

THE WATTS TOWERS
CONSERVATION REPORT

for efforts on

THE GAZEBO

June 1994

prepared by N.J. Bud Goldstone
under contract C85230
for the Cultural Affairs Department, City of Los Angeles

CONSERVATION OF THE GAZEBO
WATTS TOWERS CONSERVATION PROGRAM

SEPTEMBER 1994

This is a report on the conservation work performed by the Cultural Affairs Department, City of Los Angeles between January 1986 and June 1994 on the Gazebo, one of 17 sculptures of the Towers of Simon Rodia State Historic Park, 1765 East 107th Street. Detailed reporting is provided in this report for the final phase of work since December 1989.

HISTORY OF THE SCULPTURE

The Gazebo is shown in Figure 1. The sculpture was partially completed before 1929 (see Figure 2, between the tall tower and house), along with the walls, Ship of Marco Polo, "A" Tower, East Tower and Center Tower. Nine other sculptures on the site were begun during the following ten years with the Chimney begun after 1939 (see Figure 3). Between 1939 and 1946, the large diameter dome area of the Gazebo had been modified in shape and had been enhanced with more arched support columns. An elaborate 38 foot tall spire containing ornamented rings had replaced the previous, slender 20 foot tall undecorated spire (see Figure 4) by 1946. After 1950, overheads were connected to the Gazebo (see Figure 5 and 6) from the North Wall; a new birdbath (see Figure 7) was built on the southeast; and the birdbath which had been on the southeast (see Figure 8) was moved to the northwest side of the Gazebo.

CONSERVATION PROGRAM SUMMARY - On several occasions in 1991, 1992 and 1993 the work performed since 1986 was inspected by conservation experts Dr. William Ginell of the Getty Conservation Institute, Mr. Steve Colton of the Conservation Center of the Los Angeles County Museum of Art and other professional conservators.

Background - Since 1959, mortar cracking failures have been evident in many of the nineteen, arched support columns which form the dome and which together support the 38 foot tall spire. Cracks were filled between 1961 and 1970 by Williams Waterproofing and artist, Tom Wills. In the early 1960s, repairs were done to mortar on several vertical members and new tiles were embedded in the mortar. These repairs were made on the east entrance post (40 tiles) and minor verticals on the north (number 1 with 11 tiles and number 2 with 15 tiles). But by 1978, eleven of the nineteen columns were severely cracked, again. Cracks were filled with Set 45, a highway pot-hole repair mortar, by a City contractor in 1978. At that time, at least one, 1/2 inch diameter thin wall aluminum tube was inserted as a reinforcement in one of the cracked columns. Many of the repairs of 1978 failed within two years. The Office of the State Architect repaired the cracks again in 1985. By 1988, seven of the mortar covers over the arched columns were once more severely cracked. By then, the entire sculpture including the spire above the dome was in poor condition, with cracks and exposed, rusted steel in many areas.

Preliminary Phases-photography, stabilization, inspection. - After taking the baseline photographs from scaffolding erected for that purpose, see Figure 39, scaffolding around the entire sculpture was erected in March 1988 and emergency stabilization was performed from the scaffolding. Nylon netting was wrapped around ornaments to hold them in place and cracks were cleaned of debris and filled with urethane foam rods before being sealed with silicone to provide temporary protection against water intrusion.

A detailed inspection over a six and a half month period from September 17, 1988 to April 5, 1989, identified 949 significant cracks in the mortar and documented 637 broken ornaments and 847 missing ornaments.

Materials Test Program - Following the inspection, a test program was established to select suitable conservation materials and techniques for replacing damaged reinforcements, preserve the remaining ornaments, restore the bonds between the mortar and ornaments and mortar and steel reinforcements, and clean and consolidate the ornament surfaces and protect them from further deterioration (see Appendix, Watts Towers Materials Tests Report).

Engineering analyses of failed areas were performed to provide guidance in the design of repairs and for replacements of structurally inadequate reinforcements. A staff of assistants was trained to perform the work under technical supervision of contract conservation and engineering consultants. The selected materials and processes were then applied to the sculpture and instructions were incorporated into the controlling document, The Watts Towers Conservation Handbook.

Program Scope - The effort consisted of:

1. Cleaning and consolidating fragile ornaments, starting in January 1990.
2. Engineering tests and x-rays of critical areas, starting in 1988.
3. Rebonding loose ornaments and mortar fragments, beginning in December 1989.
4. Major replacements of reinforcements in seven of the nineteen arched columns, starting in March 1991.
5. Replacement of reinforcements in eight outer vertical columns and the upper horizontal band, and repair of six large finials, starting in September 1992.

During the conservation work 790 cracks were filled; 10,882 ornaments were cleaned; 802 shells were cleaned, consolidated or reattached, 7,069 tiles were cleaned or reattached, 1,120 pieces of glass, and 1,891 pieces of pottery were cleaned or reattached.

A summary of treatments which were applied is shown in the Appendix "Watts Towers - Gazebo Conservation". This summary printout is only a small portion of the computer data file "GAZCONS". Identified in the summary for each treatment are: a) the elevation code - A is 0 to 4 feet, B is 4 to 8 feet, C is 8 to 12 feet, D is 12 to 16 feet and E is 16 feet to the top, b) the side of the member receiving treatment (View direction), c) the initial problem found during inspection in 1988, d) the treatment date, e) the conservation materials used, and f) the treatment process used on the member.

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CONSERVATION PROGRAM SUMMARY continued

Cost estimate

The conservation of the Gazebo cost about \$394,000 on an allocated basis. Estimated costs were: scaffolding \$9,000; baseline photography \$25,000; inspection \$6,000; emergency stabilization \$5,000; and, finally, the design and application of conservation processes or structural conservation \$349,000. This final effort included 8000 hours of labor by Cultural Affairs staff, 1500 hours by contract conservators and an engineer over a 32-month period, and a portion of the previous efforts in selection of materials and the design and documentation of conservation processes. The results of the baseline photography, emergency stabilization and inspection operations have been documented previously, and reports and records are on file in the Watts Towers conservation office trailer.

Structural Conservation (See Figure 10 and subsequent).

Conservation materials treatments consisted of cleaning, rebonding broken ornament pieces together, rebonding loosened or detached ornaments to the mortar coverings, filling cracks around ornaments, rebonding mortar-to-mortar, adding pigment-based coloring to mortar repairs, and applying consolidants to ornament surfaces. Cleaning was normally accomplished using distilled water. Glazed tile cleaning was performed using Brasso. Cleaning and removing rust and grease from steel was done with Duro naval jelly and acetone. Rebonding ornaments to the original mortar was done with either Jahn mortar or cement mortar. Rebonding mortar-to-mortar (where cement mortar was not used) was accomplished with Sikadur 23 epoxies. Various pigments were used to match repair mortar color approximately with the originals and then the surface was covered with Siline for waterproofing. The consolidant used for shells and rocks was initially a mixture of GE DF 104 and Acryloid B-72 (Bologna cocktail), but in 1992 after the DF 104 was declared environmentally harmful, it was no longer used with the B-72.

Small crack-filling around ornaments and in other, non-structural areas was accomplished using Jahn restoration mortar purchased from Cathedral Stone Company, Washington, D.C. Please see "Watts Towers Materials Tests Report" and "Watts Towers Gazebo Conservation" tables in the Appendix.

Large crack filling was accomplished using Portland cement mortar. The local, commercial sand used to mix the cement was a 1:2:3 mix of #12, #16 and #60 to match that originally specified by the State of California.

Major member conservation included replacements of reinforcements in seven of the arched columns where x-rays had shown steel reinforcements weakened by excessive corrosion; and replacements of reinforcements in some of the outer vertical columns and upper horizontal ring. In each case, the mortar covers were carefully removed, ground from the inside into a thin shell of mortar containing the original ornaments, cleaned inside and out and reinstalled over new mortar and the new structural steel reinforcements.

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CONSERVATION PROGRAM SUMMARY continued

removed, ground from the inside into a thin shell of mortar containing the original ornaments, cleaned inside and out and reinstalled over new mortar and the new structural steel reinforcements.

Conservation Applications:

Cleaning with water/cotton swabs - 7,069 tiles; 1,120 glass;
1,891 pottery.
Cleaning and consolidation with DF104/B-72 - 802 shells.
Cleaning with Brasso - 3,912 tiles; 721 glass;
1,464 pottery
Rebonding glass-to-glass with Dow Corning DC 3145 silicone -
11 pieces of glass.
Rebonding ornaments to the original mortar with:
Dow Corning DC 738 - 5 places
Rebonding mortar-to-mortar with:
Sikadur 23 -377 places

CHRONOLOGY OF WATTS TOWERS CONSERVATION

1954 to 1959 No repairs after Rodia left.

1960 to 1971 Crack-filling with cement and waterproofing.

1987

July - Cultural Affairs Department computer and software acquired/installed.

October - 6.1 and 5.5 Whittier earthquakes.
Scaffolding erected on Gazebo for photography.

October to December - Baseline photographs taken.

December - Microfiche viewer/printer acquired/installed.

1988

January - 6 foot, chainlink security fence erected.

March - Scaffold erected, emergency stabilization started.

April - Start of staff training for inspection.

July - Microfiche delivered.

December - Survey of 6 tallest sculptures completed.

1989

- April and May - Filled large cracks with urethane foam.
- May - Start of conservation materials selection test program.
- May 23 to June 7 - Inspection of "A" Tower.
- August - Start cleaning and consolidating sea shells and abalone shells.

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CHRONOLOGY OF WATTS TOWERS CONSERVATION continued

1989 continued

- September - Inspection of all sculptures completed.
 - Emergency stabilization completed.
- December - Clean Gazebo ornaments near base. First conservation baseline pictures.

1990

- January to March - Evaluation of conservation materials from test program.

- June - Reinstall Heart atop junction of North & South Walls.
- August - Modify sand sieve sizes for cement to match State specification.

1991

- February - Remove scaffold from Ship of Marco Polo.
 - Begin conservation work on Garden Spire.

- March - Start of major conservation work on Gazebo - Design steel 'T'-section as replacement for Gazebo arched reinforcements.

- May - X-rays of Gazebo arched supports.
 - 'T' section designs completed for Gazebo arched column reinforcements.

- June 28 - 5.8 Sierra Madre earthquake caused damage to two tall towers.

- July - 'T' sections delivered for replacement reinforcements.
 - 1st 'T' welded in place for Major Vertical 02.

- November - 2nd 'T' section replacement reinforcement installed.

1992

- January - Heavy rains/winds.

- February - Garden Spire scaffold removed.

- April - Civil unrest & riots.
- May - 3rd 'T' section installed in arched column.
- August - 4th 'T' section installed in arched column.
- Two staff assigned to repair Overheads.
- September - Remove scaffold from "A" Tower.
- Start repair of outer verticals, band & finials

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CHRONOLOGY OF WATTS TOWERS CONSERVATION continued

1992 continued

- December - Remove and store damaged bird bath bowl.

1993

- January - Two staff assigned to seal cracks in tall towers.

- March - Complete emergency work on Overheads.

- April - 5th 'T' section installed in arched column.
- 6th 'T' section bent to shape

- September - Complete top two sections of spire

- December - Reviews of 'B' Tower and Chimney
- Re-installation of Gazebo statue

1994

- January - 6.8 Northridge earthquake and aftershocks.
to May no damage noted on completed sculptures, only on
those not treated since 1986.

X-RAY FINDINGS - Copy of report

June 14, 1991

TO : FILE- Watts Towers Conservation, Cultural Affairs Dept.

FROM: Bud Goldstone

SUBJECT: REINFORCEMENTS IN GAZEBO COLUMNS & JOINTS
FINDINGS FROM APRIL 25 & MAY 30, 1991 X-RAYS

- Reference: a) 11/18/89 GOALS OF X-RAY PROGRAM
b) AFEs with Davis Quality Lab for X-rays
c) Set of 17 X-Rays 4/25/91 & 15 on 5/30/91
d) Lotus 1-2-3 File "X-RAYCALC.WK1"

SUMMARY

X-rays have shown: the sizes and shapes of reinforcements and joints in the Gazebo, East Tower, Center Tower, South Wall posts and in horizontal bands and vertical, arched supports of

the Ship and in the Ship main spire base; cracks and voids in the mortar; wire and wire mesh wrappings around the reinforcements and joints; and evidence of rusting in the steel reinforcements.

BACKGROUND

Mortar cracking failures have recurred in the Gazebo arched vertical columns many times since 1959. In 1977, eleven (11) of these nineteen (19) supporting columns were severely cracked along their approximately 15 foot lengths and at many of the intersecting joints with horizontal rings on the sculpture. After repairs by a City contractor in 1978 and then by the Office of the State Architect in 1985, cracks recurred, and currently seven of the columns show longitudinal cracks and/or cracks at joints with the horizontal members.

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X-RAY FINDINGS continued

RESULTS

In an effort to resolve the cause of the failures and determine the extent of steel and mortar damage, X-rays were taken of selected Gazebo reinforcements at 12 feet elevation. A total of 17 x-rays were taken on April 25 and 15 on May 30 by Davis Quality Laboratory technicians, as listed below.

LOCATION ON GAZEBO	X-RAYS	VIEW DIRECTION	BASELINE
MAJOR VERTICAL NO. 02	2	SIDE,BOTTOM OF COLUMN	GAZ ...
*MAJOR VERTICAL NO. 03	3	SIDE,BOTTOM OF COLUMN	GAZ ...
MAJOR VERTICAL NO. 04	3	SIDE,BOTTOM OF COLUMN	GAZ ...

* Major Vertical 03 appears to be in acceptable condition and the x-rays were taken for confirmation.

LOCATION ON GAZEBO	X-RAYS	VIEW DIRECTION	BASELINE
MAJOR VERTICAL NO. 09	3	SIDE,BOTTOM OF COLUMN	GAZ ...
MAJOR VERTICAL NO. 10	3	SIDE,BOTTOM OF COLUMN	GAZ ...

MAJOR VERTICAL NO. 12	3	SIDE,BOTTOM OF COLUMN	GAZ ...
MAJOR VERTICAL NO. 15	3	SIDE OF COLUMN	GAZ ...
MAJOR VERTICAL NO. 18 JOINT WITH H07	2	SIDE,BOTTOM OF JOINT	GAZ ...
MAJOR VERTICAL NO. 18 JOINT WITH H08	2	SIDE,BOTTOM OF JOINT	GAZ ...
CENTER COLUMN	2	EAST SIDE, SOUTH SIDE	
CENTER COLUMN	2	EAST SIDE, SOUTH SIDE	

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X-RAY FINDINGS continued

June 14, 1991
continued

Page two

Except for those taken of Major Vertical 03 and of the Central Column, the x-rays showed evidence of severe rusting, voids in the mortar, joint failures and mortar separation from the reinforcements.

DISCUSSION OF RESULTS

LOCATION

MAJOR VERTICAL 02

RESULTS OF ANALYSIS

Requires replacement of reinforcement and physical ties with horizontals.

MAJOR VERTICAL 03

Appears to be acceptable.

MAJOR VERTICAL 04,
09, 10, 12, 15, 18

Require replacement of reinforcements and physical ties of reinforcements with horizontals.

5/28/91

LOCATIONS FOR MAY 30, 1991 X-RAYS

East Tower EC 03 upper joints /above

X-RAY
Number

Elevation

1	EC03 Joint	1 x-ray	8 feet	top, south of joint
2	EC03 Joint	1 x-ray	8 feet	side of horizontal
3	Below joint 1	1 x-ray	7 feet	east side EC03

4 Below joint 1 1 x-ray 7 feet north side EC03

Center Tower
NOT TAKEN

5/6/7 EC02 3 x-rays Elevation 7 feet 5 6 7
n, se, sw

8/9/10 EC 06 3 x-rays Elevation 7 feet 8 9 10
n, se, sw

Gazebo

12 Maj vert 03 1 x-ray Elevation 12 feet looking down

13 Maj vert 04 1 x-ray 12 feet looking down

14 Maj vert 12 1 x-ray 12 feet looking down

15U Maj vert 15 1 x-ray 12 feet looking up

15D Maj vert 15 1 x-ray 12 feet looking down
20 21 22

20,21,22 Maj Vert 09 3 x-rays 12 feet
side,bottom,top

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X-RAY FINDINGS continued

23,24,25 Maj Vert 10 3 x-rays 12 feet 23 24 25
side,bottom,top

East Tower..... 4 x-rays
Center Tower..... 6 x-rays
Gazebo..... 11 x-rays

total of 21 x-rays
15 taken, none on Center Tower

11/13/91

LOCATIONS FOR DECEMBER 5, 1991 X-RAYS

GARDEN SPIRE

X-RAY

Number	Member		Elevation	Side/Direction
1	MAIN COLUMN	1 x-ray	3 ft.	north west side
2	MAIN COLUMN	1 x-ray	4 ft.	north side
3	MAIN COLUMN	1 x-ray	4 ft.	northeast side

4	MAIN COLUMN	1 x-ray	4 ft.	northwest side
5 A & B	Band 1	2 x-rays	9 ft.	north horiz/vertical Jahn repair
6 A & B	Band 1	2 x-rays	9 ft.	east - horiz/vertical Jahn repair
7 A & B	Band 2 joint	2 x-rays	11 ft	north - horiz/vertical Original
8 A & B	Band 2 joint	2 x-rays	11 ft.	east - horiz/vertical

GAZEBO

X-RAY Number	Member		Elevation	Side/Direction
9	Maj V02 Band 04	1 x-ray	8 ft.	Below
10	Maj V02 Band 04	1 x-ray	8 ft.	Side
11	Maj V02 Band 05	1 x-ray	9 ft.	Below
12	Maj V02 Band 05	1 x-ray	9 ft.	Side

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X-RAY FINDINGS continued

8A	Gazebo Bird Bath	2 x-rays
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INSPECTION RESULTS - Copy of report
September 25, 1989

WATTS TOWERS CONSERVATION PROGRAM
CULTURAL AFFAIRS DEPARTMENT-CITY OF LOS ANGELES
GAZEBO INSPECTION RESULTS

Reference: a) Computer data file GAZINSP September 1988-June 1989
b) Inspection sheets
c) Microfiche records

The information presented below is based on inspections made by the inspection staff from September 17, 1988 to April 5, 1989. Information is presented in 5 sections; 1. Rusted/exposed wire, mesh and rebars; 2. Loose parts; 3. Broken/missing major & minor load carrying members; 4. Cracks; and 5. Broken/missing

ornaments. The enclosed 25 charts resulted from a computer-generated search of the GAZINSP data base.

SECTION 1. RUSTED/EXPOSED WIRE, MESH AND REBARS

Inspection revealed some exposed, rusted wire, mesh or rebars in 45 of the 140 4' by 4' areas as follows:

TABLE 1
GAZEBO RUSTED METAL AREAS

ELEVATION CODE	DIRECTION	ASPECT
A (0-4')	SSE	F (FOUNTAIN)
A	WWN	O (OUTSIDE)
B (4-8')	EEE	O
B	ESE	I (INSIDE)
B	ESE	O
B	NNE	O
B	WNW	I
B	WWN	I
B	WNW	O
B	WSW	O
B	WWS	I
B	WWS	O
B	WWW	O
C (8-12')	EEN	I
C	EES	I
C	ENE	I
C	ENE	O
C	ESE	I
C	NNE	O

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INSPECTION RESULTS continued

ELEVATION CODE	DIRECTION	ASPECT
C	NNN	C (COLUMN)
C	NNN	I
C	NNN	O
C	SSE	I
C	SSS	I
C	SSS	O
C	SSW	O
C	WNW	I
C	WNW	O
C	WWN	I
C	WWN	O

C	WWW	0
C	WWS	0
D (12-16')	NNN	0
D	WWW	0
E (16-20')	SSS	0
F (20-24')	EEE	0
F	NNN	0
F	SSS	0
F	WWW	0
G (24-28')	NNN	0
G	WWW	0
H (28-32')	WWW	0
H	SSS	0
I (>32')	EEE	0
I	NNN	0

SECTION 2. LOOSE PARTS

See SECTION 5. BROKEN/MISSING ORNAMENTS for graphical computer-generated analyses of Gazebo ornamentation. Inspection revealed loose parts in 75 of the 140 4' by 4' areas and the following information:

30 loose tiles in 16 areas; loose mortar in 36 areas; loose pottery in 5 areas; loose glass in 13 areas;

SECTION 3. BROKEN/MISSING MAJOR & MINOR LOAD CARRYING MEMBERS

Inspection revealed broken or missing load-carrying members as follows:

A break in a minor vertical leg at elevation C, SSE Outside; a broken horizontal member at elevation B, WNW in the Garden; a missing top of a vertical member at elevation B, ENE Inside; two broken vertical members at elevation B, WWS Outside; a missing minor vertical, member #16, at elevation B; and a break in the fountain.

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INSPECTION RESULTS continued

SECTION 4. CRACKS

Inspection revealed 949 cracks in 133 of the 140 4' by 4' areas. The numbers and depths of three of the deepest cracks in each area and their distribution throughout the sculpture are shown in the following graphical analyses.

Numbers and Depth of Cracks

Thirty (30) cracks, 3 per cent, of the 949 were equal to or greater than 25.4 mm deep, with the deepest measuring 56, 65, 72 and 93 mm deep. The depths of up to 3 cracks (depth1, depth2, depth3) and the number of cracks in the various areas of the sculptures are displayed in the following charts:

Radial distribution around the Gazebo.

Chart 1. GAZAINS bar chart shows the distribution of numbers and depth of cracks around the Gazebo inside at the A, 0-4' level.

Chart 2. GAZAOUT bar chart shows the distribution of numbers and depth of cracks around the Gazebo outside at the A, 0-4' level.

Chart 3. GAZBINS bar chart shows the distribution of numbers and depth of cracks around the Gazebo inside at the B, 4-8' level.

Chart 4. GAZBOUT bar chart shows the distribution of numbers and depth of cracks around the Gazebo outside at the B, 4-8' level.

Chart 5. GAZCINS bar chart shows the distribution of numbers and depth of cracks around the Gazebo inside at the C, 8-12' level.

Chart 6. GAZCOUT bar chart shows the distribution of numbers and depth of cracks around the Gazebo outside at the C, 8-12' level.

Vertical distribution from 4 views of Gazebo - N, E, S, W.

Chart 7. GAZNOUT bar chart shows the vertical distribution of numbers and depth of cracks from the Gazebo A, ground level to the I, 38' level on the north side.

Chart 8. GAZEOUT bar chart shows the vertical distribution of numbers and depth of cracks from the Gazebo A, ground level to the I, 38' level on the east side.

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INSPECTION RESULTS continued

Chart 9. GAZSOUT bar chart shows the vertical distribution of numbers and depth of cracks from the Gazebo A, ground level to the I, 38' level on the south side.

Chart 10. GAZWOUT bar chart shows the vertical distribution of numbers and depth of cracks from the Gazebo A, ground level to the I, 38' level on the west side.

SECTION 5. BROKEN/MISSING ORNAMENTS

Inspection revealed broken ornaments in 112 of the 140 4' by 4' areas and missing ornaments in 118 areas. The numbers and types of ornaments and their distribution throughout the sculpture are shown in the following graphical analyses. There were 214 broken tiles, 199 broken glass, 108 broken sea shells, and 116 broken pottery or ornaments; 335 missing tiles, 265 missing glass or bottles, 25 missing sea shells, and 202 missing pottery or ornaments.

Summary of Data

	BROKEN				MISSING				No. CRACKS	CRACK LENGTH MM
	TILES	GLASS	SHELLS	POTTERY	TILES	GLASS	SHELLS	POTTERY		
Gazebo	214	199	108	116	335	265	25	202	949	320,000
(south)	25	48	25	19	16	45	5	28	85	
(north)	9	31	0	40	17	54	0	24	138	

Chart 11. GAZ A INSIDE bar chart shows the distribution of numbers and types of ornaments broken and/or missing (tiles) from the Gazebo A, level inside.

Chart 12. GAZ A OUTSIDE bar chart shows the distribution of numbers and types of ornaments broken and/or missing (tiles and glass) from the Gazebo A, level outside.

Chart 13. GAZ B INSIDE bar chart shows the distribution of numbers and types of ornaments broken and/or missing (tiles, glass and sea shells) from the Gazebo B, level inside.

Chart 14. GAZ B OUTSIDE bar chart shows the distribution of numbers and types of ornaments broken and/or missing (tiles, glass and sea shells) from the Gazebo B, level outside.

Chart 15. GAZ C INSIDE bar chart shows the distribution of numbers and types of ornaments broken and/or missing (tiles, glass and sea shells) from the Gazebo C, level inside.

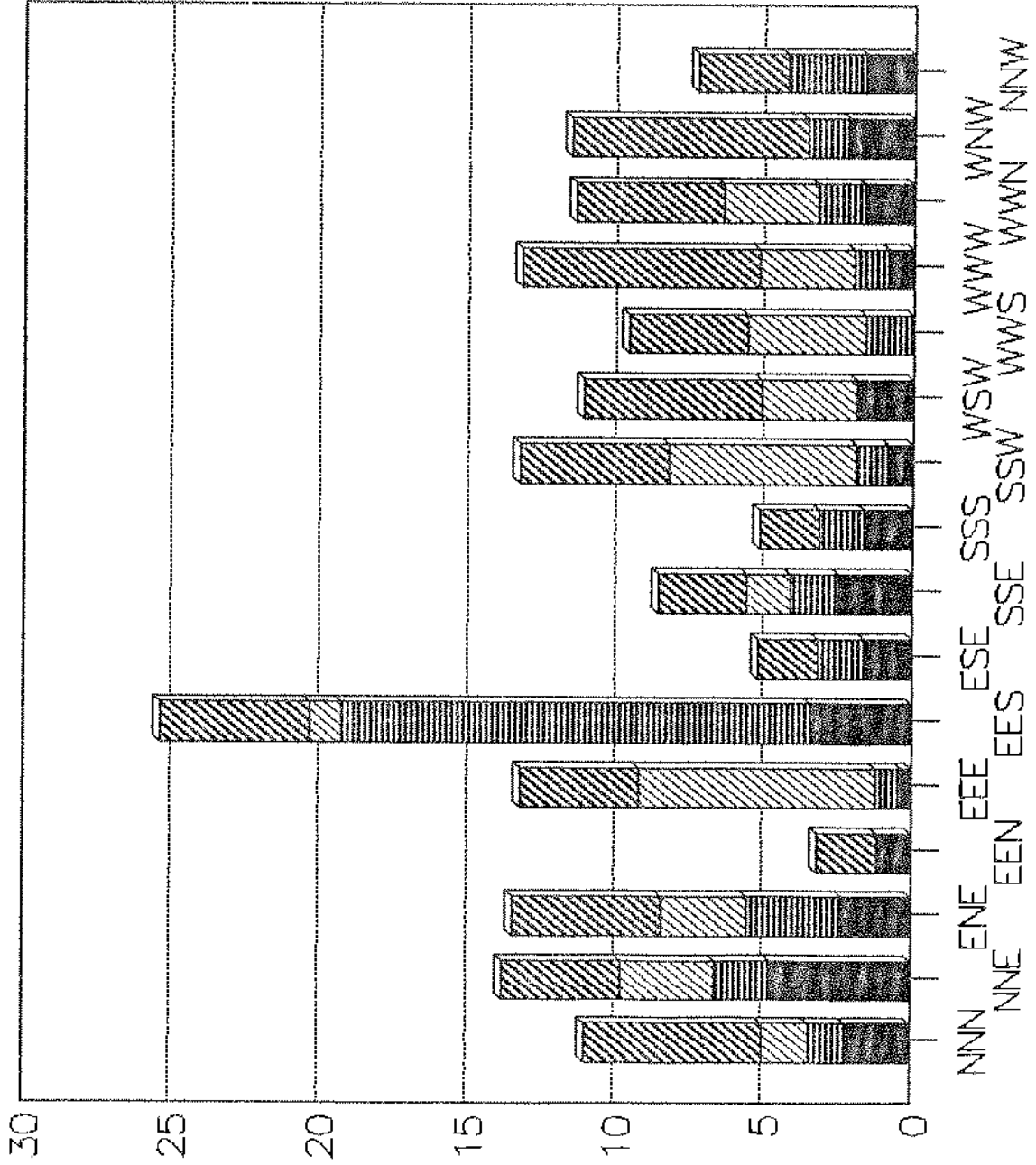
Chart 16. GAZ C OUTSIDE bar chart shows the distribution of numbers and types of ornaments broken and/or missing (tiles, glass and sea shells) from the Gazebo C, level outside.

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APPENDIX enclosed after photographs.

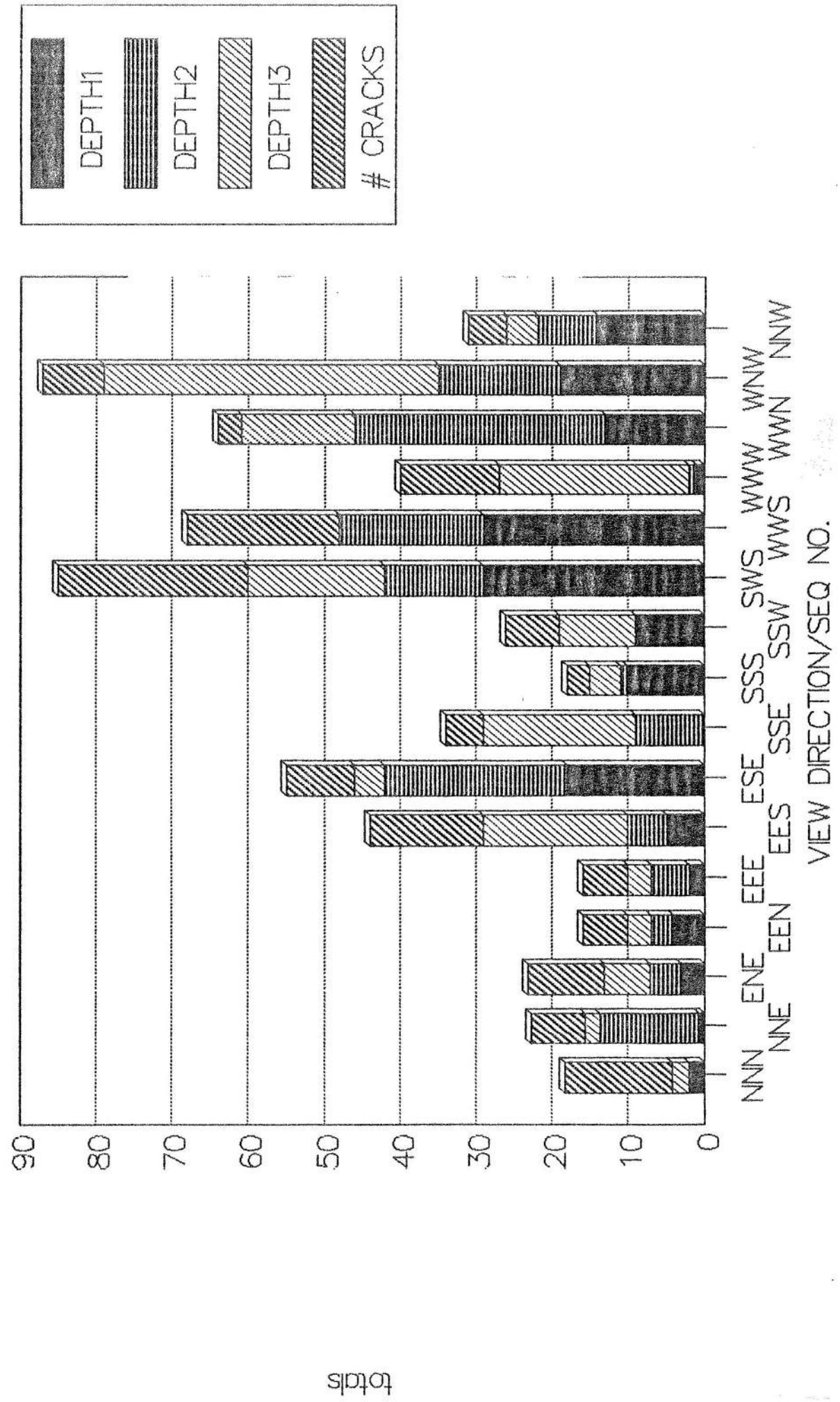
* Watts Towers Materials Tests Report - listing of conservation materials tested and start dates of tests.

GAZAINS

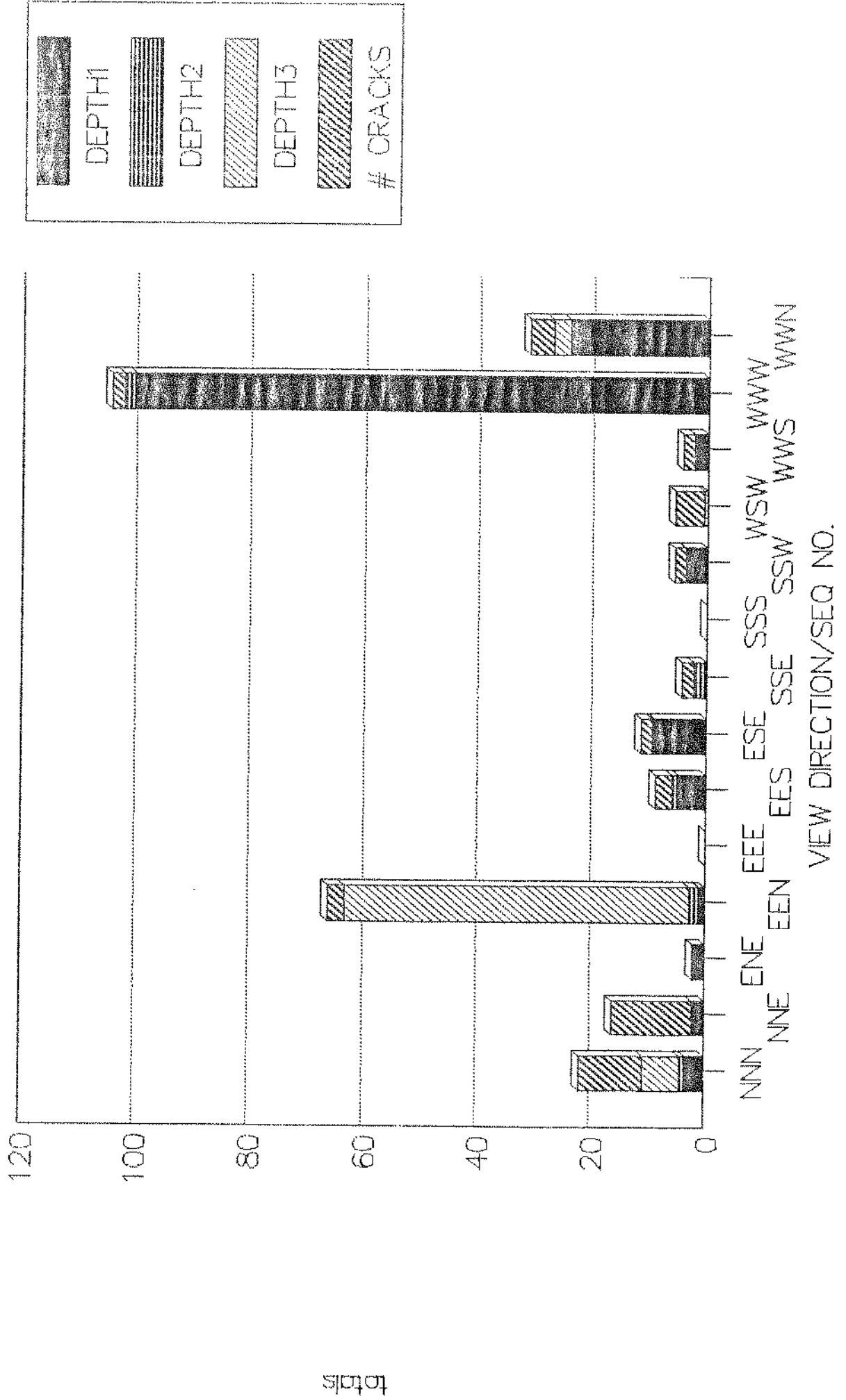


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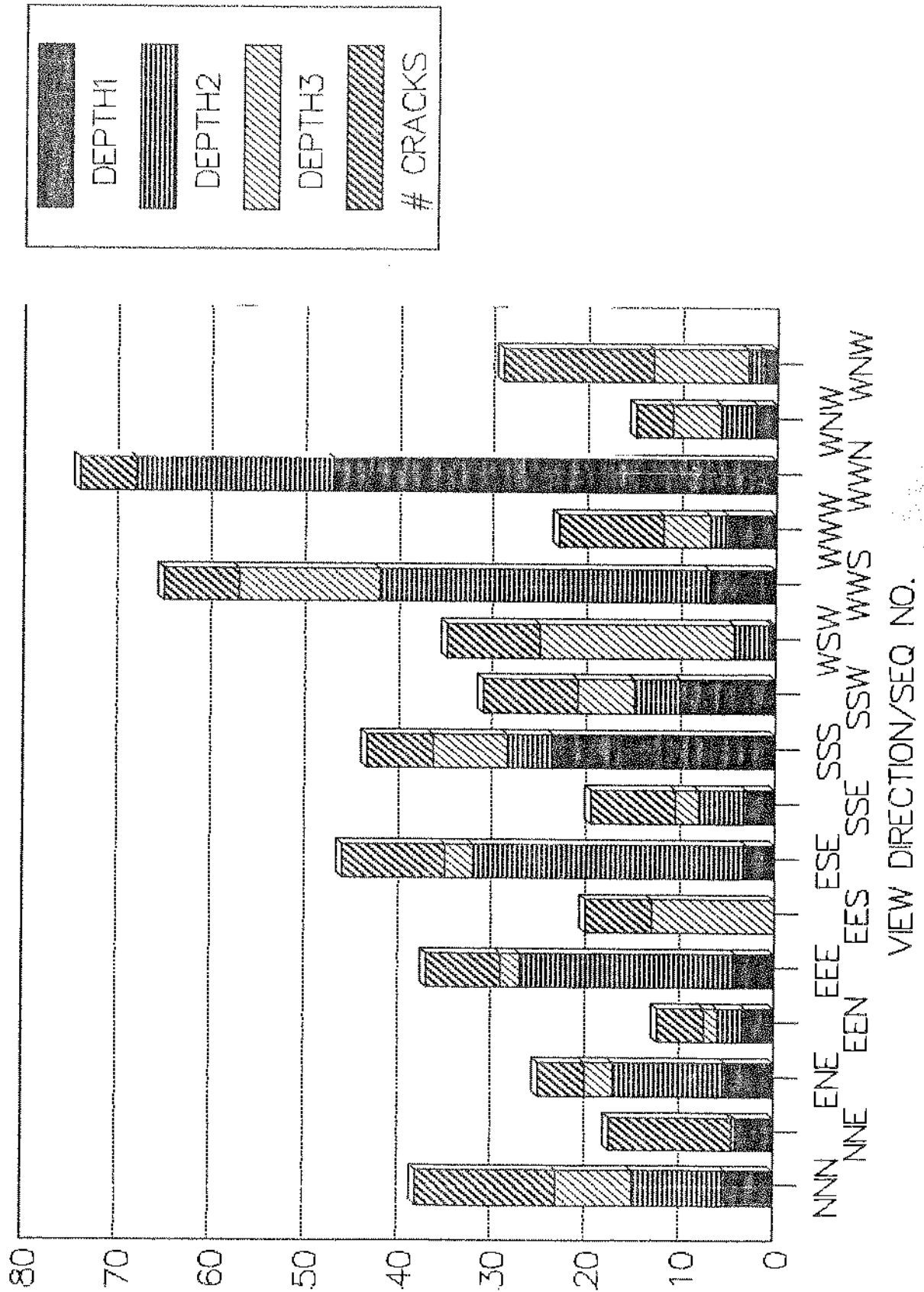
GAZBINS



