# SDMS US EPA REGION V

# COLOR - RESOLUTION - 3

## IMAGERY INSERT FORM

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| | |
|---|---|
| **SITE NAME** | Outboard Marine Corp/Waukegan |
| **DOC ID #** | 152190 |
| **DOCUMENT VARIATION** | _X_ COLOR **OR** ___ RESOLUTION |
| **PRP** | RMD - Outboard Marine Corp/Waukegan |
| **PHASE** | REM1, REM10, REM4 |
| **OPERABLE UNITS** | |
| **LOCATION** | Box #___ Folder #____ Subsection_____ |
| **PHASE** (AR DOCUMENTS ONLY) | ___ Remedial ___ Removal ___ Deletion Docket ____ ___<br>Original ___ Update # ___ Volume ___ of ___ |

**COMMENT(S)**

Generalized Profile, Ground Water Elevation and Barometric Pressure Data

# APPENDIX A

# CONFIRMATION OF EPA APPROVALS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:

April 23, 1991

Mr. Glen Lenzi
Outboard Marine Corp.
100 Sea Horse Dr.
Waukegan, IL 60085-2195

Re: Approval of the Water Treatment Design

Dear Glen,

This letter constitutes approval of the water treatment design documents and triggers construction start dates accordingly. However, page 38 of the Design and Analysis Report must be modified by deleting the last sentence before discussion of the Category 5 discussion. See attached page.

On page 37 it states that when Category 3 and 4 are combined, category 4 standards apply. It also states on page 38 that if Category 4 water is discharged to NSSD, Category 4 standards apply. There is no circumstance contemplated in which Category 3 criteria will apply to Category 4 water. The sentence is misleading and needs to be removed. Please provide a revised page.

This USEPA approval for construction of the treatment system and discharge at allowed PCB limits does not include or cover any additional contaminants which may be present in the treated water as a result of existing ground water, surface water or the coagulant added during various construction phases. One full chemical scan of the influent and treated effluent in each treatment area will be required.

If you have any questions concerning this approval, please call me.

Sincerely,

Cindy J. Nolan
Remedial Project Manager

cc: Scott Moyer, IEPA
Al Albrecht, CDI
Shamel Abou-El-Soud, USACE
Service List
Unit Files

A polymer coagulant will not be used because the water will contain few suspended solids.

The flow from the soil processor is dependent on the water content of the processed soil and is expected to be approximately 5 to 10 gpm. The design capacity of the Category 3 water treatment facility, 50 gpm, will provide sufficient capacity for both Category 3 and Category 4 water simultaneously.

The influent to the Category 4 system will be monitored on a weekly basis.

The effluent from the lead carbon unit will be sampled on a daily basis and analyzed for PCBs and the results available on a 72-hour turnaround basis. Category 4 water shall be discharged to the North Shore Sanitary District upon approval by the District, and by U.S. EPA and IEPA. If, in the event Category 4 water is not discharged in this manner, said water may be discharged on-site at a location (the North Ditch) approved by U.S. EPA, the same location the Category 3 water is discharged.

When the Category 4 water is discharged to NSSD, the average concentration of PCBs in the final effluent for Category 4 water will not exceed a running average of 1 ppb during a 30-day period during which water is generated, and at no time shall the effluent exceed PCB concentrations greater than 5 ppb.

~~When the Category 4 water is discharged on-site, the Category 3 discharge criteria will apply.~~

Category 5 - Long-Term Water

The long-term water is the water extracted from the closed containment cell recovery wells. The treated water is discharged to the Upper Harbor from

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:

June 27, 1991 by fax

Mr. Glen Lanzi
Outboard Marine Corp.
100 Sea Horse Dr.
Waukegan, IL 60065-2195

**Re: Approval of the Final Design**

Dear Glen,

This letter constitutes approval of the Canonie design and approval to open the New Slip. Therefore, June 27 is the operative date for initiation of the construction schedule as set forth in the Remedial Action Plan (RAP).

The following design documents have been reviewed by U.S. EPA and Illinois EPA and the U.S. Army Corp. of Engineers on behalf of the Agencies and found to be consistent with the Consent Decree and Remedial Action Plan.

| Document | Date |
|---|---|
| Design & Analysis Report | 2/18/91 |
| Construction Specifications | 2/18/91 |
| Construction Drawings | 2/18/91 |
| Treatment Design & Operations Plan | 2/18/91 |
| Construction Quality Control Procedures | 2/18/91 |
| Revised Slip 3 Cutoff Wall | 3/11/91 |
| Treatment Health & Safety Plan | 3/20/91 |
| Remedial Action Health & Safety Plan | 3/20/91 |
| Treatment Quality Assurance Project Plan | 3/25/91 |
| Remedial Action Quality Assurance Project Plan | 3/30/91 |
| Revised Text & Construction Drawing Inserts | 5/31/91 |
| Revised Specifications & Construction Drawing Inserts | 6/12/91 |
| Underground Storage Tank Contingency Plan | 6/11/91 |

U.S. EPA approval of this design requires certain disclaimers and clarifications.

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1. Approval of the design does not imply any warranty of performance or, that the remedy, when constructed, will meet the Performance Standards or will function properly and be accepted.

2. U.S. EPA provides acceptance of health and safety plans for protection of construction workers. Acceptance of such plans for construction does not imply EPA responsibility for any health and safety problem which might arise as a result of work conducted by contractor personnel working on behalf of OMC or the Trustee.

3. EPA approval of the design does not relieve OMC and the Trustee of the responsibility to assure that construction is implemented in a manner which is protective of human health and the environment. Similarly, this letter cannot in any way be construed as EPA approval for deviation from any applicable, relevant or appropriate requirements of any environmental regulations which may have been overlooked or unanticipated and therefore not specifically identified in the design.

4. Modifications to the approved design during construction will require U.S. EPA approval, in consultation with Illinois EPA.

5. The long-term stability of the Slip 3 Cutoff Wall depends on the long-term stability of the stone rip-rap. The Operations & Maintenance (O&M) Plan must be revised to include periodic inspection and repair as necessary to assure its integrity. A brief addendum to the plan can be prepared at this time. Other amendments to the O&M plan may become obvious such that at the completion of construction, a revised plan may be required.

6. This design approval presumes that the RCRA cap stipulation is agreed to by all parties and acceptable to the court.

7. The underground storage tank contingency plan approval is based on the sample distance from the pumps of an additional 20 feet as per Scott Moyer's conversation with Tim Harrington of June 25, 1991.

This approval letter also provides for acceptance of the New Slip data reports and water quality. Acceptance of these data summaries, specifically Canonie's letter of May 8, 1991 and Roger Crawford's letter of June 20, 1991, does not imply that the Agencies agree with all conclusions presented, or that there is sufficient data to support those conclusions. The Agencies do conclude that the New Slip does not present an acute risk to human health and the environment as a result of the water and sediment

quality. The on-going RI/FS will address the impact of chronic releases of contaminated ground water to the New Slip.

Please contact me if you have any questions.

Sincerely,

Cindy J. Nolan
Remedial Project Manger

cc: A. Albrecht, CDI
Service List
Shamel Abou-El-Seoud, USACE
Unit File

**Canonie** Environmental

Canonie Environmental Services Corp.
800 Canonie Drive
Porter, Indiana 46304
Phone: 219-926-8651
Fax: 219-926-7169

November 5, 1991

90-407-01

Ms. Cindy Nolan
U.S. Environmental Protection Agency
Region V
Office of Superfund MC-5
230 South Dearborn, HS-11
Chicago, IL 60604

Cutoff Wall Backfilling and Category 1
Water Treatment
Waukegan Harbor Remediation Project

Dear Ms. Nolan:

The purpose of this letter is to confirm the contents of a conference call held on the afternoon of November 4, 1991 among you, Glen Lenzi, and me. The first item discussed was the backfilling of the Slip No. 3 cutoff wall. Canonie Environmental Services Corp. (Canonie) understands that the U.S. Environmental Protection Agency (EPA) approves backfilling of the Slip No. 3 cutoff wall if the cutoff wall monitoring program that was faxed to the EPA on October 31, 1991 is in place.

The second item discussed is the use of pressure sand filters for Category 1 water treatment rather than gravity sand filters. Canonie understands that the EPA approves the use of pressure sand filters for Category 1 water treatment.

If your understanding of the items discussed is different than described above, please transmit your understanding.

If you have any questions, please call.

Very truly yours,

Kevin M. Brissette

Kevin M. Brissette, P.E.
Project Manager

KMB/tl

cc: Shamel Abou el Seoud, U.S. Army Corps of Engineers
Arlyn Albrecht, Waukegan Harbor Trust
Tracey Fitzgerald, Illinois Environmental Protection Agency
Glen Lenzi, Outboard Marine Corporation

**Canonie** Environmental

Canonie Environmental Services Corp.
800 Canonie Drive
Porter, Indiana 46304
Phone: 219-926-8651
Fax: 219-926-7169

November 18, 1991

90-407-01

Ms. Cindy Nolan
U.S. Environmental Protection Agency
Region V
Office of Superfund MC-5
230 South Dearborn, HS-11
Chicago, IL 60604

Eight-Inch Force Main Reroute
East Containment Cell
Waukegan Harbor Remediation

Dear Ms. Nolan:

The purpose of this letter is to confirm Canonie Environmental Services Corp.'s (Canonie's) understanding of our November 14, 1991 telephone conversation regarding the final connection of the eight-inch force main reroute around the east containment cell. Canonie understands that the design modification for the final connection of the eight-inch force main presented in Canonie's October 18, 1991 letter is approved.

If your understanding is different than described above, please call.

Very truly yours,

Kevin M. Brissette

Kevin M. Brissette, P.E.
Project Manager

KMB/tl

cc: Shamel Abou el Seoud, U.S. Army Corps of Engineers
Edgardo Abat, U.S. Army Corps of Engineers
Arlyn Albrecht, Waukegan Harbor Trust
Tracey Fitzgerald, Illinois Environmental Protection Agency
Glen Lenzi, Outboard Marine Corporation

WEEKLY MEETING MINUTES

NOVEMBER 19, 1991

A weekly progress meeting for the Waukegan Harbor Remediation Project was held at 10:00 AM on November 19, 1991. Canonie Environmental Services (CES), Hi-Tech Remediation (Hi-Tech), and the U.S. Army Corps of Engineers (COE) were represented at the meeting. The following items were discussed:

1. Hi-Tech has completed pouring the concrete for Area L.

2. Backfilling of the cutoff wall is continuing. The monitoring program for the cutoff wall is also continuing.

3. The settling pond grade work is nearly complete. The liner subcontractors are expected to arrive on site on Thursday, November 21.

4. The SoilTech processor support base has been completed and SoilTech is beginning to mobilize people and equipment.

5. The COE asked where to and how impacted material from Area M (by the old water intake) would be transported. The process will be to excavate Area M into Slip No. 3 and then transport it to the West Containment settling pond through the dredge lines.

6. On Thursday, November 14, Canonie received verbal approval from the U.S. EPA to proceed with the 8-inch force main/East Containment slurry wall reroute. Canonie has sent a letter of confirmation concerning that approval and will proceed accordingly.

7. Hi-Tech will not work on Friday, Saturday, or Sunday of the Thanksgiving weekend.

HI-TECH REMEDIATION
WAUKEGAN HARBOR
PROJECTED SCHEDULE

NOVEMBER - 1991

| | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A. West Containment** | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| 1) Construct Settlement Pond | X | | | | | | | X | | | | X | X | X | X |
| 2) Asphalt Road Crossing (1) | X | | | | | | | X | | | | X | X | X | X |
| 3) Install Liner | X | | | | | | | X | | | | X | X | X | X |
| 4) Pond Drainage System | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| **B. Slip #3** | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| 1) Debris Removal | X | | | | | | | X | | | | X | X | X | X |
| 2) Backfill Cut-off Wall | X | | | | | | | X | | | | X | X | X | X |
| 3) Excavate & Backfill Slurrys | X | | | | | | | X | | | | X | X | X | X |
| Trench at North End of | X | | | | | | | X | | | | X | X | X | X |
| 4) Clean up Pond & Mixing Area | X | | | | | | | X | | | | X | X | X | X |
| At Larsen's | X | | | | | | | X | | | | X | X | X | X |
| 5) Install Dredge Pipe | X | | | | | | | X | | | | X | X | X | X |
| 6) Mob Dredge | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| **C. East Containment** | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| 1) Relocate 8" Force Main (2) | X | | | | | | | X | | | | X | X | X | X |
| 2) Asphalt Road Crossing (1) | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| **D. Retention Pond** | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| 1) Slurry Wall Excavation | X | | | | | | | X | | | | X | X | X | X |
| 2) Slurry Wall Backfill | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |
| | X | | | | | | | X | | | | X | X | X | X |

NOTES:

1) Weather Permitting
2) Determination on Connection
3) [illegible]iday - no work
[illegible]-Day Holiday - no work to be performed.

JMS
11/19/91

11-19-91

# WEEKLY MEETING ATTENDANCE RECORD

| | NAME | COMPANY | PHONE # |
|---|---|---|---|
| 1. | KEVIN BRISSETE | CANONIE | 263-1100 |
| 2. | JAN SORENSEN | COE | 263-1105 |
| 3. | ED ABAT | COE | 263-1102 |
| 4. | J SAMMO | AK TECH | 249-1150 |
| 5. | PAUL SLOUP | CES | 263-1100 |
| 6. | | | |
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| 12. | | | |
| 13. | | | |
| 14. | | | |
| 15. | | | |

COMMENTS Del Knight on vacation.

**Canonie** Environmental

Canonie Environmental Services Corp.
800 Canonie Drive
Porter, Indiana 46304
Phone: 219-926-8651
Fax: 219-926-7169

December 18, 1991

90-407-02

Ms. Cindy J. Nolan
Remedial Project Manager
U.S. Environmental Protection Agency
Office of Superfund HSRL-6J
77 West Jackson Boulevard
Chicago, IL 60604

Revision
Turbidity Standard
Upper Harbor Dredging
Waukegan Harbor Remediation

Dear Ms. Nolan:

A turbidity limit of 50 Jackson Turbidity Units (JTUs) is specified in the Dredging Plan of the Remedial Action Plan for the Waukegan Harbor Remediation Project. However, the Jackson method for turbidity analysis has been replaced by the nephelometric method. Forty JTUs are equal to 40 nephelometric turbidity units (NTUs). Between values of 40 and 50, NTUs and JTUs are approximately equal. Therefore, Canonie will use the nephelometric method for turbidity analysis and use a turbidity limit of 50 NTUs.

If you have any questions, please call.

Very truly yours,

Kevin M. Brissette

Kevin M. Brissette, P.E.
Project Manager

KMB/tl

cc: Ed Abat, U.S. Army Corps of Engineers
Shamel Abou-el-Seoud, U.S. Army Corps of Engineers
Arlyn Albrecht, Waukegan Harbor Trust
Tracey Fitzgerald, Illinois Environmental Protection Agency
Glen Lenzi, Outboard Marine Corporation
Jay Semmler, U.S. Army Corps of Engineers

**Canonie**Environmental

Canonie Environmental Services Corp.
800 Canonie Drive
Porter, Indiana 46304
Phone: 219-926-8651
Fax: 219-926-7169

December 31, 1991

90-407-01

Ms. Cindy Nolan
Project Manager
U.S. Environmental Protection Agency
Region V
Office of Superfund
77 West Jackson Boulevard HSRL-6J
Chicago, IL 60604

Acceptance
Slip No. 3 Dredging
Waukegan Harbor Remediation

Dear Ms. Nolan:

The purpose of this letter is to confirm Canonie Environmental Services Corp.'s (Canonie's) understanding of our December 30, 1991 telephone conversation regarding final acceptance of Slip No. 3 dredging. Canonie understands that the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers accept as complete the dredging of Slip No. 3, and the dredging of the upper harbor may proceed.

If your understanding is different than above, please call.

Very truly yours,

Kevin M. Brissette

Kevin M. Brissette, P.E.
Project Manager

KMB/aw

cc: Edgardo Abat, U.S. Army Corps of Engineers
Shamel Abou el Seoud, U.S. Army Corps of Engineers
Arlyn Albrecht, Waukegan Harbor Trust
Tracey Fitzgerald, Illinois Environmental Protection Agency
Glen Lenzi, Outboard Marine Corporation

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

January 9, 1992

Mr. Glen Lenzi
Outboard Marine Corp.
100 Sea Horse Dr.
Waukegan, IL 60085-2195

Dear Glen,

This letter provides approval of the Taciuk air monitoring SOP provided to U.S. EPA by Triangle Labs. Attached is our Quality Assurance Office's letter of approval which notes one clarification to the SOP. I called Mr. Hani Karam of Triangle Labs to ensure that the lab could incorporate this claification in their procedures, thus removing the "Conditional" on the approval.

According to Kevin Brissette, this approval will allow the treatment process to proceed on January 13 as we discussed at the last monthly meeting.

If you have any questions, please call.

Sincerely,

Cindy J. Nolan
Remedial Project Manager

cc: Kevin Brissette, Canonie
Shamel Abou-El-Seoud, USACE
Tracey Fitzgerald, IEPA

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

**SQ-14J**

**MEMORANDUM**

**DATE:** JAN 08 1992

**SUBJECT:** Conditional Approval of the Standard Operating Procedures (SOPs) for the Analysis of Dioxins/Furans - for the Outboard Marine Corp. (OMC) Site in Waukegan, Illinois

**FROM:** Valerie J. Jones
Regional Quality Assurance Manager

**TO:** Rich Karl, Chief
Illinois/Indiana Remedial Response Branch

**ATTENTION:** Cindy Nolan, Remedial Project Manager

I am providing conditional approval of the subject SOPs, which were received by the Quality Assurance Section (QAS) on December 11, 1991 (QAS Log-In No. 1667) along with additional supporting information, which were received by QAS on December 26, 1991 (QAS Log-In No. 1672) and January 8, 1992 (QAS Log-In No. 1677) respectively. The condition for this approval is that the following be implemented:

1. The sample extraction procedure should be modified to clearly state," **The XAD-2 resin shall be spiked (or fortified) with the internal standard before it is flushed out from the adsorbent module into the extraction thimble.**

   Note: This is necessary to ensure that the internal standard is spiked into the resin, not the solvent.

2. Implement the requirement mentioned above in sample extraction.

cc: Jodi Traub, HS-6J
Kaushal Khanna, HSRLT-5J

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**Canonie** Environmental

Canonie Environmental Services Corp.
800 Canonie Drive
Porter, Indiana 46304
Phone: 219-926-8651
Fax: 219-926-7169

March 11, 1992

90-407-01

Ms. Cindy J. Nolan
Project Manager
U.S. Environmental Protection Agency
Region V
Office of Superfund
77 West Jackson Boulevard, HSRL-6J
Chicago, IL 60604

Acceptance
Upper Harbor Dredging
Waukegan Harbor Remediation

Dear Ms. Nolan:

The purpose of this letter is to confirm Canonie Environmental Services Corp.'s (Canonie's) understanding of our March 11, 1992 telephone conversation regarding final acceptance of the Upper Harbor dredging at the Waukegan Harbor remedial action. Canonie understands that the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers accept, as complete, the dredging of the Upper Harbor.

If your understanding is different than above, please call.

Very truly yours,

Kevin M. Brissette

Kevin M. Brissette, P.E.
Project Manager

KMB/tl

cc: Edgardo Abat, U.S. Army Corps of Engineers
Arlyn Albrecht, Waukegan Harbor Trust
Tracey Fitzgerald, Illinois Environmental Protection Agency
Glen Lenzi, Outboard Marine Corporation
Jay Semmler, U.S. Army Corps of Engineers

**Canonie** Environmental

Canonie Environmental Services Corp.
800 Canonie Drive
Porter, Indiana 46304
Phone: 219-926-8651
Fax: 219-926-7169

June 23, 1992

90-407-01

Mr. Charles E. Park
Assistant Project Coordinator
Waukegan Harbor Trust
c/o Clark Dietz, Inc.
1817 South Neil, Suite 100
Champaign, IL 61820

Completion Notice
Select Soil Treatment
Waukegan Harbor Superfund Site

Dear Mr. Park:

In accordance with Section XV.A.2. of the Consent Decree for the Waukegan Harbor Superfund Project, Outboard Marine Corporation (OMC) or the Trustee is required to promptly provide U.S. Environmental Protection Agency (EPA) with written notice of completion of the Slip No. 3 containment cell (except for temporary cover and final cap) and treatment of select sediments and soils.

As presented in the first quarter 1992 progress report, Upper Harbor dredging was approved by EPA on March 11, 1992. The dredging of the Upper Harbor sediments into Slip No. 3 completed the Slip No. 3 containment cell with the exception of temporary and final covers and dewatering of Slip No. 3. Additionally, SoilTech ATP Systems, Inc. completed select soil and sediment treatment on June 23, 1992.

If you have any questions, please call.

Very truly yours,

Kevin M. Brissette

Kevin M. Brissette, P.E.
Project Manager

KMB/aw

cc: Glen Lenzi, Outboard Marine Corporation

WEEKLY MEETING MINUTES

JUNE 24, 1992

A weekly progress meeting for the Waukegan Harbor Remediation Project was held at 10:00 AM on June 24, 1992. Canonie Environmental Services Corp. (Canonie), Hi-Tech Remediation Ltd. (Hi-Tech), the Army Corps of Engineers (COE), and the Waukegan Harbor Trust (WHT) were represented at the meeting. The following items were discussed:

1. OMC has contacted North Shore Sanitary District about the discharge of water from their outfall structure at the east end of the North Ditch which caused the North Ditch water level to rise significantly and the Retention Pond to fill up. Apparently, the water had been treated. A power failure caused a pump to go down, and the discharge was an emergency procedure.

2. SoilTech completed processing select materials at 6:45 AM on June 23. This included material cleaned from around the oil tank & skids, from under the feed hopper & belt, etc. The total belt scale tonnage was 13,469.79 tons. SoilTech is presently cycling clean sand and river stone through the processor to scour the drum. They are beginning demobilization by flushing the lines and estimate about four weeks for completion. They have arranged with the railroad to use the rail line closest to the west side of the West Containment Cell and will ship the unit out by rail.

3. Excavation of the North Ditch slurry trench is complete and backfilling should be completed by Saturday. Hi-Tech plans to begin the short sections of sheeting by the power poles next Monday.

4. Friday, July 3 will be the observed day for the July 4 holiday. Canonie will maintain personnel necessary to keep the water treatment plants operating and sampled.

5. EPA has given verbal approval for the reroute of the East Containment slurry wall. The next step is North Shore Gas Co.'s reroute of the high pressure gas line. They are requesting written approval from EPA before starting. OMC is meeting with NSG next week to discuss the reroute.

# WEEKLY MEETING ATTENDANCE RECORD

| | NAME | COMPANY | PHONE # |
|---|---|---|---|
| 1. | J. VIRGO | Hi-Tech | 249-1150 |
| 2. | DEL KNIGHT | CES | 308-263-1100 |
| 3. | Tom Klein | CES | " " " |
| 4. | JAN SORENSEN | COE | 263-1104 |
| 5. | PAUL SLOUP | CES | |
| 6. | Dave Ellstrand | CDI / Trust | ~~[illegible]~~ 689-5308 |
| 7. | | | |
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| 15. | | | |

COMMENTS

HI-TECH REMEDIATION
WAUKEGAN HARBOR
PROJECTED SCHEDULE

| | JUNE / JULY 1992 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 1 | 2 | 3 | 4 | 5 |
| A. Slip #3 | X | | | | | | X | X | | | | | X | X | X |
| | X | | | | | | X | X | | | | | X | X | X |
| 1) Assist Canonie with extra | X | ### | ### | ### | ### | ### | X | X | ### | ### | ### | ### | X | X | X |
| work items as needed | X | | | | | | X | X | | | | | X | X | X |
| | X | | | | | | X | X | | | | | X | X | X |
| 2) Sand cover work as | X | ### | ### | ### | ### | ### | X | X | ### | ### | ### | ### | X | X | X |
| permited by dewatering | X | | | | | | X | X | | | | | X | X | X |
| | | | | | | | X | X | | | | | X | X | X |
| B. North Ditch & East | X | | | | | | X | X | | | | | X | X | X |
| Containment Work | X | | | | | | X | X | | | | | X | X | X |
| | X | | | | | | X | X | | | | | X | X | X |
| 1) Unload Bentonite | X | ### | ### | ### | ### | ### | X | X | ### | ### | ### | ### | X | X | X |
| deliveries as required | X | | | | | | X | X | | | | | X | X | X |
| | X | | | | | | X | X | | | | | X | X | X |
| 2) North Ditch slurry wall | X | ### | ### | ### | ### | ### | X | X | | | | | X | X | X |
| excavation and clean up | X | | | | | | X | X | | | | | X | X | X |
| | X | | | | | | X | X | | | | | X | X | X |
| 3) North Ditch Sheating | X | | | | | | X | X | ### | ### | ### | ### | X | X | X |
| | X | | | | | | X | X | | | | | X | X | X |
| C. Detention Pond | X | | | | | | X | X | | | | | X | X | X |
| | X | | | | | | X | X | | | | | X | X | X |
| 1) Repair Asphalt Surfacing | X | (Completed) | | | | | X | X | | | | | X | X | X |
| | X | | | | | | X | X | | | | | X | X | X |
| D. General Cleanup of all areas | X | ### | ### | ### | ### | ### | X | X | ### | ### | ### | ### | X | X | X |

Note: East Containment still on suspended shut down.

Note: Hi-Tech's last scheduled work date before the July 4th Holiday will be July 2, 1992

GV
06/09/92

**Canonie** Environmental

Canonie Environmental Services Corp.
800 Canonie Drive
Porter, Indiana 46304
Phone: 219-926-8651
Fax: 219-926-7169

September 29, 1992

90-407-01

Mr. William Bolen
Remedial Project Manager
U.S. Environmental Protection Agency
Region V
Emergency and Remedial Response Branch
77 West Jackson Boulevard, HSRL-6J
Chicago, IL 60604-3590

Completion Notification

Dear Mr. Bolen:

At the request of Outboard Marine Corporation (OMC), Canonie Environmental Services Corp. is providing the notification, required by OMC or the Trustee under Section XV(a)2 of the Consent Decree, that the North Ditch work specified in Section 4.6.11 of the IPC Work Plan was completed on September 23, 1992.

If you have any questions, please call.

Very truly yours,

Kevin M. Brissette

Kevin M. Brissette, P.E.
Project Manager

KMB/aw

cc: Arlyn Albrecht, Waukegan Harbor Trust
Tracey Fitzgerald, Illinois Environmental Protection Agency
Glen Lenzi, Outboard Marine Corporation

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

March 25, 1993

Mr. Kevin M. Brissette
Project Manager
Canonie Environmental Services Corp.
800 Canonie Dr.
Porter, Indiana 46304

Re: Modification of Sampling Frequency
Category 2 Water Treatment
OMC Superfund Site

Dear Mr. Brissette:

Pursuant to your letter of January 11, 1993 the U.S. EPA has approved your proposed modification of the sampling frequency of the Category 2 water treatment system. This approval is contingent upon the system operating as effectively as is currently documented. If, however, the system does not operate in such a manner, the testing frequency must resume as described in Section 4.3.3 of the Design and Analysis Report. Acknowledgement of this potential revertment must be submitted to the U.S. EPA in letter form. If you have any further questions, please contact me at your earliest convenience.

Sincerely,

William J. Bolen
U.S. EPA RPM

cc: S. Mulroney
T. Fitzgerald
G. Lenzi
A. Albrecht
J. Sorenson

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

November 7, 1994

HSRL-6J

J. Roger Crawford
Director of Environmental Control
Outboard Marine Corporation
100 Sea Horse Drive
Waukegan, IL 60085-6200

RE: Slip #3/Containment Cell Design Review

Dear Mr. Crawford:

After review of the data provided by OMC and/or its contractors, the U.S. EPA, IEPA, and USACE (the "Agencies") have the following comments in regards to the Slip #3 Containment Cell;

1) We have no objection to raising the slurry wall one foot.

2) The inclusion of sheetpiling slots to reduce mounding is acceptable. Be advised that the mounding problem should be closely monitored by OMC, and if there is no decrease in the mounding or there are resultant adverse impacts to the cell, additional work may be required to alleviate the problem. The Agencies propose that a conference call be initiated by OMC in December to review the slotting effectiveness.

In addition, regular monitoring of the slots for plugging and increased monitoring frequency for mounding shall be proposed by OMC to the U.S. EPA and IEPA and shall be incorporated, after concurrence of the U.S. EPA and IEPA, into a Final O & M Plan.

3) Reinforced concrete slabs and a 12 inch curb along the entire length of the north side of the cell is acceptable to the Agencies. Contraction and expansion joints must be provided for in the curb and at appropriate intervals in the slab.

Please advise the U. S. EPA of Larson Marine's position on this matter after receipt of this correspondence. Larson Marine <u>must</u> concur with this proposal prior to initiation of site work. Also, be advised that this curb will not restrict public access to the cell. The Agencies' request a conference call be

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initiated by OMC to discuss this situation. The proposed date(s) for this call are November 15th, 16th, or 17th.

If you have any questions regarding this matter, please feel free to contact the undersigned.

Sincerely,

William J. Bolen
USEPA Project Manager

cc: Douglas Rath IAG
Howard Chinn IAG
Jeffrey Fort SNR
Jerry Willman IEPA
Kerry Street USEPA
Chuck Savage USCOE
Arlyn Albrecht CDI
Sean Mulroney USEPA

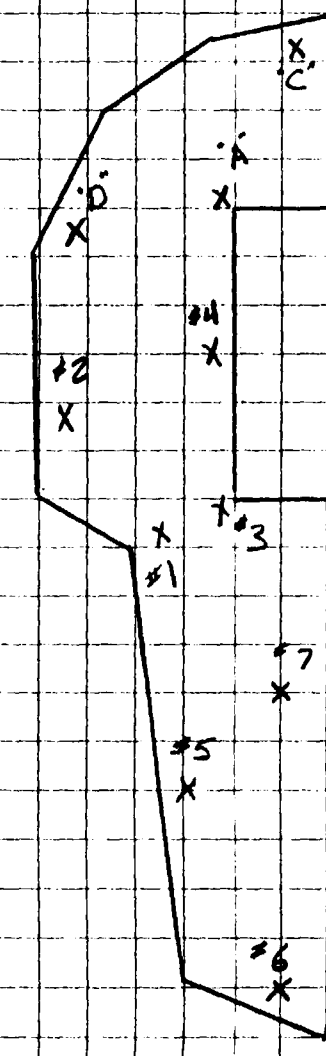
(6.) SOUNDINGS TAKEN ON HARDPAN AFTER EXC. OF AREA "M"

U.S. = 577.8

| | | |
|---|---|---|
| #1 | 15.4 | 562.4 |
| 2 | 16.1 | 561.7 |
| 3 | 15.7 | 562.1 |
| 4 | 16.1 | 561.7 |
| "A" | 16.8 | 561.0 |
| "C" | — | — |
| "D" | 15.8 | 562.0 |
| 5 | 16.7 | 561.3 U.S. 578.0 |
| 6 | 16.2 | 561.8 |
| 7 | 15.5 | 562.5 |

(5.) 12-11-91

M. SELF
P. SLOUP
K




61.8 AV. POT. E(G)

# APPENDIX B

# HEALTH AND SAFETY AMENDMENTS

SITE SAFETY PLAN AMENDMENTS #1

WAUKEGAN HARBOR REMEDIAL ACTION HEALTH AND SAFETY PLAN

DATE: 10-4-91

TYPE OF AMENDMENT: Downgrade of PPE in west containment cell to no respirator.

REASON FOR AMENDMENT: All NIOSH 5503 results show below detection limit, will go to full level C PPE after crescent ditch is excavated. Modified level D PPE for crescent ditch excavation only.

ALTERNATE SAFEGUARD PROCEDURES: Continue personal or work area sampling and visual monitoring. Continue daily dust monitoring. Upgrade to level C PPE if Dust monitoring shows 0.5mg/m³ and/or NIOSH 5503 sampling shows 0.5mg/m³ PCB's, and/or sustained breathing zone organic vapor concentrations in excess of background, but less than 50 ppm.

CHANGES IN PERSONNEL PROTECTIVE EQUIPMENT: Downgrade from Level C PPE to modified level C with no respirator. Continue disposable coveralls, chemical resistant boots and gloves.

| | |
|---|---|
| Site Safety Officer | 10-4-91 Date |
| Operations Superintendent | 10-4-91 Date |
| Corporate Health & Safety Manager | 10-4-91 Date |
| U.S. EPA Region V Remedial Project Manager | 10/7/91 Date |

RECEIVED

OCT 10 1991

CANONIE ENVIRONMENTAL

| SAMPLE NUMBER | DATE | TYPE OF SAMPLE | TOTAL SAMPLE | RESULTS | LOCATION |
|---|---|---|---|---|---|
| | | | | | |
| KA062091-S3 | 6/20/91 | NIOSH 5503 | 96 liters | <.001 mg/m3 | SLIP 3 |
| KA062091-ECC | 6/20/91 | NIOSH 5503 | 952 liters | <.001 mg/m3 | EAST CONTAINMENT |
| KA-062091-WCC | 6/20/91 | NIOSH 5503 | 95 liters | <.001 mg/m3 | WEST CONTAINMENT |
| KA-062191-S3 | 6/21/91 | NIOSH 5503 | 80 liters | <.001 mg/m3 | SLIP 3 |
| KA-062191-ECC | 6/21/91 | NIOSH 5503 | 84.4 liters | <.001 mg/m3 | EAST CONTAINMENT |
| KA-062191-WCC | 6/21/91 | NIOSH 5503 | 83.9 liters | <.001 mg/m3 | WEST CONTAINMENT |
| KA-062191-FB | 6/21/91 | NIOSH 5503 | N/A | <.001 mg/m3 | FIELD BLANK |
| KA-071091-1 | 7/10/91 | EPA TO4 | 326,880 liters | 84 ng/m3 | STATION 1 |
| KA-07109-2A | 7/10/91 | EPA TO4 | 326,880 liters | <76 ng/m3 | STATION 2A |
| KA-071091-2B | 7/10/91 | EPA TO4 | 326,880 liters | <76 ng/m3 | STATION 2B |
| KA-071091-3 | 7/10/91 | EPA TO4 | 326,880 liters | 304 ng/m3 | STATION 3 |
| KA-071091-4 | 7/10/91 | EPA TO4 | 326,880 liters | 499 ng/mm3 | STATION 4 |
| KA-071091-5 | 7/10/91 | EPA TO4 | 326,880 liters | 643 ng/m3 | STATION 5 |
| KA-071091-FB | 7/10/91 | EPA TO4 | 326,880 liters | <25 ug | FIELD BLANK |
| KA-071091-NDS | 7/10/91 | NIOSH 5503 | 75 liters | <.001 mg/ | NORTH DITCH |
| KA-071091-NDO | 7/10/91 | NIOSH 5503 | 68 liters | <.001 mg/ | NORTH DITCH |
| KA-071191-1 | 7/11/91 | EPA TO4 | 326,880 liters | <76 ng/m3 | STATION 1 |
| KA-071191-2A | 7/11/91 | EPA TO4 | 326,880 liters | <70 ng/m3 | STATION 2A |
| KA-071191-3 | 7/11/91 | EPA TO4 | 326,880 liters | 88 ng/m3 | STATION 3 |
| KA-071191-4 | 7/11/91 | EPA TO4 | 326,880 liters | 119 ng/m3 | STATION 4 |
| KA-071191-5 | 7/11/91 | EPA TO4 | 316,880 liters | 772 ng/m3 | STATION 5 |
| KA-071191-FB | 7/11/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| KA-071191-WWCC | 7/11/91 | NIOSH 5503 | 84 liters | <.001 mg/m3 | WEST, WEST CONTAINMENT |
| KA-071291-1 | 7/12/91 | EPA TO4 | 326,880 liters | <76 ng/m3 | STATION 1 |
| KA-071291-2A | 7/12/91 | EPA TO4 | 334,051 liters | <75 mg/m | STATION 2A |
| KA-071291-2B | 7/12/91 | EPA TO4 | 329,270 liters | <76 ng/m3 | STATION 2B |
| KA-071291-3 | 7/12/91 | EPA TO4 | 330,285 liters | 280 ng/m3 | STATION 3 |
| KA-071291-4 | 7/12/91 | EPA TO4 | 326,880 liters | 325 ng/m3 | STATION 4 |
| KA-071291-5 | 7/12/91 | EPA TO4 | 324,172.9 liters | 1855 ng/m3 | STATION 5 |
| KA-071291-FB | 7/12/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| KA-071291-WWCC | 7/12/91 | NIOSH 5503 | 120 liters | <.001 mg/m3 | WEST, WEST CONTAINMENT |
| KA-071291-WWCC9N | 7/12/91 | NIOSH 5503 | 118.6 liters | <.001 mg/m3 | WEST CONTAINMENT |
| KA-071291-FB | 7/12/91 | NIOSH 5503 | N/A | <.1 mg/m3 | FIELD BLANK |
| KA-071791-1 | 7/17/91 | EPA TO4 | 310,080 liters | <79 ng/m3 | STATION 1 |
| KA-071791-2A | 7/17/91 | EPA TO4 | 326,160 liters | <70 ng/m3 | STATION 2A |
| KA-071791-2B | 7/17/91 | EPA TO4 | 324,720 liters | <77 ng/m3 | STATION 2B |
| KA-071791-3 | 7/17/91 | EPA TO4 | 317,520 liters | <79 ng/m3 | STATION 3 |
| KA-071791-4 | 7/17/91 | EPA TO4 | 317,520 liters | 432 ng/m3 | STATION 4 |
| KA-071791-5 | 7/17/91 | EPA TO4 | 316,800 liters | 197 ng/m3 | STATION 5 |
| KA-072391-1 | 7/23/91 | EPA TO4 | 318, 240 liters | 233 ng/m3 | STATION 1 |
| KA-072391-2A | 7/23/91 | EPA TO4 | 328, 320 liters | 274 ng/m3 | STATION 2A |
| KA-072391-3 | 7/23/91 | EPA TO4 | 318, 240 liters | 1420 ng/m3 | STATION 3 |
| KA-072391-4 | 7/23/91 | EPA TO4 | 328,320 liters | 2470 ng/m3 | STATION 4 |
| KA-072391-5 | 7/23/91 | EPA TO4 | 322,560 liters | 2363 ng/m3 | STATION 5 |
| KA-072391-FB | 7/23/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| KAHV072991-1 | 7/29/91 | EPA TO4 | 336,960 liters | <74 ng/m3 | STATION 1 |
| KAHV072991-2A | 7/29/91 | EPA TO4 | 334,080 liters | <74 ng/m3 | STATION 2A |
| KAHV072991-2B | 7/29/91 | EPA TO4 | 322,560 liters | <74 ng/m3 | STATION 2B |
| KAHV072991-3 | 7/29/91 | EPA TO4 | 334,080 liters | 74 ng/m3 | STATION 3 |
| KAHV072991-4 | 7/29/91 | EPA TO4 | 337,650 liters | 297 ng/m3 | STATION 4 |
| KAHV072991-5 | 7/29/91 | EPA TO4 | 336,960 liters | 2610 ng/m3 | STATION 5 |
| KAHV072991-FB | 7/29/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| KA-080191-1 | 8/1/91 | NIOSH 5503 | 21.9 liters | <.005 mg/m3 | AREA J |
| KA-080191-2 | 8/1/91 | NIOSH 5503 | 20.3 liters | <.005 mg/m3 | AREA J |
| KA-080291-1 | 8/2/91 | NIOSH 5503 | 29.8 liters | <.003 mg/m3 | AREA J |
| KAHV080491-1 | 8/4/91 | EPA TO4 | 337,680 liters | <74 ng/m3 | STATION 1 |
| KAHV080491-2A | 8/4/91 | EPA TO4 | 343,476 liters | <73 ng/m3 | STATION 2A |
| KAHV080491-3 | 8/4/91 | EPA TO4 | 332,640 liters | <75 ng/m3 | STATION 3 |
| KAHV080491-4 | 8/4/91 | EPA TO4 | 324,000 liters | <77 ng/m3 | STATION 4 |

| SAMPLE NUMBER | DATE | TYPE OF SAMPLE | TOTAL SAMPLE | RESULTS | LOCATION |
|---|---|---|---|---|---|
| | | | | | |
| KAHV080491-5 | 8/4/91 | EPA TO4 | 332,640 liters | 542 ng/m3 | STATION 5 |
| KAHV080491-FB | 8/4/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| KA080591-1 | 8/5/91 | NIOSH 5503 | 55.3 liters | <.001 mg/m3 | WEST CONTAINMENT |
| KA080591-FB | 8/5/91 | NIOSH 5503 | N/A | <.05 mg/ n3 | FIELD BLANK |
| KA080691-1 | 8/6/91 | NIOSH 5503 | 51.4 liters | <.001 mg/m3 | WEST CONTAINMENT |
| KA080791-1 | 8/7/91 | NIOSH 5503 | 58.3 liters | <.001 mg/m3 | WEST CONTAINMENT |
| KAHV081091-1 | 8/10/91 | EPA TO4 | 328,320 liters | <76 ng/m3 | STATION 1 |
| KAHV081081-2A | 8/10/91 | EPA TO4 | 339,840 liters | <74 ng/m3 | STATION 2A |
| KAHV081091-2B | 8/10/91 | EPA TO4 | 324,000 literts | <78 ng/m3 | STATION 2B |
| KAHV081091-3 | 8/10/91 | EPA TO4 | 354,240 liters | 457 ng/m3 | STATION 3 |
| KAHV081091-4 | 8/10/91 | EPA TO4 | 348,380 liters | 819 ng/m3 | STATION 4 |
| KAHV081091-5 | 8/10/91 | EPA TO4 | 318,862 liters | 769 ng/m3 | STATION 5 |
| KAHV081091-FB | 8/10/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| KAHV081691-FB | 8/16/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| KAHV081691-1 | 8/16/91 | EPA TO4 | 295,677 liters | <84 ng/m3 | STATION 1 |
| KAHV081691-2A | 8/16/91 | EPA TO4 | 314,730 liters | <80 ng/m3 | STATION 2A |
| KAHV081691-3 | 8/16/91 | EPA TO4 | 318,240 liters | 385 ng/m3 | STATION 3 |
| KAHV081691-4 | 8/16/91 | EPA TO4 | 322,560 liters | 565 ng/m3 | STATION 4 |
| KAHV081691-5 | 8/16/91 | EPA TO4 | 289,440 liters | 258 ng/m3 | STATION 5 |
| KAHV082291-1 | 8/22/91 | EPA TO4 | 340,092 liters | < 74 ng/m3 | STATION 1 |
| KAHV082291-2A | 8/22/91 | EPA TO4 | 308,254 liters | <81 ng/m3 | STATION 2A |
| KAHV0822991-2B | 8/22/91 | EPA TO4 | 322,726 liters | 107 ng/m3 | STATION 2B |
| KAHV082291-3 | 8/22/91 | EPA TO4 | 336,960 liters | 251 ng/m3 | STATION 3 |
| KAHV082291-4 | 8/22/91 | EPA TO4 | 336,960 liters | 2883 ng/m3 | STATION 4 |
| KAHV082291-5 | 8/22/91 | EPA TO4 | 311.040 liters | 4781 ng m3 | STATION 5 |
| KAHV082291-FB | 8/22/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| KAHV082291-1 | 8/22/91 | NIOSH 5503 | 31 liters | <.003 mg/mg | AREA F |
| KAHV082291-2 | 8/22/91 | NIOSH 5503 | 312 liters | <.003 mg/mg | AREA F |
| KAHV082891-1 | 8/28/91 | EPA TO4 | 323,048 liters | 1729 ng/m3 | STATION 1 |
| KAHV082891-2A | 8/28/91 | EPA TO4 | 318,240 liters | 380 ng/m3 | STATION 2A |
| KAHV082891-3 | 8/28/91 | EPA TO4 | 313,920 liters | 357 ng/m3 | STATION 3 |
| KAHV082891-4 | 8/28/91 | EPA TO4 | 322,331 liters | 2361 ng/m3 | STATION 4 |
| KAHV082891-5 | 8/28/91 | EPA TO4 | 254,284 liters | 3743 ng/m3 | STATION 5 |
| KAHV082891-FB | 8/28/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| KAHV090391-1 | 9/3/91 | EPA TO4 | 282,881 liters | <88 ng/m3 | STATION 1 |
| KAHV090391-2A | 9/3/91 | EPA TO4 | 280,083 liters | 904 ng/m3 | STATION 2A |
| KAHV090391-2B | 9/3/91 | EPA TO4 | 280,699 liters | 898 ng/m3 | STATION 2B |
| KAHV090391-3 | 9/3/91 | EPA TO4 | 292,334 liters | 2209 ng/m3 | STATION 3 |
| KAHV090391-4 | 9/3/91 | EPA TO4 | 274,882 liters | 751 ng/m3 | STATION 4 |
| KAHV090391-5 | 9/3/91 | EPA TO4 | 277,790 liters | 856 ng/m3 | STATION 5 |
| KAHV090391-FB | 9/3/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| KAHV090991-3 | 9/9/91 | EPA TO4 | 299,513 liters | 98.6 ng/m3 | STATION 3 |
| KAHV090991-4 | 9/9/91 | EPA TO4 | 316,792 liters | 3601 ng/m3 | STATION 4 |
| KAHV090991-5 | 9/9/91 | EPA TO4 | 295,193 liters | 6166 ng/m3 | STATION 5 |
| KAHV090991-FB | 9/9/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| NO POWER TO STATIONS 1, 2A, OR 2B ON 09-09-91 | | | | | |
| KA090291-1 | 9/2/91 | NIOSH 5503 | 91.5 liters | <.001 mg/m3 | WEST CONTAINMENT |
| KA091091-1 | 9/10/91 | NIOSH 5503 | 36.5 liters | <.003 mg/m3 | WEST CONTAINMENT |
| KAHV091591-1 | 9/15/91 | EPA TO4 | 280,857 liters | 142 ng/m3 | STATION 1 |
| KAHV091591-2A | 9/15/91 | EPA TO4 | 295,042 liters | <85 ng/m3 | STATION 2A |
| KAHV091591-2B | 9/15/91 | EPA TO4 | 287,950 liters | <86 ng/m3 | STATION 2B |
| KAHV091591-3 | 9/15/91 | EPA TO4 | 303,553 liters | <82 ng/m3 | STATION 3 |
| KAHV091591-4 | 9/15/91 | EPA TO4 | 297,879 liters | 1110 mg/m3 | STATION 4 |
| KAHV091591-5 | 9/15/91 | EPA TO4 | 303,127 liters | 373 mg/m3 | STATION 5 |
| KAHV091591-FB | 9/15/91 | EPA TO4 | N/A | <25 ng/m3 | FIELD BLANK |
| KA091881-1 | 9/18/91 | NIOSH 5503 | 25.4 liters | <.004 mg/m3 | AREA E, WEST CONTNMNT |
| KAHV091891-1 | 9/18/91 | EPA TO4 | 316,047 liters | <79 mg/m3 | STATION 1 |
| KAHV091891-2A | 9/18/91 | EPA TO4 | 316,047 liters | <79 mg/m3 | STATION 2A |
| KAHV091891-3 | 9/18/91 | EPA TO4 | 306,886 liters | 145 ng/m3 | STATION 3 |

| SAMPLE NUMBER | DATE | TYPE OF SAMPLE | TOTAL SAMPLE | RESULTS | LOCATION |
|---|---|---|---|---|---|
| | | | | | |
| KAHV091891-4 | 9/18/91 | EPA TO4 | 337,422 liters | 1215 ng/m3 | STATION 4 |
| KAHV091891-5 | 9/18/91 | EPA TO4 | 305,359 liters | 510 ng/m3 | STATION 5 |
| KAHV091891-FB | 9/18/91 | EPA TO4 | N/A | <25 ug | FIELD BLANK |
| KA091991-1 | 9/19/91 | NIOSH 5503 | 25.4 liters | <.004 mg/m3 | AREA E, WEST CONTNMNT |
| KAHV091991-1 | 9/19/91 | EPA TO4 | 325,352 liters | 145 ng/m3 | STATION 1 |
| KAHV091991-2A | 9/19/91 | EPA TO4 | 323,802 liters | 163 ng/m3 | STATION 2A |
| KAHV091991-2B | 9/19/91 | EPA TO4 | 312,958 liters | 139 ng/m3 | STATION 2B |
| KAHV091991-3 | 9/19/91 | EPA TO4 | 306,761 liters | 231 ng/m3 | STATION 3 |
| KAHV091991-4 | 9/19/91 | EPA TO4 | 333,097 liters | 185 ng/m3 | STATION 4 |
| KAHV091991-5 | 9/19/91 | EPA TO4 | 306,761 liters | 123 ng/m3 | STATION 5 |
| KAHV091991-FB | 9/19/91 | EPA TO4 | N/A | <25 ng/m3 | FIELD BLANK |
| KAHV092091-FB | 9/20/91 | EPA TO4 | N/A | | FIELD BLANK |
| KAHV092091-1 | 9/20/91 | EPA TO4 | 310,057 liters | | STATION 1 |
| KAHV092091-2A | 9/20/91 | EPA TO4 | 336,022 liters | | STATION 2A |
| KAHV092091-3 | 9/20/91 | EPA TO4 | 308,529 liters | | STATION 3 |
| KAHV092091-4 | 9/20/91 | EPA TO4 | 329,149 liters | | STATION 4 |
| KAHV092091-5 | 9/20/91 | EPA TO4 | 318,457 liters | | STATION 5 |
| KA092191-1 | 9/21/91 | NIOSH 5503 | 45.8 liters | <.002 mg/m3 | AREA E, WEST CONTNMNT |
| KAHV092191-FB | 9/21/91 | EPA TO4 | N/A | | FIELD BLANK |
| KAHV092191-1 | 9/21/91 | EPA TO4 | 298,123 liters | | STATION 1 |
| KAHV092191-2A | 9/21/91 | EPA TO4 | 305,539 liters | | STATION 2A |
| KAHV092191-2B | 9/21/91 | EPA TO4 | 295,157 liters | | STATION 2B |
| KAHV092191-3 | 9/21/91 | EPA TO4 | 298,230 liters | | STATION 3 |
| KAHV092191-4 | 9/21/91 | EPA TO4 | 320,371 liters | | STATION 4 |
| KAHV092191-5 | 9/21/91 | EPA TO4 | 296,640 liters | | STATION 5 |
| KA092391-1 | 9/23/91 | NIOSH 5503 | 54.7 liters | <.002 mg/m3 | WEST CONTAINMENT |
| KA092491-1 | 9/24/91 | NIOSH 5503 | 56.9 liters | <.002 mg/m3 | WEST CONTAINMENT |
| KA092591-1 | 9/25/91 | NIOSH 5503 | 44.0 liters | <.002 mg/m3 | WEST CONTAINMENT |
| KA092691-1 | 9/26/91 | NIOSH 5503 | 58.7 liters | <.002 mg/m3 | WEST CONTAINMENT |
| KA092791-1 | 9/27/91 | NIOSH 5503 | 59 liters | <.002 mg/m3 | WEST CONTAINMENT |
| KA092891-FB | 9/28/91 | NIOSH 5503 | N/A | <.01 ug | FIELD BLANK |
| KA092891-1 | 9/28/91 | NIOSH 5503 | 44.5 liters | | WEST CONTAINMENT |
| KAHV092791-FB | 9/27/91 | EPA TO4 | N/A | | FIELD BLANK |
| KAHV092791-1 | 9/27/91 | EPA TO4 | 284,044 liters | | STATION 1 |
| KAHV092791-2A | 9/27/91 | EPA TO4 | 318,240 liters | | STATION 2A |
| KAHV092791-3 | 9/27/91 | EPA TO4 | 306,425 liters | | STATION 3 |
| KAHV092791-4 | 9/27/91 | EPA TO4 | 320,166 liters | | STATION 4 |
| KAHV092791-5 | 9/27/91 | EPA TO4 | 303,932 liters | | STATION 5 |
| KA093091-1 | 9/30/91 | NIOSH 5503 | 32 liters | | WEST CONTAINMENT |
| KA100191-1 | 10/1/91 | NIOSH 5503 | 58 liters | | WEST CONTAINMENT |
| KA100291-1 | 10/2/91 | NIOSH 5503 | 52 liters | | WEST CONTAINMENT |

**SITE SAFETY PLAN AMENDMENTS #2**

**WAUKEGAN HARBOR REMEDIAL ACTION HEALTH AND SAFETY PLAN**

**DATE:** 12-23-91

**TYPE OF AMENDMENT:** Downgrade of PPE for all dredging operations to modified D

**REASON FOR AMENDMENT:** All air monitoring and sampling data, corresponding to the dredging operations, have shown non-detectable levels or levels below the action ~~[illegible]~~ limits.

**ALTERNATE SAFEGUARD PROCEDURES:** Continue use of overboots, "Tyvek" and chemical resistant gloves. Continue air monitoring and sampling as stated in the Remedial HASP.

