mg/L	323.0	394.0	440.0
Strontium.....	µg/L	261.0	319.0	303.0
Thallium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Zinc.....	µg/L	547.0	264.0	489.0
Total iron.....	µg/L	633.0	3000.0	3320.0
Ammonia as NH ₃	mg/L	1.7	0.12	0.63
Nitrite nitrogen.....	mg/L	<i>a</i>	0.1	<i>a</i>
Ortho-phosphate.....	mg/L	0.68	0.81	0.29

^a None detected

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TABLE 16. Chemical Analysis of Well 4K-1.

Constituent	Units	28 Jul 92	15 Sep 92
Calcium.....	mg/L	4.6	7.4
Magnesium.....	mg/L	0.34	1.7
Sodium.....	mg/L	37.0	34.0
Potassium.....	mg/L	6.9	5.8
Carbonate.....	mg/L	<i>a</i>	<i>a</i>
Bicarbonate.....	mg/L	60.9	63.5
Chloride.....	mg/L	3.9	<i>a</i>
Sulfate.....	mg/L	42.0	38.0
Nitrate as NO ₃	mg/L	1.3	0.4
Fluoride.....	mg/L	1.2	1.1
Bromide.....	mg/L	<i>a</i>	<i>a</i>
pH.....	pH	7.0	7.4
Electrical conductivity	µmhos/cm	220.0	220.0
Total dissolved solids	mg/L	400.0	385.0
Aluminum.....	µg/L	5110.0	7460.0
Antimony.....	µg/L	<i>a</i>	<i>a</i>
Arsenic.....	µg/L	6.0	2.1
Boron.....	µg/L	0.30	0.21
Copper.....	µg/L	40.0	22.0
Lithium.....	µg/L	30.0	<i>a</i>
Manganese.....	µg/L	110.0	182.0
Mercury.....	µg/L	2800.0	1200.0
Selenium.....	µg/L	<i>a</i>	<i>a</i>
Si as SiO ₂	mg/L	323.0	340.0
Strontium.....	µg/L	102.0	181.0
Thallium.....	µg/L	<i>a</i>	<i>a</i>
Zinc.....	µg/L	521.0	266.0
Total iron.....	µg/L	6200.0	17 400.0
Ammonia as NH ₃	mg/L	1.6	0.94
Nitrite nitrogen.....	mg/L	<i>a</i>	<i>a</i>
Ortho-phosphate.....	mg/L	1.2	0.32

^a None detected

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TABLE 17. Chemical Analysis of Well 4A-4.

Constituent	Units	24 Mar 92	28 Jul 92	15 Sep 92
Calcium.....	mg/L	16.60	20.0	17.4
Magnesium.....	mg/L	2.2	0.21	4.9
Sodium.....	mg/L	45.0	46.0	43
Potassium.....	mg/L	2.6	8.2	4.6
Carbonate.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Bicarbonate.....	mg/L	75.6	76.5	86.9
Chloride.....	mg/L	<i>a</i>	17.7	<i>a</i>
Sulfate.....	mg/L	74.0	69.0	78.0
Nitrate as NO ₃	mg/L	0.4	4.0	0.4
Fluoride.....	mg/L	0.4	0.44	0.35
Bromide.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
pH.....	pH	8.0	8.0	8.1
Electrical conductivity	µmhos/cm	310.0	310.0	300.0
Total dissolved solids	mg/L	285.0	305.0	290.0
Aluminum.....	µg/L	1210.0	6040.0	14 300.0
Antimony.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Arsenic.....	µg/L	5.7	5.8	5.7
Boron.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Copper.....	µg/L	<i>a</i>	29.0	15.0
Lithium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Manganese.....	µg/L	81.0	1230.0	717.0
Mercury.....	µg/L	17.0	180 000.0	1200.0
Selenium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Si as SiO ₂	mg/L	103.0	148.0	188.0
Strontium.....	µg/L	248.0	1400.0	754.0
Thallium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Zinc.....	µg/L	57.0	699.0	515.0
Total iron.....	µg/L	6020.0	168 000.0	71 300.0
Ammonia as NH ₃	mg/L	0.39	1.1	0.61
Nitrite nitrogen.....	mg/L	0.2	0.1	0.1
Ortho-phosphate.....	mg/L	0.69	2.0	0.32

^a None detected

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TABLE 18. Chemical Analysis of South Pool.

Constituent	Units	24 Mar 92	28 Jul 92	15 Sep 92
Calcium.....	mg/L	18.1	19.8	100.0
Magnesium.....	mg/L	14.5	36.0	64.0
Sodium.....	mg/L	9.7	18.7	17.3
Potassium.....	mg/L	6.1	11.2	1.9
Carbonate.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Bicarbonate.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Chloride.....	mg/L	<i>a</i>	15.3	<i>a</i>
Sulfate.....	mg/L	2640.0	5500.0	4040.0
Nitrate as NO ₃	mg/L	0.4	<i>a</i>	<i>a</i>
Fluoride.....	mg/L	0.87	<i>a</i>	0.9
Bromide.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
pH.....	pH	1.9	1.9	2.2
Electrical conductivity	µmhos/cm	11 000.0	12 500.0	8000.0
Total dissolved solids	mg/L	2050.0	6850.0	6600.0
Acidity as H ion.....	mg/L	48.0	96.0	58.0
Aluminum.....	µg/L	103 000.0	283 000.0	73 800.0
Antimony.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Arsenic.....	µg/L	<i>a</i>	153.0	185.0
Boron.....	µg/L	4.5	12.2	18.3
Copper.....	µg/L	388.0	188.0	<i>a</i>
Lithium.....	µg/L	30.0	105.0	140.0
Manganese.....	µg/L	963.0	2130.0	4490.0
Mercury.....	µg/L	0.6	1700.0	19.0
Selenium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Si as SiO ₂	mg/L	259.0	490.0	469.0
Strontium	µg/L	60.0	25.0	12.0
Thallium.....	µg/L	<i>a</i>	8.4	6.3
Zinc.....	µg/L	490	919.0	1610.0
Total iron.....	µg/L	66 300.0	645 300.0	868 000.0
Ammonia as NH ₃	mg/L	30.0	85.0	85.0
Nitrite Nitrogen.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Ortho-Phosphate.....	mg/L	0.88	6.0	1.9

^a None detected

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TABLE 19. Chemical Analysis of West Canyon Water.

Constituent	Units	24 Mar 92	28 Jul 92	15 Sep 92
Calcium.....	mg/L	74.0	8.6	11.0
Magnesium.....	mg/L	9.3	6.3	5.7
Sodium.....	mg/L	58.0	27.0	28.0
Potassium.....	mg/L	25.0	27.0	25.0
Carbonate.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Bicarbonate.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Chloride.....	mg/L	4.0	<i>a</i>	<i>a</i>
Sulfate.....	mg/L	388.0	845.0	555.0
Nitrate as NO ₃	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Fluoride.....	mg/L	0.48	0.07	<i>a</i>
Bromide.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
pH.....	pH	4.0	2.2	2.4
Electrical conductivity	µmhos/cm	850.0	4900.0	2900.0
Total dissolved solids	mg/L	900.0	820.0	840.0
Acidity as H ion.....		0.6	14.0	6.8
Aluminum.....	µg/L	103.0	16 200.0	4570.0
Antimony.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Arsenic.....	µg/L	21.3	<i>a</i>	3.4
Boron.....	µg/L	0.26	<i>a</i>	<i>a</i>
Copper.....	µg/L	51.0	140.0	62.0
Lithium.....	µg/L	130.0	10.0	<i>a</i>
Manganese.....	µg/L	2410.0	615.0	629.0
Mercury.....	µg/L	<i>a</i>	9.5	0.3
Selenium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Si as SiO ₂	mg/L	265.0	340.0	328.0
Strontium.....	µg/L	292.0	66.0	44.0
Thallium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Zinc.....	µg/L	181.0	222.0	178.0
Total iron.....	µg/L	2970.0	4400.0	11 100.0
Ammonia as NH ₃	mg/L	3.0	0.50	0.86
Nitrite nitrogen.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Ortho-phosphate.....	mg/L	2.3	0.87	0.27

^a None detected

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TABLE 20. Chemical Analysis of Fault Line Pools.

Constituent	Units	24 Mar 92	28 Jul 92	15 Sep 92
Calcium.....	mg/L	10.8	60.0	55.0
Magnesium.....	mg/L	3.6	18.4	16.8
Sodium.....	mg/L	15.7	37.0	34.0
Potassium.....	mg/L	12.2	29.0	25.0
Carbonate.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Bicarbonate.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Chloride.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Sulfate.....	mg/L	174.0	835.0	850.0
Nitrate as NO ₃	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Fluoride.....	mg/L	0.34	0.36	0.31
Bromide.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
pH.....	pH	3.0	2.3	2.4
Electrical conductivity	µmhos/cm	740.0	3800.0	3600.0
Total dissolved solids	mg/L	255.0	1160.0	1210.0
Acidity as H ion.....	mg/L	1.7	9.6	8.8
Aluminum.....	µg/L	1210.0	8910.0	7850.0
Antimony.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Arsenic.....	µg/L	<i>a</i>	23.0	23.0
Boron.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Copper.....	µg/L	<i>a</i>	200.0	78.0
Lithium.....	µg/L	20.0	373.0	50.0
Manganese.....	µg/L	808.0	4290.0	4840.0
Mercury.....	µg/L	0.6	110.0	1.4
Selenium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Si as SiO ₂	mg/L	7.7	306.0	323.0
Strontium.....	µg/L	20.0	210.0	225.0
Thallium.....	µg/L	<i>a</i>	<i>a</i>	<i>a</i>
Zinc.....	µg/L	1.7	93.0	276.0
Total iron.....	µg/L	2700.0	9220.0	7930.0
Ammonia as NH ₃	mg/L	5.2	10.0	7.8
Nitrite nitrogen.....	mg/L	<i>a</i>	<i>a</i>	<i>a</i>
Ortho-phosphate.....	mg/L	0.32	1.6	0.70

^a None detected

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TEMPERATURE RECORDINGS OF THE COSO RESORT AREA WELLS

The temperature logs from Wells 4-H8, 4K-1, 4P-1, and Schoeber's Well 4A-4 are graphed in Figure 27, with the data listed in Appendix D. These data were recorded using the TD Probe System, manufactured by Natural Progress Instruments, Dallas, Texas.

WELL 4H-8

An obstruction was found in Well 4H-8 during temperature logging at a depth of 185 feet on 24 January 1991. An unsuccessful attempt was made to clear the casing using a proven procedure as described in Reference 2. Temperature logging was attempted twice during this reporting period; primarily to record the thickening of the blockage and changes in temperature patterns. On 16 March 1992, the blockage was at 183.1 feet and on 29 September 1992 it was at 175.2 feet.