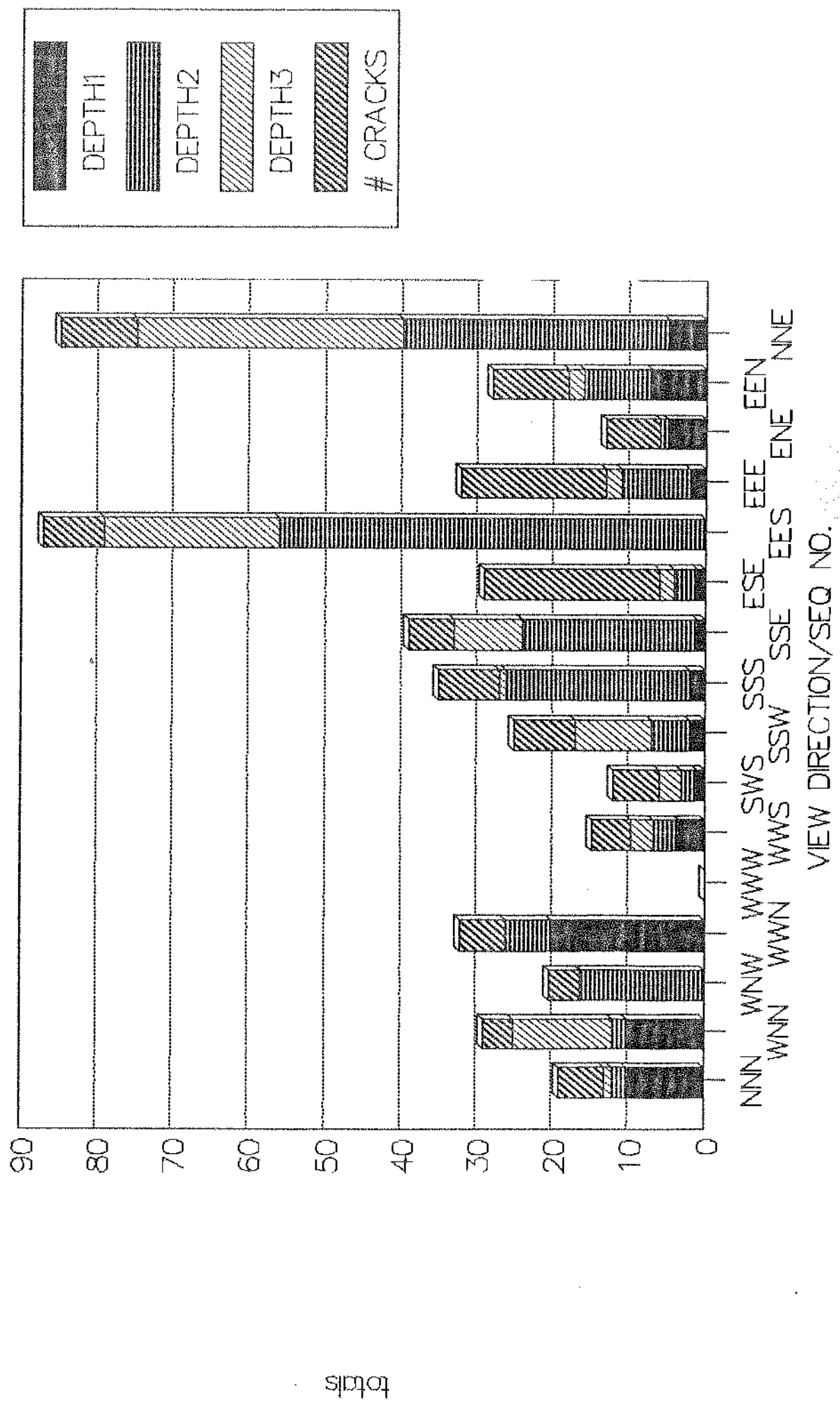
GAZAOUT



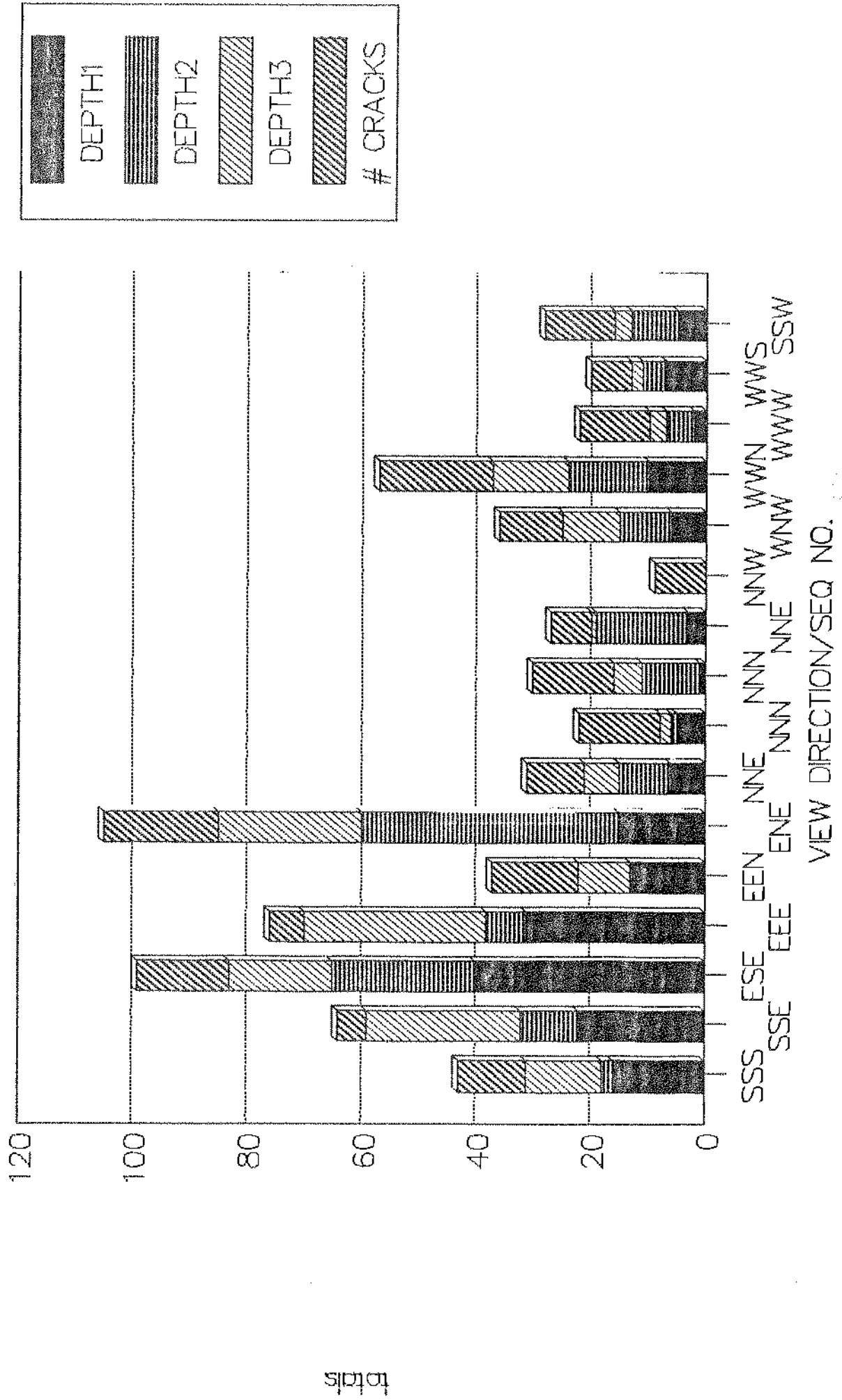
GAZBOUT



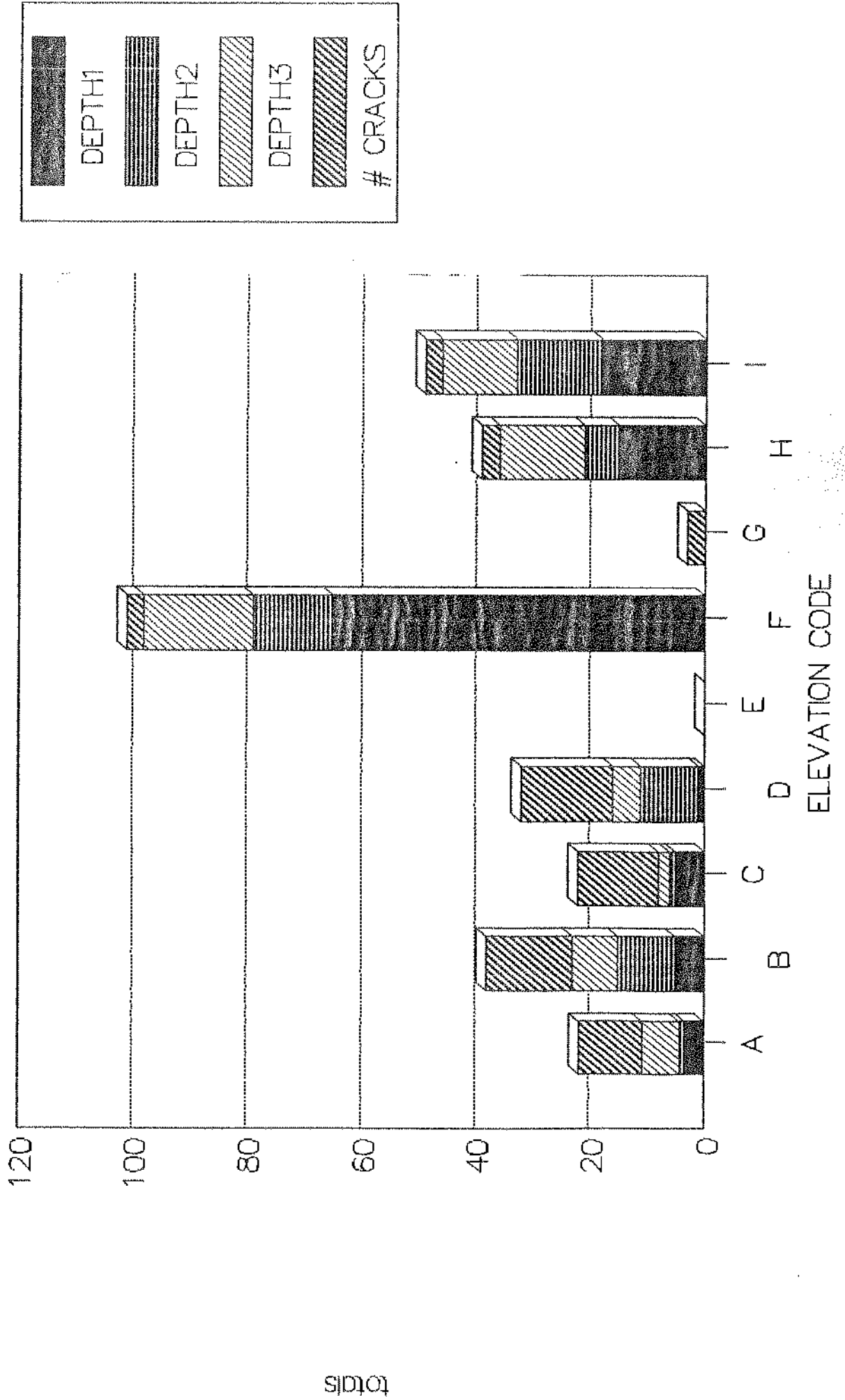
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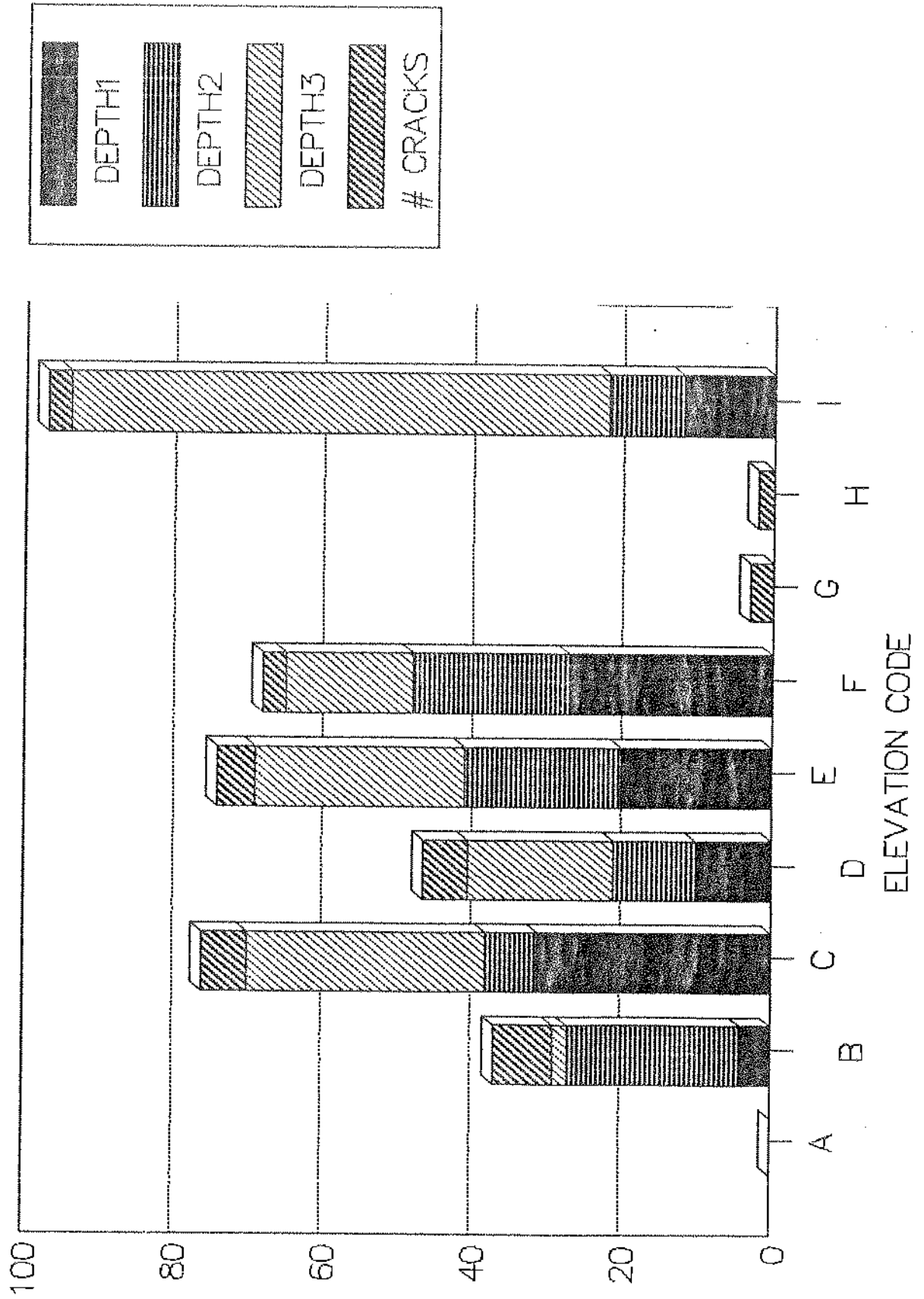
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GAZNOUT

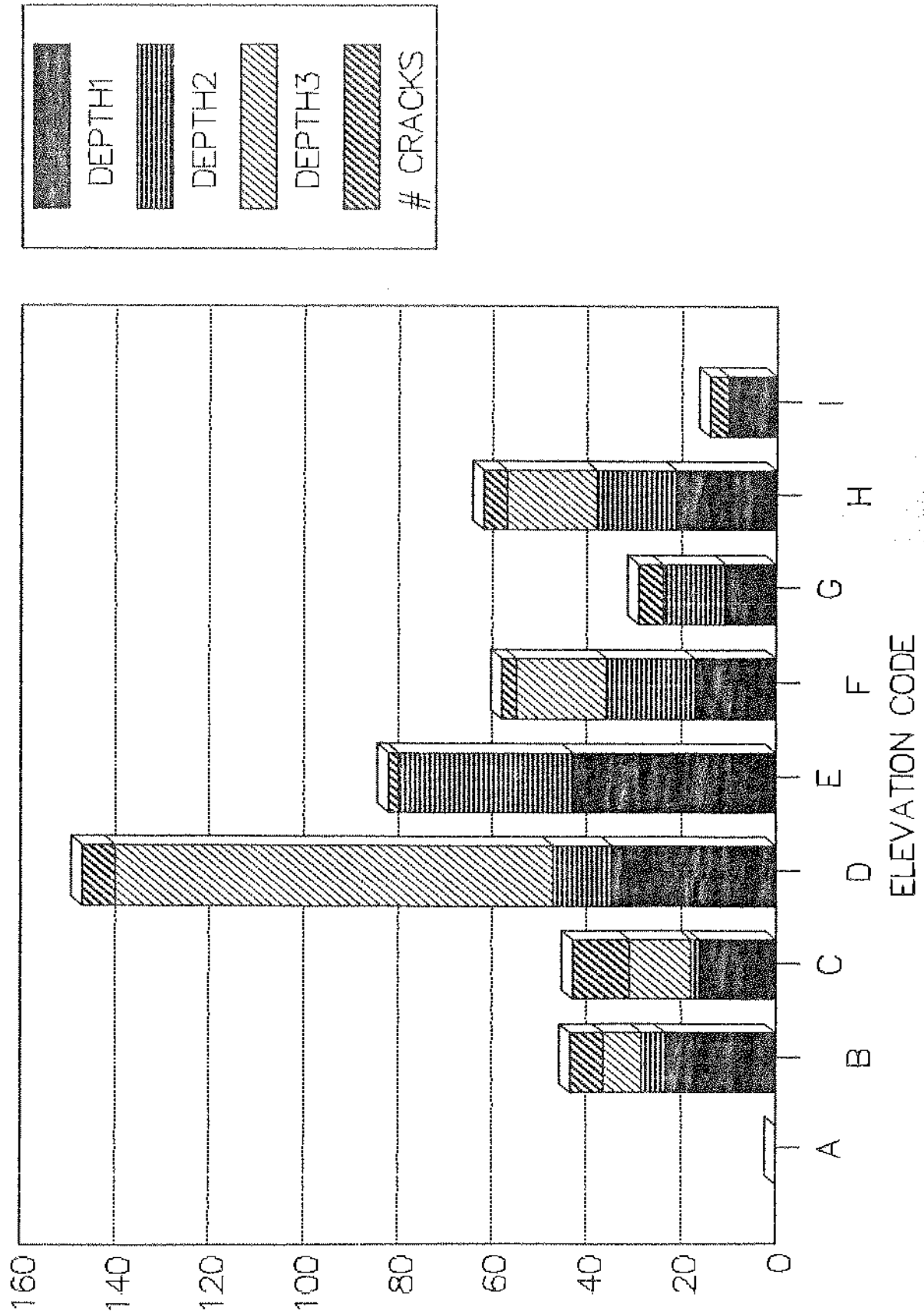


GAZEOUT



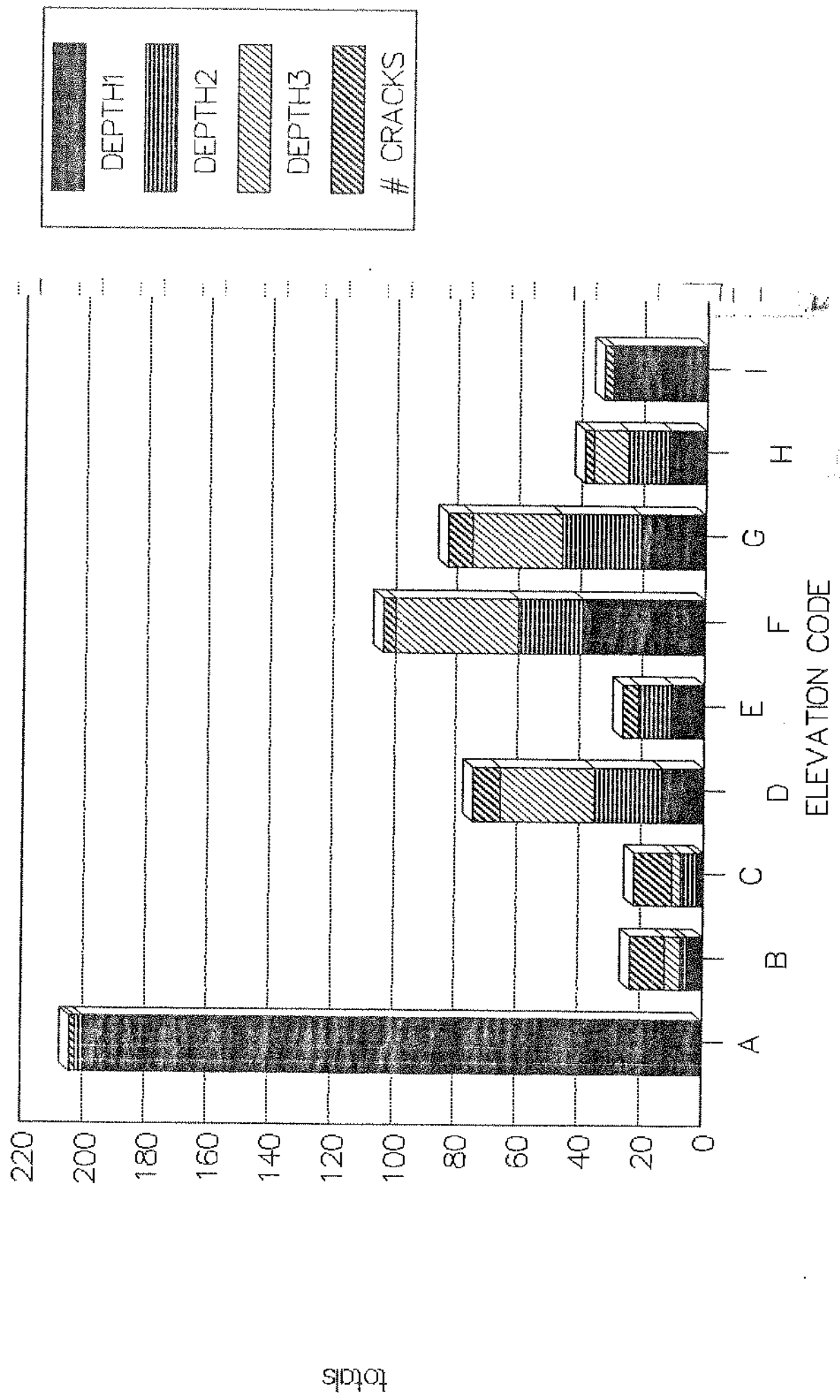
totals

GAZSOUT



Totals

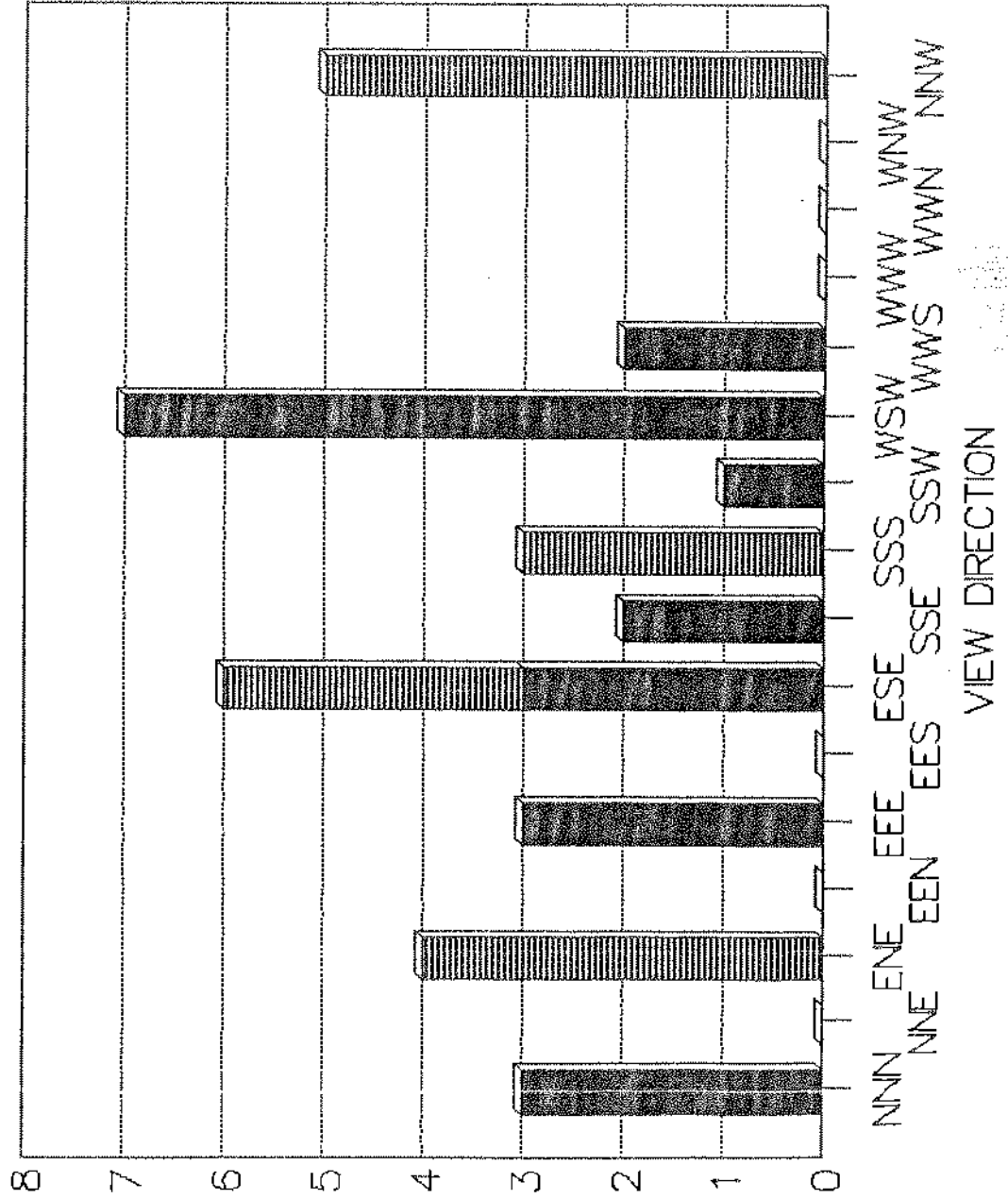
GAZWOUT



totals

GAZ A INSIDE

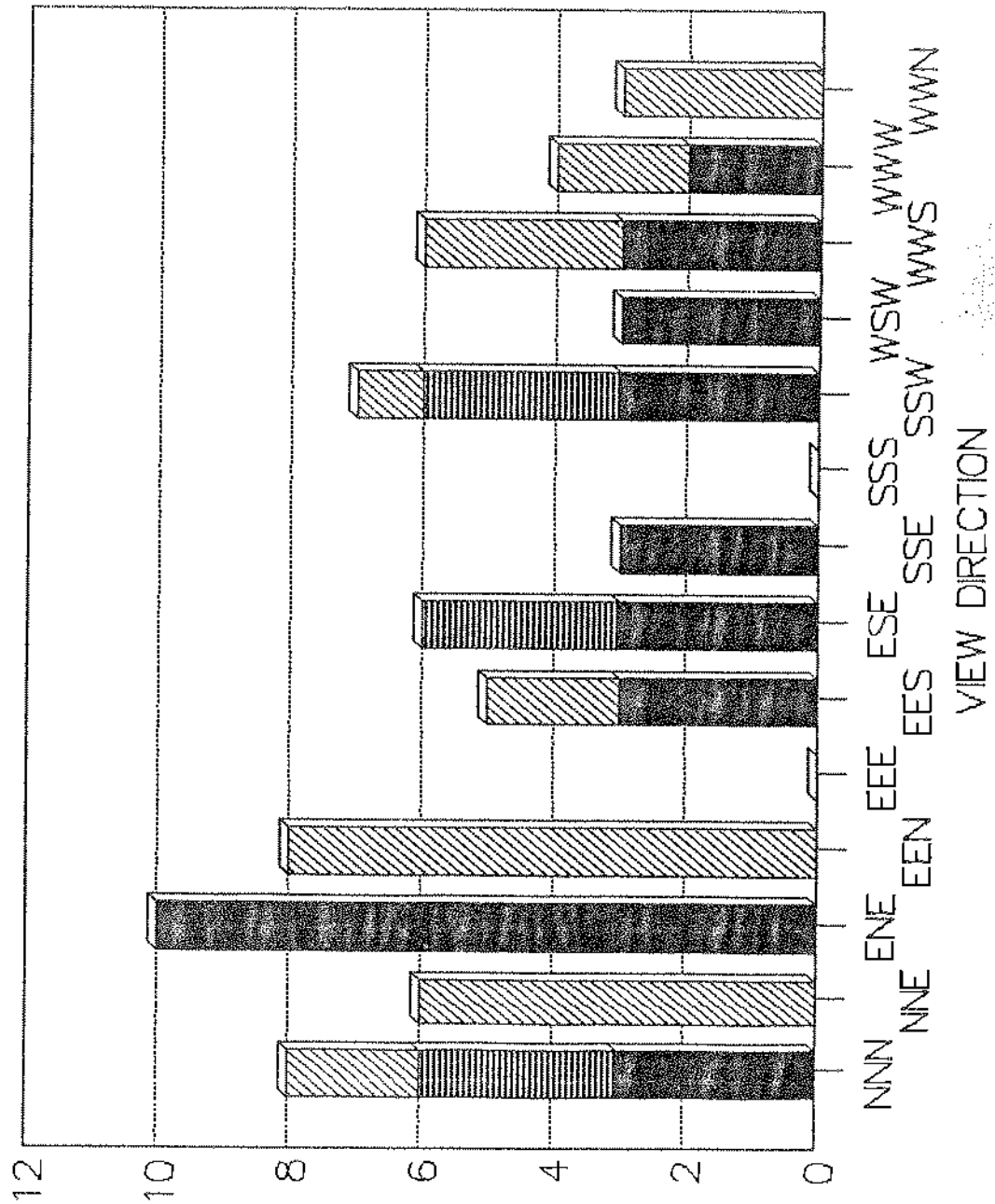
JUNE 3, 1989



NO. ORNAMENTS

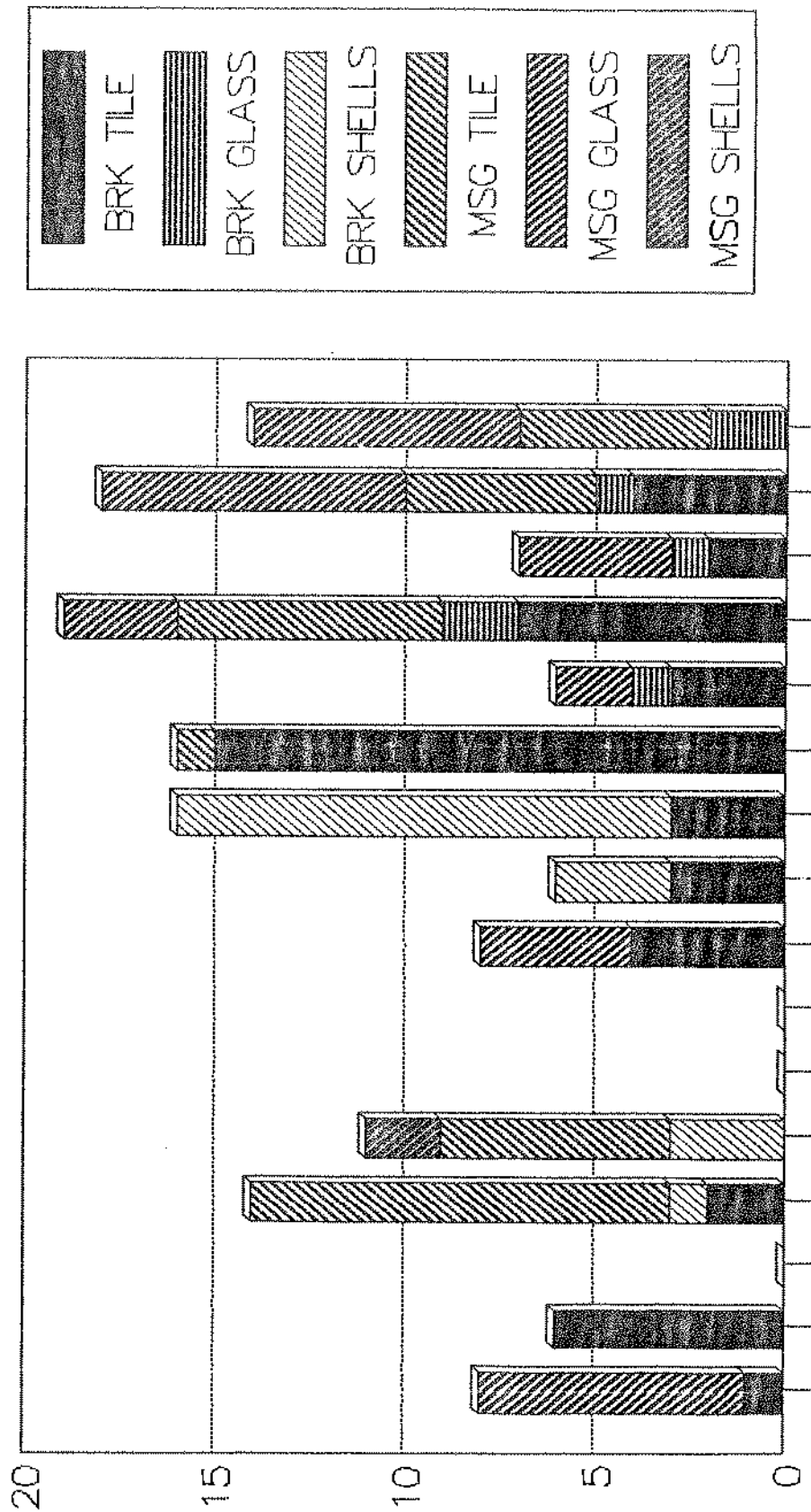
GAZ A OUTSIDE

JUNE 3, 1989



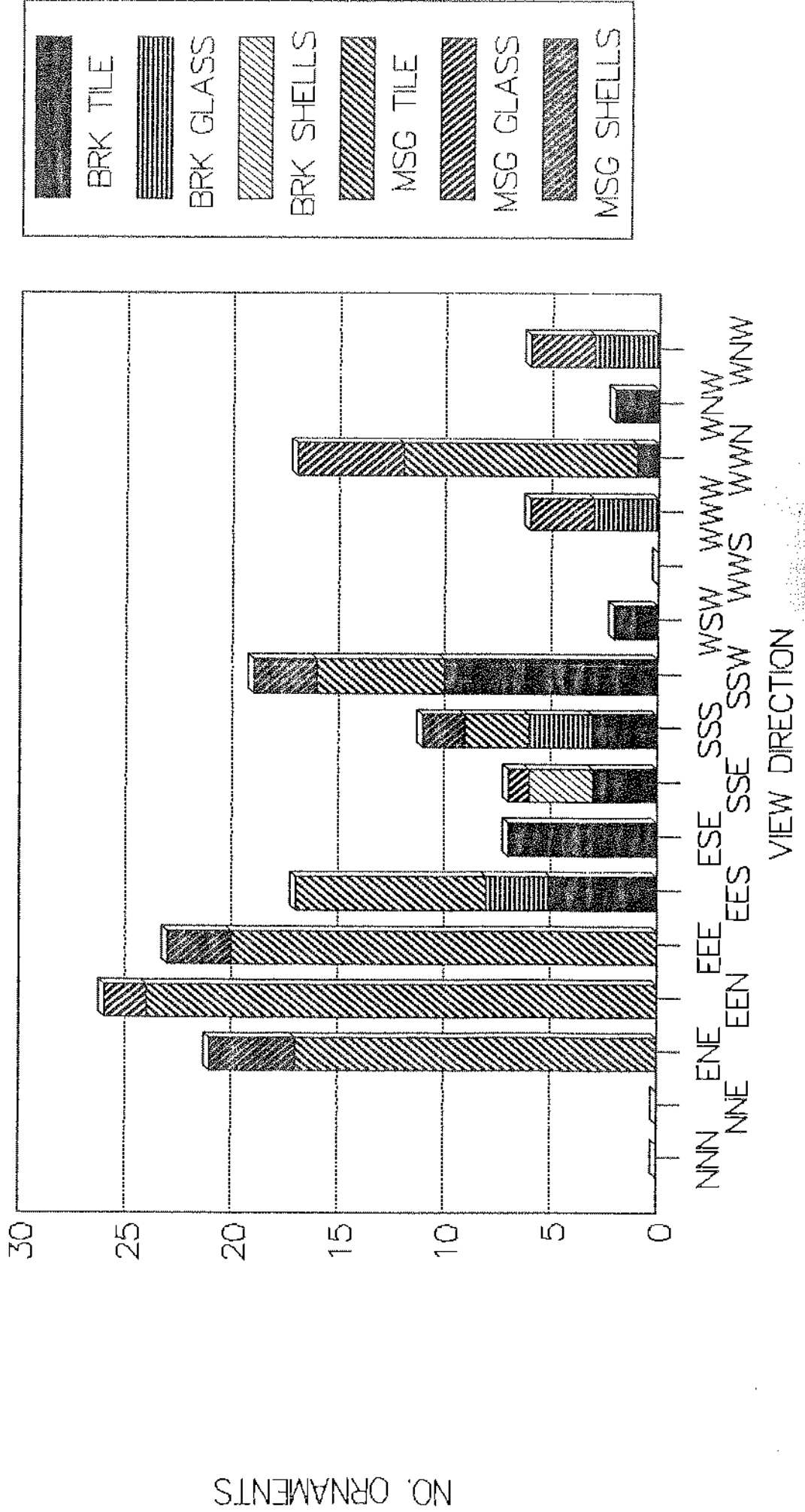
GAZ B INSIDE

JUNE 3, 1989



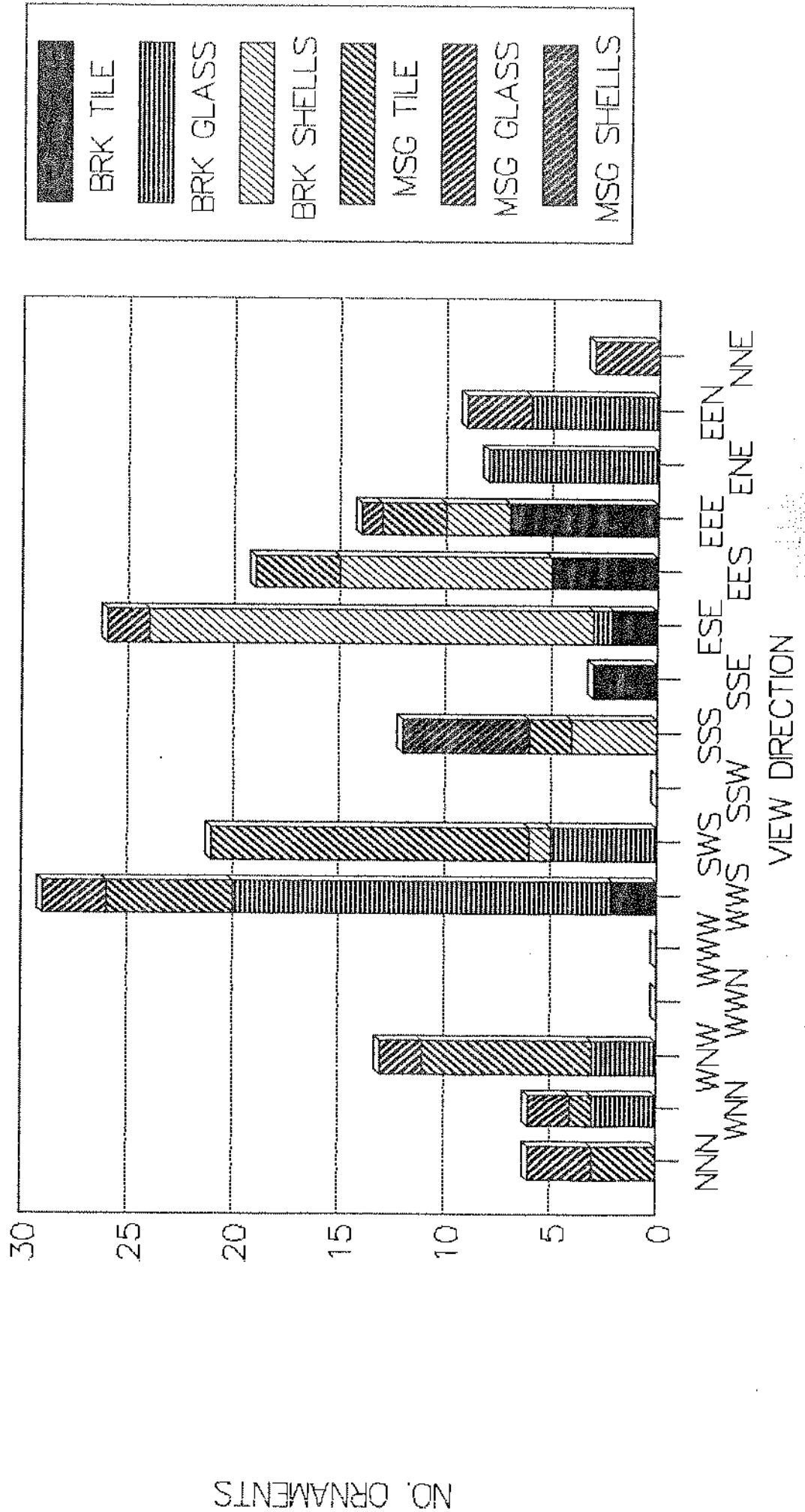
GAZ B OUTSIDE

JUNE 3, 1989



GAZ C INSIDE

JUNE 3, 1989



- * Watts Towers Gazebo Conservation - 583 separate treatments; the conservation materials and techniques used; locations by direction and by elevation.

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- Figure 2. Gazebo, right of tallest tower near house. Note short, undecorated spire. c1929. Photographer unknown.
- Figure 3. Gazebo, left of tallest tower through unfinished tower. Appears the same as in Fig. 2. L.A. Times 1939 sketch.
- Figure 4. Gazebo, new spire far right behind ornate wall. House on left, Chimney spire, "A" Tower and Gazebo spire from l to r. c1946, Ehrenkrantz Group report.
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- Figure 11. Junction of MajV02 with outer vertical and horizontal band 01 opened for inspection. Jan 1991.
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- Figure 20. Top-rusted channel, center-rusted rebar, bottom-new 'T' section for MajV02 reinforcement before installation. May 1991.

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Figure 30. Damaged birdbath southwest of Gazebo. Jan 1992.

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Figure 32. Welding lower attachment of second 'T' section support to outer vertical steel reinforcement. January 1992.

Figure 33. Steel reinforcements wrapped with steel mesh ready to accept mortar and rebonding operation for original covering of mortar and ornaments. Feb 1992.