**CHANGES IN PERSONNEL PROTECTIVE EQUIPMENT:** Downgrade from level C to modified D. "Tyvek", ~~[illegible]~~ overboots, and chemical resistant gloves will continue to be used. Respirators will be kept accessible but will not be worn.

| | |
|---|---|
| Site Safety Officer | 12-31-91<br>Date |
| Operations Superintendent | Date |
| Corporate Health & Safety Manager | Date |
| U.S. EPA Region V<br>Remedial Project Manager | Date |

SITE SAFETY PLAN AMENDMENTS #3

WAUKEGAN HARBOR REMEDIAL ACTION HEALTH AND SAFETY PLAN

DATE: January 6, 1992

TYPE OF AMENDMENT: Downgrade of PPE for remainder of dredging activities at the Waukegan Harbor Remedial Action site.

REASON FOR AMENDMENT: Air sampling data for dredging activities in Slip 3 have been below detection limits for Aroclor 1248 and 1254 for personal samples, and below action levels of 2.31 ug/m3 for perimeter samples.

The materials in Slip 3 contained the highest concentrations of PCBs of all materials to be dredged. Since the upper harbor sediments contain lower concentrations of PCBs the level of PPE will be downgraded to modified Level D PPE.

ALTERNATE SAFEGUARD PROCEDURES: Air monitoring and sampling will continue as stated in Section 6.0 of the Remedial Action Health and Safety Plan. Splash protection as well as full face respirators will be kept accessible for changing site conditions.

CHANGES IN PERSONNEL PROTECTIVE EQUIPMENT: Downgrade from Level C to modified Level D PPE. Modified Level D PPE shall include a minimum of Polylaminated "tyvek", overboots, inner and outer chemical resistant gloves, steel-toed boots, hard hats, and safety glasses.

| | |
|---|---|
| Site Safety Officer | 1-6-92<br>Date |
| Operations Superintendent | 1-6-92<br>Date |
| Regional Health & Safety Manager | 1-6-92<br>Date |
| U.S. EPA Region V<br>Remedial Project Manager | 1-6-92<br>Date |

) Acknowledge the change.

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SITE SAFETY PLAN AMENDMENTS #4

WAUKEGAN HARBOR REMEDIAL ACTION HEALTH AND SAFETY PLAN

DATE: January 28, 1992

TYPE OF AMENDMENT: Reduction of High volume air sampling at Station #1 from 3 day random sampling to 6 day random sampling.

REASON FOR AMENDMENT: All past results of High volume air sampling during Slip 3 and Upper Harbor dredging have been below detection limits and/or below the action limit of 2.31 ug/m3. *

ALTERNATE SAFEGUARD PROCEDURES: Sampling will continue on the 6 day random schedule. Should any 6 day sample show above the action limit of 2.31 ug/m3, 3 day random sampling will be reinstated at Station #1 and engineering controls implemented until 3 consecutive samples show results below the 2.31 ug/m3 action limit.

CHANGES IN PERSONNEL PROTECTIVE EQUIPMENT: No changes in personal protective equipment.

| | |
|---|---|
| Site Safety Officer | 1-28-92 Date |
| Operations Superintendent | 1-28-92 Date |
| Regional ~~Corporate~~ Health & Safety ~~Manager~~ Coordinator | 1-29-92 Date |
| U.S. EPA Region V Remedial Project Manager | 1/31/92 Date |

Jac Knowledge the change.

* Approximately 34 High volume air samples have been taken at Station #1 since December 8, 1991.

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SITE SAFETY PLAN AMENDMENTS #5

WAUKEGAN HARBOR REMEDIAL ACTION HEALTH AND SAFETY PLAN

DATE: July 16, 1992

TYPE OF AMENDMENT: Downgrade of PPE for the remainder of the North Ditch excavation at the Waukegan Harbor Remedial Action site.

REASON FOR AMENDMENT: Air sampling data for the North Ditch excavation have shown three consecutive days below the 0.5 mg/m$^3$ action limit stated in Section 6.4 of the Remedial Action Health and Safety Plan. The first 400 ft. of excavation has been completed. This area contained the highest levels of PCBs in the North Ditch.*

ALTERNATE SAFEGUARD PROCEDURES: Air monitoring and sampling will continue as stated in Section 6.0 of the Remedial Action Health and Safety Plan. Splash protection as well as full face respirators will be kept accesible for changing site conditions.

CHANGES IN PERSONNEL PROTECTIVE EQUIPMENT: Down grade from level C to modified level D PPE. Modified D PPE shall include a minimum of disposable coveralls (Tyvek), overboots, inner and outer chemical resistant gloves, taped steel-toed boots, hard hats, and safety glasses.

| | | |
|---|---|---|
| Site Safety Officer, Tom Klein | 7-15-92 Date | Note: NIOSH 5503 Results |
| Construction Manager, Del Knight | 7-15-92 Date | 7-7-92 <.002 mg/m$^3$<br>7-8-92 0.006 mg/m$^3$<br>7-9-92 0.006 mg/m$^3$ |
| Region H/& S Coordinator, Margie Skimina | 7-15-92 Date | |
| U.S. EPA Region V Remedial Project Manager, Cindy Nolan | 7/16/92 Date | acknowledge the change. |

JUL 20 1992

(Reference Mason and Hanger prints 81-088-E17 and 81-088-E19) The maximum level of PCBs remaining in the North Ditch is 1660 mg/kg (Mason and Hanger 81-088-E17 and 81-088-E19).

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SITE SAFETY PLAN AMENDMENTS #6

WAUKEGAN HARBOR REMEDIAL ACTION HEALTH AND SAFETY PLAN

DATE: September 2, 1992

TYPE OF AMENDMENT: Downgrade of PPE in the West Containment Cell and the East Containmnet Cell from Level C to modified Level D PPE.

REASON FOR AMENDMENT: NIOSH 5503 air monitoring results of activities in the West and East Containment Cells show consistant readings below the 0.5 mg/m$^3$ action limit for personnel working in these areas.

ALTERNATE SAFEGUARD PROCEDURES: All personnel will be required to keep their respirators in an accesible place during work activities. NIOSH 5503 personal air monitoring will continue, as stated in the RAHSP, until such time as the work areas are covered with a minimum of 6 inches of clean material.

CHANGES IN PERSONNEL PROTECTIVE EQUIPMENT: Downgrade from Level C to modified Level D PPE. Level D PPE shall include inner/outer gloves, disposable coveralls, overboots, steel-toed boots, safety glasses, and hard hats. The level of PPE shall be upgraded should conditions change as stated in Section 6.0 of the RAHSP.

| | |
|---|---|
| Site Safety Officer | 9-2-92 Date |
| Construction Manager | 9-2-92 Date |
| Regional Health & Safety ~~Manager~~ Supervisor | 9-2-92 Date |
| U.S. EPA Region V Remedial Project Manager | 9/16/92 Date |

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I ACKNOWLEDGE THIS CHANGE

RECEIVED SEP 16 1992

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# APPENDIX C

## SLURRY WALL DAILY QUALITY CONTROL REPORTS

- SLIP NO. 3 CONTAINMENT CELL
- WEST CONTAINMENT CELL
- EAST CONTAINMENT CELL
- RETENTION POND
- NORTH DITCH

# APPENDIX C

## RECORDING OF SLURRY WALL KEY DEPTH

The depth to top of clay till (hardpan) was recorded in two different locations on the Daily Quality Control Reports. The top of hardpan for the West and Slip No. 3 Containment Cells was recorded in the column titled "comments" on the excavation section of the form. The depth to top of hardpan for the East Containment Cell was recorded in the column titled "initial" on the excavation section of the form. The elevations of the top of clay and the bottom of the slurry wall key as presented on the Record of Construction drawings are calculated by subtracting the measured depths from the top of the working platform elevation.

# SLIP NO. 3 CONTAINMENT CELL
# SLURRY WALL

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 9-23-91
COMPLETED BY MJG/PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip#3 Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:50 | Pond | 65 | 49 | 16.5 | 1/8" | MJG/PRS | 9.04 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 2:45 | 5+10 | 24 | 50 | 74.5 | 13 | MJG | 8.03 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 5+30 | 25.5 | 28.8 | Sand/Clay | Hard Pan @ 25.5' |
| 5+10 | 25.3 | 28.6 | Sand/Clay | Hard Pan @ 25.3' |
| 4+90 | | 28.4 | " " | |
| 4+70 | | 29.3 | " " | Station 5+30 Northeast |
| 4+60 | | 28.9 | " " | corner |
| | | | | |
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## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

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**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip #3 Slurry Wall

DATE 9-24-91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:45 | 4+50 | 20 | 48 | 73.5 | 12 | MJG | 8.54 | |
| 3:00 | 4+20 | 25 | 51 | 75.5 | 16 | MJG | 8.31 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 4+50 | | 28.8 | Sand/Clay | Hard Pan @ ~ 25.5' |
| 4+40 | | 29.1 | " " | |
| 4+30 | 26.1 | 28.9 | Sand/Clay | Hard Pan @ 26.0' |
| 4+10 | | 29.5 | " " | |
| 4+00 | | 29.4 | " " | |
| 3+80 | 25.8 | 29.0 | " " | Hard Pan @ ~ 26.0' |
| 3+60 | | 29.6 | " " | |
| 3+50 | 25.2 | 28.6 | " " | Hard Pan @ 25.2' |
| 3+40 | | 28.8 | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

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CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Slip #3 Slurry Wall DATE 9-25-91

SLURRY WALL CONSTRUCTION COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:00 | 3+20 | 25 | 48 | 74.5 | 13 | MJG | 8.15 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 3+30 | | 28.6 | Sand / Clay | Hard Pan @ 25.2' |
| 3+20 | | 29.1 | " " | |
| | | | | |
| | | | | |
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## BACKFILL

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| STATION | | | | | | | | | |
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= 3.5 inches; UNIT WEIGHT= 124 pcf; STA. No. ____

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| STATION | | | | | | | | | |
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:

CANONIE ____

MTI ____

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CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor SLURRY WALL CONSTRUCTION

LOCATION Slip #3 slurry wall

DATE 9-26-91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:15 | 2+80 | 25 | 62 | 78 | 16 | MJG | 8.09 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 3+00 | | 29.1 | Sand/clay | |
| 2+90 | | 29.6 | " " | |
| 2+80 | 24.9 | 30.4 | " " | Hard Pan @ ~ 25.0' |
| 2+70 | | 28.2 | " " | |
| 2+60 | | 29.4 | " " | |
| 2+50 | | 28.3 | " " | |
| 2+40 | 24.7 | 28.1 | " " | Hard Pan @ ~ 25.0' |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 5+30 | 5+00 | 4+50 | 4+00 | 3+50 | 3+00 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 3.2 | 11.4 | 14.9 | 20.4 | 25.1 | 26.5 | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= 124 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= 126 pcf; STA. No. ____

NOTES: ____

APPROVALS:

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MTI ____

88-11

CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407
DATE 9-27-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION
LOCATION Slip #3 Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:15 | POND | 64 | 44 | 17.5 | 1/8 | MJG | 3.73 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 12:45 | 2+40 | 25 | 55 | 83.5 | 20 | MJG | 7.81 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 2+30 | 24.7 | 30.1 | Sand / Clay | Hard Pan @ ~ 25.0' |
| 2+20 | | 28.4 | " " | |
| 2+10 | 25.3 | 28.7 | " " | Hard Pan @ 25.3' |
| 2+05 | | 28.4 | " " | |
| 1+80 | | 28.4 | " " | |
| 1+70 | | 28.8 | " " | |
| 1+60 | 24.8 | 27.9 | " " | Hard Pan @ ~ 25.0' |
| 1+50 | | 29.4 | " " | |
| 1+40 | 26.2 | 29.7 | " " | Hard Pan @ ~ 26.0' |
| 1+30 | | 29.1 | " " | |

## BACKFILL

| STATION | 4+90 | 4+75 | 4+50 | 4+00 | 3+60 | 3+00 | 2+50 | 2+75 |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 7.9 | 11.1 | 16.4 | 20.1 | 25.3 | 26.7 | 28.4 |
| SLOPE | 2:1 | 8:1 | 9:1 | 14:1 | 10:1 | 36:1 | 15:1 | |

SLUMP= 3.25 inches; UNIT WEIGHT= 126 pcf; STA. No. ____

| STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | |
| SLOPE | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES:

APPROVALS:
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CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor SLURRY WALL CONSTRUCTION

LOCATION Slip #3 Slurry Wall

DATE 9-28-91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:00 | POND | 64.0 | 43 | 19.5 | 1/8 | MJG | 8.95 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 | 2+00 | 24 | 53 | 79 | 19 | MJG | 7.45 | |
| 2:15 | 1+40 | 20 | 61 | 84 | 20 | MJG | 7.21 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 1+20 | 23.5 | 27.7 | Sand/Clay | Hard Pan @ 23.5' |
| 1+15 | | 27.2 | " " | |
| 1+00 | | 26.7 | " " | |
| 0+90 | | 27.8 | " " | |
| 0+80 | 24.5 | 27.4 | " " | Hard Pan @ 24.5' |
| 0+65 | | 28.3 | " " | |
| 0+50 | | 27.6 | " " | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 4+40 | 4+00 | 3+50 | 3+00 | 2+50 | 2+00 | 1+50 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 10.2 | 13.8 | 18.9 | 23.0 | 26.7 | 28.9 | | | |
| SLOPE | 4:1 | 14:1 | 10:1 | 12:1 | 14:1 | 23:1 | | | | |

SLUMP= 3.25 inches; UNIT WEIGHT= 124 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:

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CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 93-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip #3 Slurry Wall

DATE 9/30/91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:15 | 0+80 | 24 | 49 | 82 | 20 | MJG | 7.40 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 0+40 | 24.7 | 28.3 | Sand/Clay | Hard Pan @ 24.7' |
| 0+30 | | 27.8 | " " | |
| 0+20 | 25.1 | 28.3 | " " | Hard Pan @ ~ 25' |
| 0+10 | | 29.6 | " " | |
| 0+00 | | 30.5 | " " | |
| 16+60 | 24.4 | 27.7 | " " | Hard Pan @ ~ 24.5' |
| 16+50 | | 27.9 | " " | |
| | | | | Northwest Corner @ STA. |
| | | | | 0+00 & 16+60 |
| | | | | |

## BACKFILL

| STATION | 3+90 | 3+50 | 3+00 | 2+50 | 2+00 | 1+50 | 1+00 | 0+50 | 0+30 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 6.0 | 7.0 | 14.5 | 19.4 | 21.3 | 23.8 | 25.6 | 27.8 | 28.4 |
| SLOPE | 6:1 | 7:1 | 10:1 | 26:1 | 20:1 | 28:1 | 23:1 | 83:1 | |

SLUMP= 2.5 inches; UNIT WEIGHT= 126 pcf; STA. No. _____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Slip #3 Slurry Wall DATE 10/1/91

SLURRY WALL CONSTRUCTION COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:00 | 1+40 | 20 | 62 | 86 | 20 | MJG | 7.78 | Taking 200' away from ground level backfill. |
| 9:45 | 0+00 | 25 | 48 | 84 | 20 | MJG | 7.37 | |
| 4:10 | 16+00 | 25 | 56 | 85 | 20 | MJG | 7.54 | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 16+40 | | 26.9 | Sand/Clay | Hard Pan @ ~ 24' |
| 16+30 | 23.8 | 27.7 | " " | |
| 16+20 | | 27.4 | " " | |
| 16+00 | | 28.3 | " " | |
| 15+80 | 24.2 | 28.7 | " " | Hard Pan @ ~ 24' |
| 15+70 | | 27.6 | " " | |
| 15+60 | | 28.0 | " " | Southwest corner @ STA. |
| 15+50 | | 28.3 | " " | 15+60 |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 3+10 | 3+00 | 2+50 | 2+00 | 1+50 | 1+00 | 0+50 | 0+00 | 16+50 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 5.3 | 13.7 | 15.3 | 19.1 | 24.5 | 26.4 | 27.3 | 27.7 |
| SLOPE | | 2:1 | 6:1 | 31:1 | 13:1 | 9:1 | 26:1 | 56:1 | 125:1 |

SLUMP= 4.0 inches; UNIT WEIGHT= 126 pcf; STA. No. _____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

88-11

CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Slip #3 Slurry Wall DATE 10/2/91

SLURRY WALL CONSTRUCTION COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 11:00 | 15+50 | 24 | 49 | 85 | 20 | MJG | 7.41 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| 15+40 | 24.8 | 28.2 | Sand/clay | Hard Pan @ ~ 25' |
| 15+30 | | 29.0 | " " | |
| 15+20 | 24.2 | 27.0 | " " | Hard Pan @ ~ 24' |
| 15+10 | | 27.6 | " " | |
| 15+00 | | 27.0 | " " | |
| 14+90 | | 27.4 | " " | |
| 14+80 | 23.8 | 27.0 | " " | Hard Pan @ ~ 24' |
| 14+70 | | 28.5 | " " | |
| 14+60 | | 27.7 | " " | |
| 14+40 | 23.7 | 27.5 | " " | Hard Pan @ ~ 24' |
| 14+30 | | 29.3 | " " | |

## BACKFILL

| STATION | 2+70 | 2+50 | 2+00 | 1+50 | 1+00 | 0+50 | 0+00 | 16+50 | 16+30 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 3.8 | 10.5 | 15.3 | 20.6 | 24.5 | 26.7 | 27.3 | 27.9 |
| SLOPE | | | | | | | | | |

SLUMP= 4.0 inches; UNIT WEIGHT= 128 pcf; STA. No. ____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:

CANONIE ____

MTI ____

F-88

# Control Report

PROJECT No. 90-407
LOCATION Slip #3 Slurry Wall DATE 10/3/91
COMPLETED BY MJG

10/3/91

STA. 16+00

| Depth | Density |
|---|---|
| 5' | 78 pcf |
| 10' | 83.5 pcf |
| 20' | 83 pcf |

| L |
|---|
| |
| |
| |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TER | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:30 | 15+00 | 25 | 47 | 82 | 20 | MJG | 7.47 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 14+20 | 23.4 | 26.8 | Sand/Clay | Hard Pan @ ~23.5' |
| 14+10 | | 27.2 | " " | |
| 14+00 | | 27.3 | " " | |
| 13+90 | | 23.0 | " " | |
| 13+80 | 23.7 | 26.9 | " " | Hard Pan @ ~ 23.5' |
| 13+70 | | 27.5 | " " | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 1+90 | 1+50 | 1+00 | 0+50 | 0+00 | 16+50 | 16+00 | 15+60 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 6.5 | 10.3 | 15.6 | 23.8 | 24.2 | 25.8 | 29.7 | | |
| SLOPE | | 6:1 | 13:1 | 9:1 | 6:1 | 25:1 | 31:1 | 13:1 | | |

SLUMP= 3.0 inches; UNIT WEIGHT= 126 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-11

CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Slip #3 Slurry Wall DATE 10/4/91

SLURRY WALL CONSTRUCTION COMPLETED BY MTG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:00 | POND | 64 | 38 | 20.5 | | MJG | 8.80 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |
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| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

Canonie ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip #3 Slurry Wall

DATE 10/7/91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:45 | POND | 64.5 | 42 | 17.0 | 3/32 | MJG | 8.80 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:30 | 14+30 | 25 | 45 | 83.5 | 20 | MJG | 7.70 | |
| 3:20 | 13+70 | 25 | 56 | 85.5 | 20 | MJG | 7.16 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 13+60 | | 27.6 | Sand/Clay | |
| 13+50 | 24.2 | 27.1 | " " | Hard Pan @ ~ 24' |
| 13+40 | | 27.0 | " " | |
| 13+20 | | 27.7 | " " | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 1+20 | 1+00 | 0+50 | 0+00 | 16+50 | 16+00 | 15+70 | 15+50 | 15+00 | 14+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 3.8 | 7.0 | 15.2 | 16.4 | 20.7 | 22.2 | 25.6 | 27.0 | 27.2 |
| SLOPE | 5:1 | 16:1 | 6:1 | 8:1 | 12:1 | 20:1 | 15:1 | 36:1 | 250:1 | |

SLUMP= 4.0 inches; UNIT WEIGHT= 128 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: The following are distances from the south bulkhead sheeting to the fencing.

| # | Original | After Pass |
|---|---|---|
| 1 | 41.07' | 41.25' |
| 2 | 32.75' | 32.67' |

APPROVALS:
CANONIE ____
MTI ____

88-11

# Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip #3 Slurry Wall

DATE 10/8/91 PAGE 1

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:00 | 13+20 | 20 | 51 | 88 | 20 | MJG | 7.37 | |
| 3:30 | 12+50 | 25 | 57 | 81.5 | 20 | MJG | 7.65 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 13+10 | | 27.3 | Sand/Clay | |
| 13+00 | 23.8 | 28.0 | " " | Hard Pan @ ~ 24' |
| 12+90 | | 27.6 | " " | |
| 12+80 | | 27.2 | " " | |
| 12+70 | | 28.9 | " " | |
| 12+50 | 24.4 | 28.0 | " " | Hard Pan @ ~ 24.5' |
| 12+40 | | 30.3 | " " | |
| 12+30 | | 28.2 | " " | |
| 12+10 | | 27.5 | " " | |
| 12+00 | | 28.3 | " " | |

## BACKFILL

| STATION | 0+30 | 0+00 | 16+50 | 16+00 | 15+60 | 15+50 | 15+00 | 14+50 | 14+00 | 13+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.00 | 8.9 | 12.1 | 17.3 | 19.3 | 24.2 | 25.0 | 25.8 | 26.9 | 27.0 |
| SLOPE | 3:1 | 3:1 | 10:1 | 20:1 | 2:1 | 62:1 | 62:1 | 45:1 | — | |

SLUMP= 4.0 inches; UNIT WEIGHT= 127 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: The following are distances from the south bulkhead sheeting to the fencing.

| # | Original | After Pass |
|---|---|---|
| 3 | FENCING | MOVED |
| 4 | 38.32' | 38.33' |

APPROVALS:
CANONIE ____
MTI ____

# Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Slip #3 Slurry Wall DATE 10/8/91 PAGE 2

SLURRY WALL CONSTRUCTION COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 11+85 | | 29.0 | Sand/Clay | |
| 11+70 | 24.5 | 28.7 | " " | Hard Pan @ 24.5' |
| 11+60 | | 28.3 | " " | |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

88-11

Control Report

PROJECT No. 90-497

PROJECT NAME Waukegan Harbor LOCATION Slip #3 Slurry Wall DATE 10/3/91

SLURRY WALL CONSTRUCTION COMPLETED BY MTG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:10 | 11+80 | 25 | 47 | 85 | 20 | MJG | 7.37 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 11+50 | | 27.9 | Sand/Clay | Hard Pan @ ~24' |
| 11+35 | 24.1 | 28.7 | " " | |
| 11+30 | | 27.3 | " " | |
| 11+25 | | 22.2 | Sand | An obstruction was encountered in this area. Removal with the backhoe was attempted and failed. |
| 11+15 | | 23.6 | " " | |
| 11+10 | | 28.5 | Sand/Clay | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

obstruction

## BACKFILL

| STATION | 16+40 | 16+00 | 15+70 | 15+50 | 15+00 | 14+50 | 14+00 | 13+50 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 6.8 | 13.3 | 16.5 | 19.4 | 24.2 | 25.9 | 27.2 | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= 126 pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

# Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Slip #3 Slurry Wall DATE 10/10/91

SLURRY WALL CONSTRUCTION COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:30 | 11+40 | 25 | 46 | 85.5 | 20 | MJG | 7.17 | |
| 1:30 | 10+70 | 20 | 43 | 84.5 | 20 | MJG | 7.36 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 11+00 | | 27.7 | Sand/Clay | |
| 10+90 | 24.8 | 29.6 | " " | Hard Pan @ ~ 25' |
| 10+80 | | 28.9 | " " | |
| 10+70 | | 28.1 | " " | |
| 10+60 | | 28.8 | " " | |
| 10+50 | 25.2 | 28.6 | " " | Hard Pan @ ~ 25' |
| 10+30 | | 28.3 | " " | |
| 10+15 | | 29.1 | " " | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 16+00 | 15+60 | 15+50 | 15+00 | 14+50 | 14+00 | 13+50 | 13+00 | 12+50 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 6.3 | 11.8 | 15.6 | 21.0 | 23.4 | 25.0 | 26.5 | 27.8 |
| SLOPE | | 6:1 | 2:1 | 13:1 | 9:1 | 21:1 | 31:1 | 33:1 | 38:1 |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

11-88

# Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Slip #3 Slurry Wall DATE 0/11/91

SLURRY WALL CONSTRUCTION COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:30 | 10+30 | 27 | 43 | 82 | 19 | MJG | 7.30 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 10+00 | | 29.6 | Sand/Clay | |
| 9+90 | 25.7 | 29.4 | " " | Hard Pan @ ~ 26' |
| 9+80 | | 29.2 | | |
| 9+60 | | 29.7 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 15+60 | 15+50 | 15+00 | 14+50 | 14+00 | 13+50 | 13+00 | 12+50 | 12+00 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 4.1 | 9.5 | 15.3 | 18.7 | 22.7 | 24.1 | 24.6 | 25.8 |
| SLOPE | 2:1 | 9:1 | 9:1 | 15:1 | 12:1 | 36:1 | 100:1 | 42:1 | |

SLUMP= 6.5 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | 15+50 | 15+00 | 14+50 | 14+00 | 13+50 | 13+00 | 12+50 | 12+00 | 11+50 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 10.0 | 12.6 | 18.8 | 21.3 | 22.7 | 24.4 | 25.4 | 26.3 |
| SLOPE | 5:1 | 19:1 | 8:1 | 20:1 | 36:1 | 29:1 | 50:1 | 56:1 | |

SLUMP= 3.0 inches; UNIT WEIGHT= 126 pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Slip #3 Slurry Wall DATE 10/12/91

SLURRY WALL CONSTRUCTION COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | No Excavation |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: The entire day was spent determining the origin and boundries of the obstruction. After this was obtained an alternative plan was conceptualized.

APPROVALS:
CANONIE _____
MTI _____

88-11

CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407
DATE 10-15-91
COMPLETED BY PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION S3 Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:05 | Pond | 64.0 | 44 | 25 | | PRS | 8.84 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |
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| | | | | |

## BACKFILL

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STATION | | | | | | | | | | |
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STATION | | | | | | | | | | |
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-1

# Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Slip # 3 Slurry Wall DATE 10-16-91

SLURRY WALL CONSTRUCTION COMPLETED BY MTG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 3:45 | 9+80 | 25 | 47 | 82 | 20 | MTG | 7.40 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 11+38 | 24.4 | 30.2 | Sand/Clay | Hard Pan @ ~ 24.5' |
| 11+34 | | 29.8 | " " | Soundings were taken moving |
| 11+30 | | 28.3 | " " | southeast of the obstruction. |
| 11+20 | | 29.6 | " " | |
| 11+15 | | 28.7 | " " | sounding were taken moving |
| 11+10 | | 30.6 | " " | northeast of the obstructions |
| 11+05 | | 29.1 | " " | southern edge. |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

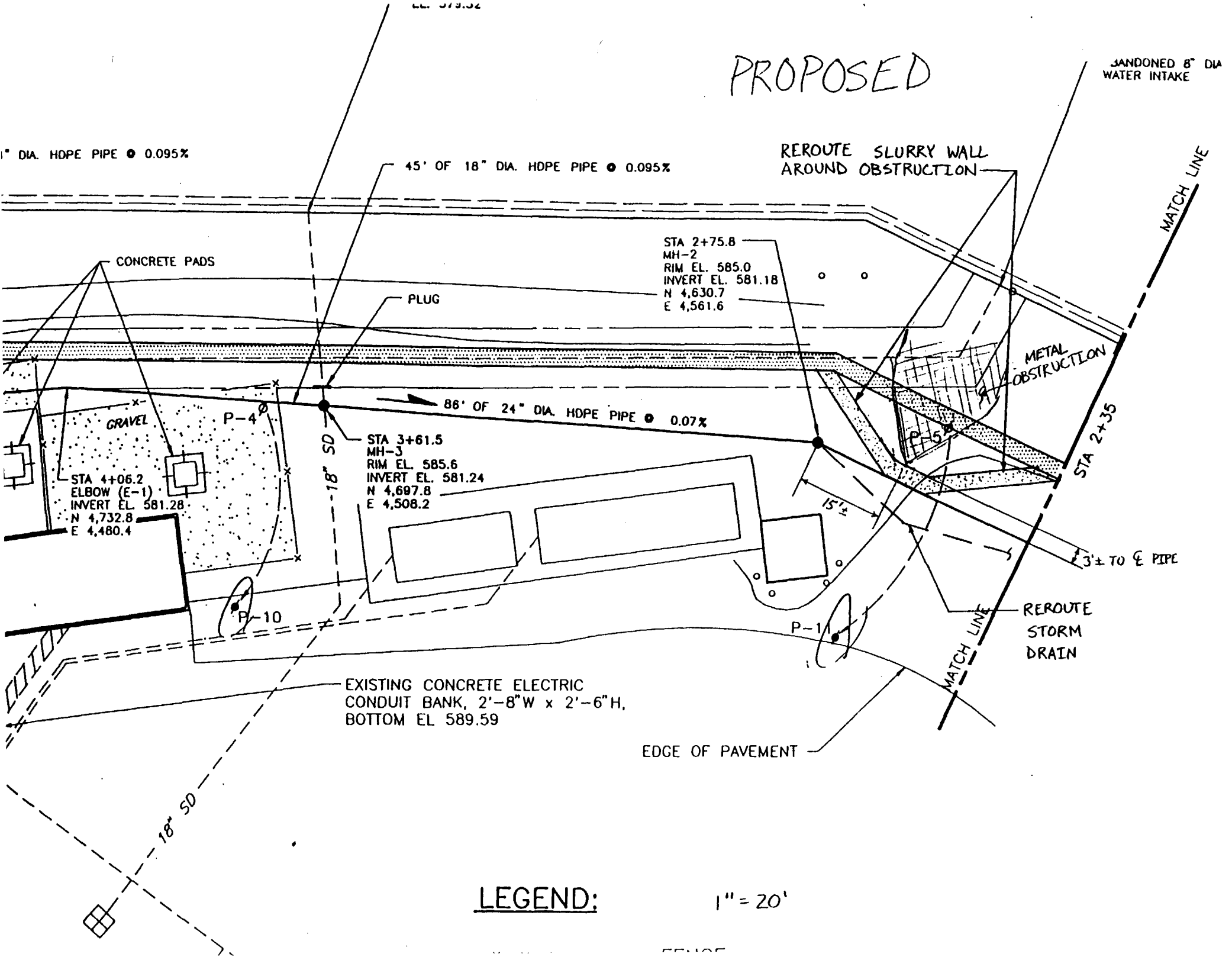
| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

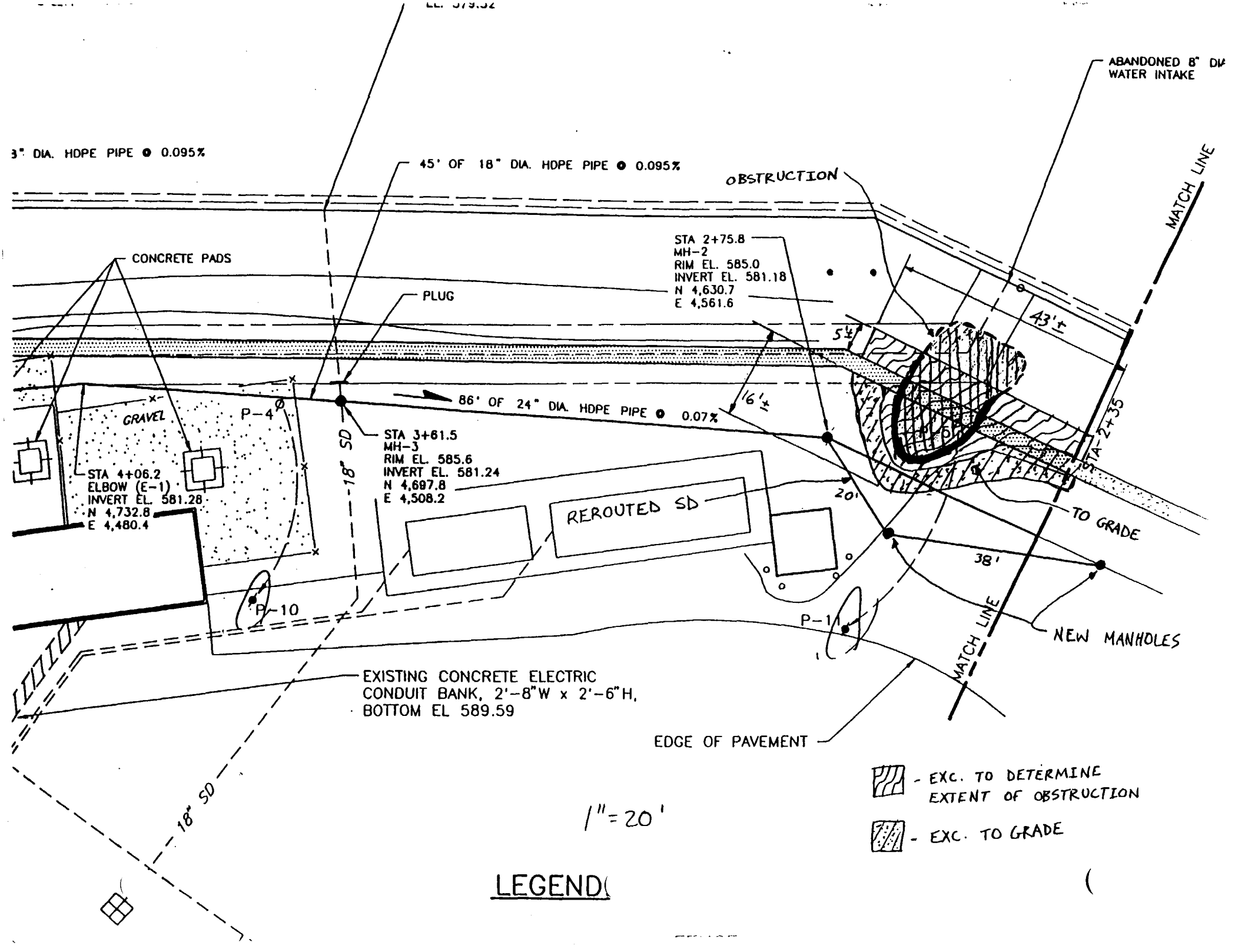
SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: See sketch of the area for details.

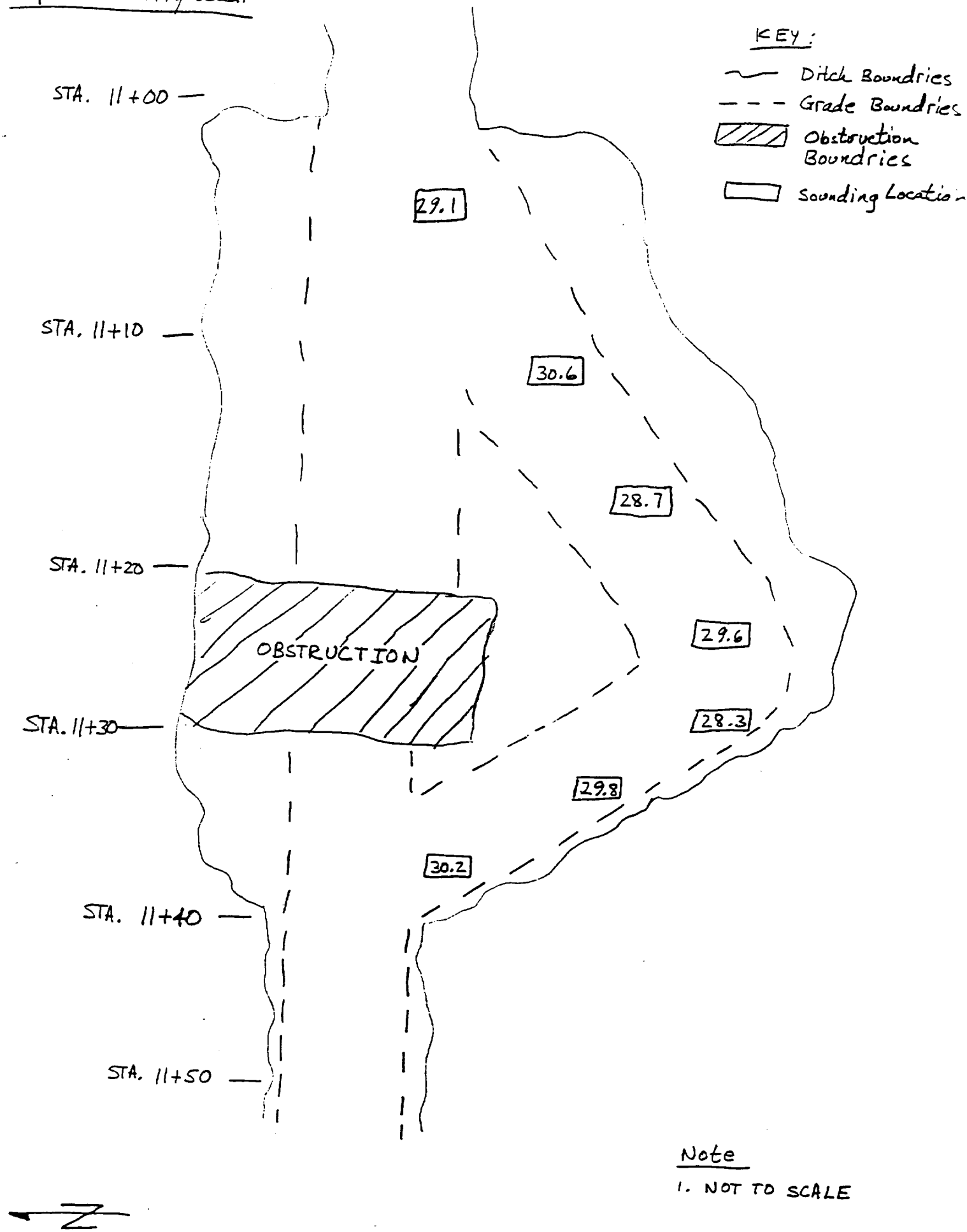
APPROVALS:
CANONIE _____
MTI _____

88-11


PROPOSED
ABANDONED 8" DIA WATER INTAKE
1" DIA. HDPE PIPE @ 0.095%
45' OF 18" DIA. HDPE PIPE @ 0.095%
REROUTE SLURRY WALL AROUND OBSTRUCTION
MATCH LINE
CONCRETE PADS
PLUG
STA 2+75.8
MH-2
RIM EL. 585.0
INVERT EL. 581.18
N 4,630.7
E 4,561.6
METAL OBSTRUCTION
86' OF 24" DIA. HDPE PIPE @ 0.07%
GRAVEL
P-4
P-5
STA 2+35
18" SD
STA 3+61.5
MH-3
RIM EL. 585.6
INVERT EL. 581.24
N 4,697.8
E 4,508.2
STA 4+06.2
ELBOW (E-1)
INVERT EL. 581.28
N 4,732.8
E 4,480.4
15'±
3'± TO ℄ PIPE
P-10
P-1
REROUTE STORM DRAIN
MATCH LINE
EXISTING CONCRETE ELECTRIC CONDUIT BANK, 2'-8"W x 2'-6"H, BOTTOM EL 589.59
EDGE OF PAVEMENT
18" SD
LEGEND:
1" = 20'


ABANDONED 8" DIA WATER INTAKE
3" DIA. HDPE PIPE @ 0.095%
45' OF 18" DIA. HDPE PIPE @ 0.095%
OBSTRUCTION
MATCH LINE
CONCRETE PADS
PLUG
STA 2+75.8
MH-2
RIM EL. 585.0
INVERT EL. 581.18
N 4,630.7
E 4,561.6
43'±
5'±
16'±
86' OF 24" DIA. HDPE PIPE @ 0.07%
GRAVEL
P-4
18" SD
STA 3+61.5
MH-3
RIM EL. 585.6
INVERT EL. 581.24
N 4,697.8
E 4,508.2
STA 4+06.2
ELBOW (E-1)
INVERT EL. 581.28
N 4,732.8
E 4,480.4
REROUTED SD
20'
STA 2+35
TO GRADE
38'
P-10
P-11
NEW MANHOLES
MATCH LINE
EXISTING CONCRETE ELECTRIC
CONDUIT BANK, 2'-8"W x 2'-6"H,
BOTTOM EL 589.59
EDGE OF PAVEMENT
18" SD
1" = 20'
- EXC. TO DETERMINE EXTENT OF OBSTRUCTION
- EXC. TO GRADE
LEGEND

Slip #3 Slurry Wall




Note

1. NOT TO SCALE

# Control Report

PROJECT No. 90-407
DATE 10-17-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip #3 Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 2:00 | 3+50 | 24 | 53 | 84.5 | 26 | MJG | 7.59 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 9+50 | | 29.0 | Sand/Clay | |
| 9+40 | 26.1 | 29.4 | " " | Hard Pan @ ~26' |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 15+10 | 15+00 | 14+50 | 14+00 | 13+50 | 13+00 | 12+50 | 12+00 | 11+50 | 11+25 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 3.5 | 9.9 | 14.8 | 17.1 | 18.4 | 20.4 | 23.6 | 25.7 | 28.1 |
| SLOPE | | | | | | | | | | |

SLUMP= 4.0 inches; UNIT WEIGHT= 127 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 4.0 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: Sediments were removed from the ditch in areas in which sand had fallen in from digging around the obstruction.

APPROVALS:
CANONIE ____
MTI ____

88-11

# Control Report

PROJECT No. 90-407
DATE 10/18/91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip #3 Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 11:00 | 9+30 | 25 | 49 | 82 | 20 | MJG | 7.48 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 9+30 | | 28.9 | Sand/clay | |
| 9+20 | 25.8 | 30.7 | " " | Hard Pan @ ~ 26' |
| 9+10 | | 31.3 | | |
| 9+00 | | 29.6 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.25 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | 14+75 | 14+50 | 14+00 | 13+50 | 13+00 | 12+50 | 12+00 | 11+50 | 11+00 | 10+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 4.0 | 9.6 | 11.8 | 14.0 | 16.0 | 17.5 | 20.0 | 28.0 | |
| SLOPE | 6.3:1 | 8.9:1 | 22.7:1 | 22.7:1 | 25:1 | 33.3:1 | 20:1 | 6.3:1 | | |

SLUMP= 2.5 inches; UNIT WEIGHT= 126 pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Slip # 3 Slurry Wall DATE 10-19-91

SLURRY WALL CONSTRUCTION COMPLETED BY PRS

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 14+25 | 14+00 | 13+50 | 13+00 | 12+50 | 12+00 | 11+50 | 11+00 |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 4.6 | 10.8 | 13.3 | 16.0 | 18.2 | 22.9 | 27.7 |
| SLOPE | 5.4:1 | 8.1:1 | 18.5:1 | 18.5:1 | 22.7:1 | 10.6:1 | 10.4:1 | |

SLUMP= 4.0 inches; UNIT WEIGHT= 124 pcf; STA. No. _____

| STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | |
| SLOPE | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

88-11

Control Report

PROJECT No. 30-407

PROJECT NAME Waukegan Harbor LOCATION Slip #3 Slurry Wall DATE 10/21/91

SLURRY WALL CONSTRUCTION COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 9+00 | | 29.7 | Sand/Clay | From before hard pan @ ~26' |
| 8+90 | | 29.2 | " " | |
| 8+80 | | 30.1 | " " | southeast corner @ STA. 9+00 |
| | | | | |
| | | | | STA. 8+80 is at the south bulkhead sheeting line. |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 13+75 | 13+50 | 13+00 | 12+50 | 12+00 | 11+50 | 11+40 | 11+20 | 11+00 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 3.1 | 6.3 | 9.9 | 12.7 | 16.2 | 21.3 | 24.0 | 28.0 |
| SLOPE | 8:1 | 16:1 | 14:1 | 18:1 | 14:1 | 2:1 | 7:1 | 5:1 | |

SLUMP= 3.0 inches; UNIT WEIGHT= 126 pcf; STA. No. _____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= 2.25 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Slip #3 slurry wall DATE 10/22/91

SLURRY WALL CONSTRUCTION COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:15 | 9+10 | 20 | 51 | 84. | 20 | MJG | 7.43 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
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## BACKFILL

| STATION | 13+00 | 12+75 | 12+50 | 12+00 | 11+50 | 11+35 | 11+15 | 11+00 | 10+50 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 3.8 | 5.7 | 10.0 | 14.6 | 22.1 | 23.8 | 27.5 | 28.4 |
| SLOPE | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= 126 pcf; STA. No. ____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= 2.0 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:

CANONIE ____

MTI ____

88-11

Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip #3 slurry wall

DATE 10/23/91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
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## BACKFILL

| STATION | 11+90 | 11+50 | 11+35 | 11+20 | 11+00 | 10+50 | 10+00 | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 7.5 | 15.0 | 15.6 | 21.8 | 26.7 | 28.2 | | |
| SLOPE | 5:1 | 2:1 | 25:1 | 3:1 | 10:1 | 33:1 | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= 126 pcf; STA. No. ____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

Control Report

PROJECT No. 90-457

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip #3 slurry wall

DATE 10/24/91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
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## BACKFILL

| STATION | 11+50 | 11+40 | 11+25 | 11+10 | 11+00 | 10+50 | 10+00 | 9+50 | 9+00 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 9.7 | 9.0 | 8.6 | 15.3 | 21.3 | 22.8 | 24.2 | 28.8 |
| SLOPE | 1:1 | 21:1 | 38:1 | 2:1 | 8:1 | 33:1 | 36:1 | 11:1 | |

SLUMP= 3.0 inches; UNIT WEIGHT= 124 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-11

# Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip #3 Slurry Wall

DATE 10/25/91

COMPLETED BY MJG

## LURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
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## BACKFILL

| STATION | 11+50 | 11+40 | 11+25 | 11+10 | 11+00 | 10+50 | 10+00 | 9+50 | 9+00 | 8+90 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 1.6 | 0.9 | 0.0 | 0.0 | 1.8 | 8.2 | 11.4 | 14.6 | 18.8 | 23.7 |
| SLOPE | 14:1 | 17:1 | — | 6:1 | 8:1 | 16:1 | 16:1 | 12:1 | 10:1 | |

SLUMP= 3.0 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.25 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

# Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip #3 slurry wall

DATE 10/26/91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
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## BACKFILL

| STATION | 10+90 | 10+50 | 10+00 | 9+50 | 9+00 | 8+90 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 3.2 | 6.5 | 11.9 | 19.3 | 21.3 | | | | |
| SLOPE | | 12:1 | 15:1 | 9:1 | 7:1 | 5:1 | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

# Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION slip #3 slurry wall

DATE 10/28/91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:45 | Pond | 64 | 37 | 15 | 3/16 | MJG | 8.74 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
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## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

11-66

# Control Report

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip #3 slurry wall

PROJECT No. 90-407
DATE 10/29/91
COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 | Pond | 64 | 43 | 16.5 | 3/16 | MJG | 8.53 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
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## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

11-88

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 11-26-91
COMPLETED BY PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Slip 3 Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 5+35 | 23.5 | 29.0 | Sand/Clay | Also removed timber from old |
| 5+45 | 23.5 | 29.1 | " " | wood piling |
| 5+55 | 23.0 | 28.5 | " " | |
| 5+60 | 23.0 | 27.0 | " " | |
| | | | | |
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## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.25 inches; UNIT WEIGHT= 122 pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

# WEST CONTAINMENT CELL
# SLURRY WALL

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-2-91
COMPLETED BY PRS/MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:20 | Pond | 65 | 80 | 13.5 | 1/8 | MJG | 8.81 | |
| 14:50 | Pond | 64.5 | 37 | 23.5 | 3/16 | MJG | 7.86 | About 2 hours hydration |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
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## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-5-91
COMPLETED BY PRS/MJ

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 6:20 | Pond | 65 | 52 | 15.5 | 3/16 | PRS | 8.75 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 13:15 | 0+50 | 20 | 65 | 75 | 13 | MJG | 7.74 | 135 ml Filtrat |
| 16:05 | 1+00 | 25 | 62 | 72.5 | 14 | MJG | ~~7.80~~ 8.10 | pH Meter recalibrate |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 0+25 | 25.5 | 28.5 | Sand / Clay (Hard pan) | Top of clay at 25' |
| 0+38 | | 30.5 | Clay | |
| 0+50 | 27.5 | 28.0 | Clay | |
| 0+75 | | 29.0 | Clay | |
| 1+00 | | 30.0 | Clay | |
| 1+10 | | 29.5 | Clay | |
| 1+25 | 25.0 | 28.0 | Sand / Clay | Top of clay - 25' |
| 1+40 | | 30.5 | Clay | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-6-91
COMPLETED BY MJG/PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 1:20 | Pond | | 56 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:15 | 1+60 | 25 | 80 | 77 | 15 | MJG | 8.44 | |
| 5:00 | 2+50 | 27 | 71 | 77 | 18 | MJG/PRS | 8.21 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 1+50 | 28.5 | 30.4 | Sand / Clay | Hard Pan @ 26' |
| 1+60 | 28 | 29 | " " | |
| 1+80 | | 29.5 | Clay | |
| 1+95 | 25.5 | 28.5 | Sand / Clay | Hard Pan @ 25.5' |
| 2+20 | | 28.6 | Sand / Clay | |
| 2+50 | | 28.8 | Sand / Clay | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 0+25 | 0+50 | 0+75 | 1+00 | 1+25 | 1+50 | 1+75 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 27.0 | 27.5 | | | |
| SLOPE | 25:1 | 25:1 | 25:1 | 25:1 | 12.5:1 | 50:1 | | | | |

SLUMP= 4.5 inches; UNIT WEIGHT= 121 pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-1

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION WC Slurry Wall

DATE 8-7-91

SLURRY WALL CONSTRUCTION

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 11:30 | 2+90 | 26 | 68 | 75 | 17 | MJG | 8.14 | |
| 4:00 | 3+45 | 28 | 73 | 83 | 20 | MJG | 8.03 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 2+80 | 25.0 | 28.5 | Sand / Clay | Hard Pan @ 25' |
| 2+00 | | 29.0 | Sand/Clay | |
| 2+20 | | 28.8 | " " | |
| 3+30 | | 28.4 | " " | |
| 3+45 | 25.3 | 30.0 | " " | Hard Pan @ ~ 25' |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 0+40 | 0+60 | 0+80 | 1+00 | 1+30 | 1+50 | 1+70 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 18.2 | 20.8 | 22.3 | 24.0 | 26.0 | 27.8 | 29.0 | | | |
| SLOPE | 10:1 | 13.3:1 | 11.8:1 | 15:1 | 11.1:1 | 16.7:1 | | | | |

SLUMP= 5 inches; UNIT WEIGHT= 124 pcf; STA. No. ____

| STATION | 0+15 | 0+50 | 0+85 | 1+25 | 1+60 | 2+00 | 2+35 | 2+75 | 3+00 | 3+25 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 12.1 | 12.6 | 14.8 | 16.3 | 18.9 | 21.1 | 23.5 | 24.4 | 26.7 | 1.3 |
| SLOPE | 70:1 | 15.9:1 | 26.7:1 | 13.5:1 | 18.2:1 | 14.6:1 | 44.4:1 | 10.9:1 | 41.. | |

SLUMP= 4.5 inches; UNIT WEIGHT= 122 pcf; STA. No. ____

NOTES: ____

APPROVALS:

CANONIE ____

MTI ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION WC Slurry Wall

DATE 8-9-91

SLURRY WALL CONSTRUCTION

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 15:00 | Pond | 64.5 | 42 | 13.5 | 3/16 | MJG | 8.81 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:00 | 3+45 | 15 | 76 | 74 | 20 | MJG | 8.24 | Same station as |
| | | | | | | | | 8-7-91, tested after |
| | | | | | | | | ~2" of rain on 8-8-91 |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | No excavation today |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

88-1

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

DATE 8-10-91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:00 | Pond | 64.5 | 38 | 19.5 | 3/16 | MJG | 9.02 | |
| 7:20 | Pond | | 43 | | | MJG | | same sample as above. |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 3+60 | | 28.4 | Sand / Clay | Hard Pan ~@25' |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-12-91
COMPLETED BY MJG / PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:30 | 3+60 | 25 | 61 | 80 | 20 | PRS | 8.03 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 3+95 | 24.5 | 27.8 | Sand / Clay | Hard Pan @ 24.5' |
| 4+10 | | 27.5 | Sand / Clay | |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |
| | | | | |

## BACKFILL

cont.

| STATION | 0+20 | 0+50 | 1+00 | 1+25 | 1+50 | 2+00 | 2+25 | 2+50 | 3+00 | 3+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 8.6 | 9.7 | 11.5 | 12.9 | 14.7 | 17.5 | 19.3 | 20.1 | 22.5 | 23.8 |
| SLOPE | 27.3:1 | 27.8:1 | 17.9:1 | 13.9:1 | 17.9:1 | 13.9:1 | 31.3:1 | 20.8:1 | 38.5:1 | |