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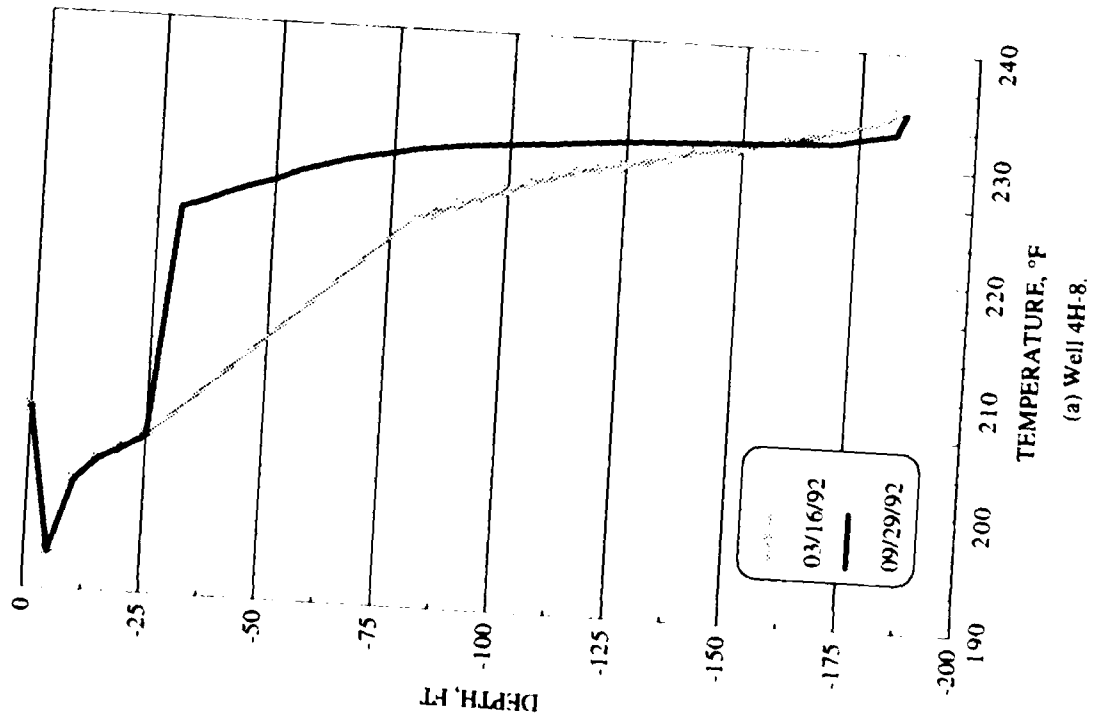
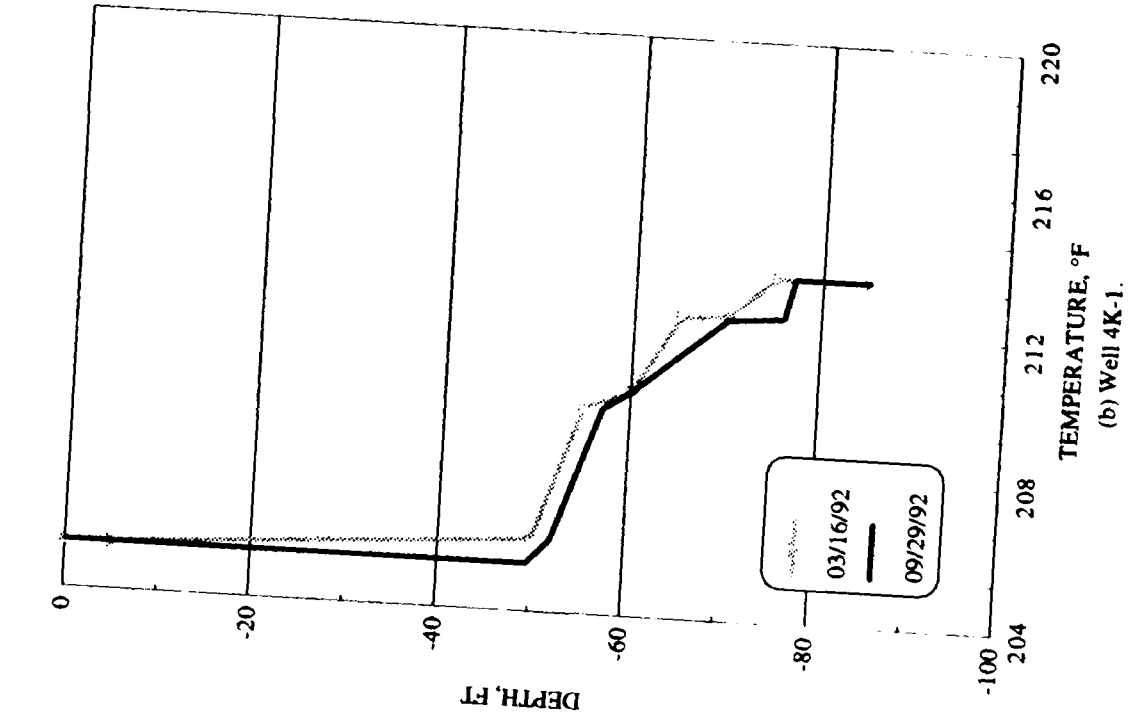
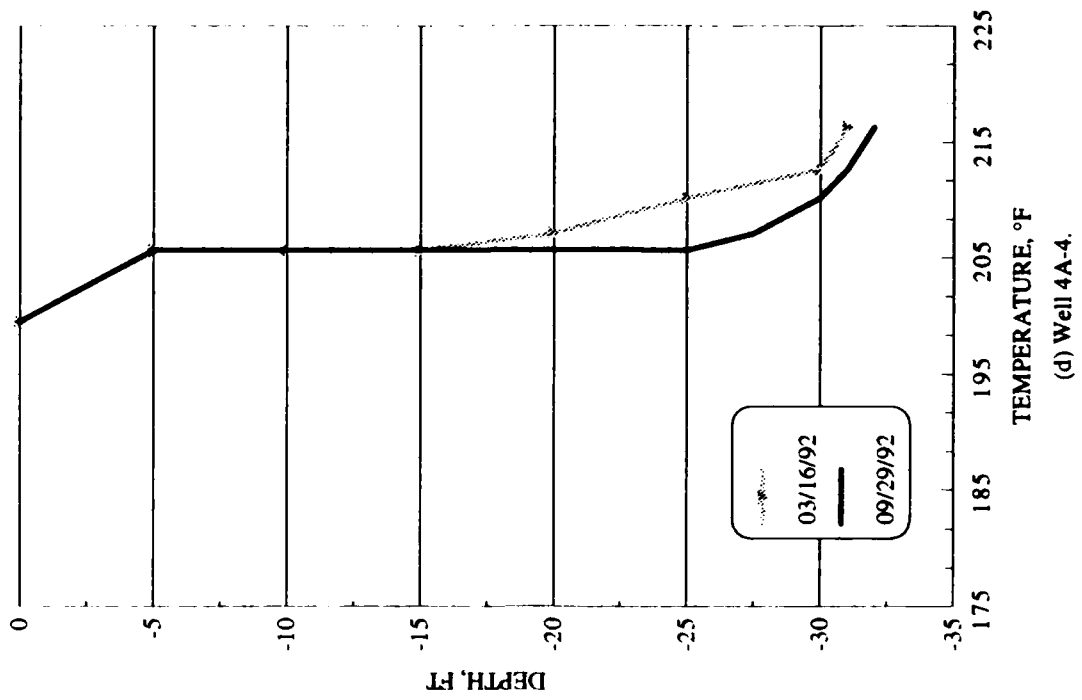
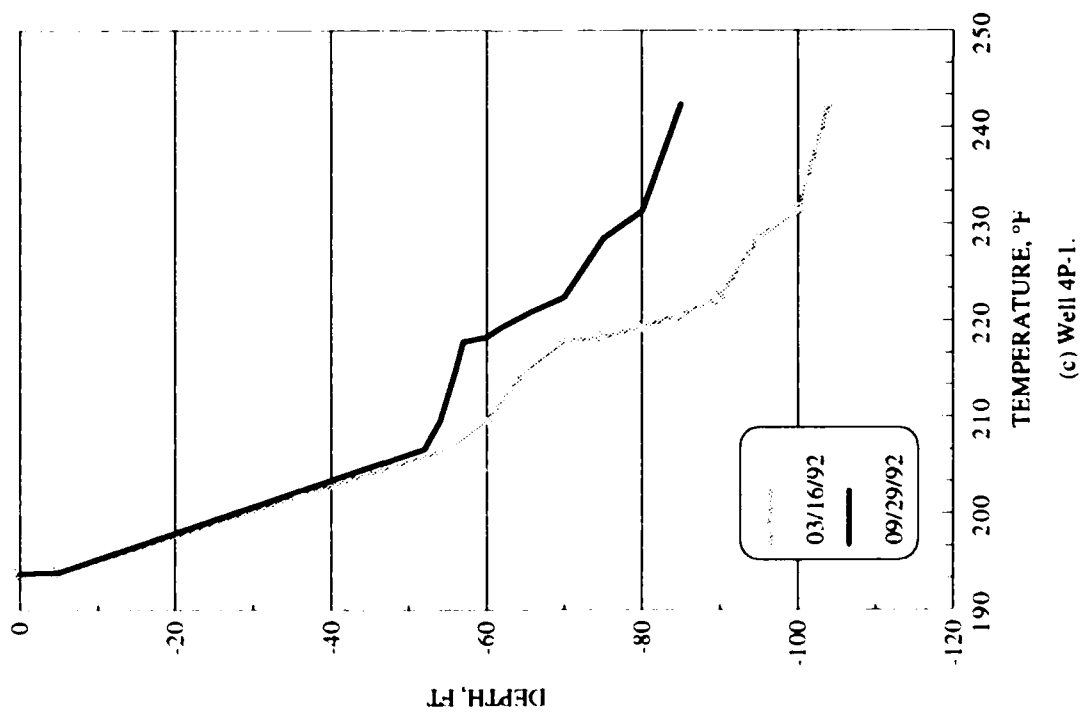


FIGURE 27. Temperature Profiles.

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(d) Well 4A-4.



(c) Well 4P-1.

FIGURE 27. (Contd.)

OTHER GEOTHERMAL ACTIVITY AT COSO HOT SPRINGS

WEST CANYONS

Two canyons directly west of the resort have large areas of warm ground with small areas of thermal alteration. Small bubbling springs have occasionally appeared, along with small steam vents in the same area. In the canyon directly below Rain Station No. 2, two of the springs remain and have grown, along with three steam vents. The area of thermal activity in this canyon and wash has grown noticeably. Monthly monitoring of this area continues, however, the amount of the growth and activity does not yet warrant monitoring on a more frequent basis. Water chemistry of the springs are presented in Table 18. The adjacent canyon to the north has remained dormant during the past year with only two and sometimes three areas of warm ground. These areas have occasionally emitted some steam on extremely cold and humid days but the steam was only visible at close range. On 8 September 1992, a dark brown line was noticed along the south wall of the canyon. A closer look on 9 September 1992 revealed a ground crack. The crack was 10 to 12 inches high with 6 to 8 inches of slippage down hill. In several areas, small steam vents were observed and bubbling sounds were heard. Bi-weekly monitoring of this area was established. On 24 September 1992, it was apparent that more slippage had occurred in this area and that many cross fractures running east and west had appeared. The larger of these appeared at the crest of the old thermally altered area and was emitting steam in numerous areas along with steam vents previously mentioned. The overall affected area was about 150 feet wide and 125 feet high on the side of the canyon. After studying the area, this appears to be a re-occurring phenomena. There are numerous step/shelves that appear to have been caused from the same type of activity in the past. This area will be monitored on a bi-weekly basis to record and study the growth and nature of the activity.

MUD CRATER 4KC-8

Mud crater 4KC-8 was moderately active from October 1989 through the of summer 1991. Then there was little activity until July and August of 1992 when the crater grew both north and west. No new ground was actually encompassed in the cycle of growth, rather the adjacent steam vents and smaller mud pots were connected to the main crater by lesions and tunnels. Further growth of the crater is anticipated, but it is presently in another dormant cycle.

COSO RESORT MUDFIELD AREA

The mudfield has remained fairly dormant with no growth resulting from activity within the mudfield. Some growth has been the result of rainfall which caused cave-ins along the south and southwest banks. During July and August the water level decreased rapidly until the mudfield area was nearly dry. The pool in the southeastern corner remained partially full after the water level dropped below the cause-way that separates it from the main body. Although it has been in a semi-dormant cycle for over a year, there is still the possibility of renewed activity and growth. Activity in the Coso Resort area continues to be monitored several times per week.

EAST OF THE RESORT AND NORTHEAST OF THE SOUTH POOL

This area of activity has two large craters and several sites of minor activity. The two large grey craters have periodically experienced short periods of renewed activity with associated growth, especially in the southern crater. During the hotter months the crater becomes nearly dry, while the northern crater appears to increase in perking water. The water level in the northern crater is relatively consistent, while most of the other areas become almost dry.

ALONG FAULT LINE BETWEEN SOUTH POOL AND COSO ROAD

For the last several years this area has been moderately active. In mid-November 1991 the activity increased with numerous small bubbling springs and small mud pots. The activity has continued with mud pots joining together covering an area of approximately 50% of the length of the fault line between Coso Road and the South Pool. These mud pots continue to grow at a slow but continuous rate. There has not been any violent perking of mud or water as has been seen in other areas of the resort. This area is monitored several times weekly for any changes that may occur.

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SUMMARY

Well 4P-2 has been checked several times for water levels and contents. The well remains dry. Temperature logging was not done this year, but logging will begin in December 1992 and continue on a quarterly basis, along with Observation Well No. 1. The faulty clock mechanism from the micro-baragraph has been returned to the manufacturer for repair or replacement. To avoid long period of missing data, arrangements are being made for another micro-baragraph and hygrothermograph to be used as spares should this problem arise in the future. New areas of activity have arisen, expanding the scope of the report.

REFERENCES

1. Naval Weapons Center. *Coso Monitoring Program, October 1991 Through September 1991*, by J. H. Monahan and D. E. Condon, Comarco Weapons Support Division, Ridgecrest, Calif. China Lake, Calif., NWC, December 1991. 131 pp. (NWC TP 7194, publication UNCLASSIFIED.)
2. Naval Weapons Center. *Coso Monitoring Program, October 1989 Through September 1990*, by J. H. Monahan and D. E. Condon, Comarco Weapons Support Division, Ridgecrest, Calif. China Lake, Calif., NWC, January 1991. 138 pp. (NWC TP 7138, publication UNCLASSIFIED.)

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Appendix A
DAILY STEAM FLOW DATA

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TABLE A-1. Devils Kitchen Site Steam Flow Data.

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
1 Oct 91	370.5	366.5	5 Nov 91	368.5	364.9
2 Oct 91	371.7	368.1	6 Nov 91	368.1	364.9
3 Oct 91	372.1	368.9	7 Nov 91	367.7	364.1
4 Oct 91	369.7	364.9	8 Nov 91	367.7	364.9
5 Oct 91	366.1	362.1	9 Nov 91	366.5	363.7
6 Oct 91	365.7	362.1	10 Nov 91	367.3	365.3
7 Oct 91	366.1	362.5	11 Nov 91	368.9	365.3
8 Oct 91	367.7	365.3	12 Nov 91	367.7	365.3
9 Oct 91	367.7	364.9	13 Nov 91	368.5	364.5
10 Oct 91	367.3	364.5	14 Nov 91	367.7	364.1
11 Oct 91	367.7	363.7	15 Nov 91	366.1	363.3
12 Oct 91	367.3	363.7	16 Nov 91	366.1	363.7
13 Oct 91	368.9	365.7	17 Nov 91	367.3	363.7
14 Oct 91	368.5	364.9	18 Nov 91	367.3	363.7
15 Oct 91	368.1	365.7	19 Nov 91	366.5	364.1
16 Oct 91	367.7	364.9	20 Nov 91	366.5	363.3
17 Oct 91	367.7	363.7	21 Nov 91	367.7	364.9
18 Oct 91	366.9	363.3	22 Nov 91	367.3	364.5
19 Oct 91	366.1	362.1	23 Nov 91	367.3	364.1
20 Oct 91	367.3	365.3	24 Nov 91	366.9	365.3
21 Oct 91	367.3	363.3	25 Nov 91	366.9	364.9
22 Oct 91	367.7	364.9	26 Nov 91	367.7	364.9
23 Oct 91	366.1	363.3	27 Nov 91	367.3	364.1
24 Oct 91	366.5	360.1	28 Nov 91	366.1	361.7
25 Oct 91	365.7	361.3	29 Nov 91	366.1	362.1
26 Oct 91	365.7	362.5	30 Nov 91	367.7	363.7
27 Oct 91	365.7	352.4	1 Dec 91	367.3	364.9
28 Oct 91	366.1	352.4	2 Dec 91	366.9	364.5
29 Oct 91	368.1	353.2	3 Dec 91	368.1	364.5
30 Oct 91	360.1	348.8	4 Dec 91	366.1	363.7
31 Oct 91	366.1	353.2	5 Dec 91	368.9	362.5
1 Nov 91	365.7	356.8	6 Dec 91	366.9	363.7
2 Nov 91	367.3	361.7	7 Dec 91	367.7	363.7
3 Nov 91	366.9	358.4	8 Dec 91	366.9	364.9
4 Nov 91	368.1	361.7	9 Dec 91	366.9	364.5

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TABLE A-1 (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
10 Dec 91	366.1	362.5	14 Jan 92	364.9	330.3
11 Dec 91	366.5	362.5	15 Jan 92	366.5	286.4
12 Dec 91	366.5	361.3	16 Jan 92	366.9	280.4
13 Dec 91	365.7	363.3	17 Jan 92	365.3	299.7
14 Dec 91	366.9	363.7	18 Jan 92	365.7	328.3
15 Dec 91	366.5	364.9	19 Jan 92	368.5	331.5
16 Dec 91	366.9	363.3	20 Jan 92	366.5	327.5
17 Dec 91	368.1	363.3	21 Jan 92	366.9	321.0
18 Dec 91	367.3	364.5	22 Jan 92	367.3	350.4
19 Dec 91	367.3	364.5	23 Jan 92	367.7	306.6
20 Dec 91	368.1	365.3	24 Jan 92	376.2	284.4
21 Dec 91	366.5	364.1	25 Jan 92	334.7	249.0
22 Dec 91	367.3	364.1	26 Jan 92	323.4	234.9
23 Dec 91	367.7	364.9	27 Jan 92	316.6	216.8
24 Dec 91	367.3	364.9	28 Jan 92	320.6	247.4
25 Dec 91	366.9	364.9	29 Jan 92	355.2	268.3
26 Dec 91	368.1	365.3	30 Jan 92	362.5	251.0
27 Dec 91	368.1	364.9	31 Jan 92	344.8	312.6
28 Dec 91	367.3	365.3	1 Feb 92	325.1	309.4
29 Dec 91	366.9	363.7	2 Feb 92	309.0	296.1
30 Dec 91	367.3	363.7	3 Feb 92	319.8	294.5
31 Dec 91	366.9	364.1	4 Feb 92	326.7	294.5
1 Jan 92	366.9	364.5	5 Feb 92	313.4	276.4
2 Jan 92	366.1	363.7	6 Feb 92	364.9	246.6
3 Jan 92	367.3	364.1	7 Feb 92	359.3	303.3
4 Jan 92	366.5	363.3	8 Feb 92	326.3	282.0
5 Jan 92	367.3	363.3	9 Feb 92	321.0	295.3
6 Jan 92	366.9	364.9	10 Feb 92	329.5	296.5
7 Jan 92	365.7	349.2	11 Feb 92	327.9	269.1
8 Jan 92	358.0	285.2	12 Feb 92	317.0	239.8
9 Jan 92	332.3	281.6	13 Feb 92	245.4	167.4
10 Jan 92	359.7	300.5	14 Feb 92	210.0	147.2
11 Jan 92	365.3	327.5	15 Feb 92	215.2	119.9
12 Jan 92	366.1	353.2	16 Feb 92	156.1	107.0
13 Jan 92	366.5	329.9	17 Feb 92	173.8	112.6