Figure 34. Application of final coat of mortar and rebonding of original covering of mortar and ornaments. Mar 1992.

Figure 35. Cracks in third arched support before conservation work. May 1992.

Figure 36. Third arched support after rebonding of original covering over new steel 'T' section reinforcement. Aug 1992.

Figure 37. Third arched support after rebonding of original covering. Aug 1992.

Figure 38. Cracks in fourth arched support before conservation work. Aug 1992.

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Figure 43. New 'T' section reinforcement ready for welding. January 1992.

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Figure 47. New reinforcement wrapped with mesh, ready for reinstallation of cover and ornaments. July 1992.

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Figure 49. Rusted outer vertical 08 steel reinforcement. September 1992.

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Figure 51. New steel channel in place for removed, rusted reinforcement. September 1992.

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Figure 62. Ornaments replaced into repair mortar on major vertical 14. November 1992.

Figure 63. Original ornaments replaced on major vertical 06 and finial. November 1992.

Figure 64. Original ornaments rebonded to new steel reinforcement on upper outer band. December 1992.

Figure 65. Base of birdbath after removal of bowl. December 1992.

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Figure 67. Mortar coat addition to outside of new reinforcement in outer vertical 17. November 1992.

Figure 68. Mortar coat addition to outer horizontal band 02 and outer vertical 09. November 1992.

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Figure 70. Rebonding of original ornaments & addition of mortar coat to outer band 02. December 1992.

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Figure 72. Damage to upper portion of spire (H level) before repairs. May 1993.

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Figure 75. Damage to members (H level) before repairs. June 1993.

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Figure 94. Damaged spire at 28 foot elevation, west side, before repairs. Note failed horizontal ring, upper right of photo. (G level). January 1994.

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Figure 99. Base of Gazebo during final cleaning of ornaments. (A level). May 1994.

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Figure 105. Circular band reinforcement wrapped with mesh in place before re-bonding original coverings over new mortar. (F level). March 1994.

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Figure 107. Garden stalagmite after removing damaged cover, cleaning rusted steel cylinder reinforcement, and inserting new, internal steel cylinder. March 1994.

Figure 108. Garden stalagmite after re-bonding original cover over cleaned rusted steel cylinder reinforcement and new, internal steel cylinder. March 1994.

Figure 109. Build-up of mortar at joint, left center of photo, during conservation. (E level). April 1994.

Figure 110. Rebond ornaments with Jahn mortar, top center of photo. (C level). April 1994.

Figure 111. Rebond original mortar cover over new reinforcement and mesh, top center of photo. (C level). April 1994.

Figure 112. Build-up joint between ring and vertical column, center of photo. (F level). April 1994.

Figure 113. Rebond original ornaments with Jahn mortar. (C level). April 1994.

Figure 114. Bird bath on north west before conservation work. (A level). May 1994.

Figure 115. Bowl under dome before conservation work. (C level). May 1994.

Figure 116. Bird bath on north west after conservation work. (A level). June 1994.

Figure 117. Center column under dome after conservation work. (B level). May 1994.

January 25, 1994

Mr. Steve Colton
Los Angeles County Museum of Art
Conservation Center
5905 Wilshire Boulevard
Los Angeles, CA 90036

Dear Steve,

We look forward to seeing you at the Watts Towers after 9:30 a.m. the morning of March 1 or March 8 to take a final look at the Gazebo sculpture before we remove the scaffolding. The Gazebo has been the most difficult of the six completed so far. Others were the Ship of Marco Polo, the Garden Spire, the 'A' Tower, the 'B' Tower and the Chimney. The report we sent you describes the work we have done since 1971 on this sculpture.

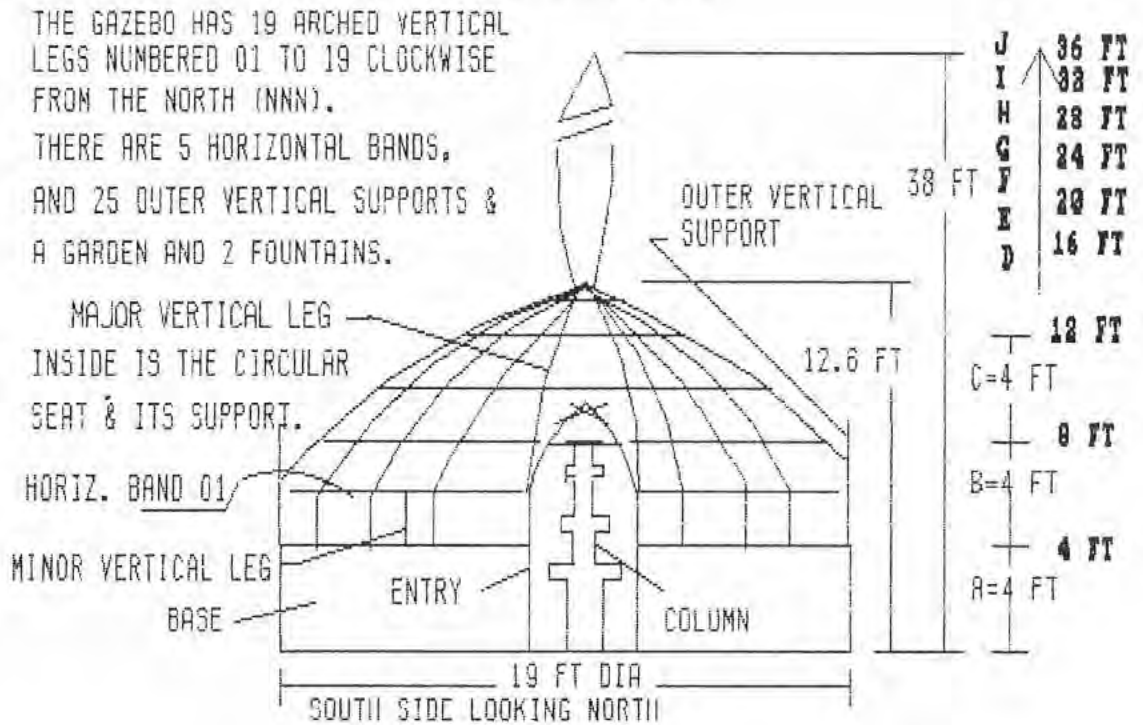
Please invite any other interested persons from LACMA (or anywhere) and let me know the names of others I can call. If the 1st or 8th are not available, please call and I'll do my best to accomodate you.

Thanks again for all your past help with our conservation program. I hope you saw William Wilson's wonderful commentary about the Towers on Saturday's front page of Calendar.

N.J. Bud Goldstone

William S. Ginell, PhD
Head, Material Science
The Getty Conservation Institute
4503 B Glencoe Ave
Marina del Rey. CA 90292-6537

GAZEBO ELEVATION



GAZEBO VIEW DIRECTIONS AND MAJOR VERTICAL MEMBER NO.'S FOR ARCHED LEGS

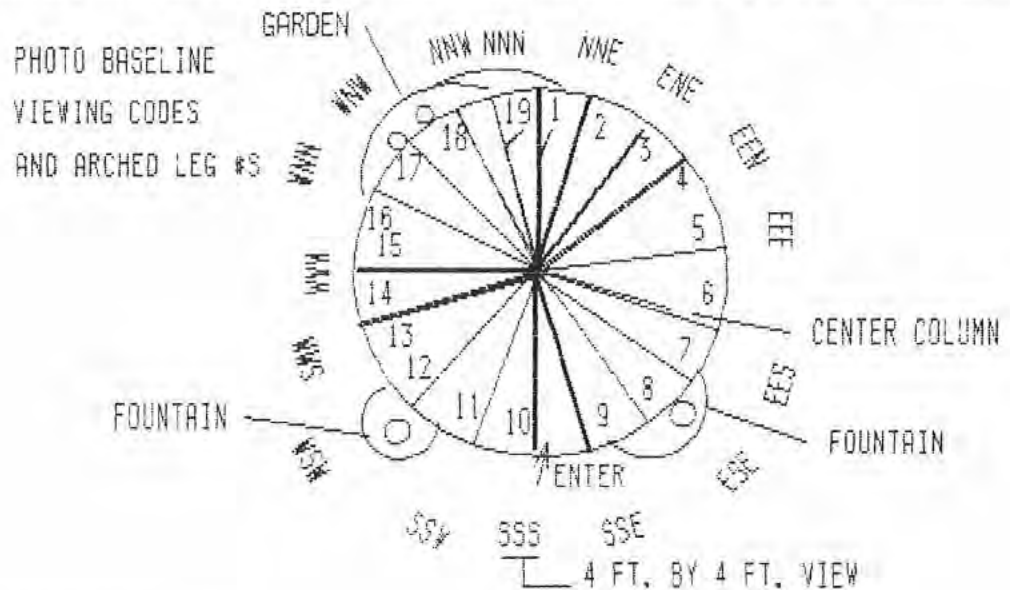


Figure 1.
Gazebo elevation and plan view
graphics from microfiche.
c1988.

HNO. Sām Rodin

Watts. 1938

Figure 2: Gazebo right of tallest tower near house. Note short, undecorated spire. c.1938. Photographer unknown.

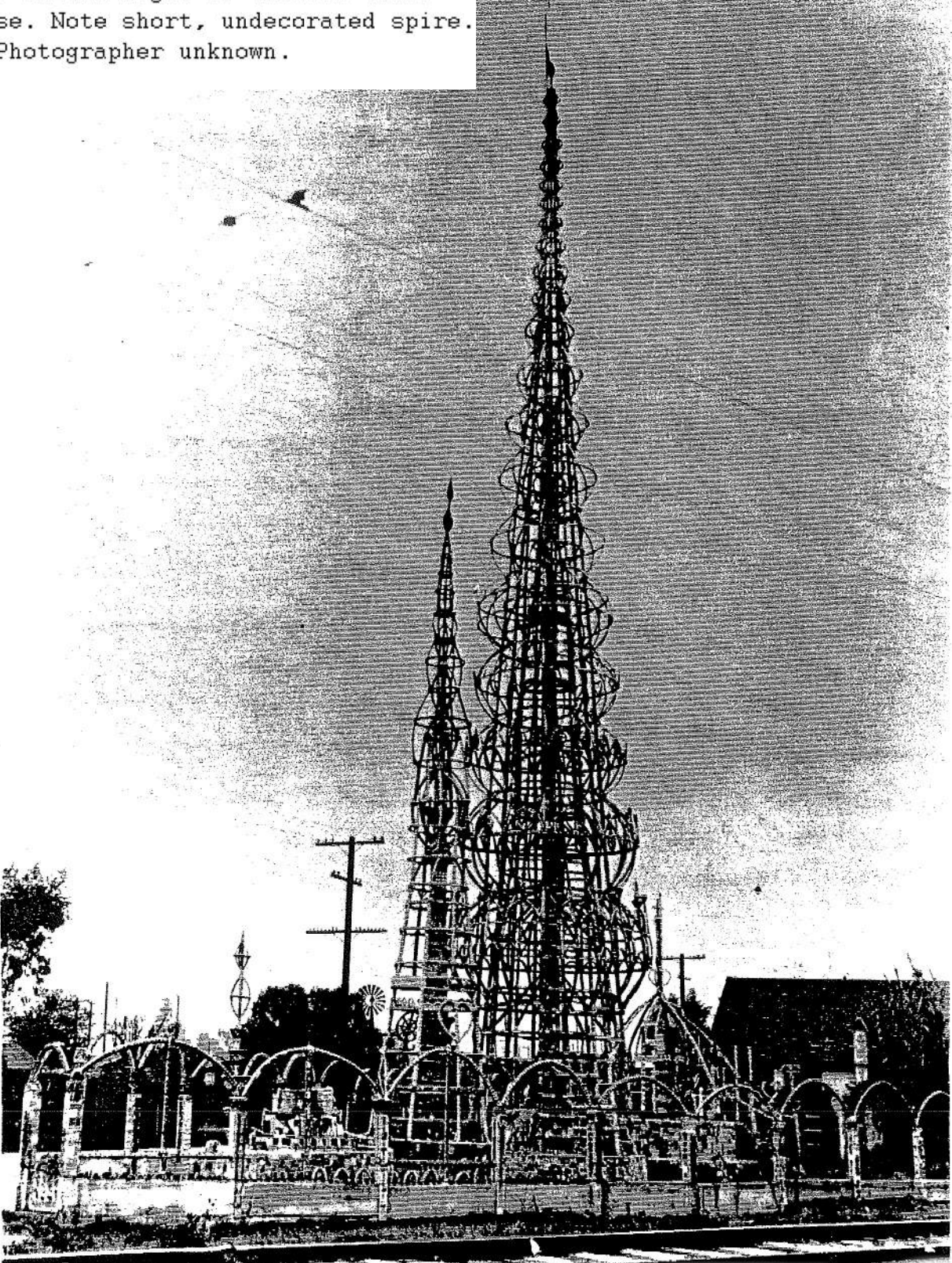




Figure 3.
Gazebo, left of tallest tower
through unfinished tower. Appears
the same as in Fig. 2.
L.A. Times 1939 sketch.

Sewerker, Joseph W. & P. 11. *Sketches for New Mexico* 1939

Figure 4: Gazebo, new spire far right behind ornate wall. House on left, Chimney spire, 'A' Tower and Gazebo spire from l to r.
c1946, Ehrenkrantz Group report.

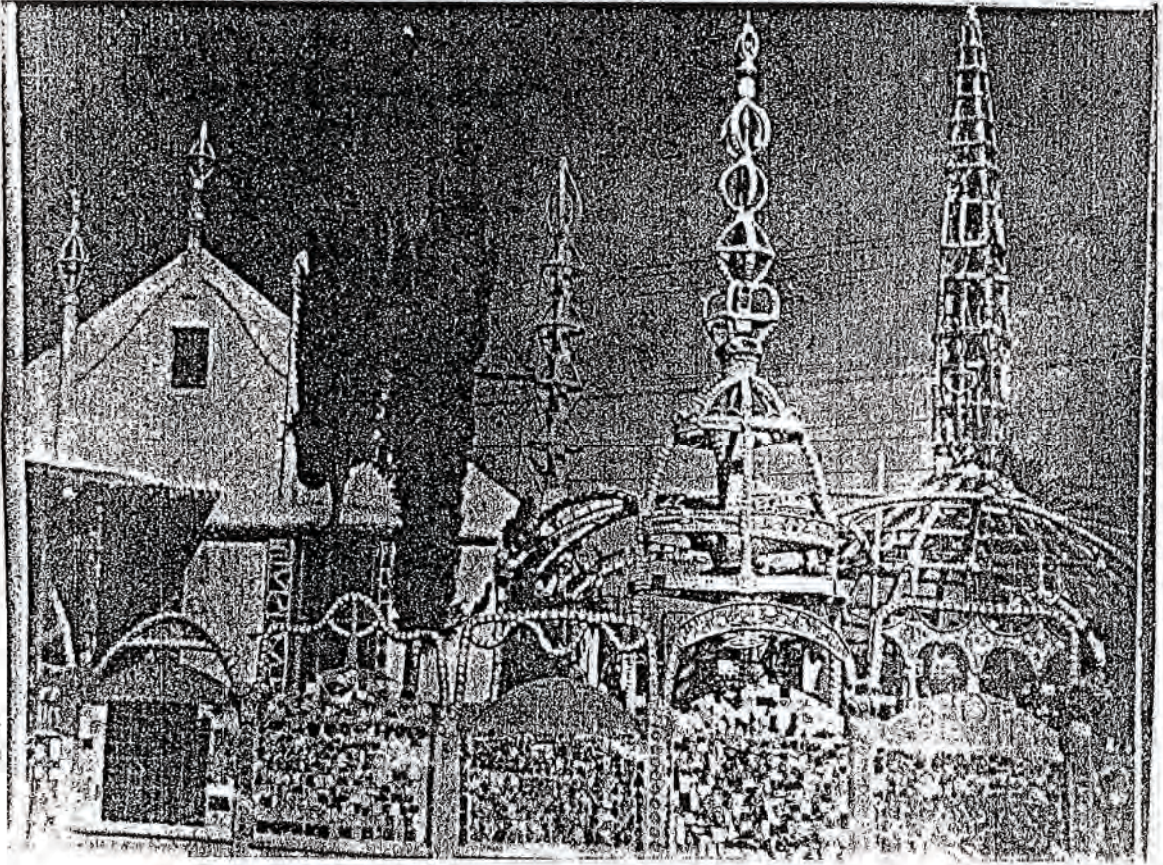




Figure 5.
Overheads between the North
Wall and Gazebo built after
1949.
Oct 1992.

Figure 6.
Overheads from Gazebo to
North Wall built after
1949.
Sep 1992





Figure 7.
Birdbath S.E. of Gazebo
built after 1949.
Sep 1992.

Figure 8.
Birdbath formerly on S.E.
side of Gazebo moved to
N.W. side after 1949.
Sep 1992.





Figure 9.
Scaffolding around
Gazebo spire for
conservation program
access.
Oct 1992.



Figure 10.
Major crack in MajV02.
Mar 1990.



Figure 13.
Junction of horizontal bands
with major vertical support.
May 1992.

Figure 14.
Major vertical support rein-
forcement by Rodia. Pipe
nested in channel on top
with rebar inserted in pipe
on bottom of photo.
May 1992.



Figure 15.
Shells after cleaning and
consolidation.
Jan 1990.

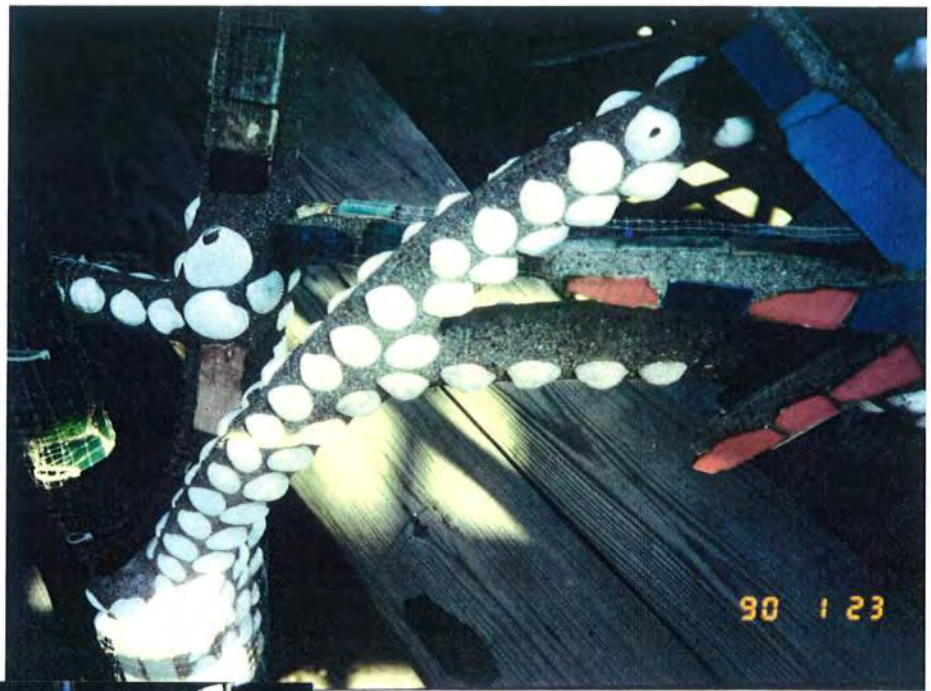


Figure 16.
Area west of Gazebo entrance
after crack-filling and bonding
ornaments to members.
December 1989.



Figure 17.
Minor vertical west of Gazebo
entrance after crack-filling.
December 1989.



Figure 18.
Support MajV02 after removal of
cover showing rusted channel
and rebar nested in channel.
May 1991.



Figure 19.
Support MajV02 lower joint with
wire attachments exhibiting rust
and cracks.
May 1991.



Figure 20.
Top-rusted channel, center-rusted
rebar, bottom-new 'T' section for
MajV02 reinforcement before
installation.
May 1991.



Figure 21.
New 'T' section in place for
welding at lower end to verti-
cal and horizontal band.
Jul 1991.

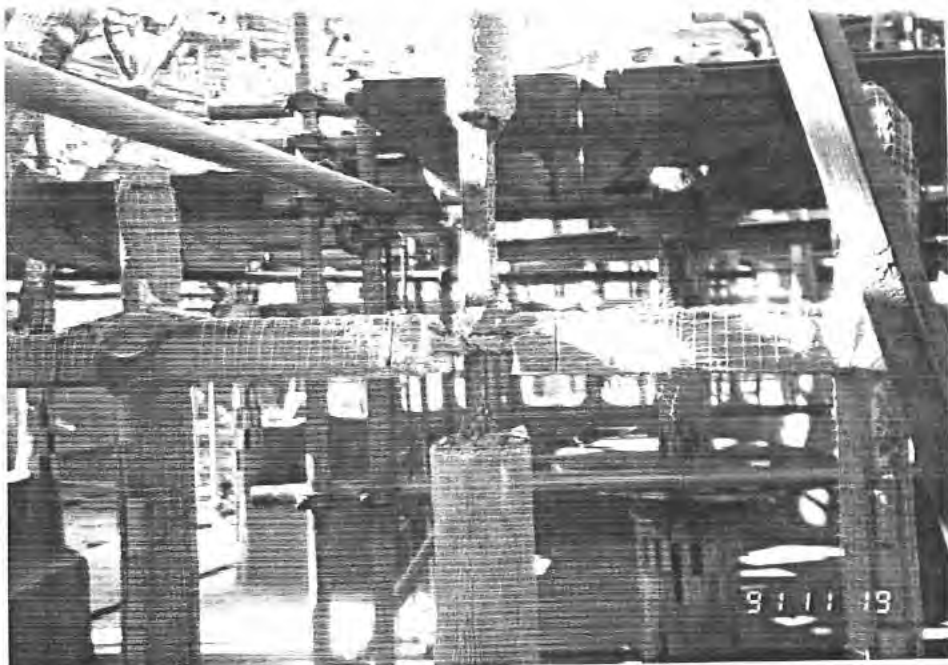


Figure 22.
Support MajV04 lower joint
after removal of mortar for
inspection/replacement.
Nov 1991.



Figure 23.
Support MajV04 after removal
from Gazebo for conservation
work & to replace the rein-
forcement with a new 'T'
section. Nov 1991.



Figure 24.
Top of photograph shows
support MajV02 after repair
mortar application over
new 'T' reinforcement.
Oct 1991.



Figure 25.
Center of photograph shows
cover reinstalled on MajV02
Oct 1991.

Figure 26.
Finial on top of outer S.E.
vertical after shell treatment
and stabilization.
Feb 1990.





Figure 27.
Finial from top of damaged
outer vertical after removal.
Oct 1992.



Figure 28. Finial opened,
showing one of two colanders
used to form the upper and
lower portions of the finial.
Oct 1992.



Figure 29. Lower attachment of first 'T' section support after welding to horizontal band and outer vertical steel reinforcements. Aug 1991.



Figure 30. Damaged birdbath southwest of Gazebo. Jan 1992.



Figure 31. Bolting steel straps to attach band ends to new 'T' section support, right center of photograph, Jan 1992.

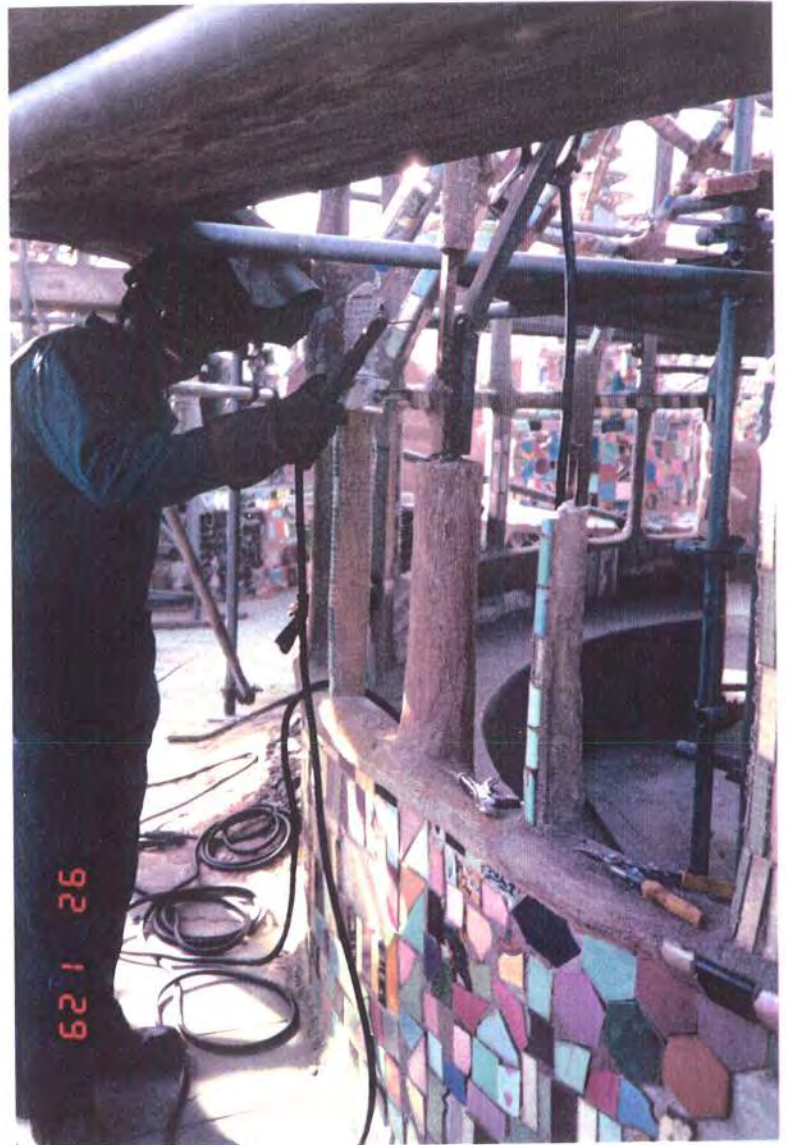


Figure 32. Welding lower attachment of second 'T' section support to outer vertical steel reinforcement, January 1992.

Figure 33. Steel reinforcements wrapped with steel mesh ready to accept mortar and rebonding operation for original covering of mortar and ornaments. Feb 1992.



Figure 34. Application of final coat of mortar and rebonding of original covering of mortar and ornaments. Mar 1992.



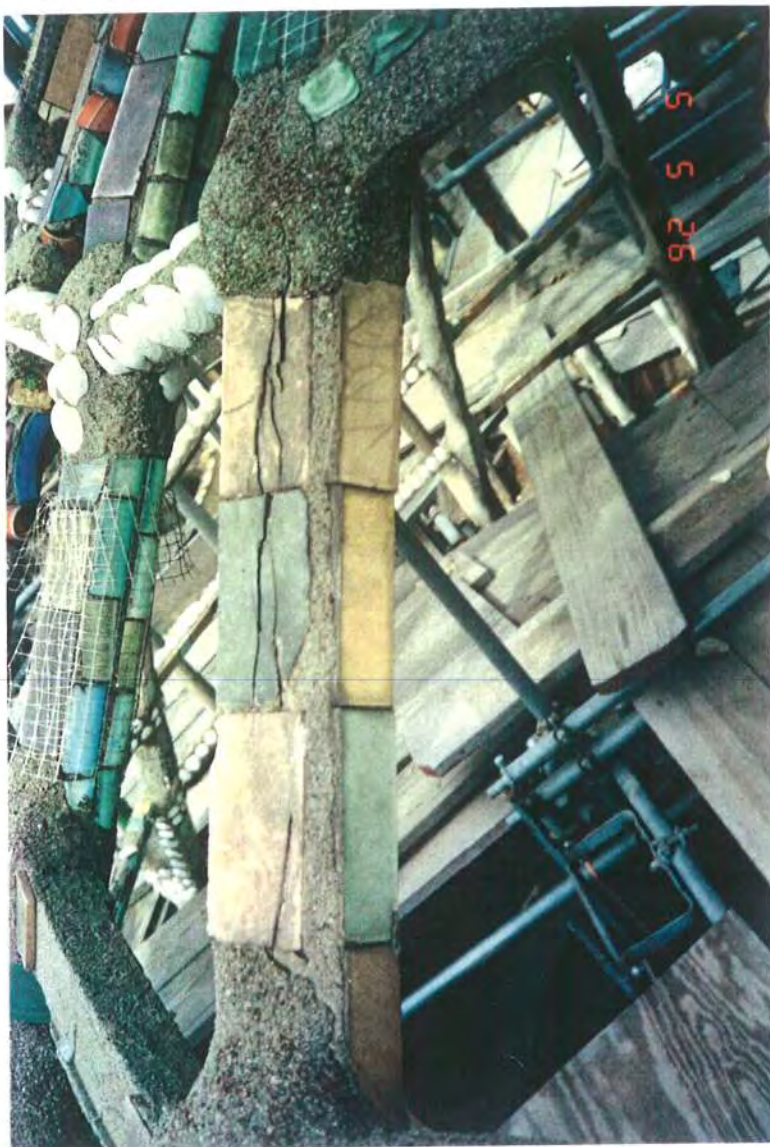


Figure 35. Cracks in third arched support before conservation work. May 1992.



Figure 36. Third arched support after rebonding of original covering over new steel 'T' section reinforcement. Aug 1992.



Figure 37. Third arched support after rebonding of original covering. Aug 1992.

Figure 38. Cracks in fourth arched support before conservation work. Aug 1992.



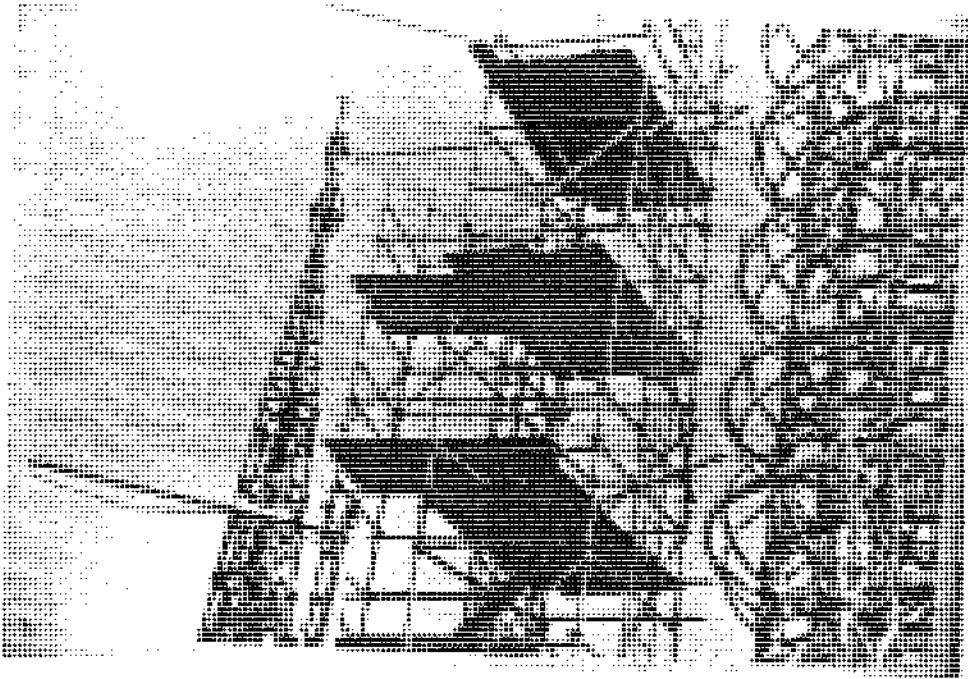


Figure 39. Free-standing
Scaffold built for
photographer of Gazebo.
January 1987.

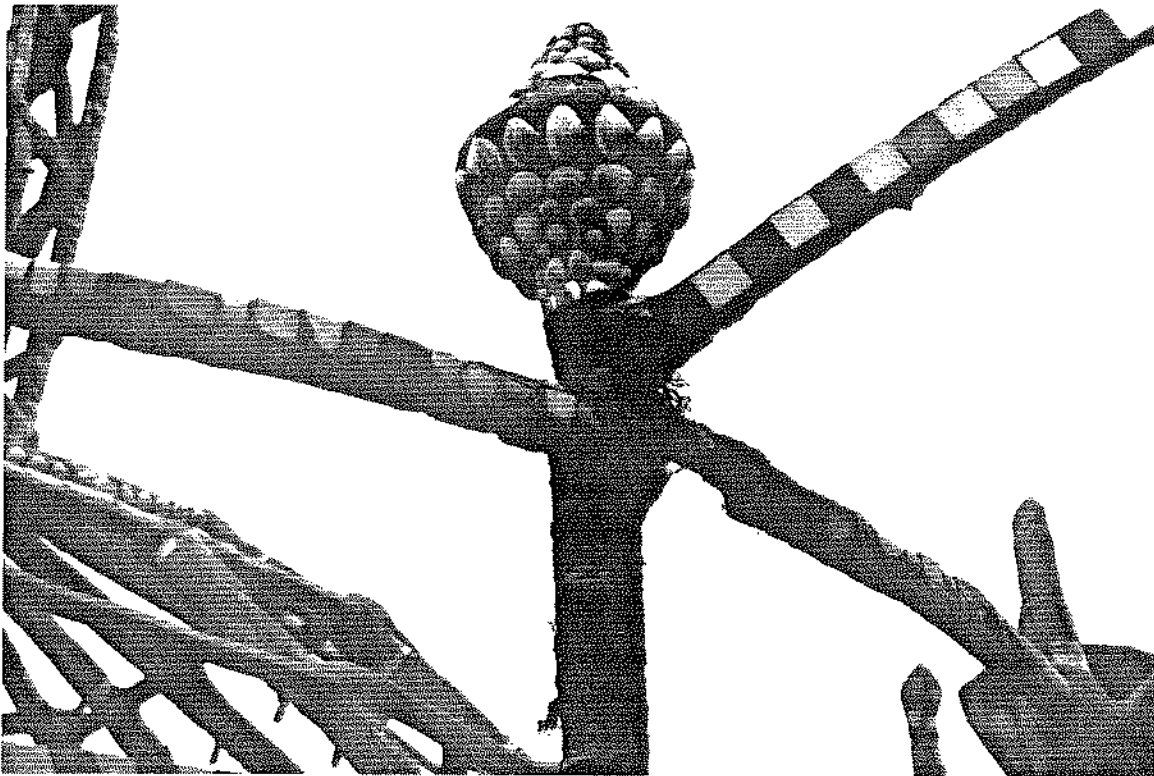


Figure 40. Damaged finial and
outer vertical and band.
October 1987.

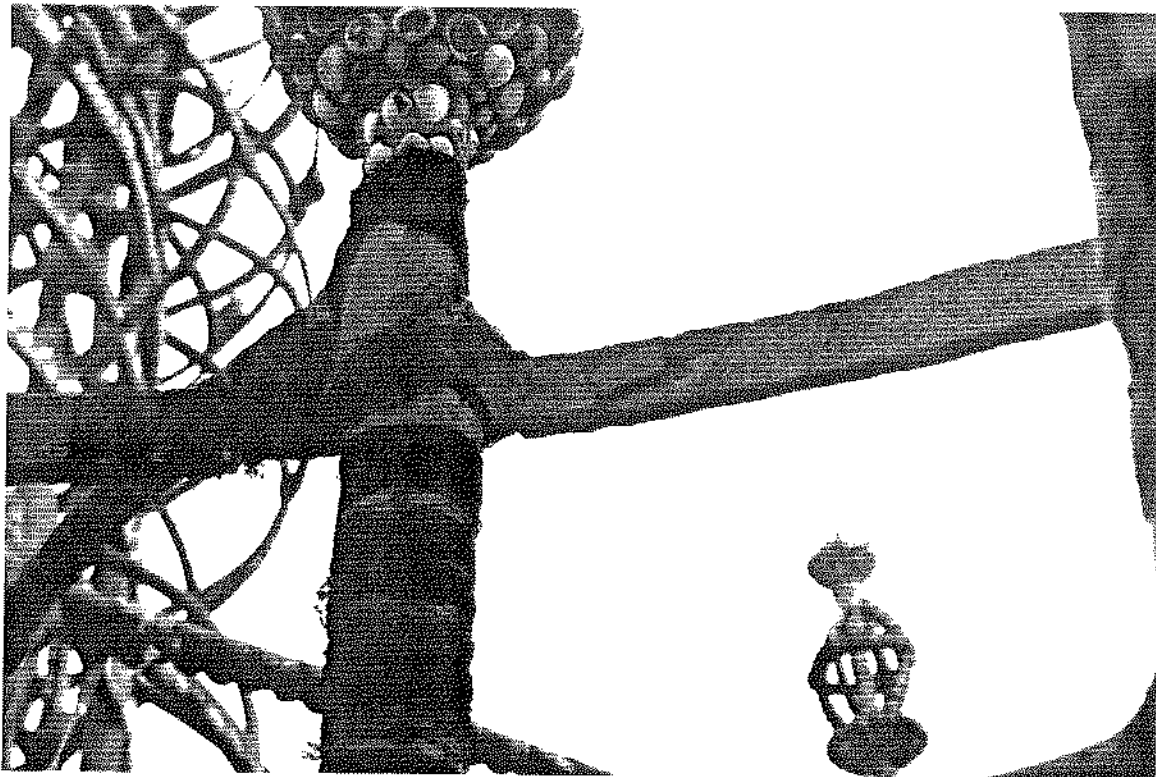


Figure 41. Damaged finial and
outer vertical and band.
October 1987.

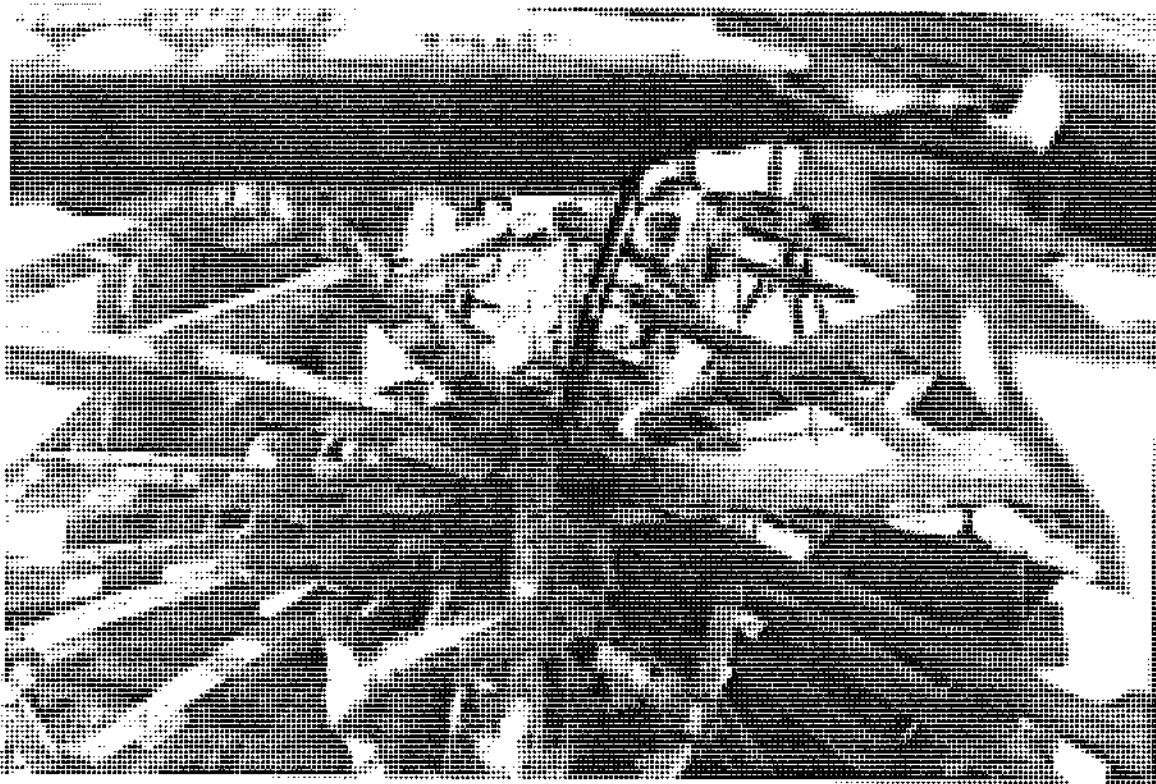


Figure 42. New 'T' section
reinforcement ready for
welding. January 1992.



Figure 43. New 'T' section reinforcement ready for welding. January 1992.