SLUMP= 2.5 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | 3+75 | 4+00 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 26.5 | 27.5 | | | | | | | | |
| SLOPE | 8.9:1 | 25:1 | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 3-13-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:40 | 4+30 | 23 | 66 | 82 | 20 | MJG | 7.95 | |
| 4:30 | 5+35 | 23 | 62 | 83 | 20 | MJG | 8.32 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 4+30 | 24.3 | 27.8 | Sand/Clay | Hard Pan @ ~ 24.5' |
| 4+40 | | 28.4 | Sand/Clay | |
| 4+65 | 22.5 | 27.5 | Sand/Clay | Hard Pan @ ~ 23.5 |
| 4+50 | | 27.3 | Sand/Clay | |
| 4+80 | | 26.8 | Sand/Clay | At 2:10, station 5+25 it |
| 5+10 | | 27.5 | Sand/Clay | appeared that the operator hit |
| 5+25 | | 27.4 | Sand/Clay | some sort of line. It started |
| 5+35 | 23.5 | 27.3 | Sand/Clay | bubbling rapidly in the beginning but |
| | | | | then ceased after ~ 10 min. |
| | | | | Indicating that it had been capped. |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 4.5 inches; UNIT WEIGHT= 129 pcf; STA. No._____

| STATION | 1+10 | 1+35 | 1+75 | 2+25 | 2+75 | 3+25 | 3+75 | 4+25 | 4+75 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0 | 5.8 | 8.6 | 12.8 | 16.5 | 18.9 | 21.6 | 24.9 | 27.2 |
| SLOPE | 4.3:1 | 14.3:1 | 11.9:1 | 13.5:1 | 20.8:1 | 18.5:1 | 15.2:1 | 21.7:1 | |

SLUMP= 3.0 inches; UNIT WEIGHT= _____ pcf; STA. No._____

NOTES:

APPROVALS:
CANONIE
MTI

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-14-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:00 | 5+75 | 24 | 73 | 86.5 | 20 | MJG | 7.83 | |
| 5:00 | 5+35 | 23 | 67 | 87 | 20 | MJG | 7.76 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 5+50 | 23.5 | 26.5 | Sand/Clay | Hard Pan @ 23.5' |
| 5+60 | | 26.8 | Sand/Clay | |
| 5+90 | 23.6 | 27.2 | Sand/Clay | Hard Pan @ 23.5' |
| 5+95 | | 27.4 | Sand/Clay | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 2+26 | 2+50 | 3+00 | 3+50 | 4+00 | 4+30 | 4+75 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 7.1 | 9.6 | 12.7 | 16.2 | 20.6 | 26.7 | | | |
| SLOPE | 3.5:1 | 20:1 | 16.1:1 | 14.3:1 | 6.8:1 | 7.4:1 | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= 126 pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-1

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

DATE 8-15-91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:00 | Pond | 65.5 | 81 | 17.0 | 3/16 | MJG | 8.80 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 2:30 | 6+10 | 5 | 73 | 88 | 20 | MJG | 7.75 | |
| 4:10 | 6+6 | 15 | 78 | 88.5 | 20 | MJG | 7.69 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 6+10 | 23.4 | 27.2 | Sand / Clay | @ 6+25 there was a |
| 6+25 | | 20.5 | Sand | immovable boulder @ 29.5 |
| 6+40 | | 27.6 | Sand / Clay | The plan is to break it up |
| | | | | later this evening and then |
| | | | | pull it out tommorow. |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | 3+00 | 3+25 | 3+50 | 4+00 | 4+50 | 5+00 | 5+25 | 5+50 | 5+80 | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 6.8 | 8.1 | 12.9 | 16.8 | 23.2 | 25.3 | 25.7 | 26.8 | |
| SLOPE | 36.7:1 | 10.9:1 | 10.4:1 | 12.8:1 | 7.8:1 | 18.4:1 | 37.5:1 | 33.3:1 | | |

SLUMP= 2.5 inches; UNIT WEIGHT= 122 pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-16-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WE Slurry Wall

## SLURRY LEVEL

| | STATION | LEVEL |
|---|---|---|
| 8-16-91 | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

Station 5+70 Backfill to 20.4'

| Depth | Density (lb/ft³) |
|---|---|
| 5' | 88 |
| 12' | 91 |
| 15' | 90 |

| D | COMMENTS |
|---|---|
| | |
| | |
| | |
| | |

- Backfill about 1½' up on the sheeting

| TED | COMMENTS |
|---|---|
| | |
| | |
| | |
| | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| 6+05 | 23.5 | 27.2 | Sand/Clay | Hard Pan @ ~23.5' |
| 6+20 | | 26.4 | | |
| 6+25 | | 27.7 | | It appears that the boulder demolition was a success. The sounding between 6+20 and 6+30 were taken and then retaken with two different tapes. |
| 6+30 | | 27.5 | | |
| 6+40 | | 28.0 | | |
| 6+50 | | 28.5 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= 122 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88

CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-17-91
COMPLETED BY PRS

PROJECT NAME Waukegan Harbor LOCATION WC Slurry Wall
SLURRY WALL CONSTRUCTION

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 3:20 | Pond | 64.5 | 39 | 19 | 1/8 | PRS | 8.73 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|---|
| | 5+50 | | 26.0 | | Cleaned out bottom of trench |
| SHEETS | 5+75 | | 27.0 | Mostly hard clay | north of temporary sheets |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

## BACKFILL

CORNER STATION

| STATION | 4+25 | 4+50 | 4+75 | 5+00 | 5+25 | 5+50 | 5+75 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 7.5 | 11.0 | 12.5 | 14.0 | 20.0 | 23.5 | | | |
| SLOPE | 3.3:1 | 7.1:1 | 16.7:1 | 16.7:1 | 4.2:1 | 7.1:1 | | | | |

SLUMP= 7.0 inches; UNIT WEIGHT= 120 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-11

Canonie ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-19-91
COMPLETED BY MJG / PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 | Pond | 64.5 | 40 | 17.5 | 1/8 | PRS | 8.75 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:30 | 6+40 | 26 | 69 | 85.5 | 20 | MJG | 7.20 | |
| 1:30 PM | 6+90 | 25 | 48 | 82.0 | 18 | MJG | 7.69 | |
| 4:30 PM | 7+50 | 22 | 45 | 78.0 | 17 | MJG | 7.77 | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 6+40 | | 28.7 | Sand / Clay | |
| 6+70 | 23.5 | 26.7 | Sand / Clay | Hard Pan @ ~ 23.5' |
| 6+80 | 25.0 | 27.3 | Sand / Clay | |
| 7+00 | 22.5 | 27.1 | Sand / Clay | Hard Pan @ 22.5' |
| 7+10 | | 26.3 | Sand / Clay | |
| 7+25 | | 26.2 | Sand / Clay | |
| 7+50 | 21.0 | 25.5 | Sand / Clay | Hard Pan @ 21.0' |
| 7+60 | | 25.2 | " " | |
| 7+70 | | 24.6 | " " | |
| 8+00 | | 24.5 | " " | |

## BACKFILL

| STATION | 4+50 | 4+75 | 5+00 | 5+25 (~ Corner) | 5+50 | 5+75 | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 4.5 | 7.4 | 8.6 | 15.3 | 15.9 | | | |
| SLOPE | | 5.6:1 | 8.1:1 | 20.8:1 | 3.7:1 | – | | | |

SLUMP= 3.5 inches; UNIT WEIGHT= 120 pcf; STA. No. ____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-20-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION
LOCATION WC slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:20 | 8+05 | 20 | 46 | 76.5 | 14 | MJG | 7.93 | |
| 3:00 | 8+70 | 22 | 47 | 75 | 15 | MJG | 7.78 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 8+10 | 21.4 | 25.6 | Sand/Clay | Hard Pan @ 21.4' |
| 8+20 | | 24.6 | Sand / Clay | |
| 8+30 | 22.5 | 27.3 | Sand/Clay | southwest corner 8+22 |
| 8+50 | 23.0 | 27.1 | Sand/Clay | Hard Pan @ 23.0' |
| 8+60 | | 27.4 | Sand/Clay | |
| 8+70 | | 26.8 | Sand/Clay | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

SHEETS

| STATION | 5+25 | 5+35 | 5+40 | 5+55 | 5+70 | 5+75 | 5+80 | 6+00 | 6+25 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 5.2 | 8.4 | 8.4 | 10.8 | 10.7 | 23.2 | 26.0 | 26.8 |
| SLOPE | 2:1 | 1.6:1 | — | 1:1 | — | — | 7:1 | 30:1 | |

SLUMP= 2.5 inches; UNIT WEIGHT= 120 pcf; STA. No. ____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-11

Canonie ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-207

PROJECT NAME Waukegan Harbor SLURRY WALL CONSTRUCTION

LOCATION S/C Slurry Wall

DATE 3-21-91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 3:30 PM | 9+10 | 23 | 48 | 78.5 | 19 | MJG | 7.58 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 8+90 | 23.6 | 26.5 | Sand/Clay | Hard Pan @~23.5' |
| 9+10 | 23.7 | 27.2 | Sand/Clay | |
| 9+20 | | 27.7 | Sand/Clay | |
| 9+30 | | 27.1 | Sand/Clay | |
| 9+40 | | 27.3 | Sand/Clay | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 5+25 | 5+50 | 6+00 | 6+50 | 7+00 | 7+50 | 8+00 | 8+25 |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 1.0 | 5.5 | 9.6 | 12.9 | 16.6 | 19.4 | 22.7 | 24.4 |
| SLOPE | 5.6:1 | 12.2:1 | 15.2:1 | 13.5:1 | 17.4:1 | 15.2:1 | 14.7:1 | |

SLUMP= 2.5 inches; UNIT WEIGHT= 121 pcf; STA. No. ____

| STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | |
| SLOPE | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: Sheets pulled entirely today.

APPROVALS:

CANONIE ____

MTI ____

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Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-22-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor LOCATION WC Slurry Wall
SLURRY WALL CONSTRUCTION

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 4:45 | Pond | 63.5 | 34 | 23.5 | 2/16 | MJG | 8.47 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 11:30 | 9+50 | 22 | 48 | 82 | 20 | MJG | 7.41 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 9+50 | 23.4 | 27.6 | | Hard Pan @ 23.5' |
| 9+60 | | 23.2 | | |
| 9+80 | | 26.9 | | |
| 10+10 | 24.9 | 29.3 | | Hard Pan @ 25' |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.5 inches; UNIT WEIGHT= 122 pcf; STA. No. ____

| STATION | 6+50 | 6+75 | 7+00 | 7+25 | 7+50 | 7+75 | 8+20 | 8+50 | 9+00 | 9+25 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 5.5 | 7.8 | 10.1 | 13.2 | 15.4 | 17.9 | 25.3 | 26.2 | [illegible].9 |
| SLOPE | 4.5:1 | 10.9:1 | 10.9:1 | 8.1:1 | 11.4:1 | 18:1 | 4.1:1 | — | | |

SLUMP= 2.0 inches; UNIT WEIGHT= 120 pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor SLURRY WALL CONSTRUCTION

LOCATION WC slurry Wall

DATE 8-23-91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:30 | Pond | 65 | 43 | 21.0 | 3/16 | MJG | 8.37 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:00 | 10+20 | 10 | 48 | 86 | 20 | MJG | 7.46 | |
| 3:45 PM | 10+40 | 23 | 50 | 83.5 | 20 | MJG | 7.35 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 10+20 | | 27.9 | Sand/Clay | Hard Pan @ ~ 25' |
| 10+30 | | 28.2 | Sand/Clay | |
| 10+40 | | 29.3 | Sand/Clay | |
| 10+50 | 25.6 | 28.7 | Sand/Clay | Hard Pan @ 25.6' |
| 10+70 | | 29.8 | Sand/Clay | |
| 10+80 | | 29.2 | Sand/Clay | |
| 10+90 | | 30.3 | Sand/Clay | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 7+30 | 7+50 | 8+00 | 8+50 | 9+00 | 9+50 | 9+75 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 3.7 | 11.3 | 20.1 | 22.9 | 26.1 | 26.5 | | | |
| SLOPE | 5.4:1 | 6.6:1 | 5.7:1 | 17.9:1 | 15.6:1 | — | | | | |

SLUMP= 3.5 inches; UNIT WEIGHT= 120 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.0 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES:

APPROVALS:

CANONIE

MTI

88

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-457

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

DATE 8-24-91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:30 | 10+80 | 10 | 56 | 85.5 | 20 | MJG | 7.61 | |
| 2:30 | 11+40 | 25 | 52 | 85 | 20 | MJG | 7.41 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 11+05 | 24.5 | 28.8 | Sand /Clay | Hard Pan @ 24.5' |
| 11+10 | | 29.7 | " " | |
| 11+20 | | 28.3 | " " | |
| 11+30 | | 28.1 | " " | |
| 11+40 | 24.6 | 27.8 | " " | Hard Pan @ ~ 24.5' |
| 11+50 | | 28.0 | " " | |
| 11+60 | 25.0 | 29.7 | " " | Hard Pan @ 25.0' |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.0 inches; UNIT WEIGHT=_____pcf; STA. No._____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP=_____inches; UNIT WEIGHT=_____pcf; STA. No._____

NOTES:

APPROVALS:
CANONIE
MTI

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor. SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

DATE 8-26-91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 8:30 | Pond | | 51 | | | MJG | |
| 10:30 | Pond | | 40 | | | MJG | Tested after water had been added. |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:30 PM | 11+90 | 20 | 57 | 81.5 | 20 | MJG | 7.53 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 11+75 | 25.0 | 28.4 | Sand/Clay | Hard Pan @ 25' |
| 11+90 | | 28.3 | Sand/Clay | |
| 12+00 | 25.5 | 28.8 | Sand/Clay | Hard Pan @ 25.5' |
| 12+20 | | 29.2 | Sand/Clay | |
| | | | | Corner @ STA 12+25 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 8+00 | 8+25 | 8+50 | 9+00 | 9+50 | 10+00 | 10+50 | 11+00 |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 7.1 | 11.3 | 17.3 | 20.9 | 24.4 | 26.7 | 28.8 |
| SLOPE | 3.5:1 | 6:1 | 8.3:1 | 13.9:1 | 14.3:1 | 21.7:1 | 23.8:1 | |

SLUMP= 3.5 inches; UNIT WEIGHT= 122 pcf; STA. No. _____

| STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | |
| SLOPE | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

88-

Canonie ENVIRONMENTAL

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-27-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:15 PM | 12+40 | 25 | 53 | 85 | 20 | MJG | 7.38 | |
| 4:30 PM | 13+00 | 25 | 50 | 84.5 | 20 | MJG | 7.34 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 12+25 | | 28.6 | Sand/Clay | |
| 12+30 | | 28.8 | " " | |
| 12+40 | 25.5 | 29.1 | " " | Hard Pan @ 25.5' |
| 12+50 | | 28.9 | " " | |
| 12+60 | | 30.1 | " " | |
| 12+80 | 26.2 | 30.4 | " " | Hard Pan @ ~ 26' |
| 12+90 | | 29.1 | " " | |
| 13+00 | | 29.8 | " " | |
| 13+30 | | 29.5 | " " | |
| | | | | |

## BACKFILL

| STATION | 8+50 | 8+75 | 9+00 | 9+50 | 10+00 | 10+50 | 11+00 | 11+50 | 12+00 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 5.7 | 8.4 | 10.2 | 16.2 | 18.9 | 21.5 | 25.7 | 27.0 |
| SLOPE | 4.1:1 | 9.3:1 | 27.8:1 | 8.3:1 | 18.5:1 | 19.2:1 | 11.9:1 | — | |

SLUMP= 2.0 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= 122 pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

CANONIE ENVIRONMENTAL

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor LOCATION WC Slurry Wall
SLURRY WALL CONSTRUCTION

PROJECT No. 90-407
DATE 8-28-91
COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 4:00 | Pond | | 55 | | | MJG | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:30 | 13+50 | 20 | 53 | 84.5 | 20 | MJG | 7.59 | |
| 4:30 | 14+00 | 15 | 52 | 86.0 | 20 | MJG | 7.37 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 13+40 | 26.4 | 29.7 | Sand/Clay | Hard Pan @ ~26.5' |
| 13+55 | | 29.6 | " " | |
| 13+60 | 26.2 | 30.3 | " " | Hard Pan @ 26.2' |
| 13+70 | | 30.6 | " " | |
| 13+80 | | 30.4 | " " | |
| 14+00 | | 29.7 | " " | |
| 14+10 | | 29.8 | " " | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 10+00 | 10+25 | 10+50 | 11+00 | 11+50 | 12+00 | 12+50 | 12+00 | 13+50 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 6.2 | 8.4 | 10.2 | 16.0 | 19.6 | 24.6 | 26.0 | 27.6 |
| SLOPE | 4:1 | 11:1 | 28:1 | 9:1 | 14:1 | 10:1 | 36:1 | 32:1 | |

SLUMP= 2.0 inches; UNIT WEIGHT= 120 pcf; STA. No. _____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= 122 pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-29-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:30 | 14+60 | 15 | 47 | 83.0 | 20 | MJG | 7.70 | |
| 4:30 | 15+20 | 25 | 49 | 86.0 | 20 | MJG | 7.45 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 14+20 | 26.5 | 29.7 | Sand / Clay | |
| 14+40 | 27.2 | 31.3 | " " | Hard Pan @ ~ 27.0' |
| 14+50 | | 30.2 | " " | |
| 14+60 | | 30.6 | " " | |
| 14+70 | | 30.2 | " " | |
| 14+90 | | 31.0 | " " | |
| 15+00 | 26.8 | 29.9 | " " | Hard Pan @ ~ 27.0' |
| 15+15 | | 30.4 | " " | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 11+00 | 11+50 | 12+00 | 12+50 | 13+00 | 13+50 | 14+00 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 6.7 | 12.5 | 19.8 | 22.1 | 28.4 | 28.6 | | | |
| SLOPE | 8:1 | 9:1 | 7:1 | 22:1 | 9:1 | 250:1 | | | | |

SLUMP= 30 inches; UNIT WEIGHT= 122 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

PROJECT No. 90-407
DATE 8-30-91
COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:00 | 15+25 | 24 | 54 | 86 | 20 | MJG | 7.5+ | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 15+20 | | 30.4 | Sand/Clay | |
| 15+20 | 26.7 | 29.8 | Sand/Clay | Hard Pan @ 26.5' |
| 15+40 | | 29.7 | Sand/Clay | |
| 15+50 | | 29.8 | Sand/Clay | |
| 0+10 | 25.8 | 30.5 | Sand/Clay | Hard Pan @ ~ 26.0' |
| 0+25 | | 30.2 | Sand/Clay | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 4.0 inches; UNIT WEIGHT= 122 pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 9-3-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
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| | | | | |

## BACKFILL

| STATION | 12+50 | 13+00 | 13+50 | 14+00 | 14+50 | 15+00 | 15+50 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 9.6 | 16.3 | 19.5 | 23.8 | 28.6 | 29.5 | | | |
| SLOPE | 5:1 | 8:1 | 16:1 | 12:1 | 10:1 | 56:1 | | | | |

SLUMP= 2.0 inches; UNIT WEIGHT= 124 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.25 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

DATE 9-4-91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
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| | | | | |

## BACKFILL

| STATION | 13+75 | 14+00 | 14+50 | 15+00 | 15+50 | 00+20 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 8.4 | 13.7 | 18.1 | 21.5 | 27.5 | | | | |
| SLOPE | 3:1 | 9:1 | 11:1 | 15:1 | 3:1 | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= 122 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.0 inches; UNIT WEIGHT= 122 pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 9-5-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION
LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH COMMENTS |
|---|---|---|---|---|---|---|---|
| 1:30 | 00+10 | 10 | 57 | 87.0 | 20 | MJG | 7.35 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
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| | | | | |

## BACKFILL

| STATION | 15+40 | 00+00 | 00+15 | 00+25 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 10.4 | 13.2 | 23.1 | | | | | | |
| SLOPE | | 1:1 | 2:1 | 2:1 | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= 122 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.25 inches; UNIT WEIGHT= 124 pcf; STA. No. ____

NOTES: Third batch of backfill: slump: 2.25
Density: 122

APPROVALS:
CANONIE ____
MTI ____

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 9-6-91
COMPLETED BY MJG

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION WC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
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## BACKFILL

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STATION | 00+25 | | | | | | | | | |
| DEPTH (feet) | 0.0 | | | | | | | | | |
| SLOPE | 0 | | | | | | | | | |

SLUMP= 2.0 inches; UNIT WEIGHT= 122 pcf; STA. No. ____

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STATION | | | | | | | | | | |
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: Slurry wall completed

APPROVALS:
CANONIE ____
MTI ____

88-11

# EAST CONTAINMENT CELL
# SLURRY WALL

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 7-1-92
COMPLETED BY PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 2:10 | Pond | 70.0 | 63 | 13.0 | | PRS | 9.20 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 0+00 | 28.0 | 31.5 | | |
| 0+10 | 28.0 | 32.0 | | |
| 0+20 | 27.5 | | | |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION E C Slurry Wall

PROJECT No. [illegible]
DATE 7/6/92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7 45/A | POND | 67 | 63 | 11 | 1/8 | KJH | 9.13 | Will add 5000 gal Water |
| 8 30/A | Pond | 66.5 | 49 | — | — | KJH | — | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 4:00 | 1+30 | 30.0 | 61 | 75 | 20.0 | KJH | 8.41 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| 0+30 | 28.5 | 31. | | |
| 0+40 | 30.0 | 32. | | |
| 0+50 | | 32.0 | | |
| 0+60 | 30.0 | 33.0 | | |
| 0+70 | 30.0 | 33.0 | | |
| 0+80 | 30.0 | 33.0 | | |
| 0+90 | 30.0 | 33.0 | | |
| 1+00 | 31.5 | 33.5 | | |
| 1+10 | 30.5 | 33.5 | | |
| | | | | |

SOUNDINGS @ END OF SHIFT

| | |
|---|---|
| 0+0 | 30.5 |
| 0+1 | 31.5 |
| 0+2 | 29.5 |
| 0+3 | 30.5 +0.5 |
| 0+4 | 31.5 +0.5 |
| 0+5 | 30.0 -2' |
| 0+6 | 31.0 +2' |
| 0+7 | 32.5 +0.5 |
| 0+8 | 32.0 +1.0 |
| 0+9 | 33.0 |
| 1+0 | 33.5 |
| 1+10 | 33.5 |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor LOCATION EC Slurry Wall
SLURRY WALL CONSTRUCTION

PROJECT No. 90-407
DATE 7/7/92
COMPLETED BY KJH



## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:15 A | POND | 66 | 55 | 14.5 | 1/8 | KJH | 9.28 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:00 A | 0+60 | 10 | 60 | 73 | 19.0 | KJH | 8.37 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL 3:00 P | COMMENTS 7:30 AM | | 3:00 P |
|---|---|---|---|---|---|---|
| 1+20 | 30.0 | 34.0 | 33.0 | 1+10 | 32.5 | 32.5 +1.0 |
| 1+30 | 30.0 | 33.5 | 33.0 | 1+00 | 33.0 | 32.0 +1.5 |
| 1+40 | 30.0 | 33.0 | 32.5 | 0+90 | 31.0? | 32.0 +1. |
| 1+50 | 31.5 | 34.5 | 33.5 | 0+80 | 31.0 | 31.5 +0. |
| 1+60 | 31.0 | 34.0 | 33.0 | 0+70 | 31.0 | 31.0 +1.5 |
| 1+70 | 30.5 | 34.5 | 34.0 | 0+60 | 31.0 | 31.0 0 |
| 1+80 | 31.0 | 34.5 | 35.0 | 0+50 | 30.5 | 30.0 -0 |
| 1+90 | 31.0 | 34.5 | | 0+40 | 30.5 | 30.5 +1. |
| | | | | 0+30 | 30.0 | 30.0 +0. |
| | | | | 0+20 | 29.0 | 29.5 0 |
| | | | | 0+10 | 31.0 | 30.5 +1. |
| | | | | 0+00 | 30.5 | 30.5 0 |

## BACKFILL

| STATION | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | | |
| SLOPE | | | | | | | | | | | |

SLUMP= 3" inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | | |
| SLOPE | | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME _____ LOCATION E. CONTAINMENT DATE 7-7-92

SLURRY WALL CONSTRUCTION COMPLETED BY KJH



## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

INITIAL - ORIGINAL BOTTOM OF KEY
FINAL - BOTTOM OF KEY AFTER CLEANING

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | | | COMMENTS |
|---|---|---|---|---|---|---|
| | INITIAL | FINAL | | INITIAL | FINAL | |
| 0+40 | 32.0 | 32.5 | 1+40 | 33.0 | 34.5 | |
| 0+50 | 32.0 | 32.5 | 1+50 | 34.5 | 34.5 | |
| 0+60 | 33.0 | 33.0 | 1+60 | 34.0 | 34.5 | |
| 0+70 | 33.0 | 32.5 | 1+70 | 34.5 | | |
| 0+80 | 33.0 | 33.5 | 1+80 | 34.5 | | |
| 0+90 | 33.0 | 33.0 | 1+90 | 34.5 | | |
| 1+00 | 33.5 | 33.5 | | | | |
| 1+10 | 33.5 | 33.5 | | | | |
| 1+20 | 34.0 | 34.5 | | | | |
| 1+30 | 33.5 | 34.5 | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Wauconda Parker
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

PROJECT No. 90-407-
DATE 7-8-92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 2 pm | 1+00 | 20.0 | 65 | 80 | 9 | KJH | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL |
|---|---|---|---|
| 2+00 | 31.0 | 34.5 | |
| 2+10 | 31.0 | 34.0 | |
| 2+20 | 33.5 | 33.5 | |
| 2+30 | 30.5 | 34.5 | |
| 2+40 | 31.0 | 34.0 | |
| 2+50 | 30.5 | 34.0 | |

@ 7:30 AM COMMENTS

| | | | |
|---|---|---|---|
| 0+00 | 26.5 ± 4.0 | 1+20 | 34.5 |
| 0+10 | 29.0 ± 2.5 | 1+30 | 34.0 ± .5 |
| 0+20 | 29.5 | 1+40 | 33.5 |
| 0+30 | 31.5 ± .5 | 1+50 | 34.5 |
| 0+40 | 33.0 | 1+60 | 35.0 |
| 0+50 | 31.5 ± .5 | 1+70 | 34.5 |
| 0+60 | 33.0 | 1+80 | 34.0 |
| 0+70 | 32.5 ± .5 | 1+90 | 34.5 |
| 0+80 | 32.0 | | |
| 0+90 | 32.5 ± .5 | | |
| 1+00 | 33.0 ± .5 | | |
| 1+10 | 34.0 | | |

## BACKFILL

| STATION | 2+50 | 2+25 | 2+00 | 1+75 | 1+50 | 1+25 | 1+00 | 0+75 | 0+50 | 0+25 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 32.5 | 29.0 | 27.5 | 26.5 | 25.5 | 23.5 | 22.0 | 20.0 | 18.0 | 16.0 |
| SLOPE | | | | | | | | | | |

SLUMP= 3.5 inches; UNIT WEIGHT= 122 pcf; STA. No. _____

| STATION | 0+00 |
|---|---|
| DEPTH (feet) | 6.0 |
| SLOPE | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. [illegible]

PROJECT NAME WAUKEGAN HARBOR LOCATION EAST CUT

SLURRY WALL CONSTRUCTION

DATE 7-13-92

COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 730/A | POND | 66 | 58 | 16 | 1/8 | KJH | 9.44 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 400P | 1+50 | 25 | 66 | 76.5 | >20.0 | KJH | 8.22 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | | | @ 830/A | COMMENTS |
|---|---|---|---|---|---|---|---|
| 2+60 | 31.0 | 34.6 | 3+60 | 30.5 | 33.5 | 0+0 | 6.5 |
| 2+70 | 32.0 | 35.0 | 3+70 | 29.5 | 33.0 | 0+25 | 16.5 |
| 2+80 | 32.0 | 35.0 | | | | 0+50 | 18.5 |
| 2+90 | 32.0 | 35.0 | | | | 0+75 | 19.0 |
| 3+00 | 31.0 | 34.5 | | | | 1+00 | 22.0 |
| 3+10 | 31.5 | 35.0 | | | | 1+25 | 24.0 |
| 3+20 | 31.5 | 34.5 | | | | 1+50 | 25.5 |
| 3+30 | 32.0 | 35.0 | | | | 1+75 | 26.0 |
| 3+40 | 32.0 | 35.0 | | | | 2+00 | 28.5 |
| 3+50 | 31.0 | 35.0 | | | | 2+25 | 31.0 |
| | | | | | | 2+50 | 34.0 |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

BATCH #3 SLUMP= 2" inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:

CANONIE ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME [illegible] LOCATION [illegible] Wall

SLURRY WALL CONSTRUCTION

PROJECT No. [illegible]30-[illegible]

DATE 7/[illegible]/92

COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 A | POND | — | 27 | — | — | KJH | — | Will Circulate Pond |
| 3:00 P | POND | — | 38 | — | — | KJH | | POND Not USED Today |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:00 A | 1+50 | 25 | 62 | 81 | >20.0 | KJH | 9.13 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | @ 8:30 A COMMENTS |
|---|---|---|---|---|
| 3+80 | 31.5 | 34.5 | | 2+50 33.0 |
| 3+90 | 31.0 | 34.0 | | 2+75 33.5 |
| 5+05 | 31.0 | 34.0 | | 3+00 34.0 |
| 5+10 | 31.0 | 34.0 | | 3+25 34.0 |
| 5+20 | 30.5 | 34.0 | | 3+50 33.0 |
| 5+30 | 31.0 | 34.0 | | |
| 5+40 | 31.5 | 34.5 | | |
| 5+50 | 31.5 | 34.5 | | |
| 5+60 | 32.0 | 35.0 | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

File Repair due to Rain

88-11

NOTES: ____

APPROVALS:

CANONIE ____

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor LOCATION EC Slurry Wall
SLURRY WALL CONSTRUCTION

PROJECT No. 90-407
DATE 7/15/92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7 20/A | POND | 64.5 | 42 | 18 | 1/8 | KJH | 9.46 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 2 45/P | 5+30 | 30.0 | 58 | 82.5 | >20.0 | KJH | 7.96 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | @ 2:00 PM EXCAVATED MATERIAL | @ 7 45/A | COMMENTS | @ 2:00 PM |
|---|---|---|---|---|---|---|
| 5+70 | 30.0 | 33.5 | 33.0 | 5+05 | 32.0 | |
| 5+80 | 30.5 | 33.5 | 33.5 | 5+10 | 31.5 | 31.5 |
| 5+90 | 31.5 | 35.0 | 34.0 | 5+20 | 32.0 | 32.5 |
| 6+00 | 30.5 | 34.5 | 34.5 | 5+30 | 33.5 | 33.5 |
| 6+10 | 31.0 | 34.5 | 34.5 | 5+40 | 34.0 | 33.5 |
| 6+20 | 31.0 | 35.0 | | 5+50 | 34.0 | 33.5 |
| 6+30 | 30.5 | 34.5 | | 5+60 | 34.0 | 33.0 +2' |
| 6+40 | 31.0 | 34.5 | | | | |
| 6+50 | 31.0 | 35.0 | | | | |
| 6+60 | 31.0 | 34.5 | | | | |

## BACKFILL

| STATION | 0+50 | 0+75 | 1+00 | 1+25 | 1+50 | 1+75 | 2+00 | 2+25 | 2+50 | 2+75 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 5.0 | 8.0 | 10.0 | 13.0 | 14.0 | 17.0 | 19.0 | 19.5 | 23.0 |
| SLOPE | | | | | | | | | | |

Pile #4 SLUMP= 4.0 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| STATION | 3+00 | 3+25 | 3+50 | 3+75 |
|---|---|---|---|---|
| DEPTH (feet) | 25.0 | 26.0 | 26.0 | 27.0 |
| SLOPE | | | | |

Pile #5 SLUMP= 3.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____

Canonie Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor LOCATION EC Slurry Wall
SLURRY WALL CONSTRUCTION

PROJECT No. 90-407
DATE 7/16/92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8 05/A | Pond | 65 | 44 | 16 | 1/8 | KJH | 9.40 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1 15/P | 5+30 | 25 | 63 | 83 | >20.0 | KJH | 8.13 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | @ 7 30/A | | COMMENTS | |
|---|---|---|---|---|---|---|---|
| 6+70 | 31.5 | 35.0 | | 5+10 | 30.5 | 6+10 | 34.5 |
| 6+80 | 31.5 | 35.0 | | 5+20 | 31.0 | 6+20 | 33.5 |
| 6+90 | 31.0 | 34.5 | | 5+30 | 32.0 | 6+30 | 33.5 |
| 7+00 | 31.5 | 35.0 | | 5+40 | 32.5 | 6+40 | 34.5 |
| 7+10 | 31.0 | 34.5 | | 5+50 | 32.0 | 6+50 | 35.0 |
| 7+20 | 31.5 | 35.0 | | 5+60 | 32.0 | 6+60 | 32.0 |
| 7+30 | 31.5 | 35 | | 5+70 | 32.0 | | |
| 7+40 | 30.5 | 35.0 | | 5+80 | 33.0 | | |
| | | | | 5+90 | 33.5 | | |
| | | | | 6+00 | 34.0 | | |

## BACKFILL

| STATION | 2+20 | 2+25 | 2+50 | 2+75 | 2+00 | 3+25 | 3+50 | 3+75 | 3+85 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0 | 4.0 | 7.0 | 12.5 | 16.5 | 18.5 | 21.5 | 21.5 | 22.0 |
| SLOPE | | | | | | | | | |

Pile #1

SLUMP= 2.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

Pile #8

SLUMP= 3.0 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: Slump Pile #8 3.0

APPROVALS:
CANONIE ____

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-417
DATE 7/17/92
COMPLETED BY KJK

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION
LOCATION EC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 710A | POND | 65 | 51 | 16 | 1/8 | KJH | 9.23 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1115/A | 6+20 | 30 | 58 | 79 | 20.0 | KH | 8.0 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 7+50 | 31.5 | 35.5 | | 5+10-29.5 6+10-33.0 7+10-34.5 |
| 7+60 | 31.0 | 35.0 | | 5+20-30.5 6+20-33.0 7+20-34.0 |
| 7+70 | 31.5 | 35.0 | | 5+30-30.5 6+30-32.0 7+30 34.0 |
| 7+80 | 30.5 | 34.0 | | 5+40-31.5 6+40-33.5 7+40-32.0 |
| 7+90 | 30.5 | 34.5 | | 5+50-31.0 6+50-34.0 7+50-35.5 |
| 8+00 | 31.0 | 35.0 | | 5+60-31.5 6+60-33.5 7+60-35.0 |
| | | | | 5+70-31.5 6+70-33.5 |
| | | | | 5+80-32.5 6+80-33.5 |
| | | | | 5+90-32.5 6+90-34.0 |
| | | | | 6+00-33.0 7+00-34.0 |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor LOCATION EC Slurry Wall

SLURRY WALL CONSTRUCTION

PROJECT No. 9[illegible]-4[illegible]7

DATE 7-20-92

COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 AM | Pnxln | 64.5 | 42 | 17.5 | 1/16 | KJH | 7.48 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:00 A | 6+80 | Bottom | 85 | 99.5 | >20.0 | KJH | 7.68 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS 8:30 AM | | | |
|---|---|---|---|---|---|---|---|
| | | | 7+50 31.0 | 5+10 | 29.0 | 6+30 | 30.5 |
| | | | 7+60 31.5 | 5+20 | 29.5 | 6+40 | 31.0 |
| | | | 7+70 31.5 | 5+30 | 29.5 | 6+50 | 31.0 |
| | | | 7+80 32.0 | 5+40 | 29.0 | 6+60 | 31.0 |
| | | | 7+90 31.5 | 5+50 | 29.5 | 6+70 | 30.0 |
| | | | 8+00 32.0 | 5+60 | 30.0 | 6+80 | 30.5 |
| | | | | 5+70 | 30.5 | 6+90 | 30.5 |
| | | | | 5+80 | 31.0 | 7+00 | 31.0 |
| | | | | 5+90 | 30.5 | 7+10 | 30.5 |
| | | | | 6+00 | 31.0 | 7+20 | 30.5 |
| | | | | 6+10 | 30.5 | 7+30 | 31.0 |
| | | | | 6+20 | 30.0 | 7+40 | 31.0 |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 00-4DT
DATE 7/21/92
COMPLETED BY KJH

PROJECT NAME Waukegan Harbor LOCATION EC Slurry Wall
SLURRY WALL CONSTRUCTION

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7/22 A | BNO | 65 | 41 | 17.0 | 1/8 | KJH | 8.48 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 350p | 7+50 | Bottom | 58 | 73.5 | 19.0 | KJH | 7.98 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Trench Cleaning

## EXCAVATION

NEW Digging

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | FINAL | COMMENTS | | |
|---|---|---|---|---|---|---|---|
| 5+10 | — | 34.25 | 6+20 | 35.0 | 8+10 | 31.0 | 34.5 |
| 5+20 | — | 34.50 | 6+30 | 36.0 | 8+20 | 31.5 | |
| 5+30 | — | 34.5 | 6+40 | 36.5 | 8+30 | 31.5 | 35.0 |
| 5+40 | — | 35.5 | 6+50 | 36.5 | 8+40 | 32.5 | 36.0 |
| 5+50 | — | 35.5 | 6+60 | 35.5 | 8+50 | 31.0 | 34.5 |
| 5+60 | — | 35.5 | 6+70 | 36.0 | 8+60 | 32.0 | 35.0 |
| 5+70 | — | 35.0 | 6+80 | 35.5 | 8+70 | 32.5 | |
| 5+80 | — | 34.5 | 6+90 | 35.0 | 8+80 | 31.5 | |
| 5+90 | — | 35.0 | 7+00 | 35.5 | | | |
| 6+00 | — | 37.5 | 7+10 | 36.0 | | | |
| 6+10 | — | 35.0 | 7+20 | 36.0 | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: Wood Pilings and assorted Wood Obstructions encountered at Sta 8+10 – 8+60; STA 8+70 – 8+90 very large Shot Rocks Encountered.

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor LOCATION EC Slurry Wall.
SLURRY WALL CONSTRUCTION

PROJECT No. 90-407
DATE 7/23/92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 AM | POND | 65 | 47 | 16.5 | 1/16 | KJH | 8.23 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:15 PM | 7+80 | Bottom | 83 | 91.5 | >20.0 | KJH | 8.03 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS 8:00 AM | | | |
|---|---|---|---|---|---|---|---|
| 8+90 | — | — | | 7+20 | 31.5 | 8+20 | 31.5 |
| 9+00 | 32.0 | — | | 7+30 | 30.0 | 8+30 | 31.0 |
| 9+10 | 31.5 | 35.0 | | 7+40 | 31.5 | 8+40 | 30.0 |
| 9+20 | 31.0 | 34.5 | | 7+50 | 30.5 | 8+50 | 29.5 |
| | | | | 7+60 | 30.0 | 8+60 | 29.5 |
| | | | | 7+70 | 31.0 | 8+70 | |
| | | | | 7+80 | 28.0 | 8+80 | |
| | | | | 7+90 | 30.5 | | |
| | | | | 8+00 | 30.5 | | |
| | | | | 8+10 | 30.0 | | |

## BACKFILL

| STATION | 5+10 | 5+25 | 5+50 | 5+75 | 6+00 | 6+25 | 6+50 | 6+75 | 7+00 | 7+24 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 16.5 | 17.5 | 19.0 | 20.0 | 23.0 | 26.5 | 30.0 | 31.0 | 31.5 | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor SLURRY WALL CONSTRUCTION

LOCATION EC. Slurry Wall

DATE 7/24/92

COMPLETED BY KJH/PRS

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 7+30 | 34.5 | | | |
| 7+40 | 35.0 | | | |
| 7+50 | 33.5 | | | |
| 7+60 | 34.0 | | | |
| 7+70 | 34.5 | | | |
| 7+80 | 34.0 | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: Began cleaning trench @ 7+80 to 7+20

APPROVALS:

CANONIE

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 7-25-92
COMPLETED BY PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION - Cleaning trench with clamshell.

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | | COMMENTS |
|---|---|---|---|---|---|
| | INITIAL | FINAL | | FINAL | |
| 7+20 | | 35.5 | 8+20 | 37.5 | |
| 7+30 | | 35.5 | 8+30 | 36.0 | |
| 7+40 | | 35.5 | 8+40 | 35.0 | |
| 7+50 | | 37.0 | 8+50 | 35.0 | |
| 7+60 | | 35.5 | 8+60 | 35.0 | |
| 7+70 | | 35.0 | 8+70 | | |
| 7+80 | | 34.0 | 8+80 | | |
| 7+90 | | 36.0 | | | |
| 8+00 | | 35.5 | | | |
| 8+10 | | ~~36.0~~ 35.0 | | | |

## BACKFILL

| STATION | 5+10 | 5+25 | 5+50 | 5+75 | 6+00 | 6+25 | 6+50 | 6+75 | 7+00 | 7+25 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 11.5 | 13.0 | 14.0 | 15.0 | 18.0 | 20.5 | 22.0 | 23.0 | 25.5 | 26.5 |
| SLOPE | | | | | | | | | | |

SLUMP= 3.5 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | 7+50 | 7+75 | 8+00 | 8+25 | 8+50 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 27.5 | 29.5 | 32.0 | 33.0 | 34.0 | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION E.C. Slurry Wall

PROJECT No. 90-407
DATE 7-27-92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:45 AM | POND | 64.5 | 37 | 18 | 1/16 | KJH | 8.67 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:30 | 7+80 | 26.0 | 108 | 91 | 720.0 | KJH | 7.78 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS 8:00 AM | | | |
|---|---|---|---|---|---|---|---|
| Rock Bypass Area 8+70 | 31.0 | | | 5+10 | 12.5 | 7+50 | 28.0 |
| 8+80 | 31.0 | | | 5+25 | 13.0 | 7+75 | 29.0 |
| 8+90 | 31.0 | | | 5+50 | 14.0 | 8+00 | 28.0 |
| 9+00 | 31.5 | | | 5+75 | 16.0 | 8+10 | 28.0 |
| | | | | 6+00 | 19.0 | 8+20 | 28.0 |
| | | | | 6+25 | 21.0 | 8+30 | 28.5 |
| | | | | 6+50 | 22.0 | 8+40 | 28.5 |
| | | | | 6+75 | 23.0 | 8+50 | 27.5 |
| | | | | 7+00 | 25.5 | 8+60 | 28.5 |
| | | | | 7+25 | 27.0 | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION E.C. Slurry Wall

PROJECT No. 90-407
DATE 7/28/92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 715A | POND | 64 | 40 | 18 | 1/16 | KJH | 8.40 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 215p | 8+70 | Bottom | 63 | 80 | >20.0 | KJH | 7.43 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

OBSTRUCTION REMOVE AREA

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | | | COMMENTS |
|---|---|---|---|---|---|---|
| 8+70 (MOUTH OF TRENCH) | 32.5 | 36.0 | 9+60 | 31.5 | 35.0 | |
| 8+70 | 31.0 | 35.5 | 9+70 | 31.0 | 35.0 | |
| 8+80 | 31.0 | 34.5 | 9+80 | 31.0 | 34.0 | |
| 8+90 | 31.0 | 34.5 | 9+90 | 30.5 | — | |
| 9+00 | 31.5 | 34.5 | | | | |
| 9+10 | 31.5 | 35.0 | | | | |
| 9+20 | 31.0 | 34.5 | | | | |
| 9+30 | 31.5 | 35.5 | | | | |
| 9+40 | 31.0 | 34.5 | | | | |
| 9+50 | 31.0 | 35.0 | | | | |

## BACKFILL

| STATION | 5+10 | 5+25 | 5+50 | 5+75 | 6+00 | 6+25 | 6+50 | 6+75 | 7+00 | 7+25 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 8.0 | 9.0 | 9.5 | 11.0 | 14.0 | 15.5 | 17.0 | 19.0 | 21.0 | 22.5 |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | 7+50 | 7+75 | 8+00 | 8+25 | 8+50 | 8+70 | 9+10 | 9+20 |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 23.5 | 25.0 | 24.0 | 25.5 | 27.5 | 28.5 | 33.5 | 34.0 |
| SLOPE | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor LOCATION EC Slurry Wall
SLURRY WALL CONSTRUCTION

PROJECT No. 90-407
DATE 7/29/92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7 45/A | Pond | 64.5 | 38 | 15.5 | 1/16 | KJH | 8.66 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10 50/A | 7+50 | Bottom | 58 | — | — | KJH | — | |
| 10 55/A | 9+50 | Bottom | 54 | 73.5 | 13.0 | KJH | 7.67 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | 2:15 AM | COMMENTS | TRENCH @ Cleaning 1 30/P |
|---|---|---|---|---|---|---|
| 9+90 | — | 34.0 | 35.0 cleaned | 9+80 | 34.5 | 34.5 |
| 10+00 | 31.0 | 34.0 | 34.0 cleaned | 9+70 | 34.0 | 34.5 |
| 10+10 | 31.0 | 34.0 | | 9+60 | 34.0 | 35.0 |
| 10+20 | 31.5 | 34.5 | | 9+50 | 34.0 | |
| 10+30 | 31.5 | 34.5 | | | | |
| 10+40 | 31.0 | 34.0 | | | | |
| 10+50 | 32.5 | 35.5 | | | | |
| 10+60 | 31.0 | 34.5 | | | | |
| 10+70 | 32.0 | 35.0 | | | | |
| 10+80 | 32.0 | 35.0 | | | | |
| 10+92 | 32.0 | 35.0 | | | | |

## BACKFILL

| STATION | 5+25 | 5+50 | 5+75 | 6+00 | 6+25 | 6+50 | 6+75 | 7+00 | 7+25 | 7+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 3.5 | 5.5 | 7.0 | 9.5 | 11.5 | 13.5 | 14.5 | 16.5 | 18.5 | 20.5 |
| SLOPE | | | | | | | | | | |

Pile # 11

SLUMP= 2.75 inches; UNIT WEIGHT=_____pcf; STA. No._____

| STATION | 7+75 | 8+00 | 8+25 | 8+50 | 8+70 | 9+10 | 9+35 | 9+50 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 22.5 | 23.0 | 24.5 | 25.5 | 27.5 | 32.5 | 34.0 | 34.0 | | |
| SLOPE | | | | | | | | | | |

SLUMP=_____inches; UNIT WEIGHT=_____pcf; STA. No._____

NOTES:

APPROVALS:
CANONIE

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor SLURRY WALL CONSTRUCTION

LOCATION EC. Slurry Wall

PROJECT No. 90-407

DATE 7-30-92

COMPLETED BY KJH/PRS

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:50 AM | POND | 65 | 51 | 15 | 1/16 | KJH | 8.62 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:25 AM | 10+40 | BOTTOM | 78 | 89 | >20.0 | KJH | 7.84 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS 7:30 AM | | CLEANED |
|---|---|---|---|---|---|---|
| 10+92 | 32.0 | 35.0 | | 9+80 | 32.0 | 34.0 |
| 11+00 | 32.5 | 35.5 | | 9+90 | 32.0 | 35.5 |
| 11+10 | 31.5 | 34.5 | | 10+00 | 33.0 | 34.5 |
| | | | | 10+10 | 33.0 | 34.5 |
| | | | | 10+20 | 32.5 | 34.5 |
| | | | | 10+30 | 32.5 | 35.5 |
| | | | | 10+40 | 34.0 | — |
| | | | | 10+50 | 34.0 | 35.5 |
| | | | | 10+60 | 34.5 | |
| | | | | 10+70 | 34.0 | |
| | | | | 10+80 | 35.0 | |
| | | | | 10+90 | 35.0 | |

## BACKFILL

| STATION | 6+10 | 6+25 | 6+50 | 6+75 | 7+00 | 7+25 | 7+50 | 7+75 | 8+00 | 8+25 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 5.0 | 8.0 | 9.5 | 12.0 | 13.0 | 16.0 | 17.5 | 19.5 | 23.0 |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| STATION | 9+50 | 9+70 | 9+10 | 9+25 | 9+50 |
|---|---|---|---|---|---|
| DEPTH (feet) | 24.0 | 25.0 | 32.0 | 32.0 | 33.0 |
| SLOPE | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:

CANONIE ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 7/31/92
COMPLETED BY KJH

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1 30 | 10+50 | 35.0 | 120.0 | 101 | >20.0 | KJH | 7.61 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | @ 8:30 COMMENTS |
|---|---|---|---|---|
| 11+20 | 32.5 | 37.0 | | 10+10 33.5 10+92 33.0 36.0 |
| 11+30 | 32.0 | 36.0 | | 10+20 35.0 11+00 35.5 |
| 11+40 | 32.0 | 36.0 | | 10+30 35.0 11+10 33.0 35.5 |
| 11+50 | 31.5 | 35.0 | | 10+40 35.0 |
| | | | | 10+50 35.0 |
| | | | | 10+60 35.5 |
| | | | | 10+70 34.0 |
| | | | | 10+80 35.0 |
| | | | | 10+90 33.5 35.5 |
| | | | | CORNER 26.0 |

## BACKFILL

| STATION | 6+80 | 7+00 | 7+25 | 7+50 | 7+75 | 8+00 | 8+25 | 8+50 | 8+70 | 9+10 | 9+25 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 4.5 | 8.0 | 10.5 | 13.0 | 15.5 | 19.0 | 21.5 | 24.0 | 30.5 | 32.0 |
| SLOPE | | | | | | | | | | | |

SLUMP= 30 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | 9+50 | 9+75 | 10+00 |
|---|---|---|---|
| DEPTH (feet) | 33.0 | 34.0 | 34.0 |
| SLOPE | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

P/R #12

BB-11

NOTES: _____

APPROVALS:
CANONIE _____

**Canonie Environmental**

# Daily Quality Control Report

PROJECT NAME Hawkeye Harbor
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

PROJECT No. 90-407
DATE 8-1-92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:15 AM | POND | 65 | 69 | 15.5 | 1/8 | KJH | 8.73 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 2nd P | 10+92 | Bottom | 89 | 97 | >20.0 | KJH | 7.61 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| 11+90 | 50.5 | 33.5 | | 7:30 AM Cleaned |
| 12+00 | 30.5 | 34.5 | | 10+30 34.5 |
| 12+10 | 32.0 | 35.0 | | 10+40 34.0 TOE OF B/F |
| 12+20 | 31.5 | 35.5 | | 10+50 35.5 |
| 12+30 | 31.5 | 35.0 | | 10+60 35.0 |
| 12+40 | 31.5 | 35.0 | | 10+70 34.5 |
| 12+50 | 31.0 | 34.5 | | 10+80 34.5 35.5 |
| | | | | 10+90 - 35.5 |
| | | | | 11+00 - 34.0 36.0 |
| | | | | 11+10 - 36.0 |
| | | | | 11+20 36.5 |
| | | | | 11+30 35.5 11+50 32.0 |
| | | | | 11+40 36.0 |

## BACKFILL

| STATION | 7+70 | 7+75 | 8+00 | 8+25 | 8+50 | 8+70 | 9+10 | 9+25 | 9+50 | 9+75 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 3.5 | 8.0 | 12.5 | 16.5 | 18.0 | 27.0 | 31.0 | 32.0 | 33.5 |
| SLOPE | | | | | | | | | | |

SLUMP= 3.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| STATION | 10+00 | 10+25 | 10+40 |
|---|---|---|---|
| DEPTH (feet) | 33.0 | 34.0 | 34.0 |
| SLOPE | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: Hi-Tech STATES IT Will Dig STA's 11+50 → 11+90 AFTER Hi-PRESSURE GAS Line Has been Re Routed.

APPROVALS:
CANONIE

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

PROJECT No. 90-407
DATE 8/3/92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 730 A | POND | 65.5 | 68 | 14.5 | 1/8 | KJH | 8.30 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 315 P | 11+90 | Bottom | 61 | 86 | >20.0 | KJH | 7.61 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | @8:00 A.M. COMMENTS |
|---|---|---|---|---|
| 12+60 | 31.0 | 36.0 | +.5 | 10+70-34.5 +1.5 12+00 32.0 |
| 12+70 | 31.5 | 35.5 | +.5 | 10+80-34.5 +2.0 12+10 33.0 |
| 12+80 | 31.5 | 35.5 | — | 10+90-35.0 +1.5 12+20 33.0 |
| 12+90 | 31.0 | 36.5 | — | 10+92 35.0 +1.5 12+30 33.0 |
| 13+00 | 31.5 | 36.5 | — | 11+00 36.5 — 12+40 34.5 |
| 13+10 | 30.5 | 35.0 | — | 11+10 36.0 — 12+50 34.5 |
| 13+20 | 31.0 | 35.0 | — | 11+20 35.5 |
| 13+30 | 31.0 | 35.0 | — | 11+30 34.0 |
| | | | — | 11+40 35.5 |
| | | | +2.0 | 11+90 31.5 |

## BACKFILL

| STATION | 8+30 | 8+50 | 8+70 | 9+10 | 9+25 | 9+50 | 9+75 | 10+00 | 10+25 | 10+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 11.5 | 12.0 | 22.5 | 28.5 | 29.0 | 31.0 | 32.5 | 34.0 | 34.5 |
| SLOPE | | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT=____ pcf; STA. No.____ Slump 2.5 inches

| STATION | 10+60 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 33.5 | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT=____ pcf; STA. No.____

NOTES: Hi-Tech States that it Will Redia to a Rade STA's 11+90 → 12+30 AFTER the reroute of the High pressure gas Line has been Completed.