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TABLE A-1. (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High,lb/h	Low, lb/h
18 Feb 92	269.1	216.4	24 Mar 92	235.7	207.6
19 Feb 92	252.6	221.3	25 Mar 92	307.0	249.4
20 Feb 92	279.2	237.8	26 Mar 92	345.2	202.4
21 Feb 92	287.6	258.7	27 Mar 92	364.1	263.5
22 Feb 92	285.2	100.2	28 Mar 92	386.2	237.0
23 Feb 92	277.6	117.9	29 Mar 92	332.3	213.2
24 Feb 92	328.7	113.4	30 Mar 92	368.1	208.4
25 Feb 92	329.5	220.9	31 Mar 92	346.4	304.5
26 Feb 92	381.8	220.5	1 Apr 92	316.6	252.2
27 Feb 92	382.6	239.8	2 Apr 92	329.1	191.5
28 Feb 92	286.8	258.7	3 Apr 92	332.7	194.3
29 Feb 92	286.8	93.3	4 Apr 92	345.6	211.2
1 Mar 92	280.4	107.0	5 Apr 92	354.0	221.3
2 Mar 92	325.9	48.7	6 Apr 92	380.2	245.8
3 Mar 92	332.7	227.7	7 Apr 92	378.6	241.4
4 Mar 92	286.4	217.2	8 Apr 92	377.4	211.2
5 Mar 92	374.1	220.9	9 Apr 92	385.8	193.5
6 Mar 92	390.6	252.2	10 Apr 92	375.3	190.3
7 Mar 92	377.4	274.8	11 Apr 92	369.7	210.0
8 Mar 92	395.9	264.3	12 Apr 92	368.9	214.0
9 Mar 92	406.3	259.1	13 Apr 92	381.8	200.7
10 Mar 92	372.1	234.5	14 Apr 92	348.0	232.9
11 Mar 92	366.1	225.7	15 Apr 92	353.6	217.6
12 Mar 92	358.0	253.9	16 Apr 92	339.5	203.2
13 Mar 92	357.2	268.7	17 Apr 92	337.5	204.4
14 Mar 92	354.8	282.0	18 Apr 92	346.4	223.7
15 Mar 92	351.6	259.1	19 Apr 92	344.4	207.2
16 Mar 92	357.2	261.5	20 Apr 92	340.3	227.3
17 Mar 92	315.4	247.0	21 Apr 92	321.0	248.6
18 Mar 92	347.2	252.6	22 Apr 92	340.3	237.8
19 Mar 92	343.2	241.4	23 Apr 92	337.5	210.4
20 Mar 92	364.1	312.2	24 Apr 92	333.5	195.9
21 Mar 92	386.2	272.0	25 Apr 92	337.9	226.5
22 Mar 92	327.5	208.8	26 Apr 92	344.8	200.3
23 Mar 92	249.0	207.2	27 Apr 92	339.9	217.6

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TABLE A-1. (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
28 Apr 92	341.6	226.5	3 Jun 92	399.9	274.0
29 Apr 92	365.7	235.3	4 Jun 92	399.5	249.8
30 Apr 92	362.9	220.5	5 Jun 92	399.5	197.5
1 May 92	361.3	213.6	6 Jun 92	269.9	249.8
2 May 92	358.0	214.8	7 Jun 92	265.5	249.0
3 May 92	357.6	214.0	8 Jun 92	266.7	247.0
4 May 92	348.8	219.3	9 Jun 92	290.5	255.5
5 May 92	370.9	251.0	10 Jun 92	339.5	249.0
6 May 92	401.5	272.8	11 Jun 92	399.5	341.2
7 May 92	366.1	216.8	12 Jun 92	399.5	336.3
8 May 92	364.5	215.2	13 Jun 92	400.3	202.0
9 May 92	366.1	214.0	14 Jun 92	401.1	290.5
10 May 92	379.8	219.3	15 Jun 92	398.3	315.8
11 May 92	376.6	226.5	16 Jun 92	400.3	337.5
12 May 92	379.0	225.3	17 Jun 92	386.6	353.6
13 May 92	393.9	240.6	18 Jun 92	387.4	358.0
14 May 92	399.5	245.8	19 Jun 92	385.4	356.0
15 May 92	400.3	230.5	20 Jun 92	391.8	354.8
16 May 92	400.7	229.3	21 Jun 92	381.8	355.6
17 May 92	399.1	240.6	22 Jun 92	391.4	354.8
18 May 92	398.7	261.1	23 Jun 92	379.4	358.4
19 May 92	398.3	294.1	24 Jun 92	389.8	358.9
20 May 92	399.5	296.9	25 Jun 92	377.0	358.9
21 May 92	398.3	397.9	26 Jun 92	390.6	356.0
22 May 92	400.7	238.6	27 Jun 92	394.3	358.9
23 May 92	399.1	231.3	28 Jun 92	389.8	360.9
24 May 92	399.1	252.2	29 Jun 92	374.9	358.4
25 May 92	398.3	261.1	30 Jun 92	388.2	368.1
26 May 92	391.8	233.3	1 Jul 92	387.0	362.5
27 May 92	399.1	246.6	2 Jul 92	393.0	362.1
28 May 92	352.4	165.3	3 Jul 92	390.2	359.7
29 May 92	364.1	160.1	4 Jul 92	394.3	361.7
30 May 92	379.0	169.4	5 Jul 92	387.4	358.4
31 May 92	372.1	130.7	6 Jul 92	387.4	358.4
2 Jun 92	351.2	284.4	7 Jul 92	383.0	358.4

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TABLE A-1. (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
8 Jul 92	381.4	359.7	13 Aug 92	319.8	80.5
9 Jul 92	372.9	359.7	14 Aug 92	282.4	243.0
10 Jul 92	395.9	360.5	15 Aug 92	268.7	153.7
11 Jul 92	385.8	361.7	16 Aug 92	274.8	146.0
12 Jul 92	381.8	357.2	17 Aug 92	277.2	144.4
13 Jul 92	380.2	358.0	18 Aug 92	276.4	137.2
14 Jul 92	352.8	344.0	19 Aug 92	269.5	138.8
15 Jul 92	366.9	341.6	20 Aug 92	276.8	159.7
16 Jul 92	375.3	346.0	21 Aug 92	274.8	155.3
17 Jul 92	376.6	350.0	22 Aug 92	272.4	130.7
18 Jul 92	378.2	351.2	23 Aug 92	265.9	127.1
19 Jul 92	378.6	350.8	24 Aug 92	265.9	107.0
20 Jul 92	382.6	354.0	25 Aug 92	265.1	111.8
21 Jul 92	363.7	198.3	26 Aug 92	269.5	105.8
22 Jul 92	306.6	46.7	27 Aug 92	276.0	112.6
23 Jul 92	311.4	95.7	28 Aug 92	270.3	121.1
24 Jul 92	294.9	130.3	29 Aug 92	269.1	126.7
25 Jul 92	300.1	20.5	30 Aug 92	277.6	146.8
26 Jul 92	284.8	67.2	31 Aug 92	259.9	129.1
27 Jul 92	298.1	64.4	1 Sep 92	265.5	88.5
28 Jul 92	333.9	173.8	2 Sep 92	267.9	130.7
30 Jul 92	356.8	128.3	3 Sep 92	253.4	124.7
31 Jul 92	332.3	166.6	4 Sep 92	261.1	111.0
1 Aug 92	327.5	149.3	5 Sep 92	259.5	112.6
2 Aug 92	319.0	134.0	6 Sep 92	265.9	120.3
3 Aug 92	309.4	99.8	7 Sep 92	265.5	132.0
4 Aug 92	287.6	162.5	8 Sep 92	266.7	123.5
5 Aug 92	325.9	173.0	9 Sep 92	266.7	140.8
6 Aug 92	324.3	183.0	10 Sep 92	266.7	112.2
7 Aug 92	331.5	163.3	11 Sep 92	269.5	136.0
8 Aug 92	320.6	154.1	12 Sep 92	268.7	140.4
9 Aug 92	318.6	124.7	13 Sep 92	267.5	94.9
10 Aug 92	304.5	100.2	14 Sep 92	270.7	132.0
11 Aug 92	329.9	136.8	15 Sep 92	273.2	141.2
12 Aug 92	323.4	169.8			

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TABLE A-2. 4H-4 (8-Inch Well) Steam Flow Data.

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
1 Oct 91	178.7	167.8	5 Nov 91	179.9	173.7
02 Oct 91	180.5	171.1	6 Nov 91	180.9	174.3
3 Oct 91	182.2	170.6	7 Nov 91	179.3	169.8
4 Oct 91	178.5	169.2	8 Nov 91	178.3	173.9
5 Oct 91	177.8	169.8	9 Nov 91	179.9	175.4
6 Oct 91	178.5	168.6	10 Nov 91	178.3	175.4
7 Oct 91	179.1	171.1	11 Nov 91	177.0	172.7
8 Oct 91	180.9	172.9	12 Nov 91	180.5	172.9
9 Oct 91	177.4	169.2	13 Nov 91	189.6	180.1
10 Oct 91	176.8	168.6	14 Nov 91	190.8	184.0
11 Oct 91	179.9	170.4	15 Nov 91	185.5	178.7
12 Oct 91	180.5	173.1	16 Nov 91	179.1	174.3
13 Oct 91	178.7	169.6	17 Nov 91	183.2	178.3
14 Oct 91	178.7	169.4	18 Nov 91	182.6	174.8
15 Oct 91	182.4	171.1	19 Nov 91	176.2	169.0
16 Oct 91	184.4	173.9	20 Nov 91	182.0	173.3
17 Oct 91	180.7	172.1	21 Nov 91	183.6	178.7
18 Oct 91	177.6	169.4	22 Nov 91	179.5	173.1
19 Oct 91	181.5	169.8	23 Nov 91	178.5	171.5
20 Oct 91	182.8	176.4	24 Nov 91	180.1	176.4
21 Oct 91	184.2	176.6	25 Nov 91	180.9	176.4
22 Oct 91	185.2	179.5	26 Nov 91	180.1	177.0
23 Oct 91	184.2	180.1	27 Nov 91	186.9	179.9
24 Oct 91	183.4	178.9	28 Nov 91	186.1	180.1
25 Oct 91	184.0	181.1	29 Nov 91	189.4	182.4
26 Oct 91	186.7	182.6	30 Nov 91	183.2	178.9
27 Oct 91	186.7	180.7	1 Dec 91	181.3	176.6
28 Oct 91	180.9	176.6	2 Dec 91	181.3	178.3
29 Oct 91	185.9	180.3	3 Dec 91	181.5	175.0
30 Oct 91	181.3	174.6	4 Dec 91	184.0	179.9
31 Oct 91	179.7	175.2	5 Dec 91	184.0	179.3
1 Nov 91	181.8	176.6	6 Dec 91	183.2	177.8
2 Nov 91	179.3	174.6	7 Dec 91	185.7	180.9
3 Nov 91	176.0	170.0	8 Dec 91	181.1	174.8
4 Nov 91	177.4	172.1	9 Dec 91	178.0	174.8

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TABLE A-2 (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
10 Dec 91	182.6	178.0	14 Jan 92	188.3	185.0
11 Dec 91	183.6	179.5	15 Jan 92	186.5	181.5
12 Dec 91	179.9	175.0	16 Jan 92	191.4	184.2
13 Dec 91	177.4	172.3	17 Jan 92	192.9	189.8
14 Dec 91	178.7	175.2	18 Jan 92	190.2	183.8
15 Dec 91	179.7	175.4	19 Jan 92	185.2	182.2
16 Dec 91	180.7	176.6	20 Jan 92	187.7	184.4
17 Dec 91	181.8	177.8	21 Jan 92	188.5	184.6
18 Dec 91	183.2	179.3	22 Jan 92	187.1	182.4
19 Dec 91	185.0	176.2	23 Jan 92	186.5	182.2
20 Dec 91	176.6	172.5	24 Jan 92	187.5	184.4
21 Dec 91	179.3	175.8	25 Jan 92	188.9	186.9
22 Dec 91	180.3	175.6	26 Jan 92	189.2	185.9
23 Dec 91	181.1	177.6	27 Jan 92	186.5	179.9
24 Dec 91	183.6	179.9	28 Jan 92	187.3	181.3
25 Dec 91	181.8	177.2	29 Jan 92	186.5	181.3
26 Dec 91	179.7	175.8	30 Jan 92	187.9	180.5
27 Dec 91	183.6	176.4	31 Jan 92	189.6	182.4
28 Dec 91	184.2	180.1	1 Feb 92	191.4	185.9
29 Dec 91	184.4	180.9	2 Feb 92	189.6	180.1
30 Dec 91	183.4	177.8	3 Feb 92	187.5	183.6
31 Dec 91	179.5	176.4	4 Feb 92	186.5	182.6
1 Jan 92	181.8	178.3	5 Feb 92	186.5	183.8
2 Jan 92	188.7	182.0	6 Feb 92	188.5	186.1
3 Jan 92	191.2	188.7	7 Feb 92	188.9	183.8
4 Jan 92	189.8	187.1	8 Feb 92	184.0	179.9
5 Jan 92	196.8	187.9	9 Feb 92	187.5	182.2
6 Jan 92	195.7	187.1	10 Feb 92	188.9	184.8
7 Jan 92	189.8	185.0	11 Feb 92	185.5	183.2
8 Jan 92	186.1	182.8	12 Feb 92	191.4	185.0
9 Jan 92	185.9	182.2	13 Feb 92	192.4	188.5
10 Jan 92	187.7	184.6	14 Feb 92	189.4	185.0
11 Jan 92	193.1	187.5	15 Feb 92	191.8	186.3
12 Jan 92	190.4	184.6	16 Feb 92	190.2	184.2
13 Jan 92	187.1	183.0	17 Feb 92	186.5	183.0