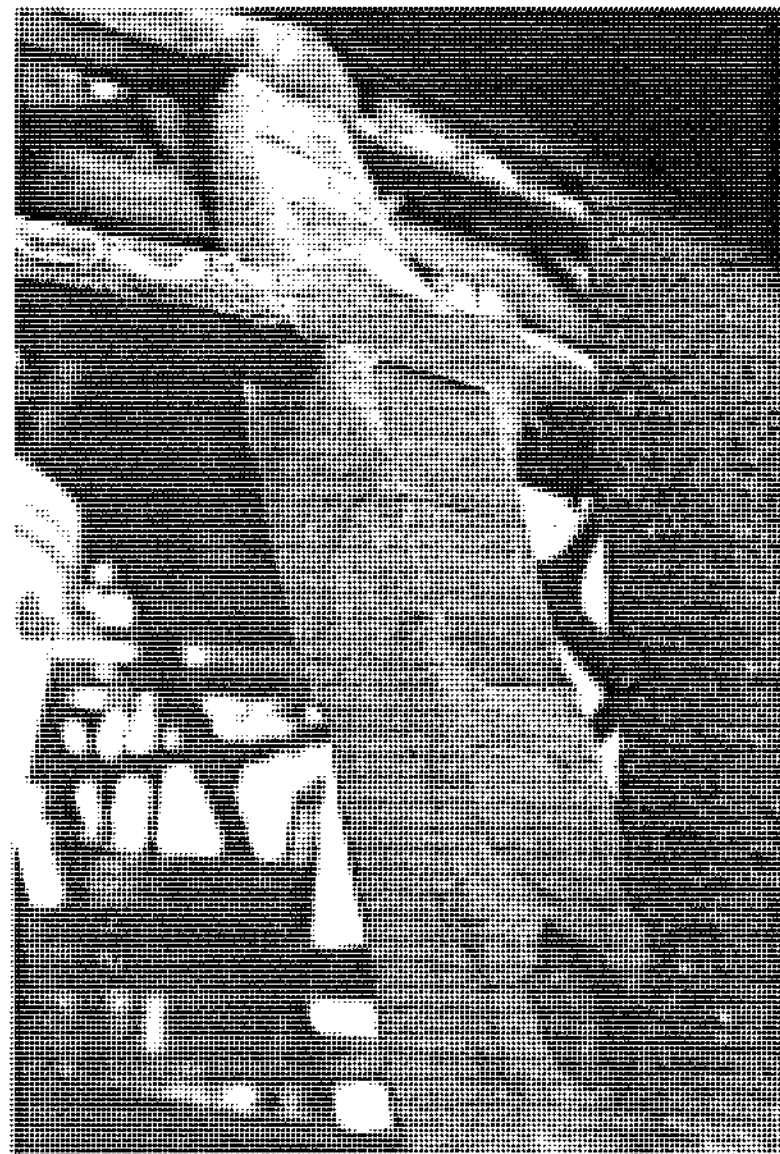


Figure 44. Major vertical support 04 after replacement of covering and ornaments. April 1992.

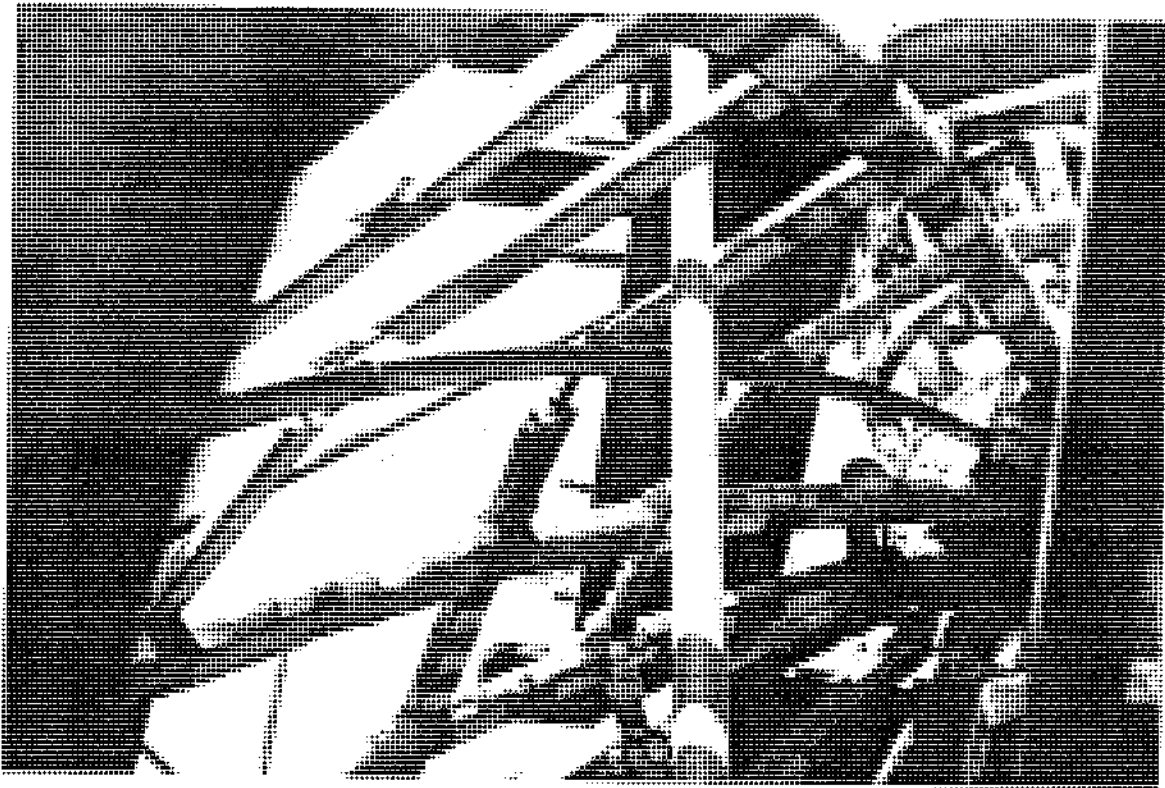


Figure 45. New 'T' section of major vertical support 06 in place for welding. June 1992.



Figure 46. Lower portion of major vertical 06 ready for welding to band and base. June 1992.



Figure 47. New reinforcement wrapped with mesh, ready for reinstallation of cover and ornaments. July 1992.

Figure 48. Rusted Channel reinforcement before replacement. August 1992.





Figure 49. Rusted outer vertical 08 steel reinforcement. September 1992.

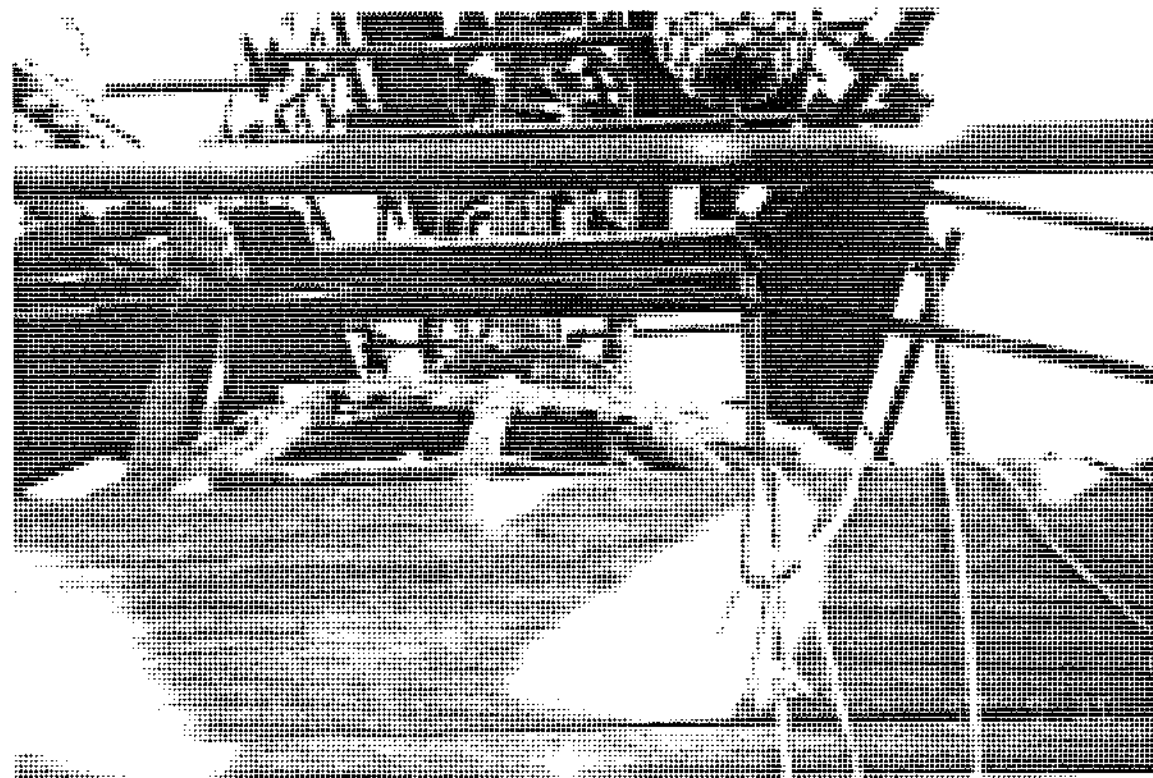


Figure 50. New steel channel in place for rusted outer vertical 09. September 1992.

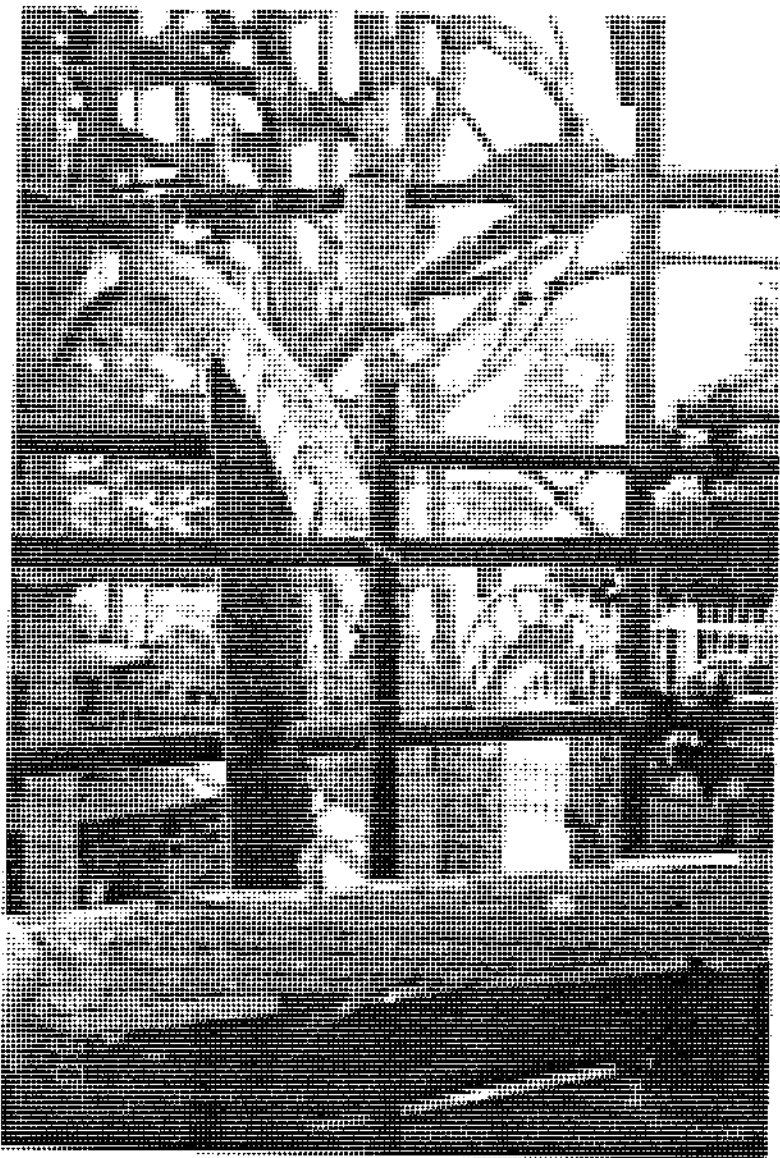
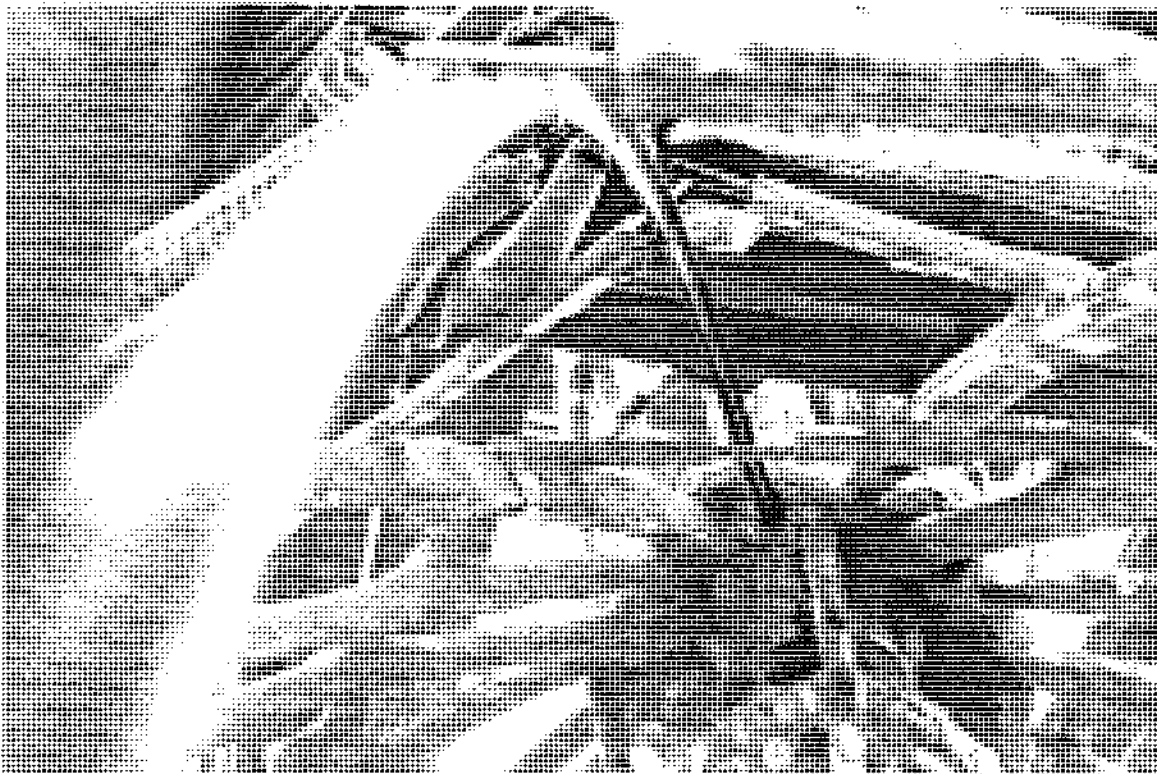


Figure 51. New steel channel in place for removed, rusted reinforcement. September 1992.

Figure 52. New steel 'T' section reinforcement in place. September 1992.



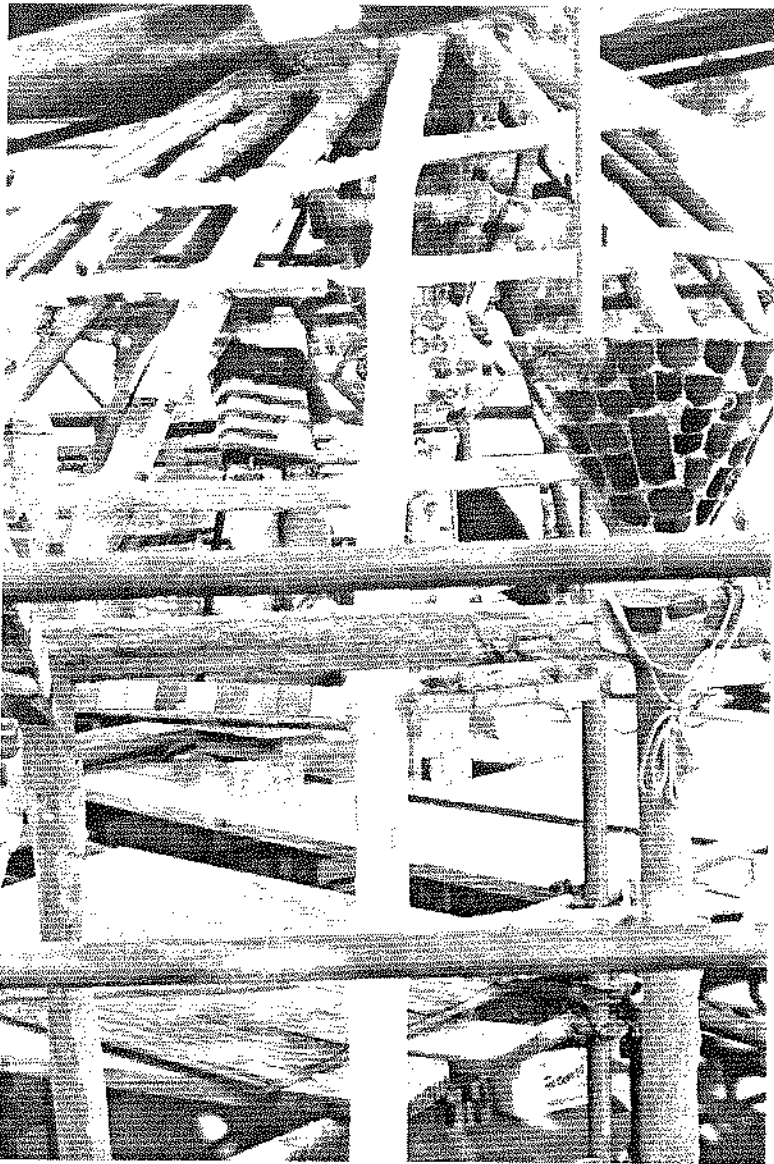
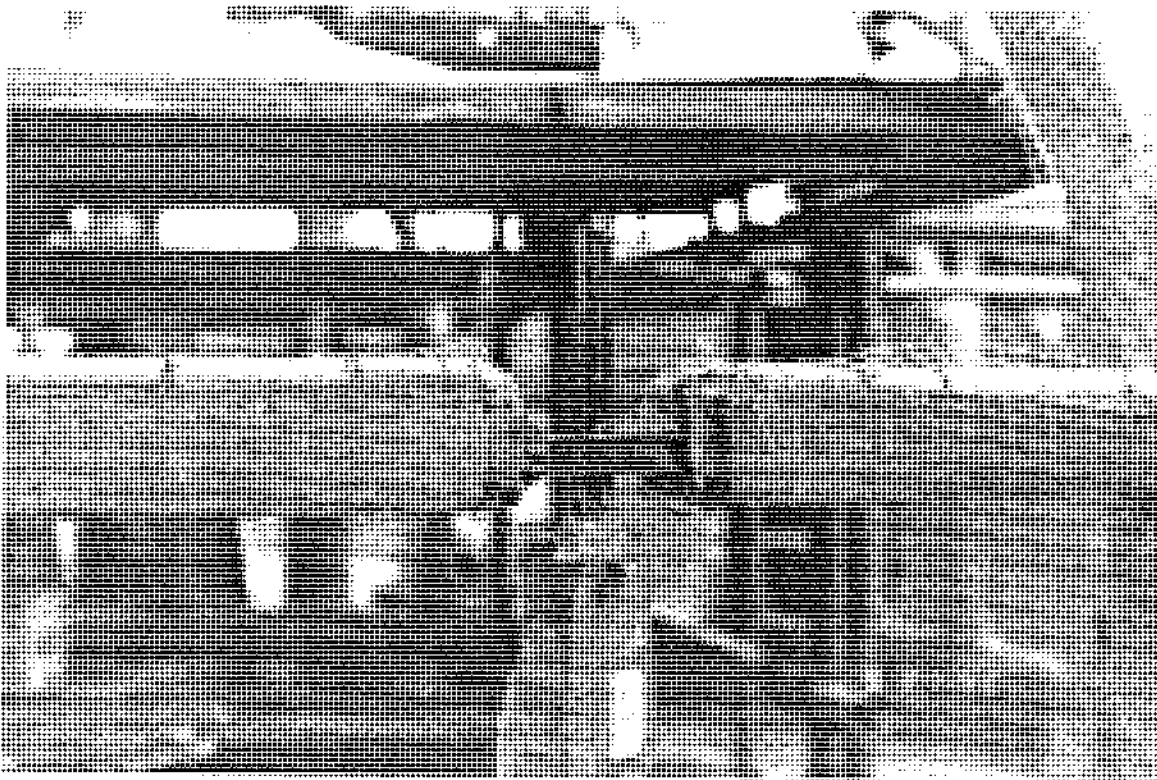


Figure 53. Major vertical support after conservation work. September 1992.

Figure 54. Lower end of finial vertical support and band channels. September 1992.



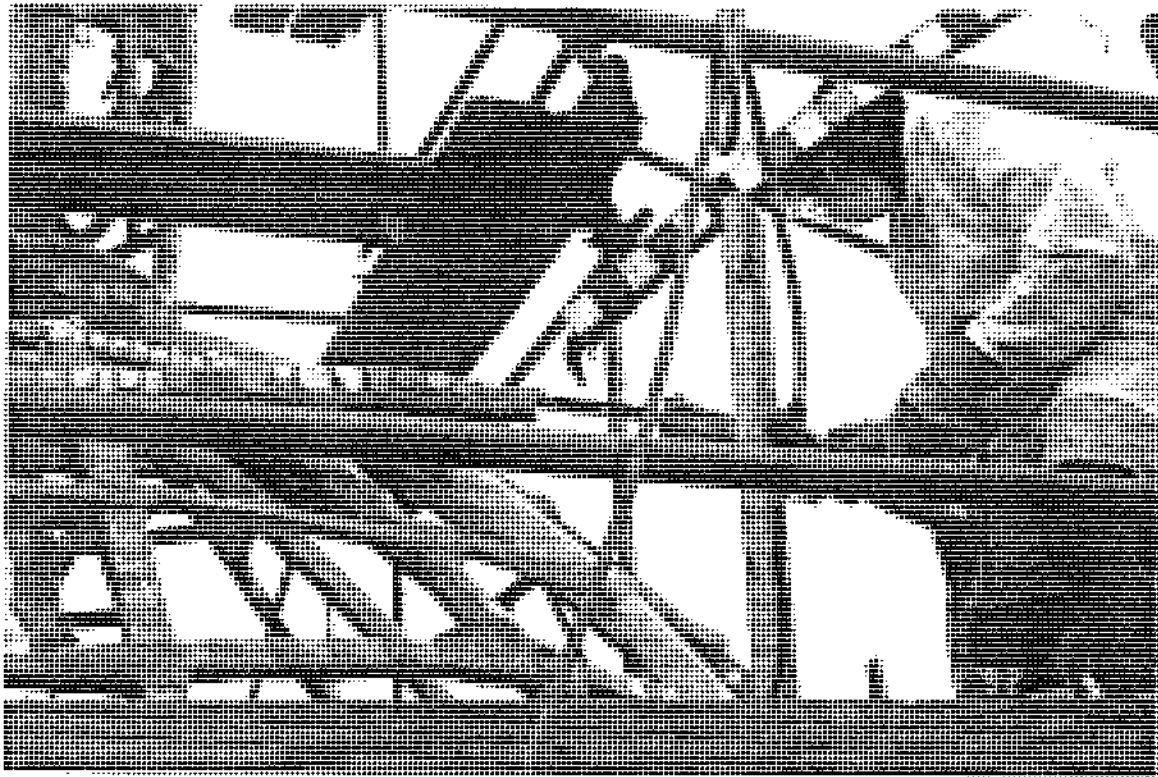


Figure 55. Outer upper band
and end of Overhead to West
Tower after removal of finial.
September 1992.

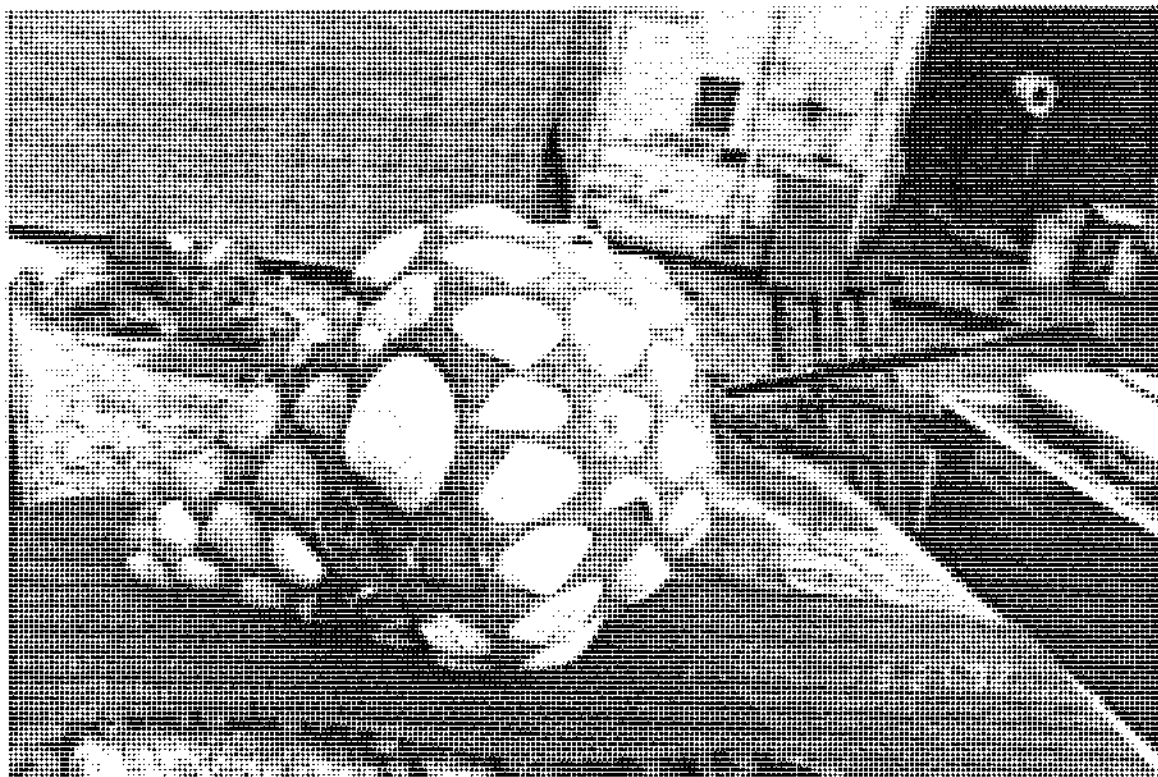


Figure 56. Finial on bench
prior to conservation work.
September 1992.

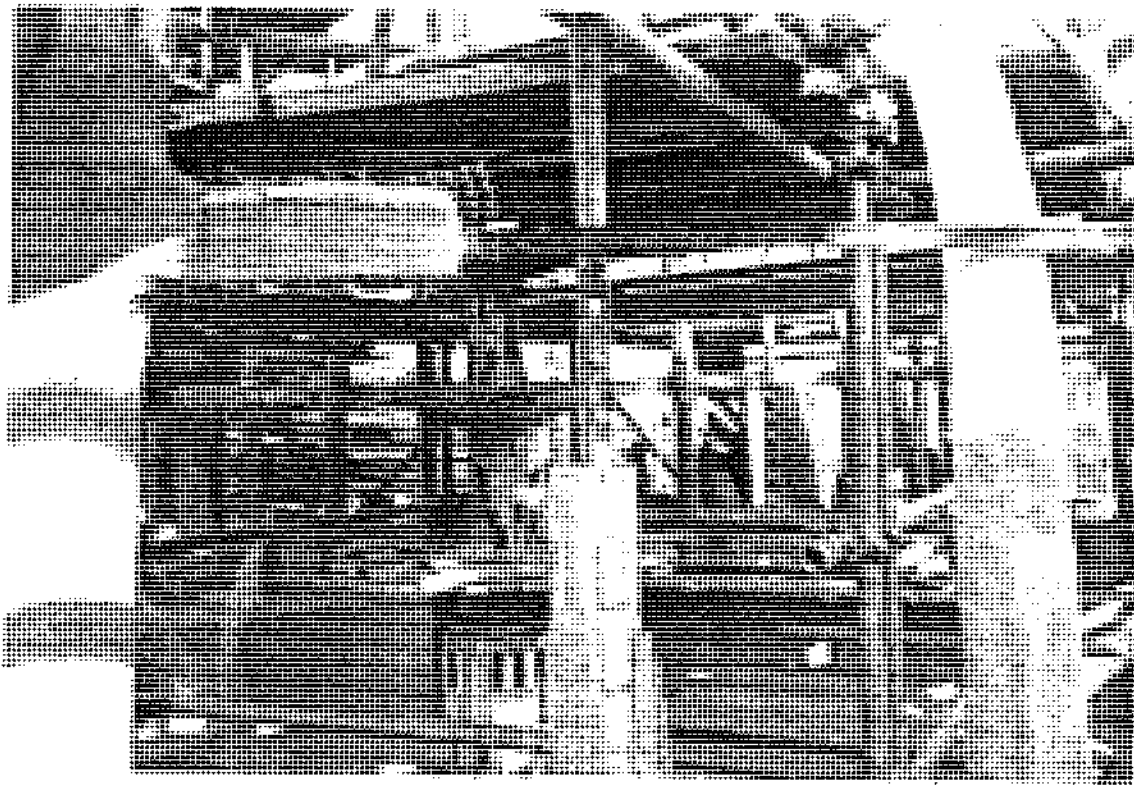


Figure 57. Attachment of original reinforcement to new steel upper channel on band 01. September 1992.

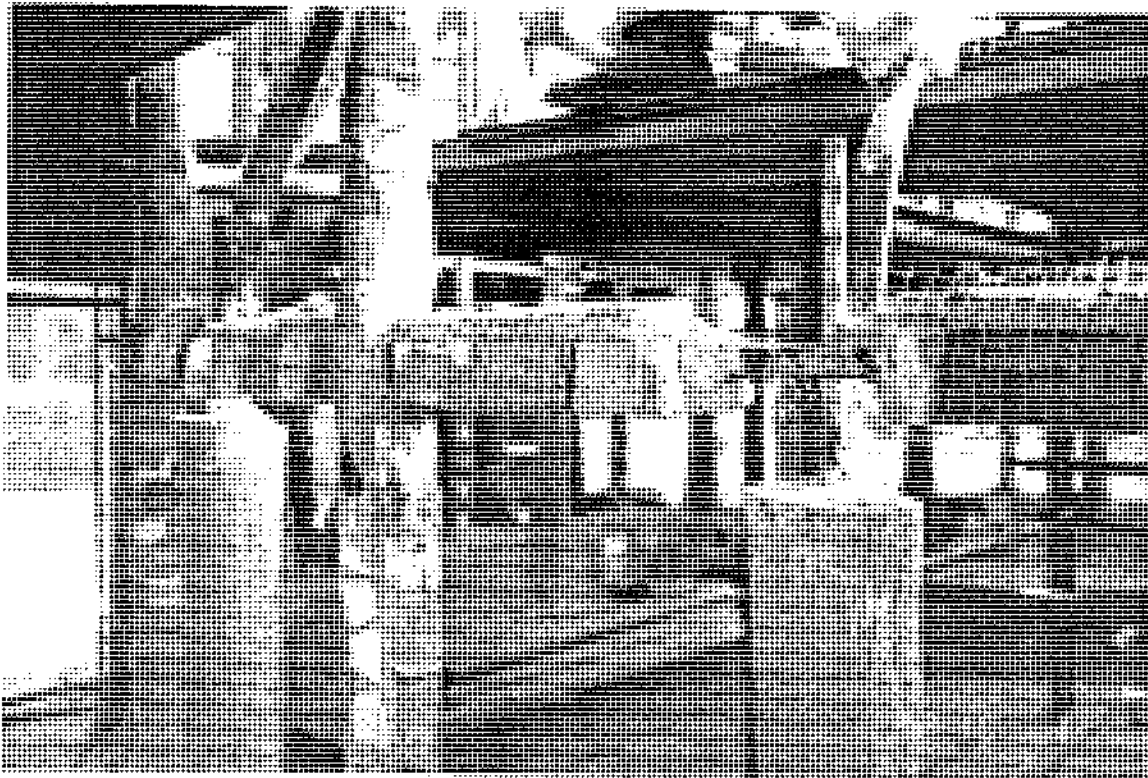


Figure 58. Mortar removed to inspect failed area at joint of major vertical 13. October 1992.

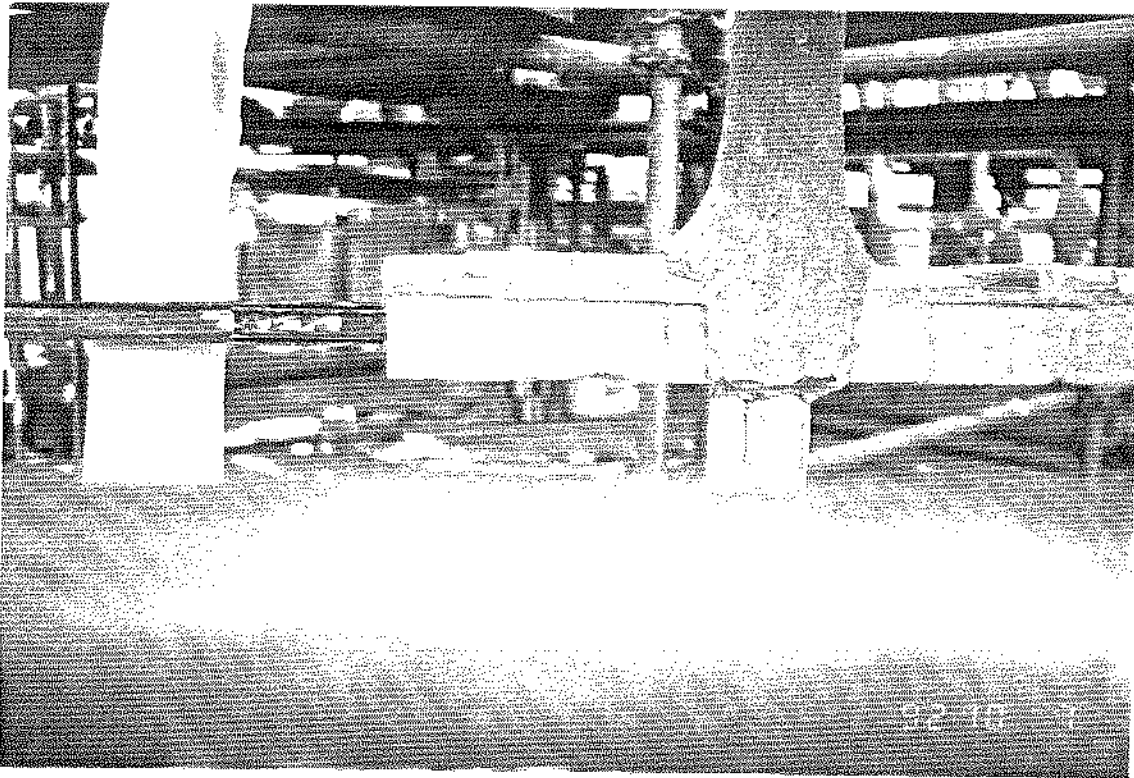


Figure 59. New steel channel (1) nested into original channel before reinstallation of covering. October 1992.



Figure 60. Mortar coat added over new steel outer band 02 reinforcement. November 1992.



Figure 61. Mortar coat added over new steel and mesh of outer vertical 17. November 1992.

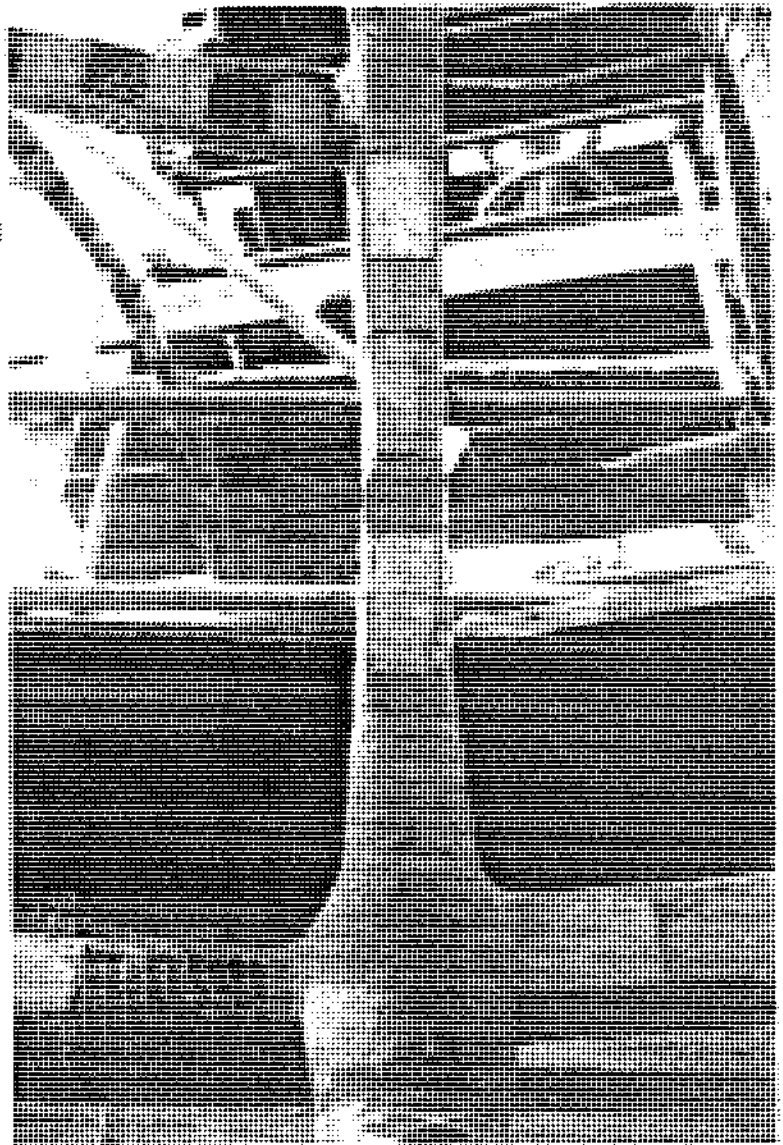


Figure 62. Ornaments replaced into repair mortar on major vertical 14. November 1992.

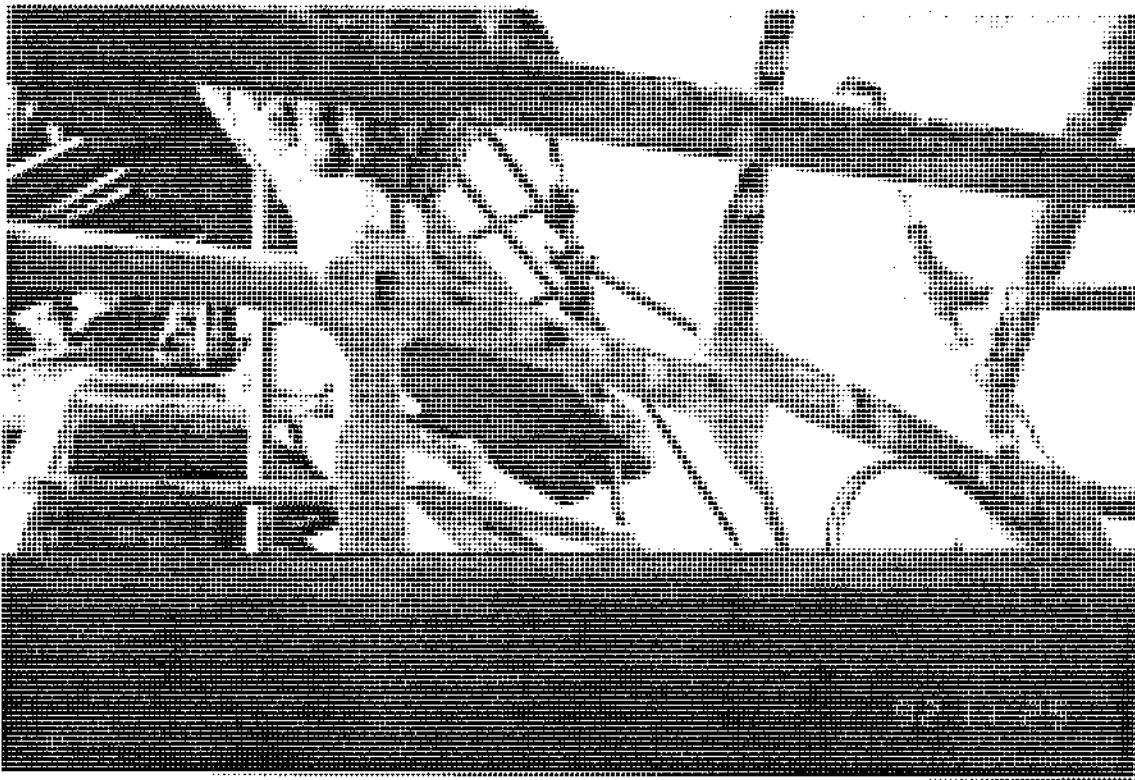


Figure 63. Original ornaments replaced on major vertical 06 and finial. November 1992.