APPROVALS:
CANONIE

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor LOCATION E.C. Slurry Wall
SLURRY WALL CONSTRUCTION

PROJECT No. 90-407-
DATE 8/4/92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:30 AM | POND | 65 | 55 | 14.0 | 1/8 | KJH | 8.45 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 11:15 AM | 12+70 | Bottom | 64 | 87 | >20.0 | KJH | 7.54 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL Cleaned | | Cleaned | | @ 0730 | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 13+40 | 31.5 | 35.0 | 11+90 | 34.0 | 36.0 | .5 | 10+90 - 34.5 | .5 12+70 - 34.0 34 |
| 13+50 | 32.0 | 35.5 | 12+00 | 35.0 | 36.0 | .5 | 10+92 - 34.5 | - 12+90 - 35.5 |
| 13+60 | 32.0 | 35.0 | 12+10 | 35.0 | 35.0 | - | 11+00 - 35.5 | - 12+90 - 35.5 |
| 13+70 | 30.0 | 35.0 | 12+20 | 35.0 | 36.5 | - | 11+10 - 35.5 | - 13+00 - 35.0 |
| 13+80 | 30.0 | 34.0 | 12+30 | 35.5 | 36.5 | - | 11+20 - 36.5 | - 13+10 - 35.0 |
| 13+90 | 30.0 | 34.0 | 12+40 | 35.5 | 35.0 | - | 11+30 - 35.0 | - 13+20 - 36.0 |
| 14+00 | 31.0 | 35.0 | 12+50 | 35.5 | 36.0 | - | 11+40 - 36.0 | - 13+30 - 35.5 |
| 14+10 | 30.5 | 35.5 | 12+60 | 36.0 | | .5 | 12+40 - 34.0 | |
| 14+20 | 29.0 | 32.5 | 12+70 | 36.0 | | - | 12+50 - 35.5 | |
| 14+30 | 29.0 | | | | | - | 12+60 - 34.0 34.0 | |
| 14+40 | 29.0 | | | | | | | |

## BACKFILL

| STATION | 8+70 | 9+10 | 9+25 | 9+50 | 9+75 | 10+00 | 10+25 | 10+50 | 10+75 | 10+90 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0 | 14.5 | 21.0 | 24.5 | 27.0 | 28.0 | 28.5 | 31.5 | 31.5 | 34.5 |
| SLOPE | | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____ Slump 3.0

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.25 inches; UNIT WEIGHT= ____ pcf; STA. No. ____ Slump 2.5

NOTES:

APPROVALS:
CANONIE

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-5-92
COMPLETED BY KJH/PRS

PROJECT NAME Waukegan Harbor LOCATION EC Slurry Wall
SLURRY WALL CONSTRUCTION

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:00 A | POND | 65 | 63 | 13.0 | 1/16 | KJH | 8.30 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 11:00 | 13+70 | Bottom | 65 | 90 | >20.0 | KJH | 7.44 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | @ 7:30 | COMMENTS | | |
|---|---|---|---|---|---|---|---|
| 14+30 | 29.0 | 33.5 | - | 11+40 36.0 | - 12+90 35.0 | +2 14+10 31.5 | |
| 14+40 | 29.0 | 36.0 | +3.5 | 11+50 31.0 | - 13+00 34.5 | - 14+20 33.0 | |
| 14+50 | 30.0 | 35.5 | +6.5 | 11+90 27.0 | - 13+10 34.5 | | |
| 14+60 | 29.0 | 34.5 | - | 12+00 34.5 | - 13+20 35.0 | | |
| 14+70 | 31.0 | 35.5 | - | 12+10 35.5 | - 13+30 34.5 | | |
| 14+80 | 29.0 | 33.0 | - | 12+20 35.5 | - 13+40 35.0 | | |
| 14+90 | 30.0 | 34.0 | - | 12+30 34.5 | +1 13+50 34.0 | | |
| 15+00 | 29.0 | 33.5 | - | 12+40 36.0 | +.5 13+60 34.5 | | |
| | | | - | 12+50 36.0 | - 13+70 34.0 | | |
| | | | - | 12+60 36.0 | - 13+80 33.0 | | |
| | | | - | 12+70 36.5 | - 13+90 33.0 | | |
| | | | - | 12+80 35.0 | +2 14+00 32.0 | | |

## BACKFILL

| STATION | 9+15 | 9+25 | 9+50 | 9+75 | 10+00 | 10+25 | 10+50 | 10+75 | 10+92 | 11+00 | 11+25 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 6.0 | 8.5 | 11.5 | 15.5 | 18.0 | 20.0 | 23.0 | 25.0 | 29.0 | 35.0 |
| SLOPE | | 10:1 | 8.3:1 | 6.3:1 | 10:1 | 12.5:1 | 8.3:1 | 8.5:1 | | 4.2:1 | |

SLUMP= 3.0 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: At STA's 14+30 & 14+40 a 1.5 foot layer of Gravel Was Encountered Initial depth recorded at 29.0 for Each.

APPROVALS:
CANONIE ____

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 70-45

PROJECT NAME Waukegan Harbor LOCATION EC Slurry Wall

SLURRY WALL CONSTRUCTION

DATE 8-6-92

COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:30 A | POND | 655 | 70 | 13.0 | 1/8 | KJH | 7.70 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 2:00 P | 14+50 | Bottom | 70 | 90 | >20.0 | KJH | 7.50 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | | | | COMMENTS 7:30 AM | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15+10 | 31.0 | 35.5 | 14+30 | 32.5 | AREAS Cleared | | 11+90 | 33.5 | 13+10 | 35.0 |
| 15+20 | 30.0 | 36.0 | 14+40 | 34.5 | | | 12+00 | 35.0 | 13+20 | 35.0 |
| 15+30 | 30.5 | 34.0 | 14+50 | 34.5 | 13+60 | 35.0 | 12+10 | 35.0 | 13+30 | 35.0 |
| 15+40 | 30.0 | 35.0 | 14+60 | 36.0 | 13+80 | 34.0 | 12+20 | 35.5 | 13+40 | 34.5 |
| 15+50 | 30.0 | 35.0 | 14+70 | 34.5 | 14+00 | 35.5 | 12+30 | 35.0 | 13+50 | 35.0 |
| 15+60 | 30.0 | 34.5 | 14+80 | 33.5 | 14+10 | 34.0 | 12+40 | 35.0 | 13+60 | 35.0 34.5 |
| 15+70 | 30.5 | 34.5 | | | | | 12+50 | 36.5 | 13+70 | 33.0 |
| 15+80 | 31.0 | 34.5 | | | | | 12+60 | 36.5 | 13+80 | 34.0 32.5 |
| | | | | | | | 12+70 | 35.5 | 13+90 | 33.5 |
| | | | | | | | 12+80 | 35.0 | 14+00 | 35.5 33.5 |
| | | | | | | | 12+90 | 35.5 | 14+10 | 34.0 31.5 |
| | | | | | | | 13+00 | 35.0 | 14+20 | 33.5 |

## BACKFILL

| STATION | 10+50 | 10+75 | 10+90 | 11+00 | 11+25 | 11+50 | 11+75 | 12+00 |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 5.5 | 8.0 | 14.5 | 20.0 | 25.0 | | |
| SLOPE | | | | | | | | |

SLUMP= 4.0 inches; UNIT WEIGHT= ____ pcf; STA. No. ____ Slump 2.5

| STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | |
| SLOPE | | | | | | | | |

SLUMP= 3.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____ Slump 3.0

NOTES: The 7:30 A Reading reflect Post Cleaning of Trench by Hi Tech From 8-5-92 PM.

APPROVALS:
CANONIE

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION EC Slurry Wall DATE 8-7-92

SLURRY WALL CONSTRUCTION COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:45A | 15+10 | Bottom | 75 | 95 | >20.0 | KJH | 7.42 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | | EXCAVATED MATERIAL | | | COMMENTS 7:30 AM | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15+40 | 31.0 | 34.5 | 16+90 | 30.0 | 34.0 | | 14+00 | 35.0 | 15+00 | 35.0 |
| 16+00 | 30.5 | 34.5 | 17+00 | 30.0 | 34.0 | | 14+10 | 33.5 | 15+10 | 34.5 |
| 16+10 | 30.0 | 34.0 | | | | | 14+20 | 34.0 | 15+20 | 34.0 |
| 16+20 | 31.0 | 35.0 | | | | | 14+30 | 33.5 | 15+30 | 33.5 |
| 16+30 | 30.0 | 35.0 | | | | | 14+40 | 34.0 | 15+40 | 34.0 |
| 16+40 | 30.5 | 34.5 | | | | | 14+50 | 35.0 | 15+50 | 33.5 |
| 16+50 | 30.0 | 34.0 | | | | | 14+60 | 34.5 | 15+60 | 34.5 |
| 16+60 | 30.5 | 34.5 | | | | | 14+70 | 34.5 | 15+70 | |
| 16+70 | 30.5 | 34.5 | | | | | 14+80 | 33.5 | 15+80 | |
| 16+80 | 30.0 | 35.5 | | | | | 14+90 | 33.5 | | |

## BACKFILL

| STATION | 11+85 | 12+00 | 12+25 | 12+50 | 12+75 | 13+00 | 13+25 | 13+50 | 13+75 | 13+90 TOE |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 15.5 | 19.5 | 22.5 | 25.5 | 25.0 | 27.5 | 29.5 | 30.5 | 33.0 |
| SLOPE | | | | | | | | | | |

SLUMP= 4.0 inches; UNIT WEIGHT= ____ pcf; STA. No. ____ | SLUMP = 4.0 inches

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= ____ pcf; STA. No. ____ | SLUMP = 4.0 inches

NOTES: ____

APPROVALS:

CANONIE ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-8-92
COMPLETED BY PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:10 | 16+20 | 20.0 | 73 | 94 | >20 | PRS | 7.58 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | | @ 7:30 AM | | COMMENTS | |
|---|---|---|---|---|---|---|---|---|
| | | | | +1.5 | 15+80 | 32.5 | Cleaned | |
| 17+10 | 30.0 | 33.5 | | +1 | 15+90 | 33.0 | 15+80 | 34.0 |
| 17+20 | 30.5 | 34.0 | | - | 16+00 | 33.5 | 15+90 | 34.0 |
| 17+30 | 30.5 | 34.0 | | - | 16+10 | 33.0 | 16+00 | 34.0 |
| 17+40 | 30.5 | 34.0 | | - | 16+20 | 34.5 | | |
| 17+50 | 30.5 | 34.0 | | - | 16+30 | 34.0 | | |
| 17+60 | 30.0 | 34.0 | | - | 16+40 | 34.0 | | |
| 17+70 | 30.5 | 35.0 | | - | 16+50 | 34.5 | | |
| 17+80 | 30.5 | 34.0 | | - | 16+60 | 34.0 | | |
| | | | | - | 16+70 | 35.0 | | |
| | | | | - | 16+80 | 35.5 | | |
| | | | | - | 16+90 | 35.0 | | |
| | | | | | 17+00 | 32.5 | | |

## BACKFILL

| STATION | 12+90 | 13+25 | 13+50 | 13+75 | 14+00 | 14+25 | 14+50 | 14+75 | 15+00 | 15+25 | 15+50 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 8.5 | 10.0 | 13.0 | 17.5 | 23.0 | 24.5 | 26.5 | 28.0 | 30.5 | 33.0 |
| SLOPE | | | | | | | | | | | |

SLUMP= 4.0 inches; UNIT WEIGHT=_____ pcf; STA. No._____ | SLUMP = 3.0 inches

| STATION | 15+75 | 15+80 | 15+90 | 16+00 |
|---|---|---|---|---|
| DEPTH (feet) | 32.5 | 32.5 | 33.0 | 33.5 |
| SLOPE | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT=_____ pcf; STA. No._____

NOTES:

APPROVALS:
CANONIE

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8-9-92
COMPLETED BY PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:30 | Pond | 64.5 | 41 | 18.0 | 1/8 | PRS | 7.81 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
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## BACKFILL

| STATION | 14+15 | 14+50 | 14+75 | 15+00 | 15+25 | 15+50 | 15+75 | 16+00 | 16+25 | 16+50 | 16+75 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 11.0 | 13.0 | 15.5 | 16.5 | 18.0 | 22.5 | 25.0 | 29.0 | 30.5 | 32.0 |
| SLOPE | | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | 17+00 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 33.0 | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

PROJECT No. 90-407
DATE 8/10/92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:00 A | Pond | 64.5 | 39 | 18.0 | 1/8 | KJH | 8.60 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:30 A | 17+00 | 10.0 | 73 | 96.0 | >20.0 | KJH | 7.53 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| 17+90 | 30.0 | 33.5 | | @ 7:20 AM CLEAN |
| 18+00 | 31.0 | 34.5 | | 17+10 33.5 |
| 18+10 | 31.5 | 35.5 | | 17+20 33.5 — |
| 18+20 | 32.0 | 35.5 | | 17+30 34.0 — |
| 18+30 | 31.0 | 34.5 | | 17+40 32.5 1.0 – 34.0 |
| 18+40 | 30.5 | 34.0 | | 17+50 34.0 — |
| | | | | 17+60 34.5 |
| | | | | 17+70 35.0 |
| | | | | 17+80 34.5 |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 14+20 | 14+50 | 14+75 | 15+00 | 15+25 | 15+50 | 15+75 | 16+00 | 16+25 | 16+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 11.5 | 13.5 | 15.5 | 17.0 | 20.5 | 22.5 | 25.5 | 29.5 | 31.0 |
| SLOPE | | | | | | | | | | |

SLUMP= 2.75 inches; UNIT WEIGHT= ____ pcf; STA. No. ____ Slump 2.5

| STATION | 16+75 | 17+00 |
|---|---|---|
| DEPTH (feet) | 32.0 | 33.5 |
| SLOPE | | |

SLUMP= 3.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8/11/92
COMPLETED BY KJH

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:15/A | Pond | 65 | 44 | 16.5 | 1/8 | KJH | 8.60 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:15p | 18+30 | 10' | 71 | 96 | >20.0 | KJH | 7.60 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS | | Cleaned |
|---|---|---|---|---|---|---|
| 18+50 | 31.0 | 36.0 | | 18+10 | 33.5 | 34.5 |
| 18+60 | 31.0 | 36.0 | | 18+20 | 33.5 | 35.0 |
| 18+70 | 29.5 | 33.0 | | 18+30 | 33.0 | 35.5 |
| 18+80 | 30.0 | 34.0 | | 18+40 | 36.0 | |
| 18+90 | 31.0 | 34.5 | | | | |
| 19+00 | 30.5 | 34.0 | | | | |
| 19+10 | 30.0 | 34.0 | | | | |
| 19+20 | 31.0 | 35.0 | | | | |
| 19+30 | 31.0 | 34.5 | | | | |
| | | | | | | |

## BACKFILL

| STATION | 15+40 | 15+50 | 16+75 | 16+00 | 16+25 | 16+50 | 16+75 | 17+00 | 17+25 | 17+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 6.5 | 10.5 | 14.0 | 17.0 | 21.0 | 22.5 | 27.0 | 29.0 | 30.0 |
| SLOPE | | | | | | | | | | |

SLUMP= 4.0 inches; UNIT WEIGHT=_____ pcf; STA. No._____

| STATION | 17+75 | 18+00 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 30.0 | 33.5 | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 4.5 inches; UNIT WEIGHT=_____ pcf; STA. No._____

NOTES:

APPROVALS:
CANONIE

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 70-40

PROJECT NAME Jackson Harbor SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

DATE 8-12-92

COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:00 A | Pond | 65 | 39 | 16.0 | 1/8 | KJH | 7.70 | |
| 900 A | Pond | — | 47 | — | — | — | — | Post Mixing |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1330 P | 18+80 | 10' | 53 | 86 | >200 | KJH | 7.60 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS | |
|---|---|---|---|---|---|
| | INITIAL | FINAL | | | |
| 19+40 | 30.0 | 34.5 | | 18+90 | 34.5 |
| 19+50 | 31.0 | 34.5 | | 19+00 | 34.0 |
| 19+60 | 30.5 | 34.0 | | 19+10 | 35.5 |
| 19+70 | 30.0 | 35.0 | | 19+20 | 35.0 |
| 19+80 | 30.0 | 35.0 | | 19+30 | 34.0 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

## BACKFILL

7:30 AM

| STATION | 16+20 | 16+25 | 16+50 | 16+75 | 17+00 | 17+25 | 17+50 | 17+75 | 18+00 | 18+20 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 4.5 | 9.0 | 13.5 | 21.0 | 21.5 | 23.5 | 25.5 | 27.0 | 30.5 |
| SLOPE | | | | | | | | | | |

SLUMP= 4.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| STATION | 18+50 | 18+75 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 33.5 | 32.5 | | | | | | | | |
| SLOPE | | 704 | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:

CANONIE ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8/13/92
COMPLETED BY KJH

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:00 | POND | 65 | 47 | 16.0 | 1/8 | KJH | 8.00 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:00 | 19+10 | 15' | 65 | 90 | >20.0 | KJH | 7.70 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 19+90 | 29.5 | 33.0 | | 19+60 34.5 |
| 20+00 | 28.5 | 33.0 | | 19+70 34.5 |
| 20+10 | 30.5 | 34.0 | | 19+80 23.5 |
| 20+20 | 31.0 | 34.0 | | |
| 20+30 | 30.5 | 35.5 | | |
| 20+40 | 30.5 | 34.0 | | |
| 20+50 | 28.5 | — | | |
| 20+60 | 28.5 | — | | |
| | | | | |
| | | | | |

## BACKFILL

@ 7:30 AM

| STATION | 16+50 | 16+75 | 17+00 | 17+25 | 17+50 | 17+75 | 18+00 | 18+20 | 18+50 | 18+75 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 10.5 | 14.5 | 18.0 | 19.5 | 22.0 | 25.0 | 28.0 | 30.0 | 30.0 |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT=____ pcf; STA. No.____ Slump 3.5

| STATION | 19+00 | 19+25 | 19+50 TOE | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 31.0 | 31.5 | 33.5 | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 4.5 inches; UNIT WEIGHT=____ pcf; STA. No.____ Slump 3.5

NOTES:

APPROVALS:
CANONIE

88-11

**Canonie Environmental**

# Daily Quality Control Report

PROJECT No. 90-407
DATE 8/14/92
COMPLETED BY KJH/PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 800/A | POND | 65.5 | 52 | 14.0 | 1/16 | KJH | 8.15 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 830A | 19+80 | 15' | 70 | 92 | >20.0 | KJH | 7.55 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 20+50 | 28.5 | 33.0 | | |
| 20+60 | 28.5 | 32.0 | | |
| 20+70 | 30.0 | 34.0 | | |
| 20+80 | 30.0 | 33.5 | | |
| 20+90 | 30.0 | 34.5 | | |
| 21+00 | 30.0 | 33.5 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 17+30 | 17+50 | 17+75 | 18+00 | 18+20 | 18+50 | 18+75 | 19+00 | 19+25 | 19+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 6.5 | 10.5 | 12.5 | 16.0 | 22.5 | 23.5 | 25.0 | 25.5 | 28.0 |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT=_____pcf; STA. No._____

| STATION | 19+75 | 20+00 | 20+25 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 28.0 | 31.0 | 31.0 | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP=_____inches; UNIT WEIGHT=_____pcf; STA. No._____

NOTES: Top of Backfill Found to the END OF TRENCH.

APPROVALS:
CANONIE _____

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor SLURRY WALL CONSTRUCTION

LOCATION EC Slurry Wall

DATE 8-15-92

COMPLETED BY PRS

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 21+10 | 29.5 | 34.0 | | |
| 21+20 | 30.0 | 34.0 | | |
| | | | | |
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## BACKFILL

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STATION | | | | | | | | | | |
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STATION | | | | | | | | | | |
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: Soundings by M. Self - Hi-Tech

APPROVALS:

CANONIE

88-11

**Canonie** Environmental

# Daily Quality Control Report

'UKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

PROJECT No.: 90-407
DATE 4-1-93
COMPLETED BY: SJM

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 0730 | POND | | 49/47 | | | | |
| 0900 | POND | 62 | 30/29 | >30 | NA | 8.6 | TEMP - 10°C |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL |
| | | | | | | | | | | | |
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## BACKFILL

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP = inches; UNIT WEIGHT = pcf; STA. No.

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP = _____ inches; UNIT WEIGHT = _____ pcf; STA. No. _____

NOTES: _____

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No.: 90-407
DATE 4-22-93
COMPLETED BY: SJM

WAUKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 1715 | Pono | 65 | 36 | 26 | 3/32 Rubbery | 9.3 | TEMP = 47°F |
| | | | | | | | |
| | | | | | | | |
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## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL |
| | | | | | | | | | | | |
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## BACKFILL

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| STATION | | | | | | | | | |
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP = inches; UNIT WEIGHT = pcf; STA. No.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| STATION | | | | | | | | | |
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP = _____ inches; UNIT WEIGHT = _____ pcf; STA. No. _____

NOTES: _____

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No.: 90-407
DATE 4-26-93
COMPLETED BY: SJM

IKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 8:30AM | K+0 | 65.5 | 39/41 | 21.5 | 3/32 | 9.3 | TEMP = 48°F |
| | | | | | | | |
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## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 1:30pm | 11+50 | 35 FT | 50 | 69 | 5 | 8.8 | TEMP = 53°F, FILT = 16ml |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11+45 | 34' KEY | 35.5 | | | | | | | | | |
| 11+50 | | 36.0 | | | | | | | | | |
| 11+60 | | 35.5 | | | | | | | | | |
| 11+65 | | 35.0 | | | | | | | | | |
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## BACKFILL

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP = inches; UNIT WEIGHT = pcf; STA. No.

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| | | | | | | | | | |

inches; UNIT WEIGHT = pcf; STA. No.

NOTES: DEPTH TO CLAY ~ 30 TO 31 FEET. OLD KEY @ 34'

# Canonie Environmental

## Daily Quality Control Report

PROJECT No.: 90-407
DATE 4-27-93
COMPLETED BY: SJM

/AUKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

### SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| 6:30Am | 11+70 | 1.0 |
| 9.00Am | 11+80 | 1.0 |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

### SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 7:40A | Pond | 65.5 | 39 | 25 | 3/32 | 9.2 | TEMP: 49.5 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

### SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 6.30Am | 11+60 | 32 | 44 sec | 68.0 | 0.25 | 8.8 | TEMP: 47.5F |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

### EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11+45 | 34.5 | | | | | | | | | | |
| 11+50 | 35.5 | | | | | | | | | | |
| 11+60 | 35.0 | | | | | | | | | | |
| 11+65 | 35.0 | | | | | | | | | | |
| 11+70 | 18.5 | 35.0 | | | | | | | | | |
| 11+80 | | 34.8 | | | | | | | | | |
| 11+90 | | 35.0 | | | | | | | | | |
| 11+95 | Datum set | 34.0 | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

### BACKFILL

| STATION | 11+45 | 11+50 | 11+60 | 11+70 | 11+80 | 11+90 | 11+95 | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| SLOPE | | | | | | | | |

SLUMP = 3.25 inches; UNIT WEIGHT = 115 pcf; STA. No.

| STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | |
| SLOPE | | | | | | | | |

SLUMP = 3.50 inches; UNIT WEIGHT = 115 pcf; STA. No.

NOTES: BACKFILL 16.2% FINES.
FINISHED EXCAVATION AT 10:00Am

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No.: 90-407
DATE 4/28 93
COMPLETED BY: SJM

AUKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 14:00 | Pond | 65 | 40 | 18.5 | 3/32 | 9.1 | SAND = 0.50%, TEMP = 63°F |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL |
| 5+10 | | 34 | | | | | | | | | |
| 5+05 | | 34 | | | | | | | | | |
| 5+00 | | 34 | | | | | | | | | |
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## BACKFILL

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP = inches; UNIT WEIGHT = pcf; STA. No.

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP = _____ inches; UNIT WEIGHT = _____ pcf; STA. No. _____

NOTES: STARTED EXCAVATION @ 3:00 p.m.

# Canonie Environmental

**Daily Quality Control Report**

WAUKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

PROJECT No.: 90-407
DATE 4-29-93
COMPLETED BY: SJM

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| 7:30 AM | 5+00 | 0.5 |
| 7:30 AM | 5+10 | 0.5 |
| 1:30 AM | 5+15 | 0.5 |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 7:30A | S Pond | 65 | 39 | 17.5 | 1/8 | 9.0 | TEMP=56°F SAND= 1.0% |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 8:00AM | 5+00 | 32 | 42 | 68.5 | 7 | 8.5 | TEMP=51°F |
| 1:30pm | 5+15 | 32 | 40 | 68 | 6 | 8.4 | TEMP=51°F |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL |
| 5+10 | 33.0 | 34.5 | | | | | | | | | |
| 5+05 | 32.5 | 35.0 | | | | | | | | | |
| 5+00 | 33.0 | 34.5 | | | | | | | | | |
| 4+90 | | 35.0 | | | | | | | | | |
| 4+80 | | 35.0 | | | | | | | | | |
| 4+68 | | 35.5 | | | | | | | | | |
| 4+60 | | 35.0 | | | | | | | | | |
| 4+50 | | 34.0 | | | | | | | | | |
| | | | | | | | | | | | |
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## BACKFILL

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP = inches; UNIT WEIGHT = pcf; STA. No.

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP = _____ inches; UNIT WEIGHT = _____ pcf; STA. No. _____

NOTES: CLAY AT 30 FEET

# Canonie Environmental

## Daily Quality Control Report

PROJECT No.: 90-407
DATE 4-30-95
COMPLETED BY: SJM

WAUKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

### SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| 6:30AM | 4+68 | PROJECT 1" DOWN |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

### SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 7:15 | HAND | 66 | 38 | | | 9.7 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

### SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 6:45 | 4+50 | 22 | 40 | 72.5 | 10 | 8.2 | |
| 7:30AM | 4+70 | 33 | 59 | 72.5 | 12 | 8.2 | |
| | | | | | | | |
| | | | | | | | |

### EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5+10 | 34.5 | 29.5 | 5+10 | | | SAMPLED WITH SONAR | | | | | |
| 5+05 | 35.0 | 29.5 | 5+05 | | | SAMPLER. MATERIAL FOUND TO | | | | | |
| 5+00 | 34.5 | 30.0 | 5+00 | | | BE BACKFILL. | | | | | |
| 4+90 | 35.0 | 32.5 | 4+90 | | | | | | | | |
| 4+80 | 35.0 | 33.0 | 4+80 | 35.0 | 35.0 | | | | | | |
| 4+68 | 35.5 | 33.0 | 4+68 | 33.0 | 35.5 | CLEANED UP | SAND. | | | | |
| 4+60 | 35.0 | 32.5 | 4+60 | | 35.5 | | | | | | |
| 4+50 | 34.0 | 32.0 | 4+50 | | 35.5 | | | | | | |
| | | | 4+40 | | 35.0 | | | | | | |
| | | | | | | | | | | | |

### BACKFILL

| STATION | 4+60 | 4+50 | 4+40 | 4+30 | 4+20 | 4+10 | 5+00 | 5+10 |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 17 | 17 | 14 | 13 | 9 | 6 | 1 | 0 |
| SLOPE | | | | | | | | |

SLUMP = 2.0 inches; UNIT WEIGHT = 106 pcf; STA. No.

| STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | |
| SLOPE | | | | | | | | |

SLUMP = 3.25 inches; UNIT WEIGHT = 112 pcf; STA. No. _____

NOTES: _____

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No.: 90-407
DATE 5-3-93
COMPLETED BY: SJM

WAUKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
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## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 3:00pm | HAND | 68 | 43 | 16 | 1/8 | 8.3 | SAND = 5.5% |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 9:00A | 4+40 | 15 | 54 | 90 | >20 | 7.9 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL |
| 3+86 | | 32.0 | | | | | | | | | |
| | | | | | | | | | | | |
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## BACKFILL

| STATION | 4+40 | 4+50 | 4+60 | 4+70 | 4+80 | 4+90 | 5+00 | 5+10 |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 17 | 17 | 14 | 13 | 8 | 3 | 0 | 0 |
| SLOPE | | | | | | | | |

SLUMP = 3 inches; UNIT WEIGHT = 108 pcf; STA. No. 5+00

| STATION | 4+40 | 4+50 | 4+60 | 4+70 | 4+80 | 4+90 | 5+00 | 5+10 |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SLOPE | | | | | | | | |

SLUMP = 3 inches; UNIT WEIGHT = 110 pcf; STA. No. 4+60

NOTES: STARTED DIGGING STA 3+86 @ 3:30 PM. FINISHED BACKFILLING 5+10 TO 4+40 @ 1:00 PM. COLLECTED PERMEABILITY SAMPLE TODAY.

# CanonieEnvironmental

**Daily Quality Control Report**

PROJECT No.: 90-407
DATE 5-4-93
COMPLETED BY: SJM

/AUKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| SLURRY DROPPED <1" OVERNIGHT | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 7:00AM | Pond | 66 | 47 | 16 | 3/32 | 8.5 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 7:15A | 3+68 | 30 | 48 | 68 | 11 | 8.0 | |
| 7:00AM | 3+90 | 15 | 48 | 68 | 13 | 7.9 | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3+68 | 32 | 35.5 | | | | | | | | | |
| 3+80 | | 36.0 | | | | | | | | | |
| 3+90 | | 35.5 | | | | | | | | | |
| 4+00 | | 35.0 | | | | | | | | | |
| 4+10 | | 35.5 | | | | | | | | | |
| 4+20 | | 35.5 | | | | | | | | | |
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## BACKFILL

| STATION | 3+86 | 3+90 | 3+95 | 4+00 | 4+10 | 4+20 | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0 | 15 | 19 | 24 | 29 | 29 | | |
| SLOPE | | | | | | | | |

SLUMP = 3 inches; UNIT WEIGHT = 110 pcf; STA. No.

| STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | |
| SLOPE | | | | | | | | |

SLUMP = 3.5 inches; UNIT WEIGHT = 110 pcf; STA. No.

NOTES: CLAY BETWEEN 30 & 31 FEET.

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No.: 90-407
DATE 5-5-93
COMPLETED BY: SJM

WAUKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| SLURRY DROPPED <1" OVER FINISHT | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 7:30AM | POND | 67 | 42 | 15.5 | 3/32 | 3.4 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 7:30AM | 4+10 | 27 | 73 | 86 | >20% | 3.0 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL |
| 4+20 | 29 | 35.0 | | | | | | | | | |
| 4+28 | | 35.0 | | | | | | | | | |
| 4+35 | | 34.5 | | | | | | | | | |
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## BACKFILL

| STATION | 3+86 | 4+00 | 4+10 | 4+20 | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 2 | 28 | 29 | 29 | | | | |
| SLOPE | | | | | | | | |

SLUMP = 3.5 inches; UNIT WEIGHT = 107 pcf; STA. No.

| STATION | 3+86 | 3+90 | 4+00 | 4+10 | 4+20 | 4+27 | 4+35 | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| SLOPE | | | | | | | | |

SLUMP = _____ inches; UNIT WEIGHT = _____ pcf; STA. No. _____

NOTES: NORTH [illegible] COMPLETE

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No.: 90-407
DATE 5-6-93
COMPLETED BY: SJM

WAUKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 9:00 AM | Pond | 74 | 48 | 16 | 3/32 | 7.9 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS . |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL |
| | | | | | | | | | | | |
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## BACKFILL

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP = inches; UNIT WEIGHT = pcf; STA. No.

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP = _____ inches; UNIT WEIGHT = _____ pcf; STA. No. _____

NOTES: STARTED EXCAVATION AT STA 21+71. DID NOT GET TO GRADE DUE TO A MECHANICAL PROBLEM WHICH SHUT THE OPERATION DOWN FOR THE REST OF THE DAY.

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No.: 90-407
DATE 5-7-93
COMPLETED BY: SJM

WAUKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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| | | |

| TIME | STATION | LEVEL |
|---|---|---|
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## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 8:00am | 10+00 | 71.5 | 48 | 14 | 1/8 | 8.0 | SAND - 7% |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 2:00pm | 21+60 | 34.5 | 52 | 79 | >20 | 8.0 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL |
| 21+71 | CLAY @ 30 | 33.5 | | | | | | | | | |
| 21+60 | CLAY @ 31 | 34.5 | | | | | | | | | |
| 21+50 | CLAY @ 31 | 34.0 | | | | | | | | | |
| | | | | | | | | | | | |
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## BACKFILL

| STATION | 21+71 | 21+60 | 21+50 | | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 28 | 31 | 32 | | | | | |
| SLOPE | | | | | | | | |

SLUMP = 3 1/2 inches; UNIT WEIGHT = 110 pcf; STA. No.

| STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | |
| SLOPE | | | | | | | | |

SLUMP = _____ inches; UNIT WEIGHT = _____ pcf; STA. No. _____

NOTES: _____

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No.: 90-407
DATE 5-10-93
COMPLETED BY: SJM

AUKEGAN HARBOR REMEDIAL ACTION
SLURRY WALL CONSTRUCTION

EAST CONTAINMENT CELL

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (sec.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 7:30am | Pond | 73 | 53 | 15.5 | 1/8 | 8.0 | Sand · 10% |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (sec.) | DENSITY (pcf) | SAND CONTENT (%) | pH | COMMENTS |
|---|---|---|---|---|---|---|---|
| 10:00am | 21+20 | 34 | 55 | 89 | >20 | 7.8 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | | STATION | DEPTH (feet) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL | | INITIAL | FINAL |
| 21+50 | 32 | 34.0 | | | | | | | | | |
| 21+40 | | 34.5 | | | | | | | | | |
| 21+30 | | 35.0 | | | | | | | | | |
| 21+20 | | 36.0 | | | | | | | | | |
| 21+15 | | 35.0 | | | | | | | | | |
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## BACKFILL

| STATION | 21+71 | 21+60 | 21+50 | 21+40 | 21+30 | 21+20 | 21+15 | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| SLOPE | | | | | | | | |

SLUMP = 2.75 inches; UNIT WEIGHT = 120.1 pcf; STA. No.

| STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | |
| SLOPE | | | | | | | | |

SLUMP = _____ inches; UNIT WEIGHT = _____ pcf; STA. No. _____

NOTES: Hit old slurry wall at 21+22. Slurry wall complete.

# RETENTION POND
# SLURRY WALL

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Retention Basin Slurry Wall

PROJECT No. 90-407
DATE 10/20/91
COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 2:00 | 0+20 | 25 | 42 | 66 | 1 | MJG | 8.17 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 0+00 | 26.8 | 30.2 | Sand/Clay | Hard Pan @ ~ 27' |
| 0+15 | | 30.0 | " " | |
| 0+25 | 27.1 | 30.4 | " " | Hard Pan @ ~ 27' |
| 0+40 | | 29.9 | " " | |
| 0+50 | | 30.6 | " " | |
| 0+60 | | 31.2 | " " | |
| 0+70 | | 30.3 | " " | |
| 0+80 | | 31.5 | " " | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Retention Basin Slurry Wall

DATE 11-1-91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 7:20 | Pond | | 47 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 7:30 | 0+40 | | 41 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
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## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Retention Basin Slurry Wall

DATE 11/4/91

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 | POND | 65 | 48 | 16.5 | 2/16 | MJG | 8.47 | |
| 3:00 | | | 51 | | | MJG | | @ ~ 35° |
| 3:45 | | | 49 | | | MJG | | @ ~ 55° |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 7:30 | 0+20 | | 39 | | | MJG | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 7+40 | 26.5 | 30.2 | Sand/Clay | Hard Pan @ 26.5' |
| 7+30 | | 31.6 | " " | |
| 7+20 | | 29.8 | " " | |
| | | | | |
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## BACKFILL

| STATION | 10+50 | 10+00 | 9+50 | 9+00 | 8+80 | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 3.7 | 8.9 | 14.7 | 17.3 | | | | |
| SLOPE | 14:1 | 10:1 | 9:1 | 8:1 | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: Backfill was for the slip #3 slurry wall.

APPROVALS:
CANONIE _____
MTI _____

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Retention Basin Slurry Wall

DATE 11/5/91

COMPLETED BY MTG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
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| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 2:00 | POND | | 51 | | | MJG | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 11:00 | 7+20 | 20 | 43 | 66 | 2 | MJG | 8.57 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
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## BACKFILL

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STATION | 8+80 | | | | | | | | | |
| DEPTH (feet) | 0.0 | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STATION | | | | | | | | | | |
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: slip # 3 backfilling completed.

APPROVALS:
CANONIE ____
MTI ____

11-88

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Retention Pond Slurry Wall

PROJECT No. 90-407
DATE 11-19-91
COMPLETED BY PRS

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
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| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 4:00 | POND | 64.5 | 40 | 14.5 | | PRS | 8.94 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
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| | | | | |

## BACKFILL

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Retention Pond Slurry Wall
Slip No. 3 Slurry Wall

DATE 11-21-91

COMPLETED BY PRS

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:45 | RP POND | 64.5 | 43 | 13.5 | | PRS | 8.92 | |
| 3:50 | RP POND | 64.5 | 45 | | | PRS | | |
| 4:10 | S3 POND | 64.5 | 38 | | | PRS | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |
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| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= 120 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 11-22-91
COMPLETED BY PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Retention Pond Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME SAMPLE/TEST | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS | TEMP (°F) |
|---|---|---|---|---|---|---|---|---|---|
| 12:15/12:20 | RP POND OT | 65.0 | 44 | 12.5 | | PRS | 8.76 | AS IS | 52 |
| 12:15/2:55 | " " RT | 65.0 | 43 | 13.5 | | PRS | 8.34 | | 55 |
| 12:15/8:00 11-23 | " " | 65.0 | 44 | 13.5 | | PRS | 8.36 | OVERNIGHT | 59 |
| | | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor SLURRY WALL CONSTRUCTION

LOCATION Retention Pond Slurry Wall

DATE 12-9 (7:00 AM) to 12-10, AM.

COMPLETED BY PRS



## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| AM | POND CORNERS | 65.0 | 55 | 14.0 | | WS | |
| " | " " | 65.0 | 56 | | | WS | |
| " | " " | 65.5 | 59 | 13.0 | | WS | |
| " | " " | 66.0 | 75 | | | WS | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 11:00 PM | 1+25 | 20.0 | 65 | 73.5 | 13.0 | PRS | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 0+10 | | 29.0 | Fine to Medium Sand | Clean out |
| 0+30 | | 31.0 | | previously |
| 0+55 | | 31.0 | | excavated |
| 0+75 | | 31.5 | | trench |
| 0+85 | | 32.6 | | See 10-30-91 report for top of clay. |
| 1+00 | 27.5 | 31.6 | Fine to Medium Sand/Silty Clay | |
| 1+25 | 28.0 | 31.3 | | |
| 1+35 | 28.0 | 31.5 | | |
| 1+50 | | 31.5 | | |
| 1+65 | 28.0 | 31.2 | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Retention Pond Slurry Wall

DATE 12-9 (7:00 AM) to 12-10 (7:00 AM)

COMPLETED BY PRS



## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 1+75 | | 32.0 | Fine to Medium Sand/Silty Clay | |
| 1+90 | | 31.5 | | |
| 2+00 | 28.2 | 32.0 | | |
| 2+15 | | 31.5 | | |
| 2+32 | 27.7 | 31.0 | | SW corner |
| 2+40 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Retention Pond Slurry Wall

DATE 12-10 (7:00 AM) to 12-11 ( AM)

COMPLETED BY PRS / MTG

1 of 2

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:40 AM | POND | 67.0 | 61 | | | PRS | 8.32 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9:55 AM | 2+20 | 25.0 | 81 | 80.0 | 15.0 | PRS | 8.50 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 2+45 | 27.5 | 30.7 | Sand / Clay | |
| 2+80 | | 30.5 | " " | |
| 3+00 | 27.5 | 31.2 | " " | |
| 3+10 | | 31.1 | " " | |
| 3+20 | | 30.7 | " " | |
| 3+40 | 27.5 | 30.5 | " " | |
| 3+50 | | 30.5 | | |
| 3+60 | | 31.0 | | |
| 3+75 | 27.5 | 31.5 | | |
| 3+90 | | 31.0 | | |

## BACKFILL

CORNER

| STATION | 0+00 | 0+25 | 0+50 | 0+75 | 1+00 | 1+25 | 1+50 | 1+75 | 2+00 | 2+32 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 8.0 | 13.8 | 15.0 | 18.0 | 19.0 | 20.8 | 22.0 | 23.0 | 24.5 | 26.0 |
| SLOPE | 4.3:1 | 20.8:1 | 8.3:1 | 25.0:1 | 13.9:1 | 20.8:1 | 25.0:1 | 16.7:1 | 21.3:1 | |

SLUMP= 2.5 inches; UNIT WEIGHT= 124 pcf; STA. No. ____

| STATION | 0+00 | 0+25 | 0+50 | 0+75 | 1+00 | 1+25 | 1+50 | 1+75 | 2+00 | 2 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 2.5 | 10.0 | 13.0 | 15.0 | 17.0 | 18.5 | 20.0 | 21.7 | 23.0 | 24.5 |
| SLOPE | 3.3:1 | 8.3:1 | 12.5:1 | 12.5:1 | 16.7:1 | 16.7:1 | 14.7:1 | 19.2:1 | 21.3:1 | |

SLUMP= 3.0 inches; UNIT WEIGHT= 122 pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION Retention Pond Slurry Wall DATE 12-10 (7:00 AM) to 12-11 (7:00 AM)

SLURRY WALL CONSTRUCTION COMPLETED BY PRS



## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 4+00 | | 31.5 | | |
| 4+18 | 27.7 | 32.0 | | |
| 4+35 | | 31.5 | | |
| 4+50 | | 32.0 | | |
| 4+60 | 27.5 | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= 124 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:

CANONIE ____

MTI ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor SLURRY WALL CONSTRUCTION

LOCATION Retention Pond Slurry Wall

DATE 12-11 (7:00 AM) to 12-12 AM

COMPLETED BY MJG/PRS



## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1:30 | 4+00 | 25 | 93 | 86 | 20 | MJG | 8.59 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 4+60 | 27.5 | 31.3 | Sand / Clay | |
| 4+70 | | 30.7 | " " | |
| 4+80 | 27.6 | 31.1 | " " | |
| 5+00 | | 30.6 | " " | |
| 5+15 | | 31.4 | " " | |
| 5+30 | 27.6 | 30.7 | | |
| 5+40 | | 31.0 | | |
| 5+50 | 27.4 | 32.7 | Sand/Clay | |
| 5+61 | | 31.0 | | |
| 5+75 | | 31.0 | | |

## BACKFILL

CORNER

| STATION | 0+75 | 1+00 | 1+50 | 2+00 | 2+30 | 2+50 | 3+00 |
|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 6.8 | 13.0 | 16.9 | 19.2 | 26.3 | 30.6 |
| SLOPE | 4:1 | 8:1 | 13:1 | 13:1 | 7:1 | 12:1 | |

SLUMP= 3.0 inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | 1+60 | 2+00 | 2+25 | 2+50 | 3+00 | 3+50 | 4+00 |
|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 6.8 | 12.3 | 21.2 | 26.5 | 28.2 | 31.8 |
| SLOPE | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Retention Pond Slurry Wall

DATE 12-11 (7:00 AM) to 12-12 (7:00 AM)

COMPLETED BY PRS



## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 5+90 | 27.4 | 31.0 | Sand/Clay | |
| 6+00 | | 30.5 | | |
| 6+15 | 27.5 | 30.5 | | |
| 6+25 | | 31.0 | | |
| 6+40 | 27.3 | 31.0 | | |
| 6+50 | | 31.0 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 2+00 | 2+32 | 2+50 | 2+75 | 3+00 | 3+25 | 3+50 | 4+00 | 4+18 |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 8.0 | 17.0 | 19.5 | 22.0 | 24.7 | 25.8 | 30.0 | |
| SLOPE | | | | | | | | | |

SLUMP= 4.0 inches; UNIT WEIGHT= 124 pcf; STA. No. ____

| STATION | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | |
| SLOPE | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= 125 pcf; STA. No. ____

NOTES: ____

APPROVALS:
CANONIE ____
MTI ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION Retention Pond Slurry Wall

DATE 12-12 (7:00 AM) to 12-1 (0 AM)

COMPLETED BY MJG

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | PH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 3:15 | 5+80 | 25 | 95 | 91 | 20 | MJG | 8.13 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 6+50 | | 30.8 | | |
| 6+60 | | 31.5 | | |
| 6+70 | | 30.7 | | |
| 6+90 | | 31.0 | | |
| 7+00 | | 30.3 | | |
| 7+15 | | 31.5 | | |
| | | | | |
| | | | | |
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| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 3.0 inches; UNIT WEIGHT= 124 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 5.0 inches; UNIT WEIGHT= 125 pcf; STA. No. ____

NOTES: L 12-13 after 7:00 AM

APPROVALS:
CANONIE ____
MTI ____

88-11

# NORTH DITCH
# SLURRY WALL

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION ND Slurry Wall DATE 6-5-92

SLURRY WALL CONSTRUCTION COMPLETED BY PRS

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| 8:00 | Pond SW | | 40 | | | | |
| 8:00 | Pond NW | | 43 | | | | |
| 8:00 | Pond E | | Too thick | | | | Will circulate east end more |
| | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
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## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

MTI _____

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 6-8-92
COMPLETED BY PRS/KJH

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION ND Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:10 | Pond | 64.5 | 40 | 21.5 | 1/8 | PRS/KJH | 11.12 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 0+00 | 19.0 | | | |
| 0+10 | 20.0 | | | |
| 0+20 | 21.0 | | | |
| 0+30 | 23.0 | | | |
| 0+40 | 25.0 | | | |
| 0+50 | 25.0 | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____
MTI _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor LOCATION ND Slurry Wall
SLURRY WALL CONSTRUCTION

PROJECT No. 90-407
DATE 6-9-92
COMPLETED BY PRS/KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:45 | Pond | 65.0 | 42 | 18 | 1/8 | KJH | 10.68 | |
| 10:00 | 0+00 Hose Discharge | 65.0 | 38 | 20 | 1/8 | KJH / PRS | 10.28 | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | AT END OF DAY | EXCAVATED MATERIAL | 6-10 AM | | COMMENTS |
|---|---|---|---|---|---|---|---|
| 0+60 | 27.0 | | 0+00 | 10.0 | 0+00 | 10.5 | |
| 0+70 | 24.0 | | 0+25 | 12.0 | | 12.0 | |
| 0+80 | 23.0 | | 0+50 | 14.0 | | 12.5 | |
| 0+90 | 25.0 | | 0+75 | 15.5 | | 15.0 | |
| 0+100 | 20.0 | | 1+00 | 17.0 | | 17.0 | |
| 0+110 | 21.0 | | 1+25 | 18.5 | | 18.0 | |
| 0+120 | 21.0 | | 1+50 | 21.0 | | 21.0 | |
| 0+130 | 22.0 | | 1+75 | 22.0 | | 21.5 | |
| 0+140 | 24.0 | | 2+00 | 24.0 | | 23.0 | |
| 0+150 | 26.0 | | 2+25 | 25.5 | | 24.0 | |
| | | | 2+50 | 25.5 | | 24.0 | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: Experiencing cave in. Believe slurry may be bad because of some lime in mix

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 6-10-92
COMPLETED BY KJH/PRS

PROJECT NAME Waukegan Harbor LOCATION ND Slurry Wall
SLURRY WALL CONSTRUCTION

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| Afternoon | Pond | | 51 | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:30 A | 2+00 | 18 | 37 | 64.5 | <1 | KJH | 10.20 | 22 ml Filtrate Loss |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | @ 7:30 AM 6-11 EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| 0+00 | @ 8:00 AM | 10.5 | 10.5 | |
| 0+25 | | 12.0 | 12.0 | |
| 0+50 | | 13.5 | 13.0 | |
| 0+75 | | 15.0 | 15.0 | |
| 1+00 | | 17.0 | 17.0 | |
| 1+25 | | 18.0 | 18.0 | |
| 1+50 | | 21.0 | 20.5 | |
| 1+75 | | 21.5 | 21.0 | |
| 2+00 | | 23.0 | 23.0 | |
| 2+25 | | 24.0 | 23.5 | |
| 2+50 | | 24.0 | 23.5 | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: Bentonite req. tested slurry: Ca @ 80 ppm and viscosity of 51 sec. Appears lime's effects are diminishing with time.

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 6-11-92
COMPLETED BY _____

PROJECT NAME Waukegan Harbor LOCATION ND Slurry Wall
SLURRY WALL CONSTRUCTION

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 | Pond | 65.5 | >100 | 17.0 | 1/16 | PRS/KJH | 10.60 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9 30 A | 2+60 | 15 | 39 | 65.0 | <1.0 | KJH | 10.17 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | @9:10 EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| 0+00 | 10.5 | | 2+50 26.0 0+60 27.0 | |
| 0+25 | 12.0 | | 2+60 27.0 0+70 26.0 | |
| 0+50 | 13.0 | | 2+70 28.0 | |
| 0+75 | 15.0 | | @1:15 | |
| 1+00 | 17.0 | | 0+00 26.0 | |
| 1+25 | 18.0 | | @1:30p | |
| 1+50 | 20.5 | | 0+25 29.0 | |
| 1+75 | 21.0 | | 0+30 28.0 | |
| 2+00 | 23.0 | | 0+40 29.0 | |
| 2+25 | 23.5 | | 0+50 28.0 | |
| 2+50 | 23.5 | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION ND Slurry Wall DATE 6-12-92

SLURRY WALL CONSTRUCTION COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:10 | 2+50 | 15' | 40 | 65.0 | <1.0 | KJH | 10.26 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 0+00 | 19.0 | | | |
| 0+25 | 18.5 | | | |
| 0+50 | 19.0 | | | |
| 0+75 | 18.0 | | | |
| 1+00 | 17.0 | | | |
| 1+25 | 11.0 | | Trench | |
| 1+50 | 12.0 | | cave-in | |
| 1+75 | 16.0 | | | |
| 2+00 | 18.0 | | | |
| 2+25 | 20.5 | | | |
| 2+50 | 21.0 | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. [illegible]
DATE 6/15/92
COMPLETED BY KJH

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION NB Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7 45 AM | POND | 65.0 | 46 | 15 | 1/8" | KJH | 10.25 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 2 15 PM | 8+00 | 15 | 38 | 66 | .25 | KJH | 10.04 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION @ 10'5 | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | @ 2 39 | EXCAVATED MATERIAL | | COMMENTS |
|---|---|---|---|---|---|---|
| 8+60 | 3'9" | 8+60 | 6.0 | 7+50 | 25.0 | |
| 8+50 | 9.0 | 8+50 | 6.5 | 7+40 | 27.5 | |
| 8+40 | 9.0 | 8+40 | 6.5 | 7+30 | 26.5 | |
| 8+30 | 9.0 | 8+30 | 6.5 | 7+20 | 28.0 | |
| 8+20 | 9.0 | 8+20 | 6.5 | 7+10 | 27.5 | |
| 8+10 | 9.5 | 8+10 | 6.5 | 7+00 | 26.0 | |
| 8+00 | 9.5 | 8+00 | 6.0 | 6+90 | 14.5 | |
| 7+90 | 10.0 | 7+90 | 6.5 | | | |
| | | 7+80 | 7.5 | | | |
| | | 7+70 | 21.5 | | | |
| | | 7+60 | 23.0 — 28 @ 11.00 | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: Sta 8+50 to 7+80 is planned location of sheeting

APPROVALS:
CANONIE _____

88-11

Canonie Environmental

# Daily Quality Control Report

PROJECT No. 90-117

PROJECT NAME WAUKEGAN HARBOR LOCATION NORTH DITCH WALL

SLURRY WALL CONSTRUCTION

DATE 6-16-92

COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:00 AM | POND | 65 | 37.0 | 17.5 | 1/16 | KJH | 9.67 | |
| | | | | | | | | |
| 3:00 PM | POND | | 49.0 | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | Filtration Vol. COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 AM | 7+70 | 19.0' | 42 | 65.0 | 0.50 | KJH | 10.00 | 18 ML |
| 9:00 AM | 7+70 | 1.0 | 43 | 65.0 | ~0 | KJH | 10.33 | 18 ML |
| | | | | | | | | |
| 3:00 PM | | | 42 | | | | | |

## EXCAVATION

| STATION 7:00 AM | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | 3:00 PM | COMMENTS |
|---|---|---|---|---|---|
| 7+70 | 21.0 | | +0.5 | 21.0 | |
| 7+60 | 22.5 | | +0.5 | 22.5 | |
| 7+50 | 24.0 | | +1.0 | 23.5 | |
| 7+40 | 24.0 | | +3.5 | 24.0 | |
| 7+30 | 24.0 | | +2.5 | 24.0 | |
| 7+20 | 24.0 | | +4.0 | 24.0 | |
| 7+10 | 23.5 | | +4.0 | 23.5 | |
| 7+00 | 23.5 | | +2.5 | 23.5 | |
| 6+90 | 14.0 | | +0.5 | 14.0 | |
| | | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:

CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME WAUKEGAN HARBOR LOCATION N. DITCH Slurry TRENCH DATE 6-17-92

SLURRY WALL CONSTRUCTION COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 AM | POND | 65 | 52 | N/R | N/R | KH | N/R | |
| 1:30 P | POND | 65 | 52 | 15 | 1/8 | KJH | 10.03 | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 10:30 A | 8+50 | Hose | 56 | — | — | KJH | From Hose Entering Trench | |
| 1:00 P | 7+60 | 20' | 44 | 65 | 0.25 | KJH | 10.24 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | 7:30 DEPTH (feet) INITIAL | FINAL | @ 2:30 P EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| 7+20 | 20.5 | | | |
| 7+60 | 22.0 | | 22.0 | |
| 7+50 | 23.5 | | ~~26.5~~ 28.5 | |
| 7+40 | 24.0 | | 29.0 | |
| 7+30 | 24.0 | | 28.5 | |
| 7+20 | 24.0 | | 25.0 | |
| 7+10 | 24.0 | | | |
| 7+00 | 22.5 | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 6/19/92
COMPLETED BY KJH / PRS

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION ND Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 A | Pond | 65.5 | 62 | 12 | 1/8" | KJH | 9.76 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:30 AM | 6+80 | 20' | 60 | 66.5 | 7.0 | KJH | 9.36 | ON BOTTOM OF TRENCH |
| 4:30 | 2+70 | 15' | 54 | 70.0 | 7.5 | PRS | 8.99 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | | | COMMENTS | |
|---|---|---|---|---|---|---|---|
| 5+00 | | 26.5 | 4+00 | 27.5 | | 2+60 | 18.0 |
| 4+90 | | 28.0 | 3+90 | 27.5 | | | |
| 4+80 | | 28.0 | 3+80 | 13.0 | BEGIN SHEETS | | |
| 4+70 | | 27.5 | 3+50 | 8.0 | | | |
| 4+60 | | 28.5 | 3+35 | 6.0 | POLE | | |
| 4+50 | | 27.0 | 3+25 | 6.5 | | | |
| 4+40 | | 28.0 | 3+00 | 5.0 | | | |
| 4+30 | | 28.0 | 2+90 | 12.0 | | | |
| 4+20 | | 28.0 | 2+80 | 26.0 | | | |
| 4+10 | | 20.5 | 2+70 | 27.0 | | | |

## BACKFILL BATCH #2

| STATION | 6+80 | 6+50 | 6+25 | 6+00 | 5+75 | 5+50 | 5+25 | 5+00 | 4+75 | 4+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 7.0 | 10.0 | 12.5 | 14.0 | 16.0 | 19.5 | 21.0 | 22.5 | 23.0 |
| SLOPE | | 8.3:1 | 10:1 | 16.7:1 | 12.5:1 | | 16.7:1 | 16.7:1 | 50:1 | 12.5:1 |

Pile #2 SLUMP= 4" inches; UNIT WEIGHT= 121 pcf; STA. No. ____

| STATION | 4+25 | 4+00 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 25.0 | 26.5 | | | | | | | | |
| SLOPE | 16.7:1 | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: BATCH #2 APPROX 200 CY, 24,000 LBS BENTONITE, 20 CY TARGET REV ADDED.