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TABLE A-2. (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
18 Feb 92	182.8	181.3	24 Mar 92	189.2	184.0
19 Feb 92	185.2	182.2	25 Mar 92	192.2	188.3
20 Feb 92	187.5	183.8	26 Mar 92	194.3	187.1
21 Feb 92	185.0	181.8	27 Mar 92	193.9	190.6
22 Feb 92	186.7	182.8	28 Mar 92	191.0	184.0
23 Feb 92	185.7	182.4	29 Mar 92	187.9	183.4
24 Feb 92	185.7	181.5	30 Mar 92	191.6	186.1
25 Feb 92	185.2	180.9	31 Mar 92	191.6	188.3
26 Feb 92	184.4	181.1	1 Apr 92	190.6	185.2
27 Feb 92	185.2	180.3	2 Apr 92	189.2	182.0
28 Feb 92	186.5	182.2	3 Apr 92	188.7	180.1
29 Feb 92	189.4	186.1	4 Apr 92	187.9	182.8
1 Mar 92	190.2	187.9	5 Apr 92	188.1	181.3
2 Mar 92	192.6	189.6	6 Apr 92	185.5	181.8
3 Mar 92	192.9	188.9	7 Apr 92	185.0	181.5
4 Mar 92	191.2	186.9	8 Apr 92	185.7	181.5
5 Mar 92	191.2	188.1	9 Apr 92	185.9	181.5
6 Mar 92	192.4	188.5	10 Apr 92	185.5	179.7
7 Mar 92	193.3	191.2	11 Apr 92	184.6	180.9
8 Mar 92	193.5	189.6	12 Apr 92	185.7	181.8
9 Mar 92	190.6	183.6	13 Apr 92	186.1	181.8
10 Mar 92	188.9	183.6	14 Apr 92	185.7	182.4
11 Mar 92	189.2	184.2	15 Apr 92	186.1	184.0
12 Mar 92	189.4	184.2	16 Apr 92	186.5	181.3
13 Mar 92	186.7	184.0	17 Apr 92	185.5	181.5
14 Mar 92	187.7	185.7	18 Apr 92	185.2	182.2
15 Mar 92	188.9	187.1	19 Apr 92	184.0	182.4
16 Mar 92	190.6	187.9	20 Apr 92	188.1	182.0
17 Mar 92	190.2	186.7	21 Apr 92	190.2	185.9
18 Mar 92	189.2	185.5	22 Apr 92	191.4	184.0
19 Mar 92	187.9	182.8	23 Apr 92	188.3	182.2
20 Mar 92	193.7	187.7	24 Apr 92	188.1	180.5
21 Mar 92	194.7	190.4	25 Apr 92	189.2	180.9
22 Mar 92	192.0	188.5	26 Apr 92	188.3	178.9
23 Mar 92	192.0	187.7	27 Apr 92	188.1	178.3

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TABLE A-2. (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
28 Apr 92	187.9	178.9	2 Jun 92	183.6	175.2
29 Apr 92	190.6	181.1	3 Jun 92	185.5	173.7
30 Apr 92	192.2	184.4	4 Jun 92	186.3	174.3
1 May 92	191.4	178.5	5 Jun 92	187.7	177.2
2 May 92	186.5	177.4	6 Jun 92	190.6	180.7
3 May 92	186.5	177.2	7 Jun 92	188.9	178.5
4 May 92	188.9	178.5	8 Jun 92	187.1	175.6
5 May 92	189.2	183.4	9 Jun 92	185.7	176.8
6 May 92	188.3	183.4	10 Jun 92	188.9	177.0
7 May 92	188.7	178.7	11 Jun 92	189.8	178.5
8 May 92	190.8	181.8	12 Jun 92	190.4	181.5
9 May 92	194.1	183.4	13 Jun 92	192.9	184.0
10 May 92	185.7	180.5	14 Jun 92	194.5	186.1
11 May 92	181.8	179.9	15 Jun 92	190.8	185.5
12 May 92	185.9	180.7	16 Jun 92	190.2	179.9
13 May 92	185.5	180.7	17 Jun 92	190.2	179.3
14 May 92	186.5	181.5	18 Jun 92	191.4	179.5
15 May 92	187.9	181.3	19 Jun 92	190.4	178.7
16 May 92	187.1	178.9	20 Jun 92	190.0	177.4
17 May 92	187.1	177.0	21 Jun 92	188.5	175.6
18 May 92	188.3	177.6	22 Jun 92	187.1	174.6
19 May 92	191.8	184.8	23 Jun 92	168.2	164.1
20 May 92	192.9	184.2	24 Jun 92	168.2	163.9
21 May 92	189.8	178.7	25 Jun 92	168.2	164.7
22 May 92	187.5	180.5	26 Jun 92	168.6	163.5
23 May 92	187.9	177.8	27 Jun 92	168.6	163.0
24 May 92	188.7	177.8	28 Jun 92	167.4	162.4
25 May 92	188.3	179.1	29 Jun 92	167.4	162.6
26 May 92	189.4	178.7	30 Jun 92	191.2	162.6
27 May 92	188.7	177.4	1 Jul 92	191.4	179.5
28 May 92	187.1	177.0	2 Jul 92	187.9	176.0
29 May 92	188.5	177.8	3 Jul 92	187.5	176.2
30 May 92	186.5	175.6	4 Jul 92	189.6	176.6
31 May 92	185.0	173.7	5 Jul 92	187.7	175.6
1 Jun 92	185.0	175.6	6 Jul 92	187.1	174.8

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TABLE A-2. (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
7 Jul 92	185.0	175.6	12 Aug 92	183.6	171.1
8 Jul 92	185.9	176.8	13 Aug 92	180.3	167.8
9 Jul 92	187.5	180.1	14 Aug 92	180.9	167.8
10 Jul 92	189.2	177.0	15 Aug 92	180.5	171.3
11 Jul 92	188.3	181.1	16 Aug 92	180.3	173.3
12 Jul 92	186.9	178.3	17 Aug 92	182.6	172.9
13 Jul 92	187.1	178.0	18 Aug 92	185.7	170.0
14 Jul 92	186.9	175.8	19 Aug 92	185.5	171.5
15 Jul 92	182.0	177.2	20 Aug 92	185.9	173.5
16 Jul 92	179.7	175.2	21 Aug 92	186.1	175.6
17 Jul 92	178.5	174.6	22 Aug 92	186.9	180.1
18 Jul 92	178.3	174.6	23 Aug 92	187.3	176.4
19 Jul 92	180.1	173.3	24 Aug 92	187.5	173.7
20 Jul 92	185.7	179.3	25 Aug 92	185.0	175.6
21 Jul 92	187.1	177.2	28 Aug 92	183.0	173.3
22 Jul 92	188.1	179.7	29 Aug 92	184.4	172.3
23 Jul 92	187.1	178.5	30 Aug 92	184.8	171.9
24 Jul 92	188.3	177.2	31 Aug 92	184.6	172.7
25 Jul 92	186.3	175.8	1 Sep 92	187.1	175.8
26 Jul 92	186.1	175.2	2 Sep 92	188.3	177.6
27 Jul 92	187.1	174.3	3 Sep 92	187.9	179.7
28 Jul 92	186.5	175.4	4 Sep 92	187.9	176.8
30 Jul 92	180.5	172.5	5 Sep 92	188.1	175.0
31 Jul 92	186.3	173.9	6 Sep 92	188.1	177.6
1 Aug 92	186.7	172.1	7 Sep 92	187.3	175.2
2 Aug 92	184.0	172.9	8 Sep 92	188.1	175.0
3 Aug 92	185.0	173.1	9 Sep 92	187.1	174.1
4 Aug 92	180.7	172.3	10 Sep 92	185.5	171.9
5 Aug 92	184.4	174.1	11 Sep 92	185.5	175.4
6 Aug 92	184.8	174.6	12 Sep 92	187.1	176.8
7 Aug 92	185.7	174.3	13 Sep 92	187.3	177.4
8 Aug 92	186.5	174.1	14 Sep 92	188.5	178.0
9 Aug 92	185.5	170.6	15 Sep 92	188.1	176.6
10 Aug 92	183.2	169.0	16 Sep 92	186.3	174.6
11 Aug 92	183.4	170.4	17 Sep 92	184.8	173.9

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TABLE A-2. (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
18 Sep 92	185.0	175.2	25 Sep 92	185.5	174.3
19 Sep 92	184.4	174.8	26 Sep 92	182.4	171.3
20 Sep 92	186.1	174.1	27 Sep 92	184.4	173.1
21 Sep 92	184.8	172.1	28 Sep 92	186.3	173.1
22 Sep 92	183.0	171.7	29 Sep 92	185.7	172.9
23 Sep 92	185.0	174.3	30 Sep 92	185.2	173.7
24 Sep 92	187.9	176.4			

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TABLE A-3. 4A-2 and 4A-3 (Schoeber's Resort Wells) Steam Flow Data.

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
1 Oct 91	1318.0	1295.4	5 Nov 91	1318.0	1293.9
2 Oct 91	1318.0	1295.4	6 Nov 91	1316.5	1293.9
3 Oct 91	1328.5	1299.9	7 Nov 91	1313.5	1289.3
4 Oct 91	1308.9	1296.9	8 Nov 91	1307.4	1289.3
5 Oct 91	1310.5	1293.9	9 Nov 91	1308.9	1287.8
6 Oct 91	1312.0	1289.3	10 Nov 91	1304.4	1287.8
7 Oct 91	1312.0	1289.3	11 Nov 91	1312.0	1289.3
8 Oct 91	1315.0	1280.3	12 Nov 91	1316.5	1289.3
9 Oct 91	1307.4	1281.8	13 Nov 91	1321.0	1289.3
10 Oct 91	1305.9	1292.4	14 Nov 91	1321.0	1298.4
11 Oct 91	1312.0	1290.8	15 Nov 91	1308.9	1286.3
12 Oct 91	1307.4	1290.8	16 Nov 91	1296.9	1284.8
13 Oct 91	1305.9	1289.3	17 Nov 91	1310.5	1287.8
14 Oct 91	1307.4	1290.8	18 Nov 91	1301.4	1287.8
15 Oct 91	1316.5	1295.4	19 Nov 91	1308.9	1280.3
16 Oct 91	1327.0	1293.9	20 Nov 91	1305.9	1280.3
17 Oct 91	1322.5	1299.9	21 Nov 91	1321.0	1287.8
18 Oct 91	1305.9	1295.4	22 Nov 91	1305.9	1278.8
19 Oct 91	1318.0	1295.4	23 Nov 91	1301.4	1272.8
20 Oct 91	1322.5	1308.9	24 Nov 91	1302.9	1278.8
21 Oct 91	1324.0	1301.4	25 Nov 91	1313.5	1286.3
22 Oct 91	1334.6	1299.9	26 Nov 91	1302.9	1277.3
23 Oct 91	1322.5	1299.9	27 Nov 91	1296.9	1283.3
24 Oct 91	1324.0	1287.8	28 Nov 91	1298.4	1286.3
25 Oct 91	1316.5	1299.9	3 Dec 91	1324.0	1298.4
26 Oct 91	1312.0	1292.4	4 Dec 91	1321.0	1298.4
27 Oct 91	1318.0	1290.8	5 Dec 91	1308.9	1295.4
28 Oct 91	1307.4	1289.3	6 Dec 91	1313.5	1295.4
29 Oct 91	1330.1	1295.4	7 Dec 91	1307.4	1283.3
30 Oct 91	1296.9	1281.8	8 Dec 91	1308.9	1283.3
31 Oct 91	1302.9	1281.8	9 Dec 91	1308.9	1287.8
1 Nov 91	1302.9	1287.8	10 Dec 91	1322.5	1304.4
2 Nov 91	1299.9	1286.3	11 Dec 91	1313.5	1293.9
3 Nov 91	1302.9	1281.8	12 Dec 91	1305.9	1283.3
4 Nov 91	1307.4	1284.8	13 Dec 91	1295.4	1278.8

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TABLE A-3 (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
14 Dec 91	1304.4	1280.3	18 Jan 92	1308.9	1298.4
15 Dec 91	1305.9	1287.8	19 Jan 92	1315.0	1295.4
16 Dec 91	1312.0	1284.8	20 Jan 92	1315.0	1296.9
17 Dec 91	1321.0	1292.4	21 Jan 92	1319.5	1296.9
18 Dec 91	1312.0	1298.4	22 Jan 92	1313.5	1292.4
19 Dec 91	1313.5	1293.9	23 Jan 92	1316.5	1290.8
20 Dec 91	1299.9	1283.3	24 Jan 92	1315.0	1287.8
21 Dec 91	1301.4	1286.3	25 Jan 92	1315.0	1289.3
22 Dec 91	1299.9	1290.8	26 Jan 92	1315.0	1296.9
23 Dec 91	1298.4	1290.8	27 Jan 92	1315.0	1295.4
24 Dec 91	1304.4	1284.8	28 Jan 92	1305.9	1292.4
25 Dec 91	1318.0	1283.3	29 Jan 92	1321.0	1292.4
26 Dec 91	1334.6	1302.9	30 Jan 92	1319.5	1295.4
27 Dec 91	1322.5	1313.5	31 Jan 92	1325.5	1299.9
28 Dec 91	1319.5	1299.9	1 Feb 92	1315.0	1302.9
29 Dec 91	1305.9	1281.8	2 Feb 92	1302.9	1295.4
30 Dec 91	1334.6	1290.8	3 Feb 92	1308.9	1292.4
31 Dec 91	1327.0	1298.4	4 Feb 92	1313.5	1293.9
1 Jan 92	1299.9	1287.8	5 Feb 92	1308.9	1296.9
2 Jan 92	1298.4	1289.3	6 Feb 92	1322.5	1298.4
3 Jan 92	1308.9	1289.3	7 Feb 92	1327.0	1286.3
4 Jan 92	1293.9	1281.8	8 Feb 92	1290.8	1277.3
5 Jan 92	1330.1	1284.8	9 Feb 92	1290.8	1277.3
6 Jan 92	1331.6	1318.0	10 Feb 92	1312.0	1266.7
7 Jan 92	1336.1	1315.0	11 Feb 92	1301.4	1248.6
8 Jan 92	1330.1	1304.4	12 Feb 92	1366.2	1304.4
9 Jan 92	1340.6	1313.5	13 Feb 92	1372.3	1357.2
10 Jan 92	1333.1	1310.5	14 Feb 92	1364.7	1343.6
11 Jan 92	1322.5	1308.9	15 Feb 92	1355.7	1327.0
12 Jan 92	1319.5	1299.9	16 Feb 92	1340.6	1322.5
13 Jan 92	1313.5	1302.9	17 Feb 92	1336.1	1319.5
14 Jan 92	1321.0	1304.4	18 Feb 92	1334.6	1287.8
15 Jan 92	1312.0	1296.9	19 Feb 92	1302.9	1284.8
16 Jan 92	1321.0	1299.9	20 Feb 92	1318.0	1286.3
17 Jan 92	1325.5	1304.4	21 Feb 92	1308.9	1278.8