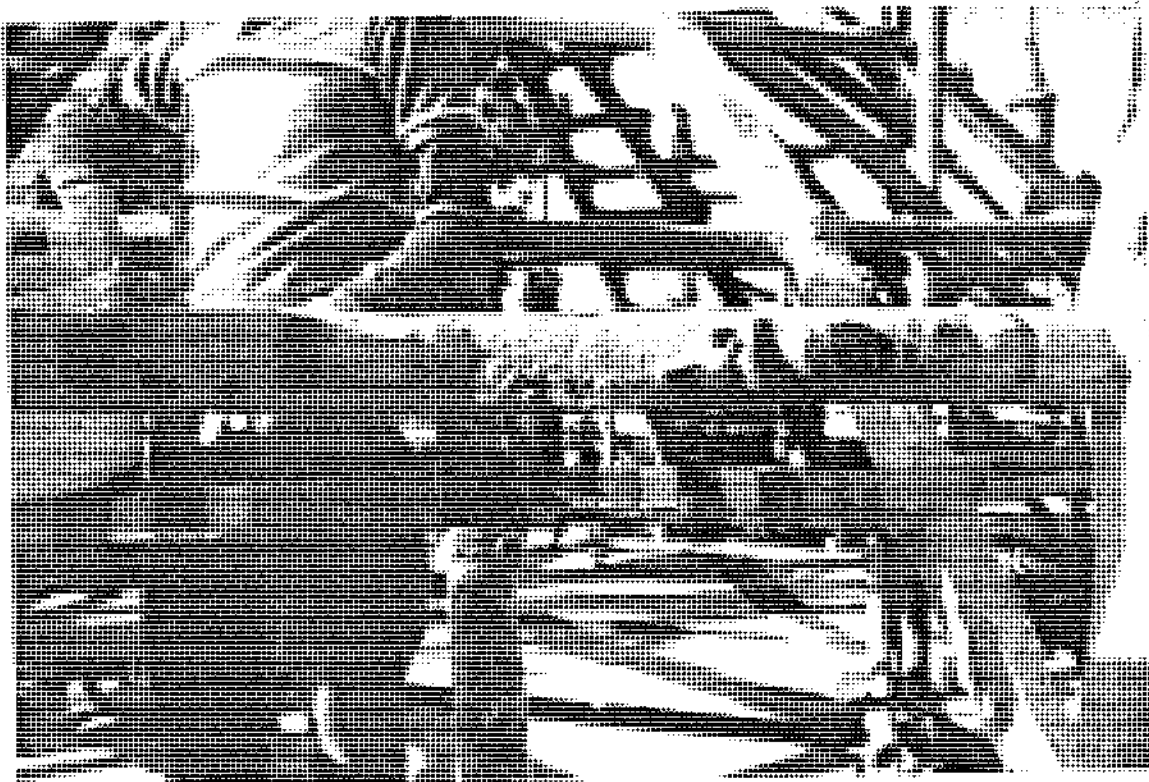


Figure 64. Original ornaments rebonded to new steel reinforcement on upper outer band. December 1992.

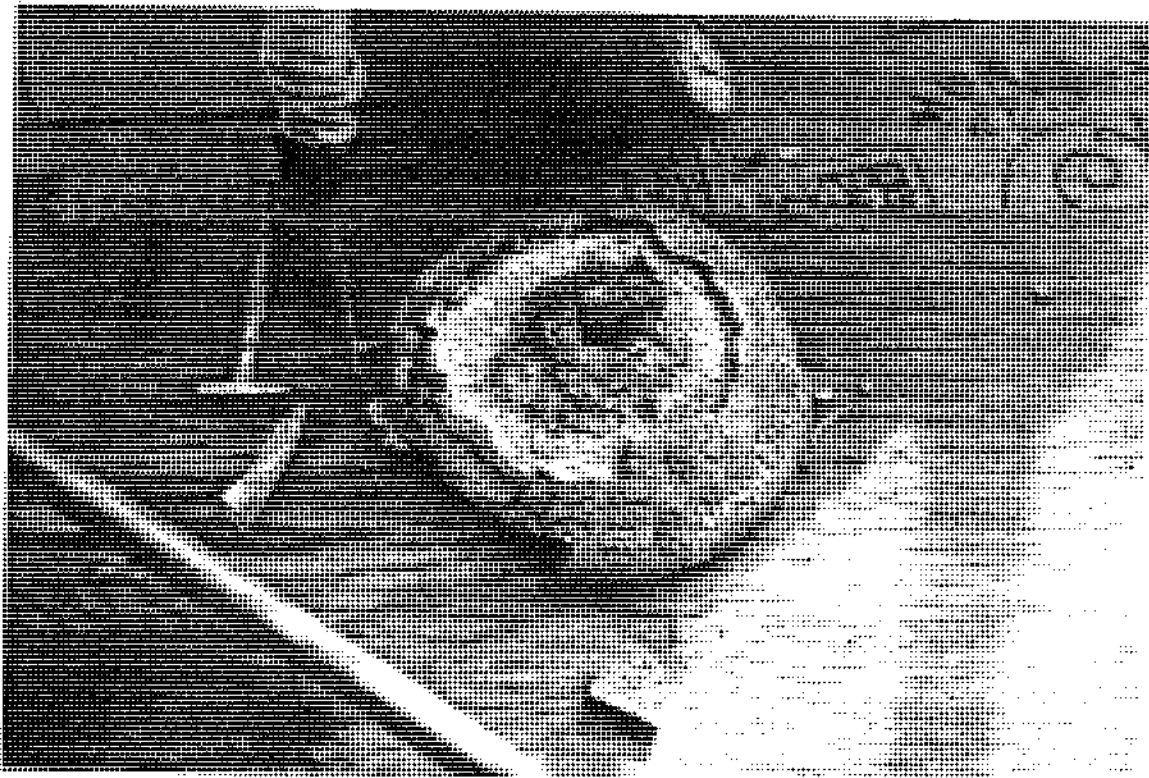


Figure 65. Base of birdbath
after removal of bowl.
December 1992.



Figure 66. Damaged underside
of birdbath bowl. December
1992.

Figure 67. Mortar coat addition to outside of new reinforcement in outer vertical 17. November 1992.



Figure 68. Mortar coat addition to outer horizontal band 02 and outer vertical 09. November 1992.

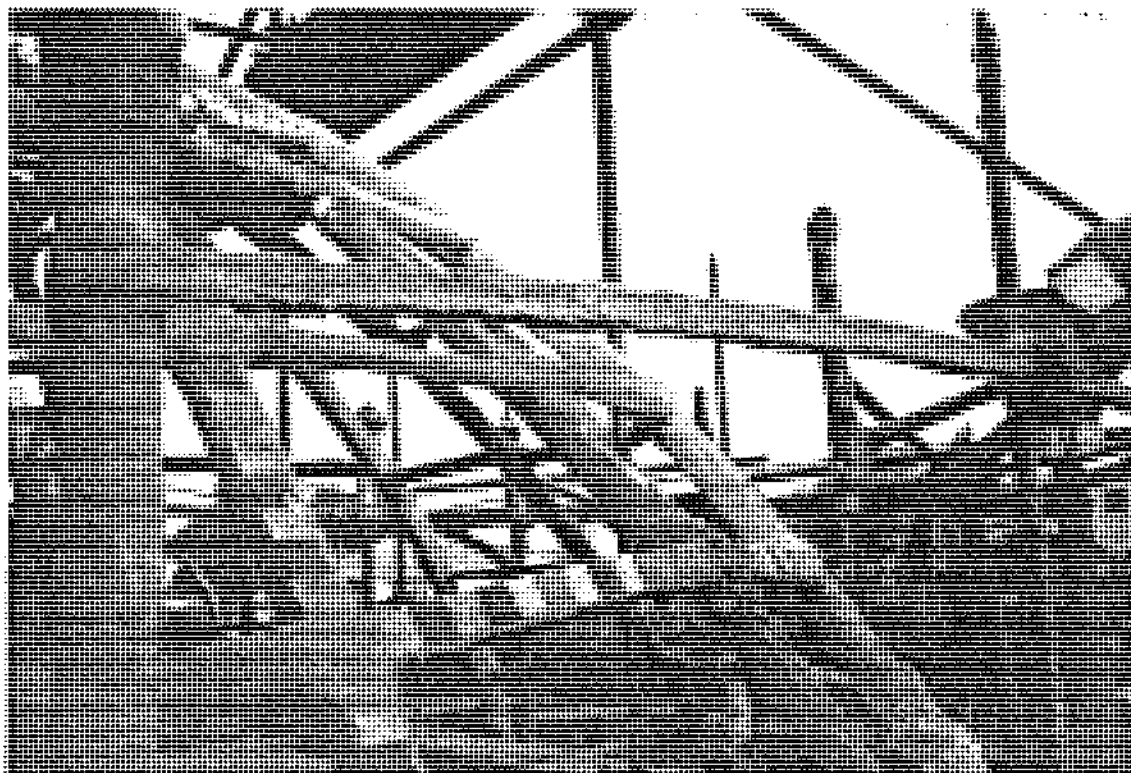




Figure 69. Welding of joint between outer band 02 and outer vertical. November 1992.

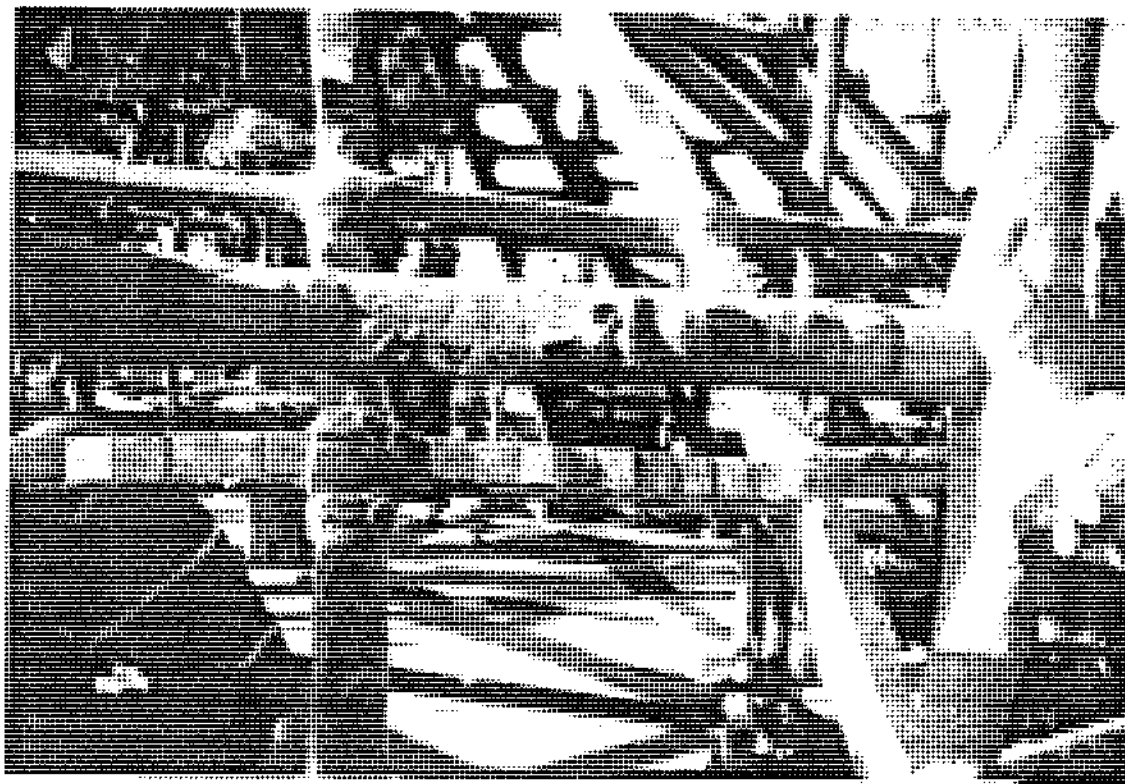


Figure 70. Rebonding of original ornaments & addition of mortar coat to outer band 02. December 1992.



Figure 71. Statue on top of spire before repairs. May 1993.

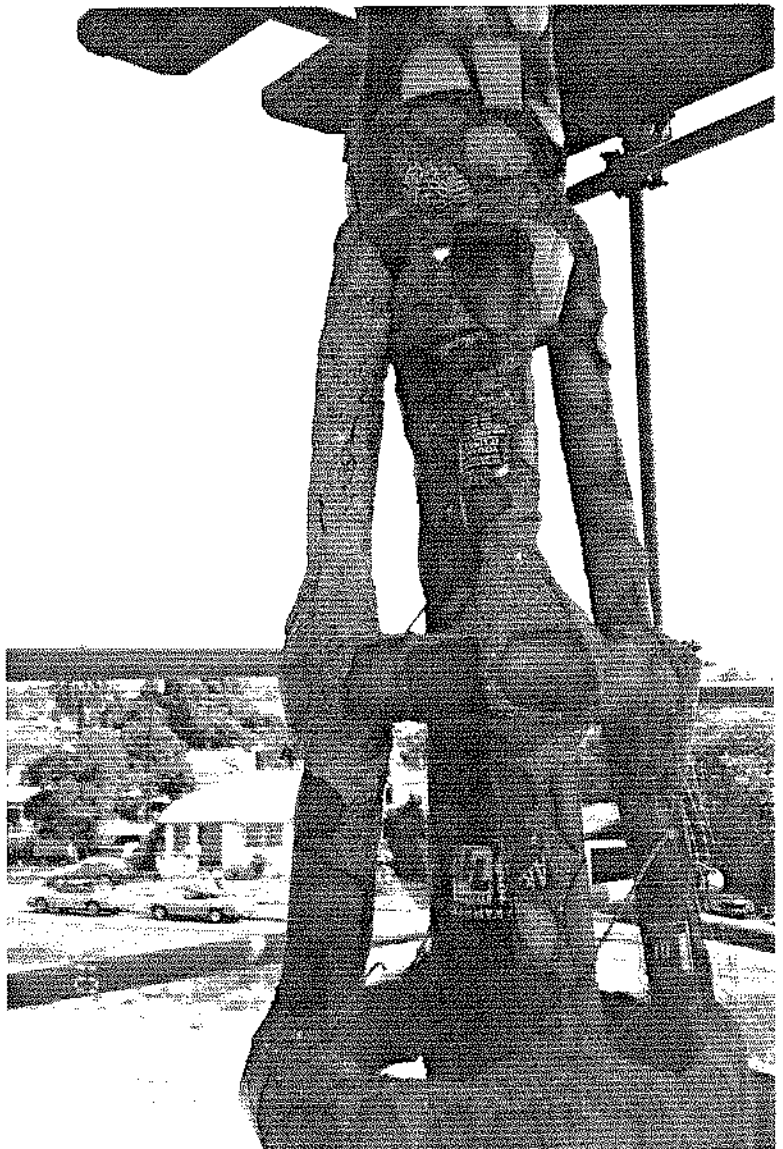


Figure 72. Damage to upper portion of spire (H level) before repairs. May 1993.

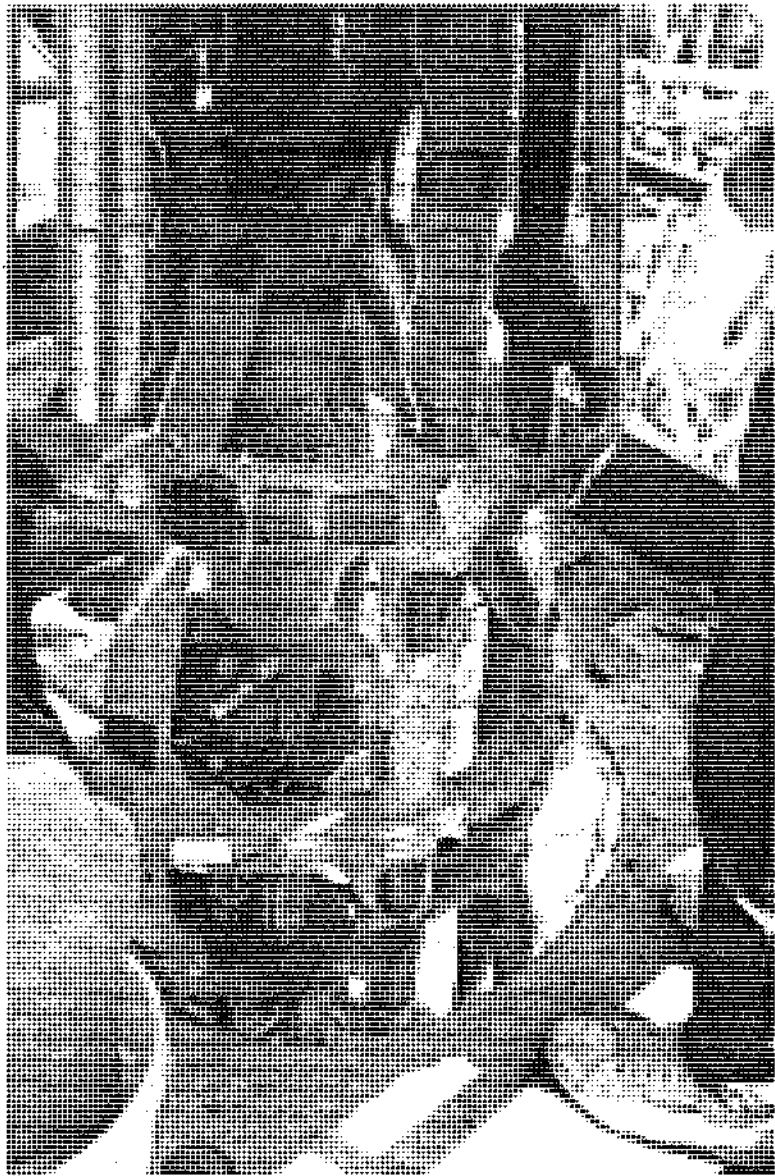


Figure 73. Horizontal band (#9 at G level) before detachment for removal of rust and mortar. July 1993.



Figure 74. Horizontal band (#9 at G level) after detachment for removal of rust and mortar. July 1993.

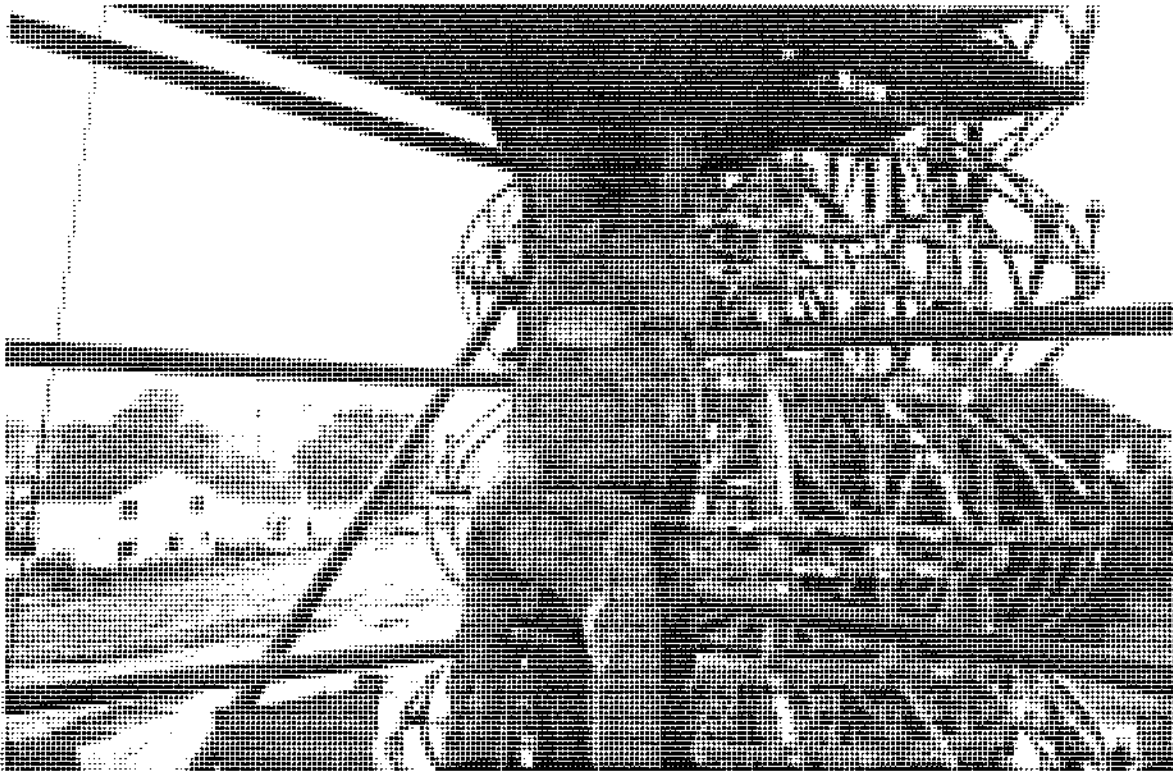


Figure 75. Damage to members
(H level) before repairs.
June 1993.

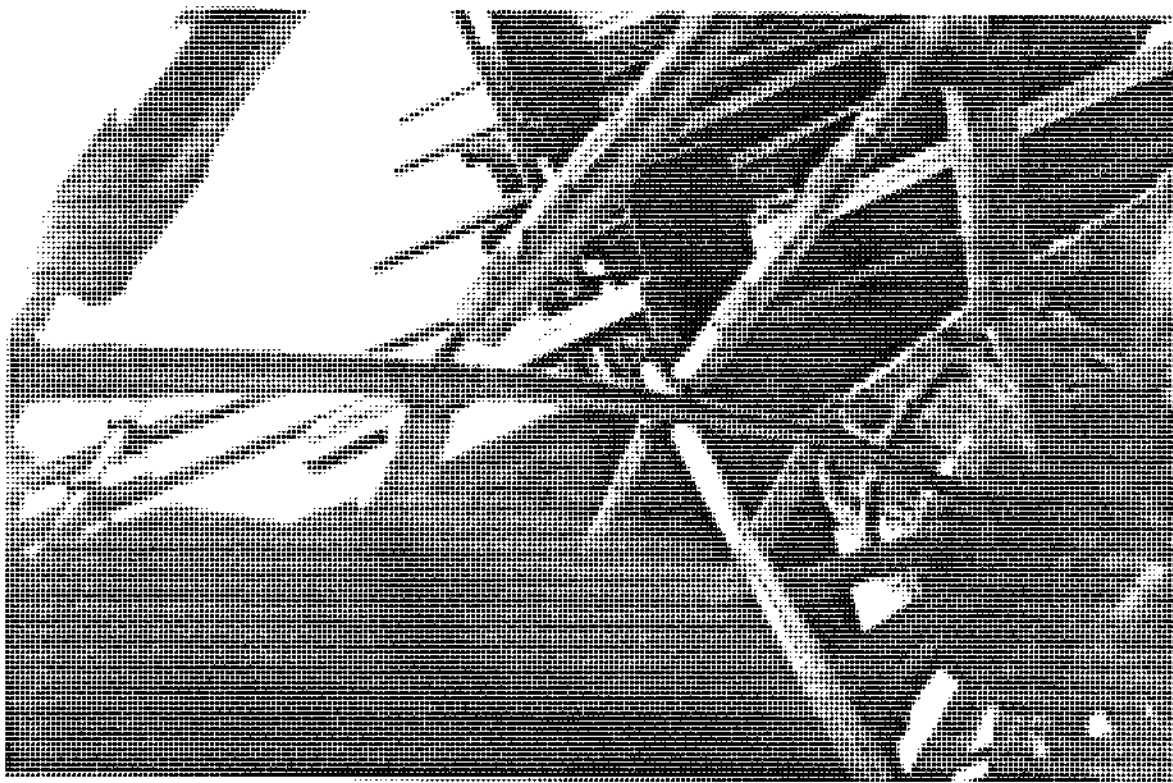


Figure 76. New steel 'T'
section reinforcement
installed to replace old
reinforcement. July 1993.

Figure 77. Repairs in process
(H level). June 1993.

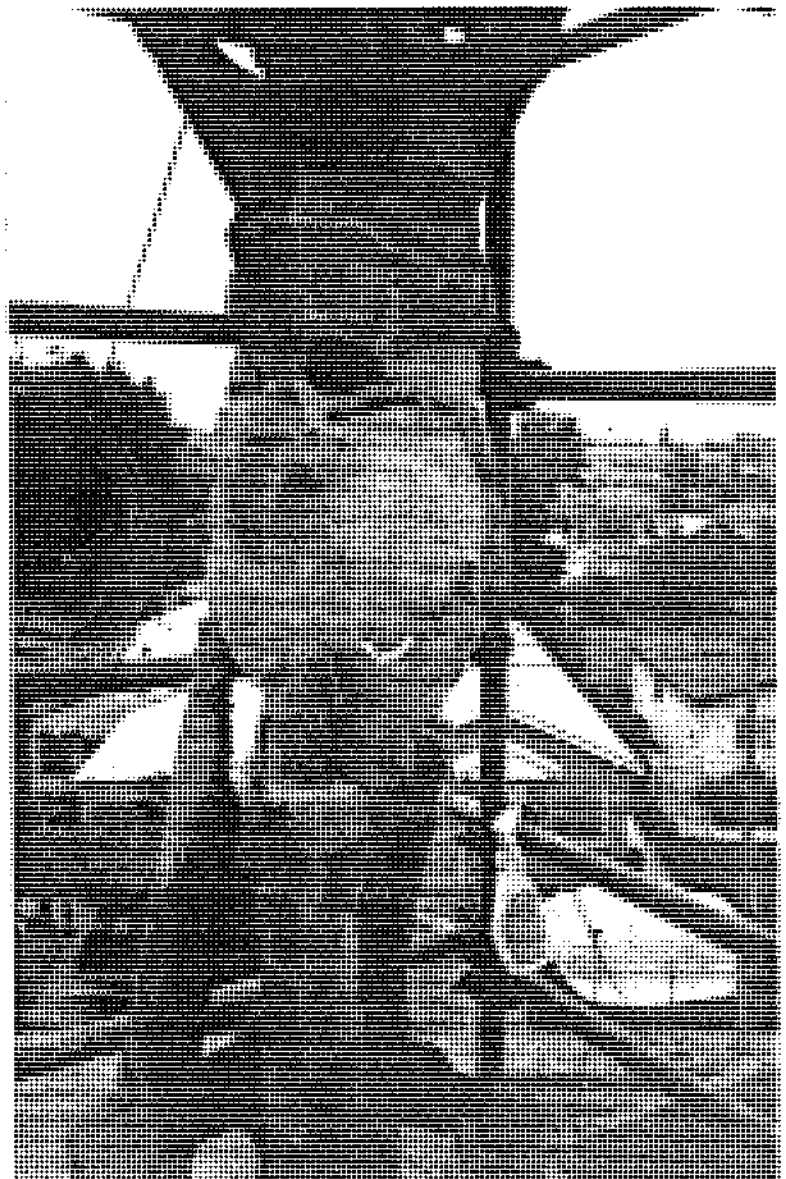


Figure 78. Re-bonding
original mortar fragments
with Jahn M90 mortar (H
level). July 1993.

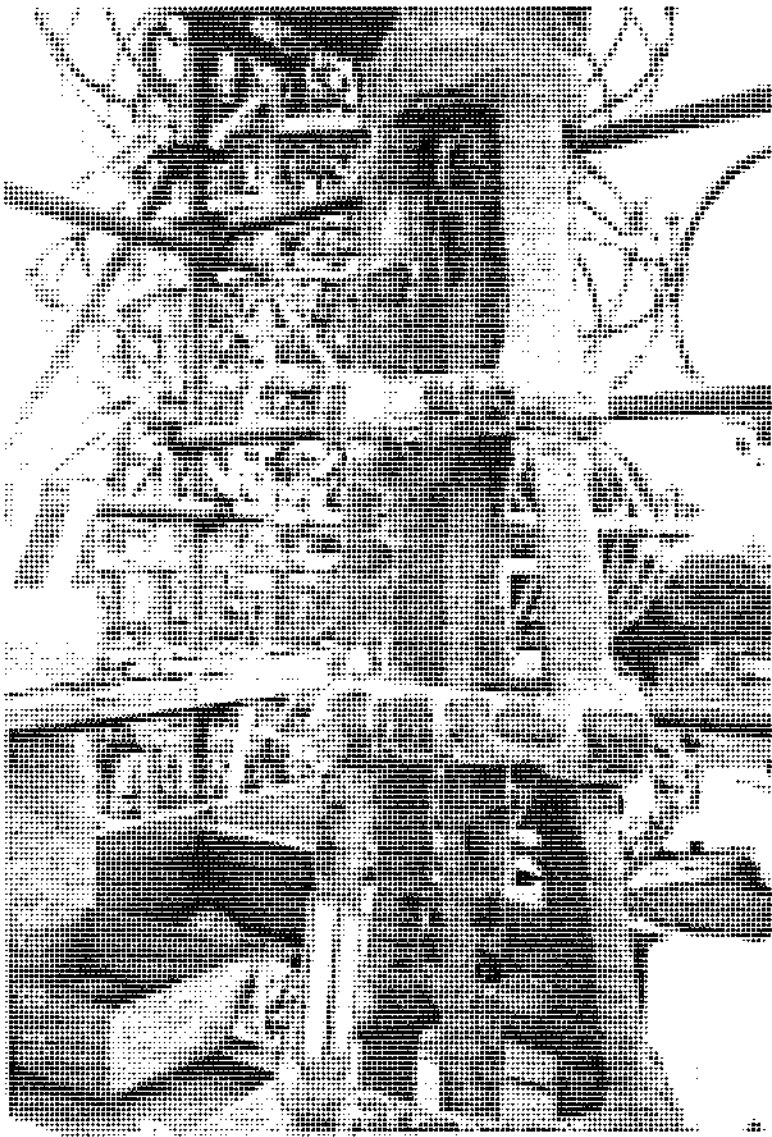


Figure 79. Building up contour of repaired member with Jahn M90 mortar (F level). August 1993.

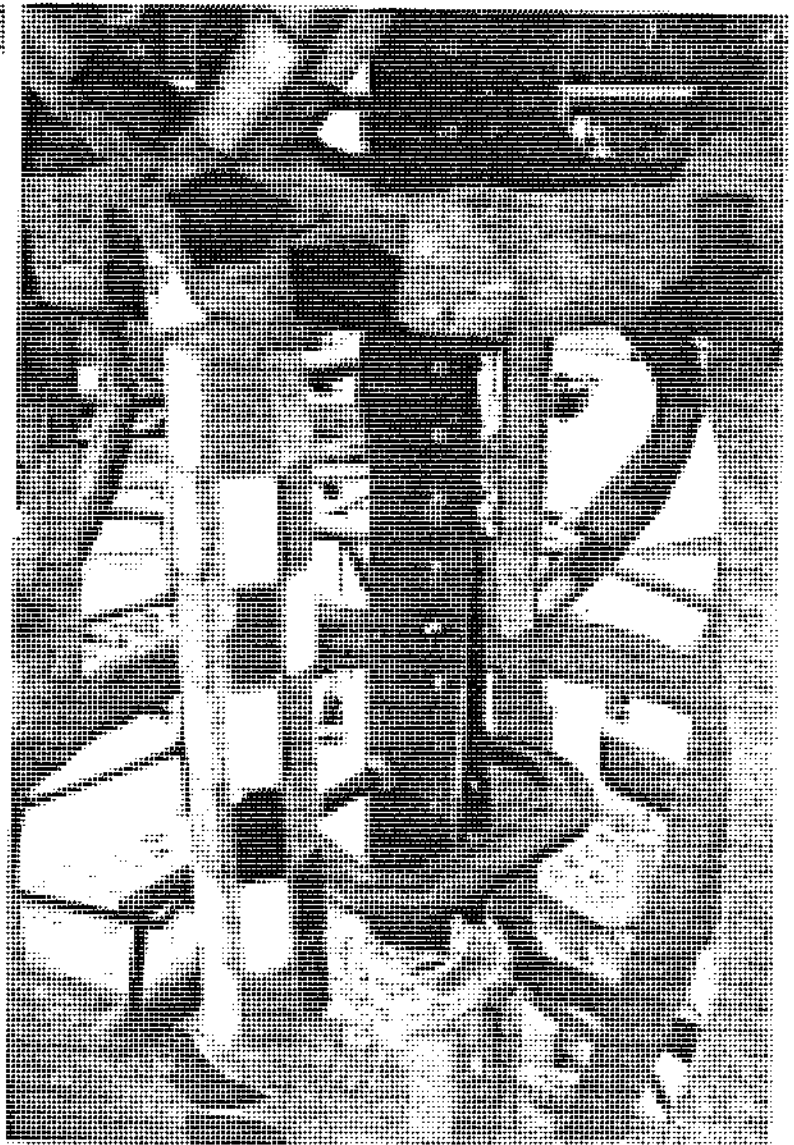


Figure 80. Attaching new steel sleeve around center column of spire (E level). October 1993.

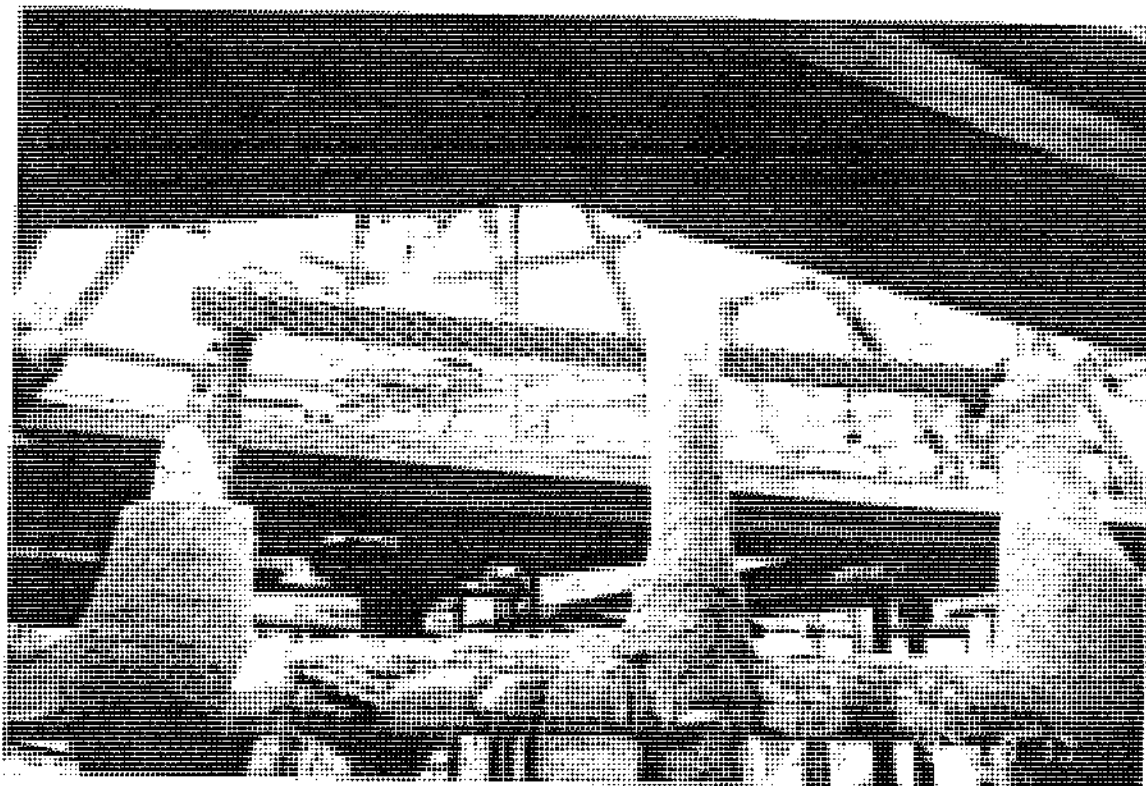


Figure 81. New steel
reinforcements for damaged
members (B level). August
1993.

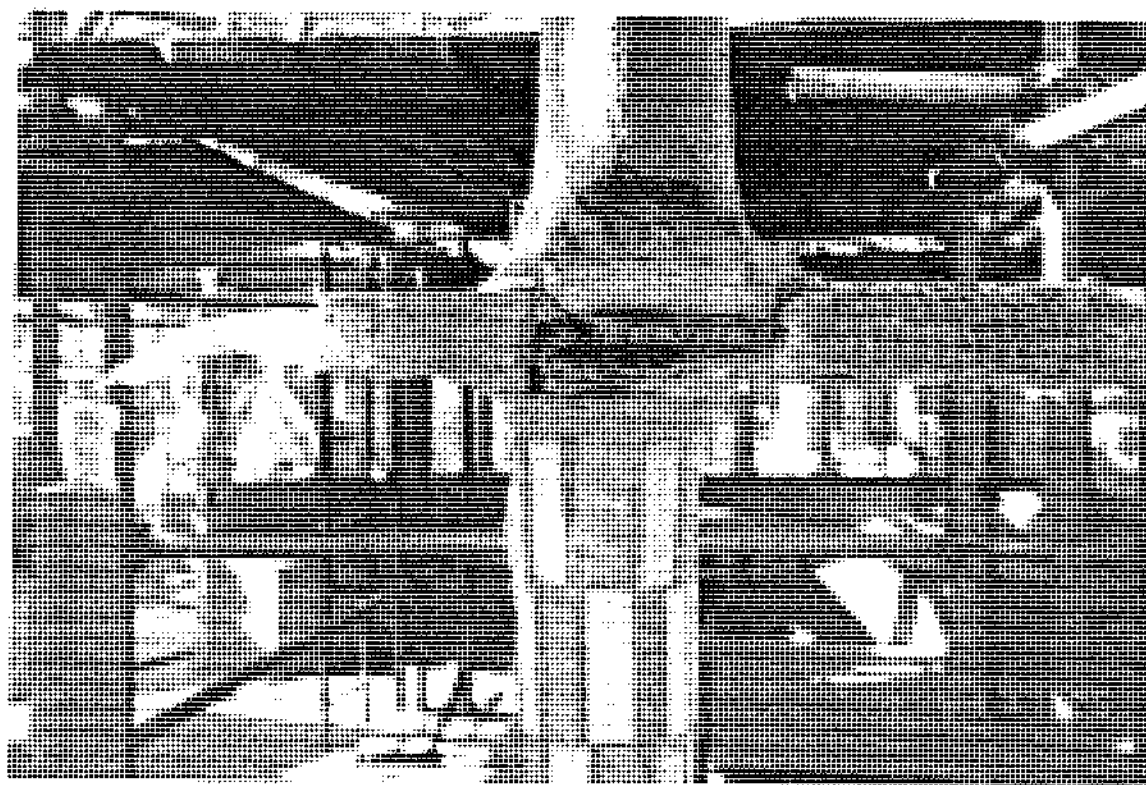


Figure 82. Rusted steel
removed from horizontal band
(B level). November 1991.

Figure 83. Damaged
reinforcements before removal
(B level Outer Vertical #12).
September 1993.

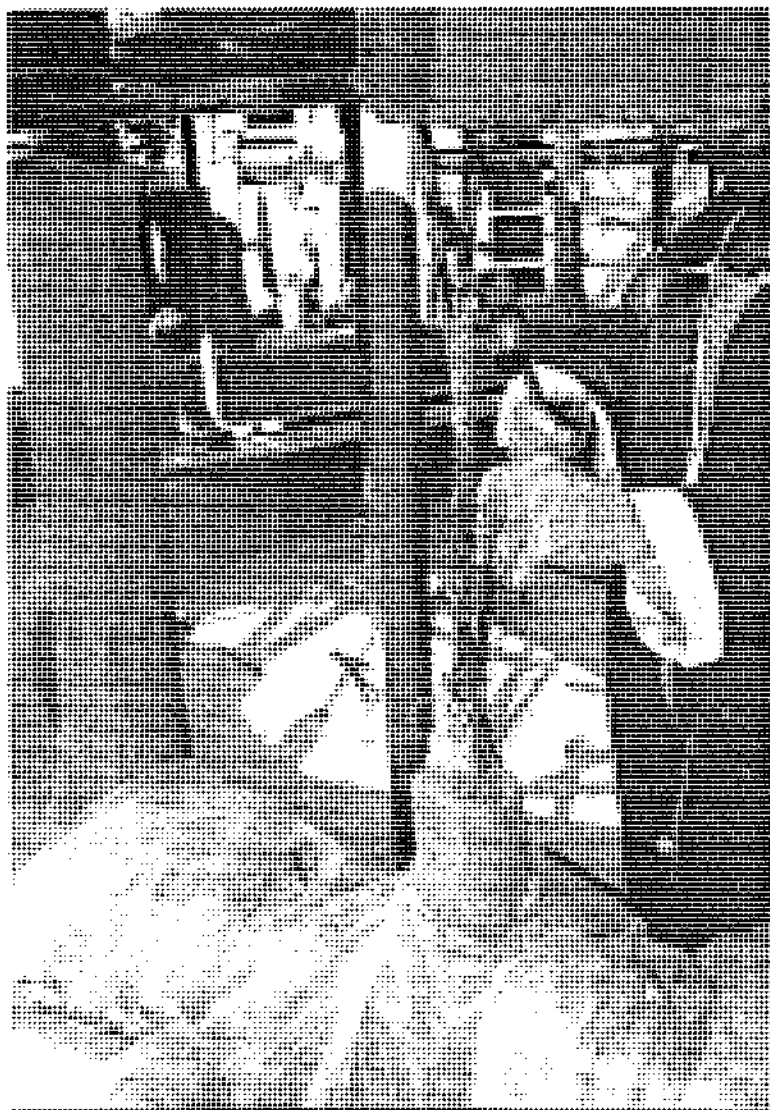
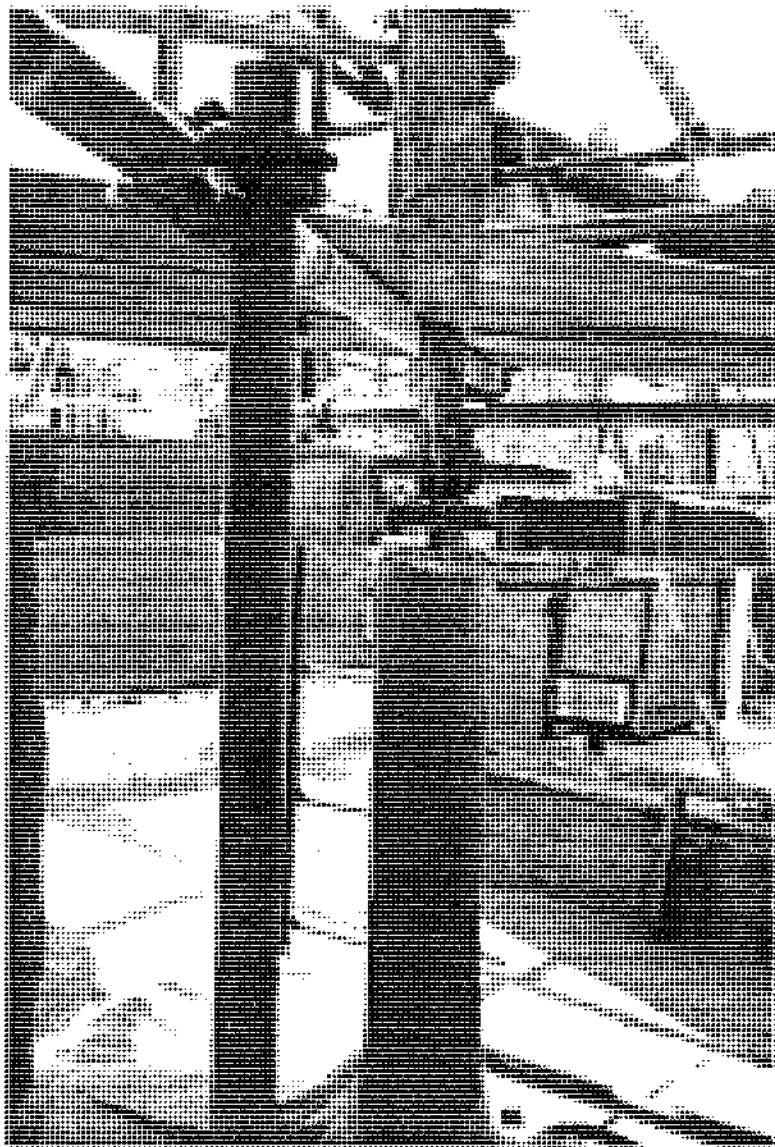


Figure 84. Removal of damaged
reinforcement (B level Outer
Vertical #12). October 1993.