APPROVALS:
CANONIE ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407-04

PROJECT NAME WAUKEGAN HARBOR LOCATION NORTH DITCH

DATE 6-18-92

SLURRY WALL CONSTRUCTION

COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 7:30 AM | 2000 | 65 | 47 | 17 | 1/16 | KJH | 9.37 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:00 AM | 7+00 | — | 53 | 61.0 | — | KJH | 9.60 | DIRECTLY OUT OF HOSE |
| 9:10 A | 7+20 | 15 | 47 | 66.0 | 0.50 | KJH | 9.47 | |
| 5:00 PM | 6+50 | 15 | 48 | 67.5 | 1.0 | KJH | 9.1 | |
| | | | | | | | | |

## EXCAVATION

| STATION | 7:00 AM DEPTH (feet) INITIAL | FINAL | EXCAVATED MATERIAL | | COMMENTS | |
|---|---|---|---|---|---|---|
| 7+70 | 20.5 | | | 6+60 | 27.5 | 5+40 27.5 |
| 7+60 | 23.5 | 23.0 | | 6+50 | 27.0 | 5+30 27.0 |
| 7+50 | 26.0 | | | 6+40 | 29.0 | 5+20 28.0 |
| 7+40 | 28.0 | 27.5 | | 6+30 | 29.0 | |
| 7+30 | 27.0 | 27.0 | | 6+20 | 28.0 | |
| 7+20 | 25.5 | 29.0 | 28.5 | 6+10 | 27.0 | |
| 7+10 | 28.0 | 27.5 | | 6+00 | 28.0 | |
| 7+00 | 28.0 | | | 5+90 | ~~28.5~~ | 29.0 |
| 6+90 | 27.5 | | | 5+80 | 29.0 | |
| 6+80 | 27.0 | | | 5+70 | 29.5 | |
| 6+70 | 26.5 | | | 5+60 | 29.0 | |
| | | | | 5+50 | 28.0 | |

## BACKFILL

| STATION | 7+80 | 7+50 | 7+25 | 7+00 | 6+75 | 6+50 | 6+25 | 6+00 | 5+75 | 5+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 11.0 | 14.0 | 15.5 | 16.5 | 18.5 | 20.0 | 21.5 | 23.0 | 25.0 |
| SLOPE | 2.7:1 | 8.3:1 | 16.7:1 | 25:1 | 12.5:1 | 16.7:1 | 16.7:1 | 16.7:1 | 12.5:1 | |

SLUMP= 3" inches; UNIT WEIGHT= 122 pcf; STA. No. ____

| STATION | 5+25 | 5+00 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 25.0 | 22.5 | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: BATCH #1 Approx 220 CY 24000 lbs Bentonite, 25 CY Import Clay ADDED.

APPROVALS:

CANONIE ____

P1

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME Waukegan Harbor LOCATION ND Slurry Wall DATE 6-20-92

SLURRY WALL CONSTRUCTION COMPLETED BY PRS

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 2:30 | 2+80 | 20 | 59 | 70.5 | 7.5 | PRS | 9.10 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 3+50 | 8.0 | | No excavation, just depth check | |
| 3+35 | 5.0 | | | |
| 3+25 | 5.0 | | | |
| 3+00 | 5.0 | | | |
| 2+90 | 12.0 | | | |
| 2+80 | 24.0 | | | |
| 2+70 | 27.0 | | | |
| 2+60 | 22.0 | | | |
| | | | | |
| | | | | |

## BACKFILL # 3

| STATION | 6+50 | 6+25 | 6+00 | 5+75 | 5+50 | 5+25 | 5+00 | 4+75 | 4+50 | 4+25 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 7.5 | 10.5 | 13.0 | 14.0 | 16.0 | 20.5 | 22.0 | 23.0 | 24.5 |
| SLOPE | | | | | | | | | | |

SLUMP= 3 inches; UNIT WEIGHT= 122 pcf; STA. No. ____

| STATION | 4+00 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 25.5 | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

NOTES: ____

APPROVALS:

CANONIE ____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407
DATE 6/22/92
COMPLETED BY KJH

PROJECT NAME Gloucester Harbor LOCATION ND Slurry Wall
SLURRY WALL CONSTRUCTION

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 730A | POND | 65.0 | 82 | 140 | 1/16 | KJH | 9.67 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 8:45 AM | 5+00 | 15 | 64 | 77.5 | 18 | KJH | 9.08 | |
| 5:00 PM | 2+50 | 18 | 68 | 81.0 | 20 | KJH | 9.26 | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| 2+70 | | 27.0 | 1+70 28.5 0+70 25.0 | |
| 2+60 | | 27.5 | 1+60 29.0 0+60 29.0 | |
| 2+50 | | 30.0 | 1+50 29.0 | |
| 2+40 | | 29.0 | 1+40 30.0 | |
| 2+30 | | 28.0 | 1+30 29.0 | |
| 2+20 | | 28.0 | 1+20 27.0 | |
| 2+10 | | 28.5 | 1+10 26.0 | |
| 2+00 | | 27.0 | 1+00 28.0 | |
| 1+90 | | 27.5 | 0+90 25.0 | |
| 1+80 | | 27.0 | 0+80 26.5 | |

## BACKFILL

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

Pile #2 SLUMP= 4.0 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

Pile #3 SLUMP= 3.5 inches; UNIT WEIGHT= ____ pcf; STA. No. ____

88-11

NOTES: Batch #3 Approx. 350 CY, 20,000 lbs Bentonite, 35 CY Import Clay Added. Batch #4 Approx 325 CY, 20,000 lbs Bentonite, 35 CY Import Clay Added.

APPROVALS:
CANONIE ____

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-407

PROJECT NAME [illegible] LOCATION [illegible]

DATE 4-23-92

SLURRY WALL CONSTRUCTION

COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | NOT USED | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 4:00 | 0+50 | 15 | 87 | 92.5 | >20% | KJH | 9.18 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) INITIAL | DEPTH (feet) FINAL | EXCAVATED MATERIAL | | COMMENTS |
|---|---|---|---|---|---|
| 0+50 | 28.5 | | 0-50 | 13.5 | |
| 0+40 | 29.0 | | 0-60 | 14.5 | |
| 0+30 | 30.0 | | 0-70 | 14.0 | |
| 0+20 | 28.0 | | 0-80 | 9.0 | |
| 0+10 | 16.0 | | | | CHANGED P.K. LINE K-266 |
| 0+00 | 16.0 | | | | |
| 0-10 | 16.0 | | | | |
| 0-20 | NOT EXCAVATED | | | | |
| 0-30 | 14.0 | | | | |
| 0-40 | 14.5 | | | | |

## BACKFILL

| STATION | 2+50 | 2+25 | 2+00 | 1+75 | 1+50 | 1+25 | 1+00 | 0+75 | 0+50 | 0+25 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 11.0 | 15.0 | 19.5 | 21.5 | 22.5 | 24.5 | 25.0 | 28.0 | 28.5 |
| SLOPE | 2.3:1 | 6.3:1 | 5.6:1 | 12.5:1 | 25:1 | 12.5:1 | 50:1 | 8.3:1 | 50:1 | |

File #5

SLUMP= 3¾ inches; UNIT WEIGHT= 123 pcf; STA. No. ____

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= ____ inches; UNIT WEIGHT= ____ pcf; STA. No. ____

88-11

NOTES: BATCH #5 APPROX 200 CY, 12000 lbs BENTONite, 20 CY IMPORT CLAY ADDED.

APPROVALS:

CANONIE ____

**Canonie** Environmental

# Daily Quality Control Report

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION ND Slurry Wall

PROJECT No. 90-507
DATE 6/24/92
COMPLETED BY KJH

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1 3/4 | 1+00 | 5 | 72 | 83.5 | >20.0 | KJH | 9.39 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| 0-80 | 14.5 | | | |
| 0-90 | 15.5 | | | |
| 0-100 | 16.5 | | | |
| 0-110 | 15.0 | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | -1+00 | 0-75 | 0-50 | 0-5 | 0+25 | 0+50 | 0+75 | 1+00 | 1+25 | 1+50 |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 16.0 | 14.5 | 13.0 | 11.5 | 24.0 | 24.5 | 22.0 | 15.5 | 10.5 | 9.0 |
| SLOPE | 16.7:1 | 16.7:1 | 30:1 | | – | 50:1 | 10:1 | 3.8:1 | 5:1 | 16.7:1 | 2.8:1 |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

| STATION | 1+75 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0 | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: _____

APPROVALS:
CANONIE _____

88-11

**Canonie** Environmental

# Daily Quality Control Report

PROJECT No. 90-4151
DATE 6/25/92
COMPLETED BY KJH

PROJECT NAME Waukegan Harbor
SLURRY WALL CONSTRUCTION

LOCATION NO Slurry Wall

## SLURRY LEVEL

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

| TIME | STATION | LEVEL |
|---|---|---|
| | | |
| | | |
| | | |

## SLURRY-INITIAL

| TIME | STATION | DENSITY (pcf) | MARSH VISCOMETER (SEC.) | FILTRATION VOLUME (ml.) | FILTER CAKE THICKNESS (in.) | TESTED BY | pH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## SLURRY-IN TRENCH

| TIME | STATION | DEPTH (ft.) | MARSH VISCOMETER (SEC.) | DENSITY (pcf) | SAND CONTENT (%) | TESTED BY | COMMENTS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## EXCAVATION

| STATION | DEPTH (feet) | | EXCAVATED MATERIAL | COMMENTS |
|---|---|---|---|---|
| | INITIAL | FINAL | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## BACKFILL

| STATION | 0+60 | 0+50 | 0+25 | 0+00 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | 0.0 | 9.0 | 16.0 | 11.5 | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= 2" inches; UNIT WEIGHT= 124 pcf; STA. No. _____

pile #6

| STATION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (feet) | | | | | | | | | | |
| SLOPE | | | | | | | | | | |

SLUMP= _____ inches; UNIT WEIGHT= _____ pcf; STA. No. _____

NOTES: BATCH #6 APPROX. 200 CY, 16000 lbs BENTONITE, 20 CY IMPORT CLAY ADDED.

APPROVALS:
CANONIE _____

88-11

# APPENDIX D

# CONTAINMENT CELL PUMPING TEST REPORTS

July 1995 90-407-02

# CONTAINMENT CELLS
# PUMPING TEST REPORT
# WAUKEGAN HARBOR REMEDIAL ACTION
# WAUKEGAN, ILLINOIS

Prepared for:

Outboard Marine Corporation

Canonie Environmental Services Corp.
800 Canonie Drive
Porter, IN 46304

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# CONTAINMENT CELLS PUMPING TEST REPORT
# WAUKEGAN HARBOR REMEDIAL ACTION
# WAUKEGAN, ILLINOIS

## 1.0 INTRODUCTION

The pumping test activity was added to the scope of work for the Waukegan Harbor Remedial Action in 1993. The scope of work was developed over the Spring and Summer of 1993 in response to initial observations taken on the West Containment Cell at Outboard Marine Corporation's (OMC's) Waukegan Harbor Facility (see Figure 1). The pumping test analysis was proposed as a mechanism to determine that the three containment cells were designed and constructed to meet OMC's purpose. OMC's purpose is to reasonably maintain the hydraulic head inside the containment cells lower than outside the containment cell water level using the water treatment equipment designed and supplied by Canonie Environmental Services Corp. (Canonie). The obligations of OMC for operation of the three containment cells are set forth in Section 4.0 of the Operation and Maintenance Plan (O&M Plan) (Appendix VII) to the Consent Decree with the U.S. Environmental Protection Agency (EPA) (Appendix A).

In 1987 and 1988, OMC negotiated a settlement with EPA for the implementation of a remedial action for the Waukegan Harbor Superfund Site compliant with an amended Record of Decision from 1984. The remedial action included the construction of three containment cells by the installation of a soil-bentonite slurry wall through approximately 30 feet of fine to medium sand and tying into a clay till formation known locally as the Chicago Hardpan. The containment cells were, in turn, covered with a 60-mil high-density polyethylene (HDPE) liner and soil cover to prevent the infiltration of rainwater into the cells. In addition, the obligations of OMC under the agreement with EPA included the commitment to pump ground water from within each of the three containment cells to maintain an inward gradient (flow of water from outside the containment cell into the containment cell) at all times. The three containment cells proposed in the agreement with the EPA are known as the East Containment, West Containment, and Slip No. 3 Containment. These containment cell locations are shown on Figure 1.

During negotiations with the EPA in 1987, the issue of steady-state pumping rate from the three containments was raised as a concern related to the size of water treatment facilities and discharge rates to be expected from the containment cells, based on a conceptual assessment of conditions (see Figure 2) likely to be encountered from three flow components, namely:

- Flow through the soil-bentonite slurry walls;
- Flow from a confined bedrock aquifer upwards through the clay till;
- Flow around the bottom of the soil-bentonite slurry walls embedded three feet into the clay till.

Based on calculations, an inflow rate of approximately 500 gallons per day was projected as the refill rate with a two-foot difference in water elevation between the inside and outside of the containment cell (Appendix B).

During the final design activities in 1989, additional data was collected to determine the reasonableness of the assumptions made in the Appendix B conceptual calculation. The data included the determination of the actual head difference between the confined limestone aquifer and the surficial water table aquifer, and the vertical and horizontal permeability of the clay till formation. These results indicated that the upward gradient from the bedrock aquifer was less than the 20 feet assumed in the conceptual Appendix B calculation. The data also indicated that the permeability was less than the $10^{-7}$ cm/sec assumed for the clay till in the Appendix B calculation. Both of these factors would substantially reduce the flow of water from the bedrock aquifer upward into the containment cells. Overall, the final design results indicated that the flow through the soil-bentonite slurry wall and under the key into the clay till should predominate the inflow to the containment cells.

Based on the measured horizontal and vertical permeabilities in the upper 10 feet of the till surface, the final design was based on a minimum 3-foot deep key of the soil-bentonite slurry wall into the clay till. The 3-foot key, in combination with the approximate order of magnitude difference between vertical and horizontal

permeability, would be effective in limiting the flow around the base of the soil-bentonite slurry wall.

In late 1992 and early 1993, as construction on the East and West Containment Cells concluded, concerns began to occur because of the lag time recorded at Piezometer P-12 during pumping of the West Containment Cell. During site preparation, the West Containment Cell water level was lowered to enable the deposition of select sediments from Slip No. 3 and thermal desorption activities in the West Containment Cell area. During West Containment Cell dewatering, Piezometer P-12 located near the northeast corner of the West Containment Cell lagged behind the other three piezometers in the West Containment Cell as the water level was lowered. The response of Piezometer P-12 led to concerns on the part of OMC and the Waukegan Harbor Trust as to the adequacy of design and construction of the West Containment Cell and therefore, the construction of the other cells. Because of these concerns, Canonie and OMC reached an agreement in the Spring and Summer of 1993 to perform a systematic and programmed pumping test at each of the three containment cells as a part of OMC's accepting the remedial action work by Canonie. The results of the pumping tests completed in 1993 and 1994 for the West and East Containment Cells and in 1994 and 1995 for Slip No. 3 are reported in Section 3.0 of this report. The results of both the East Containment Cell pumping test and West Containment Cell pumping test have been previously reported to OMC on July 27, 1994 and December 22, 1994, respectively. The earlier reports are not inclusive of the Slip No. 3 pumping test results and does not constitute Canonie's final conclusion as to the adequacy of the design and construction of the containment cells.

## 1.1 Summary

The three cells were pumped from 2-1/2 to 5-1/2 months to a specified drawdown of 6 to 8 feet (see Figures 3, 4, and 5). After reaching a 6- to 8-foot drawdown, a steady pumping rate was established by throttling back on the pumps to maintain a constant drawdown level. The pumping rate (as determined by the plant flow meter readings during steady-state pumping) to obtain a constant drawdown was 4.8 gpm for the East Containment, 2.6 gpm for the West Containment, and 2.1 gpm for Slip

No. 3 Containment. Within the accuracies of this analysis, the difference in pumping rates are approximately equal to the areal differences between the three containment cells as shown in Table 1.

The ground water recoveries were measured approximately daily at the East Containment Cell and West Containment Cell to the end of 1994. Recoveries for Slip No. 3 were measured daily until approximately April 1995. Based on the continuous measured recoveries and quarterly measurements taken thereafter, a standard recovery curve versus time on semi-log paper is presented in Figures 6, 7, and 8. The recovery curve shows that all three containments begin at a similar recovery rate, and that after approximately 50 to 70 days of recovery, both the West Containment Cell and the Slip No. 3 Containment Cell show a marked increase in recovery rate that is nearly identical, and is nearly twice the initial recovery rate.

The pumping test results indicated that the steady-state inflows at containment cell drawdowns of 6 to 8 feet produces inflow from all sources that is directly proportional to the difference in size of the three containments. In addition, the recovery response of the three containments indicate that the West Containment and Slip No. 3 contain a larger proportion of soil with a low specific yield than the East Containment. Because of the lower specific yield soil, less water is produced overall per volume of containment and the recovery rate is much more rapid since there is less available pore space to refill with water.

The steady-state pumping results are not adequate to indicate the actual amount of leakage from any individual source into the containment cells. The four primary sources of recharge to the containment cell during a steady rate pumping are:

1. Leakage through the soil-bentonite slurry wall;

2. Leakage through the clay till around the bottom key of the soil-bentonite slurry wall;

3. Upward flow from the bedrock aquifer through the clay till and into the containment;

4. Draining water from soils within containment due to the lowering of the water table inside the containment cell.

Based on the pumping tests, the frequency of pumping required to maintain a depressed water level in the containment cells is quantifiable. The West Containment Cell and Slip No. 3, will require pumping approximately every year, and the East Containment Cell will require pumping approximately every four years. Based on a proposed schedule as shown on Figure 9, the containment cell water level will be controlled using the single, up to 15 gpm portable water treatment plant, in a rotation that involves pumping the West Containment and Slip No. 3 Containment approximately four months and the East Containment one month per year.

The results of the pumping test indicate that containment cells are designed and constructed in a manner that meets the intended purposes under the Consent Decree between OMC and EPA for the operation and maintenance of a continuous inward gradient. In addition, the equipment provided for extracting and treating the water from within the containment cells is capable of reasonably maintaining the hydraulic head inside the cells below the outside water table aquifer level.

## 2.0 HYDROGEOLOGIC CONDITIONS AT THE SITE

The generalized soil profile (Figure 2) at the site consists of 20 to 30 feet of fine to medium sand. The sand is underlain by a layer of till (Chicago Hardpan) ranging in thickness of 75 to 85 feet. Under the till is the Silurian dolomite bedrock (bedrock). The ground surface at the site is sloping from the west to the east in the direction of Lake Michigan with elevations on the west side of approximately 585 and on the east side of approximately 583 prior to sloping down into the beach area next to Lake Michigan. The water table aquifer water level is only one to two feet below ground surface.

### 2.1 Upper Aquifer and Lake Michigan

The first layer of soil at the site is fine to medium sand (upper aquifer) with permeabilities ranging between $1 \times 10^{-2}$ cm/sec to $3 \times 10^{-2}$ cm/sec. The sand is hydraulically connected to Lake Michigan to the east. The upper aquifer is recharged from the surface from rainfall and snow melt, and is an unconfined aquifer discharging into Lake Michigan. Ground water elevations in the shallow aquifer ranging from 583 on the west side of the West Containment Cell to Elevation 582 on the east side of the East Containment Cell (Figure 2). The water level in Lake Michigan is at approximately Elevation 580.

The North Ditch is located on the north side of the site and is fully connected to Lake Michigan. Surface runoff and stormwater from buildings in the area are discharged into the North Ditch. The North Ditch has an influence on the ground water levels, especially in the northern portion of the site, and depending on the condition of the mouth of the ditch where the ditch enters into Lake Michigan, ground water levels change in direct proportion to the water level in the North Ditch. If during a storm the mouth of the ditch becomes plugged with sand, the water level in the North Ditch will increase and ultimately create a higher ground water level in the area of the East and West Containment Cells. Ground water in the upper aquifer, which is in an unconfined condition, is hydraulically connected to Lake Michigan and therefore, ground water levels at the site are directly proportionate to the water level in Lake Michigan.

## 2.2 Confined Aquifer

The second aquifer at the site is the confined aquifer in bedrock, which is separated from the upper aquifer by a layer of the till 75 to 85 feet thick. The bedrock aquifer is directly recharged by surface water from the Des Plaines River. The bedrock aquifer is under confined conditions and discharges into Lake Michigan at elevations below normal lake level.

The bedrock aquifer yields water primarily from fractures and openings rather than from voids between individual grains as in sand of the upper aquifer. Because of surface recharge west of the site, piezometric pressure or ground water levels in the rock aquifer decreases from the west to the east in the direction of Lake Michigan. The ground water level in the rock aquifer at the site at the west end of the West Containment Cell is approximately at Elevation 587, which is two feet above existing ground surface, and at the east side of the East Containment Cell is approximately at Elevation 580, which is more or less equal to the Lake Michigan water levels.

Generally speaking, there is upflow from the rock aquifer through the till into the shallow or upper aquifer in the area of the West Containment Cell and very minimal, if any, upflow in the area of the East Containment Cell.

## 2.3 Chicago Hardpan (Wedron Formation)

Chicago Hardpan (till) at the site consists of mainly silty clay with traces of fine to coarse sand with occasional cobbles and/or boulders and systems of seams to pockets and thin layers of silt or silty sand. The till is of the Wisconsinan Stage. During an investigation for containment cell design, Canonie performed permeability tests in the upper part of the till layer at the site. The permeability of the first 5 to 10 feet of the till are ranging from $4 \times 10^{-8}$ cm/sec to $8 \times 10^{-7}$ cm/sec. The till is approximately 75 feet thick at the west end of the site in the area west of the West Containment Cell, and is about 85 feet thick on the east side of East Containment Cell. The top of the till is sloping across the site approximately from Elevation 565 on the west to 554 on the east. Below the till, the bedrock formation is sloping also from the west

to the east from approximately Elevation 488 on the west side to Elevation 470 on the east side of the site.

# 3.0 RESULTS OF PUMPING TEST

The containment cell pumping portion of the tests were conducted in late 1993 and late 1994 with recovery measurements going on through June 1995. The pumping part of the test for the East Containment Cell was completed in late 1993, for the West Containment Cell in the summer of 1994, and for the Slip No. 3 Containment Cell in early 1995 (see Figures 3, 4, and 5). In all three cases, the pumping test was conducted until drawdown was six to eight feet below the water level outside the containment cell. At the completion of the pumping or drawdown phase of the pumping test, the pumping rate at the pumping well was adjusted to produce a constant flow without changing the water level for at least three weeks. In the case of the West Containment Cell, the constant pumping rate was maintained for an extended period of five weeks. At the completion of the constant pumping phase, the pumping wells were turned off and recovery was monitored on approximately a daily basis through the end of 1994 at which time the Slip No. 3 pumping test was completed. Since the termination of daily water level monitoring, the recovery rates have been monitored on a quarterly basis as required by the O&M Plan.

## 3.1 Pumping test Results

### *3.1.1 Drawdown Response*

The pumping test results are shown on Figures 3, 4, and 5 for the West Containment Cell, East Containment Cell, and Slip No. 3 Containment Cell, respectively. Both the East and West Containment Cells were pumped to a drawdown of approximately six feet below the outside water level prior to establishing a steady-state flow. The Slip No. 3 Containment Cell was pumped to a drawdown of approximately eight feet below outside water level before establishing a steady-state flow. The time required to reach the desired drawdown range from as little as 2-1/2 months at Slip No. 3 to as much as 4-1/2 months for the West Containment Cell. The time required to drawdown each cell six feet below the outside water level is shorter than the time calculated in the design for the containment cells. The difference results from the reduced drainage that is experienced in the actual containment cells where the actual water available is only 10 to 20 percent of the total volume, not the 30 percent

assumed in the design. The calculation was based on the ready access of air to replace the draining water. When air cannot get in to replace the drainage water, less water is released and a continual slowed drainage results. This drainage impact is equatable to the difficulty one would experience in trying to draw water from a straw in a pop bottle with the pop bottle cap on. Although the containments are not a perfectly closed system (air can get in some place), they are sufficiently sealed to induce a suction limiting response to drainage as is evidenced by the barometric results measured and reported in Section 3.3 and evidenced by the responses of Piezometer P-1 in the Slip No. 3 containment and P-12 in the West Containment.

As shown on Figures 4 and 5, Piezometers P-12 and P-1 show higher water levels than the other piezometers in their respective West Cell and Slip No. 3 containments. Both of these piezometers are located in the apex of an acute angle (angle of less than 90 degrees). When a piezometer is located in an acute angle of a sealed containment where very little air or no air can enter to displace the draining water, the combined effect of the acute angle plus the lack of air to displace the draining water causes the water to be retained in that corner. This is due to suction forces in the fine sands of the containment area and induces a higher water level in comparison to the rest of the containment at both Piezometer P-1 of Slip No. 3 and P-12 of the West Containment Cell.

### *3.1.2 Steady-State Pumping Rate Response*

Once each containment reached a drawdown of six to eight feet, the pumping rate was adjusted downward, if necessary, by restricting the output of the pumping well. The pumping was then continued for at least three weeks. In the case of the West Containment, however, constant rate pumping was continued for eight weeks.

The continuous pumping rate necessary to maintain a constant drawdown level was 2.6, 2.1, and 4.8 gpm for the West Containment Cell, Slip No. 3 Cell, and East Containment Cell, respectively. These pumping rates are a measurement of four major seepage components. Those components are:

1. Inflow through the soil-bentonite slurry wall due to the difference in elevation (drawdown) between the inside and outside of the slurry wall;

2. The inflow of water around the soil-bentonite slurry wall key in the clay till;

3. The inflow of water upward from the bedrock aquifer in the containment cell;

4. Seepage of drainage water from the partially dewatered zone between the starting inside water level and the water level at steady-state drawdown pumping level.

The relative proportions of these four components contributing to the flow required to maintain a constant drawdown, is not calculatable from any data determined during the pumping test.

Pumping rates do, however, indicate a relationship between the flow rate necessary to maintain a constant drawdown level and the areal size of each containment. This comparison is shown in Table 1 and indicates that the ratio of steady-state pumping rate to containment cell area is approximately 0.9 for all three cells. This indicates that the constant leakage rate is the same for each cell regardless of the source of the water.

### *3.1.3 Recovery Response*

The recovery data are shown on Figures 3, 4, and 5 for each of the three cells, respectively. The recovery results are also shown on Figures 6, 7, and 8 in a semi-log time format as is normally used in the assessment of a pumping test recovery. Figures 6, 7, and 8 indicate that the recovery rate for all three cells is identical for the first 50 to 70 days of recovery. At 50 to 70 days into the recovery cycle, however, the recovery rate of the West Containment Cell and the Slip No. 3 Containment Cell increase, whereas the East Containment Cell seems to recover at the original rate established by the first 50 to 70 days of recovery.

The recovery of the containment cells is based on the dewatered void volume available for water to reenter. This void volume is defined as the specific yield and is less than the porosity of the soil. In a fully dewatered system, air enters the void space replacing the water. However, some water remains behind (specific retention) due to the suction or capillary effects between soil grains. The quantity of water remaining behind is directly related to the grain size of the soil with finer grained soils retaining a higher percentage of the water. For a typical fine sand, the specific yield will be approximately 10 to 20 percent, and the porosity 40 percent. For a silt, the specific yield is 3 to 5 percent, and the porosity 45 percent (Reference - Dewatering and Groundwater Control for Deep Excavations, Departments of the Army, the Navy, and the Airforce, April 1971).

The responses observed from the three pumping tests are directly related to soil types in the three cells. The East Containment Cell contains no organic silt backfill and is composed predominantly of a fine to medium sand. Specific yield is fairly uniform and the recovery rate as observed is fairly uniform. The West Containment Cell and Slip No. 3 Containment Cell, on the other hand, both contain substantial quantities of organic silt backfill. The organic silt backfill is found at higher elevations within the cell and does not have as high a specific yield. Therefore, as the cells begin to refill, the dewatered areas in the fine sand which have similar characteristics to those materials in the East Containment Cell backfill with water first, giving both the West Cell and Slip No. 3 Cell a recovery response very similar to the East Cell for the first 50 to 70 days. After 50 to 70 days, however, the remaining void space is in the siltier soils which have a lower specific yield. These soils refill quicker and cause the water level rise to be faster.

The recovery results do indicate an actual rate of recovery and may be used to determine the frequency of pumping required to maintain an inward gradient. Based on the response at the West Containment and at Slip No. 3, the West Containment and Slip No. 3 Containment will require pumping for approximately 3 to 4 months every 12 to 18 months. The East Containment, because of the more uniform nature of the material and the higher specific yield of that material, will require pumping for three to four months only once every four years.

## 3.2 Water Treatment Results

During the three pumping tests, water samples were taken at the influent and effluent of the Category 5 water treatment system as required by the O&M Plan. All of the effluent results were less than the 1 part per billion (ppb) discharge limit required for PCBs under the O&M Plan. Water samples at the influent of the water treatment plant were taken on a weekly basis throughout all three pumping tests for the East Cell, West Cell, and Slip No. 3 Cell, and are shown in Table 2. The influent results indicate that with the exception of one result at 1.5 ppb, the water within the East Containment Cell meets the 1.0 ppb discharge criteria without treatment throughout the pumping cycle. The results, with the exception of one result at 2.0 ppb, also indicate that the influent water to the treatment system from the West Containment Cell meets the discharge requirements for the last 6-1/2 months of the pumping test. Results from the Slip No. 3 Cell indicate a requirement for treatment even after completion of the pumping test. Overall, these results indicate that the PCBs remaining within the containments are not being transported with the water at a level above the discharge limit.

## 3.3 Barometric Pressure Results

During each pumping test, at least one piezometer inside the containment cell was monitored on a continuous basis for the impact of barometric pressure changes. The results of the East and West Containment Cells are shown on Figures 10 and 11. The data from Slip No. 3 cell was lost due to an equipment failure during the downloading of the data. The results indicate that the piezometers inside the containment cell show rapid responses to changes in atmospheric pressure. This indicates that there is very little or no air interchange between the void space inside the containment cell and the outside atmosphere. The results confirm that the containments are acting as sealed units with very little inflow or movement of air across the barrier.

## 4.0 CONCLUSION

As discussed in Section 3.0, the leakage into each containment cell is composed of three predominant factors:

1. Leakage through the soil-bentonite slurry wall;

2. Leakage under the key of the soil-bentonite slurry wall;

3. Leakage upwards from the confined bedrock aquifer.

However, because the top of each containment is sealed with an impermeable HDPE liner, the downward drainage of water during a pumping event is restricted because air cannot enter the void space to replace water. The pumping rate, as measured in the pumping test, reflects both the three leakage factors and the downward drainage of water. It is, therefore, impossible to determine an exact leakage rate. It is possible, though, to conclude that the rate of pumping required to maintain a constant drawdown level in each containment is approximately proportional to the areal size of the containment.

The recovery rates measured as a part of the pumping tests on the three containments indicate the rate at which the water level inside the containment will recover from a six- to eight-foot drawdown event. This rate of recovery is based on the specific yield characteristics of the soils in the containments. The West Containment and Slip No. 3 Containment exhibit similar characteristics reflecting the high percentage of lower specific yield silts found in the two containments. The East Containment recovers at a much slower rate, indicative of the higher specific yield fine sand content of the East Containment Cell soils. The recovery rates do provide an adequate measure of the frequency of pumping required to maintain a lowered hydraulic head in all three containments.

Based on the pumping test results, the Slip No. 3 and West Containment Cells will require pumping approximately once every 12 months. The East Containment Cell will require pumping once every four years. Figure 9 shows a proposed pumping schedule

to maintain a drawdown at all three containments that is based on a nine-month pumping period and not pumping during the Winter months of December, January, and February.

The pumping test results indicate that the containments are designed and constructed, and the water treatment plant is adequately sized to meet the intended purpose of the containments.

TABLE 1

RATIOS OF PUMPING RATE
TO AREA OF CELLS

| Containment Cell | Area "A" (acre) | Pumping Rate "Q" (gpm) | Ratio Q/A |
|---|---|---|---|
| East | 5.4 | 4.8 | 0.9 |
| West | 3.2 | 2.6 | 0.8 |
| Slip No. 3 | 2.0 | 2.1 | 1.0 |

TABLE 2

INFLUENT PCB CONCENTRATIONS (PPB)
CATEGORY 5 AND 7 WATER TREATMENT PLANTS
WAUKEGAN HARBOR REMEDIAL ACTION

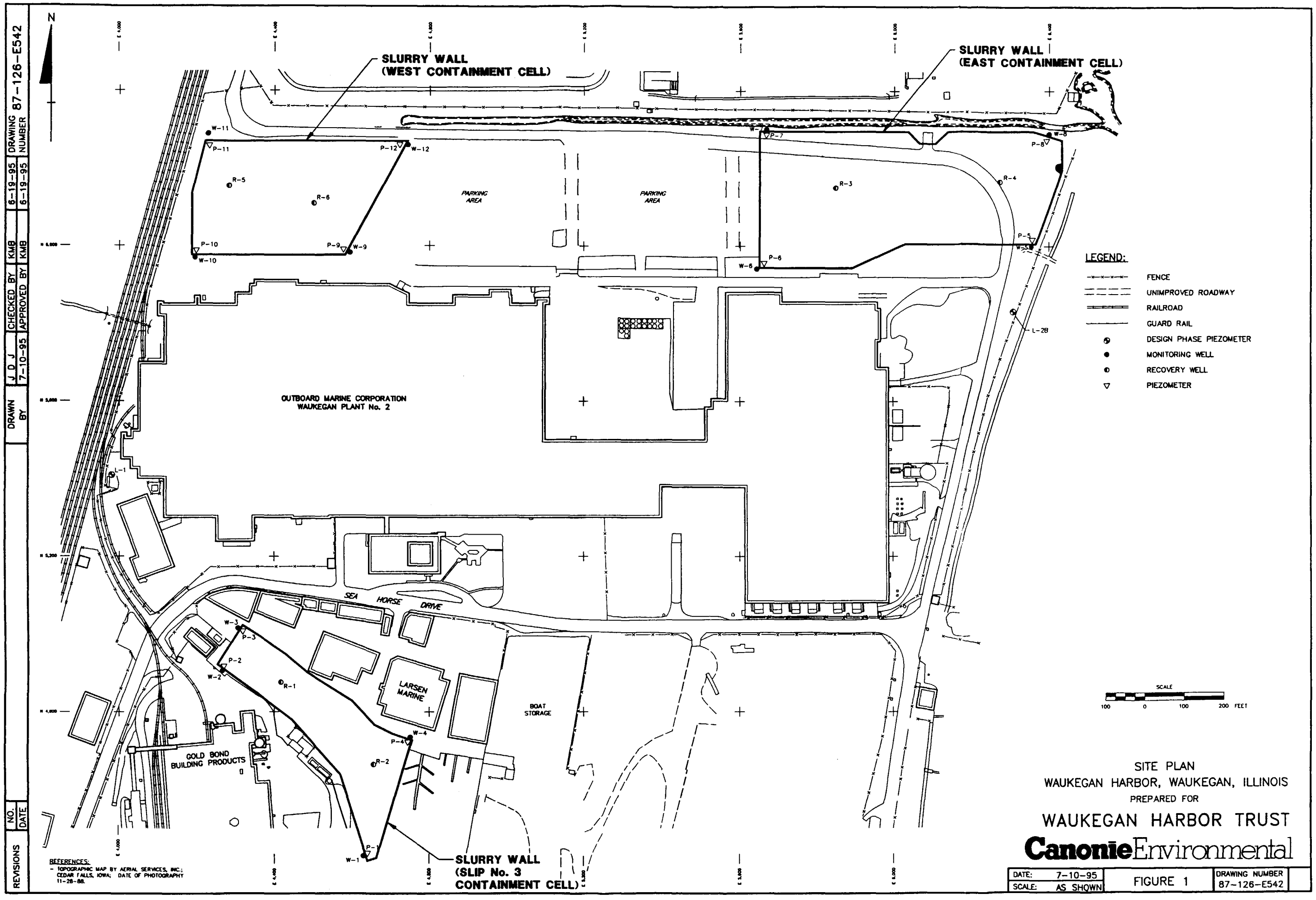
| Date | West Cell Category 5 | Slip No. 3 Cell Category 5 | East Cell Category 5 | East Cell Category 7 |
|---|---|---|---|---|
| 7/28/93 | – | – | 1.0 | – |
| 8/6/93 | – | – | <1.0 | – |
| 8/10/93 | – | – | <1.0 | – |
| 8/16/93 | – | – | – | <1.0 |
| 8/24/93 | – | – | <1.0 | <1.0 |
| 8/30/93 | – | – | <1.0 | <1.0 |
| 9/7/93 | 7.0 | – | – | <1.0 |
| 9/13/93 | – | – | – | <1.0 |
| 9/16/93 | 48.0 | – | – | – |
| 9/20/93 | 5.0 | – | – | <1.0 |
| 9/28/93 | 4.0 | – | – | <1.0 |
| 10/4/93 | 2.0 | – | – | <1.0 |
| 10/11/93 | | – | <1.0 | <1.0 |
| 10/18/93 | | – | <1.0 | <1.0 |
| 10/25/93 | | – | <1.0 | <1.0 |
| 11/1/93 | | – | <1.0 | <1.0 |
| 11/8/93 | | – | <1.0 | <1.0 |
| 11/15/93 | | – | 1.5 | <1.0 |
| 11/22/93 | 2.0 | – | – | <1.0 |
| 11/29/93 | 11.0 | – | – | <1.0 |
| 12/6/93 | 22.0 | – | – | <1.0 |
| 12/13/93 | 7.0 | – | – | <1.0 |
| 12/20/93 | 1.0 | – | – | <1.0 |
| 12/27/93 | 1.0 | – | – | – |
| 1/3/94 | 1.0 | – | – | – |
| 1/10/94 | 1.0 | – | – | – |
| 1/17/94 | <1.0 | – | – | – |
| 1/26/94 | <1.0 | – | – | – |
| 1/31/94 | <1.0 | – | – | – |
| 2/7/94 | <1.0 | – | – | – |
| 2/14/93 | <1.0 | – | – | – |
| 2/21/94 | <1.0 | – | – | – |
| 2/28/94 | <1.0 | – | – | – |
| 3/7/94 | <1.0 | – | – | – |
| 3/15/94 | <1.0 | – | – | – |
| 3/21/94 | <1.0 | – | – | – |
| 3/28/94 | <1.0 | – | – | – |
| 4/4/94 | <1.0 | – | – | – |
| 4/11/94 | <1.0 | – | – | – |
| 4/21/94 | <1.0 | – | – | – |
| 4/25/94 | <1.0 | – | – | – |
| 5/2/94 | <1.0 | – | – | – |
| 5/9/94 | <1.0 | – | – | – |

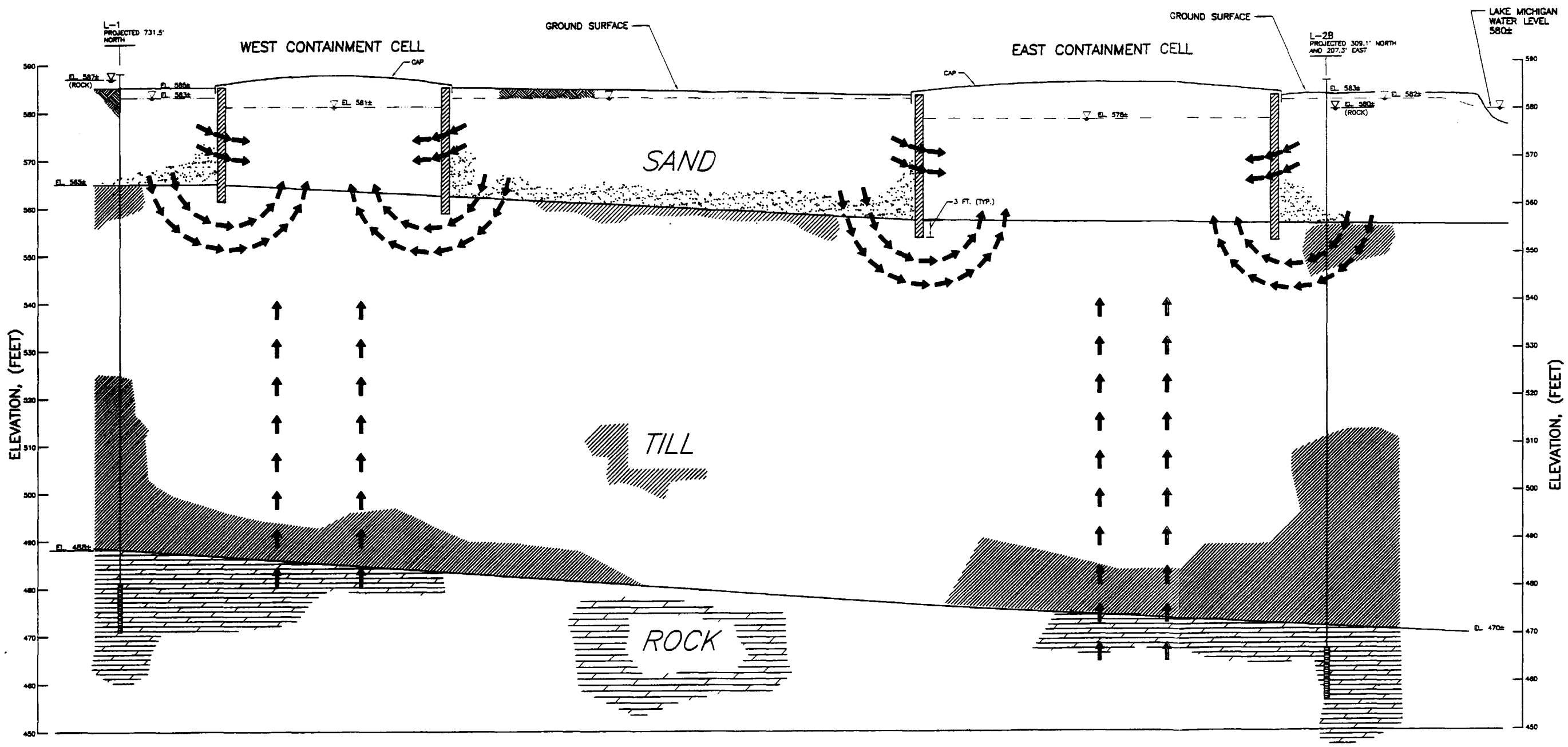
TABLE 2

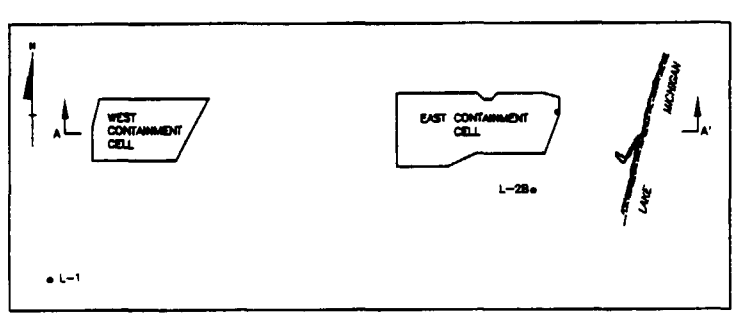
**INFLUENT PCB CONCENTRATIONS (PPB)**
**CATEGORY 5 AND 7 WATER TREATMENT PLANTS**
**WAUKEGAN HARBOR REMEDIAL ACTION**

| Date | West Cell Category 5 | Slip No. 3 Cell Category 5 | East Cell | |
|---|---|---|---|---|
| | | | Category 5 | Category 7 |
| 5/17/94 | <1.0 | -- | -- | -- |
| 5/23/94 | <1.0 | -- | -- | -- |
| 5/31/94 | <1.0 | -- | -- | -- |
| 6/6/94 | <1.0 | -- | -- | -- |
| 6/13/94 | <1.0 | -- | -- | -- |
| 6/20/94 | <1.0 | -- | -- | -- |
| 6/27/94 | <1.0 | -- | -- | -- |
| 7/5/94 | 2.0 | -- | -- | -- |
| 7/12/94 | <1.0 | -- | -- | -- |
| 8/25/94 | | 4.0 | -- | -- |
| 9/1/94 | | <1.0 | -- | -- |
| 9/7/94 | | 11.0 | -- | -- |
| 10/20/94 | | 6.0 | -- | -- |
| 10/27/94 | | 8.0 | -- | -- |
| 11/3/94 | | 6.0 | -- | -- |
| 11/10/94 | | 14.0 | -- | -- |
| 11/16/94 | | 11.0 | -- | -- |
| 11/21/94 | | 7.0 | -- | -- |
| 11/30/94 | | 8.0 | -- | -- |
| 12/8/94 | | 13.0 | -- | -- |
| 12/15/94 | | 13.0 | -- | -- |
| 12/29/94 | | 10.0 | -- | -- |
| 12/22/94 | | 6.7 | -- | -- |
| 1/5/95 | | 10.0 | -- | -- |

Note: All effluent PCB concentrations were <1.0 ppb.