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TABLE A-3. (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
22 Feb 92	1304.4	1278.8	28 Mar 92	1328.5	1305.9
23 Feb 92	1301.4	1272.8	29 Mar 92	1316.5	1284.8
24 Feb 92	1299.9	1272.8	30 Mar 92	1313.5	1283.3
25 Feb 92	1295.4	1224.5	31 Mar 92	1290.8	1275.8
26 Feb 92	1257.7	1223.0	1 Apr 92	1308.9	1281.8
27 Feb 92	1268.2	1238.1	2 Apr 92	1321.0	1283.3
28 Feb 92	1286.3	1244.1	3 Apr 92	1322.5	1286.3
29 Feb 92	1293.9	1263.7	4 Apr 92	1312.0	1275.8
1 Mar 92	1284.8	1271.2	5 Apr 92	1305.9	1281.8
2 Mar 92	1327.0	1269.7	8 Apr 92	1313.5	1287.8
3 Mar 92	1337.6	1312.0	9 Apr 92	1313.5	1280.3
4 Mar 92	1339.1	1316.5	10 Apr 92	1315.0	1281.8
5 Mar 92	1325.5	1308.9	11 Apr 92	1315.0	1281.8
6 Mar 92	1333.1	1310.5	12 Apr 92	1313.5	1277.3
7 Mar 92	1330.1	1316.5	13 Apr 92	1313.5	1278.8
8 Mar 92	1330.1	1318.0	14 Apr 92	1319.5	1277.3
9 Mar 92	1333.1	1319.5	15 Apr 92	1315.0	1277.3
10 Mar 92	1349.7	1308.9	16 Apr 92	1313.5	1281.8
11 Mar 92	1357.2	1322.5	17 Apr 92	1324.0	1281.8
12 Mar 92	1351.2	1319.5	18 Apr 92	1312.0	1283.3
13 Mar 92	1339.1	1305.9	19 Apr 92	1301.4	1277.3
14 Mar 92	1318.0	1301.4	20 Apr 92	1316.5	1275.8
15 Mar 92	1328.5	1307.4	21 Apr 92	1327.0	1289.3
16 Mar 92	1331.6	1304.4	22 Apr 92	1310.5	1283.3
17 Mar 92	1333.1	1310.5	23 Apr 92	1304.4	1269.7
18 Mar 92	1318.0	1296.9	24 Apr 92	1305.9	1277.3
19 Mar 92	1322.5	1293.9	25 Apr 92	1312.0	1283.3
20 Mar 92	1333.1	1304.4	26 Apr 92	1305.9	1278.8
21 Mar 92	1363.2	1327.0	27 Apr 92	1304.4	1271.2
22 Mar 92	1351.2	1336.1	28 Apr 92	1316.5	1271.2
23 Mar 92	1358.7	1339.1	29 Apr 92	1322.5	1287.8
24 Mar 92	1358.7	1331.6	30 Apr 92	1304.4	1278.8
25 Mar 92	1346.6	1330.1	1 May 92	1301.4	1272.8
26 Mar 92	1366.2	1331.6	2 May 92	1296.9	1269.7
27 Mar 92	1345.1	1328.5	3 May 92	1308.9	1275.8

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TABLE A-3. (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
4 May 92	1313.5	1277.3	8 Jun 92	1308.9	1259.2
5 May 92	1301.4	1275.8	9 Jun 92	1316.5	1307.4
6 May 92	1321.0	1269.7	10 Jun 92	1321.0	1308.9
7 May 92	1349.7	1315.0	11 Jun 92	1325.5	1305.9
8 May 92	1345.1	1313.5	12 Jun 92	1308.9	1293.9
9 May 92	1343.6	1310.5	13 Jun 92	1313.5	1292.4
10 May 92	1327.0	1298.4	14 Jun 92	1305.9	1293.9
11 May 92	1331.6	1298.4	15 Jun 92	1310.5	1296.9
12 May 92	1324.0	1293.9	16 Jun 92	1318.0	1167.2
13 May 92	1322.5	1289.3	17 Jun 92	1226.0	1171.7
14 May 92	1327.0	1290.8	18 Jun 92	1233.5	1198.9
15 May 92	1325.5	1290.8	19 Jun 92	1226.0	1200.4
16 May 92	1333.1	1289.3	20 Jun 92	1247.1	1204.9
17 May 92	1319.5	1283.3	21 Jun 92	1227.5	1198.9
18 May 92	1321.0	1277.3	22 Jun 92	1232.0	1191.3
19 May 92	1327.0	1287.8	23 Jun 92	1242.6	1204.9
20 May 92	1322.5	1290.8	24 Jun 92	1236.6	1201.9
21 May 92	1325.5	1277.3	25 Jun 92	1238.1	1198.9
22 May 92	1313.5	1278.8	26 Jun 92	1233.5	1189.8
23 May 92	1322.5	1280.3	27 Jun 92	1235.1	1191.3
24 May 92	1324.0	1292.4	28 Jun 92	1230.5	1195.8
25 May 92	1333.1	1289.3	29 Jun 92	1232.0	1189.8
26 May 92	1331.6	1286.3	30 Jun 92	1232.0	1192.8
27 May 92	1328.5	1287.8	1 Jul 92	1227.5	1195.8
28 May 92	1325.5	1290.8	2 Jul 92	1226.0	1188.3
29 May 92	1327.0	1290.8	3 Jul 92	1229.0	1186.8
30 May 92	1316.5	1289.3	4 Jul 92	1236.6	1197.4
31 May 92	1319.5	1283.3	5 Jul 92	1232.0	1185.3
1 Jun 92	1328.5	1278.8	6 Jul 92	1223.0	1188.3
2 Jun 92	1334.6	1290.8	7 Jul 92	1236.6	1186.8
3 Jun 92	1337.6	1271.2	8 Jul 92	1233.5	1206.4
4 Jun 92	1340.6	1269.7	9 Jul 92	1224.5	1192.8
5 Jun 92	1331.6	1265.2	10 Jul 92	1251.6	1195.8
6 Jun 92	1307.4	1262.2	11 Jul 92	1245.6	1209.4
7 Jun 92	1307.4	1263.7	12 Jul 92	1230.5	1200.4

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TABLE A-3. (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
13 Jul 92	1233.5	1192.8	17 Aug 92	1239.6	1197.4
14 Jul 92	1245.6	1186.8	18 Aug 92	1223.0	1192.8
15 Jul 92	1242.6	1209.4	19 Aug 92	1230.5	1210.9
16 Jul 92	1244.1	1220.0	20 Aug 92	1229.0	1206.4
17 Jul 92	1242.6	1209.4	21 Aug 92	1224.5	1192.8
18 Jul 92	1241.1	1210.9	22 Aug 92	1227.5	1182.3
19 Jul 92	1244.1	1212.4	23 Aug 92	1227.5	1188.3
20 Jul 92	1250.1	1209.4	24 Aug 92	1229.0	1195.8
21 Jul 92	1239.6	1215.4	25 Aug 92	1220.0	1192.8
22 Jul 92	1242.6	1198.9	26 Aug 92	1220.0	1186.8
23 Jul 92	1226.0	1188.3	27 Aug 92	1224.5	1188.3
24 Jul 92	1220.0	1192.8	28 Aug 92	1207.9	1189.8
25 Jul 92	1233.5	1197.4	29 Aug 92	1218.5	1191.3
26 Jul 92	1233.5	1203.4	30 Aug 92	1198.9	1177.7
27 Jul 92	1254.7	1192.8	31 Aug 92	1212.4	1179.3
28 Jul 92	1233.5	1220.0	1 Sep 92	1213.9	1183.8
29 Jul 92	1242.6	1210.9	2 Sep 92	1215.4	1180.8
30 Jul 92	1244.1	1215.4	3 Sep 92	1223.0	1180.8
31 Jul 92	1232.0	1209.4	4 Sep 92	1207.9	1174.7
1 Aug 92	1233.5	1203.4	5 Sep 92	1212.4	1177.7
2 Aug 92	1239.6	1215.4	6 Sep 92	1209.4	1176.2
3 Aug 92	1239.6	1217.0	7 Sep 92	1207.9	1170.2
4 Aug 92	1233.5	1220.0	8 Sep 92	1213.9	1174.7
5 Aug 92	1232.0	1209.4	9 Sep 92	1215.4	1183.8
6 Aug 92	1239.6	1206.4	10 Sep 92	1213.9	1179.3
7 Aug 92	1241.1	1197.4	11 Sep 92	1215.4	1189.8
8 Aug 92	1226.0	1195.8	12 Sep 92	1204.9	1171.7
9 Aug 92	1235.1	1197.4	13 Sep 92	1207.9	1177.7
10 Aug 92	1235.1	1204.9	14 Sep 92	1210.9	1177.7
11 Aug 92	1232.0	1218.5	15 Sep 92	1210.9	1173.2
12 Aug 92	1235.1	1209.4	16 Sep 92	1210.9	1177.7
13 Aug 92	1229.0	1197.4	17 Sep 92	1203.4	1183.8
14 Aug 92	1226.0	1191.3	18 Sep 92	1200.4	1171.7
15 Aug 92	1238.1	1198.9	19 Sep 92	1215.4	1189.8
16 Aug 92	1238.1	1212.4	20 Sep 92	1213.9	1176.2

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TABLE A-3. (Cont'd).

Date	High, lb/h	Low, lb/h	Date	High, lb/h	Low, lb/h
21 Sep 92	1203.4	1176.2	26 Sep 92	1194.3	1162.7
22 Sep 92	1213.9	1185.3	27 Sep 92	1200.4	1168.7
23 Sep 92	1217.0	1180.8	28 Sep 92	1209.4	1170.2
24 Sep 92	1220.0	1183.8	29 Sep 92	1213.9	1183.8
25 Sep 92	1209.4	1171.7	30 Sep 92	1197.4	1185.3

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Appendix B

DAILY TEMPERATURE DATA

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TABLE B-1. 4A-2 and 4A-3 (Schoeber's Resort Wells) Steam Temperature.

Date	High, °F	Low, °F	Date	High, °F	Low, °F
1 Oct 91	228	225	5 Nov 91	228	224
2 Oct 91	229	225	6 Nov 91	228	221
3 Oct 91	229	224	7 Nov 91	228	222
4 Oct 91	228	223	8 Nov 91	228	223
5 Oct 91	227	223	9 Nov 91	226	220
6 Oct 91	227	223	10 Nov 91	224	220
7 Oct 91	227	224	11 Nov 91	224	221
8 Oct 91	228	224	12 Nov 91	227	221
9 Oct 91	229	225	13 Nov 91	228	223
10 Oct 91	230	225	14 Nov 91	226	221
11 Oct 91	230	222	15 Nov 91	223	220
12 Oct 91	225	221	16 Nov 91	224	219
13 Oct 91	230	221	17 Nov 91	226	220
14 Oct 91	228	222	18 Nov 91	224	220
15 Oct 91	229	223	19 Nov 91	225	222
16 Oct 91	230	223	20 Nov 91	225	223
17 Oct 91	231	224	21 Nov 91	225	223
18 Oct 91	229	223	22 Nov 91	225	220
19 Oct 91	228	223	23 Nov 91	223	220
20 Oct 91	225	222	24 Nov 91	224	221
21 Oct 91	228	223	25 Nov 91	226	219
22 Oct 91	226	223	26 Nov 91	223	220
23 Oct 91	227	221	27 Nov 91	223	220
24 Oct 91	226	221	28 Nov 91	226	221
25 Oct 91	224	219	3 Dec 91	225	221
26 Oct 91	222	219	4 Dec 91	226	222
27 Oct 91	222	219	5 Dec 91	225	221
28 Oct 91	224	220	6 Dec 91	224	219
29 Oct 91	226	220	7 Dec 91	223	219
30 Oct 91	224	219	8 Dec 91	224	221
31 Oct 91	225	220	9 Dec 91	223	222
1 Nov 91	226	222	10 Dec 91	225	222
2 Nov 91	228	222	11 Dec 91	226	222
3 Nov 91	228	221	12 Dec 91	225	221
4 Nov 91	228	224	13 Dec 91	223	220

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TABLE B-1 (Cont'd).

Date	High, °F	Low, °F	Date	High, °F	Low, °F
14 Dec 91	224	221	18 Jan 92	223	219
15 Dec 91	225	221	19 Jan 92	225	220
16 Dec 91	225	222	20 Jan 92	224	221
17 Dec 91	225	222	21 Jan 92	225	221
18 Dec 91	226	221	22 Jan 92	226	221
19 Dec 91	226	220	23 Jan 92	225	222
20 Dec 91	223	219	24 Jan 92	225	221
21 Dec 91	222	218	25 Jan 92	225	221
22 Dec 91	225	219	26 Jan 92	225	220
23 Dec 91	224	221	27 Jan 92	226	222
24 Dec 91	225	222	28 Jan 92	227	222
25 Dec 91	224	220	29 Jan 92	226	221
26 Dec 91	227	220	30 Jan 92	227	223
27 Dec 91	225	221	31 Jan 92	227	222
28 Dec 91	225	219	1 Feb 92	225	221
29 Dec 91	224	219	2 Feb 92	222	219
30 Dec 91	222	219	3 Feb 92	224	220
31 Dec 91	225	219	4 Feb 92	226	221
1 Jan 92	224	222	5 Feb 92	224	221
2 Jan 92	225	222	6 Feb 92	225	220
3 Jan 92	225	221	7 Feb 92	222	217
4 Jan 92	222	220	8 Feb 92	221	216
5 Jan 92	223	218	9 Feb 92	223	217
6 Jan 92	223	219	10 Feb 92	224	220
7 Jan 92	223	219	11 Feb 92	224	218
8 Jan 92	224	219	12 Feb 92	221	217
9 Jan 92	225	220	13 Feb 92	224	220
10 Jan 92	226	220	14 Feb 92	223	218
11 Jan 92	222	218	15 Feb 92	221	217
12 Jan 92	223	220	16 Feb 92	223	218
13 Jan 92	225	221	17 Feb 92	226	220
14 Jan 92	227	221	18 Feb 92	225	222
15 Jan 92	224	221	19 Feb 92	223	220
16 Jan 92	225	222	20 Feb 92	224	222
17 Jan 92	225	219	21 Feb 92	227	222

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TABLE B-1. (Cont'd).