Figure 85. Applying Jahn M90 mortar coat over repaired reinforcement (E level center column). October 1993.

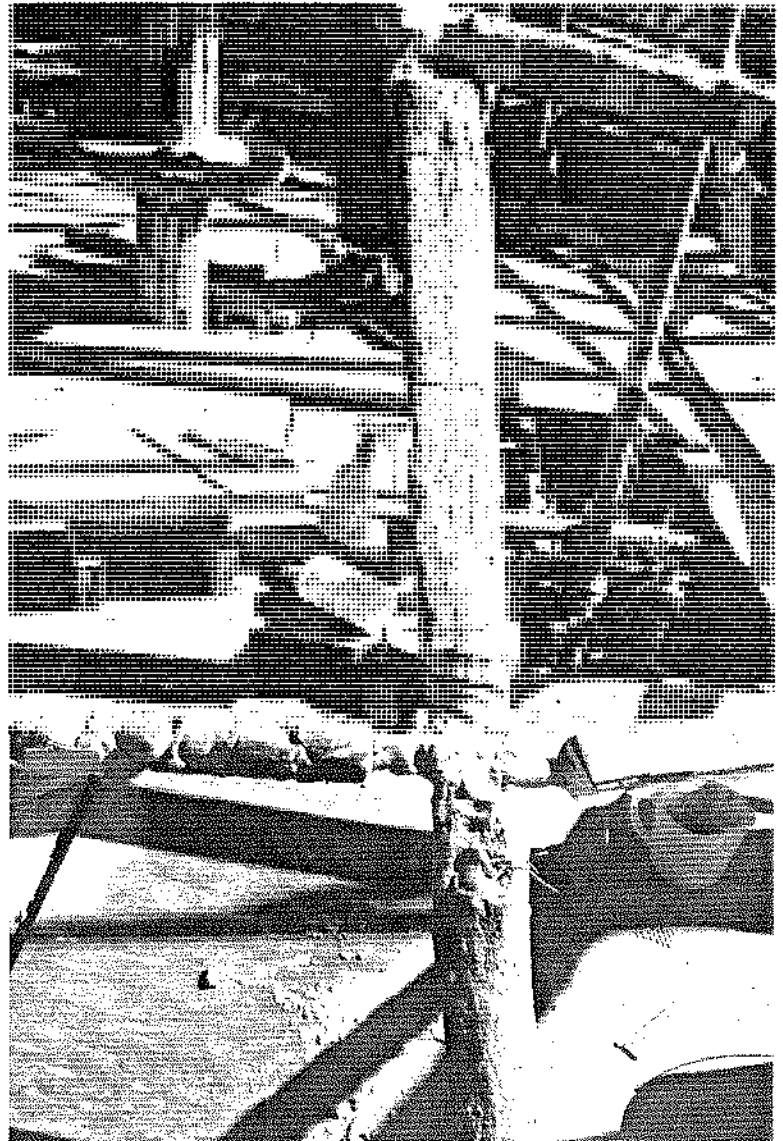


Figure 86. Re-bonding mortar fragments in process after repair of reinforcements (C level). October 1993.



Figure 87. Re-bonding mortar and ornaments with Jahn M90 mortar (C level). October 1993.



Figure 88. Re-bonding mortar and ornaments with Jahn M90 mortar (B level). November 1993.



Figure 89. Steel mesh wrapped around replacement reinforcement on ring 2 after removal of mortar with embedded ornaments. (B level). January 1994.



Figure 90. Horizontal ring with mortar cover after replacement of reinforcement. (E level). January 1994.

Figure 91. Gazebo center column damage at 24 foot elevation before repair. Note vertical and horizontal cracks. (F level). January 1994.



Figure 92. Center column base decorative flange at 5 foot elevation after removing mortar and ornaments and wrapping with steel mesh. (B level). January 1994.



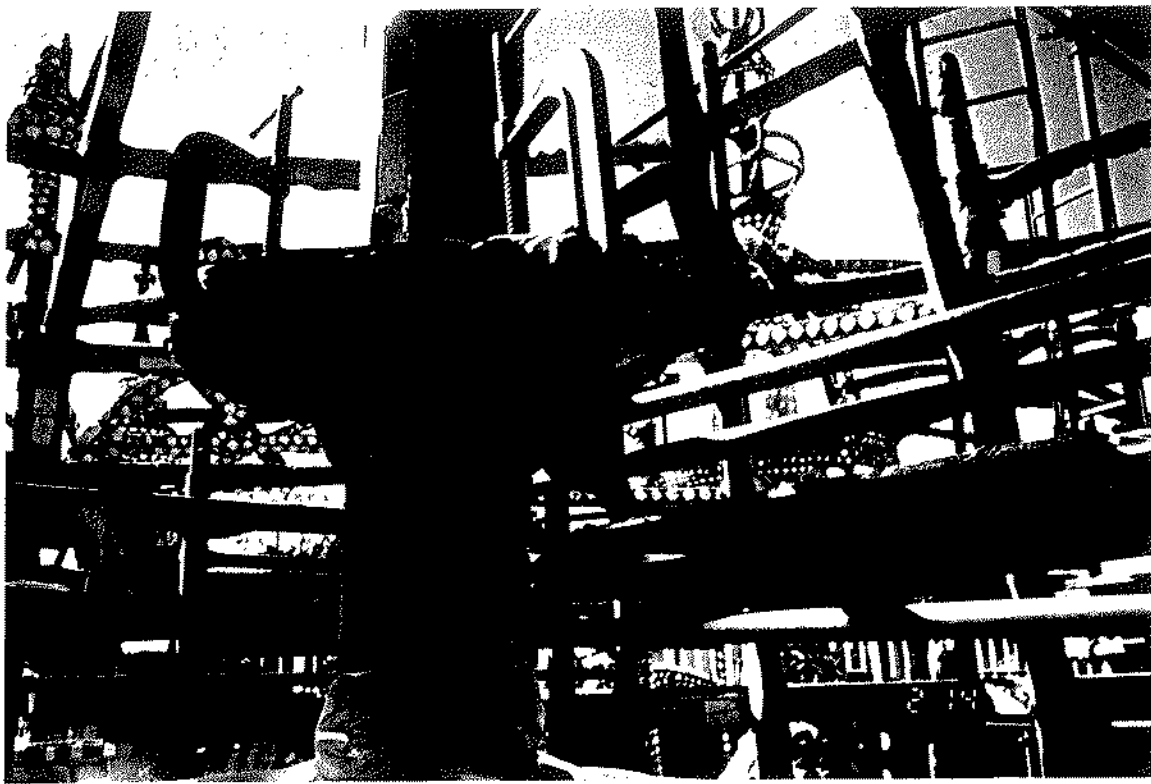


Figure 93. Center column base decorative flange after rebonding original mortar and ornamented coverings. (B level). January 1994.



Figure 94. Damaged spire at 28 foot elevation, west side, before repairs. Note failed horizontal ring, upper right of photo. (G level). January 1994.



Figure 95. Damaged spire at 28 foot elevation, north side, before repairs. Note vertical crack in joint, upper center of photo. (G level). January 1994.



Figure 96. Spire at 24 foot elevation after repairs and rebonding of original mortar coverings. (F level). February 1994.

Figure 97. Spire at 24 foot elevation after repairs and rebonding of original mortar coverings. (F level). February 1994.



Figure 98. Spire at 24 foot elevation after repairs and rebonding of original mortar coverings. (F level). February 1994.

Figure 99. Base of Gazebo during final cleaning of ornaments. (A level). May 1994.

Figures 100 and 101. Gazebo spire, center of photo, after top 15 feet of scaffold were removed. May 1994.

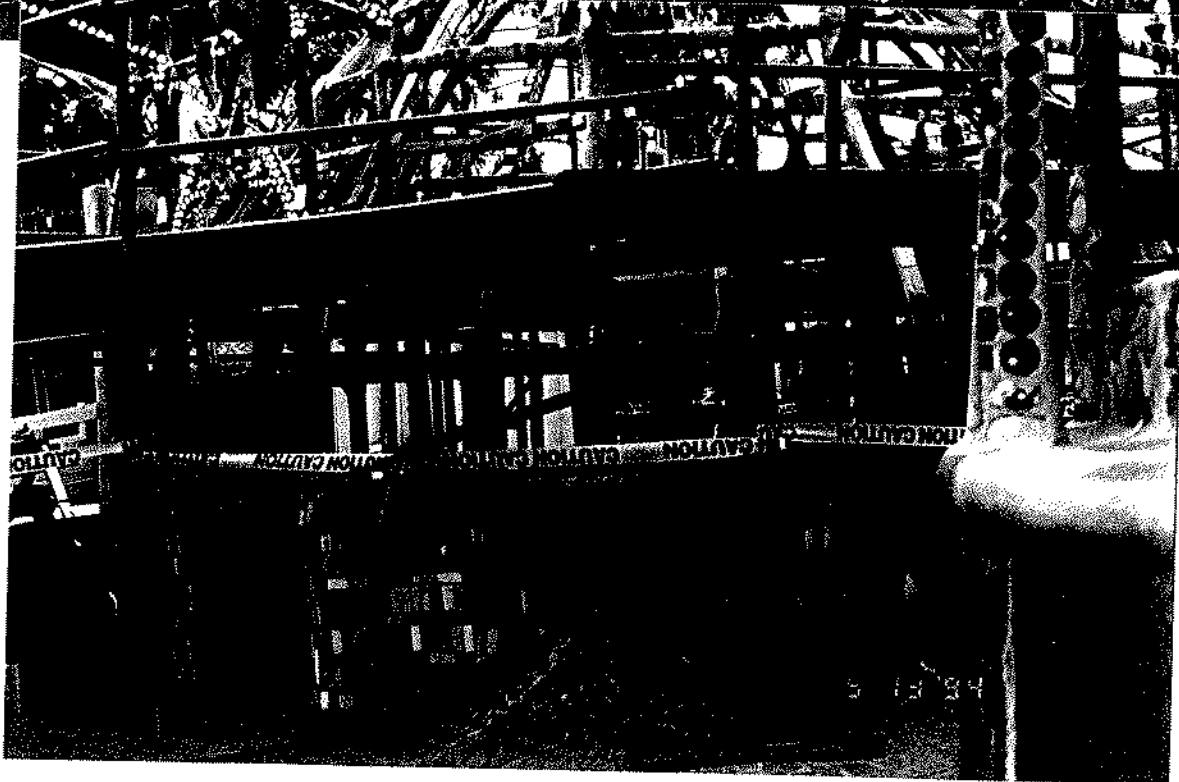
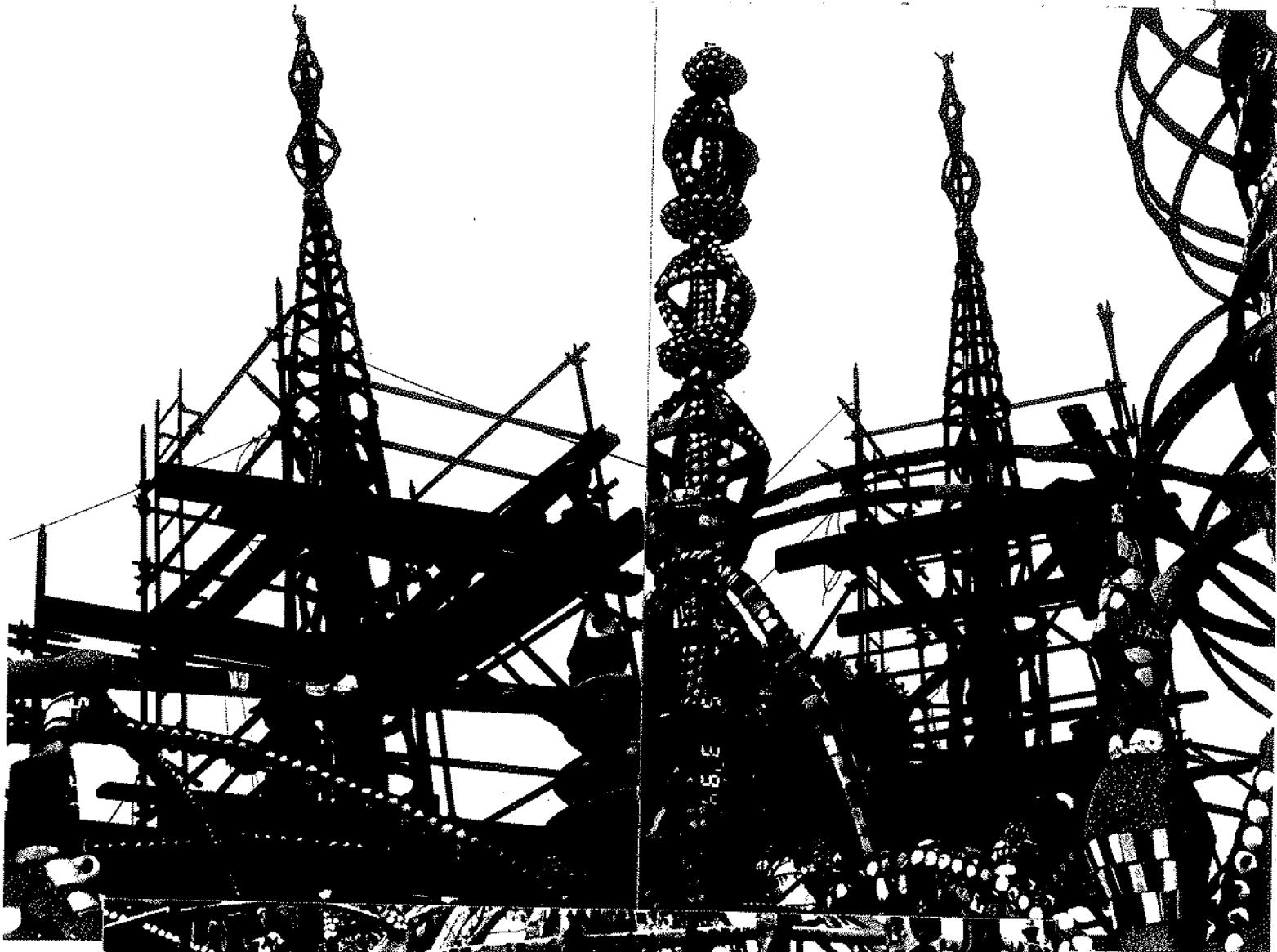




Figure 102. Damaged vertical arc, left center of photo, before conservation. (G level). March 1994.

Figure 103. Damaged vertical arc, left center of photo, before conservation. (D level). March 1994.



Figure 104. Damaged vertical arc, left center of photo, during conservation. (F level). March 1994.

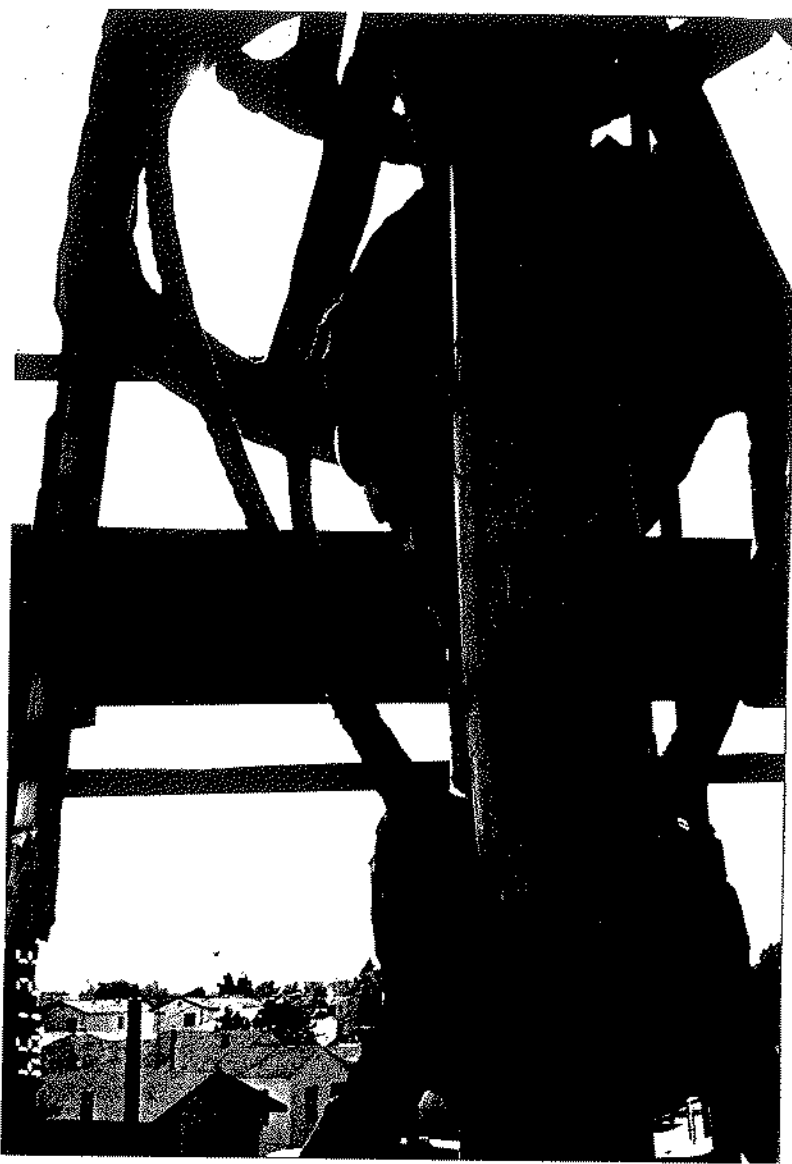
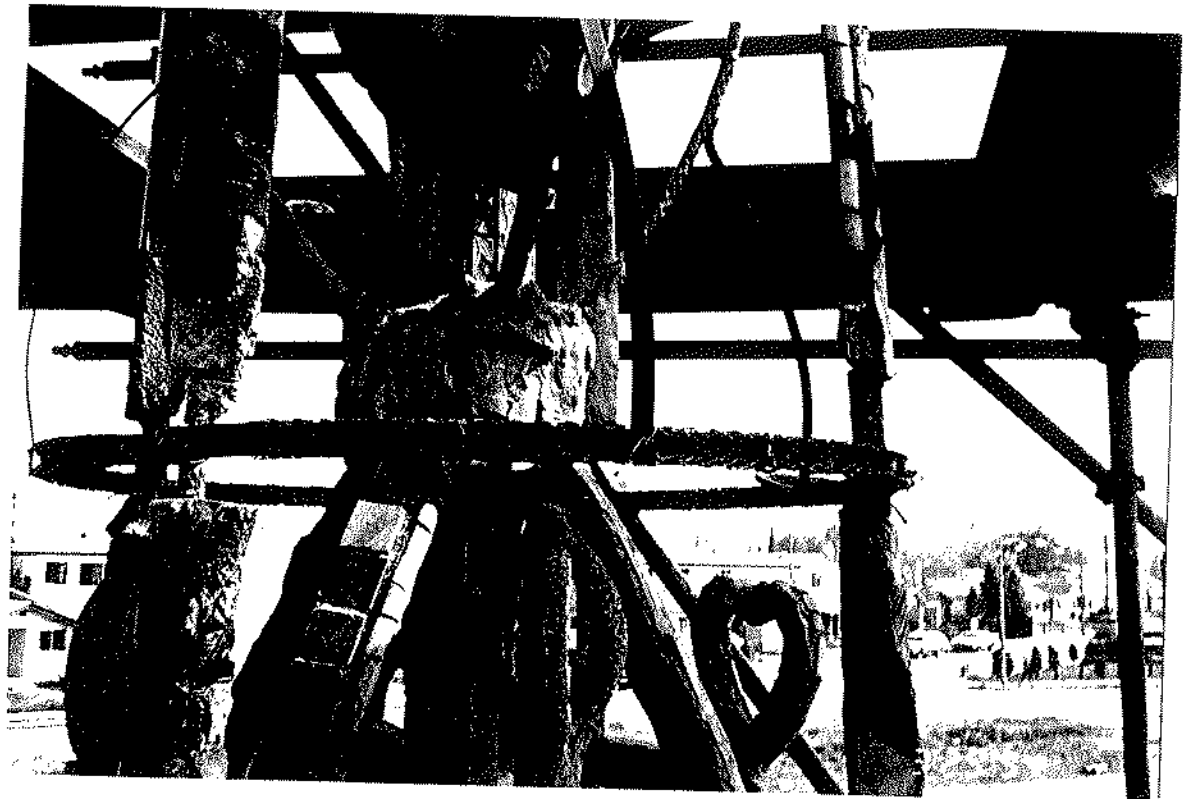


Figure 105. Circular reinforcement wrapped with mesh before re-bonding original coverings. (F level). March 1994.



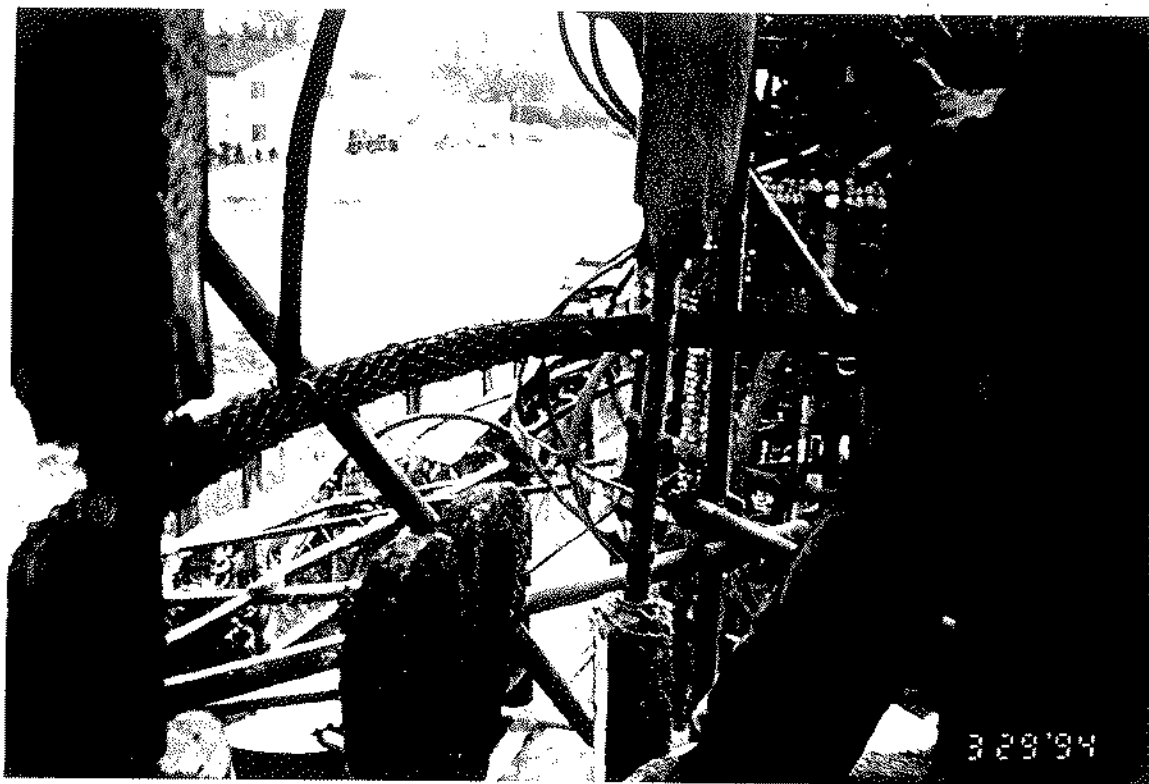


Figure 106. Circular band reinforcement in place before re-bonding original coverings over new mortar. View shows bolted assembly with mesh wrappings. (F level). March 1994.

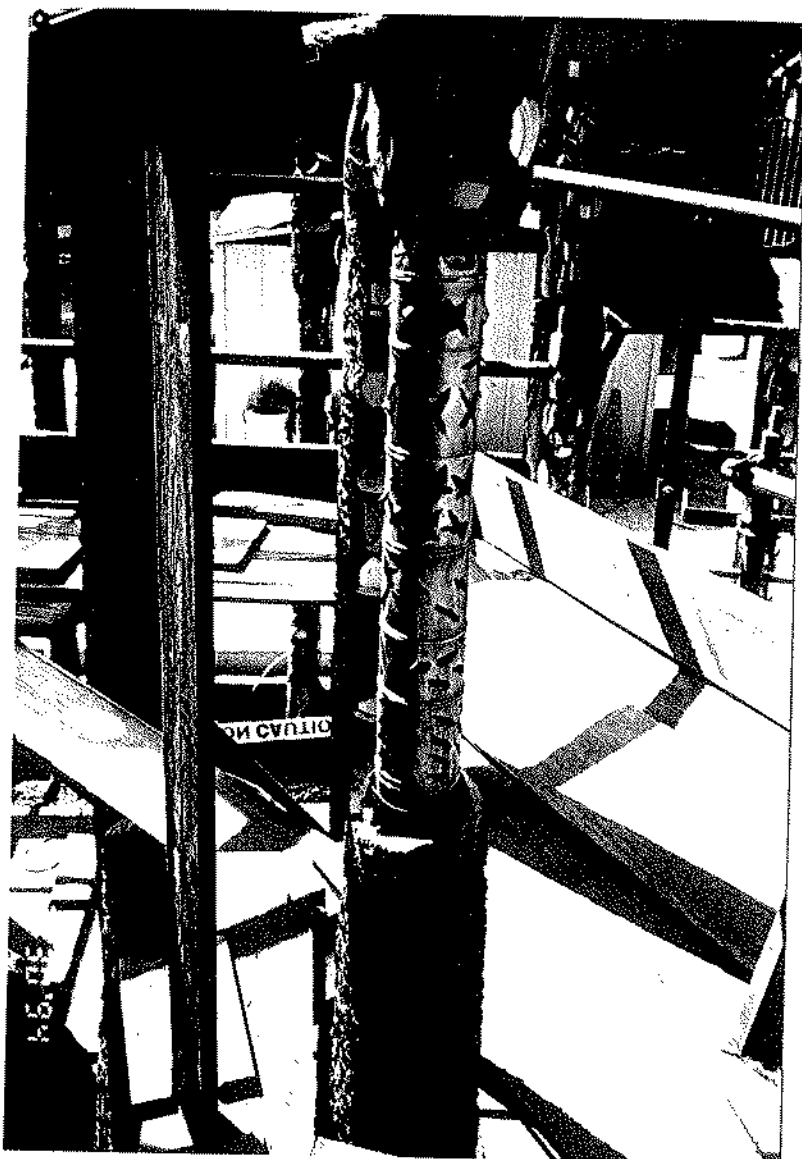


Figure 107. Garden stalagmite after removing damaged cover, cleaning rusted steel cylinder reinforcement, and inserting new, internal steel cylinder. March 1994.

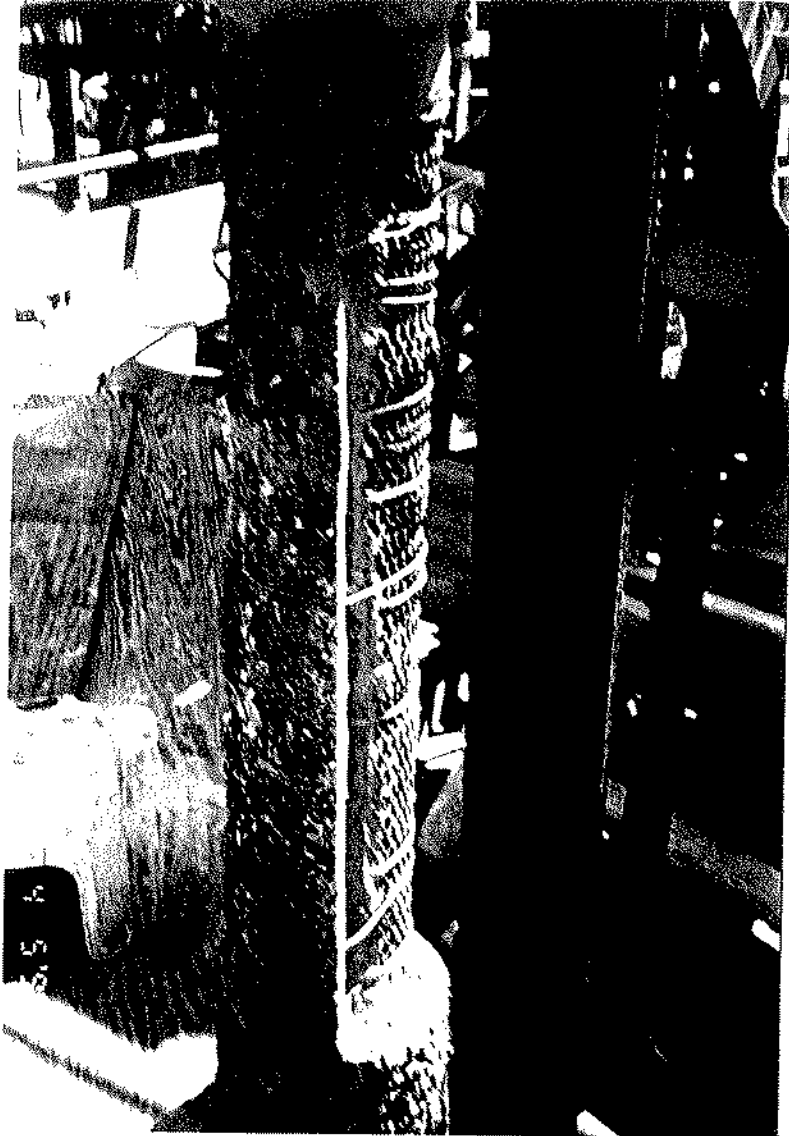


Figure 108. Garden stalagmite after re-bonding original cover over cleaned rusted steel cylinder reinforcement and new, internal steel cylinder. March 1994.

Figure 109. Build-up of mortar at joint, left center of photo. (E level). April 1994.

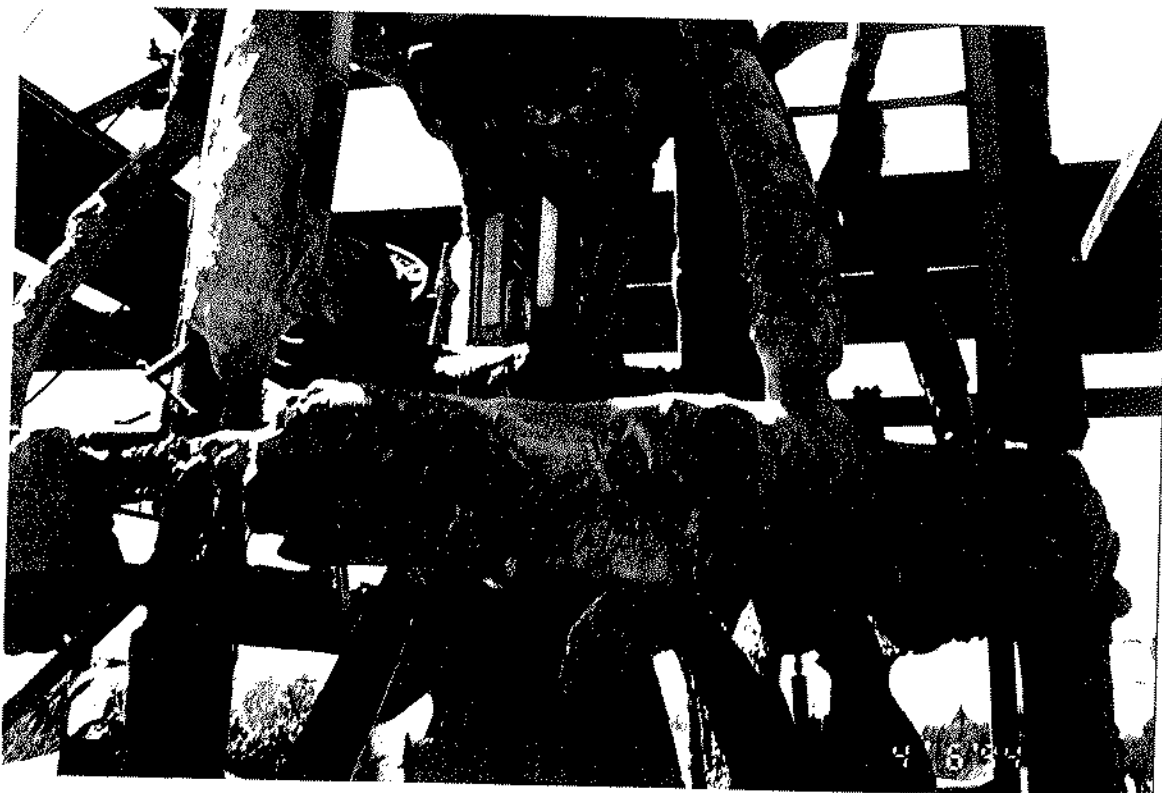


Figure 110. Rebond ornaments with Jahn mortar, top center of photo. (C level). April 1994.



Figure 111. Rebond original mortar cover over new reinforcement and mesh, top ctr of photo. (C level). April 1994.

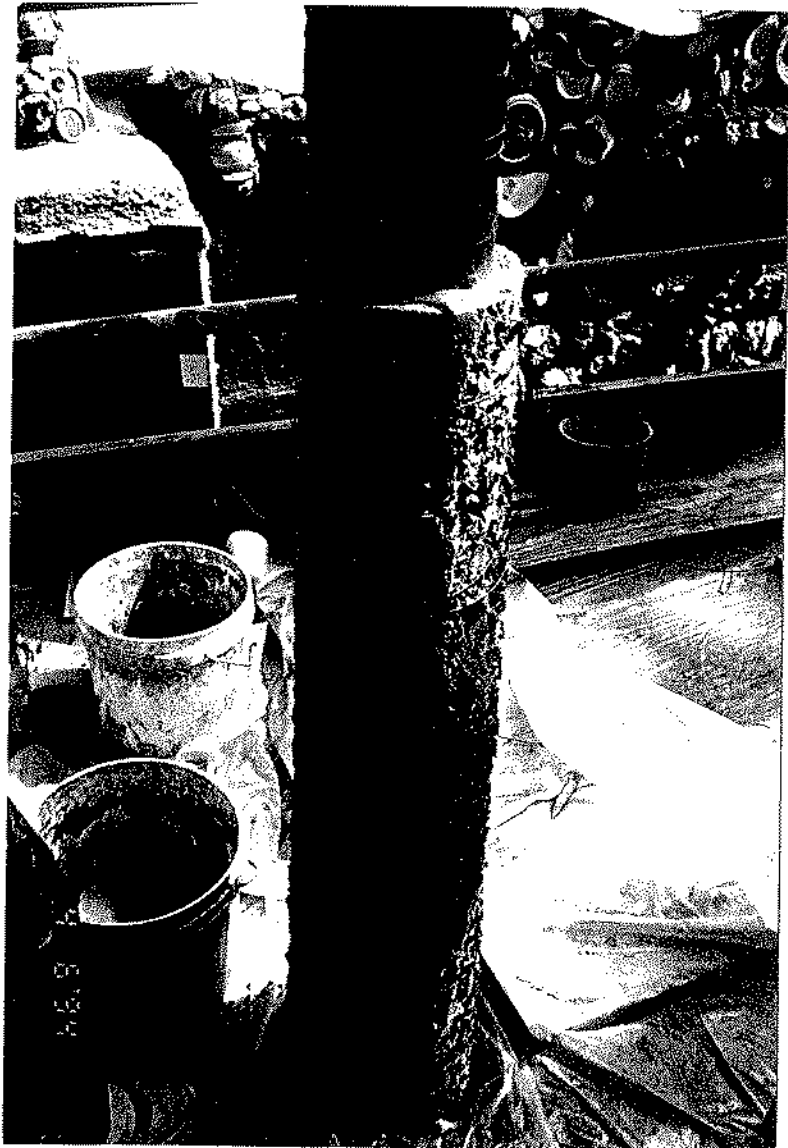




Figure 112. Build-up joint between ring and vertical column, center of photo. (F level). April 1994.

Figure 113. Rebond original ornaments with Jahn mortar. (C level). April 1994.



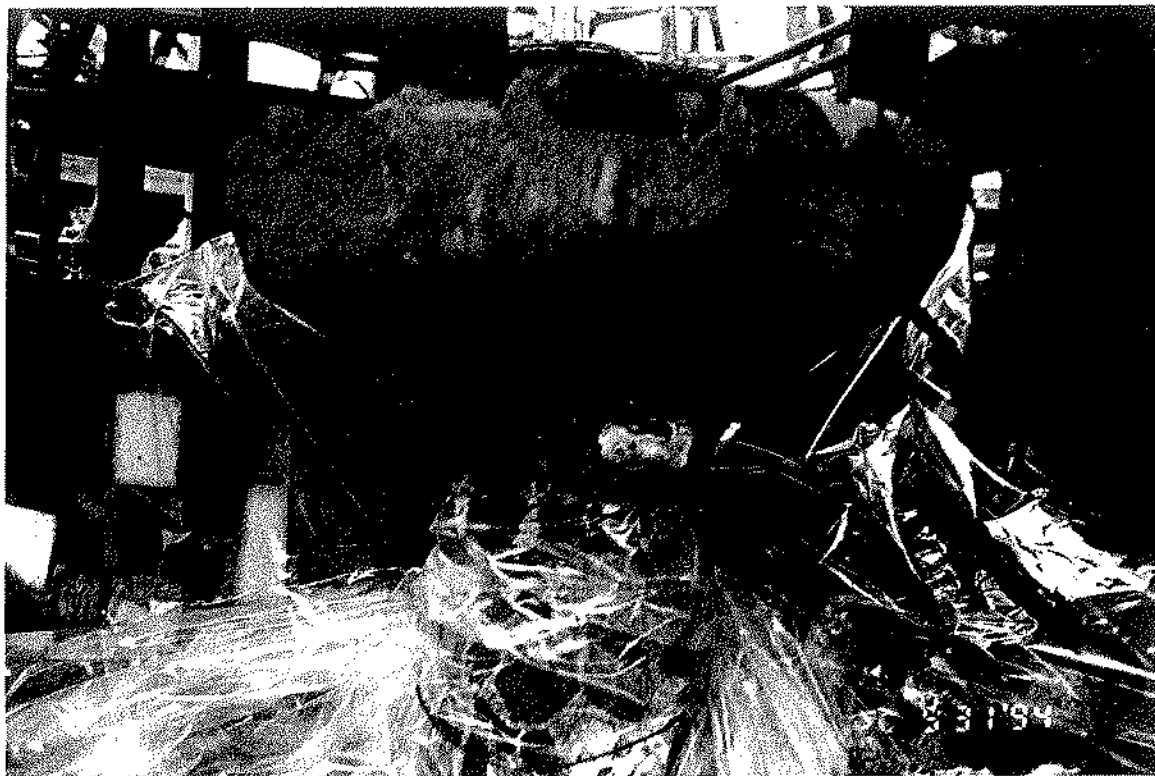


Figure 114. Bird bath on north west before conservation work. (A level). May 1994.

Figure 115. Bowl under dome before conservation work. (C level). May 1994.