SLURRY WALL
(WEST CONTAINMENT CELL)
SLURRY WALL
(EAST CONTAINMENT CELL)
SLURRY WALL
(SLIP No. 3
CONTAINMENT CELL)
PARKING AREA
PARKING AREA
OUTBOARD MARINE CORPORATION
WAUKEGAN PLANT No. 2
SEA HORSE DRIVE
LARSEN MARINE
BOAT STORAGE
GOLD BOND BUILDING PRODUCTS
W-1
W-2
W-3
W-4
W-5
W-6
W-7
W-8
W-9
W-10
W-11
W-12
P-1
P-2
P-3
P-4
P-5
P-6
P-7
P-8
P-9
P-10
P-11
P-12
R-1
R-2
R-3
R-4
R-5
R-6
L-1
L-2B
N
LEGEND:
FENCE
UNIMPROVED ROADWAY
RAILROAD
GUARD RAIL
DESIGN PHASE PIEZOMETER
MONITORING WELL
RECOVERY WELL
PIEZOMETER
SCALE
100 0 100 200 FEET
REFERENCES:
- TOPOGRAPHIC MAP BY AERIAL SERVICES, INC.; CEDAR FALLS, IOWA; DATE OF PHOTOGRAPHY 11-28-88.
SITE PLAN
WAUKEGAN HARBOR, WAUKEGAN, ILLINOIS
PREPARED FOR
WAUKEGAN HARBOR TRUST
Canonie Environmental
DATE: 7-10-95
SCALE: AS SHOWN
FIGURE 1
DRAWING NUMBER 87-126-E542
DRAWN BY J D J 7-10-95
CHECKED BY KMB 6-19-95
APPROVED BY KMB 6-19-95
DRAWING NUMBER 87-126-E542
REVISIONS
NO.
DATE




KEY MAP
NOT TO SCALE

SECTION A–A'
WEST AND EAST CONTAINMENT CELLS
(LOOKING NORTH)

HORIZONTAL SCALE
100 0 100 200 FEET

VERTICAL SCALE
10 0 10 20 FEET

GENERALIZED PROFILE
WAUKEGAN HARBOR, WAUKEGAN, ILLINOIS
PREPARED FOR
WAUKEGAN HARBOR TRUST

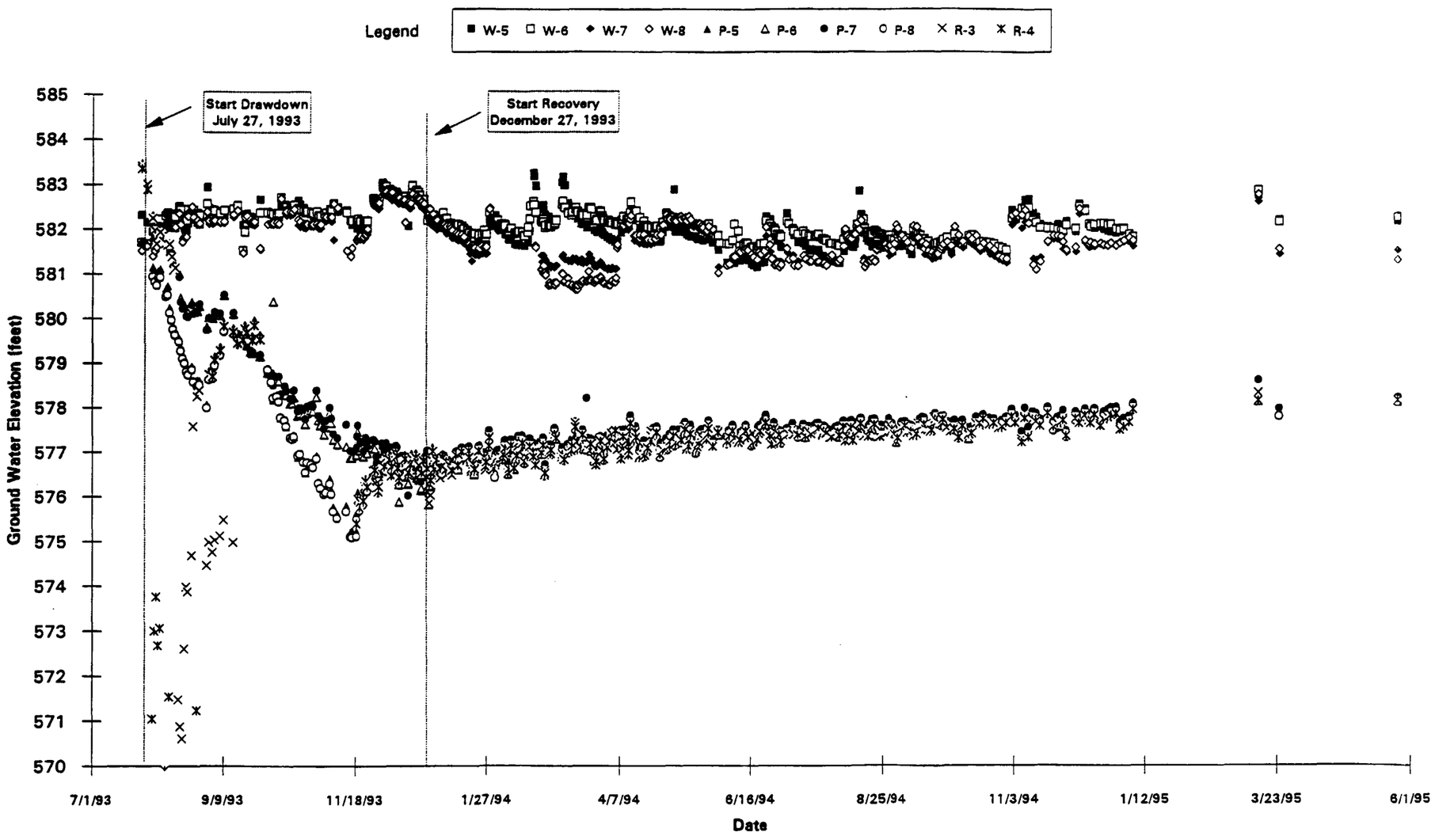
Canonie Environmental

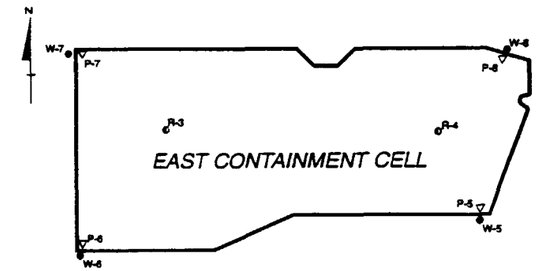
| | | | |
|---|---|---|---|
| DATE: 7–6–95 | FIGURE 2 | DRAWING NUMBER 87–126–E541 |
| SCALE: AS SHOWN | | |

| | | | |
|---|---|---|---|
| DRAWN BY | WWB 7–7–95 | CHECKED BY / APPROVED BY | DRAWING NUMBER 87–126–E541 |

REVISIONS

| NO. | DATE |
|---|---|




**KEY PLAN**

NOT TO SCALE

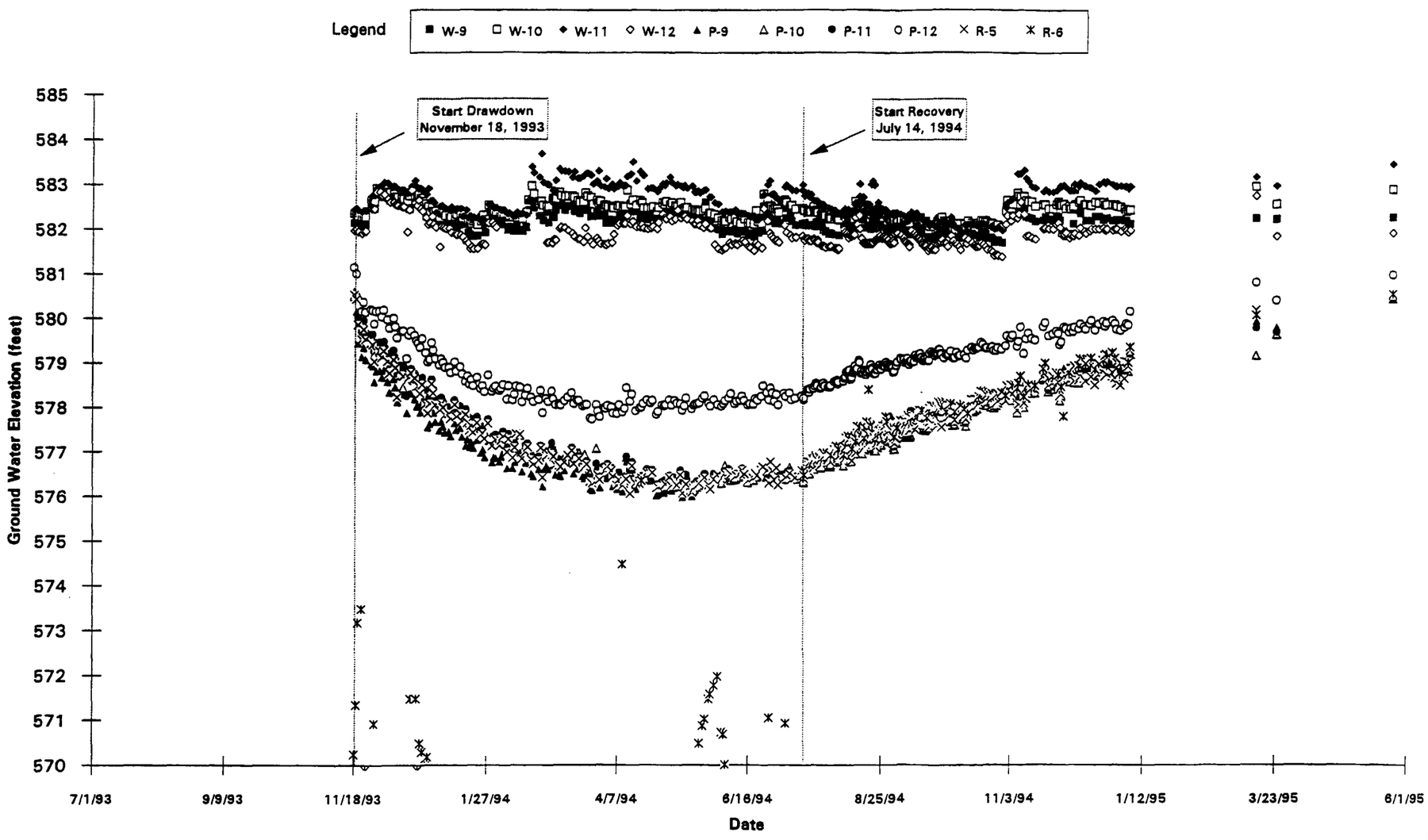
PUMPING TEST
EAST CONTAINMENT CELL
GROUND WATER ELEVATION vs. TIME
JULY 27, 1993 THROUGH JUNE 1, 1995
WAUKEGAN HARBOR, WAUKEGAN, ILLINOIS

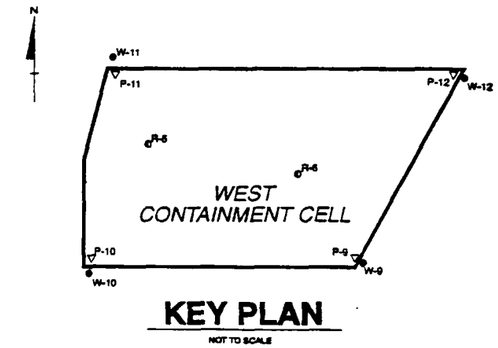
PREPARED FOR

**WAUKEGAN HARBOR TRUST**

**Canonie** Environmental

**FIGURE 3**



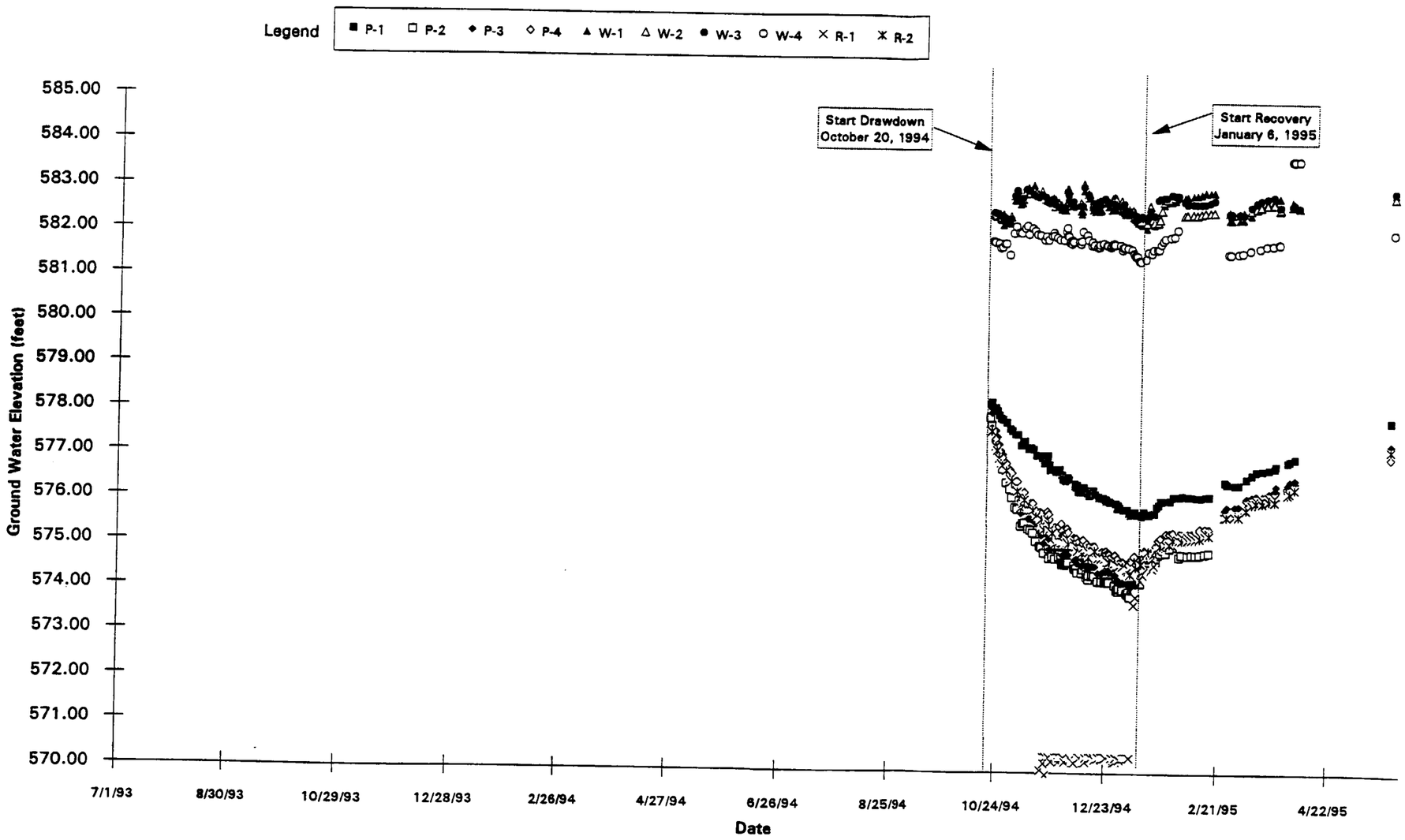

PUMPING TEST
WEST CONTAINMENT CELL
GROUND WATER ELEVATION vs. TIME
NOVEMBER 18, 1993 THROUGH JUNE 1, 1995
WAUKEGAN HARBOR, WAUKEGAN, ILLINOIS

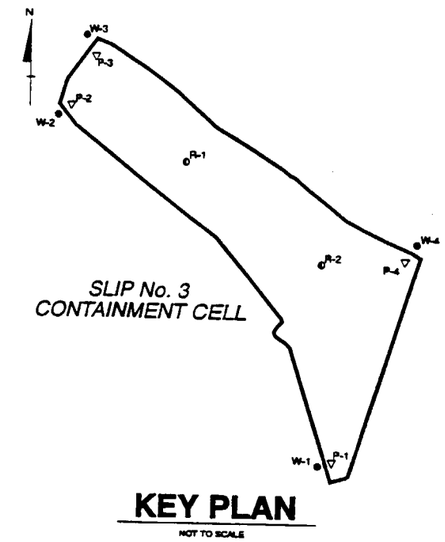
PREPARED FOR

**WAUKEGAN HARBOR TRUST**

**Canonie** Environmental

**FIGURE 4**



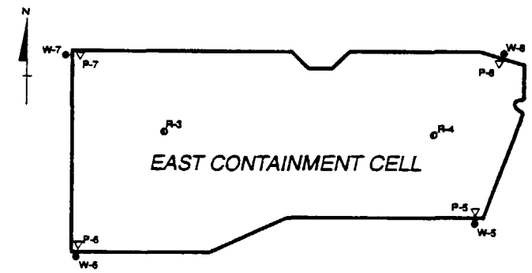

PUMPING TEST
SLIP No. 3 CONTAINMENT CELL
GROUND WATER ELEVATION vs. TIME
OCTOBER 20, 1993 THROUGH JUNE 1, 1995
WAUKEGAN HARBOR, WAUKEGAN, ILLINOIS

PREPARED FOR

**WAUKEGAN HARBOR TRUST**

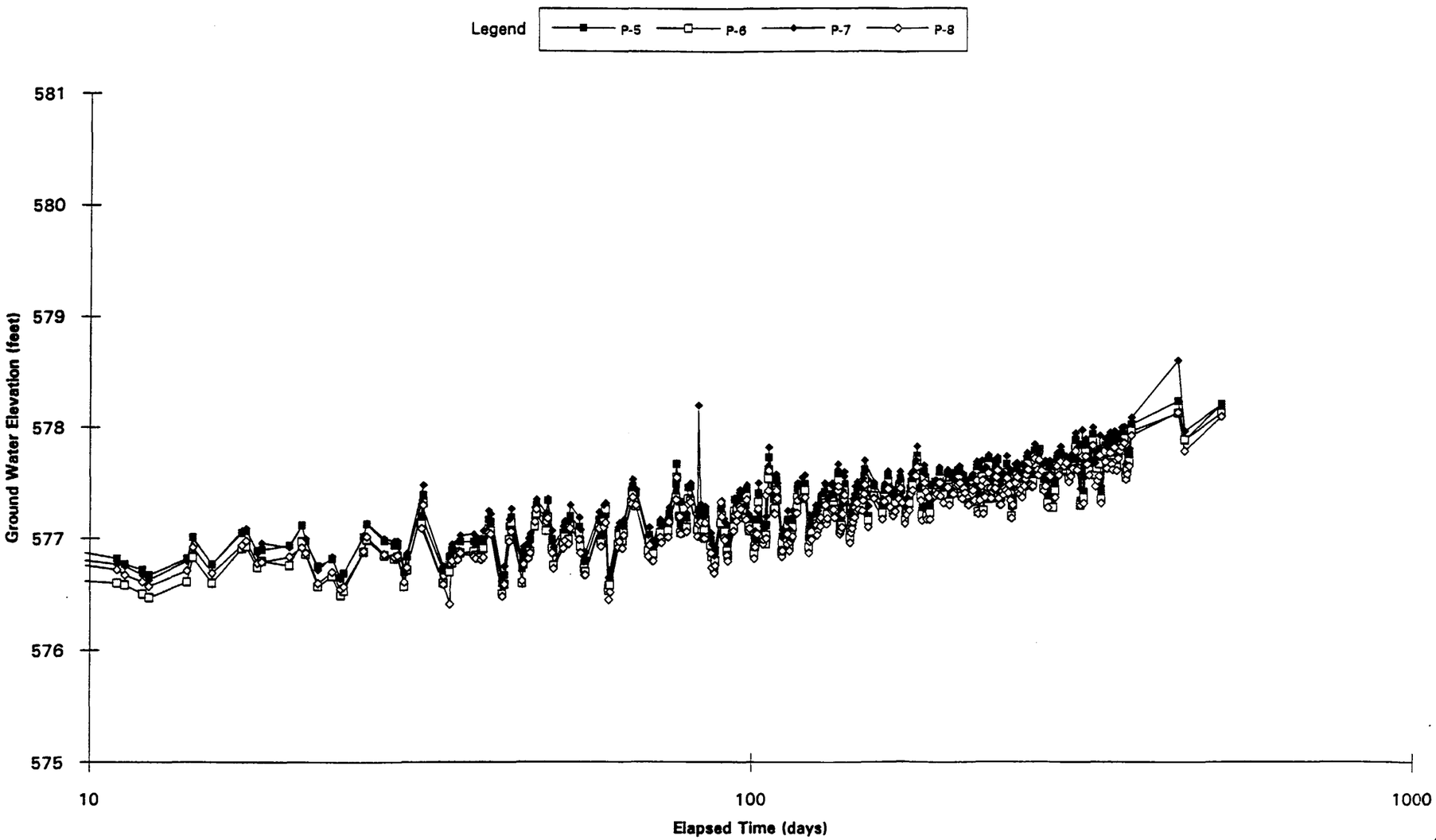
**Canonie** Environmental

**FIGURE 5**




**KEY PLAN**

NOT TO SCALE



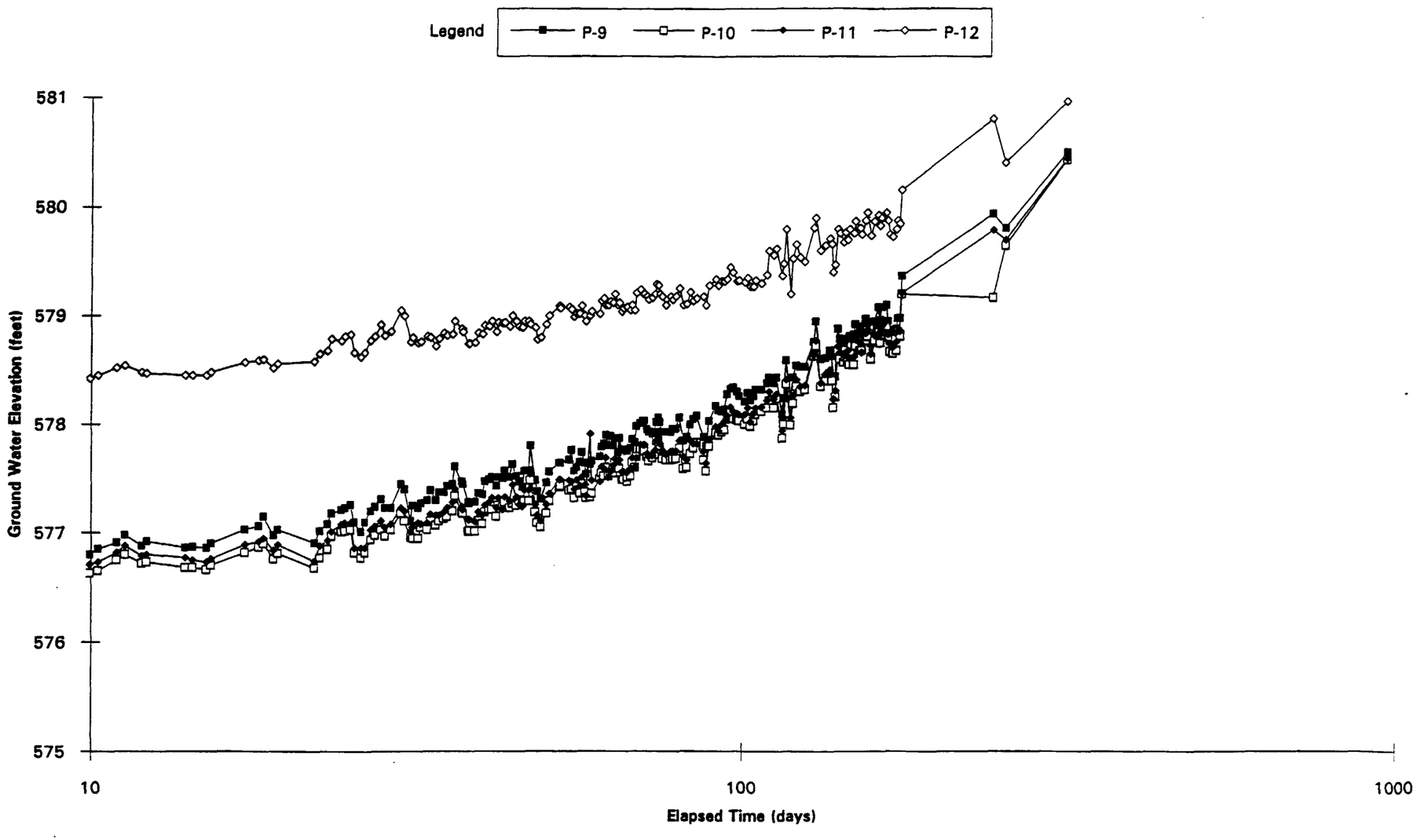

RECOVERY
EAST CONTAINMENT CELL
GROUND WATER ELEVATION vs. TIME
DECEMBER 27, 1993 THROUGH JUNE 1, 1995
WAUKEGAN HARBOR, WAUKEGAN, ILLINOIS

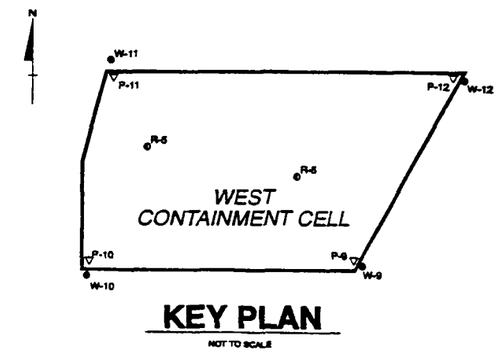
PREPARED FOR

**WAUKEGAN HARBOR TRUST**

**Canonie** Environmental

**FIGURE 6**



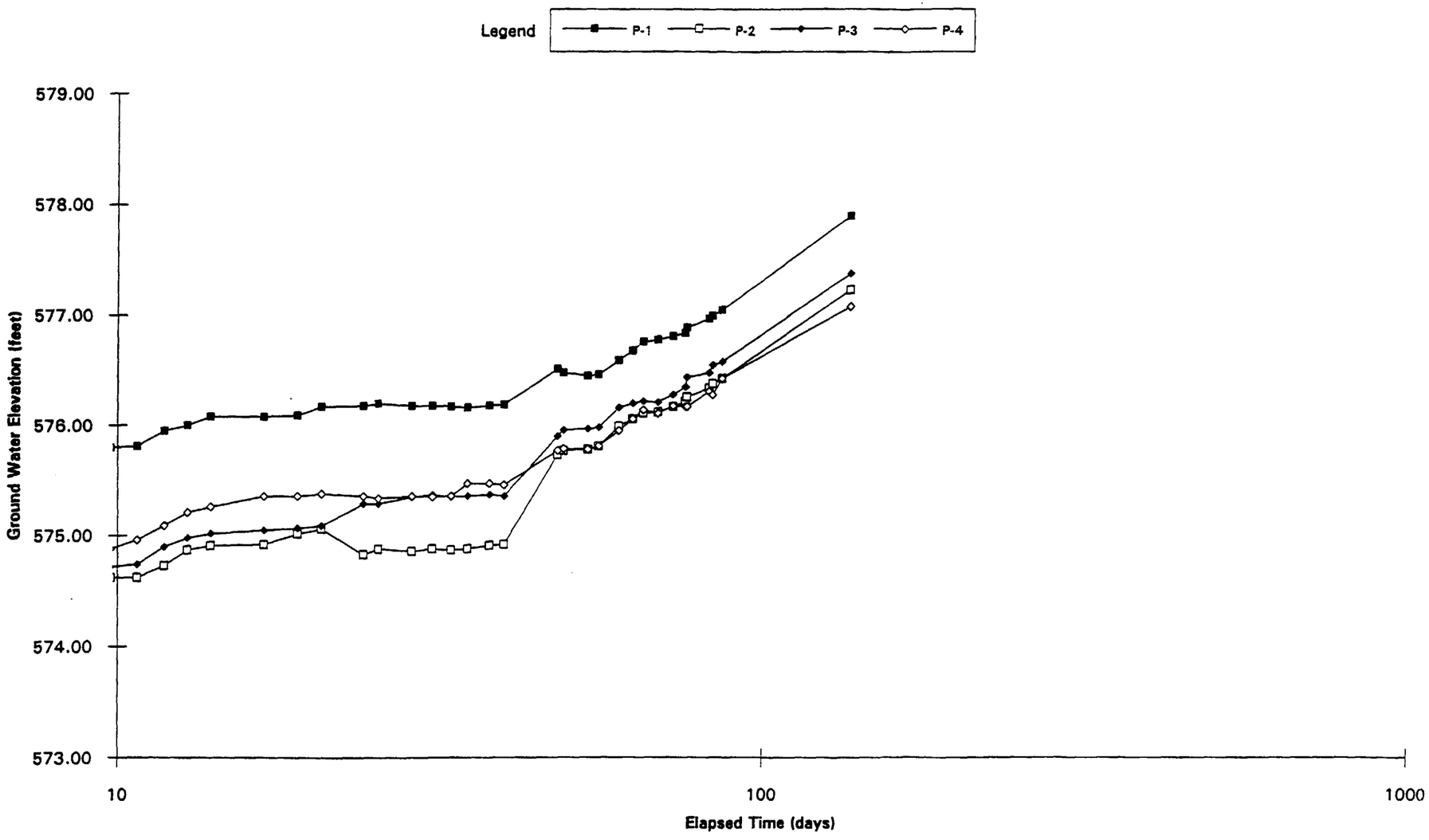

RECOVERY
WEST CONTAINMENT CELL
GROUND WATER ELEVATION vs. TIME
JULY 14, 1994 THROUGH JUNE 1, 1995
WAUKEGAN HARBOR, WAUKEGAN, ILLINOIS

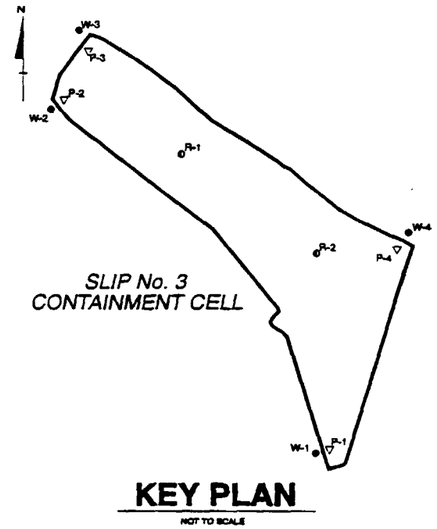
PREPARED FOR

**WAUKEGAN HARBOR TRUST**

**Canonie** Environmental

**FIGURE 7**




RECOVERY
SLIP No.3 CONTAINMENT CELL
GROUND WATER ELEVATION vs. TIME
JANUARY 6, 1995 THROUGH JUNE 1, 1995
WAUKEGAN HARBOR, WAUKEGAN, ILLINOIS

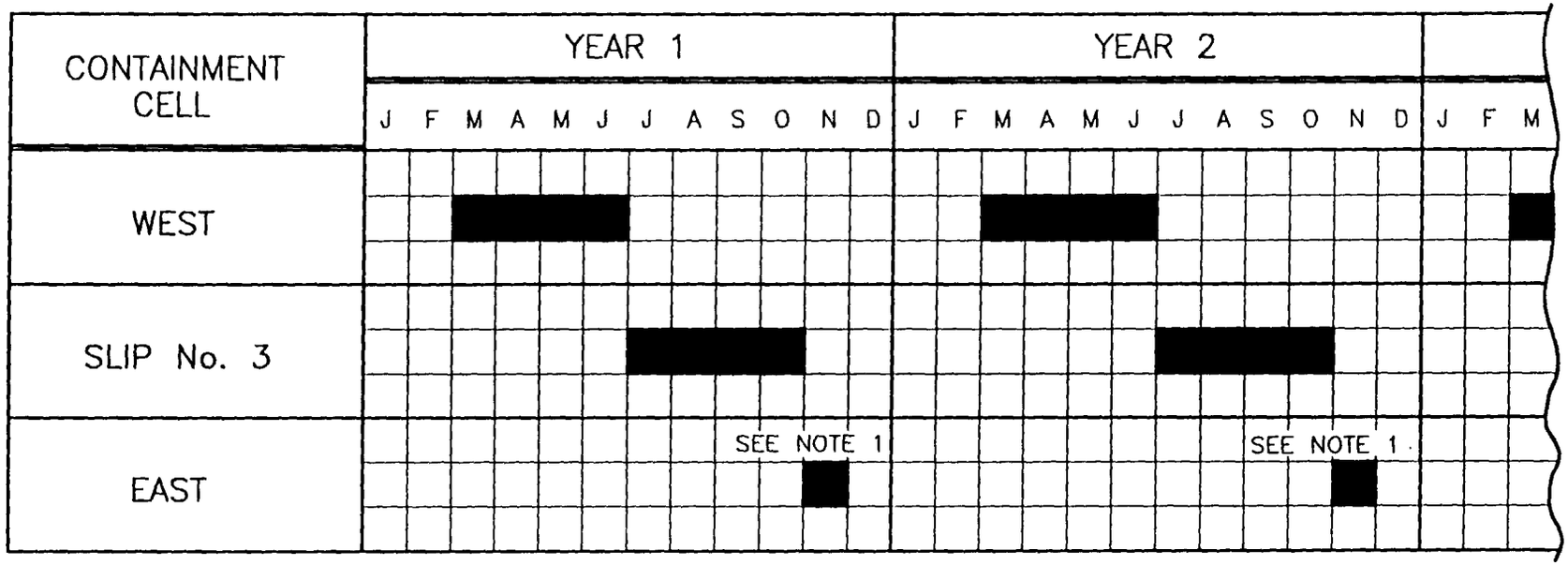
PREPARED FOR

**WAUKEGAN HARBOR TRUST**

**Canonie** Environmental

**FIGURE 8**

DRAWING NUMBER 87-126-A549




NOTES:

1. THE EAST CONTAINMENT CELL IS EXPECTED TO RECOVER TO LESS THAN 1 FOOT GRADIENT ACROSS THE SLURRY WALL IN NOT LESS THAN 4 YEARS. A GRADIENT GREATER THAN ONE FOOT CAN BE MAINTAINED BY PUMPING FOR ONE MONTH EVERY YEAR TO AVOID TREATING WATER DURING WINTER, OR PUMPED FOR 3 TO 4 MONTHS AS REQUIRED, ALTHOUGH THE PUMPING WOULD OCCUR DURING THE WINTER.

ANTICIPATED PUMPING SCHEDULE
WAUKEGAN HARBOR, WAUKEGAN, ILLINOIS

PREPARED FOR

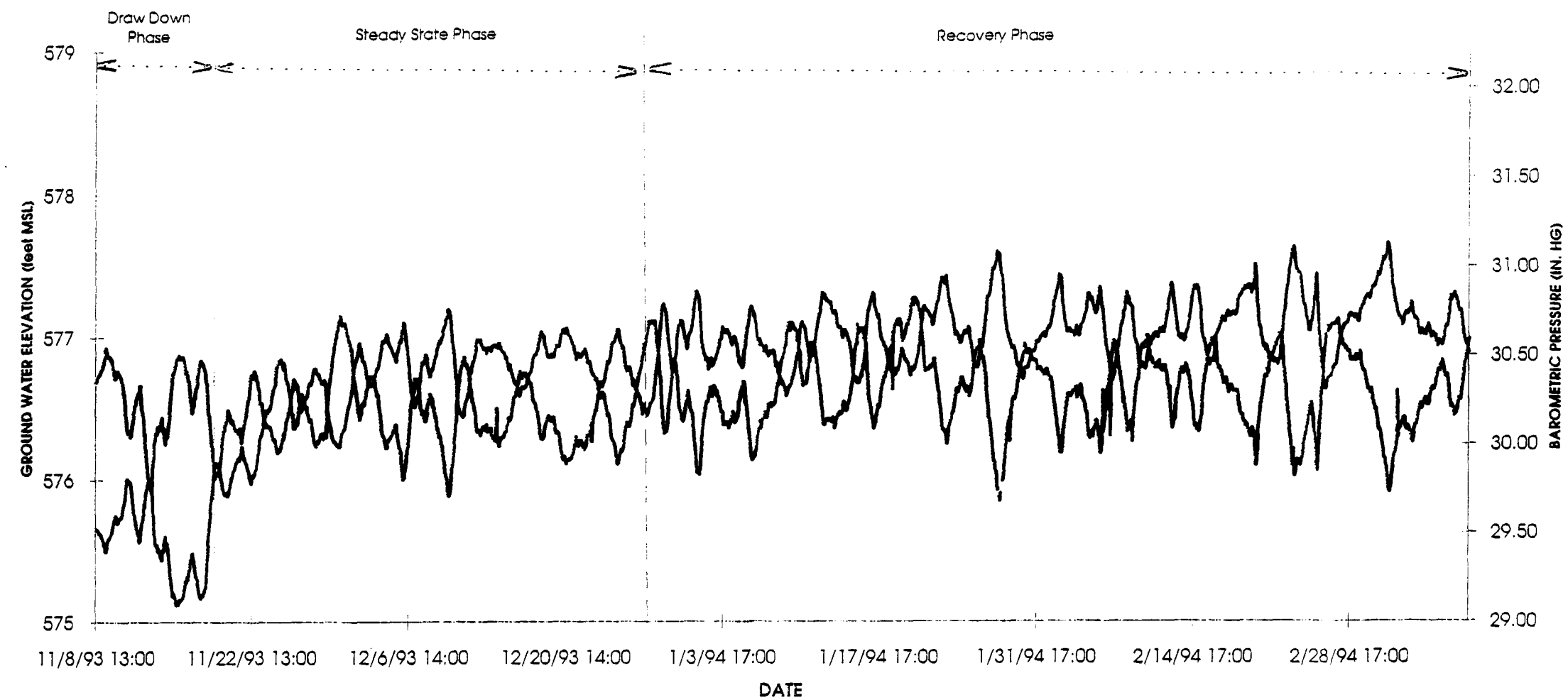
WAUKEGAN HARBOR TRUST

CanonieEnvironmental

| △ | | | J D J | | |
|---|---|---|---|---|---|
| | DATE | ISSUE / REVISION | DWN. BY | CK'D BY | AP'D BY |

| DATE: 7-11-95 | FIGURE 9 | DRAWING NUMBER 87-126-A549 |
|---|---|---|
| SCALE: NONE | | |

DRAWING NUMBER 87-126-B550




**LEGEND:**

HERMIT 2000 DATA PIEZOMETER P-5

BAROMETRIC PRESSURE DATA

**NOTES:**

1. BAROMETRIC PRESSURE DATA WAS RECORDED AT THE OMC WEATHER STATION.

GROUND WATER ELEVATION P-5 AND
BAROMETRIC PRESSURE DATA
11-8-93 THROUGH 3-19-94
EAST CONTAINMENT CELL
WAUKEGAN HARBOR, WAUKEGAN ILLINOIS

PREPARED FOR

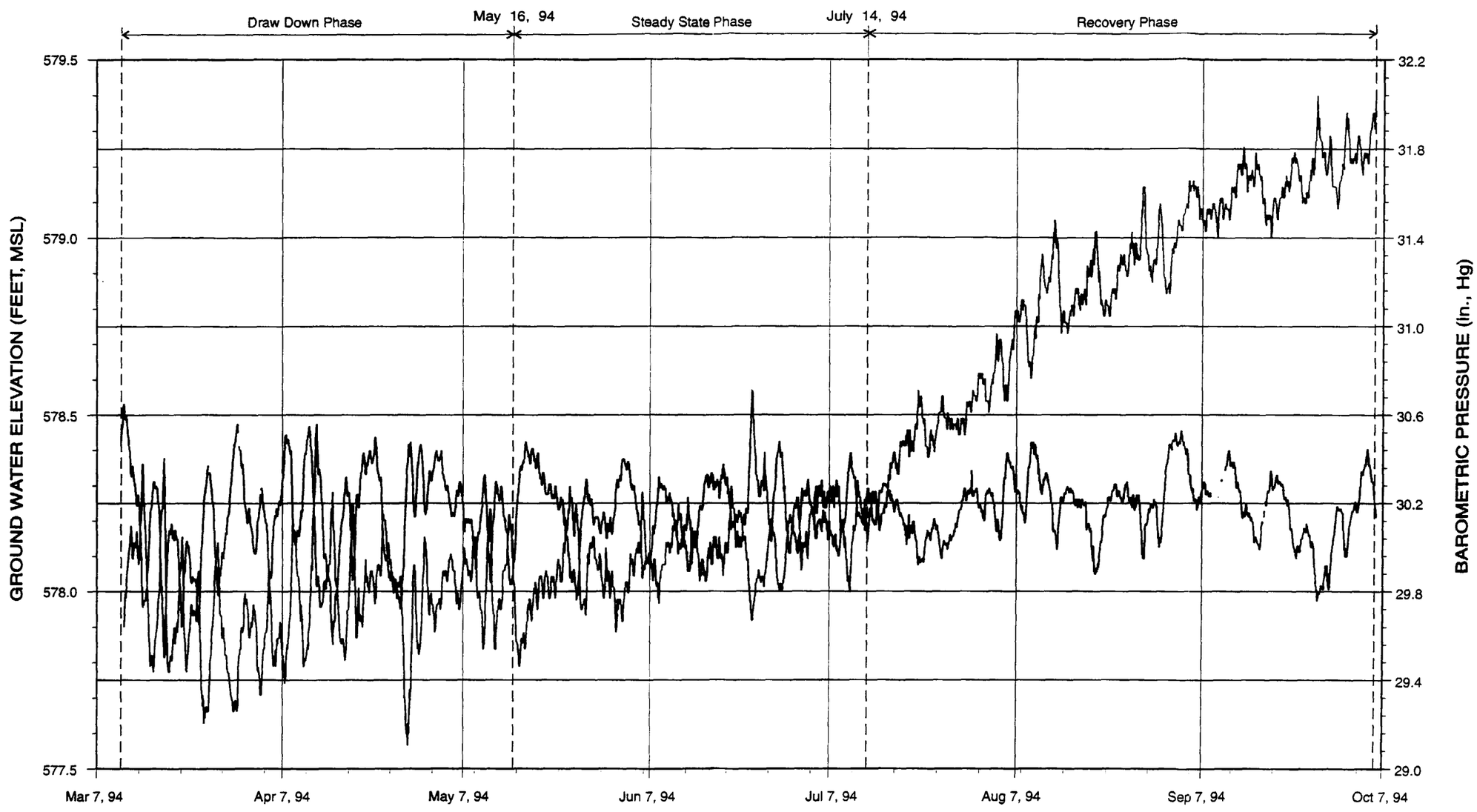
WAUKEGAN HARBOR TRUST

Canonie Environmental

| No. | DATE | ISSUE / REVISION | DWN. BY | CK'D BY | AP'D BY |
|---|---|---|---|---|---|
| △ | | | MAM | | |

| | | |
|---|---|---|
| DATE: 7-14-95 | FIGURE 10 | DRAWING NUMBER 87-126-B550 |
| SCALE: NONE | | |

DRAWING NUMBER 87-126-B527




**LEGEND:**

HERMIT 2000 DATA PIEZOMETER P-12

BAROMETRIC PRESSURE DATA

**NOTES:**

1. BAROMETRIC PRESSURE DATA WAS RECORDED AT THE OMC WEATHER STATION.

GROUND WATER ELEVATION P-12 AND
BAROMETRIC PRESSURE DATA
3-11-94 THROUGH 10-5-94
WEST CONTAINMENT CELL
WAUKEGAN HARBOR, WAUKEGAN ILLINOIS

PREPARED FOR

WAUKEGAN HARBOR TRUST

Canonie Environmental

| No. | DATE | ISSUE / REVISION | DWN. BY | CK'D BY | APD BY |
|---|---|---|---|---|---|
| △ | | | SAK | | |

| | | |
|---|---|---|
| DATE: 11-23-94 | FIGURE 11 | DRAWING NUMBER |
| SCALE: NONE | | 87-126-B527 |

# APPENDIX E

## HDPE LINER QA/QC REPORTS

- SLIP NO. 3 CONTAINMENT CELL
- WEST CONTAINMENT CELL
- EAST CONTAINMENT CELL
- RETENTION POND

# SLIP NO. 3 CONTAINMENT CELL

09/09/94

NSC

# POLYETHYLENE CERTIFICATE OF ANALYSIS

Customer: Canonie Environmental Services

Resin Type: Solvay

Project Name: Waukegan, IL

Project Number: 2583-100

We hereby certify that the polyethylene resin for the above identified shipment, meets or exceeds National Seal Company's specifications, below. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238. Density was determined according to ASTM D 1505. Where appropriate, carbon black content was determined according to ASTM D 1603. The average test results are listed in the table below.

## RESIN SPECIFICATIONS

| | | |
|---|---|---|
| Melt Flow Index | 0.5 gram/10 minutes | Maximum |
| Density (with carbon black) | 0.94 grams/$cm^3$ | Minimum |
| Carbon Black Content | 2% to 3% | Range |

| BLEND NUMBER | MELT FLOW INDEX | DENSITY | CARBON BLACK CONTENT |
|---|---|---|---|
| 713A | 0.27 | 0.936 | |
| 726A | 0.27 | 0.936 | |

Jane Allen

Jane Allen
Quality Control Manager

9-09-94
Date:

NSC

POLY-NET CERTIFICATE OF ANALYSIS

Customer: Canonie Environmental Services

Number of Rolls Shipped: 24

Project Name: Waukegan, IL

Material Type: PN-3000

Project Number: 2583-100

We hereby certify that the polyethylene geonet for the above mentioned shipment meets or exceeds National Seal Company's specifications, below. Testing was performed at least every 40,000 $ft^2$.

Thickness was measured according to ASTM D 5199. Mass Per Unit Area was measured according to ASTM D 3776. Tensile Properties were determined according to ASTM D 5035, NSC modified.

GEONET SPECIFICATIONS

| | PN-2000 | PN-3000 | PN-3000CN | PN-4000 | |
|---|---|---|---|---|---|
| Thickness (inches) | 0.160 | 0.200 | 0.200 | 0.270 | Minimum |
| Mass Per Unit Area ($lbs/ft^2$) | 0.117 | 0.162 | 0.130 | 0.220 | Minimum |
| Tensile Strength (ppi) | 30 | 42 | 23 | 44 | Minimum |

A database listing of Mass Per Unit Area, Thickness and Tensile Properties follows:

NATIONAL SEAL COMPANY

Jane Allen

Jane Allen
Quality Control Manager

9-09-94
Date

NSC

09/09/94 POLY-NET QUALITY CONTROL TEST DATA 

Bill(s) of Lading: 03925

| DATE | BATCH NUMBER | ROLL NUMBER | AVERAGE THICKNESS (inches) | TENSILES MD (ppi) | WEIGHT (lbs/ft2) |
|---|---|---|---|---|---|
| 09/01/94 | 713A | 410100064 | 0.2244 | 58.7 | 0.1830 |
| | 713A | 410100154 | 0.2228 | 57.1 | 0.1829 |
| | 713A | 410100244 | 0.2237 | 54.0 | 0.1845 |
| | 713A | 410100344 | 0.2189 | 51.7 | 0.1766 |
| | 713A | 410100444 | 0.2233 | 56.7 | 0.1826 |
| 09/02/94 | 713A | 410200054 | 0.2228 | 57.5 | 0.1865 |
| | 713A | 410200144 | 0.2212 | 59.4 | 0.1818 |
| | 726A | 410200244 | 0.2197 | 48.6 | 0.1787 |
| | 726A | 410200334 | 0.2204 | 54.6 | 0.1802 |
| | 726A | 410200424 | 0.2205 | 54.4 | 0.1787 |

09/08/94

NSC

# POLYETHYLENE CERTIFICATE OF ANALYSIS

Customer: Canonie Environmental Services

Resin Type: U.C. 1527

Project Name: Waukegan, IL

Project Number: 2583-100

We hereby certify that the polyethylene resin for the above identified shipment, meets or exceeds National Seal Company's specifications, below. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238. Density was determined according to ASTM D 1505. Where appropriate, carbon black content was determined according to ASTM D 1603. The average test results are listed in the table below.

## RESIN SPECIFICATIONS

| | | |
|---|---|---|
| Melt Flow Index | 0.5 gram/10 minutes | Maximum |
| Density (with carbon black) | 0.94 grams/$cm^3$ | Minimum |
| Carbon Black Content | 2% to 3% | Range |

| BLEND NUMBER | MELT FLOW INDEX | DENSITY | CARBON BLACK CONTENT |
|---|---|---|---|
| 3220 | 0.22 | 0.939 | |
| 3222 | 0.22 | 0.939 | |

Jane Allen

Jane Allen
Quality Control Manager

9-08-94

Date:

NSC

# GEOMEMBRANE CERTIFICATE OF ANALYSIS

Customer: Canonie Environmental Services

Number of Rolls Shipped: 7

Project Name: Waukegan, IL

Nominal Thickness: 60 mil

Project Number: 2583-100

We hereby certify that the polyethylene geomembrane for the above identified shipment meets or exceeds National Seal Company's specifications, below. Testing was performed at the frequency indicated.

The raw polymeric material is first quality polyethylene resin containing no more than two percent clean re-worked plastic by weight. Thickness was measured according to ASTM D 5199. Tensile properties were determined in accordance with ASTM D 638, NSF modified, using Type IV dumbell specimens, a strain rate of two inches per per minute, and grip movement for strain determinations. Carbon black dispersion slides were prepared according to ASTM D 3015, NSF modified, and rated according to the ASTM D 2663 dispersion classification chart under 100X magnification. Where appropriate, carbon black content was determined according to ASTM D 1603. Dimensional stability was determined according to ASTM D 1204 at 100°C for one hour.

A database listing of all test values follows.

## GEOMEMBRANE SPECIFICATIONS

| | | |
|---|---|---|
| Thickness | 60 mil Minimum | at least every 50,000 $ft^2$ |
| Stress at Yield | 2200 psi Minimum | at least every 50,000 $ft^2$ |
| Stress at Break | 3800 psi Minimum | at least every 50,000 $ft^2$ |
| Strain at Yield | 13% Minimum | at least every 50,000 $ft^2$ |
| Strain at Break | 700% Minimum | at least every 50,000 $ft^2$ |
| Carbon Black Dispersion | A1 or A2 | at least every 50,000 $ft^2$ |
| Carbon Black Content | 2% to 3% | at least every 50,000 $ft^2$ |
| Dimensional Stability | +/- 2% | at least once per shift |

NATIONAL SEAL COMPANY

Jane Allen

Jane Allen
Quality Control Manager

9-08-94

Date

NSC

GEOMEMBRANE STANDARD TESTING

Date: 09/08/94



Bill(s) of Lading: 03913

| ROLL NUMBER | THICK (mil) | STRESS AT YIELD (psi) MD | STRESS AT YIELD (psi) TD | STRESS AT BREAK (psi) MD | STRESS AT BREAK (psi) TD | STRAIN AT YIELD (%) MD | STRAIN AT YIELD (%) TD | STRAIN AT BREAK (%) MD | STRAIN AT BREAK (%) TD | CARB DISP | CARB CONT (%) | DIMENSIONAL STABILITY MD | DIMENSIONAL STABILITY TD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C06L3220-4H1900011 | 61.5 | 2540 | 2570 | 5160 | 4970 | 17.4 | 16.4 | 940 | 969 | A1 | 2.35 | -0.6 | 0.2 |
| C06L3220-4H1900031 | 61.2 | 2640 | 2690 | 5010 | 5350 | 17.2 | 16.1 | 888 | 1040 | A1 | 2.28 | -0.8 | 0.2 |
| C06L3220-4H1900051 | 60.9 | 2470 | 2470 | 5130 | 4840 | 16.7 | 15.1 | 936 | 979 | A1 | 2.29 | -0.6 | 0.4 |
| C06L3220-4H1900091 | 61.3 | 2490 | 2510 | 4680 | 5160 | 16.7 | 16.1 | 864 | 1040 | A1 | 2.30 | -0.6 | 0.0 |
| C06L3220-4H1900121 | 61.1 | 2430 | 2450 | 4970 | 4900 | 16.6 | 16.2 | 938 | 1010 | A1 | 2.30 | -0.4 | 0.2 |
| C06L3222-4H2300011 | 60.9 | 2550 | 2560 | 5080 | 5230 | 15.9 | 15.6 | 900 | 1010 | A1 | 2.33 | -0.6 | 0.2 |
| C06L3222-4H2300051 | 60.9 | 2620 | 2550 | 5320 | 5420 | 16.8 | 16.1 | 922 | 1050 | A1 | 2.26 | 0.0 | 0.0 |
| S06L811A-4H2300060 | 62.0 | 2340 | 2430 | 4860 | 5360 | 15.5 | 15.7 | 830 | 998 | A1 | 2.26 | -0.8 | 0.4 |
| C06L3222-4H2300081 | 61.3 | 2570 | 2550 | 5060 | 5350 | 16.0 | 15.8 | 898 | 1050 | A1 | 2.26 | -0.8 | 0.4 |
| C06L3222-4H2300111 | 60.8 | 2370 | 2590 | 5090 | 5370 | 16.0 | 15.7 | 941 | 1030 | A1 | 2.26 | 0.0 | 0.0 |
| C06L3222-4H2300141 | 60.6 | 2570 | 2690 | 4910 | 5180 | 17.3 | 16.4 | 866 | 999 | A1 | 2.28 | -1.0 | 0.6 |
| S06L811A-4H2300020 | 61.9 | 2330 | 2400 | 5230 | 5360 | 17.9 | 16.6 | 904 | 1010 | A1 | 2.20 | -0.6 | 0.4 |
| S06L811A-4H2300040 | 61.4 | 2300 | 2340 | 5340 | 4980 | 15.5 | 15.5 | 928 | 957 | A1 | 2.26 | 0.0 | 0.0 |
| C06L3222-4H2400031 | 60.6 | 2520 | 2630 | 5270 | 5380 | 16.1 | 15.8 | 906 | 1000 | A1 | 2.33 | -0.8 | 0.4 |
| N06L652N-4H2400061 | 61.6 | 2330 | 2350 | 5200 | 5240 | 16.0 | 15.6 | 943 | 1050 | A1 | 2.30 | -0.6 | 0.0 |

Jane Allen

Jane Allen
Quality Control Manager

9-08-94
Date

09/08/94

NSC

# POLYETHYLENE CERTIFICATE OF ANALYSIS

Customer: Canonie Environmental Services

Resin Type: U.C. 1527

Project Name: Waukegan, IL

Project Number: 2583-100

We hereby certify that the polyethylene resin for the above identified shipment, meets or exceeds National Seal Company's specifications, below. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238. Density was determined according to ASTM D 1505. Where appropriate, carbon black content was determined according to ASTM D 1603. The average test results are listed in the table below.

## RESIN SPECIFICATIONS

| | | |
|---|---|---|
| Melt Flow Index | 0.5 gram/10 minutes | Maximum |
| Density (with carbon black) | 0.94 grams/$cm^3$ | Minimum |
| Carbon Black Content | 2% to 3% | Range |

| BLEND NUMBER | MELT FLOW INDEX | DENSITY | CARBON BLACK CONTENT |
|---|---|---|---|
| 9724 | 0.16 | 0.939 | |

Jane Allen

Jane Allen
Quality Control Manager

9-08-94

Date:

NSC

POLY-NET CERTIFICATE OF ANALYSIS

Customer: Canonie Environmental Services

Number of Rolls Shipped: 1

Project Name: Waukegan, IL

Material Type: PN-3000

Project Number: 2583-100

We hereby certify that the polyethylene geonet for the above mentioned shipment meets or exceeds National Seal Company's specifications, below. Testing was performed at least every 40,000 $ft^2$.

Thickness was measured according to ASTM D 5199. Mass Per Unit Area was measured according to ASTM D 3776. Tensile Properties were determined according to ASTM D 5035, NSC modified.

GEONET SPECIFICATIONS

| | PN-2000 | PN-3000 | PN-3000CN | PN-4000 | |
|---|---|---|---|---|---|
| Thickness (inches) | 0.160 | 0.200 | 0.200 | 0.270 | Minimum |
| Mass Per Unit Area ($lbs/ft^2$) | 0.117 | 0.162 | 0.130 | 0.220 | Minimum |
| Tensile Strength (ppi) | 30 | 42 | 23 | 44 | Minimum |

A database listing of Mass Per Unit Area, Thickness and Tensile Properties follows:

NATIONAL SEAL COMPANY

Jane Allen

Jane Allen
Quality Control Manager

9-08-94

Date

NSC

09/08/94 POLY-NET QUALITY CONTROL TEST DATA 

Bill(s) of Lading: 03913

| DATE | BATCH NUMBER | ROLL NUMBER | AVERAGE THICKNESS (inches) | TENSILES MD (ppi) | WEIGHT (lbs/ft2) |
|---|---|---|---|---|---|
| 08/27/94 | 9724 | 4H2700034 | 0.2113 | 49.8 | 0.1881 |
| | 9724 | 4H2700114 | 0.2145 | 56.6 | 0.1747 |
| | 9724 | 4H2700194 | 0.2138 | 52.5 | 0.1737 |
| | 9724 | 4H2700284 | 0.2127 | 54.4 | 0.1693 |
| | 9724 | 4H2700374 | 0.2129 | 56.8 | 0.1730 |
| 08/28/94 | 9724 | 4H2800044 | 0.2147 | 56.6 | 0.1710 |
| | 9724 | 4H2800134 | 0.2136 | 59.3 | 0.1755 |
| | 9724 | 4H2800224 | 0.2068 | 51.4 | 0.1776 |
| | 9724 | 4H2800314 | 0.2136 | 52.4 | 0.1754 |
| | 9724 | 4H2800404 | 0.2154 | 59.6 | 0.1798 |

09/08/94

NSC

# POLYETHYLENE CERTIFICATE OF ANALYSIS

Customer: Canonie Environmental Services

Resin Type: U.C. 1527
Extrusion Rod

Project Name: Waukegan, IL

Project Number: 2583-100

We hereby certify that the polyethylene resin for the above identified shipment, meets or exceeds National Seal Company's specifications, below. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238. Density was determined according to ASTM D 1505. Where appropriate, carbon black content was determined according to ASTM D 1603. The average test results are listed in the table below.