Date	High, °F	Low, °F	Date	High, °F	Low, °F
22 Feb 92	224	220	28 Mar 92	224	220
23 Feb 92	225	220	29 Mar 92	227	221
24 Feb 92	225	222	30 Mar 92	226	223
25 Feb 92	226	222	31 Mar 92	226	219
26 Feb 92	225	222	1 Apr 92	225	220
27 Feb 92	226	219	2 Apr 92	228	221
28 Feb 92	225	222	3 Apr 92	226	221
29 Feb 92	226	220	4 Apr 92	225	219
1 Mar 92	227	222	5 Apr 92	225	219
2 Mar 92	227	221	8 Apr 92	226	222
3 Mar 92	224	220	9 Apr 92	225	221
4 Mar 92	224	222	10 Apr 92	227	220
5 Mar 92	225	220	11 Apr 92	225	222
6 Mar 92	225	220	12 Apr 92	225	220
7 Mar 92	221	217	13 Apr 92	225	220
8 Mar 92	227	220	14 Apr 92	225	219
9 Mar 92	225	221	15 Apr 92	225	222
10 Mar 92	228	222	16 Apr 92	227	221
11 Mar 92	227	222	17 Apr 92	227	222
12 Mar 92	227	223	18 Apr 92	224	222
13 Mar 92	226	223	19 Apr 92	226	221
14 Mar 92	224	221	20 Apr 92	227	224
15 Mar 92	226	221	21 Apr 92	226	223
16 Mar 92	225	224	22 Apr 92	226	224
17 Mar 92	227	223	23 Apr 92	228	224
18 Mar 92	226	221	24 Apr 92	227	223
19 Mar 92	224	221	25 Apr 92	225	222
20 Mar 92	223	219	26 Apr 92	227	223
21 Mar 92	222	218	27 Apr 92	228	223
22 Mar 92	224	219	28 Apr 92	230	224
23 Mar 92	225	222	29 Apr 92	228	223
24 Mar 92	226	222	30 Apr 92	225	222
25 Mar 92	224	222	1 May 92	227	223
26 Mar 92	227	221	2 May 92	226	222
27 Mar 92	224	219	3 May 92	227	223

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TABLE B-1. (Cont'd).

Date	High, °F	Low, °F	Date	High, °F	Low, °F
4 May 92	227	222	8 Jun 92	227	224
5 May 92	226	223	9 Jun 92	229	224
6 May 92	225	221	10 Jun 92	228	225
7 May 92	228	222	11 Jun 92	228	223
8 May 92	226	221	12 Jun 92	228	221
9 May 92	225	222	13 Jun 92	230	222
10 May 92	227	222	14 Jun 92	228	222
11 May 92	228	224	15 Jun 92	228	222
12 May 92	227	223	16 Jun 92	229	224
13 May 92	227	222	17 Jun 92	228	225
14 May 92	227	223	18 Jun 92	230	224
15 May 92	228	223	19 Jun 92	229	226
16 May 92	226	222	20 Jun 92	230	225
17 May 92	227	222	21 Jun 92	228	222
18 May 92	227	223	22 Jun 92	228	222
19 May 92	227	223	23 Jun 92	232	225
20 May 92	226	221	24 Jun 92	230	222
21 May 92	227	222	25 Jun 92	228	223
22 May 92	228	224	26 Jun 92	232	224
23 May 92	228	223	27 Jun 92	230	225
24 May 92	227	222	28 Jun 92	231	222
25 May 92	229	224	29 Jun 92	231	223
26 May 92	229	223	30 Jun 92	229	223
27 May 92	227	222	1 Jul 92	227	224
28 May 92	227	222	2 Jul 92	229	224
29 May 92	229	224	3 Jul 92	228	224
30 May 92	228	223	4 Jul 92	230	225
31 May 92	228	223	5 Jul 92	229	223
1 Jun 92	227	222	6 Jul 92	230	223
2 Jun 92	227	223	7 Jul 92	231	225
3 Jun 92	230	223	8 Jul 92	229	225
4 Jun 92	227	224	9 Jul 92	229	224
5 Jun 92	227	222	10 Jul 92	229	223
6 Jun 92	227	222	11 Jul 92	229	223
7 Jun 92	230	224	12 Jul 92	228	223

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TABLE B-1. (Cont'd).

Date	High, °F	Low, °F	Date	High, °F	Low, °F
13 Jul 92	231	224	17 Aug 92	230	226
14 Jul 92	228	224	18 Aug 92	230	224
15 Jul 92	229	224	19 Aug 92	229	225
16 Jul 92	228	225	20 Aug 92	229	225
17 Jul 92	228	224	21 Aug 92	227	223
18 Jul 92	228	224	22 Aug 92	226	222
19 Jul 92	229	224	23 Aug 92	227	222
20 Jul 92	230	223	24 Aug 92	229	221
21 Jul 92	229	224	25 Aug 92	230	223
22 Jul 92	230	225	26 Aug 92	229	225
23 Jul 92	230	223	27 Aug 92	229	224
24 Jul 92	229	224	28 Aug 92	228	222
25 Jul 92	232	225	29 Aug 92	227	222
26 Jul 92	231	224	30 Aug 92	226	221
27 Jul 92	231	225	31 Aug 92	227	222
28 Jul 92	231	226	1 Sep 92	228	222
29 Jul 92	230	225	2 Sep 92	228	224
30 Jul 92	228	223	3 Sep 92	229	220
31 Jul 92	228	223	4 Sep 92	226	220
1 Aug 92	229	224	5 Sep 92	231	225
2 Aug 92	231	225	6 Sep 92	230	225
3 Aug 92	230	225	7 Sep 92	229	225
4 Aug 92	230	222	8 Sep 92	229	224
5 Aug 92	228	223	9 Sep 92	228	224
6 Aug 92	230	225	10 Sep 92	227	221
7 Aug 92	228	223	11 Sep 92	225	220
8 Aug 92	229	222	12 Sep 92	228	222
9 Aug 92	229	225	13 Sep 92	230	224
10 Aug 92	228	223	14 Sep 92	228	223
11 Aug 92	228	225	15 Sep 92	230	222
12 Aug 92	229	225	16 Sep 92	227	221
13 Aug 92	228	222	17 Sep 92	223	219
14 Aug 92	228	219	18 Sep 92	225	222
15 Aug 92	229	220	19 Sep 92	229	223
16 Aug 92	230	224	20 Sep 92	227	223

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TABLE B-1. (Cont'd).

Date	High, °F	Low, °F	Date	High, °F	Low, °F
21 Sep 92	227	223	26 Sep 92	227	222
22 Sep 92	229	224	27 Sep 92	229	223
23 Sep 92	231	224	28 Sep 92	231	225
24 Sep 92	227	223	29 Sep 92	229	224
25 Sep 92	226	221	30 Sep 92	228	224

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Appendix C

WEATHER STATION NO. 1 DATA

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TABLE C-1. Weather Station No. 1 Ambient Temperature.

Date	High, °F	Low, °F	Date	High, °F	Low, °F
1 Oct 91	91	67	5 Nov 91	77	43
2 Oct 91	90	64	6 Nov 91	78	50
3 Oct 91	90	57	7 Nov 91	79	48
4 Oct 91	88	63	8 Nov 91	77	54
5 Oct 91	88	56	9 Nov 91	75	46
6 Oct 91	87	55	10 Nov 91	72	60
7 Oct 91	87	55	11 Nov 91	76	55
8 Oct 91	83	51	12 Nov 91	72	41
9 Oct 91	85	52	13 Nov 91	68	38
10 Oct 91	87	63	14 Nov 91	61	40
11 Oct 91	87	56	15 Nov 91	54	43
12 Oct 91	84	54	16 Nov 91	55	28
13 Oct 91	86	51	17 Nov 91	64	31
14 Oct 91	88	57	18 Nov 91	60	39
15 Oct 91	87	54	19 Nov 91	56	34
16 Oct 91	87	50	20 Nov 91	60	33
17 Oct 91	83	52	21 Nov 91	61	32
18 Oct 91	87	55	22 Nov 91	58	28
19 Oct 91	86	52	23 Nov 91	54	29
20 Oct 91	78	54	24 Nov 91	56	28
21 Oct 91	76	49	25 Nov 91	63	34
22 Oct 91	75	43	26 Nov 91	66	38
23 Oct 91	68	38	27 Nov 91	71	29
24 Oct 91	64	32	28 Nov 91	57	28
25 Oct 91	65	35	29 Nov 91	58	26
26 Oct 91	66	41	30 Nov 91	46	35
27 Oct 91	59	36	1 Dec 91	55	30
28 Oct 91	55	35	2 Dec 91	54	24
29 Oct 91	63	31	3 Dec 91	58	27
30 Oct 91	57	38	4 Dec 91	56	28
31 Oct 91	57	28	5 Dec 91	58	33
1 Nov 91	64	32	6 Dec 91	61	27
2 Nov 91	68	37	7 Dec 91	58	28
3 Nov 91	68	40	8 Dec 91	56	31
4 Nov 91	70	39	9 Dec 91	55	42

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TABLE C-1. (Cont'd).

Date	High, °F	Low, °F	Date	High, °F	Low, °F
10 Dec 91	59	38	14 Jan 92	59	28
11 Dec 91	57	29	15 Jan 92	52	32
12 Dec 91	54	25	16 Jan 92	52	27
13 Dec 91	56	26	17 Jan 92	52	26
14 Dec 91	58	27	18 Jan 92	55	44
15 Dec 91	57	27	19 Jan 92	56	38
16 Dec 91	61	26	20 Jan 92	53	27
17 Dec 91	59	36	21 Jan 92	55	26
18 Dec 91	57	33	22 Jan 92	57	27
19 Dec 91	47	38	23 Jan 92	57	26
20 Dec 91	59	28	24 Jan 92	58	29
21 Dec 91	53	26	25 Jan 92	57	31
22 Dec 91	52	27	26 Jan 92	59	31
23 Dec 91	51	29	27 Jan 92	60	29
24 Dec 91	54	25	28 Jan 92	58	32
25 Dec 91	54	24	29 Jan 92	65	35
26 Dec 91	54	25	30 Jan 92	63	30
27 Dec 91	53	31	31 Jan 92	63	34
28 Dec 91	43	36	1 Feb 92	53	35
29 Dec 91	39	32	2 Feb 92	58	37
30 Dec 91	45	31	3 Feb 92	60	38
31 Dec 91	53	28	4 Feb 92	59	28
1 Jan 92	49	24	5 Feb 92	57	35
2 Jan 92	46	27	6 Feb 92	46	41
3 Jan 92	53	26	7 Feb 92	50	41
4 Jan 92	51	35	8 Feb 92	51	39
5 Jan 92	48	22	9 Feb 92	50	38
6 Jan 92	47	26	10 Feb 92	44	37
7 Jan 92	54	32	11 Feb 92	48	37
8 Jan 92	48	28	12 Feb 92	42	36
9 Jan 92	46	30	13 Feb 92	55	33
10 Jan 92	43	34	14 Feb 92	49	31
11 Jan 92	41	36	15 Feb 92	43	32
12 Jan 92	40	33	16 Feb 92	51	29
13 Jan 92	44	29	17 Feb 92	49	32

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TABLE C-1. (Cont'd).

Date	High, °F	Low, °F	Date	High, °F	Low, °F
18 Feb 92	54	35	24 Mar 92	62	38
19 Feb 92	55	36	25 Mar 92	58	44
20 Feb 92	62	40	26 Mar 92	66	42
21 Feb 92	61	38	27 Mar 92	57	45
22 Feb 92	64	40	28 Mar 92	62	40
23 Feb 92	66	46	29 Mar 92	64	44
24 Feb 92	70	33	30 Mar 92	62	46
25 Feb 92	72	42	31 Mar 92	61	47
26 Feb 92	67	41	1 Apr 92	67	48
27 Feb 92	68	37	2 Apr 92	76	47
28 Feb 92	68	37	3 Apr 92	74	43
29 Feb 92	64	42	4 Apr 92	72	45
1 Mar 92	58	44	5 Apr 92	72	43
2 Mar 92	46	41	6 Apr 92	70	43
3 Mar 92	57	41	7 Apr 92	73	44
4 Mar 92	62	39	8 Apr 92	75	47
5 Mar 92	60	36	9 Apr 92	75	44
6 Mar 92	54	37	10 Apr 92	74	47
7 Mar 92	51	36	11 Apr 92	76	40
8 Mar 92	57	40	12 Apr 92	75	42
9 Mar 92	65	42	13 Apr 92	77	44
10 Mar 92	68	43	14 Apr 92	73	44
11 Mar 92	73	46	15 Apr 92	72	43
12 Mar 92	70	40	16 Apr 92	74	44
13 Mar 92	69	44	17 Apr 92	78	48
14 Mar 92	63	40	18 Apr 92	77	55
15 Mar 92	63	33	19 Apr 92	75	45
16 Mar 92	63	35	20 Apr 92	89	41
17 Mar 92	62	33	21 Apr 92	89	52
18 Mar 92	60	36	22 Apr 92	84	45
19 Mar 92	63	41	23 Apr 92	81	44
20 Mar 92	54	42	24 Apr 92	84	48
21 Mar 92	56	43	25 Apr 92	88	53
22 Mar 92	55	42	26 Apr 92	88	52
23 Mar 92	54	41	27 Apr 92	87	43

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TABLE C-1. (Cont'd).

Date	High, °F	Low, °F	Date	High, °F	Low, °F
28 Apr 92	90	47	2 Jun 92	96	66
29 Apr 92	90	53	3 Jun 92	98	64
30 Apr 92	84	50	4 Jun 92	101	70
1 May 92	81	47	5 Jun 92	97	67
2 May 92	85	55	6 Jun 92	81	57
3 May 92	88	56	7 Jun 92	85	51
4 May 92	86	59	8 Jun 92	87	57
5 May 92	75	61	9 Jun 92	93	56
6 May 92	76	58	10 Jun 92	90	60
7 May 92	82	55	11 Jun 92	89	57
8 May 92	87	64	12 Jun 92	79	51
9 May 92	86	64	13 Jun 92	79	44
10 May 92	85	56	14 Jun 92	76	48
11 May 92	85	54	15 Jun 92	73	45
12 May 92	84	52	16 Jun 92	82	53
13 May 92	85	55	17 Jun 92	87	52
14 May 92	85	50	18 Jun 92	89	53
15 May 92	87	51	19 Jun 92	90	56
16 May 92	87	51	20 Jun 92	93	58
17 May 92	87	53	21 Jun 92	93	59
18 May 92	87	51	22 Jun 92	93	57
19 May 92	85	52	23 Jun 92	91	66
20 May 92	78	46	24 Jun 92	91	58
21 May 92	84	66	25 Jun 92	90	66
22 May 92	85	55	26 Jun 92	93	57
23 May 92	88	58	27 Jun 92	98	62
24 May 92	87	60	28 Jun 92	93	61
25 May 92	90	60	29 Jun 92	87	65
26 May 92	95	58	30 Jun 92	86	57
27 May 92	89	58	1 Jul 92	83	57
28 May 92	89	63	2 Jul 92	90	55
29 May 92	88	56	3 Jul 92	92	58
30 May 92	91	63	4 Jul 92	94	61
31 May 92	92	58	5 Jul 92	98	64
1 Jun 92	97	62	6 Jul 92	99	62

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TABLE C-1. (Cont'd).