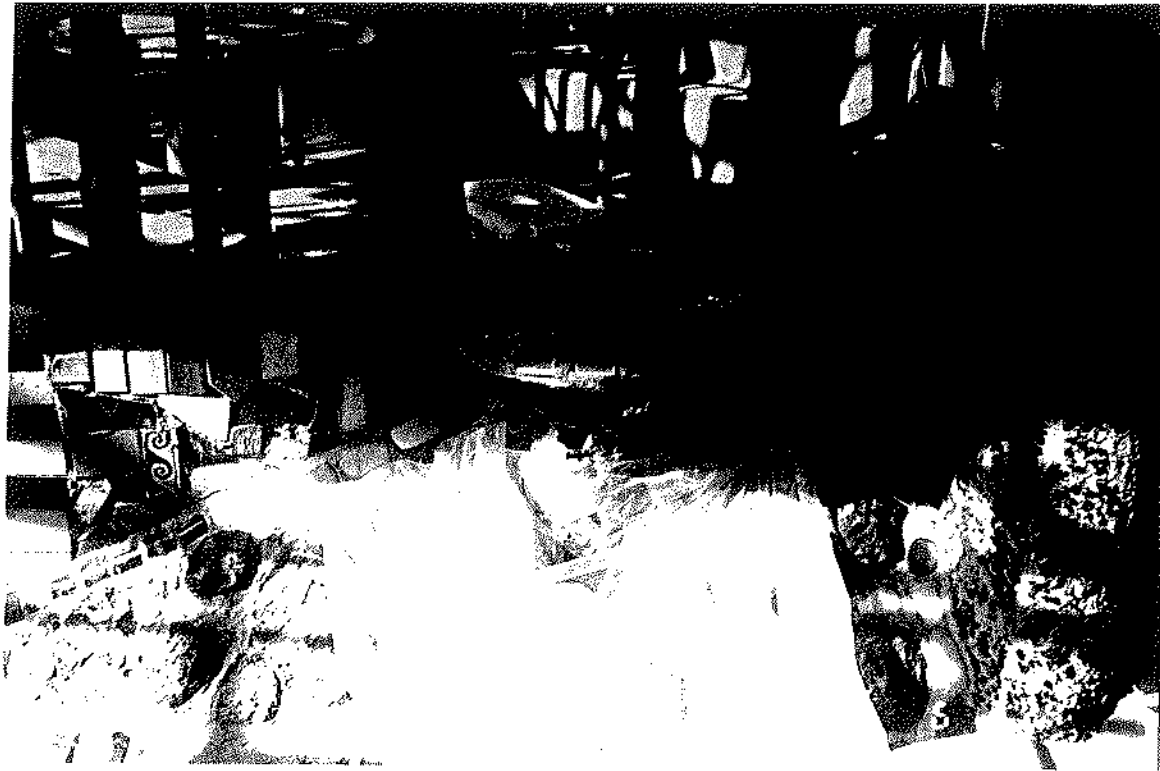
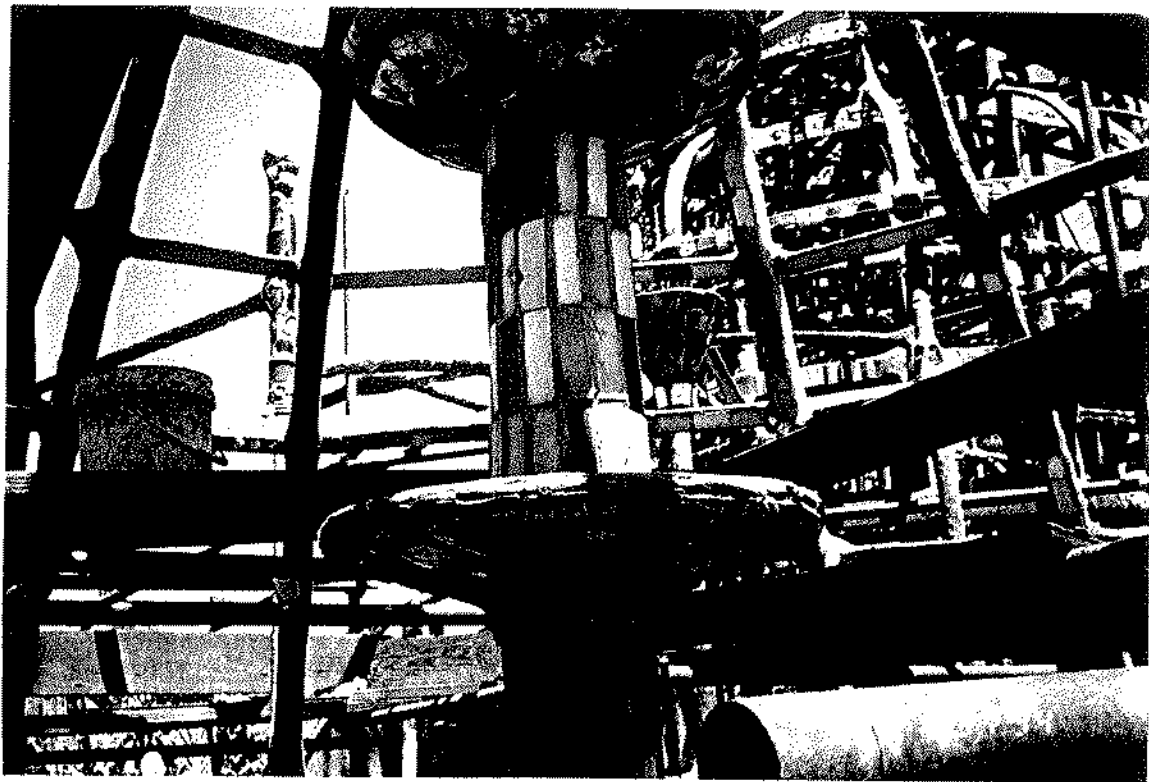


Figure 116. Bird bath on north west after conservation work. (A level). June 1994.

Figure 117. Center column under dome after conservation work. (B level). May 1994.



DATE INIT	OPERATION/PROCESS	PRODUCT NAME	PRODUCT TYPE	INSP		
				DATE 1	APPEARANCE 1	COLOR 1
5/04/89	ADHESION/ORNAMENTS	HXTAL NYL-1 EPOXY ADNESIVE		3/13/90	DIRTY	NO CHANGE
7/07/89	CRACK-FILLING	DC 3145 SILICONE		1/30/90	EXCELLENT	NO CHANGE
7/07/89	CRACK-FILLING	DC 3145 SILICONE (PIGMENTED)		1/30/90	EXCELLENT	NO CHANGE
7/07/89	CRACK-FILLING	DC 3145 SILICONE		1/30/90		NO CHANGE
10/06/89	CRACK-FILLING	DC 3145 SILICONE	CRACK-FILLER	2/13/90	TOO LIGHT/WARM	NO CHANGE
10/06/89	CRACK-FILLING	DC 3145 SILICONE	CRACK-FILLER	1/30/90	GOOD	NO CHANGE
9/26/89	ADHESION/ORNAMENTS	ACRYLOID B-72 IN ACETONE(60%)	CONSOLIDANT			
9/26/89	ADHESION/ORNAMENTS	ACRYLOID B-72 IN ACETONE	CONSOLIDANT	3/13/90	GOOD	NO CHANGE
7/27/89	ADHESION/ORNAMENTS	ACRYLOID B-72 IR XYLENEX 5%	CONSOLIDANT			
7/27/89	CONSOLIDATION	ACRYLOID B-72 IN XYLERE 5%	CONSOLIDANT	3/13/90	EXCELLENT	NO CHANGE
7/27/89	CONSOLIDATION	ACRYLOID B-72 IN XYLENE 10%	CONSOLIDANT			
8/29/89	CONSOLIDATION	ACRYLOID B-72 IN XYLENE 5%	CONSOLIDANT			
8/29/89	CONSOLIDATION 3 SMPL	ACRYLOID B-72 IN XYLENE 5%	CONSOLIDANT			
7/27/89	CONSOLIDATION	ACRYLOID B-72 IN XYLENE 5%	CONSOLIDANT	2/13/90	APPEARS POWDERY	NO CHANGE
7/27/89	CONSOLIDATION	ACRYLOID B-72 IN XYLENE 5%	CONSOLIDANT	3/13/90	EXCELLENT	NO CHANGE
7/27/89	CONSOLIDATION	CBEMTRETRE HSM 40D	H2O	3/13/90	EXCELLENT	NO CHANGE
			PROOFING AGT			
7/27/89	CONSOLIDATION	CBEMTRETRE BSM 40D	B2O	2/13/90	BAD POWDERING	NO CHANGE
			PROOFING AGT			
7/27/89	CONSOLIDATION	CHEMTRETRE BSM 40D	B2O			
			PROOFING AGT			
8/22/89	CONSOLIDATION	CHEMTRETRE BSM 40D	B2O	3/13/90	EXCELLENT	NO CHANGE
			PROOFING AGT			
8/22/89	WATERPROOFING AGENT	CHEMTRETRE BSM 40D	H2O			
			PROOFING AGT			
8/22/89	WATERPROOFING AGENT	CHEMTRETRE BSM 40D	B2O	2/13/90	GOOD.DIRT ON SURFACE	NO CHANGE
			PROOFING AGT			
7/27/89	CONSOLIDATION	CONSERVARE B PROSOCO	CONSOLIDANT	2/13/90	SPOTTY/DARK AREAS	NO CHANGE
9/22/89	CONSOLIDATION	CONSERVARE H PROSOCO	CONSOLIDANT	2/13/90	GOOD	NO CHANGE
9/22/89	CONSOLIDATION	CONSERVARE H PROSOCO	CONSOLIDANT	2/13/90	GOOD COLOR	NO CHANGE
7/27/89	CONSOLIDATION	CONSERVARE OH PROSOCO	CONSOLIDANT	2/13/90	GOOD	NO CHANGE
9/22/89	CONSOLIDATION	CONSERVARE OH PROSOCO	CONSOLIDANT	2/13/90	GOOD	NO CHANGE
8/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/	2/13/90	SOME DIRT IN SURFACE	NO CHANGE
			B2O			
7/27/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/	2/13/90		NO CHANGE
			B2O			
9/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/	2/13/90	GOOD	NO CHANGE
			H2O			
9/22/89	CONSOLIDATION REPAIR	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/	2/13/90	SLIGHT DISCOLORATION	NO CHANGE
			H2O			
9/22/89	CONSOL/WATERPR AGENT	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/	2/13/90	EXCELLENT	NO CHANGE
			H2O			
9/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/	2/13/90		NO CHANGE
			B2O			
9/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/			
			H2O			

DATE	INIT ADHESION 1	TEXTURE 1	NOTES 1
5/04/89	SATISFACTORY	SATISFACTORY	NEEDED TO REMOVE RESIDUE W/ACETONE.
7/07/89		SATISFACTORY	SLIGHTLY CAVED-IN IN A FEW PLACES
7/07/89	SATISFACTORY	SATISFACTORY	EXCELLENT ADHESION, COLOR & TEXTURE;SLIGHT RUBBERY FEEL IN AREAS.
7/07/89			CAVED IN SLIGHTLY IN CENTER;FEELS FIRM;SLIGHT SINKING DOESN'T DISTRACT FROM APPEARANCE.
10/06/89	SATISFACTORY	SATISFACTORY	FILLS TOO HIGH;TOO MUCH SAND IN PLACES;SILICONE CRACKS IN TILE FILLS.
10/06/89	SATISFACTORY	SATISFACTORY	REMAINS SOMEWHAT RUBBERY IN PLACES, MAYBE DUE TO VARIATION IN CRACK DEPTHS/TOO FINE FOR BACKER ROD.
9/26/89			
9/26/89	SATISFACTORY	SATISFACTORY	NEEDS EXCESS CLEARED W/ACETONE 1-2 DAYS AFTER APPLICATION;EXCELLENT ADHESION SO FAR
7/27/89			
7/27/89	SATISFACTORY	SATISFACTORY	VERY SLIGHT POWDERING WHEN RUBBED HARD.
7/27/89			
8/29/89			
8/29/89			
7/27/89	SATISFACTORY	SATISFACTORY	SAME AS DF104/B-72 MIX EXCEPT APPEARS SLIGHTLY MORE POWDERY.
7/27/89	SATISFACTORY	SATISFACTORY	NO POWDERING NOTED EXCEPT SLIGHT DEGREE AT EDGES
7/27/89	SATISFACTORY	UNSATISFACTORY	SLIGHT POWDERING,BUT BETTER THAN USUAL PERFORMANCE OF MATERIAL
7/27/89	UNSATISFACTORY	UNSATISFACTORY	WORSE POWDERING THAN CONTROL;DOESN'T WORK TO CONSOLIDATE OR WATERPROOF.
7/27/89			
8/22/89	SATISFACTORY	UNSATISFACTORY	POWDERING NOTED.TREATED AREA SLIGHTLY LESS POWDERY THAN UNTREATED AREA.
8/22/89			
8/22/89	UNSATISFACTORY	UNSATISFACTORY	NO CONSOLIDATION ACTION;SBELL/MORTAR CONTINUES TO POWDER & ABSORB WATER.
7/27/89	UNSATISFACTORY	UNSATISFACTORY	WATER ABSORBED READILY WHEN APPLIED W/BRUSH;DELAMINATION CONTINUES.
9/22/89	SATISFACTORY	UNSATISFACTORY	SURFACE STILL POWDERING & COMPLETELY ABSORBS BRUSH-APPLIED WATER
9/22/89	UNSATISFACTORY	UNSATISFACTORY	LAMINATION CONTINUES;NO APPARENT CONSOLIDATION;ABSORBS WATER WHEN APPLIED W/BRUSH
7/27/89	SATISFACTORY	SATISFACTORY	NO MORE POWDERING/CRUMBLING;HOWEVER, NO WATERPROOFING WITH THIS MATERIAL
9/22/89	SATISFACTORY	SATISFACTORY	SURFACE LOOKS GOOD;HOWEVER, ABSORBS WATER WHEN APPLIED W/BRUSH
8/22/89	SATISFACTORY	SATISFACTORY	NO WATER ABSORPTION
7/27/89	SATISFACTORY	SATISFACTORY	NO POWDERING/CRUMBLING NOTED;REPELS WATER FULLY.
9/22/89	SATISFACTORY	SATISFACTORY	NO WATER ABSORPTION WHEN WATER APPLIED W/BRUSH
9/22/89	SATISFACTORY	SATISFACTORY	NO WATER ABSORPTION WHEN SURFACE FLOODED W/BRUSH
9/22/89	SATISFACTORY	SATISFACTORY	NO MORE POWDERING;DOESN'T ABSORB WATER WHEN APPLIED W/BRUSH.
9/22/89	SATISFACTORY	SATISFACTORY	DELAMINATION CONTINUES/REDUCED;NO FRAGS/UNLIKE W/CONSERVARE;WATER NOT ABSORBED/RAN OFF.
9/22/89			

DATE INIT	OPERATION/PROCESS	PRODUCT NAME	PRODUCT TYPE	INSP		
				DATE 1	APPEARANCE 1	COLOR 1
7/27/89	CONSOLIDATION 2 SMPL	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O	3/13/90	EXCELLENT	NO CHANGE
7/27/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O	2/13/90	VERY GOOD	NO CHANGE
7/27/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O	3/13/90	EXCELLENT	NO CHANGE
7/27/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O			
8/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O	3/13/90	EXCELLENT	NO CHANGE
8/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O	3/13/90	EXCELLENT	NO CHANGE
8/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O	3/13/90	EXCELLENT	NO CHANGE
8/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O			
8/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O	2/13/90	SOME DIRT ON SHELLS	NO CHANGE
8/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O	3/13/90		
8/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O	3/13/90	EXCELLENT	NO CHANGE
8/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O	3/13/90	MOTTLED	NO CHANGE
8/22/89	CONSOLIDATION	GE DF 104/ACRYLOID B-72 MIX	CONSOLIDANT/ H2O			
9/26/89	CRACK-FILLING	GE 167 SILICONE	CRACK-FILLER	2/13/90	EXCELLENT	NO CHANGE
9/26/89	CRACK-FILLING	GE 167 SILICONE	CRACK-FILLER	1/30/90	GOOD	GREYER?
9/26/89	CRACK-FILLING	GE 167 SILICONE	CRACK-FILLER	1/30/90	POWDERY ON SIDES	NO CHANGE
9/26/89	CRACK-FILLING	GE 167 SILICONE	CRACK-FILLER			
9/26/89	CRACK-FILLING	GE 167 SILICONE	CRACK-FILLER	2/13/90		NO CHANGE
9/26/89	CRACK-FILLING	GE 167 SILICONE	CRACK-FILLER	1/30/90	GOOD	NO CHANGE
	CRACK-FILLING	DC 738 W/PIGMENTS/	CRACK-FILLER			
9/12/89	CRACK-FILLING	DC 738 W/PIGMENTS/	CRACK-FILLER	2/13/90	GOOD GREY ONE	NO CHANGE
9/12/89	CRACK-FILLING	DC 738 W/PIGMENTS/	CRACK-FILLER	2/13/90	RED ONE	NO CHANGE
	CRACK-FILLING	DC 738 W/PIGMENTS/	CRACK-FILLER			
	CRACK-FILLING	DC 738 W/PIGMENTS/	CRACK-FILLER			
9/12/89	CRACK-FILLING	DC 738 W/PIGMENTS/	CRACK-FILLER	1/30/90	GOOD	NO CHANGE
9/12/89	CRACK-FILLING	DC 738 W/30% SAND,W/PIGMENTS	CRACK-FILLER	1/30/90	SM HOLES/ROUGH EDGES	DARKER
9/12/89	CRACK-FILLING	DC 738 W/PIGMENT,30% SAND	CRACK-FILLER	1/30/90	TOO GREY,NOT SMOOTHD	DARKER
10/06/89	CRACK-FILLING	DC 738 W/SAND & PIGMENTS	CRACK-FILLER	1/30/90		DARKER
9/12/89	CRACK-FILLING	DC 739 W/PIGMENTS/	CRACK-FILLER	2/13/90	POOR	NO CHANGE
9/12/89	CRACK-FILLING	DC 739 W/PIGMENTS/	CRACK-FILLER	1/30/90	GOOD MOSTLY	NO CHANGE

DATE	INIT ADHESION 1	TEXTURE 1	NOTES 1
7/27/89	SATISFACTORY	SATISFACTORY	DF104/B-72 ONLY MATL W/COMPLETE CONSOLIDATION;BOTH B-72 MIXES HAD SLIGHT POWDERING
7/27/89	SATISFACTORY	SATISFACTORY	CONSOLIDATION EXCELLENT
7/27/89	SATISFACTORY	SATISFACTORY	GOOD CONSOLIDATION. NO POWDERING WHEN FINGER RUBBED ACROSS SURFACE
7/27/89			
8/22/89	SATISFACTORY	SATISFACTORY	NO POWDERING.SURFACE DIRT EASILY WIPED AWAY.
8/22/89	SATISFACTORY	SATISFACTORY	NO POWDERING ON CONSOLIDATED SPECIMENS
8/22/89	SATISFACTORY	SATISFACTORY	GOOD CONSOLIDATION. NO GLOSS OR POWDERING
8/22/89			
8/22/89	SATISFACTORY	SATISFACTORY	NO WATER ABSORPTION
8/22/89			
8/22/89	SATISFACTORY	SATISFACTORY	NEED BEFORE/AFTER PHOTOS TO EVALUATE IF GLAZE LOSS HAS CONTINUED.
8/22/89			
8/22/89			MOTTLED FROM UNEVEN DRYING OF CONSOLIDANT.SURFACE FEELS FIRMER BUT NO ADHESION NOTED.
8/22/89			
9/26/89	SATISFACTORY	SATISFACTORY	REPAIR IS FIRM/SOLID;PERHAPS TOO MUCH SURFACE SAND BUT SEEMS TO HAVE BEEN GOOD FOR REPAIR.
9/26/89	SATISFACTORY	SATISFACTORY	TOO MUCH SURFACE SAND;FILL LOOKS GOOD-NO CAVING-IN OR EDGE SEPARATION.
9/26/89	SATISFACTORY	SATISFACTORY	FEELS FIRM; SLIGHTLY CAVED-IN.
9/26/89			
9/26/89	SATISFACTORY	UNSATISFACTORY	TOO MUCH SAND;FIRM FEEL;ADHESION/HARDNESS SATIS BUT FILL IS MUCH COARSER/SANDIER THAN SURROUNDING AREA.
9/26/89	SATISFACTORY	SATISFACTORY	SLIGHTLY SOFT IN PLACES WHERE EXCESS LEFT ON SURFACE.
9/12/89	SATISFACTORY	SATISFACTORY	ALMOST INDISTINGUISHABLE FROM ORIGINAL;HAS LESS SURFACE SAND,GIVES SHINY SURFACE BUT IMPROVES TEXTUHE MATCH;NOT RUBBERY.
9/12/89	SATISFACTORY	UNSATISFACTORY	NOT ENUF SAND;APPEARS FLAT & RUBBERY & DISCOLORED;IS DIRTIER THAN THOSE W/SAND ON SURFACE; TOO DARK ORIGINALLY
9/12/89			
9/12/89	SATISFACTORY	SATISFACTORY	COLOR IS DARK BUT PROBABLY THAT WAY TO START. MAY HAVE GREYED.
9/12/89	SATISFACTORY	SATISFACTORY	UNEVEN/ROUGH;VERTICAL STRIATIONS FROM APPLICATION;CAVED-IN IN PLACES.
9/12/89	SATISFACTORY	UNSATISFACTORY	HAS MORE RUBBERY THAN MORTAR LOOK;COLR APPEARS SLIGHTLY DARK/SHINY;SMALL BITS STICKING OUT;SOFT TO TOUCH MOST PLACES.
10/06/89	SATISFACTORY		SURFACE DARK-ACCUMULATED DIRT;SILICONE UNEVENLY SPONGY;WIDTH/DEPTH OF CRACK MAY BE CAUSE.
9/12/89	SATISFACTORY	UNSATISFACTORY	TEXTURE POOR;DIFFICULT TO APPLY;WAS NOT SMOOTHED PROPERLY,COLOR WAS NOT MATCHED WELL;FEELS FIRM.
9/12/89	UNSATISFACTORY	SATISFACTORY	FEW SOFT SPOTS;SLIGHT SEPARATION ON RIGHT EDGE 1" FROM BOTTOM.

DATE INIT	OPERATION/PROCESS	PRODUCT NAME	PRDDUCT TYPE	INSP		
				DATE 1	APPEARANCE 1	COLOR 1
9/12/89	CRACK-FILLING	DC 739 W/PIGMENTS/30% SAND	CRACK-FILLER	1/30/90	GOOD	ND CHANGE
9/12/89	CRACK-FILLING	DC 739 W/PIGMENTS	CRACK-FILLER	2/13/90	SBINY/RUBBERY LOOK	NO CHANGE
9/12/89	CRACK-FILLING	DC 739 W/PIGMENTS	CRACK-FILLER	2/13/90	POOR	DARKER
9/12/89	CRACK-FILLING	DC 739 W/PIGMENTS	CRACK-FILLER	2/13/90	DARK, RUBBERY	ND CBANGE
9/12/89	CRACK-FILLING	DC 739 W/PIGMENTS	CRACK-FILLER	2/13/90		DARKER
9/01/89	ADDESIVE	B-48N ADDESIVE HYTAL NYL-1 EPOXY ADDESIVE ABLEBOND EPOXY UV-CURING PRODUCTS				
9/01/89	ADHESIVE/FILL	DC 737 GE 160 GE 161				
10/24/89	ADDESION	GE 162	ADDESIVE/ SILICONE			
9/01/89	ADDESIVE/FILL	TRIMETBOXY SILANE WESTTECH EPOXY W/MICROBALLOONS				
9/01/89	FILL MATERIAL	GE SILPRUF				
10/24/89	DECORATION ADHESION	DC 737	SILICDNE ADHESIVE			
10/24/89	MORTAR REPLACEMENT	SIKATOP 122	MORTAR, CDMMERCIAL	3/13/90		LIGBTER
2/27/90	CLEANING AGENT	BRASSO	METAL POLISH			
2/27/90	CLEANING AGENT	BRASSO	METAL POLISB			
2/27/90	CLEANING AGENT	HRASSO	METAL POLISH			
2/27/90	CLEANING AGENT/POLIS	NOXON	METAL CLEANER			
2/27/90	CLEANING AGENT/POLIS	NOXON	METAL CLEANER			
2/27/90	CLEANING AGENT	NOXON	METAL CLEANER			
2/27/90	CLEANING POULTICE	MAGNESIUM TRISILICATE				
3/20/90	CRACK-FILLING	DC-738 SILICONE 50% SAND	CRACK-FILLER			
7/03/90	WOOD CONSOLIDANT	MONSANTD BUTVAR B-90	WOOD CONSOLIDANT			
8/06/90	ADDESIVE	SIKADUR 31 BI MOD GEL EPOXY	EPOXY			
10/02/90	CEMENT-COLOR	WBITE PORTLAND CEMENT TYPE I	BONDING			
10/15/90	CEMENT-COLDR	GRAY PORTLAND CEMENT TYPE I	BONDING			
10/16/90	CEMENT-COLOR	WHITE/GRAY CEMENT TYPE I MIX	BONDING			
11/27/90	CRACK-FILLING	JAHN M30	INJECTION	12/03/90	BAIRLINE CRACKS	
12/05/90	STR. CRACK-FILLING	JAHN M30	MORTAR INJECTION			
12/05/90	STR. CRACK-FILLING	JAHN M30	MORTAR INJECTION			
5/29/91	PIGMENT/SEAL JABNM70	PIGMENTS/SILINE	PIGMENTS/SEA LANT			

DATE INIT ADHESION 1	TEXTURE 1	NOTES 1
9/12/89	SATISFACTORY	SAND ADHERES WELL;MINOR EVIDENCE OF CAVING-IN;A LITTLE DARKER THAN ADJACENT BUT MAY BE FROM INITIAL APPLICATION.
9/12/89	SATISFACTORY	FEELS SOFT TO TOUCH;APPEARANCE IS NOT GOOD;NOT ENOUGH SAND
9/12/89	UNSATISFACTORY	TOO GREY-GREEN (TOO MUCH PIGMENT?);TOO RUBBERY,NOT ENUFFTEXTURE APPLIED W/AGGREGATE;PULLING AWAY AT EDGES;SMALL FISSURES
9/12/89	UNSATISFACTORY	DOES NOT BLEND WELL W/MORTAR NEARBY;PULLING AWAY SLIGHTLY IN PLACES;SURFACE NOT SMOOTH,MAYBE DIFFICULT APPLICATION.
9/12/89	UNSATISFACTORY	EMBEDDED DIRT,ESPECIALLY ON HORIZONTAL;NOT ENUFF AGGREGATE;VERY DIRTY;WATER CLEANING DISTURBED TEXTURE/HOLES APPEARED.
9/01/89		
9/01/89		
10/24/89		
9/01/89		
9/01/89		
10/24/89		
10/24/89		CRACK ONLY PARTLY FILLED,CAN'T GIVE COMPLETE ASSESSMENT
2/27/90		
2/27/90		
2/27/90		
2/27/90		
2/27/90		
2/27/90		
2/27/90		
3/20/90		
7/03/90		
8/06/90		
10/02/90		
10/15/90		
10/16/90		
11/27/90		SMALL HAIRLINE CRACKS;IN 3 HRS, SPALLS ' MOVEMENT DECREASED;APPEARS VERY PROMISING.
12/05/90		
12/05/90		
5/29/91		

DATE INIT	OPERATION/PROCESS	PRODUCT NAME	PRODUCT TYPE	INSP		
				DATE 1	APPEARANCE 1	COLOR 1
5/29/91	PIGMENT/SEAL JARNM70	PIGMENTS/SILINE	PIGMENTS/SEA LANT			
5/29/91	PIGMENT/SEAL JARNM70	PIGMENTS/SILINE	PIGMENTS/SEA LANT			
1/22/92	SEAL HOLES IN SHELLS	MD CAULK (TUB & TILE)	CAULK/SEALER AGAINST			
3/18/92	SEAL HOLES IN SHELLS	GE RTV SILICONE #169				
6/29/93	FILL FOR TILES	PLIACRE EPOXY RESIN PUTTY	EPOXY PUTTY			
6/29/93	INPAINT TILE FILL	GRIP FLEX ACRYLIC SIGN PAINT	PAINT/GLAZE			

GAZEBO CONSERVATION APPLICATIONS

VIEW SEQ	IN/OUT	ELEV (FT)	DATE #1	MATERIALS USED	TECHNIQUE	DATE #2	MATERIALS USED	TECHNIQUE	DATE #3	MATERIALS USED	TECHNIQUE
NNN	O	4	1/04/90	COTTON & DENAT ALCOHOL	CLEAN W/COTTON/DENA						
NNE	O	4	1/04/90	COTTON & DENAT ALCOHOL	CLEAN W/COTTON/DENA						
ENE	O	4	1/08/90	COTTON & DENAT ALCOHOL	CLEAN W/COTTON/DENA						
EEN	O	4	1/08/90	DENATURED ALCOHOL	CLEAN W/DENATURED	1/17/90	AQUA AMMONIA/WATER	RECLEAN TILES	1/17/90	AQUA AMMONIA/WATER	CLEAN TILES
EEB	O	4	1/18/90	5%AMMONIA/WATER	CLEAN W/AMMONIA/WAT						
EES	O	4	1/22/90	10%AMMONIA HYDROXIDE IN	CLEAN W/AMMONIA/WAT						
ESE	O	4	1/22/90	10%AMMONIA HYDROXIDE IN	CLEAN W/AMMONIA/WAT						
SSS	O	4	12/20/89	VACUUM/ETHYL ALCOHOL	REMOVE COBWEBS/CLEAN						
SSW	O	4	12/21/89	VACUUM/ETHYL ALCOHOL	REMOVE COBWEBS/CLEAN						
WSW	O	4	12/21/89	COTTON & DENAT ALCOHOL	CLEAN W/COTTON/DENA	2/07/90	XYLENE,DF104/B-72 2COATS-	CLEAN, CONSOLIDATE POROUS	6/08/93	GRINDER	CUT/INSPECT STL REINFORCEME
WSW	O	4	6/08/93	1" W CHANNEL	PREPARE REINFORCEMENT	6/09/93	MESH, JAHN M90, GRINDER	WRAP MESH,APPLY	6/14/93	JAHN M90, M70-18, SIKADUR 23	APPLY 2 COATS,RESHAPE,B
WWS	O	4	1/02/90	COTTON & DENAT ALCOHOL	CLEAN W/COTTON/DENA	6/07/93	JAHN M90, SIKA 23	REBOND POTTERY,FRAGS	6/08/93	JAHN M90 MORTAR	APPLY MORTAR, REBOND FRAGS
WWW	O	4	1/03/90	COTTON & DENAT ALCOBOL	CLEAN W/COTTON/DENA						
WWN	O	4	1/03/90	COTTON BALLS/DENATURE	CLEAN W/COTTON/DENA						
SSE	F	3	12/08/92	LIFT OFF & STORE	REMOVE FOR LATER	4/21/93	STEEL BAR & PLATE,JAHN	PREPARE SUPPORT FOR	4/20/93	STEEL PLATE/BAR,	PREPARE FOR WELDING
SSE	F	3	5/12/93	BRASSO,ETHANOL ,DIST. WATER	PREPARE FOR CLEANING						
SSW	F	3	4/19/93	DRILL,GRINDER	REMOVE OLD REPAIRS	5/11/93	JAHN M90 MORTAR	COMPLETE MORTAR			
WSW	I	4	7/06/93	JAHN M90 MORTAR	REATTACH ORNAMENTS	7/07/93	JAHN M90 & M70-18 MORTAR	APPLY MORTAR COATS			
NNN	O	8	1/08/91	GRINDER	REMOVE COVER,PRIOR						
NNE	O	8	5/20/91	GRINDER	REMOVE MORTAR COVER	7/15/91	GRINDER	CUT & BEND "T" SECTION	7/17/91	ACETONE, SIKADUR 23	CLEAN, REBOND FRAGMENTS
NNE	O	8	7/23/91	ACETONE,SIKADUR 23	CLEAN,DEGREASE,REBOND	8/12/91	STEEL PLATE, STEEL BAR	REINFORCE REPAIR AREA			
NNE	O	8	8/19/91	STEEL PLATE	PREPARE BRACKETS	8/28/91	GRINDER,STEEL PLATE,BOLTS,	TIE HORZ'S TO MAJV02	9/10/91	MESH/WIRES	WRAP MESH/WIRES ON
NNE	O	8	9/16/91	GRINDER	GRIND MORTAR FRAGMENTS	9/23/91	CEMENT MORTAR;JAHN	APPLY MORTAR ABOVE/BELOW			
NNE	O	8	9/24/91	CEMENT MORTAR;JAHN	BUILDUP MORTAR	9/30/91	CEMENT MORTAR	REBOND MORTAR FRAGMENTS	10/30/91	BRASSO	CLEAN TILES
NNE	O	8	7/20/93	JAHN M90 MORTAR	OPEN, CLEAN, FILL CRACKS						

VIEW IN/ SEQ	ELEV OUT (FT)	DATE #1	MATERIALS USED	TECHNIQUE	DATE #2	MATERIALS USED	TECHNIQUE	DATE #3	MATERIALS USED	TECHNIQUE
ENE 0	8	11/20/91	GRINDER	DETACH MORTAR &	11/25/91	GRINDER	OPEN/INSPECT JOINT	2/03/92	NEW STEEL CHANNEL/ATTACHM	ATTACH NEW CHANNEL W/BOLTS
ENE 0	8	2/19/92	MESH, WIRE	TIE NEW MESH AROUND JOINT	2/19/92	CEMENT MORTAR	APPLY COAT OF MORTAR, REBOND			
ENE 0	8	2/24/92	SIKADUR 23, GRINDER	REBOND	2/25/92	CEMENT MORTAR	REBOND ORIGINAL	3/09/92	CEMENT MORTAR	FILL GAPS, ADD LAST COAT
ENE 0	8	3/10/92	CEMENT MORTAR	APPLY COATS, REBOND	3/16/92	CEMENT MORTAR	REBOND ORNAMENTS	1/25/93	JAHN M90 MORTAR	REBOND ORNAMENTS
ENE 0	8	1/25/93	JAHN M90 MORTAR	APPLY TO BAND CONTOURS						
ENE 0	8	5/06/92	GRINDER	DETACH CRACKED	12/09/92	MESH, JAHN M90 MORTAR	DERUST, WRAP MESH, APPLY	12/10/92	JAHN M90 MORTAR	APPLY COATS OF MORTAR
ENE 0	8	7/12/93	JAHN M90 MORTAR	APPLY FINISH COAT	7/13/93	GRINDER, JAHN M90	OPEN, CLEAN, FILL CRACKS			
EEN 0	8	1/14/92	STEEL PLATES	CUT 4 SPACERS TO	1/14/92	GRINDER, STEEL PLATE	CUT 2 STRAPS TO TIE DOWN	2/18/92	MESH, STEEL WIRE	TIE NEW MESH AROUND NEW "T"
EEN 0	8	2/24/92	SIKADUR 23, GRINDER	REBOND FRAGS, GRIND	2/25/92	CEMENT MORTAR	REBOND FRAGMENTS			
EEN 0	8	2/26/92	CEMENT MORTAR	REBOND FRAGMENTS OF	3/03/92	CEMENT MORTAR	BUILDUP 1/4" MORTAR COAT	11/04/92	MESH/WIRE	TIE MESH W/WIRE TO
EEN 0	8	11/09/92	ACETONE, SIKADUR 23	CLEAN & REBOND	11/30/92	JAHN M90 MORTAR	APPLY 1ST COAT	12/21/92	JAHN M70/M90 MORTAR	REBOND ORNAMENTS
EEE 0	8	11/04/92	MESH, WIRE	WRAP MESH/WIRE ON	11/10/92	ACETONE, SIKADUR 23	CLEAN & REBOND ORNAMENT	12/01/92	MESH, JAHN M90 MORTAR, WIRE	TIE MESH, APPLY MORTAR COAT
EES 0	8	6/17/92	STEEL PLATES, DRILL, B	PREPARE/ATTAC H STRAPS TO	7/06/92	BRASSO	CLEAN TILES	8/10/92	JAHN M70	REBOND ORNAMENTS/FRAGM
EES 0	8	9/28/92	GRINDER	DETACH OUTER MINOR	9/24/92	STEEL CHANNEL 1" X	CUT CHANNEL TO REPLACE OLD	11/04/92	MESH, WIRE	TIE MESH/WIRE
EES 0	8	11/11/92	ACETONE, SIKADUR 23	CLEAN/REBOND ORNAMENTS/MOR	12/01/92	STEEL MESH, JAHN M90	WRAP MESH, APPLY MORTAR	12/02/92	JAHN M90 MORTAR	APPLY 2ND COAT
EES 0	8	12/22/92	JAHN M70 RED	APPLY MORTAR COAT	1/27/93	JAHN M90 MORTAR	REBOND ORNAMENTS	1/26/93	JAHN M70-18 MORTAR	APPLY MORTAR TO ORIGINAL
EES 0	8	1/27/93	JAHN M90 MORTAR	REBOND TILES	2/01/93	JAHN M90 & JAHN M70-18	REBUILD OV08 & MAJV07			
ESE 0	8	12/01/92	MESH, JAHN M90 MORTAR	WRAP MESH. APPLY MORTAR	12/02/92	JAHN M90 MORTAR	APPLY 2ND COAT	12/16/92	JAHN M90 MORTAR	APPLY MORTAR COAT
ESE 0	8	2/02/93	JAHN M90 MORTAR	REBOND TILES, APPLY						
SSE 0	8	1/29/90	DENATURED ALCOHOL, DF104/	CLEAN & CONSOLIDATE	2/09/93	GRINDER	REMOVE ORNAMENTS	2/10/93	ACRYLOID B-72	REBOND ORNAMENTS
SSE 0	8	3/17/93	DRILL	DRILL HOLES TO ATTACH	5/03/93	JAHN M70-11 RED MORTAR	REBOND TILES TO MAJV09	5/12/93	JAHN M70-18A	REBOND TILES
SSE 0	8	5/17/93	JAHN M70-18A	REBOND TILES						
SSS 0	8	12/21/89	GE 162 & ACRYLOID B-72	BOND TILE FRAGMENTS	12/21/89	DC 738 W/SILICA	CRACK-FILLING	12/20/89	AMMON. HYDR. DILUTE/GE 162	CLEANING/BONDING G TILES
SSS 0	8	1/23/90	H2O/DENAT ALCOHOL/DF104&	CLEAN TILE/SHELLS, C	2/05/90	DF 104/B-72 MIX, DIST	CLEAN/CONSOLID ATE SHELLS	8/04/93	JAHN M90 MORTAR	REBOND TILES
SSS 0	8	8/31/93	SIKADUR 23 & JAHN M90	REBOND TILE/APPLY						
SSW 0	8	12/21/89	GE RTV SILICONE 162	BOND TILE FRAGMENT	12/21/89	DC 738 SILICONE	CRACK-FILLING	12/21/89	ACRYLOID B-72	BONDING TILE FRAGMENT