## RESIN SPECIFICATIONS

| | | |
|---|---|---|
| Melt Flow Index | 0.5 gram/10 minutes | Maximum |
| Density (with carbon black) | 0.94 grams/$cm^3$ | Minimum |
| Carbon Black Content | 2% to 3% | Range |

| BLEND NUMBER | MELT FLOW INDEX | DENSITY | CARBON BLACK CONTENT |
|---|---|---|---|
| 4193 | 0.18 | 0.949 | 2.31 |

Jane Allen

Jane Allen
Quality Control Manager

9-08-94
Date:

**NSC** NATIONAL SEAL COMPANY

PAGE 1 OF

# PANEL PLACEMENT FORM

PROJECT NAME: CANONIC PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: CX-1527

| DATE/ TIME | PANEL NUMBER | ROLL NUMBER | PANEL LENGTH | PANEL WIDTH | COMMENTS/ PANEL LOCATION |
|---|---|---|---|---|---|
| 9-22-94 11:40 | P-1 | 2400011 | ~~24000H~~ 312' | 14.5' | North Tie-in to South Tie-in |
| 11:45 | P-2 | " | 294' | " | N. Tie-in to Butt Seam |
| 13:30 | P-3 | " | 18' | " | B-Seam to S. Tie-in |
| 13:35 | P-4 | " | 314' | " | N. Tie-in to S. Tie-in |
| 13:45 | P-5 | " | 158' | " | B-Seam to S. Tie-in |
| 14:00 | P-6 | 2300691 | 150' | " | B-Seam ~~N. Tie-in to~~ to B-Seam |
| 14:05 | P-7 | " | 11' | " | N. Tie in to B-Seam |
| 14:20 | P-8 | " | 282' | " | N. Tie in to S. Tie in |
| 14:30 | P-9 | " | 247' | " | Butt Seam to S. Tie-in |
| 14:35 | P-10 | 2400011 X | 8' ~~12'~~ | " | N. Tie in to B-Seam |
| 15:00 | P-11 | 2300091 | 239' | " | N. Tie in to S. Tie in |
| 15:05 | P-12 | " | 170' | " | B-Seam to S. Tie-in |
| 15:25 | P-13 | 1900031 | 50' | " | N. Tie in to B-Seam |
| 15:30 | P-14 | " | 207' | " | N. Tie in to S. Tie in |
| 15:40 | P-15 | " | 142' | " | " " |
| 15:55 | P-16 | " | 167' | " | (Pie) P-15 to S. Tie-in |

**NSC** NATIONAL SEAL COMPANY

PAGE 2 OF

# PANEL PLACEMENT FORM

PROJECT NAME: CANONIS PROJECT NUMBER: 2553 MATERIAL DESCRIPTION: X-1527

| DATE/ TIME | PANEL NUMBER | ROLL NUMBER | PANEL LENGTH | PANEL WIDTH | COMMENTS/ PANEL LOCATION |
|---|---|---|---|---|---|
| 9-23-94 16:15 | P-17 | 1900031 | 118' | 14.5 | P.E. P-15 to S. TIE-IN |
| 16:20 | P-18 | " | 49' | " | P.E. P-15 to S. TIE-IN |
| 16:45 | P-19 | " | 142' | " | N. TIE-IN to S. TIE IN |
| 16:50 | P-20 | " | 133' | 14.5 | " " |
| 17:00 | P-21 | " | 131' | 14.5 | " " |
| 9-23-94 7:50 | P-22 | 2300061 | 138' | " | " " |
| 8:00 | P-23 | " | 125' | " | " " |
| 8:05 | P-24 | " | 126' | " | " " |
| 8:10 | P-25 | " | 126' | " | " " |
| 8:15 | P-26 | " | 118' | " | " " |
| 8:25 | P-27 | " | 115' | " | " " |
| 8:30 | P-28 | " | 112' | " | " " |
| 9:00 | P-29 | " | 106' | " | " " |
| 9:10 | P-30 | " | 102' | " | " " |
| 9:20 | P-31 | " | 41' | " | B-SEAM to S. TIE IN |
| 9:50 | P-32 | 1900041 | 53' | " | N. TIE to B-SEAM |

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# PANEL PLACEMENT FORM

PROJECT NAME: CANONIE PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1537

| DATE/ TIME | PANEL NUMBER | ROLL NUMBER | PANEL LENGTH | PANEL WIDTH | COMMENTS/ PANEL LOCATION |
|---|---|---|---|---|---|
| 9-23-94 10:05 | P-33 | 1900041 | 104' | 14.5' | N. TIE IN to S. TIE IN |
| 10:10 | P-34 | " | 104' | " | " " |
| 10:15 | P-35 | " | 102' | " | " " |
| 10:25 | P-36 | " | 102' | " | " " |
| 10:45 | P-37 | " | 105' | " | " " |
| 10:50 | P-38 | " | 103' | " | " " |
| 10:55 | P-39 | " | 103' | " | " " |
| 11:00 | P-40 | " | 110' | " | " " |
| 11:05 | P-41 | " | 109' | " | " " |
| 11:25 | P-42 | " | ~~8~~ 24' | " | B-SEAM to S. TIE-IN |
| 11:40 | P-43 | Roll-B | 80' | " | N. TIE IN to B-SEAM |
| 11:50 | P-44 | " | 104' | " | N. TIE IN to S. TIE-IN |
| 11:55 | P-45 | " | 151' | " | " " |
| 12:00 | P-46 | " | 100 | " | " " |
| | | | | | |
| | | | | | |

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# PANEL PLACEMENT FORM

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | PANEL NUMBER | ROLL NUMBER | PANEL LENGTH | PANEL WIDTH | * All Trench panels Run w. to e. except west trench — COMMENTS/ PANEL LOCATION |
|---|---|---|---|---|---|
| 9-6 to 9-21 | Tp-1 | A | | 14.5' | Trench panels Deployed By Canonie Before Arrival of site → 0'(w) to 10' |
| | Tp-2 | " | | | Given Roll #'s for Trench Panels → 10' - 48' |
| | Tp-3 | " | | | 45-97' |
| | Tp-4 | " | | | 97-149' |
| | Tp-5 | " | | | 149'-191' |
| | Tp-6 | " | | | 191'-234' |
| | Tp-7 | " | | | 234'-275' |
| | Tp-8 | " | | | 275-336' |
| | Tp-9 | " | | | 336'-385' |
| | Tp-10 | " | | | 385'-436' |
| | Tp-11 | " | | | 436'-486' |
| | Tp-12 | " | | | 48-526' |
| | Tp-13 | " | | | 526' to end end of North Trench 526' to end |
| | Tp-14 | " | | | 42'(S) to 70'(S) West Trench |
| | Tp-15 | " | | | 15'(S) to 41'(S) Along west trench |
| 9-6 to 9-21 | Tp-16 | " | | 14.5' | 0'(w) to [ '(w) ] |

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PAGE ~~4~~ 5 OF ____

# PANEL PLACEMENT FORM

PROJECT NAME: Canonie PROJECT NUMBER: 2553 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | PANEL NUMBER | ROLL NUMBER | PANEL LENGTH | PANEL WIDTH | COMMENTS/ PANEL LOCATION |
|---|---|---|---|---|---|
| 9-6 to 9-21 | Tp-17 | A | | 14.5 | 54'(w) to 117'(w) |
| ↓ | Tp-18 | " | | ↓ | 117' to 144' |
| ↓ | Tp-19 | " | | ↓ | 144' to 201' |
| | Tp-20 | " | | | 201' to 247' |
| | Tp-21 | " | | | 247' to 311' |
| | Tp-22 | " | | | 311' to 371' |
| | Tp-23 | " | | | 371' to 432' |
| | Tp-24 | " | | | 432' to 450' |
| | Tp-25 | Roll B | | | 450' to 478' |
| | Tp-26 | " | | | 478' to 518' |
| | Tp-27 | " | | | 518' to 566' |
| | Tp-28 | " | | | 566' to 608' |
| | Tp-29 | " | | | 608' to 640' |
| | Tp-30 | " | | | 640' to 657 |
| | Tp-31 | " | | | 0' to 47 Refer to AsBuilt |
| | | | | | |

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# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: LC-1527

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / - | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | C/S = CROSS SEAM LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 9-23-94 | 1/2 | 2087 | 35 | 34 | -1 | 1030 | 1035 | Y | | 0'(N) to 295' @ C/S |
| | 1/3 | | | | | | | | | 295' to end (ext) |
| 9-23 | 3/4 | 2087 | 34 | 33 | -1 | 1031 | 1036 | Y | | 0'(N) to 291 @ C/S |
| | 2/3 | | | | | | | | | C/S - complete |
| | 3/4 | | | | | | | | | |
| | 4/7 | | | | | | | | | 0'(N) to 12'(N) @ C/S |
| 9-23 | 6/7 | 2087 | 31 | 31 | -0 | 1046 | 1051 | Y | | C/S - complete |
| " | 4/6 | | 34 | 33 | -1 | 1032 | 1037 | Y | | 12'(N) to 162'(N) @ C/S |
| " | 4/5 | | 33 | 32 | -1 | 1035 | 1040 | Y | | ~~C/S - complete~~ 162'(N) to end |
| " | 5/6 | | 31 | 31 | -0 | 1036 | 1041 | Y | | C/S - complete |
| " | 7/8 | | 33 | 33 | -0 | 1045 | 1050 | Y | | 0'(N) to 12'(N) @ C/S |
| " | 6/8 | | 32 | 31 | -1 | 1047 | 1052 | Y | | 12'(N) to 159'(N) @ C/S |
| " | 5/8 | | 35 | 34 | -1 | 1055 | 1100 | Y | | 159'(N) to end |
| | 8/10 | | | | | | | | | 0'(N) to 8'(N) @ C/S |
| 9-23 | 8/9 | 2087 | 34 | 34 | -0 | 1048 | 1053 | Y | | 8'(N) to end |
| " | 9/10 | | 34 | 34 | -0 | 1109 | 1114 | Y | | C/S complete |
| " | 10/11 | | 32 | 31 | -1 | 1108 | 1113 | Y | | 0'(N) to 8'(N) |
| " | 9/ | | 35 | 34 | -1 | 1110 | 1115 | Y | | 8'(N) to end |
| " | 11/13 | | 31 | 31 | -0 | 1111 | 1116 | Y | | 0'(N) to (N) @ C/S |
| " | 11/12 | | 31 | 30 | -1 | 1124 | 1129 | Y | | (N) to end |
| " | 12/13 | | 30 | 30 | -0 | 1123 | 1128 | Y | | C/S - complete |
| " | 13/14 | | 30 | 30 | -0 | 1120 | 1125 | Y | | 0'(N) to |
| " | 12/14 | | 35 | 34 | -1 | 1121 | 1126 | Y | | (N) to end |
| " | 14/15 | | 35 | 35 | -0 | 1330 | 1335 | Y | | 0'(N) to |
| " | 14/16 | | 30 | 30 | -0 | 1331 | 1[illegible] | Y | | (N) to |
| " | 14/[illegible] | | 35 | 34 | -1 | 1332 | 1337 | Y | | (N) to end |

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# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: CANONIC PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: CC-1527

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / - | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | C/S = CROSS SEAM LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 9-23-94 | 15/16 | 2087 | 30 | 30 | -0 | 1345 | 1350 | Y | | 0' (N) to (N) |
| " | 15/17 | " | 32 | 31 | -1 | 1346 | 1351 | Y | | to |
| " | 15/18 | " | 35 | 34 | -1 | 1343 | 1348 | Y | | to 120' (N) |
| | 15/18 | | | | | | | | | 120' (N) to END (EXT) |
| 9-23 | 16/17 | 2087 | 33 | 32 | -1 | 1333 | 1338 | Y | | to END |
| " | 17/18 | " | 35 | 34 | -1 | 1334 | 1339 | Y | | to END |
| " | 15/19 | " | 35 | 34 | -1 | 1410 | 1415 | Y | | 0' (N) to END |
| " | 19/20 | " | 32 | 31 | -1 | 1405 | 1410 | Y | | 0' (N) to END |
| " | 20/21 | " | 32 | 32 | -0 | 1406 | 1411 | Y | | 0' (N) to 100' (N) |
| " | 20/21 | " | 34 | 33 | -1 | 1411 | 1416 | Y | | 100' (N) to END |
| " | 21/22 | " | 34 | 33 | -1 | 1402 | 1407 | Y | | 0' (N) to END |
| " | 22/23 | " | 32 | 31 | -1 | 1403 | 1408 | Y | | 0' (N) to END |
| " | 23/24 | " | 35 | 34 | -1 | 1404 | 1409 | Y | | 0' (N) to END |
| " | 24/25 | " | 35 | 34 | -1 | 1430 | 1435 | Y | | 0' (N) to END |
| " | 25/26 | " | 32 | 31 | -1 | 1431 | 1436 | Y | | 0' (N) to END |
| " | 26/27 | " | 33 | 33 | -0 | 1432 | 1437 | Y | | 0' (N) to 90' (N) |
| " | 26/27 | " | 30 | 30 | -0 | 1435 | 1440 | Y | | 90' (N) to END |
| " | 27/28 | " | 34 | 33 | -1 | 1433 | 1438 | Y | | 0' (N) to END |
| " | 28/29 | " | 35 | 34 | -1 | 1500 | 1505 | Y | | 0' (N) to END |
| " | 29/30 | " | 34 | 34 | -0 | 1501 | 1506 | Y | | 0' (N) to 10' (N) |
| " | 29/30 | " | 32 | 31 | -1 | 1502 | 1507 | Y | | 10' (N) to END |
| " | 30/32 | " | 33 | 33 | -0 | 1503 | 1508 | Y | | 0' (N) to ~~Bot~~ C/S |
| " | 30/31 | " | 31 | 31 | -0 | 1521 | 1526 | Y | | (N) to END |
| " | 31/32 | " | 33 | 33 | -0 | 1522 | 1527 | Y | C/S | ~~Both~~ SEAM COMPLETE |
| " | 32/33 | " | 34 | 33 | -1 | 1524 | 1525 | Y | | 0' (N) to |
| " | 31/33 | " | 34 | 33 | -1 | 1523 | 1528 | Y | | (N) to END |

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# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: CANONIC PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / - | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 9-23-94 | 33/34 | 2087 | 32 | 31 | -1 | 1525 | 1530 | Y | | 0' (N) to END |
| " | 34/35 | " | 33 | 31 | -2 | 1543 | 1548 | Y | | 0' (N) to 60'(N) |
| " | 34/35 | " | 33 | 32 | -1 | 1544 | 1549 | Y | | 60'(N) to END |
| " | 35/36 | " | 34 | 34 | -0 | 1545 | 1550 | Y | | 0'(N) to END |
| " | 36/37 | " | 30 | 30 | -0 | 1546 | 1551 | Y | | 0'(N) to |
| " | 36/37 | " | 32 | 32 | -0 | 1550 | 1555 | Y | | (N) to END |
| " | 37/38 | " | 35 | 35 | -0 | 1542 | 1547 | Y | | 0'(N) to 80'(N) |
| " | 37/38 | " | 35 | 35 | -0 | 1615 | 1620 | Y | | 80'(N) to END |
| " | 38/39 | " | 31 | 31 | -0 | 1610 | 1615 | Y | | 0' (N) to |
| " | 38/39 | " | 34 | 34 | -0 | 1621 | 1626 | Y | | (N) to END |
| " | 39/40 | " | 34 | 33 | -1 | 1611 | 1616 | Y | | 0' (N) to END |
| " | 40/41 | " | 33 | 32 | -1 | 1612 | 1617 | Y | | 0' (N) to END |
| " | 41/43 | " | 34 | 33 | -1 | 1613 | 1618 | Y | | 0'(N) to '(N) ~~1304~~ C/S |
| 9-23 | 42/43 | 2087 | 30 | 30 | -0 | 1631 | 1636 | Y | | Butt Seam Complete to |
| | 41/42 | | | | | | | | | '(N) to 90'(N) (EXT) |
| 9-23 | 41/42 | 2087 | 32 | 32 | -0 | 1633 | 1638 | Y | | 90'(N) to END |
| " | 43/44 | " | 33 | 32 | -1 | 1627 | 1634 | Y | | 0' (N) to |
| " | 42/44 | " | 33 | 33 | -0 | 1632 | 1637 | Y | | (N) to END |
| " | 44/45 | " | 34 | 34 | -0 | 1630 | 1635 | Y | | 0' (N) to END |
| " | 45/46 | " | 35 | 34 | -1 | 1710 | 1715 | Y | | 0'(N) to 50'(N) |
| " | 45/46 | " | 34 | 33 | -1 | 1711 | 1716 | Y | | 50'(N) to END |

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# PANEL SEAMING FORM

PROJECT NAME: Canonie PROJECT NUMBER: 2553 MATERIAL DESCRIPTION: OC-1527

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-22-94 17:24 | 17/18 | 17/18 | 49' | 2130 | 1603 | 750 | cloudy | 0-5 (E) | 65° | | |
| 17:34 | 14/15/16/17/18 | 14/15/16/17/18 | 142' | 2130 | 1603 | " | " | " | " | | TREDAN 14/15/16/17/18 |
| 17:45 | 15/19 | 15/19 | 142' | 2138 | 1614 | " | " | " | " | | |
| 17:55 | 19/20 | 19/20 | 131' | 2130 | 1603 | " | " | " | " | | |
| 18:00 | 20/21 | 20/21 | 131' | 2135 | 1614 | " | " | " | " | | |
| 9-23-94 5:05 | 21/22 | 21/22 | 130' | 2130 | 1603 | 750° | cloudy | 5' (E) | 72° | | |
| 5:10 | 22/23 | 22/23 | 128' | 2163 | 1659 | " | " | " | " | | |
| 8:38 | 23/24 | 23/24 | 128' | 2163 | 1659 | " | " | " | " | | |
| 8:39 | 24/25 | 24/25 | 126' | 2130 | 1603 | " | " | " | " | | |
| 8:50 | 25/26 | 25/26 | 118' | 2163 | 1659 | " | " | " | " | | |
| 9:11 | 26/27 | 26/27 | 115' | 2130 | 1603 | " | " | " | " | | |
| 9:20 | 27/28 | 27/28 | 112' | 2163 | 1659 | " | " | " | " | | |
| 9:36 | 28/29 | 28/29 | 106 | 2130 | 1603 | " | " | " | " | | |
| 9:39 | 29/30 | 29/30 | 102' | 2163 | 1659 | " | " | " | " | | |
| 10:10 | 30/31/32 | 30/31/32 | 102' | 2163 | 1659 | " | " | " | 75° | | |
| 10:05 | 31/32 | 31/32 | 14.5 | 2130 | 1603 | " | " | " | " | | B-SEAM |

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# PANEL SEAMING FORM

PROJECT NAME: Chronos PROJECT NUMBER: 2533 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7-23-94 10:10 | 32/31/33 | 32/33 | 104' | 2130 | 1603 | 750° | cloudy | 5 mph (E) | 75° | | |
| 10:27 | 33/34 | 33/34 | 104' | 2163 | 1659 | " | " | " | " | | |
| 10:41 | 34/35 | 34/35 | 102' | 2130 | 1603 | " | " | " | " | | |
| 10:50 | 35/36 | 35/36 | 102' | 2163 | 1659 | " | " | " | " | | |
| 10:55 | 36/37 | 36/37 | 105' | 2130 | 1603 | " | " | " | " | | |
| 11:12 | 37/38 | 37/38 | 105' | 2163 | 1659 | " | " | " | " | | |
| 11:22 | 38/39 | 38/39 | 105' | 2130 | 1603 | " | " | " | " | | |
| 11:37 | 39/40 | 39/40 | 105' | 2163 | 1659 | " | " | " | " | | |
| ~~11:56~~ | 41/42/43 | 41/42/43 | 109' | 2130 | 1603 | " | " | " | " | | |
| 11:50 | 42/43 | 42/43 | 14.5 | 2130 | 1603 | " | " | " | " | | B-SEAM |
| 11:57 | 42/43/44 | 42/43/44 | 104' | 2163 | 1659 | " | " | " | " | | |
| 13:37 | 44/45 | 44/45 | 104 | 2163 | 1659 | " | " | " | " | | |
| 13:51 | 45/46 | 45/46 | 100' | 2163 | 1659 | " | " | " | " | | |
| 11:56 | 40/41 | 40/41 | 110' | 2163 | 1659 | " | " | " | " | | |
| | 46/47 | | | | | | | | | | |

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# PANEL SEAMING FORM

PROJECT NAME: Cedarville PROJECT NUMBER: 2558 MATERIAL DESCRIPTION: LX-1527

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-21-94 15:20 | Tp-1/2 | Tp-1/2 | 15' | 2127 | 224 | 255/7 | p.cloudy | 0-5 (E) | 74° | | |
| | Tp-2/3 | Tp-2/3 | | | | | | | | | |
| | Tp-3/4 | Tp-3/4 | | | | | | | | | |
| | Tp-4/5 | Tp-4/5 | | | | | | | | | |
| | Tp-5/6 | Tp-5/6 | | | | | | | | | |
| | Tp-6/7 | Tp-6/7 | | | | | | | | | |
| | Tp-7/8 | Tp-7/8 | | | | | | | | | |
| | Tp-8/9 | Tp-8/9 | | | | | | | | | |
| | Tp-9/10 | Tp-7/10 | | | | | | | | | |
| | Tp-10/11 | Tp-10/11 | | | | | | | | | |
| | Tp-11/12 | Tp-11/12 | | | | | | | | | |
| | Tp-13/12 | Tp-12/13 | | | | | | | | | |
| | ~~Tp-13/14~~ | ~~Tp-13/14~~ | | | | | | | | | |
| | Tp-14/15 | Tp-14/15 | | | | | | | | | |
| | Tp-15/16 | Tp-15/16 | | | | | | | | | |
| | Tp-16/17 | Tp-16/17 | | | | | | | | | |

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# PANEL SEAMING FORM

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: CC-1527

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tp 17/18 | Tp 17/18 | 14.5 | | | | | | | | |
| | Tp-18/19 | Tp 18/19 | " | | | | | | | | |
| | Tp-19/20 | Tp 19/20 | " | | | | | | | | |
| | Tp-20/21 | Tp 20/21 | " | | | | | | | | |
| | Tp-21/22 | Tp 21/22 | " | | | | | | | | |
| | Tp-22/23 | Tp 22/23 | " | | | | | | | | |
| 2:00 | Tp-23/24 | Tp 23/24 | " | 2087 | 222 | 255/7 | cloudy | 0-5 | 98° | | |
| 11:00 9-25-94 | Tp-24/25 | Tp 24/25 | " | 2087 | 222 ~~255~~ | 255/7 | cloudy | 0-5 | 96° | | |
| 10:45 | Tp-25/26 | Tp 25/26 | " | " | " | " | " | " | " | | |
| 10:00 | Tp-26/27 | Tp 26/27 | " | " | " | " | " | " | " | | |
| 9-24-94 11:00 | Tp-27/28 | Tp 27/28 | " | 2127 | " | " | " | " | " | | |
| 10:30 | Tp-28/29 | Tp 28/29 | " | " | " | " | " | " | " | | |
| 9:30 | Tp-29/30 | Tp 29/30 | " | " | " | " | " | " | " | | |
| 8:10 9-24-94 | Tp-30/31 | Tp 30/31 | " | 2127 | " | " | " | " | " | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

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# DESTRUCTIVE TEST LOG

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: LC-1527

| DATE | SAMPLE I.D. | SEAM NO | MACH NO. | SEAMER INITIALS | PEEL VALUES LBS. / INCH | | | | | | PASS / FAIL | DATE TO LAB PKG SLIP NO | LAB PASS / FAIL | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-23-94 | Dp-1 | 4/5 | 1603 | 2130 | 125 | 116 | 98 | 122 | 99 | 120 | P | 9-23-94 | | 208' N. |
| " | Dp-2 | 5/8 | 1614 | 2163 | 132 | 134 | 124 | 133 | 138 | 104 | P | " | | 156' N. |
| " | Dp-3 | 11/12 | 1603 | 2130 | 125 | 118 | 124 | 124 | 130 | 126 | P | " | | 75' N. |
| " | Dp-4 | 12/14 | 1614 | 2163 | 126 | 137 | 116 | 124 | 118 | 135 | P | " | | 144' N. |
| " | Dp-5 | 15/18 | 1603 | 2130 | 116 | 114 | 123 | 125 | 133 | 108 | P | " | | 120' N. |
| " | Dp-6 | 20/21 | 1614 | 2138 | 127 | 132 | 124 | 133 | 129 | 133 | P | " | | 100' N. |
| " | Dp-7 | 26/27 | 1603 | 2130 | 118 | 126 | 117 | 119 | 129 | 131 | P | " | | 90' N. |
| " | Dp-8 | 29/30 | 1659 | 2163 | 118 | 118 | 107 | 112 | 124 | 113 | P | " | | 10' N. |
| " | Dp-9 | 34/35 | 1603 | 2130 | 123 | 118 | 96 | 112 | 124 | 120 | P | " | | 60' N. |
| " | Dp-10 | 37/38 | 1659 | 2163 | 111 | 110 | 116 | 110 | 111 | 121 | P | " | | 50' N. |
| " | Dp-11 | 41/42 | 1603 | 2130 | 124 | 126 | 99 | 115 | 125 | 116 | P | " | | 90' N. |
| 9-23 | Dp-12 | 45/46 | 1659 | 2163 | 121 | 110 | 111 | 120 | 126 | 118 | P | 9-23-94 | | 50' N. |

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TRACKING

# DESTRUCTIVE TEST LOG

PROJECT NAME: CALUCNIS PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: CC-1527

| DATE | SAMPLE I.D. | SEAM NO | MACH NO | SEAMER INITIALS | PEEL VALUES LBS. / INCH | | | | | | PASS / FAIL | DATE TO LAB PKG SLIP NO | LAB PASS / FAIL | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-25-94 | Dp 2 A | 5/8 | 1614 | 2163 | 141 | 124 | 118 | 121 | 116 | 111 | P | | | 202(N) |
| | Dp 2 B | 5/8 | 1614 | 2163 | 138 | 112 | 124 | 120 | 108 | 116 | P | | | 172(N) |

NSC NATIONAL SEAL COMPANY



# TRIAL WELD INFORMATION

PROJECT NAME: Canonic PROJECT NUMBER: 2553 MATERIAL DESCRIPTION: CC-1527

| DATE/ TIME | AMBIENT TEMP | Q.C. INITIALS | MACHINE NUMBER | SEAMER INITIALS | EXTRUSION WELDS | | | | FUSION WELDS | | | | PEEL VALUES LBS / INCH | | | PASS FAIL | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | BARREL TEMP | | PREHEAT TEMP | | WEDGE TEMP | | MEASURED SPEED FT / MIN | SPEED SETTING | | | | | |
| | | | | | SET | PYRO | SET | PYRO | SET | PYRO | | | | | | | |
| 9-21-94 14:00 | 74° | 2007 | G224 | 2127 ~~2007~~ | 255 | | 7 | | | | | | 121 | 132 | 119 | P | S-147 |
| 9-22-94 10:50 | 68° | 2007 | 1603 | 2130 | | | | | 750 | | | 600 | 135 / 134 | 118 / 103 | 121 / 118 | P | S-157 |
| 10:55 | 68° | 2007 | 1614 | 2163 | | | | | 750 | | | 600 | 134 / 128 | 113 / 119 | 125 / 110 | P | S-153 |
| 15:50 | 70° | 2007 | 1603 | 2130 | | | | | 750 | | | 600 | 126 / 133 | 126 / 131 | 124 / 121 | P | S-149 |
| 16:20 | 70° | 2007 | 1614 | 2135 ~~2163~~ | | | | | 750 | | | 600 | 126 / 124 | 127 / 117 | 123 / 102 | P | S-150 |
| 9-23-94 7:52 | 66° | 2007 | 1603 | 2130 | | | | | 750 | | | 650 | 125 / 120 | 124 / 124 | 129 / 125 | P | S-1[illegible] |
| 8:00 | 66° | 2007 | 1659 | 2163 | | | | | 750 | | | 600 | 123 / 126 | 124 / 123 | 120 / 119 | P | S-178 |
| 13:30 | 79° | 2007 | 1659 | 2163 | | | | | 750 | | | 600 | 125 / 126 | 130 / 121 | 129 / 105 | P | S-146 |
| 14:30 | 79° | 2007 | G252 | 2130 | 255 | | 7 | | | | | | 122 | 135 | 134 | P | S-146 |
| 14:35 | 79° | 2007 | G222 | 2127 | 265 | | 7 | | | | | | 105 | 121 | 106 | P | S-166 |
| 14:40 | 79° | 2007 | G253 | 2151 | 255 | | 7 | | | | | | 137 | 133 | 121 | P | S-152 |
| 14:45 | 79° | 2007 | G222 | 2128 | 265 | | 7 | | | | | | 121 | 112 | 145 | P | S-154 |
| 9-24-94 7:50 | 70° | 2007 | G253 | 2130 | 255 | | 7 | | | | | | 119 | 128 | 142 | P | S-175 |
| 8:00 | 70° | 2007 | G222 | 2127 | 265 | | 7 | | | | | | 98 | 102 | 101 | P | S-172 |
| 9-25-94 [illegible] | [illegible] | 2007 | [illegible] | 2130 | 255 | | 7 | | | | | | 141 | 118 | 152 | P | S-177 |

**NSC** NATIONAL SEAL COMPANY



# TRIAL WELD INFORMATION

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | AMBIENT TEMP | Q.C. INITIALS | MACHINE NUMBER | SEAMER INITIALS | EXTRUSION WELDS BARREL TEMP SET | EXTRUSION WELDS BARREL TEMP PYRO | EXTRUSION WELDS PREHEAT TEMP SET | EXTRUSION WELDS PREHEAT TEMP PYRO | FUSION WELDS WEDGE TEMP SET | FUSION WELDS WEDGE TEMP PYRO | FUSION WELDS MEASURED SPEED FT / MIN | FUSION WELDS SPEED SETTING | PEEL VALUES LBS / INCH | | | PASS/ FAIL | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-25-94 9:30 | 68° | 2007 | G222 | 2087 | 255 | | 7 | | | | | | 105 | 121 | 163 | P | S-170 |
| 13:15 | 78° | 2007 | G253 | 2130 | 255 | | 6 | | | | | | 101 | 105 | 112 | P | S-145 |
| 13:20 | 78° | 2007 | G222 | 2087 | 255 | | 8 | | | | | | 102 | 98 | 105 | P | S-156 |
| 9-26-94 7:50 | 62° | 2007 | G253 | 2151 | 255 | | 6 | | | | | | 113 | 118 | 120 | P | S-190 |
| 7:55 | 62° | 2007 | G253 | 2130 | 255 | | 6 | | | | | | 108 | 103 | 101 | P | S-189 |
| 8:00 | 62° | 2007 | G222 | 2128 | 255 | | 6 | | | | | | 100 | 110 | 98 | P | S-190 |
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PAGE 1 OF ____

# PANEL SEAMING FORM

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: LC-1527

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-22-94 11:48 | 1/2 | 1/2 | 294' | 2130 | 1603 | 750° | cloudy | 0-5 (SE) | 68° | | |
| | 1/3 | 1/3 | 18' | | | | | | | | B-SEAM to S.TIE-IN ext |
| | 2/3 | 2/3 | 14.5 | | | | | | | | B-SEAM EXT |
| 13:40 | 2/3/4 | 2/3/4 | 314' | 2163 | 1614 | 750° | " | " | " | | |
| 14:15 | 4/5/6/7 | 4/5/6/7 | 311 | 2130 | 1603 | " | " | " | " | | |
| 14:05 ~~14:15~~ | 5/6 | 5/6 | 14.5 | 2130 | 1603 | 750° | " | " | " | | B-SEAM |
| 14:10 | 6/7 | 6/7 | 14.5 | 2130 | 1603 | " | " | " | " | | B-SEAM |
| 14:25 | 5/6/7/8 | 5/6/7/8 | 282' | 2163 | 1614 | " | " | " | " | | |
| 15:05 | 8/9/10 | 8/9/10 | 232' | 2130 | 1603 | " | " | " | " | | |
| 15:00 | 9/10 | 9/10 | 14.5 | 2130 | 1603 | " | " | " | " | | B-SEAM |
| 15:10 | 9/10/11 | 9/10/11 | 246 | 2163 | 1614 | " | " | " | " | | |
| 16:00 | 11/12/13 | 11/12/13 | 220' | 2130 | 1603 | " | " | " | " | | |
| 15:35 | 12/13 | 12/13 | 14.5 | 2163 | 1614 | " | " | " | " | | B-SEAM |
| 16:36 ~~15:40~~ | 13/13/14 | 12/13/14 | 207' | 2138 | 1614 | " | " | " | 65° | | |
| 17:00 | 14/16 | 14/16 | 167' | 2130 | 1603 | " | " | " | " | | |
| 17:15 | 16/17 | 16/17 | 118' | 2139 | 1614 | " | " | " | " | | |

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PAGE 1 OF

# PANEL PLACEMENT FORM

PROJECT NAME: CANONIE PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: CX-1527

| DATE/ TIME | PANEL NUMBER | ROLL NUMBER | PANEL LENGTH | PANEL WIDTH | COMMENTS/ PANEL LOCATION |
|---|---|---|---|---|---|
| 9-22-94 11:40 | P-1 | 2400011 | ~~240001~~ 312' | 14.5' | North Tie-in to South Tie-in |
| 11:45 | P-2 | " | 294' | " | N. Tie in to Butt Seam |
| 13:30 | P-3 | " | 18' | " | B-Seam to S. Tie-in |
| 13:35 | P-4 | " | 314' | " | N. Tie-in to S. Tie-in |
| 13:45 | P-5 | " | 158' | " | B-Seam to S. Tie-in |
| 14:00 | P-6 | 2300091 | 150' | " | B-Seam ~~N. Tie-in to~~ to B-Seam |
| 14:05 | P-7 | " | 11' | " | N. Tie in to B-Seam |
| 14:20 | P-8 | " | 282' | " | N. Tie in to S. Tie in |
| 14:30 | P-9 | " | 247' | " | Butt Seam to S. Tie-in |
| 14:35 | P-10 | 2400011 X | ~~8'~~ ~~18'~~ | " | N. Tie in to B. Seam |
| 15:00 | P-11 | 2300091 | 239' | " | N. Tie in to S. Tie in |
| 15:05 | P-12 | " | 170' | " | B-Seam to S. Tie-in |
| 15:25 | P-13 | 1900031 | 58' | " | N. Tie in to B. Seam |
| 15:30 | P-14 | " | 207' | " | N. Tie in to S. Tie in |
| 15:40 | P-15 | " | 142' | " | " " |
| 15:5 | P-16 | " | 167' | " | P.E. P-1 to S. Tie-in |

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# PANEL PLACEMENT FORM

PROJECT NAME: CANONIS PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | PANEL NUMBER | ROLL NUMBER | PANEL LENGTH | PANEL WIDTH | COMMENTS/ PANEL LOCATION |
|---|---|---|---|---|---|
| 9-22-94 16:15 | P-17 | 1900031 | 118' | 14.5 | P.E. P-15 to S. TIE-IN |
| 16:20 | P-18 | " | 49' | " | P.E. P-15 to S. TIE-IN |
| 16:45 | P-19 | " | 142' | " | N. TIE-IN to S. TIE IN |
| 16:50 | P-20 | " | 133' | 14.5 | " " |
| 17:00 | P-21 | " | 131' | 14.5 | " " |
| 9-23-94 7:50 | P-22 | 2300061 | 130' | " | " " |
| 8:00 | P-23 | " | 125' | " | " " |
| 8:05 | P-24 | " | 126' | " | " " |
| 8:10 | P-25 | " | 126' | " | " " |
| 8:15 | P-26 | " | 115' | " | " " |
| 8:25 | P-27 | " | 115' | " | " " |
| 8:30 | P-28 | " | 112' | " | " " |
| 9:00 | P-29 | " | 106' | " | " " |
| 9:10 | P-30 | " | 102' | " | " " |
| 9:20 | P-31 | " | 41' | " | B-SEAM to S. TIE IN |
| 9:50 | P-32 | 1900041 | 53' | " | N. TIE IN to B-SEAM |

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# PANEL PLACEMENT FORM

PROJECT NAME: CANONIS PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | PANEL NUMBER | ROLL NUMBER | PANEL LENGTH | PANEL WIDTH | COMMENTS/ PANEL LOCATION |
|---|---|---|---|---|---|
| 9-23-94 10:05 | P-33 | 1900041 | 104' | 14.5' | N. TIE IN to S. TIE IN |
| 10:10 | P-34 | " | 104' | " | " " |
| 10:15 | P-35 | " | 102' | " | " " |
| 10:25 | P-36 | " | 102' | " | " " |
| 10:45 | P-37 | " | 108' | " | " " |
| 10:50 | P-38 | " | 108' | " | " " |
| 10:55 | P-39 | " | 108' | " | " " |
| 11:00 | P-40 | " | 110' | " | " " |
| 11:05 | P-41 | " | 109' | " | " " |
| 11:25 | P-42 | " | 824' | " | B-SEAM to S. TIE-IN |
| 11:40 | P-43 | Roll-B | 80' | " | N. TIE IN to B-SEAM |
| 11:50 | P-44 | " | 104' | " | N. TIE IN to S. TIE IN |
| 11:55 | P-45 | " | 101' | " | " " |
| 12:00 | P-46 | " | 100 | " | " " |
| 9-27-94 13:30 | P-47 | 2300071 | 94' | 14.5 | " " |
| 13:35 | P-48 | " | 38' | 14.5 | N. TIE IN to W. TIE IN OVER CONCRETE SLAB |

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# PANEL PLACEMENT FORM

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | PANEL NUMBER | ROLL NUMBER | PANEL LENGTH | PANEL WIDTH | * All Trench panels Run w. to e. except west trench — COMMENTS/ PANEL LOCATION — Tp = Trench panel |
|---|---|---|---|---|---|
| 9-6 to 9-21 | Tp-1 | A | | 14.5' | Trench panels Deployed By Canonie Before Arrival of sets → 0'(w) to 10' |
| | Tp-2 | " | | | Given Roll #'s for Trench Panels → 10' - 48' |
| | Tp-3 | " | | | 48'-97' |
| | Tp-4 | " | | | 97'-149' |
| | Tp-5 | " | | | 149'-191' |
| | Tp-6 | " | | | 191'-234' |
| | Tp-7 | " | | | 234'-275' |
| | Tp-8 | " | | | 275'-336' |
| | Tp-9 | " | | | 336'-385' |
| | Tp-10 | " | | | 385'-436' |
| | Tp-11 | " | | | 436'-486' |
| | Tp-12 | " | | | 486-526' |
| | Tp-13 | " | | | 526' to end end of North Trench 526' to end |
| | Tp-14 | " | | | 42'(S) to 70'(S) West Trench |
| | Tp-15 | " | | | 15'(S) to 41'(S) Along West Trench |
| 9-6 to 9-21 | Tp-16 | " | | 14.5' | 0'(W) to 54'(W) |

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# PANEL PLACEMENT FORM

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | PANEL NUMBER | ROLL NUMBER | PANEL LENGTH | PANEL WIDTH | COMMENTS/ PANEL LOCATION TP = TRENCH PANEL |
|---|---|---|---|---|---|
| 9-6 to 9-21 | Tp-17 | A | | 14.5 | 54'(w) to 117'(w) |
| | Tp-18 | " | | | 117' to 144' |
| | Tp-19 | " | | | 144' to 201' |
| | Tp-20 | " | | | 201' to 247' |
| | Tp-21 | " | | | 247' to 311' |
| | Tp-22 | " | | | 311' to 371' |
| | Tp-23 | " | | | 371' to 432' |
| | Tp-24 | " | | | 432' to 450' |
| | Tp-25 | Roll B | | | 450' to 478' |
| | Tp-26 | " | | | 478' to 518' |
| | Tp-27 | " | | | 518' to 566' |
| | Tp-28 | " | | | 566' to 608' |
| | Tp-29 | " | | | 608' to 640' |
| | Tp-30 | " | | | 640' to 657 |
| | Tp-31 | " | | | 0' to 47 REFER to ASBUILT |
| | | | | | |

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# PANEL PLACEMENT FORM

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC 1527

| DATE/ TIME | ROLL ~~PANEL~~ NUMBER | PANEL ~~ROLL~~ NUMBER | PANEL LENGTH | PANEL WIDTH | COMMENTS/ PANEL LOCATION |
|---|---|---|---|---|---|
| 9-27-94 11:10 | B | 49 | 68' | 7.5 | 20'(N) to 88' Tied in to Panel 1 to fit contour of SCAWAP |
| 11:20 | " | 50 | 72' | " | 88'(N) to 160'(N) |
| 11:25 | 2300071 | 51 | 79' | " | 160'(N) to 239'(N) |
| 11:30 | " | 52 | 85' | " | 239'(N) to 324'(N) end |
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# TRIAL WELD INFORMATION

PROJECT NAME: Canonic PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | AMBIENT TEMP | Q.C. INITIALS | MACHINE NUMBER | SEAMER INITIALS | EXTRUSION WELDS | | | | FUSION WELDS | | | | PEEL VALUES LBS / INCH | | | PASS/ FAIL | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | BARREL TEMP | | PREHEAT TEMP | | WEDGE TEMP | | MEASURED SPEED FT / MIN | SPEED SETTING | | | | | |
| | | | | | SET | PYRO | SET | PYRO | SET | PYRO | | | | | | | |
| 9-21-94 14:00 | 74° | 2007 | G224 | 2127 ~~2007~~ | 255 | | 7 | | | | | | 121 | 132 | 119 | P | S-147 |
| 9-22-94 10:50 | 68° | 2007 | 1603 | 2130 | | | | | 750 | | | 600 | 135 134 | 118 103 | 121 118 | P | S-157 |
| 10:55 | 68° | 2007 | 1614 | 2163 | | | | | 750 | | | 600 | 134 128 | 113 119 | 125 110 | P | S-153 |
| 15:50 | 70° | 2007 | 1603 | 2130 | | | | | 750 | | | 600 | 126 133 | 126 131 | 124 121 | P | S-149 |
| 16:20 | 70° | 2007 | 1614 | 2135 ~~2163~~ | | | | | 750 | | | 600 | 126 124 | 127 117 | 123 102 | P | S-150 |
| 9-23-94 7:52 | 66° | 2007 | 1603 | 2130 | | | | | 750 | | | 650 | 125 120 | 124 124 | 129 125 | P | S-1[illegible] |
| 8:00 | 66° | 2007 | 1659 | 2163 | | | | | 750 | | | 600 | 123 126 | 124 123 | 120 119 | P | S-178 |
| 13:30 | 79° | 2007 | 1659 | 2163 | | | | | 750 | | | 600 | 125 126 | 130 121 | 129 105 | P | S-146 |
| 14:30 | 79° | 2007 | G252 | 2130 | 255 | | 7 | | | | | | 122 | 135 | 134 | P | S-146 |
| 14:35 | 79° | 2007 | G222 | 2127 | 265 | | 7 | | | | | | 108 | 121 | 106 | P | S-160 |
| 14:40 | 79° | 2007 | G253 | 2151 | 255 | | 7 | | | | | | 137 | 133 | 121 | P | S-152 |
| 14:45 | 79° | 2007 | G222 | 2128 | 265 | | 7 | | | | | | 131 | 112 | 145 | P | S-154 |
| 9-24-94 7:50 | 70° | 2007 | G253 | 2130 | 255 | | 7 | | | | | | 119 | 128 | 143 | P | S-175 |
| 8:00 | 70° | 2007 | G222 | 2127 | 265 | | 7 | | | | | | 98 | 103 | 101 | P | S-173 |
| 9-27-94 [illegible] | 79° | 2007 | [illegible]253 | 2130 | 255 | | 7 | | | | | | 141 | 118 | 152 | A | [illegible]-177 |

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# TRIAL WELD INFORMATION

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | AMBIENT TEMP | Q.C. INITIALS | MACHINE NUMBER | SEAMER INITIALS | EXTRUSION WELDS BARREL TEMP SET | EXTRUSION WELDS BARREL TEMP PYRO | EXTRUSION WELDS PREHEAT TEMP SET | EXTRUSION WELDS PREHEAT TEMP PYRO | FUSION WELDS WEDGE TEMP SET | FUSION WELDS WEDGE TEMP PYRO | MEASURED SPEED FT / MIN | SPEED SETTING | PEEL VALUES LBS / INCH | | | PASS/ FAIL | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-25-94 9:30 | 68° | 2007 | G222 | 2087 | 255 | | 7 | | | | | | 105 | 121 | 163 | P | S-170 |
| 13:15 | 78° | 2007 | G253 | 2130 | 255 | | 6 | | | | | | 101 | 105 | 112 | P | S-145 |
| 13:20 | 78° | 2007 | G222 | 2087 | 255 | | 8 | | | | | | 102 | 93 | 105 | P | S-156 |
| 9-26-94 7:50 | 62° | 2007 | G253 | 2151 | 255 | | 6 | | | | | | 113 | 118 | 120 | P | S-190 |
| 7:55 | 62° | 2007 | G253 | 2130 | 255 | | 6 | | | | | | 109 | 103 | 101 | P | S-189 |
| 8:00 | 62° | 2007 | G222 | 2128 | 255 | | 6 | | | | | | 100 | 110 | 88 | P | S-190 |
| 13:20 | 68° | 2007 | G253 | 2130 | 255 | | 6 | | | | | | 93 | F | F | F | |
| 13:25 | 68° | 2007 | G222 | 2138 | 255 | | 6 | | | | | | F | F | --- | F | |
| 13:50 | 68° | 2007 | G202 | 2138 | 255 | | 6 | | | | | | 82 | 94 | 89 | P | S-174 |
| 13:55 | 68° | 2007 | G253 | 2130 | 255 | | 6 | | | | | | 100 | 87 | 131 | P | S-168 |
| 9-27-94 7:40 | 68° | 2007 | G222 | 2128 | 255 | | 67 | | | | | | 101 | 108 | 101 | P | S-189 |
| 7:45 | 68° | 2007 | G222 | 2127 | 255 | | 67 | | | | | | 131 | 129 | 115 | P | S-187 |
| 7:50 | 68° | 2007 | G253 | 2130 | 255 | | 7 | | | | | | --- | --- | --- | F | |
| 7:55 | 68° | 2007 | 253 | 2163 ~~2150~~ | 255 | | 7 | | | | | | 115 | 121 | 109 | P | S-191 |
| 11:25 | 72° | 2007 | 1603 | | | | | | 750 | | | 600 | 122 | 129 | 136 | P | S-176 |

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# TRIAL WELD INFORMATION

PROJECT NAME: Canonis PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: CC-1527

| DATE/ TIME | AMBIENT TEMP | Q.C. INITIALS | MACHINE NUMBER | SEAMER INITIALS | EXTRUSION WELDS: BARREL TEMP SET | EXTRUSION WELDS: BARREL TEMP PYRO | EXTRUSION WELDS: PREHEAT TEMP SET | EXTRUSION WELDS: PREHEAT TEMP PYRO | FUSION WELDS: WEDGE TEMP SET | FUSION WELDS: WEDGE TEMP PYRO | MEASURED SPEED FT / MIN | SPEED SETTING | PEEL VALUES LBS / INCH | | | PASS/ FAIL | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-27-94 13:30 | 72° | 2007 | G222 | 2128 | 265 | | 7 | | ~~750~~ | | | ~~650~~ | 104 | 98 | 120 | P | S-161 |
| 13:35 | 72° | 2007 | 1603 | 2130 | | | | | 750 | | | 650 | 124 / 112 | 110 / 107 | 125 / 116 | P | S-175 |
| 13:40 | 72° | 2007 | G222 | 2127 | 265 | | 7 | | | | | | 132 | 110 | 136 | P | S-170 |
| 9-28-94 7:50 | 66° | 2007 | G222 | 2128 | 275 | | 7 | | | | | | 108 | 100 | 107 | P | S-178 |
| 7:55 | 66° | 2007 | G222 | 2127 | 275 | | 7 | | | | | | 121 | 132 | 118 | P | S-181 |
| 13:20 | 70° | 2007 | G222 | 2128 | 275 | | 7 | | | | | | 136 | 115 | 124 | P | S-159 |
| 9-29-94 7:55 | 64° | 2007 | G222 | 2128 | 275 | | 7 | | | | | | 110 | 105 | 118 | P | S-189 |
| | | | | | | | | | | | | | | | | | |
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# PANEL SEAMING FORM

PROJECT NAME: CANONIE PROJECT NUMBER: 2582 MATERIAL DESCRIPTION: LC-1527

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-22-94 11:48 | 1/2 | 1/2 | 294' | 2130 | 1603 | 750° | cloudy | 0-5 (SE) | 68° | P | |
| 9-23-94 | 1/3 | 1/3 | 18' | 2127 | 222 | 255/6 | " | " | " | P | B-SEAM to S.TIE-IN (EXT) |
| 9-23-94 | 2/3 | 2/3 | 14.5 | 2127 | 222 | 255/6 | " | " | " | P | B-SEAM (EXT) |
| 9-22-94 13:40 | 2/3/4 | 2/3/4 | 314' | 2163 | 1614 | 750° | " | " | " | P | |
| 14:15 | 4/5/6/7 | 4/5/6/7 | 311 | 2130 | 1603 | " | " | " | " | P | |
| 14:05 ~~14:15~~ | 5/6 | 5/6 | 14.5 | 2130 | 1603 | 750° | " | " | " | P | B-SEAM |
| 14:10 | 6/7 | 6/7 | 14.5 | 2130 | 1603 | " | " | " | " | P | B-SEAM |
| 14:25 | 5/6/7/8 | 5/6/7/8 | 282' | 2163 | 1614 | " | " | " | " | P | |
| 15:05 | 8/9/10 | 8/9/10 | 282' | 2130 | 1603 | " | " | " | " | P | |
| 15:00 | 9/10 | 9/10 | 14.5 | 2130 | 1603 | " | " | " | " | P | B-SEAM |
| 15:10 | 9/10/11 | 9/10/11 | 246 | 2163 | 1614 | " | " | " | " | P | |
| 16:00 | 11/12/13 | 11/12/13 | 220' | 2130 | 1603 | " | " | " | " | P | |
| 15:35 | 12/13 | 12/13 | 14.5 | 2163 | 1614 | " | " | " | " | P | B-SEAM |
| 16:36 ~~15:10~~ | 13/13/14 | 12/13/14 | 207' | 2138 | 1614 | " | " | " | 65° | P | |
| 17:00 | 14/16 | 14/16 | 167' | 2130 | 1603 | " | " | " | " | P | |
| 17:15 | 16/17 | 16/17 | 118' | 2139 | 1614 | " | " | " | " | P | |

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# PANEL SEAMING FORM

PROJECT NAME: CAN-VIE PROJECT NUMBER: 2553 MATERIAL DESCRIPTION: CX-1527

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-22-94 17:24 | 17/18 | 17/18 | 49' | 2130 | 1603 | 750 | cloudy | 0-5(E) | 65° | P | |
| 17:34 | 14/15/16/17/18 | 14/15/16/17/18 | 142' | 2130 | 1603 | " | " | " | " | P | TIED-IN 14/15/16/17/18 |
| 17:45 | 15/19 | 15/19 | 142' | 2138 | 1614 | " | " | " | " | P | |
| 17:55 | 19/20 | 19/20 | 131' | 2130 | 1603 | " | " | " | " | P | |
| 18:00 | 20/21 | 20/21 | 131' | 2138 | 1614 | " | " | " | " | P | |
| 9-23-94 5:05 | 21/22 | 21/22 | 130' | 2130 | 1603 | 750° | cloudy | 5'(E) | 72° | P | |
| 5:10 | 22/23 | 22/23 | 128' | 2163 | 1659 | " | " | " | " | P | |
| 8:38 | 23/24 | 23/24 | 128' | 2163 | 1659 | " | " | " | " | P | |
| 8:39 | 24/25 | 24/25 | 126' | 2130 | 1603 | " | " | " | " | P | |
| 8:50 | 25/26 | 25/26 | 118' | 2163 | 1659 | " | " | " | " | P | |
| 9:11 | 26/27 | 26/27 | 115' | 2130 | 1603 | " | " | " | " | P | |
| 9:20 | 27/28 | 27/28 | 12' | 2163 | 1659 | " | " | " | " | P | |
| 9:36 | 28/29 | 28/29 | 106 | 2130 | 1603 | " | " | " | " | P | |
| 9:39 | 29/30 | 29/30 | 102' | 2163 | 1659 | " | " | " | " | P | |
| 10:10 | 30/31/32 | 30/31/32 | 102' | 2163 | 1659 | " | " | " | 75° | P | |
| 10:05 | 31/32 | 31/32 | 14.5 | 2130 | 1603 | " | " | " | " | P | B-SEAM |

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# PANEL SEAMING FORM

PROJECT NAME: Cavonis PROJECT NUMBER: 2533 MATEF..AL DESCRIPTION: UC-1527

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-23-94 10:10 | 32/31/33 | 32/33 | 104' | 2130 | 1603 | 750° | cloudy | 5 (E) | 78° | P | |
| 10:27 | 33/34 | 33/34 | 104' | 2163 | 1659 | " | " | " | " | P | |
| 10:41 | 34/35 | 34/35 | 102' | 2130 | 1603 | " | " | " | " | P | |
| 10:50 | 35/36 | 35/36 | 102' | 2163 | 1659 | " | " | " | " | P | |
| 10:55 | 36/37 | 36/37 | 108' | 2130 | 1603 | " | " | " | " | P | |
| 11:12 | 37/38 | 37/38 | 105' | 2163 | 1659 | " | " | " | " | P | |
| 11:22 | 38/39 | 38/39 | 108' | 2130 | 1603 | " | " | " | " | P | |
| 11:37 | 39/40 | 39/40 | 108' | 2163 | 1659 | " | " | " | " | P | |
| ~~11:56~~ | 41/42/43 | 41/42/43 | 109' | 2130 | 1603 | " | " | " | " | P | |
| 11:50 | 42/43 | 42/43 | 14.5 | 2130 | 1603 | " | " | " | " | P | B-Seam |
| 11:57 | 43/43/44 | 42/43/44 | 104' | 2163 | 1659 | " | " | " | " | P | |
| 13:37 | 44/45 | 44/45 | 104 | 2163 | 1659 | " | " | " | " | P | |
| 13.51 | 45/46 | 45/46 | 100' | 2163 | 1659 | " | " | " | " | P | |
| 11:50 | 40/41 | 40/41 | 110' | 2163 | 1659 | " | " | " | " | P | |
| 9-27-94 13:40 | 46/47 | 46/47 | 94' | 2130 | 1603 | 750° | cloudy | 5-10 (W) | 72° | P | |
| 13.51 | 47/48 | 47/48 | 38' | 2130 | 1603 | " | " | " | " | P | |