Date	High, °F	Low, °F	Date	High, °F	Low, °F
7 Jul 92	91	75	20 Aug 92	101	65
8 Jul 92	90	69	21 Aug 92	99	63
9 Jul 92	86	68	22 Aug 92	93	60
10 Jul 92	95	63	23 Aug 92	90	65
11 Jul 92	91	65	24 Aug 92	90	54
12 Jul 92	86	63	25 Aug 92	84	55
13 Jul 92	84	66	26 Aug 92	92	63
14 Jul 92	96	61	27 Aug 92	95	63
15 Jul 92	94	67	28 Aug 92	94	64
16 Jul 92	98	68	29 Aug 92	92	62
17 Jul 92	101	76	30 Aug 92	81	56
18 Jul 92	101	82	31 Aug 92	85	58
19 Jul 92	102	65	1 Sep 92	89	56
20 Jul 92	99	65	2 Sep 92	87	65
30 Jul 92	99	76	3 Sep 92	86	59
31 Jul 92	98	64	4 Sep 92	86	64
1 Aug 92	100	64	5 Sep 92	89	60
2 Aug 92	102	66	6 Sep 92	93	56
3 Aug 92	102	70	7 Sep 92	90	53
4 Aug 92	98	66	8 Sep 92	94	57
5 Aug 92	95	66	9 Sep 92	95	57
6 Aug 92	96	64	10 Sep 92	94	61
7 Aug 92	95	59	11 Sep 92	92	64
8 Aug 92	97	58	12 Sep 92	90	56
9 Aug 92	98	60	13 Sep 92	90	53
10 Aug 92	99	68	14 Sep 92	89	50
11 Aug 92	104	71	15 Sep 92	90	53
12 Aug 92	102	72	16 Sep 92	90	56
13 Aug 92	102	76	17 Sep 92	94	65
14 Aug 92	97	73	18 Sep 92	88	59
15 Aug 92	101	73	19 Sep 92	89	66
16 Aug 92	103	70	20 Sep 92	92	57
17 Aug 92	103	66	21 Sep 92	94	59
18 Aug 92	106	65	22 Sep 92	96	65
19 Aug 92	103	69	23 Sep 92	91	62

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TABLE C-1. (Cont'd).

Date	High, °F	Low, °F	Date	High, °F	Low, °F
24 Sep 92	96	54	27 Sep 92	92	55
25 Sep 92	90	57	28 Sep 92	96	55
26 Sep 92	89	58	29 Sep 92	90	60

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TABLE C-2. Weather Station No. 1 Relative Humidity.

Date	High, %	Low, %	Date	High, %	Low, %
1 Oct 91	28.7	17.5	5 Nov 91	39.3	17.1
2 Oct 91	32.2	17.5	6 Nov 91	47.1	20.5
3 Oct 91	41.8	17.4	7 Nov 91	47.5	21.2
4 Oct 91	32.5	17.2	8 Nov 91	44.7	24.8
5 Oct 91	49.6	21.8	9 Nov 91	62.6	29.3
6 Oct 91	45.7	19.9	10 Nov 91	45.9	26.8
7 Oct 91	50.4	23.2	11 Nov 91	37.7	20.9
8 Oct 91	50.6	23.5	12 Nov 91	30.3	16.1
9 Oct 91	42.5	24.4	13 Nov 91	36.3	18.9
10 Oct 91	31.4	20.3	14 Nov 91	51.0	25.3
11 Oct 91	39.3	19.7	15 Nov 91	39.1	27.3
12 Oct 91	41.6	25.8	16 Nov 91	53.2	28.0
13 Oct 91	51.2	22.3	17 Nov 91	51.4	26.2
14 Oct 91	37.8	15.3	18 Nov 91	60.8	14.1
15 Oct 91	32.4	17.8	19 Nov 91	35.5	18.7
16 Oct 91	38.6	19.1	20 Nov 91	35.7	16.9
17 Oct 91	41.7	23.2	21 Nov 91	43.1	19.6
18 Oct 91	40.6	21.7	22 Nov 91	55.7	27.2
19 Oct 91	39.5	22.3	23 Nov 91	49.3	18.7
20 Oct 91	37.2	25.3	24 Nov 91	39.0	16.9
21 Oct 91	46.1	26.3	25 Nov 91	41.1	16.2
22 Oct 91	60.6	29.7	26 Nov 91	45.8	21.4
23 Oct 91	80.7	27.8	27 Nov 91	46.3	18.8
24 Oct 91	77.4	18.8	28 Nov 91	33.4	13.2
25 Oct 91	47.9	22.4	29 Nov 91	44.6	21.2
26 Oct 91	53.6	39.3	30 Nov 91	36.9	14.7
27 Oct 91	51.9	19.1	1 Dec 91	25.3	14.3
28 Oct 91	37.0	18.2	2 Dec 91	43.3	19.5
29 Oct 91	48.4	21.8	3 Dec 91	47.7	22.7
30 Oct 91	36.5	12.9	4 Dec 91	49.4	24.8
31 Oct 91	34.0	14.5	5 Dec 91	39.9	21.8
1 Nov 91	36.7	13.2	6 Dec 91	42.9	18.5
2 Nov 91	40.4	14.8	7 Dec 91	40.8	19.4
3 Nov 91	37.0	16.9	8 Dec 91	72.3	25.1
4 Nov 91	41.2	17.9	9 Dec 91	69.7	33.4

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TABLE C-2. (Cont'd).

Date	High, %	Low, %	Date	High, %	Low, %
10 Dec 91	60.9	28.9	14 Jan 92	50.2	15.6
11 Dec 91	63.3	29.7	15 Jan 92	61.1	22.7
12 Dec 91	52.3	18.5	16 Jan 92	62.6	24.1
13 Dec 91	46.5	20.2	17 Jan 92	64.7	13.0
14 Dec 91	35.0	13.0	18 Jan 92	32.8	20.7
15 Dec 91	26.8	11.5	19 Jan 92	32.3	14.4
16 Dec 91	38.0	14.8	20 Jan 92	45.3	10.0
17 Dec 91	48.2	21.7	21 Jan 92	51.4	12.1
18 Dec 91	60.9	27.8	22 Jan 92	50.9	13.1
19 Dec 91	53.1	22.8	23 Jan 92	51.6	12.0
20 Dec 91	30.9	15.5	24 Jan 92	49.7	11.1
21 Dec 91	47.8	17.0	25 Jan 92	52.2	11.2
22 Dec 91	60.3	28.2	26 Jan 92	55.3	11.8
23 Dec 91	54.0	31.4	27 Jan 92	52.4	14.6
24 Dec 91	66.2	28.4	28 Jan 92	50.5	19.3
25 Dec 91	66.4	28.6	29 Jan 92	41.7	12.5
26 Dec 91	63.2	29.0	30 Jan 92	46.9	11.8
27 Dec 91	73.0	35.7	31 Jan 92	42.5	11.6
28 Dec 91	78.4	48.7	1 Feb 92	55.7	24.2
29 Dec 91	65.6	53.8	2 Feb 92	56.3	17.4
30 Dec 91	64.4	30.3	3 Feb 92	54.1	18.9
31 Dec 91	60.8	26.7	4 Feb 92	51.5	13.1
1 Jan 92	63.2	28.6	5 Feb 92	70.5	31.0
2 Jan 92	60.0	27.3	6 Feb 92	68.3	56.3
3 Jan 92	67.2	41.7	7 Feb 92	66.9	55.5
4 Jan 92	65.1	52.3	8 Feb 92	68.3	42.9
5 Jan 92	65.6	54.3	9 Feb 92	65.5	32.1
6 Jan 92	63.7	25.3	10 Feb 92	68.4	45.2
7 Jan 92	56.8	22.6	11 Feb 92	68.3	52.0
8 Jan 92	62.6	12.2	12 Feb 92	67.0	56.9
9 Jan 92	59.9	20.8	13 Feb 92	65.0	39.1
10 Jan 92	59.5	14.0	14 Feb 92	64.3	34.5
11 Jan 92	50.6	14.4	15 Feb 92	67.0	14.9
12 Jan 92	51.6	17.2	16 Feb 92	60.9	21.5
13 Jan 92	58.9	17.7	17 Feb 92	61.6	33.6

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TABLE C-2. (Cont'd).

Date	High, %	Low, %	Date	High, %	Low, %
18 Feb 92	64.9	27.2	24 Mar 92	93.9	47.2
19 Feb 92	65.1	28.3	25 Mar 92	91.1	43.6
20 Feb 92	66.9	31.6	26 Mar 92	91.9	42.7
21 Feb 92	67.2	29.0	27 Mar 92	97.2	63.8
22 Feb 92	66.8	11.3	28 Mar 92	97.3	54.5
23 Feb 92	25.2	10.1	29 Mar 92	96.9	45.2
24 Feb 92	45.7	17.1	30 Mar 92	95.4	34.1
25 Feb 92	37.8	15.9	31 Mar 92	97.1	50.4
26 Feb 92	76.6	33.5	1 Apr 92	94.5	35.0
27 Feb 92	81.4	26.2	2 Apr 92	93.1	13.5
28 Feb 92	77.0	23.1	3 Apr 92	82.2	27.5
29 Feb 92	64.3	30.7	4 Apr 92	93.2	36.0
1 Mar 92	90.5	37.9	5 Apr 92	97.5	32.4
2 Mar 92	89.2	72.3	6 Apr 92	96.5	37.0
3 Mar 92	95.7	56.9	7 Apr 92	97.2	33.2
4 Mar 92	92.1	45.0	8 Apr 92	92.4	29.4
5 Mar 92	92.8	50.2	9 Apr 92	93.9	30.7
6 Mar 92	92.4	48.8	10 Apr 92	93.7	32.4
7 Mar 92	96.6	58.6	11 Apr 92	94.2	22.1
8 Mar 92	97.1	39.3	12 Apr 92	96.9	15.9
9 Mar 92	91.0	29.7	13 Apr 92	88.8	24.3
10 Mar 92	90.2	33.1	14 Apr 92	95.8	37.8
11 Mar 92	73.8	15.5	15 Apr 92	96.6	38.6
12 Mar 92	83.9	30.8	16 Apr 92	99.3	34.2
13 Mar 92	83.3	38.6	17 Apr 92	95.9	31.0
14 Mar 92	77.5	31.8	18 Apr 92	46.8	19.6
15 Mar 92	95.4	44.4	19 Apr 92	54.1	17.2
16 Mar 92	95.7	28.2	20 Apr 92	68.5	21.1
17 Mar 92	91.5	30.8	21 Apr 92	75.2	24.4
18 Mar 92	97.9	35.7	22 Apr 92	57.6	25.0
19 Mar 92	77.9	29.2	23 Apr 92	68.9	27.3
20 Mar 92	97.0	61.5	24 Apr 92	76.8	24.4
21 Mar 92	96.4	59.0	25 Apr 92	77.5	25.2
22 Mar 92	95.0	56.8	26 Apr 92	83.3	24.4
23 Mar 92	96.8	56.5	27 Apr 92	77.7	23.7

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TABLE C-2. (Cont'd).

Date	High, %	Low, %	Date	High, %	Low, %
28 Apr 92	67.8	20.2	2 Jun 92	64.5	24.2
29 Apr 92	87.6	19.6	3 Jun 92	68.2	26.7
30 Apr 92	96.9	16.7	4 Jun 92	69.8	22.6
1 May 92	74.2	26.5	5 Jun 92	54.6	27.7
2 May 92	56.9	25.3	6 Jun 92	77.3	49.0
3 May 92	71.2	23.8	7 Jun 92	95.2	23.9
4 May 92	62.6	31.4	8 Jun 92	84.9	23.9
5 May 92	95.1	44.6	9 Jun 92	88.3	24.3
6 May 92	95.7	46.0	10 Jun 92	82.8	25.3
7 May 92	95.6	31.0	11 Jun 92	71.9	29.2
8 May 92	71.6	27.8	12 Jun 92	95.9	12.4
9 May 92	70.5	20.4	13 Jun 92	54.0	26.2
10 May 92	66.4	15.7	14 Jun 92	61.3	21.4
11 May 92	89.4	26.1	15 Jun 92	83.2	36.5
12 May 92	95.3	30.9	16 Jun 92	64.2	32.7
13 May 92	95.2	16.2	17 Jun 92	65.9	25.7
14 May 92	93.3	21.3	18 Jun 92	76.6	23.1
15 May 92	81.4	21.7	19 Jun 92	64.8	24.2
16 May 92	89.5	17.3	20 Jun 92	67.0	22.7
17 May 92	77.3	16.0	21 Jun 92	52.5	20.1
18 May 92	75.2	18.4	22 Jun 92	66.7	19.1
19 May 92	66.0	23.6	23 Jun 92	65.3	31.8
20 May 92	86.8	30.0	24 Jun 92	85.7	31.0
21 May 92	46.3	25.6	25 Jun 92	53.8	32.5
22 May 92	72.6	29.2	26 Jun 92	71.5	32.9
23 May 92	85.9	24.9	27 Jun 92	73.7	28.4
24 May 92	73.0	34.9	28 Jun 92	71.9	37.5
25 May 92	75.8	32.2	29 Jun 92	72.4	37.2
26 May 92	84.9	30.4	30 Jun 92	76.9	30.0
27 May 92	82.5	36.8	1 Jul 92	69.1	37.3
28 May 92	81.7	34.9	2 Jul 92	77.5	30.8
29 May 92	96.9	33.9	3 Jul 92	61.8	26.0
30 May 92	88.8	34.5	4 Jul 92	76.6	15.8
31 May 92	92.6	31.7	5 Jul 92	51.3	29.4
1 Jun 92	81.3	28.0	6 Jul 92	62.3	31.2

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TABLE C-2. (Cont'd).

Date	High, %	Low, %	Date	High, %	Low, %
7 Jul 92	70.3	39.7	20 Aug 92	37.7	15.4
8 Jul 92	87.7	52.6	21 Aug 92	42.7	19.9
9 Jul 92	95.2	49.2	22 Aug 92	54.0	14.2
10 Jul 92	95.8	34.6	23 Aug 92	26.2	19.1
11 Jul 92	84.7	36.2	24 Aug 92	36.8	19.3
12 Jul 92	94.9	44.2	25 Aug 92	42.1	27.4
13 Jul 92	94.4	27.1	26 Aug 92	47.4	22.7
14 Jul 92	55.3	22.6	27 Aug 92	50.5	23.5
15 Jul 92	62.6	23.7	28 Aug 92	47.9	23.7
16 Jul 92	59.3	18.7	29 Aug 92	51.0	25.7
17 Jul 92	31.8	15.7	30 Aug 92	78.3	14.0
18 Jul 92	35.9	16.4	31 Aug 92	69.3	28.1
19 Jul 92	36.8	11.7	1 Sep 92	66.4	24.7
20 Jul 92	42.5	14.4	2 Sep 92	60.5	20.3
30 Jul 92	35.7	23.6	3 Sep 92	62.6	27.7
31 Jul 92	55.4	18.8	4 Sep 92	47.5	29.7
1 Aug 92	43.6	22.9	5 Sep 92	53.3	25.7
2 Aug 92	54.0	25.6	6 Sep 92	54.9	22.6
3 Aug 92	44.1	23.9	7 Sep 92	52.7	24.0
4 Aug 92	44.8	24.6	8 Sep 92	52.6	23.7
5 Aug 92	44.4	26.5	9 Sep 92	53.0	21.8
6 Aug 92	46.6	27.0	10 Sep 92	43.3	22.2
7 Aug 92	51.8	21.7	11 Sep 92	45.2	21.9
8 Aug 92	53.6	20.9	12 Sep 92	53.2	23.3
9 Aug 92	46.2	21.2	13 Sep 92	51.5	23.5
10 Aug 92	46.5	25.8	14 Sep 92	63.6	21.9
11 Aug 92	49.9	28.8	15 Sep 92	60.4	34.5
12 Aug 92	61.3	26.0	16 Sep 92	69.0	29.7
13 Aug 92	84.6	33.6	17 Sep 92	58.0	30.9
14 Aug 92	87.7	27.0	18 Sep 92	79.2	32.2
15 Aug 92	66.6	18.4	19 Sep 92	48.7	31.3
16 Aug 92	62.3	23.6	20 Sep 92	64.2	24.4
17 Aug 92	47.1	16.1	21 Sep 92	49.8	24.0
18 Aug 92	48.6	18.1	22 Sep 92	59.4	32.7
19 Aug 92	43.9	19.5	23 Sep 92	67.7	24.9

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TABLE C-2. (Cont'd).