VIEW IN/ SEQ	ELEV OUT (FT)	DATE #1	MATERIALS USED	TECHNIQUE	DATE #2	MATERIALS USED	TECHNIQUE	DATE #3	MATERIALS USED	TECHNIQUE
SSW	0	8	10/06/93 GRINDER	OPEN MORTAR TO INSPECT	10/12/93	GRINDER, STEEL	CUT DAMAGED MORTAR;NEW	11/08/93	GRINDER	CUT/REMOVE CRACKED
SSW	0	8	11/09/93 GRINDER/STEEL SPACERS	DERUST/REMOVE DAMAGED	11/16/93	WELDS/GRINDER /STEEL/MESH	CLEAN WELDS/WRAP	11/17/93	JAHN M90 & JAHN M70-18A	APPLY M90,REBOND
SSW	0	8	11/15/93 GRINDER	CUT/DETACH DAMAGED	11/22/93	JAHN M90 MORTAR	APPLY 2ND COAT	11/23/93	JAHN M90 MORTAR	REBOND ORNAMENTS/APPLY
SSW	0	8	11/29/93 JAHN M90 MORTAR	REBOND ORNAMENTS,APP	12/06/93	BRASSO, ETHANOL,	CLEAN ORNAMENTS			
WSW	0	8	4/13/93 GRINDER	CUT/REMOVE 35" PIECE OF	4/13/93	TOOLS	REMOVE 15" MORTAR	6/21/93	SIKADUR 23, JAHN M90 MORTAR	REBOND FRAGS,ORNAMENTS
WSW	0	8	6/29/93 JAHN M90 MORTAR	REBOND FRAGS/ORNAMEN	10/05/93	GRINDER	OPEN/INSPECT STEEL	10/13/93	MESR,STEEL CRANNEL,BOLTS	CUT & WRAP NEW CHANNEL
WSW	0	8	10/18/93 JAHN M90 MORTAR	APPLY COATS	10/19/93	JAHN M90 MORTAR	APPLY COAT;REBOND	11/02/93	JAHN M90 MORTAR	REBOND ORNAMENTS
WSW	0	8	11/03/93 JAHN M90 MORTAR	REBUILD/REBON D ORNAMENTS						
WWS	0	8	9/01/92 GRINDER	CUT/DETACH ORIGINAL	9/02/92	"T"-SECTION, GRINDER,TORCR	REMOVE REBAR,HEAT/BEN	12/08/92	JAHN M90 MORTAR	APPLY MORTAR COATS
WWW	0	8	4/12/93 GRINDER	CUT/DETACH MORTAR FRAGS	4/13/93	DRILL, STEEL STRAPS,BOLTS/	DRILL/ATTACH 2 STRAPS TO	4/13/93	STEEL STRAPS 6.5 & 7.75"	MAKE STRAPS FOR BAND ENDS
WWW	0	8	5/03/93 MESH	ADD OVER NEW REINFORCEMENT						
WWN	0	8	10/06/93 GRINDER	REMOVE FRAGMENTS	10/12/93	GRINDER	DERUST STEEL REINFORCEMENT	10/13/93	GRINDER, SIKADUR 23	GRIND/THIN FRAGS;REBOND
WWN	0	8	10/18/93 GRINDER, SIKADUR 23	GRIND/THIN FRAGS;REBOND	10/13/93	MESH & WIRE; STEEL SPACER	WRAP REINFORCEMENT	10/25/93	JAHN M90 MORTAR	REBOND FRAGMENTS
WWN	0	8	10/26/93 JAHN M90 MORTAR	REBOND MORTAR FRAGME	11/01/93	JAHN M90 MORTAR	REBUILD MEMBER/REBOND	11/02/93	JAHN M90 MORTAR	REBUILD MEMBER/REBOND
WWN	0	8	11/29/93 BRASSO, ETHANOL, DIST	CLEAN ORNAMENTS	11/30/93	PIGMENTS, SILINE	COLOR RAW UMBER,FR YW,			
WNW	G	8	7/26/93 GRINDER,MESH	REMOVE COVER,CLEAN	7/27/93	JAHN M90 MORTAR	APPLY MORTAR/REBOND	7/28/93	JAHN M90 MORTAR	APPLY MORTAR,OUTLINES
NNW	G	8	8/16/93 GRINDER, STEEL MESH	DERUST, ADD MESR	8/17/93	SIKADUR 23	PREPARE SPACER,REBOND	8/29/93	JAHN M90 MORTAR	APPLY MORTAR TO ORIG.
NNW	G	8	8/30/93 JAHN M90 MORTAR	APPLY TO MATCH ORIG.						
NNE	I	8	5/20/91 GRINDER	REMOVE DAMAGED COVER	7/22/91	ACETONE,SIKAD UR 23	CLEAN.DEGREASE ,REBOND MORTAR	9/26/91	CEMENT MORTAR	BUILDUP/REBOND FRAGS TO MEMBER
NNE	I	8	10/28/91 CEMENT MORTAR	SHAPE MEMBER TO MATCH	10/29/91	JAHN M70-11 & CEMENT	SHAPE MEMBER TO MATCH			
NNE	I	8	10/30/91 BHASSO	CLEAN TILES						
ENE	I	8	11/26/91 ACETONE, SIKADUR 23	CLEAN & REBOND	7/14/92	SIKADUR 23, JAHN M90	REBOND TILES, FILL CRACKS	3/05/93	JAHN M90 MORTAR	REATTACH TILES
ENE	I	8	4/07/93 JAHN M90 MORTAR	COVER JOINT W/JAHN M90						
EEN	I	8	11/04/91 GRINDER	REMOVE MORTAR	11/12/91	GRINDER	CUT/DETACH MORTAR FROM	11/14/91	SIKADUR 23	REBOND MORTAR/ORNAMENT
EEN	I	8	11/18/91 SIKADUR 23	REBOND MORTAR/ORNAME	11/19/91	GRINDER	OPEN/INSPECT STEEL			
EEN	I	8	7/13/92 SIKADUR 23, JAHN M90	REBOND TILES, FILL						

VIEW IN/ SEQ	ELEV OUT (FT)	DATE #1	MATERIALS USED	TECHNIQUE	DATE #2	MATERIALS USED	TECHNIQUE	DATE #3	MATERIALS USED	TECHNIQUE
EEN	I	8	3/11/92 CEMENT MORTAR	REBOND ORNAMENTS/MOR						
EEN	I	8	11/25/91 SIKADUR 23, ACETONE	CLEAN & REBOND	1/21/92	GRINDER	PREP SPACERS FOR WELDING	1/27/92	GRINDER	REMOVE CRACKED MORTAR/REBAR
EEN	I	8	3/09/92 CEMENT MORTAR	APPLY LAST COAT OF	1/04/93	JAHN M70-11	APPLY, SCRATCH, REBOND TILE	1/11/93	JAHN M90 MORTAR	REBOND TILES
EES	I	8	5/06/92 GRINDER	CUT/DETACH ORIGINAL	5/19/92	ACETONE, SIKADUR 23	CLEAN, REBOND FRAGS	6/03/92	GRINDER	CUT & REMOVE RUSTED REBAR
EES	I	8	6/08/92 GRINDER, TORCH	CUT & SHAPE NEW T-SECTION	7/06/92	ETHANOL, BRASSO	CLEAN TILES			
EES	I	8	7/07/92 GRINDER	SHAPE FRAGMENTS	7/20/92	MESH, WIRE	WRAP MESH, TIE W/WIRE	8/11/92	JAHN M70 MORTAR	REBOND ORNAMENTS/FRAGM
EES	I	8	1/19/93 JAHN M90 MORTAR	REBOND TILES	1/21/93	JAHN M90 MORTAR	REBOND TILES	1/27/93	JAHN M90 MORTAR	REBOND ORNAMENTS OVER
EES	I	8	1/26/93 JAHN M90 MORTAR	REBOND TILES						
ESE	I	8	12/15/92 JAHN M90 MORTAR	REATTACH FRAGS, APPLY	12/17/92	JAHN M90 MORTAR	REBOND ORNAMENTS	1/20/93	JAHN M90 MORTAR	APPLY TO FINISH SHAPE
SSE	I	8	1/29/90 DIST H20/DEN ALC;DF104/B-72	CLEAN/CONSOLI DATE SHELLS	2/09/93	GRINDER	REMOVE ORNAMENTS	2/10/93	B-72 ACRYLIC	REBOND TILES
SSE	I	8	2/16/93 B-72 ACRYLIC	REMOVE AND REBOND	3/02/93	GRINDER	REMOVE ORNAMENTS	3/16/93	GRINDER	CUT STRAPS FOR BAND02/03
SSE	I	8	3/23/93 STEEL MESH	WRAP AROUND NEW 'T'	3/29/93	JAHN M90 MORTAR	APPLY MORTAR OVER NEW 'T'	5/11/93	MESH, WIRE, JAHN M90 MORTAR	WRAP MESH, TIE, APPLY
SSE	I	8	5/19/93 JAHN M70-18	REBOND ORNAMENTS/APP						
SSS	I	8	1/29/90 DIST H20/DEN ALC;DF104/B-72	CLEAN/CONSOLI DATE SHELLS	6/22/93	GRINDER	REMOVE 20 TILES	7/12/93	SIKADUR 23, ACETONE	REBOND ORNAMENTS,
SSS	I	8	7/19/93 MESH, WIRE	ADD MESH, TIE W/WIRE	8/18/93	JAHN M90 MORTAR	REBOND FRAGS/ORNAMENT	9/13/93	BRASSO, ETHANOL, DIST.	CLEAN ORNAMENTS
SSW	I	8	11/08/93 GRINDER	CUT/DETACH MEMBER						
SSW	I	8	11/15/93 GRINDER	CUT/DETACH MEMBER	11/23/93	JAHN M90 MORTAR	REBOND TILES/APPLY	11/29/93	JAHN M90 MORTAR	REBOND ORNAMENTS/APPLY
SSW	I	8	11/30/93 JAHN M90 MORTAR	APPLY COATS	12/06/93	BRASSO, ETHANOL,	CLEAN ORNAMENTS			
SWS	I	8	2/03/93 B-72 50% ACETONE	REBOND ORNAMENTS	9/27/93	GRINDER, NEW STEEL 'T'	REMOVE/TILES, CUT NEW 'T'	11/02/93	JAHN M90 MORTAR	REBOND ORNAMENTS
WWS	I	8	5/18/93 JAHN M90 MORTAR	REBOND FRAGS, RESHAP						
WWN	I	8	10/26/93 JAHN M90 MORTAR	REBOND FRAGMENTS						
NNW	I	8	9/07/93 GRINDER	CLEAN/DERUST STEEL	9/08/93	STEEL MESH, JAHN M90	WRAP MESH/APPLY	9/13/93	JAHN M90 MORTAR	APPLY COAT, REBOND
NNW	I	8	9/14/93 JAHN M90 MORTAR	REBOND TILES, APPLY						
NNN	O	12	7/20/93 JAHN M90 MORTAR	OPEN, CLEAN, FILL CRACKS	12/15/93	MESH, GRINDER	DERUST & WRAP STEEL REBAR			
NNE	O	12	7/22/91 ACETONE, SIKADU R 23	CLEAN, DEGREAS E, BOND	9/10/91	GALV STL MESH, WIRES	ADD MESH AROUND NEW	9/11/91	STL MESH, WIRES	ADD MESH AROUND NEW
NNE	O	12	11/04/91 BRASSO	CLEAN TILES	4/13/92	CEMENT MORTAR	APPLY COAT OF MORTAR 1/4"			

VIEW SEQ	IN/ OUT	ELEV (FT)	DATE #1	MATERIALS USED	TECHNIQUE	DATE #2	MATERIALS USED	TECHNIQUE	DATE #3	MATERIALS USED	TECHNIQUE
ENE	0	12	9/03/91	STEEL PLATE	PREP SPACERS/STRAP	9/04/91	DRILL, STL STRAP	CUT HOLES FOR MINHO4 TO	9/17/91	GRINDER	GRIND MORTAR FRAGMENTS
ENE	0	12	9/23/91	GRINDER	REMOVE RUSTED MESH/W	9/30/91	CEMENT MORTAR	REBOND MORTAR FRAGMENT			
ENE	0	12	10/01/91	CEMENT MORTAR	REBOND MORTAR FRAGME	10/01/91	CEMENT MORTAR	REBOND MORTAR FRAGMENTS	10/07/91	CEMENT MORTAR	REBOND FRAGMENT W/TILE
ENE	0	12	10/07/91	CEMENT MORTAR	REBOND FRAGMENT	10/08/91	CEMENT MORTAR	REBOND FRAGMENT W/			
ENE	0	12	10/08/91	CEMENT MORTAR	REBOND MORTAR FRAGME	10/09/91	CEMENT MORTAR	REBOND MORTAR FRAGMENTS	10/09/91	CEMENT MORTAR	APPLY 1ST COAT OF MORTAR
ENE	0	12	10/15/91	CEMENT MORTAR	REBOND FRAGMENT	10/16/91	CEMENT MORTAR	REBOND FRAGMENTS			
ENE	0	12	10/21/91	CEMENT MORTAR	RESHAPE MEMBER/MATCH	10/22/91	CEMENT MORTAR	SHAPE MEMBER/MATCH	10/22/91	CEMENT MORTAR	SHAPE MEMBER/MATCH
ENE	0	12	10/23/91	CEMENT MORTAR	SHAPE MEMBER TO MATCH	10/23/91	GRINDER	TRIM EDGES TO MATCH ORIGINAL			
ENE	0	12	3/18/92	CEMENT MORTAR	ADD COAT, REBOND	3/24/92	CEMENT MORTAR	ADD COAT, REBOND	6/14/93	SIKADUR 23	REMOVE/REBOND ORNAMENTS
ENE	0	12	6/15/93	STEEL MESH, JAHN M90	WRAP, APPLY MORTAR	6/21/93	GRINDER, SIKADUR 23	REMOVE TILES/REBOND	6/22/93	JAHN M90 MORTAR	REBOND TILES
ENE	0	12	6/23/93	JAHN M90 MORTAR	REBOND TILES	6/29/93	JAHN M90 MORTAR	OPEN/FILL CRACKS			
EEN	0	12	11/13/91	GRINDER	REMOVE DAMAGED	11/14/91	GRINDER	REMOVE STEEL/MORTAR	11/18/91	DC 3145 RTV	BOND GLASS TO MORTAR
EEN	0	12	11/19/91	DC3145 RTV	REBOND GLASS TO MORTAR	11/20/91	DC3145 RTV	REBOND GLASS TO MORTAR			
EEN	0	12	2/18/92	MESR, STEEL WIRE	TIE NEW MESR ON NEW REBAR	3/17/92	CEMENT MORTAR	APPLY 1ST COAT;REBOND			
EEN	0	12	11/20/91	DC3145 RTV	REBOND GLASS TO MORTAR	12/18/91	GRINDER,OXY- ACETYLENE	CUT/SHAPE "T" SECTION REBAR			
EEN	0	12	12/16/91	OXY-ACETYLENE TORCR,HAMMER	BEAT "T"- SECTION INTO	1/14/92	OXY- ACETYLENE TOR	BEND "T" SECTION TO	1/15/92	STEEL STRAP 1" WIDE BY 11" LG	BEND TO HOLD HORIZ BAND ENDS
EEN	0	12	1/15/92	GRINDER	REMOVE MORTAR TO	1/21/92	GRINDER	CUT STEEL FOR BAND STRAPS			
EEN	0	12	1/22/92	SIKADUR 23, STEEL WIRE	REBOND GLASS,TIE	1/22/92	DRILL	DRILL HOLES IN BAND STRAPS	1/27/92	DRILL	DRILL HOLES IN MAJV04 "T"
EEN	0	12	1/28/92	STEEL WIRES/STRAPS/A	REATTACH BAND TO	2/08/92	MESH	WRAP AROUND MAJV04			
EEN	0	12	3/30/92	CEMENT MORTAR	ADD 4TH COAT OF MORTAR	4/08/92	CEMENT MORTAR	APPLY 1ST COAT OF MORTAR	4/20/92	CEMENT	REBOND GLASS TO MEMBER
EEN	0	12	4/21/92	CEMENT	REBOND GLASSES TO	4/22/92	CEMENT MORTAR	REBOND GLASS, FILL-IN JOINT			
EEN	0	12	4/27/92	CEMENT MORTAR	REBOND ORNAMENTS	4/28/92	CEMENT MORTAR	APPLY 2ND COAT TO MAJV	4/29/92	CEMENT MORTAR	REBOND ORNAMENTS
EEE	0	12	5/26/92	GRINDER	REMOVE FRAGS	11/17/92	JAHN M90 MORTAR	APPLY FIRST COAT	11/18/92	JAHN M90 MORTAR	APPLY MORTAR,REBOND
EEE	0	12	11/23/92	JAHN M90 MORTAR	APPLY MORTAR, REBON	12/01/92	GRINDER	REMOVE MORTAR			
ESE	0	12	2/26/90	DIST H2O/XYLNE;DF10	CLEAN/CONSOLI DATE SHELLS	6/01/92	GRINDER	CUT/DETACH FRAGS	6/08/92	ACETONE & SIKADUR 23	CLEAN, REBOND MORTAR FRAGS
ESE	0	12	6/09/92	ACETONE & SIKADUR 23	CLEAN, REBOND MORTAR	6/03/92	GRINDER	CUT OUT RUSTED STEEL			

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VIEW	IN/	ELEV	MATERIALS	TECHNIQUE	DATE	MATERIALS	TECHNIQUE	DATE	MATERIALS	TECHNIQUE
SEQ	OUT	(FT)	#1 USED		#2	USED		#3	USED	
ESE	0	12	6/22/92 ETHANOL, BRASSO	CLEAN ORNAMENTS						
ESE	0	12	6/08/92 GRINDER, TORCH	CUT/SHAPE NEW T-	6/15/92	GRINDER	GRIND FRAGMENTS FOR	6/16/92	STEEL STRAPS,BOLTS,DR	PREPARE/INSTALL STEEL ATTACHMT
ESE	0	12	6/23/92 ETHANOL, BRASSO,	CLEAN TILES, CUT FRAGS	7/21/92	MESH, WIRE	WRAP MESH, TIE W/WIRE			
ESE	0	12	7/22/92 MESH,WIRE	WRAP, TIE W/WIRE	8/17/92	JAHN M90	REBOND TILES	8/19/92	JAHN M90 MORTAR	REBOND TILES & FRAGMENT
ESE	0	12	8/25/92 JAHN M90 MORTAR	REBOND TILES	9/01/92	JAHN M90/M70 MORTARS	REBOND TILES			
ESE	0	12	9/02/92 JAHN M70-18	REBOND TILES TO AMJV06	9/16/92	GRINDER	DETACH FINIAL	9/28/92	GRINDER	DETACH OUTER MINOR VERTICAL
ESE	0	12	9/29/92 STEEL CHANNEL 1 1/4" X 60"	REPLACE DAMAGED	9/30/92	STEEL CHANNEL FOR	CUT CHANNEL	11/16/92	JAHN M90 MORTAR	APPLY FIRST COAT
ESE	0	12	11/25/92 JAHN M90 MORTAR	APPLY COAT, REBOND	11/30/92	JAHN M90 MORTAR	REBOND SHELLS,APPLY	12/09/92	JAHN M90 MORTAR	REBOND ORNAMENTS,RESHA
ESE	0	12	12/22/92 JAHN M70 RED	APPLY MORTAR COAT	1/05/93	JAHN M90 MORTAR	APPLY MORTAR TO NEW OUTER	1/19/93	JAHN M90 MORTAR	APPLY COAT TO FINISH SHAPE
ESE	0	12	1/27/93 SIKADUR 23 & JAHN M70-18	REBOND ORNAMENTS,APP						
SSE	0	12	2/07/90 DIST H20/XYLNE;DF10	CLEAN/CONSOLI DATE SHELLS	9/29/92	GRINDER	DETACH UPPER HORIZONTAL	9/30/92	GRINDER	CUT STEEL CHANNEL
SSE	0	12	11/16/92 JAHN M90	APPLY FIRST COAT	12/16/92	JAHN M90 MORTAR	REBOND ORNAMENTS	1/04/93	JAHN M90 MORTAR	APPLY MORTAR TO OUTER BAND
SSE	0	12	2/16/93 GRINDER	DETACH HORIZONTALS	2/17/93	GRINDER	DETACH MAJH'S FROM MAJV09	2/23/93	GRINDER, STEEL 'T' SECTION	CUT RUSTED REBARS,MEW
SSE	0	12	3/01/93 ACETYLENE TORCH	BEND NEW 'T' TO SHAPE OF	3/03/93	GRINDER ON BENCH	DETACH ORNAMENTS	3/08/93	GRINDER, ACRYLOID B-72	DETACH TILE,REBOND
SSE	0	12	3/09/93 ACRYLOID B-72	REBOND ORNAMENTS/FRA	3/10/93	B-72 ACRYLIC W/ACETONE	GRIND/REBOND TILES	3/15/93	GRINDER/OXY- ACETYLENE TORCH	CUT/RESHAPE 'T' SECTION
SSE	0	12	3/16/93 GRINDER	CUT STRAPS FOR	3/17/93	DRILL	DRILL HOLES FOR STRAPS ON	3/23/93	STEEL MESH	WRAP MESH ONTO NEW 'T' SECTION
SSE	0	12	3/24/93 STEEL MESH- 32"x6 1/4"	WRAP MESH AROUND NEW	3/30/93	JAHN M90 MORTAR	APPLY OVER NEW 'T'	4/06/93	JAHN M90 MORTAR	REBOND ORNAMENTS
SSE	0	12	4/07/93 JAHN M90 MORTAR	REBOND TILES	4/19/93	JAHN M90 MORTAR	REBOND ORNAMENTS	4/20/93	JAHN M90 MORTAR	REBOND ORNAMENTS
SSE	0	12	4/27/93 JAHN M90 MORTAR	REBOND TILES	4/21/93	JAHN M90 MOHTAR	REBOND TILES TO TOP ON	4/26/93	JAHN M90 MORTAR	REBOND TILES TO MEMBER
SSE	0	12	4/27/93 JAHN M90 MORTAR	REBOND TILES	5/03/93	JAHN M90 MORTAR	REBOND TILES	5/04/93	JAHN M90 MORTAR	REBOND TILES TO MEMBER
SSE	0	12	5/05/93 JAHN M90 MORTAR	REBOND TILES						
SSS	0	12	2/21/90 DIST H20/XYLNE;DF10	CLEAN/CONSOLI DATE SHELLS	6/15/93	GRINDER	CUT/DETACH FRAGMENTS/ORNA	6/21/93	GRINDER	CUT/DETACH ENTIRE MEMBER
SSS	0	12	6/22/93 SIKADUR 23, ACETONE	REBOND/ CLEAN ORNAMEN	6/29/93	OXY- ACETYLENE TOR	RESHAPE "T" SECTION STEEL	7/06/93	STEEL STRAPS	PLACE STRAPS AT JOINTS
SSS	0	12	7/07/93 GRINDER	REMOVE ORNAMENTS	7/13/93	GRINDER	REMOVE FAILED MORTAR/ORNAMEN	7/13/93	GRINDER, STEEL SPACERS 1.5" LG	ADD SPACER BETWEEN MAJH &
SSS	0	12	7/14/93 MESH, WIRE	WRAP MESH/TIE TO	7/19/93	MESH, WIRE	WRAP MESH, TIE W/WIRE	7/20/93	JAHN M90 MORTAR	BOND ORNAMENTS,APPLY
SSS	0	12	7/26/93 JAHN M90 MORTAR	REBOND TILES	7/27/93	JAHN M90 MORTAR	REBOND TILES	8/02/93	JAHN M90 MORTAR	REBOND ORNAMENTS

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VIEW SEQ	IN/ OUT	ELEV (FT)	DATE	MATERIALS #1 USED	TECHNIQUE	DATE	MATERIALS #2 USED	TECHNIQUE	DATE	MATERIALS #3 USED	TECHNIQUE
SSS	0	12	8/03/93	JARN M90 MORTAR	REBOND TILES & POTTERY	8/09/93	GRINDER	GRIND/DERUST MORTAR FRAGS	8/11/93	JAHN M90 MORTAR	REBOND ORNAMENTS
SSS	0	12	8/16/93	JAHN M90 MORTAR	REBOND FRAGS/ORNAMEN	8/17/93	JAHN M90 MORTAR	REBOND FRAGS/ORNAMENT	8/23/93	JARN M90 MORTAR	REBOND FRAGMENTS
SSS	0	12	8/24/93	JAHN M90 & M70-18 MORTAR	REBUILD JOINTS	8/30/93	JAHN M90 MORTAR	APPLY ALONG EDGES	9/01/93	JAHN M90 MORTAR	REBOND ORNAMENTS/ADD
SSS	0	12	8/30/93	JAHN M90 MORTAR	REBUILD JOINTS/MEMBER	8/31/93	JAHN M90 MORTAR	APPLY ALONG EDGES	9/01/93	BRASSO, ETHANOL, DIST.	CLEAN ORNAMENTS
SSS	0	12	9/07/93	BRASSO, ETHANOL,	CLEAN ORNAMENTS	9/08/93	BRASSO, ETRANOL,	CLEAN ORNAMENTS	12/07/93	GRINDER	CUT/DETACH DAMAGED
SSS	0	12	12/14/93	JAHN M90 MORTAR	REBOND FRAGS AND ORNAMENTS	12/15/93	JAHN M90 MORTAR	APPLY COAT, REBOND	12/20/93	BRASSO, ETHANOL, DIST.	CLEAN ORNAMENTS
SSW	0	12	9/29/92	GRINDER	CUT/REMOVE BAND &	1/08/93	JARN M90 MORTAR	APPLY MORTAR TO	5/10/93	GRINDER, JAHN M90 MORTAR	APPLY MORTAR, BOND/GRI
SSW	0	12	5/11/93	GRINDER, JAHN M90, SIKADUR	CUT/REBOND FRAGS						
WWS	0	12	9/01/92	GRINDER	CUT/DETACH FRAGS/STEEL	9/08/92	DC3145 SILICONE,	CLEAN, REBOND ORNAMENTS	9/22/92	GRINDER	CUT MORTAR FRAGMENTS FROM
WWS	0	12	10/05/92	SIKADUR 23, ACETONE	CLEAN, REBOND FRAGME	11/23/92	JAHN M90 MORTAR	APPLY COATS OF MORTAR, KEEP	12/02/92	MESR, JAHN M90 MORTAR	APPLY MORTAR, WRAP
WWS	0	12	12/21/92	STEEL MESH	WRAP AROUND OUTER BAND 02	1/04/93	MESH, WIRE, JAHN M90	WRAP MESH, TIE, APPLY	1/05/93	SIKADUR 23, GRINDER	REBOND FRAGS, DERUST MESH
WWS	0	12	1/11/93	JAHN M90 MORTAR	REBOND FRAGS/ORNAMEN	4/05/93	8-1/4" BOLTS; 1"x20"	REATTACR FINIAL TO	4/06/93	MESH, JAHN M90 MORTAR	WRAP W/MESH, APPLY
WWS	0	12	3/30/93	JAHN M90 MORTAR	APPLY MORTAR & REATTACH	4/19/93	JAHN M90 MORTAR	REBOND ORNAMENTS	4/20/93	JAHN M90 MORTAR	APPLY MORTAR, REBOND
WWS	0	12	4/21/93	JAHN M90 MORTAR	APPLY MORTAR & REATTACR	5/18/93	JAHN M90 MORTAR	RESHAPE MEMBER,	9/28/93	GRINDER	CUT/SHAPE 5 STEEL PLATES
WWS	0	12	10/04/93	DRILL	DRILL HOLES IN STEEL `T`	10/12/93	MESH	WRAP ON MAJV12	10/13/93	MESH & WIRE	WRAP MESH AROUND NEW
WWS	0	12	10/18/93	JAHN M90 MORTAR	APPLY COAT	10/20/93	JAHN M90 MORTAR	REBOND FRAGMENTS	10/25/93	JARN M90 MORTAR	APPLY COAT; REBOND
WWS	0	12	10/26/93	JAHN M90 MORTAR	APPLY COAT	11/01/93	JAHN M90 MORTAR	APPLY FINAL COAT, REBOND			
WWW	0	12	9/14/92	STEEL STRAPS, NUTS, BOLTS	CUT/ATTACH 4 SETS OF	9/15/92	STEEL `T`, MESH, WIRE	ATTACH MESH/WIRE TO	9/16/92	GRINDER, MESH & WIRE	CUT MORTAR, ATTACH
WWW	0	12	9/21/92	GRINDER	CUT/DETACH FRAGMENTS	11/04/92	JAHN M90 MORTAR	APPLY 2 COATS	11/09/92	JAHN M90	REBOND FRAGMENTS, APPLY
WWW	0	12	11/10/92	JAHN M90 MORTAR	SCRATCR-OFF FILM, APPLY	11/16/92	200" LG STEEL 1"	BEND & ATTACR AS OUTER	11/16/92	CEMENT MORTAR, STEEL	ATTACR FINIAL TO CHANNEL
WWW	0	12	11/17/92	NUTS/BOLTS, MESR	ATTACH FINIAL TO	11/03/92	JARN M90 MORTAR	APPLY 2 COATS OF JAHN M90	11/18/92	JAHN M90 MORTAR	APPLY COATS OF MORTAR
WWW	0	12	11/25/92	JAHN M90 MORTAR	APPLY MORTAR, REBOND	12/01/92	MESH, JAHN M90 MORTAR	WRAP MESH, APPLY	12/28/92	CEMENT MORTAR	APPLY MORTAR OVER MESH
WWW	0	12	1/08/93	JAHN M90 MORTAR	APPLY MORTAR/OUTER	4/05/93	GRINDER	CUT/DETACH MEMBER	3/29/93	JAHN M90 MORTAR	APPLY MORTAR, REBOND
WWW	0	12	4/06/93	GRINDER	DETACH ORNAMENTS	4/07/93	ACETYLENE TORCR,	SHAPE AND CUT `T` SECTION	4/13/93	STEEL STRAPS, 4.5 &	CUT PLATES TO HOLD BANDS
WWW	0	12	4/19/93	DRILL, BOLTS, NU TS	DRILL, ATTACH BANDS	4/20/93	SIKADUR 23	BOND BROKEN TILES	4/27/93	MESH & WIRE	COVER NEW REINFORCEMENT
WWW	0	12	5/19/93	JAHN M90 MORTAR	APPLY LAST COATINGS						

VIEW IN/ SEQ	ELEV OUT (FT)	DATE #1	MATERIALS USED	TECHNIQUE	DATE #2	MATERIALS USED	TECHNIQUE	DATE #3	MATERIALS USED	TECHNIQUE	
WWN	O	12	12/22/92	STEEL MESH	WRAP MESH AROUND MAJH02	12/30/92	CEMENT MORTAR	APPLY MORTAR COAT	5/17/93	JAHN M90 MORTAR	APPLY MORTAR,REBOND
WWN	O	12	9/23/92	GRINDER	CUT MORTAR,REMOVE	4/07/93	GRINDER	CUT/DETACH MEMBER	4/12/93	STEEL CHANNEL- 78" LONG	CUT/DETACH MORTAR;CUT
WWN	O	12	4/13/93	GRINDER, MESH, WIRE	CUT/REMOVE MORTAR/RUST,A	5/03/93	JAHN M90 MORTAR	APPLY COATS OF MORTAR	5/04/93	JAHN M90 MORTAR	APPLY 2ND COAT
WWN	O	12	5/04/93	JAHN M90 MORTAR	APPLY MORTAR COAT	5/05/93	JAHN M90 MORTAR	REBOND TILES/COVER	5/05/93	JAHN M90 MORTAR	REATTACH FRAGS/RESHAPE
WWN	O	12	5/10/93	JAHN M90 MORTAR	REBOND ORNAMENTS,COV	5/11/93	GRINDER, SIKADUR 23	REMOVE MORTAR,REBOND	5/12/93	JAHN M90 MORTAR	REBOND TILES
WWN	O	12	5/12/93	JAHN M90 MORTAR	REBOND ORNAM.,PUT	5/12/93	JAHN M90 MORTAR	REBOND TILES	5/19/93	JAHN M90 MORTAR	REBOND MORTAR FRAGS/APPLY
WWN	O	12	5/24/93	JAHN M90 MORTAR	REBOND FRAGS, APPLY	5/24/93	GRINDER, JAHN M90	REMOVE DAMAGED MORTAR	5/25/93	JAHN M90 MORTAR	APPLY COAT OF MORTAR,RESRAPE
WWN	O	12	5/26/93	JAHN M90 MORTAR	REBOND ORNAMENTS,APP	6/07/93	JAHN M70-18 MORTAR	APPLY MORTAR TO EDGE	6/08/93	BRASSO,ETHANOL	CLEAN ORNAMENTS
WWN	O	12	6/09/93	BRASSO, JAHN M90	CLEAN TILES, FILL GAPS	9/15/93	STEEL MESH	CLEAN CRACK,WRAP	9/20/93	GRINDER	REMOVE RUST, WRAP PIPE
NNN	C	12	9/08/92	JAHN M70-18 MORTAR	REBOND TILES	9/09/92	JAHN M70-18 MORTAR	REBOND TILES	9/16/92	JAHN M70-18 MORTAR	REBOND TILES
NNN	I	12	10/30/91	BRASSO	CLEAN TILES						
NNE	I	12	5/21/91	GRINDER	REMOVE/SAVE MORTAR &	7/14/93	HAMMER/CHISEL , JAHN M90	REMOVE/REATTAC H FRAGMENTS			
EEN	I	12	11/05/91	GRINDER	CUT/REMOVE MORTAR	3/30/92	SIKADUR 23, ACETONE	REBOND MORTAR FRAGMENTS	3/31/92	CEMENT MORTAR	REBOND GLASSES
EEN	I	12	4/01/92	CEMENT MORTAR	APPLY 1ST COAT OF	4/01/92	GRINDER	GRIND MORTAR FRAGMENTS			
EEN	I	12	4/14/92	CEMENT	REBOND ORNAMENTS TO	4/15/92	CEMENT	REBOND MORTAR FRAGMENTS			
EES	I	12	5/11/92	GRINDER	CUT/DETACH ORIGINAL	5/12/92	GRINDER	CUT/DETACH ORIGINAL	5/18/92	GRINDER	DETACH FRAGS W/ORNAMENTS
EES	I	12	5/20/92	ACETONE, SIKADUR 23	CLEAN, REBOND FRAGS	5/27/92	ACETONE, SIKADUR 23	CLEAN, REBOND FRAGS			
EES	I	12	6/03/92	ACETONE & SIKADUR 23	CLEAN, REBOND FRAGS	6/24/92	BRASSO, ETHANOL,	CLEAN TILES, CUT FRAGS	6/29/92	BRASSO, GRINDER	CLEAN TILES, CUT FRAGS
EES	I	12	6/30/92	ETHANOL, BRASSO	CLEAN TILES	7/08/92	GRINDER	SHAPE 5 FRAGMENTS OF			
EES	I	12	7/20/92	MESH, WIRE	WRAP MESH, TIE W/WIRE	8/17/92	JAHN M90	REBOND SHELLS	8/24/92	JAHN M90 MORTAR	REBOND FRAGMENT &
EES	I	12	8/31/92	JAHN M90 MORTAR	REBOND TILES	9/21/92	JAHN M70-18 MORTAR	BUILD-UP HORIZ BAND,REB	11/30/92	JAHN M90 MORTAR	REBOND GLASS,APPLY
SSS	I	12	12/07/93	GRINDER	CUT/DETACH MORTAR	12/08/93	METAL MESH, JAHN M90	DERUST,WRAP, AND REBOND	12/20/93	BRASSO, ETHANOL, DIST	CLEAN ORNAMENTS
WWS	I	12	11/24/92	JAHN M90 MORTAR	APPLY MORTAR, REBON	11/30/92	JAHN M90 MORTAR	APPLY MORTAR, REBOND	11/09/93	GRINDER	REMOVE DAMAGED MORTAR & TILES
WWS	I	12	11/10/93	MESH/WIRE	DERUST/WRAP & TIE MESH	11/15/93	JAHN M90 MORTAR	REBOND TILES TO REPAIRED	11/16/93	JAHN M90 MORTAR	REBOND TILES TO REPAIRED
WWS	I	12	11/22/93	JAHN M90 MORTAR	REBOND ORNAMENTS/RES	11/23/93	JAHN M90 MORTAR	REBOND ORNAMENTS,			
WWW	I	12	11/25/92	JAHN M90 MORTAR	REATTACH ORNAMENTS						

VIEW IN/ SEQ	OUT	ELEV (FT)	DATE #1	MATERIALS USED	TECHNIQUE	DATE #2	MATERIALS USED	TECHNIQUE	DATE #3	MATERIALS USED	TECHNIQUE
WWN	I	12	9/22/93	JAHN M90 MORTAR	APPLY 1ST COAT	10/05/93	JAHN M90 MORTAR	APPLY FINAL COAT OF JAHN			
NNN	O	16	10/13/93	JAHN M90 MORTAR,	THIN FRAGMENTS,	10/19/93	GRINDER	GRIND/THIN FRAGMENTS	10/20/93	JAHN M90 MORTAR/GRINDER	REBOND/GRIND- DERUST
WWW	O	16	10/19/93	JAHN M90 MORTAR	REBOND FRAGMENTS						
NNN	O	20	10/03/93	STEEL CHANNEL, GRIND	CUT/BOLT CHANNEL TO	10/05/93	TORCH, STL PLTE	CUT/SHAPE/BOLT OVER CENTER	10/06/93	STEEL MESH/WIRE	WRAP/TIE MESH OVER NEW PLATE
NNN	O	20	10/25/93	SIKADUR 23	REBOND MORTAR FRAGME	10/25/93	JAHN M90 MORTAR;GRINDE	GRIND & BOND MORTAR			
SSS	O	20	11/01/93	SIKADUR 23, STEEL MESH	REBOND FRAGS/WRAP						
WWW	O	20	10/12/93	MESH, SIKADUR 23	ADD MESH, REBOND TILES	12/14/93	JAHN M90 MORTAR	REBOND MORTAR FRAGMENTS			
NNN	O	24	8/09/93	SIKADUR 23	REBOND ORNAMENTS						
EEE	O	24	7/28/93	STEEL MESH	WRAP MESH AROUND NEW	8/02/93	GRINDER	CUT/REMOVE MORTAR &			
WWW	O	24	8/03/93	GRINDER	CUT/REMOVE MORTAR/POTTER						
NNN	O	28	9/07/93	JAHN M90 MORTAR	REBOND MORTAR FRAGME	9/08/93	JAHN M90 MORTAR	APPLY MORTAR COAT	9/14/93	JAHN M90 MORTAR	REBUILD MEMBER; REBOND
NNN	O	28	9/15/93	JAHN M90 MORTAR	RESHAPE MEMBER,REBOND						
EEE	O	28	9/07/93	JAHN M90 MORTAR	REBOND FRAGMENT	9/08/93	JAHN M90 MORTAR	APPLY MORTAR COAT			
SSS	O	28	9/07/93	JAHN M90 MORTAR	REBOND ORIG. MORTAR	9/08/93	JAHN M90 MORTAR	APPLY MORTAR COAT			
WWW	O	28	7/12/93	GRINDER	DETACH DAMAGED	7/13/93	GRINDER	CUT/INSPECT FAILED	7/14/93	GRINDER, NEW STEEL RING	DERUST STEEL, ADD NEW STEEL
WWW	O	28	7/20/93	GRINDER	DETACH DAMAGED	7/26/93	GRINDER, NEW STEEL	DETACH RING, ATTACH CHANNEL	7/27/93	STEEL MESH	WRAP MESH AROUND
WWW	O	28	8/30/93	JAHN M90 MORTAR	APPLY MORTAR,REBOND	9/07/93	JAHN M90 MORTAR	REBOND FRAGMENT	9/08/93	JAHN M90 MORTAR	APPLY COAT OF MORTAR
WWW	O	28	9/13/93	JAHN M90 MORTAR	APPLY MORTAR,REBUIL	9/14/93	JAHN M90 MORTAR	REBUILD MEMBER;REBOND	9/15/93	JAHN M90 MORTAR	APPLY COAT MORTAR,FILL
NNN	O	32	7/20/93	JAHN M90 MORTAR	REBOND CHINA GLASS	8/11/93	JAHN M90 MORTAR	COAT BANDS/VERTICAL	8/24/93	JAHN M90 MORTAR	REBOND ORNAMENTS
NNN	O	32	9/01/93	BRASSO, ETHANOL,	CLEAN ORNAMENTS						
EEE	O	32	8/24/93	JAHN M90 MORTAR	REBOND ORNAMENTS	9/01/93	BRASSO, COTTON, WATER	CLEAN ORNAMENTS			
SSS	O	32	7/20/93	B-72, ACETONE	REBOND GLASS FRAGS, CLEAN	8/10/93	JAHN M90 MORTAR	REBOND FRAGS & ORNAMENTS	8/23/93	JAHN M90 MORTAR	REBOND FRAGMENT/ORNAME
SSS	O	32	9/01/93	BRASSO, ETHANOL, DIST	CLEAN GLASSES						
WWW	O	32	7/19/93	GRINDER	DETACH FAILED FHAGS/	7/26/93	GRINDER	STEEL BANDS/MESH	8/16/93	JAHN M90 MORTAR	COAT RINGS/VERT.S,RE
WWW	O	32	8/23/93	JAHN M90 MORTAR	APPLY COATS/REBOND	8/24/93	JAHN M90 MORTAR	REBOND ORIGINAL	8/30/93	JAHN M90 MORTAR	ADD MORTAR TO MINV4/REBOND
WWW	O	32	8/31/93	JAHN M90 MORTAR	APPLY COATS/REBOND	9/01/93	BRASSO, ETHANOL,	CLEAN GLASSES			

GAZEBO CONSERVATION
APPLICATIONS

VIEW IN/ SEQ	ELEV OUT (FT)	DATE #1	MATERIALS USED	TECHNIQUE	DATE #2	MATERIALS USED	TECHNIQUE	DATE #3	MATERIALS USED	TECHNIQUE
NNN 0	36	5/26/93	JAHN M90 MORTAR	REBOND ORNAMENTS	6/14/93	GRINDER, WIRE MESH	OPEN/INSPECT/A DD MESH/DE- CLEAN	6/21/93	WIRE MESH	WRAP AROUND CHANNELS
NNN 0	36	6/21/93	STEEL PLATE 1" BY 1/8"	REINFORCE BAND AND REMOVE	11/16/93	BRASSO, ETHANOL	ORNAMENTS			
EEE 0	36	5/10/93		ORNAMENTS, CLE	5/24/93	GRINDER	OPEN/INSPECT BASE OF TOP	6/08/93	B-72, JAHN M90, ACETONE	REBOND FRAGS OF GLASS/POTTER
SSS 0	36	5/25/93	JAHN M90 MORTAR	REBOND	6/22/93	B-72, ACETONE	REBOND 5 PIECES OF	6/28/93	B-72, SIKADUR 23, ACETONE	REBOND GLASS, ORNAMENTS
SSS 0	36	11/15/93	JAHN M90 MORTAR,	PUT SIKA IN HEAD, REBOND						
WWW 0	36	5/11/93		REMOVE ORNAM/BAND,	5/25/93	JAHN M90 MORTAR, WIRE	REBOND FRAG & FILL GAPS	6/29/93	JAHN M90 MORTAR,	REBOND FRAGMENTS
WWW 0	36	7/06/93	JAHN M90 MORTAR,	REBOND FRAGMENTS	7/07/93	JAHN M90 MORTAR	REBOND ORNAMENTS	7/08/93	JAHN M90 MORTAR	REBOND FRAGMENTS