Date	High, %	Low, %	Date	High, %	Low, %
24 Sep 92	54.6	23.9	28 Sep 92	36.1	17.7
25 Sep 92	47.3	26.2	29 Sep 92	39.4	23.2
26 Sep 92	37.2	21.1	30 Sep 92	50.0	29.8
27 Sep 92	38.4	20.0			

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TABLE C-3. Weather Station No. 1 Barometric Pressure Data.

Date	High, mbar	Low, mbar	Date	High, mbar	Low, mbar
1 Oct 91	890.7	887.5	11 Nov 91	896.6	892.7
2 Oct 91	889.5	884.4	12 Nov 91	899.3	893.5
3 Oct 91	886.4	883.5	13 Nov 91	893.4	879.8
4 Oct 91	887.1	885.0	14 Nov 91	884.9	878.9
5 Oct 91	886.1	884.4	15 Nov 91	894.6	885.1
6 Oct 91	889.8	887.2	16 Nov 91	896.9	892.2
7 Oct 91	886.1	884.2	17 Nov 91	892.2	886.4
8 Oct 91	890.7	887.6	18 Nov 91	900.8	887.7
9 Oct 91	893.2	890.2	19 Nov 91	905.3	900.8
10 Oct 91	891.5	898.1	20 Nov 91	905.2	898.7
11 Oct 91	890.9	886.5	21 Nov 91	898.6	894.5
12 Oct 91	887.2	885.1	22 Nov 91	902.7	896.6
13 Oct 91	887.3	884.3	23 Nov 91	907.2	902.9
14 Oct 91	888.6	882.4	24 Nov 91	904.6	898.3
15 Oct 91	887.4	881.0	25 Nov 91	899.4	896.7
16 Oct 91	887.0	878.8	4 Dec 91	896.8	894.4
17 Oct 91	885.8	882.6	5 Dec 91	895.6	892.9
18 Oct 91	885.2	882.9	6 Dec 91	894.3	889.9
19 Oct 91	893.4	886.2	7 Dec 91	889.8	884.8
20 Oct 91	886.5	882.8	8 Dec 91	897.1	888.8
21 Oct 91	885.0	879.9	9 Dec 91	899.2	895.5
22 Oct 91	882.0	878.6	10 Dec 91	895.4	888.0
23 Oct 91	883.4	879.6	11 Dec 91	892.5	887.2
24 Oct 91	900.5	883.5	12 Dec 91	897.7	892.7
25 Oct 91	898.3	895.6	13 Dec 91	902.3	897.8
26 Oct 91	896.7	890.2	14 Dec 91	902.9	900.1
27 Oct 91	890.2	891.5	15 Dec 91	901.7	898.9
28 Oct 91	893.4	890.3	16 Dec 91	900.0	897.0
29 Oct 91	892.2	887.1	17 Dec 91	897.0	892.6
5 Nov 91	896.7	895.4	18 Dec 91	893.1	887.5
6 Nov 91	896.2	892.3	19 Dec 91	896.8	884.6
7 Nov 91	896.7	894.4	20 Dec 91	900.1	896.9
8 Nov 91	896.7	891.5	21 Dec 91	899.0	894.5
9 Nov 91	892.0	889.5	22 Dec 91	897.2	894.9
10 Nov 91	892.6	890.6	23 Dec 91	897.2	894.2

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TABLE C-3. (Cont'd).

Date	High, mbar	Low, mbar	Date	High, mbar	Low, mbar
24 Dec 91	894.1	892.6	3 Feb 92	894.1	891.7
31 Dec 91	898.9	897.2	4 Feb 92	894.7	891.0
1 Jan 92	899.7	898.0	5 Feb 92	893.9	890.0
2 Jan 92	898.7	891.5	6 Feb 92	889.8	885.3
3 Jan 92	891.5	887.9	7 Feb 92	886.9	883.7
4 Jan 92	889.6	887.8	8 Feb 92	890.5	887.0
5 Jan 92	887.8	879.4	9 Feb 92	889.1	884.1
6 Jan 92	886.7	879.7	10 Feb 92	888.5	883.4
7 Jan 92	894.8	886.5	11 Feb 92	891.3	888.4
8 Jan 92	898.4	894.9	12 Feb 92	888.9	882.6
9 Jan 92	898.9	897.2	13 Feb 92	886.6	882.5
10 Jan 92	897.2	887.4	14 Feb 92	890.1	886.6
11 Jan 92	892.0	883.5	15 Feb 92	888.8	883.5
12 Jan 92	898.8	892.1	16 Feb 92	891.3	884.6
13 Jan 92	899.7	896.4	17 Feb 92	894.6	891.5
14 Jan 92	898.7	895.9	18 Feb 92	897.1	894.1
15 Jan 92	903.6	898.6	19 Feb 92	897.5	894.2
16 Jan 92	903.2	892.5	20 Feb 92	894.1	892.0
17 Jan 92	892.4	887.2	21 Feb 92	897.5	893.9
18 Jan 92	895.6	888.8	22 Feb 92	897.4	893.8
19 Jan 92	898.1	895.1	23 Feb 92	899.0	896.7
20 Jan 92	896.2	894.0	24 Feb 92	901.0	897.8
21 Jan 92	895.7	894.7	25 Feb 92	899.9	897.6
22 Jan 92	900.2	896.1	26 Feb 92	901.7	898.7
23 Jan 92	901.4	898.3	27 Feb 92	901.4	898.7
24 Jan 92	901.6	899.1	28 Feb 92	899.9	894.7
25 Jan 92	899.0	895.6	29 Feb 92	894.6	887.2
26 Jan 92	895.2	892.3	1 Mar 92	888.1	885.8
27 Jan 92	899.0	891.6	2 Mar 92	887.9	883.7
28 Jan 92	898.9	893.6	3 Mar 92	889.5	885.4
29 Jan 92	899.5	896.5	4 Mar 92	889.3	887.9
30 Jan 92	900.2	897.5	5 Mar 92	888.8	886.7
31 Jan 92	899.3	895.7	6 Mar 92	888.6	886.0
1 Feb 92	895.5	889.0	7 Mar 92	886.2	882.2
2 Feb 92	893.7	888.0	8 Mar 92	885.9	882.4

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TABLE C-3. (Cont'd).

Date	High, mbar	Low, mbar	Date	High, mbar	Low, mbar
9 Mar 92	894.3	886.0	13 Apr 92	890.1	887.2
10 Mar 92	895.7	893.3	14 Apr 92	889.5	887.6
11 Mar 92	894.4	890.9	15 Apr 92	889.9	886.8
12 Mar 92	894.1	892.2	16 Apr 92	891.2	888.4
13 Mar 92	894.6	891.6	17 Apr 92	891.5	886.0
14 Mar 92	893.3	890.1	18 Apr 92	891.4	886.2
15 Mar 92	890.8	887.2	19 Apr 92	894.2	891.4
16 Mar 92	888.1	884.3	20 Apr 92	893.6	887.3
17 Mar 92	889.9	887.0	21 Apr 92	887.3	882.6
18 Mar 92	893.4	889.9	22 Apr 92	890.0	885.1
19 Mar 92	896.0	892.9	23 Apr 92	894.8	890.0
20 Mar 92	892.8	885.3	24 Apr 92	895.4	892.6
21 Mar 92	887.3	884.6	25 Apr 92	893.3	889.7
22 Mar 92	889.3	886.8	26 Apr 92	893.2	890.9
23 Mar 92	892.6	888.4	27 Apr 92	895.0	892.9
24 Mar 92	895.7	892.7	28 Apr 92	895.4	891.9
25 Mar 92	894.8	889.1	29 Apr 92	892.6	886.8
26 Mar 92	889.1	884.7	30 Apr 92	888.3	883.6
27 Mar 92	885.4	883.0	1 May 92	892.6	886.1
28 Mar 92	891.4	885.5	2 May 92	895.6	892.6
29 Mar 92	893.5	890.8	3 May 92	894.7	892.3
30 Mar 92	892.0	887.2	4 May 92	892.5	888.2
31 Mar 92	891.5	888.2	5 May 92	891.0	888.3
1 Apr 92	892.5	887.8	6 May 92	894.2	889.7
2 Apr 92	892.1	890.3	7 May 92	894.9	891.5
3 Apr 92	891.4	887.1	8 May 92	892.0	883.8
4 Apr 92	888.9	883.2	9 May 92	884.6	881.2
5 Apr 92	892.1	886.7	10 May 92	890.3	884.7
6 Apr 92	893.4	890.6	11 May 92	891.4	887.8
7 Apr 92	893.5	891.2	12 May 92	892.1	888.0
8 Apr 92	892.3	889.1	13 May 92	890.7	886.7
9 Apr 92	890.7	888.0	14 May 92	888.9	884.9
10 Apr 92	890.3	887.8	15 May 92	887.1	884.7
11 Apr 92	889.9	886.7	16 May 92	888.7	886.0
12 Apr 92	890.4	887.1	17 May 92	891.5	887.5

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TABLE C-3. (Cont'd).

Date	High, mbar	Low, mbar	Date	High, mbar	Low, mbar
18 May 92	893.4	888.2	27 Jun 92	889.3	885.9
19 May 92	889.0	883.0	28 Jun 92	888.3	884.6
20 May 92	885.6	882.1	29 Jun 92	885.0	884.5
21 May 92	888.1	883.6	30 Jun 92	884.1	879.9
22 May 92	891.8	886.6	1 Jul 92	887.8	882.2
23 May 92	892.8	889.0	2 Jul 92	890.5	887.1
24 May 92	891.4	888.2	3 Jul 92	887.7	884.6
25 May 92	889.0	884.8	4 Jul 92	888.4	885.0
26 May 92	886.8	882.9	5 Jul 92	889.3	887.0
27 May 92	887.7	884.3	6 Jul 92	890.1	887.6
28 May 92	886.2	884.2	7 Jul 92	892.4	889.7
29 May 92	887.0	884.3	11 Jul 92	892.2	889.9
30 May 92	890.3	885.8	12 Jul 92	892.7	890.8
31 May 92	892.8	889.5	15 Jul 92	890.7	887.4
1 Jun 92	889.8	885.7	16 Jul 92	890.3	888.8
2 Jun 92	888.0	883.5	17 Jul 92	890.4	886.1
3 Jun 92	889.6	885.2	21 Jul 92	887.5	884.5
4 Jun 92	886.1	880.5	22 Jul 92	886.9	882.2
5 Jun 92	881.6	877.8	23 Jul 92	889.4	884.0
10 Jun 92	888.2	884.7	24 Jul 92	893.3	888.8
11 Jun 92	889.6	886.8	25 Jul 92	894.3	890.7
12 Jun 92	889.1	885.8	26 Jul 92	893.4	889.3
13 Jun 92	889.9	882.0	27 Jul 92	891.3	887.4
14 Jun 92	887.3	882.1	30 Jul 92	891.7	888.3
15 Jun 92	887.9	883.5	31 Jul 92	892.6	889.9
16 Jun 92	891.8	888.0	1 Aug 92	894.6	891.0
17 Jun 92	890.7	887.2	2 Aug 92	893.1	889.5
18 Jun 92	888.9	886.0	3 Aug 92	891.2	888.0
19 Jun 92	888.5	885.7	4 Aug 92	891.5	889.0
20 Jun 92	888.6	885.6	5 Aug 92	892.1	888.0
23 Jun 92	890.5	887.1	6 Aug 92	894.5	889.1
24 Jun 92	888.7	884.1	7 Aug 92	892.4	890.9
25 Jun 92	887.8	885.4	11 Aug 92	890.2	888.4
26 Jun 92	888.8	886.6			

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Appendix D
WELL TEMPERATURE DATA

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TABLE D-1. Well 4H-8 (Coso Well No. 1) Temperature.

16 March 1992		29 September 1992	
Depth, ft	Temp, °F	Depth, ft	Temp, °F
0	205.7	0	210.4
5	193.3	5	211.7
10	199.6	10	212.9
15	201.5	15	214.0
20	202.6	20	214.7
25	203.6	25	216.5
80	223.6	30	218.9
85	224.3	35	221.5
95	225.8	40	223.6
100	226.4	45	232.4
110	227.9	50	233.7
120	228.9	55	234.8
125	229.2	60	235.7
130	229.7	65	237.2
140	230.6	70	237.6
150	231.2	75	238.3
160	232.0	80	239.0
165	232.5	90	242.7
170	233.0	105	243.6
180	234.0	125	244.4
183	234.8	170	245.2
		175	245.2

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TABLE D-2. Well 4K-1 Temperature.

16 March 1992		29 September 1992	
Depth, ft	Temp, °F	Depth, ft	Temp, °F
0	205.3	0	204.8
5	205.3	50	205.4
50	206.0	52	207.6
55	209.7	57	208.9
60	210.2	60	210.2
65	212.3	70	210.7
70	212.4	76	211.6
75	213.5	77	217.1
85	213.5		

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TABLE D-3. Well 4P-1 Temperature.

16 March 1992		29 September 1992	
Depth, ft	Temp, °F	Depth, ft	Temp, °F
0	193.8	0	203.3
5	194.0	5	205.7
55	206.7	52	207.2
60	209.7	54	208.2
65	214.8	56	209.5
			210.9
70	217.8	57	
75	218.3	60	213.6
80	219.3	62	215.6
85	220.6	65	218.0
90	222.4	70	218.8
95	228.5	75	219.6
100	231.4	80	221.0
104	242.4	85	222.0
		90	225.8
		92	229.1
		95	231.4
		97	232.0
		98	238.8
		99	224.4

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TABLE D-4. Well 4A-4 Temperature.

16 March 1992		29 September 1992	
Depth, ft	Temp, °F	Depth, ft	Temp, °F
0	199.6	0	204.4
5	205.7	5	205.9
10	205.7	20	206.9
15	205.7	25	209.4
20	207.2	28	212.5
25	210.2	30	213.1
30	212.7	31	214.2
31	216.3		