**NSC** NATIONAL SEAL COMPANY



# PANEL SEAMING FORM

PROJECT NAME: Cavonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: LX-1527

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-21-94 15:20 | Tp-1/2 | Tp-1/2 | 14.5' ~~15~~ | 2127 | 224 | 255/7 | p.cloudy | 0-5 (E) | 74° | P | |
| 9-26-94 | Tp-2/3 | Tp-2/3 | " | 2128 | 222 | 255/6 | cloudy | 0-5 | 68 | P | |
| " | Tp-3/4 | Tp-3/4 | " | " | " | " | " | " | " | P | |
| " | Tp-4/5 | Tp-4/5 | " | " | " | " | " | " | " | P | |
| " | Tp-5/6 | Tp-5/6 | " | " | " | " | " | " | " | P | |
| " | Tp-6/7 | Tp-6/7 | " | " | " | " | " | " | " | P | |
| " | Tp-7/8 | Tp-7/8 | " | " | " | " | " | " | " | P | |
| " | Tp-8/9 | Tp-8/9 | " | " | " | " | " | " | " | P | |
| " | Tp-9/10 | Tp-9/10 | " | " | " | " | " | " | " | P | |
| " | Tp-10/11 | Tp-10/11 | " | " | " | " | " | " | " | P | |
| " | Tp-11/12 | Tp-11/12 | " | " | " | " | " | " | " | P | |
| 9-26-94 | Tp-12/12 | Tp-12/13 | " | 2128 | 222 | 255/6 | cloudy | 0-5 | 68° | P | |
| ~~9-26~~ | ~~Tp-13/14~~ | ~~Tp-13/14~~ | " | ~~2138~~ | " | " | " | " | " | | |
| 9-26 | Tp-14/15 | Tp-14/15 | " | 2128 | " | " | " | " | 70° | P | |
| 9-26 | Tp-15/16 | Tp-15/16 | " | 2138 | " | " | " | " | 68° | P | |
| " | Tp-16/17 | Tp-16/17 | " | " | " | " | " | " | " | P | |

**NSC** NATIONAL SEAL COMPANY



# PANEL SEAMING FORM

PROJECT NAME: CANONIC PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UX-1527

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-26 | Tp 17/18 | Tp 17/18 | 14.5 | 2138 | 222 | 255/6 | cloudy | 0-5 | 68° | P | |
| " | Tp-18/19 | Tp 18/19 | " | " | " | " | " | " | " | P | |
| " | Tp-19/20 | Tp 19/20 | " | " | " | " | " | " | " | P | |
| " | Tp-20/21 | Tp 20/21 | " | " | " | " | " | " | " | P | |
| " | Tp-21/22 | Tp 21/22 | " | " | " | " | " | " | " | P | |
| " | Tp-22/23 | Tp 22/23 | " | " | " | " | " | " | " | P | |
| 2:00 | Tp-23/24 | Tp 23/24 | " | 2087 | 222 | 255/7 | cloudy | 0-5 | 98° | P | |
| 11:00 9-25-94 | Tp-24/25 | Tp 24/25 | " | 2087 | 222 ~~255~~ | 255/7 | cloudy | 0-5 | 96° | P | |
| 10:45 | Tp-25/26 | Tp 25/26 | " | " | " | " | " | " | " | P | |
| 10:00 | Tp-26/27 | Tp 26/27 | " | " | " | " | " | " | " | P | |
| 9-24-94 11:00 | Tp-27/28 | Tp 27/28 | " | 2127 | " | " | " | " | " | P | |
| 10:30 | Tp-28/29 | Tp 28/29 | " | " | " | " | " | " | " | P | |
| 9:20 | Tp-29/30 | Tp 29/30 | " | " | " | " | " | " | " | P | |
| 8:10 9-24-94 | Tp-30/31 | Tp 30/31 | " | 2127 | " | " | " | " | " | P | |
| 9-27-94 | Tp 1/p.48 | Tp 1/p.48 | 14.5 | 2128 | " | " | " | 0-10 (w) | 72° | P | |
| ~~9-27-94~~ | | | | | | | | | | | |

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# PANEL SEAMING FORM

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS (E-W TIE-IN) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-28-94 | N. TIE IN | — | 260.5 | 2128 | 222 | 275/7 | cloudy | 0-10 | 70° | P | 14.5'(w) to 275'(w) |
| 9-25 | N. TIE-IN | — | 41' | 2130 | 253 | 265/7 | " | " | 76° | P | 275'(w) to 316'(w) |
| 9-24 | N. TIE-IN | — | 194' | 2130 | 253 | 265/7 | " | " | 78° | P | 316'(w) to end |
| 9-28 | S. TIE-IN | — | 27.5' | 2127 | 222 | 275/7 | " | " | 76° | P | 14.5'(w) to 42'(w) |
| 9-27 | S. TIE-IN | — | 221' | 2128 | 222 | 265/7 | " | " | 76° | P | 42'(w) to 263'(w) |
| 9-27 | S. TIE-IN | — | 159' | 2127 | 222 | 265/7 | " | " | 76° | P | 263'(w) to 422'(w) |
| 9-27 | S. TIE-IN | — | 68' | 2128 | 222 | 265/7 | " | " | 76 | P | 422'(w) to 490'(w) |
| 9-25 | S. TIE-IN | — | 76' | 2087 | 222 | 265/7 | " | " | 74° | P | 490'(w) to ~~end~~ 566'(w) |
| 9-24 | S. TIE IN | — | 124' | 2127 | 222 | 265/7 | " | " | " | P | 566'(w) to end |
| 9-28 | W. TIE-IN | — | 49' | 2127 | 222 | 275/7 | " | " | 72° | P | 33'(w) to end |
| 14:00 ~~9-27~~ | 1-/49-52 | — | 303 ~~314~~ | 2130 | 1603 | 750° | " | " | " | P | 20'(w) to end |
| 11:30 " | 49/50 | 49/50 | 7.5 | " | " | " | " | " | " | P | c/s |
| 11:40 " | 50/51 | 49/50 | " | " | " | " | " | " | " | P | c/s |
| 11:45 " | 51/52 | 49/50 | " | " | " | " | " | " | " | P | c/s |
| 9-28-94 " | W-TIE IN | 47/Tp.14 | 28' | 2127 | 222 | 275/7 | " | " | " | P | W. TIE-IN |
| " | " | 47/Tp.15 | 25' | " | " | " | " | " | | P | " |

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# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: Canonie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / - | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | C/S: CROSS SEAM LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 9-23-94 | 1/2 | 2087 | 35 | 34 | -1 | 1030 | 1035 | Y | | 0'(N) to 295' @ C/S |
| 9-26 | 1/3 | 2087 | | | | | | | Y | 295' to end (ext) |
| 9-23 | 2/4 | 2087 | 34 | 33 | -1 | 1031 | 1036 | Y | | 0'(N) to 291 @ C/S |
| 9-26 | 2/3 | 2087 | | | | | | | Y | C/S - complete |
| " | 3/4 | 2007 | 33 | 31 | -2 | 1432 | 1437 | Y | | 291'(N) to end |
| " | 4/7 | 2087 | | | | | | | Y | 0'(N) to 12'(N) @ C/S |
| 9-23 | 6/7 | 2087 | 31 | 31 | -0 | 1046 | 1051 | Y | | C/S - complete |
| " | 4/6 | " | 34 | 33 | -1 | 1032 | 1037 | Y | | 12'(N) to 162'(N) @ C/S |
| " | 4/5 | " | 33 | 32 | -1 | 1035 | 1040 | Y | | ~~C/S - complete~~ 162'(N) to end |
| " | 5/6 | " | 31 | 31 | -0 | 1036 | 1041 | Y | | C/S - complete |
| " | 7/8 | " | 33 | 33 | -0 | 1045 | 1050 | Y | | 0'(N) to 12'(N) @ C/S |
| " | 6/8 | " | 32 | 31 | -1 | 1047 | 1052 | Y | | 12'(N) to 159'(N) @ C/S |
| " | 5/8 | " | 35 | 34 | -1 | 1055 | 1100 | Y | | 159'(N) to end |
| 9-26 | 8/10 | 2087 | | | | | | | Y | 0'(N) to 8'(N) @ C/S |
| 923 | 8/9 | 2087 | 34 | 34 | -0 | 1048 | 1053 | Y | | 8'(N) to end |
| " | 9/10 | " | 34 | 34 | -0 | 1109 | 1114 | Y | | C/S - complete |
| " | 10/11 | " | 32 | 31 | -1 | 1108 | 1113 | Y | | 0'(N) to 8'(N) |
| " | 9/11 | " | 35 | 34 | -1 | 1110 | 1115 | Y | | 8'(N) to end |
| " | 11/13 | " | 31 | 31 | -0 | 1111 | 1116 | Y | | 0'(N) to 45'(N) @ C/S |
| " | 11/12 | " | 31 | 30 | -1 | 1124 | 1129 | Y | | 45'(N) to end |
| " | 12/13 | " | 30 | 30 | -0 | 1123 | 1128 | Y | | C/S - complete |
| " | 13/14 | " | 30 | 30 | -0 | 1120 | 1125 | Y | | 0'(N) to 48' |
| " | 12/14 | " | 35 | 34 | -1 | 1121 | 1126 | Y | | 45'(N) to end |
| " | 14/15 | " | 35 | 35 | -0 | 1330 | 1335 | Y | | 0'(N) to 15' |
| " | 14/16 | " | 30 | 30 | -0 | 1331 | 1336 | Y | | 15'(N) to 65' |
| " | 14/16 | " | 35 | 34 | -1 | 1332 | 1337 | Y | | 65'(N) to end |

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# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: CANONIC PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / − | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | C/S = CROSS SEAM LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 16' ~~76'~~ |
| 9-23-94 | 15/16 | 2087 | 30 | 30 | -0 | 1345 | 1350 | Y | | ~~52' (N) to 87' (N)~~ 16' (N) to 57' (N) |
| " | 15/17 | " | 32 | 31 | -1 | 1346 | 1351 | Y | | 57' (N) to 97' (N) |
| " | 15/18 | " | 35 | 34 | -1 | 1343 | 1348 | Y | | 97' (N) to 120' (N) |
| 9-26 | 15/18 | 2083 | | | | | | | Y | 120' (N) to END (ext) |
| 9-23 | 16/17 | 2087 | 33 | 32 | -1 | 1333 | 1338 | Y | | 57' (N) to END |
| " | 17/18 | " | 35 | 34 | -1 | 1334 | 1339 | Y | | 97' (N) to END |
| " | 18/19 | " | 35 | 34 | -1 | 1410 | 1415 | Y | | 0' (N) to END |
| " | 19/20 | " | 32 | 31 | -1 | 1405 | 1410 | Y | | 0' (N) to END |
| " | 20/21 | " | 32 | 32 | -0 | 1406 | 1411 | Y | | 0' (N) to 100' (N) |
| " | 20/21 | " | 34 | 33 | -1 | 1411 | 1416 | Y | | 100' (N) to END |
| " | 21/22 | " | 34 | 33 | -1 | 1402 | 1407 | Y | | 0' (N) to END |
| " | 22/23 | " | 32 | 31 | -1 | 1403 | 1408 | Y | | 0' (N) to END |
| " | 23/24 | " | 35 | 34 | -1 | 1404 | 1409 | Y | | 0' (N) to END |
| " | 24/25 | " | 35 | 34 | -1 | 1430 | 1435 | Y | | 0' (N) to END |
| " | 25/26 | " | 32 | 31 | -1 | 1431 | 1436 | Y | | 0' (N) to END |
| " | 26/27 | " | 33 | 33 | -0 | 1432 | 1437 | Y | | 0' (N) to 90' (N) |
| " | 26/27 | " | 30 | 30 | -0 | 1435 | 1440 | Y | | 90' (N) to END |
| " | 27/28 | " | 34 | 33 | -1 | 1433 | 1438 | Y | | 0' (N) to END |
| " | 28/29 | " | 35 | 34 | -1 | 1500 | 1505 | Y | | 0' (N) to END |
| " | 29/30 | " | 34 | 34 | -0 | 1501 | 1506 | Y | | 0' (N) to 10' (N) |
| " | 29/30 | " | 32 | 31 | -1 | 1502 | 1507 | Y | | 10' (N) to END |
| " | 30/32 | " | 33 | 33 | -0 | 1503 | 1508 | Y | | 0' (N) to ~~Bot~~ C/S |
| " | 30/31 | " | 31 | 31 | -0 | 1521 | 1526 | Y | | (N) to END |
| " | 31/32 | " | 33 | 33 | -0 | 1522 | 1527 | Y | | C/S ~~Butt~~ SEAM COMPLETE |
| " | 32/33 | " | 34 | 33 | -1 | 1520 | 19 | Y | | 0' (N) to |
| " | 31/33 | " | 34 | 33 | -1 | 1523 | 1528 | Y | | (N) to END |

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# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: CANONIC PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / − | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 9-23-94 | 33/34 | 2087 | 32 | 31 | -1 | 1525 | 1530 | Y | | 0' (N) to END |
| " | 34/35 | " | 33 | 31 | -2 | 1543 | 1548 | Y | | 0' (N) to 60'(N) |
| " | 34/35 | " | 33 | 32 | -1 | 1544 | 1549 | Y | | 60'(N) to END |
| " | 35/36 | " | 34 | 34 | -0 | 1545 | 1550 | Y | | 0'(N) to END |
| " | 36/37 | " | 30 | 30 | -0 | 1546 | 1551 | Y | | 0'(N) to |
| " | 36/37 | " | 32 | 32 | -0 | 1550 | 1555 | Y | | (N) to END |
| " | 37/38 | " | 35 | 35 | -0 | 1542 | 1547 | Y | | 0'(N) to 80'(N) |
| " | 37/38 | " | 35 | 35 | -0 | 1615 | 1620 | Y | | 80'(N) to END |
| " | 38/39 | " | 31 | 31 | -0 | 1610 | 1615 | Y | | 0' (N) to |
| " | 38/39 | " | 34 | 34 | -0 | 1621 | 1626 | Y | | (N) to END |
| " | 39/40 | " | 34 | 33 | -1 | 1611 | 1616 | Y | | 0' (N) to END |
| " | 40/41 | " | 33 | 32 | -1 | 1612 | 1617 | Y | | 0' (N) to END |
| " | 41/43 | " | 34 | 33 | -1 | 1613 | 1618 | Y | | 0'(N) to '(N) ~~1304~~ C/S |
| 9-23 | 42/43 | 2087 | 30 | 30 | -0 | 1631 | 1636 | Y | | Butt SEAM COMPLETE |
| 9-28 | 41/42 | 2163 | | | | | | | Y | '(N) to 90'(N) EXT |
| 9-23 | 41/42 | 2087 | 32 | 32 | -0 | 1633 | 1638 | Y | | 90'(N) to END |
| " | 43/44 | " | 33 | 32 | -1 | 1627 | 1634 | Y | | 0' (N) to |
| " | 42/44 | " | 33 | 33 | -0 | 1632 | 1637 | Y | | (N) to END |
| " | 44/45 | " | 34 | 34 | -0 | 1630 | 1635 | Y | | 0' (N) to END |
| " | 45/46 | " | 35 | 34 | -1 | 1710 | 1715 | Y | | 0'(N) to 50'(N) |
| " | 45/46 | " | 34 | 33 | -1 | 1711 | 1716 | Y | | 50'(N) to END |
| 9-21 | Tp-1/2 | 2128 | | | | | | | Y | T-P SEAM COMPLETE |
| 9-28 | 2/3 | 2163 | | | | | | | Y | " |
| " | 3/4 | " | | | | | | | Y | " |
| " | 4/5 | " | | | | | | | Y | " |
| " | 5/6 | " | | | | | | | Y | " |

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# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: CANONIE PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / − | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 9-26-94 | Tp- 6/7 | 2087 | | | | | | | Y | Tp- Complete |
| " | 7/8 | " | | | | | | | Y | " |
| " | 8/9 | " | | | | | | | Y | " |
| " | 9/10 | " | | | | | | | Y | " |
| " | 10/11 | " | | | | | | | Y | " |
| " | 11/12 | " | | | | | | | Y | " |
| " | 12/13 | " | | | | | | | Y | " |
| 9-28 | 14/15 | 2063 | | | | | | | Y | " |
| " | 15/16 | " | | | | | | | Y | " |
| " | 16/17 | " | | | | | | | Y | " |
| " | 17/18 | " | | | | | | | Y | " |
| " | 18/19 | " | | | | | | | Y | " |
| " | 19/20 | " | | | | | | | Y | " |
| " | 20/21 | " | | | | | | | Y | " |
| " | 21/22 | " | | | | | | | Y | " |
| " | 22/23 | " | | | | | | | Y | " |
| " | 23/24 | " | | | | | | | Y | " |
| " | 24/25 | " | | | | | | | Y | " |
| " | 25/26 | " | | | | | | | Y | " |
| 9-26 | 26/27 | 2087 | | | | | | | Y | " |
| " | 27/28 | " | | | | | | | Y | " |
| " | 28/29 | " | | | | | | | Y | " |
| " | 29/30 | " | | | | | | | Y | " |
| " | 30/31 | " | | | | | | | Y | " |

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# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: Ancnie PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / - | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 9-28-94 | 46/47 | 2007 | 34 | 32 | -2 | | | Y | | 0' (N) to end |
| " | 47/48 | 2007 | 33 | 32 | -1 | | | Y | | 0' (N) to end |
| 9-29- | 49/1 | 2163 | | | | | | | Y | 20' (N) to 36' N. ext. |
| " | 49/1 | 2007 | 32 | 30 | -2 | 715 | 720 | Y | | 36' (N) to 88' (N) |
| " | 49/50 | 2007 | 34 | 33 | -1 | 716 | 721 | Y | | c/s complete |
| " | 50/1 | 2163 | | | | | | | Y | 88' (N) to 93 ext (Recons) |
| " | 50/1 | 2007 | 34 | 34 | -0 | 719 | 724 | Y | | 93' (N) to 160' (N) |
| " | 50/51 | 2007 | 31 | 30 | -1 | 724 | 29 | Y | | c/s complete |
| " | 51/1 | 2007 | 35 | 33 | -2 | 727 | 732 | Y | | 160' (N) to 202' (N) |
| " | 51/1 | 2163 | | | | | | | Y | 202' (N) 213' (N) (Recons) |
| " | 51/1 | 2007 | 34 | 34 | -0 | 738 | 748 | Y | | 213' (N) to 239 |
| " | 51/52 | 2007 | 35 | 34 | -1 | 738 | 743 | Y | | c/s complete |
| " | 52/1 | 2007 | 35 | 35 | -0 | 740 | 745 | Y | | 239' (N) to end |

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# DESTRUCTIVE TEST LOG

PROJECT NAME: CANONIE PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: GC-1527

| DATE | SAMPLE I.D. | SEAM NO. | MACH NO | SEAMER INITIALS | PEEL VALUES LBS. / INCH | | | | | | PASS / FAIL | DATE TO LAB PKG SLIP NO | LAB PASS / FAIL | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-27-94 | Dp-1 | 4/5 | 1603 | 2130 | 125 | 116 | 98 | 122 | 99 | 120 | P | 9-23-94 | P | 208' N. |
| " | Dp-2 | 5/8 | 1614 | 2163 | 132 | 134 | 124 | 133 | 138 | 104 | P | " | | 156' N. |
| " | Dp-3 | 11/12 | 1603 | 2130 | 125 | 118 | 124 | 124 | 130 | 126 | P | " | P | 75' N. |
| " | Dp-4 | 12/14 | 1614 | 2163 | 126 | 137 | 116 | 124 | 118 | 135 | P | " | P | 144' N. |
| " | Dp-5 | 15/18 | 1603 | 2130 | 116 | 114 | 123 | 125 | 133 | 108 | P | " | P | 120' N. |
| " | Dp-6 | 20/21 | 1614 | 2138 | 127 | 132 | 124 | 133 | 129 | 133 | P | " | P | 100' N. |
| " | Dp-7 | 26/27 | 1603 | 2130 | 118 | 126 | 117 | 119 | 128 | 131 | P | " | P | 90' N. |
| " | Dp-8 | 29/30 | 1659 | 2163 | 118 | 113 | 107 | 112 | 124 | 113 | P | " | P | 10' N. |
| " | Dp-9 | 34/35 | 1603 | 2130 | 123 | 118 | 96 | 112 | 124 | 120 | P | " | P | 60' N. |
| " | Dp-10 | 37/38 | 1659 | 2163 | 111 | 110 | 116 | 110 | 111 | 121 | P | " | P | 50' N. |
| " | Dp-11 | 41/42 | 1603 | 2130 | 124 | 126 | 99 | 115 | 125 | 116 | P | " | P | 90' N. |
| 9-23 | Dp-12 | 45/46 | 1659 | 2163 | 121 | 110 | 111 | 120 | 126 | 118 | P | 9-23-94 | P | 50' N. |
| 9-27 | Dp-13 | 15/TP-23 | G222 | 2127 | 121 | 136 | 119 | | | | P | 9.27.94 | P | 404' (W) |
| 9-27 | Dp-14 | 24/TP-8 | G253 | 2130 | 121 | 119 | 122 | | | | P | 9-27-94 | P | 324' (W) |
| 9-28 | Dp-15 | 46/TP-2 | G222 | 2128 | 121 | 136 | 109 | | | | P | 9-28-94 | P | 38' (W) |

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N' C NATIONAL SEAL COMPANY

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TRACKING

# DESTRUCTIVE TEST LOG

PROJECT NAME: CALUCNIS PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: CC-1527

| DATE | SAMPLE I.D. | SEAM NO. | MACH NO | SEAMER INITIALS | PEEL VALUES LBS. / INCH | | | | | | PASS / FAIL | DATE TO LAB PKG SLIP NO | LAB PASS / FAIL | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-25-94 | Dp 2 A | 5/8 | 1614 | 2163 | 141 | 124 | 118 | 121 | 116 | 111 | P | 9-26-94 | | 202'(W) |
| | Dp 2 B | 5/8 | 1614 | 2163 | 138 | 112 | 124 | 120 | 108 | 116 | P | 9-26-94 | | 172'(N) |

JOB# 2583 THICKNESS: 60 mil DATE: 9/24/94 LOCATION: CANONIE (WAUKEGAN, IL)

| DESTRUCT IDENTIFICATION | | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|---|
| DS# P-1 | 1. | 135 | 0 | SE-1 | 102 | 0 | SE-1 | 158 | 100 | FTB |
| M# 1603 | 2. | 128 | 0 | SE-1 | 110 | 0 | SE-1 | 163 | 100 | FTB |
| FS: 4/5 | 3. | 124 | 0 | SE-1 | 121 | 0 | SE-1 | 166 | 100 | FTB |
| OP: 2130 | 4. | 130 | 0 | SE-1 | 111 | 0 | SE-1 | 163 | 100 | FTB |
| T 750/S 600 | 5. | 117 | 0 | SE-1 | 121 | 0 | SE-1 | 161 | 100 | FTB |
| SEAM TYPE: | | | | AVG. | 120 | | AVG. | 162 | | |
| | | | | SD. | 10 | | SD. | 3 | | |

| DESTRUCT IDENTIFICATION | | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|---|
| DS# P-2 | 1. | 128 | 100 | AD | 135 | 0 | SE-1 | 162 | 100 | FTB |
| M# 1614 | 2. | 140 | 80 | AD-BRK | 133 | 0 | SE-1 | 160 | 100 | FTB |
| FS: 5/8 | 3. | 126 | 95 | AD-BRK | 132 | 0 | SE-1 | 167 | 100 | FTB |
| OP: 2163 | 4. | 118 | 100 | AD | 122 | 0 | SE-1 | 160 | 100 | FTB |
| T 750/S 600 | 5. | 111 | 5 | AD | 116 | 0 | SE-1 | 159 | 100 | FTB |
| SEAM TYPE: | | | | AVG. | 126 | | AVG. | 162 | | |
| | | | | SD. | 9 | | SD. | 3 | | |

JOB# 2583 THICKNESS: 60 mil DATE: 9/24/94 LOCATION: CANONIC

| DESTRUCT IDENTIFICATION | | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|---|
| DS# P-3 | 1. | 123 | 0 | SE-1 | 112 | 0 | SE-1 | 154 | 100 | FTB |
| M# 1603 | 2. | 120 | 0 | SE-1 | 112 | 0 | SE-1 | 121 | 100 | FTB |
| FS: 11/12 | 3. | 125 | 0 | SE-1 | 108 | 0 | SE-1 | 152 | 100 | FTB |
| OP: 2130 | 4. | 127 | 0 | SE-1 | 120 | 0 | SE-1 | 151 | 100 | FTB |
| T 750 /S 600 | 5. | 129 | 0 | SE-1 | 103 | 0 | SE-1 | 150 | 100 | FTB |
| SEAM TYPE: | | | | AVG. | 118 | | AVG. | 144 | | |
| | | | | SD. | 8 | | SD. | 14 | | |

| DESTRUCT IDENTIFICATION | | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|---|
| DS# P-4 | 1. | 122 | 0 | SE-1 | 99 | 0 | SE-1 | 153 | 100 | FTB |
| M# 1614 | 2. | 117 | 0 | SE-1 | 128 | 0 | SE-1 | 149 | 100 | FTB |
| FS: 12/14 | 3. | 128 | 0 | SE-1 | 114 | 100% | AD-BRK | 147 | 100 | FTB |
| OP: 2138 | 4. | 122 | 0 | SE-1 | 114 | 0 | SE-1 | 148 | 100 | FTB |
| T 750 /S 600 | 5. | 125 | 0 | SE-1 | 126 | 0 | SE-1 | 150 | 100 | FTB |
| SEAM TYPE: | | | | AVG. | 120 | | AVG. | 149 | | |
| | | | | SD. | 9 | | SD. | 2 | | |

JOB# 2583 THICKNESS: 60mil DATE: 9/24/94 LOCATION: CANONIC

| DESTRUCT IDENTIFICATION | | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHE. R PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|---|
| DS# P-5 | 1. | 117 | 0 | SE-1 | 99 | 0 | SE-1 | 150 | 100 | FTB |
| M# 1603 | 2. | 116 | 0 | SE-1 | 103 | 0 | SE-1 | 148 | 100 | FTB |
| FS: 15/18 | 3. | 120 | 0 | SE-1 | 108 | 0 | SE-1 | 150 | 100 | FTB |
| OP: 2130 | 4. | 121 | 0 | SE-1 | 110 | 0 | SE-1 | 148 | 100 | FTB |
| T 750 /S 600 | 5. | 121 | 0 | SE-1 | 104 | 0 | SE-1 | 150 | 100 | FTB |
| SEAM TYPE: | | | | AVG. | 112 | | AVG. | 149 | | |
| | | | | SD. | 8 | | SD. | 1 | | |

| DESTRUCT IDENTIFICATION | | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|---|
| DS# P-6 | 1. | 118 | 0 | SE-1 | 103 | 0 | SE-1 | 150 | 100 | FTB |
| M# 1614 | 2. | 119 | 0 | SE-1 | 125 | 0 | SE-1 | 146 | 100 | FTB |
| FS: 20/21 | 3. | 122 | 0 | SE-1 | 135 | 0 | SE-1 | 146 | 100 | FTB |
| OP: 2138 | 4. | 118 | 0 | SE-1 | 128 | 0 | SE-1 | 145 | 100 | FTB |
| T 750 /S600 | 5. | 114 | 0 | SE-1 | 128 | 0 | SE-1 | 150 | 100 | FTB |
| SEAM TYPE: | | | | AVG. | 121 | | AVG. | 147 | | |
| | | | | SD. | 9 | | SD. | 2 | | |

JOB# 2583 THICKNESS: 60 mil DATE: 9/24/94 LOCATION: CANONIE

| DESTRUCT IDENTIFICATION | | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|---|
| DS# P-7 | 1. | 128 | 0 | SE1 | 119 | 0 | SE-1 | 158 | 100 | FTB |
| M# 1603 | 2. | 126 | 0 | SE1 | 103 | 0 | SE1 | 160 | 100 | FTB |
| FS: 26/27 | 3. | 123 | 0 | SE1 | 107 | 0 | SE1 | 162 | 100 | FTB |
| OP: 2130 | 4. | 125 | 0 | SE1 | 119 | 0 | SE1 | 160 | 100 | FTB |
| T 750/S 650 | 5. | 125 | 0 | SE1 | 107 | | | 155 | 100 | FTB |
| SEAM TYPE: | | | | AVG. | 118 | | AVG. | 159 | | |
| | | | | SD. | 9 | | SD. | 3 | | |

| DESTRUCT IDENTIFICATION | | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|---|
| DS# P-8 | 1. | 123 | 0 | SE1 | 124 | 0 | SE1 | 157 | 100 | FTB |
| M# 1659 | 2. | 130 | 0 | SE1 | 120 | 0 | SE1 | 162 | 100 | FTB |
| FS: | 3. | 127 | 0 | SE1 | 122 | 0 | SE1 | 161 | 100 | FTB |
| OP: 2163 | 4. | 101 | 0 | SE1 | 119 | 5 | AD-BRK | 158 | 100 | FTB |
| T 750/S 600 | 5. | 123 | 0 | SE1 | 127 | | | 159 | 100 | FTB |
| SEAM TYPE: | | | | AVG. | 122 | | AVG. | 159 | | |
| | | | | SD. | 8 | | SD. | 2 | | |

JOB# 2583 THICKNESS: 60 mil DATE: 9/24/94 LOCATION: CANONIC

| DESTRUCT IDENTIFICATION | | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|---|
| DS# P-9 | 1. | 120 | 0 | SE 1 | 128 | 0 | SE 1 | 158 | 100 | FTB |
| M# 1603 | 2. | 121 | 0 | SE 1 | 120 | 0 | SE 1 | 156 | 100 | FTB |
| FS: 34/35 | 3. | 114 | 0 | SE 1 | 132 | 0 | SE 1 | 160 | 100 | FTB |
| OP: 2130 | 4. | 119 | 0 | SE 1 | 121 | 0 | SE 1 | 157 | 100 | FTB |
| T 750 /S 650 | 5. | 118 | 0 | SE 1 | 101 | 0 | SE 1 | 157 | 100 | FTB |
| SEAM TYPE: | | | | AVG. | 119 | | AVG. | 158 | | |
| | | | | SD. | 8 | | SD. | 2 | | |

| DESTRUCT IDENTIFICATION | | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|---|
| DS# P-10 | 1. | 109 | 0 | SE 1 | 122 | 0 | SE 1 | 154 | 100 | FTB |
| M# 1659 | 2. | 126 | 5 | AD-BOX | 133 | 0 | SE 1 | 159 | 100 | FTB |
| FS: 37/38 | 3. | 124 | 0 | SE 1 | 116 | 0 | SE 1 | 161 | 100 | FTB |
| OP: 2163 | 4. | 110 | 0 | SE 1 | 125 | 0 | SE 1 | 159 | 100 | FTB |
| T 750 /S 600 | 5. | 133 | 0 | SE | 118 | | | 156 | 100 | FTB |
| SEAM TYPE: | | | | AVG. | 122 | | AVG. | 158 | | |
| | | | | SD. | 8 | | SD. | 3 | | |

JOB# 2583 THICKNESS: 60 mil DATE: 9/24/94 LOCATION: CANONIE

| DESTRUCT IDENTIFICATION | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|
| DS# P-11 1. | 116 | 0 | SE-1 | 114 | 0 | SE-1 | 148 | 100 | FTB |
| M# 1603 2. | 108 | 0 | SE-1 | 112 | 0 | SE-1 | 145 | 100 | FTB |
| FS: 41/42 3. | 114 | 0 | SE-1 | 110 | 0 | SE-1 | 144 | 100 | FTB |
| OP: 2130 4. | 123 | 0 | SE-1 | 103 | 0 | SE-1 | 144 | 100 | FTB |
| T 750/S 650 5. | 118 | 0 | SE-1 | 99 | 0 | SE-1 | 147 | 100 | FTB |
| SEAM TYPE: | | | AVG. | 112 | | AVG. | 146 | | |
| | | | SD. | 7 | | SD. | 2 | | |

| DESTRUCT IDENTIFICATION | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|
| DS# P-12 1. | 114 | 0 | SE-1 | 103 | 0 | SE-1 | 162 | 100 | FTB |
| M# 1659 2. | 120 | 0 | SE-1 | 112 | 0 | SE-1 | 144 | 100 | FTB |
| FS: 45/46 3. | 109 | 0 | SE-1 | 109 | 0 | SE-1 | 146 | 100 | FTB |
| OP: 2163 4. | 117 | 0 | SE-1 | 106 | 0 | SE-1 | 145 | 100 | FTB |
| T 750/S 600 5. | 118 | 0 | SE-1 | 100 | 0 | SE-1 | 147 | 100 | FTB |
| SEAM TYPE: | | | AVG. | 111 | | AVG. | 149 | | |
| | | | SD. | 7 | | SD. | 7 | | |

708-263-1106

JOB# 2583 THICKNESS: 60 DATE: 9/27/94 LOCATION: Canonie

| DESTRUCT IDENTIFICATION | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|
| DS# P 2A 1. | 126 | 0 | SE1 | 126 | 0 | SE1 | 166 | 100 | FTB |
| M# 1614 2. | 122 | 0 | SE1 | 128 | 0 | SE1 | 169 | 100 | FTB |
| FS: 5/8 3. | 121 | 0 | SE1 | 129 | 0 | SE1 | 169 | 100 | FTB |
| OP: 2163 4. | 108 | 0 | SE1 | 130 | 0 | SE1 | 167 | 100 | FTB |
| T 750/S 600 5. | 117 | 0 | SE1 | 137 | 0 | SE1 | 162 | 100 | FTB |
| SEAM TYPE: | | | AVG. | 124 | | AVG. | 167 | | |
| | | | SD. | 8 | | SD. | 3 | | |

| DESTRUCT IDENTIFICATION | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|
| DS# P 2B 1. | 129 | 0 | SE1 | 105 | 0 | SE1 | 166 | 100 | FTB |
| M# 1614 2. | 131 | 0 | ~~AD-SE~~ SE1 | 108 | 5 | AD-BRK | 164 | 100 | FTB |
| FS: 5/8 3. | 134 | 0 | SE1 | 117 | 0 | SE1 | 163 | 100 | FTB |
| OP: 2163 4. | 122 | 0 | SE1 | 119 | 0 | SE1 | 162 | 100 | FTB |
| T 750/S 600 5. | 118 | 0 | SE1 | 119 | 0 | SE1 | 166 | 100 | FTB |
| SEAM TYPE: | | | AVG. | 120 | | AVG. | 164 | | |
| | | | SD. | 9 | | SD. | 2 | | |

JOB# 2583 THICKNESS: 60mil DATE: 9/28/94 LOCATION: Canonie

| DESTRUCT IDENTIFICATION | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|
| DS# P-14 1. | 108 | 0 | SE1 | | | | 147 | 100 | FTB |
| M# G-253 2. | 121 | 0 | SE1 | | | | 158 | 100 | FTB |
| FS: P-24/TP-8 3. | 132 | 0 | SE1 | | | | 163 | 100 | FTB |
| OP: 2130 4. | 112 | 0 | SE1 | | | | 158 | 100 | FTB |
| T255/6/S 5. | 124 | 0 | SE1 | | | | 160 | 100 | FTB |
| SEAM TYPE: | | | AVG. | 119 | | AVG. | 157 | | |
| extrusion | | | SD. | 10 | | SD. | 6 | | |

| DESTRUCT IDENTIFICATION | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|
| DS# P-13 1. | 128 | 0 | SE1 | | | | 155 | 100 | FTB |
| M# G-222 2. | 121 | 0 | SE1 | | | | 158 | 100 | FTB |
| FS: P-15/TP-23 3. | 111 | 0 | SE1 | | | | 159 | 100 | FTB |
| OP: 2121 4. | 110 | 0 | SE1 | | | | 154 | 100 | FTB |
| T255/6/S 5. | 115 | 0 | SE1 | | | | 154 | 100 | FTB |
| SEAM TYPE: | | | AVG. | 117 | | AVG. | 156 | | |
| extrusion | | | SD. | 8 | | SD. | 2 | | |

JOB# 2583 THICKNESS: 60 mil DATE: 9/29/94 LOCATION: Canonie

| DESTRUCT IDENTIFICATION | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|
| DS# P15 1. | 158 | 0 | SE1 | | | | 179 | 100 | FTB |
| M# G 222 2. | 100 | 0 | SE1 | | | | 164 | 100 | FTB |
| FS: TP-2 / P-46 3. | 106 | 0 | SE1 | | | | 167 | 100 | FTB |
| OP: 2128 4. | 135 | 0 | SE1 | | | | 163 | 100 | FTB |
| T 2457/7 /S 5. | 147 | 0 | SE1 | | | | 163 | 100 | FTB |
| SEAM TYPE: | | | AVG. | 129 | | AVG. | 167 | | |
| extrusion | | | SD. | 25 | | SD. | 7 | | |

| DESTRUCT IDENTIFICATION | OUTER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | INNER PEEL PPI | PEEL % | TYPE BREAK L.O.B. | SHEAR PPI | ELONG % | TYPE SHEAR L.O.B. |
|---|---|---|---|---|---|---|---|---|---|
| DS# 1. | | | | | | | | | |
| M# 2. | | | | | | | | | |
| FS: 3. | | | | | | | | | |
| OP: 4. | | | | | | | | | |
| T /S 5. | | | | | | | | | |
| SEAM TYPE: | | | AVG. | | | AVG. | | | |
| | | | SD. | | | SD. | | | |

**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT

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PROJECT NAME: Cavonic PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: CX-1527

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1/3 | 1/3 | 9-23 | 2127 | 222 | 9-26 | 2087 | P | 208'(N) to EOS ext (294') EXT SEAM |
| 1/2/3 | 1/2/3 | 9-23 | " | " | " | " | P | 288(N) PATCH (294') 8 |
| 2/3 | 2/3 | 9-23 | " | " | " | " | " | Butt-Seam EXT Seam |
| ~~3/4~~ | ~~3/4~~ | ~~9-~~ | | | | | | ~~296'(N) to EOS ext~~ |
| 2/~~3~~ | 2 | 9-26 | 2130 | 253 | 9-26 | 2087 | P | 7'(N) 2' E of Seam Pipe penetration |
| 4/5 | 4/5 | 9-25 | 2130 | 253 | 9-26 | " | P | 208'(N) Dp-1 |
| 4/~~5~~ | ~~5~~/4 | 9-25 | 2130 27 | ~~253~~ 222 | " | " | P | 312'(N) 3' E of Seam Pipe Penetration |
| 5/8 | 5/8 | 9-25 | 2130 | 253 | " | " | P | 172'(N) Dp-2B |
| " | " | 9-26 | 2130 | " | " | " | P | 172'(N) to 186'(N) ext (Recont) |
| " | " | 9-25 | " | " | " | " | P | 186'(N) Dp 2 |
| " | " | 9-26 | " | " | " | " | P | 186'(N) to 202'(N) ext (Recont) |
| " | " | 9-25 | " | " | " | " | P | 202'(N) Dp 2A |
| 8/10 | 8/10 | 9-25 | " | " | " | " | P | 0'(N) to 7'(N) ext |
| 13/14 | 13/14 | 9-~~26~~ 27 | 2130 | 253 | 9-27 | 2087 | P | 144'(N) Dp-4 |
| 11/12 | 11/12 | 9-25 | " | " | 9-26 | " | P | 75'(N) Dp-3 |
| 14/16 | 14/16 | 9-26 | " | " | " | " | P | 68'(N) Pipe penetration |

**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT



PROJECT NAME: CANONIE PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 15/16/17 | 15/16/17 | 9-26 | 2130 | 253 | 9-27 | 2087 | P | 60' (N) patch |
| 15/18 | 15/18 | " | " | " | " | " | " | 120' (N) Dp-5 |
| 20/21 | 20/21 | 9-26 | 2151 | " | 9-28 | 2163 | P | 100' (N) Dp-6 |
| 26/27 | 26/27 | 9-26 | 2130 | 253 | " | " | P | 90' (N) Dp-7 |
| 29/30 | 29/30 | " | " | " | 9-28 | 2163 | P | 10' (N) Dp-8 |
| 32/33 | 32/33 | 9-26 | 2130 | " | " | " | P | 57' (N) Patch from pipe Boot |
| 33 | 33 | 9-28 | 2127 ~~2128~~ | 222 | " | " | P | 57' (N) Pipe penetration |
| 34/35 | 34/35 | 9-28 | 2127 ~~2128~~ | 222 | " | " | P | Dp-9 60' (N) |
| 38/39 | 38/39 | 9-28 | " | " | " | " | P | 51' (N) patch |
| 37/38 | 37/38 | 9-28 | " | " | " | " | P | 80' (N) Dp-10 |
| 45/46 | 45/46 | " | " | " | " | " | P | 50' (N) Dp-12 |
| 41/42 | 41/42 | " | " | " | " | " | P | 90' (N) Dp-11 |
| 46 | 46 | 9-28 | 2127 | 222 | " | " | P | ~~30'~~ pipe penetration |
| P-15/23 TP-~~8~~ | ← | 9-27 | 2127 | 222 | " | " | P | Dp-13 404' (W) ~~N~~ S. Tie-in |
| P-24/TP-8 | ← | " | " | " | " | " | P | Dp-14 324' (W) N. Tie-in |
| P-46/Tp-2 | ← | 9-28 | 2127 | 222 | 9-28 | 2163 | P | Dp-15 38' (W) N. Tie-in |

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# REPAIR REPORT

PAGE ~~2~~ 3 OF ____

PROJECT NAME: CANONIE PROJECT NUMBER: 2583 MATERIAL DESCRIPTION: UC-1527

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 49/1 | 49/1 | 9-29 | 2128 | 222 | 9-29 | 2163 | P | 20'(N) to 36'(N) ext. |
| 50/1 | 50/1 | " | " | " | " | " | P | 88'(N) to 93'(N) ext |
| 51/1 | 51/1 | " | " | " | " | " | P | 202'(N) to 213'(N) ext. |
| 47/48 | 47/48 | 9-28 | 2127 | 222 | 9-28 | 2163 | P | 31'(N) PATCH |
| 47 | 47 | " | " | " | " | " | P | 18'(N) Pipe penetration 4'W of Seam |
| 46 | 46 | " | " | " | " | " | P | 98'(N) Pipe penetration 1'E of Seam |

# WEST CONTAINMENT CELL

**NSC** NATIONAL SEAL COMPANY

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# PANEL SEAMING FORM

PROJECT NAME: Waukegan PROJECT NUMBER: 2154 MATERIAL DESCRIPTION: CO6L

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-16 | | | | | | | | | | | |
| 14:00 | P-1 | P1/P2 | 305' | 2064 | 1309 | 750/500 | clear | 10-15 | 43° | P | |
| 10-17 | | | | | | | | | | | |
| 7:58 | P-2 | P4/P5 | 178 132' | 2038 | 1313 | 725/350 | clear | 0 | 32° | P | |
| 8:20 | P-3 | P4/P3 | 131 132' | 2064 | 1309 | 750/400 | | | | P | |
| 8:31 | P-4 | P3/P6 | 120 124' | 2038 | 1313 | 725/350 | | | | P | |
| 9:05 | P-5 | P1/P7 | 172 172' | 2038 | 1313 | 725/350 | | | | P | |
| 9:07 | P-6 | P7/P8 | -38 178' | 2064 | 1309 | 750/400 | | | | P | |
| 9:46 | P-7 | P8/P9 | 159 166' | 2064 | 1309 | 750/400 | | | | P | |
| 9:48 | P-8 | P9/P10 | 1116' 144' | 2038 | 1313 | 725/350 | | | | P | |
| 10:20 | P-9 | P10/P11 | 130 129' | 2064 | 1309 | 750/400 | | | | P | |
| 10:31 | P-10 | P11/P12 | 114' 113' | 2038 | 1313 | 725/350 | | | | P | |
| 11:05 | P-11 | P12/P13 | 99' 99' | 2064 | 1309 | 750/400 | | | 40° | P | |
| 11:05 | P-12 | P6/P14 | 160 104' | 2038 | 1313 | 725/350 | | | | P | |
| 11:30 | P-13 | P14/P15 | 99 98' -12 | 2064 | 1309 | 750/400 | | | | | |
| 11:30 | P-14 | P15/P16 | 89' 72' | 2038 | 1313 | 725/350 | | | | | |

1972 11' 128

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# PANEL SEAMING FORM

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 215-4 MATERIAL DESCRIPTION: C064

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-17 | | | | | | | | | | | |
| 13:30 | P-15 | P16/P17 | 80' | 2064 | 1304 | 750/400 | clear | 0-3 | 45° | P | |
| 13:35 | P-16 | P17/P18 | 68' | 2038 | 1313 | 725/400 | | | | P | |
| 13:49 | P-17 | P13/P14 | 78 | 2038 | 1313 | 725/400 | | | | P | |
| 13:50 | P-18 | P19/P20 | 101 | 2064 | 1304 | 750/400 | | | | P | |
| 14:14 | P-19 | P20/P21 | 104' | 2038 | 1313 | 725/400 | | | | P | |
| 14:54 | P-20 | P1/P22 | 94' | 2064 | 1304 | 750/400 | | | | P | |
| 14:20 | TIE-IN S.W. | S.W. CORNER | 180 | 0057 | 1528 | 700/500 | | | | P | |
| 15:15 | P-21 | P22/P23 | 83' | 2038 | 1313 | 725/400 | | | | P | |
| 15:25 | P-22 | P23/P24 | 69' | 2064 | 1304 | 750/400 | | | | P | |
| 15:35 | P-23 | P24/P25 | 56' | 2038 | 1313 | 725/400 | | | | P | |
| 15:45 | P-24 | P25/P26 | 49' | 0051 | 1642 | 700/450 | | | | P | |
| 15:50 | P-25 | P26/P27 | 34 | 2038 | 1313 | 725/400 | | | | P | |
| 16:00 | P-26 | P5/P28 | 114' | 0051 | 1642 | 700/450 | | | | P | |
| 16:05 | P-27 | P28/P29 | 90' | 2038 | 1313 | 725/400 | | | | P | |
| 16:10 | P-28 | P29/P30 | 66' | 2064 | 1304 | 750/400 | | | | P | |

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# PANEL SEAMING FORM

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: COLL

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-17 | | | | | | | | | | | |
| 16:20 | P-29 | P29 / P30 | 30' | 2064 | 1304 | 750 / 400 | clear | 0-5 | 42° | P | |
| 16:20 | P-30 | P30 / P32 | 90' | 0057 | 1642 | 700 / 450 | ↓ | ↓ | ↓ | P | |
| 16:35 | N.W TIE-IN. | N.W / CORNER. | 138' | 2038 | 1313 | 725 / 400 | ↓ | ↓ | ↓ | P | |
| 10-18 | | | | | | | | | | | |
| 9:08 | P-31 | P2 / P33 | 304' | 2064 | 1313 | 725 / 350 | clear | 3-8 | 39° | P | |
| 9:58 | P-32 | P33 / P34 | 304' | 2007 | 1304 | 725 / 400 | | | | P | |
| 10:15 | P-33 | P34 / P35 | 304' | 2064 | 1313 | 725 / 350 | | | | P | |
| 11:05 | P-34 | P35 / P36 | 304' | 2007 | 1309 | 725 / 400 | | | | | |
| 11:30 | P-35 | P36 / P37 | 304 | 2064 | 1313 | 725 / 350 | | | | | |
| 14:00 | P-36 | P37 / P38 | 304 | 2007 | 1304 | 725 / 400 | | | | | |
| 14:10 | P-37 | P38 / P34 | 304 | 2064 | 1313 | 725 / 350 | | | | | |
| 14:33 | P-38 | P34 / P40 | 304 | 2039 | 1528 | 725 / 450 | | | | | |
| 15:10 | P-39 | P40 / P41 | 304 | 2007 | 1309 | 725 / 400 | | | | | |
| 15:35 | P-40 | P41 / P42 | 304 | 2039 | 1528 | 725 / 450 | | | | | |
| 15:34 | P-40 -1 | P42 / P43 | 84.5 | 2064 | 1313 | 725 / 350 | | | | | |

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# PANEL SEAMING FORM

PROJECT NAME: WANKEGAN PROJECT NUMBER: 2154 MATERIAL DESCRIPTION: CO66

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-14 | | | | | | | | | | | |
| 8:10 | P-41 | P42,43 / P44 | 304 | 2064 | 1313 | 725 / 350 | clear | 0-3 | 35° | | |
| 8:30 | P-42 | P44 / P45 | 304 | 0051 | 1309 | 750 / 380 | | | | | |
| | P-43 | P45 / P46 | 304 | 2064 | 1313 | 725 / 350 | | | | | |
| 9:32 | P-44 | P46 / P47 | 116' | 0057 | 1309 | 750 / 38 | | | | | |
| 10:10 | P-45 | P47 / P48 | 193' | 0057 | 1309 | 750 / 38 | | | | | 115 / 150 |
| | P-46 | P48 / P49 | 110' | | | | | | | | |
| | P-47 | P49 / P50 | 84' | | | | | | | | + 23' |
| 11:24 | P-48 | P50 / P51 | 52' | 0051 | 1309 | 750 / 38 | | | | | |
| 10-20-93 | P-49 | P51 / P52 | 21' | 2039 | MY.08 | 275 / 265 | | | | P | |
| 11:15 | P-50 | P53 / P54 | 103' | 2064 | 1313 | 725 / 350 | | | | | |
| 11:40 | P-51 | P54 / P55 | 86' | 2064 | 1313 | 725 / 350 | | | | | |
| 11:45 | P-52 | P55 / P56 | 66' | 0051 | 1309 | 750 / 380 | | | | | |
| 12:00 | P-53 | P56 / P57 | 53' | 2064 | 1313 | 725 / 350 | | | | | |
| 14:00 | P-54 | P53 / P58 | 120' | 0051 | 1309 | 750 / 720 | | | | | +8' to FSA |
| 14:05 | P-55 | P58 / P59 | 123' | 2064 | 1313 | 725 / 400 | | | | | |

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# PANEL SEAMING FORM

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2154 MATERIAL DESCRIPTION: CO62

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | P-56 | | | | | | | | | | |
| 14:30 | P-56 | P59/P60 | 121' | 0051 | 1304 | 750/420 | | | | | |
| 14:40 | P-57 | P60/P61 | 110' | 2064 | 1313 | 725/400 | | | | | |
| 15:10 | P-58 | P61/P62 | 97' | 2064 | 1313 | 725/400 | | | | | |
| 15:15 | P-59 | P62/P63 | 85' | 0051 | 1304 | 750/420 | | | | | |
| 15:35 | P-60 | P63/P64 | 74' | 2064 | 1313 | 725/400 | | | | | |
| 15:45 | P-61 | P64/P65 | 65' | 0051 | 1304 | 750/420 | | | | | |
| 16:00 | P-62 | P65/P66 | 56' | 2064 | 1313 | 725/400 | | | | | |
| 16:15 | P-63 | P66/P67 | 43' | 2064 | 1313 | 725/400 | | | | | |
| 16:30 | P-64 | P67/P68 | 33' | 2064 | 1313 | 725/400 | | | | | |
| 16:15 | P65 | P68/P69 | 106' | 0051 | 1304 | 750/420 | | | | | |
| 16:50 | P66 | P69/P70 | 100' | 0051 | 1304 | 750/420 | | | | | |
| 17:00 | P67 | P70/P71 | 91' | 2064 | 1313 | | | | | | |
| 17:15 | P68 | P71/P72 | 82' | 0051 | 1304 | | | | | | |
| 17:20 | P69 | P72/P73 | 75' | 2064 | 1313 | | | | | | |
| 17:35 | P70 | P73/P74 | 67' | 2064 | 1313 | | | | | | |

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# PANEL SEAMING FORM

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: COIL

| DATE/ TIME | SEAM NUMBER | PANEL NUMBERS | SEAM LENGTH | SEAMER INITIALS | MACHINE NUMBER | TEMP SETTING | WEATHER | WINDS | AMBIENT TEMP | DES TEST P/F | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| 17:40 | ~~[illegible]~~ P71 ~~P75~~ | P74/P75 | 59' | 0051 | 1304 | | | | | | |
| 17:50 | P72 | P75/P76 | 118' | 2064 | 1313 | | | | | | |
| 18:00 | P73 | P76/P77 | 40' | 0051 | 1304 | | | | | | |
| 18:05 | P74 | P77/P78 | 31' | 2064 | 1313 | | | | | | |
| 18:10 | P75 | P78/P79 | 15' | 0051 | 1304 | | | | | | |
| 18:15 | P-76 | P79/P80 | 15' | | | | | | | | |
| 10-20 | | | | | | | | | | | |
| | Tre-Tw EAST | E SIDE TO | 281 | | | | | | | | |
| 10-21 | P80/E END | FSP-77 | 299' | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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# TRIAL WELD INFORMATION

PROJECT NAME: Waukegan PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: Cobb

| DATE/ TIME | AMBIENT TEMP | Q.C. INITIALS | MACHINE NUMBER | SEAMER INITIALS | EXTRUSION WELDS: BARREL TEMP SET | EXTRUSION WELDS: BARREL TEMP PYRO | EXTRUSION WELDS: PREHEAT TEMP SET | EXTRUSION WELDS: PREHEAT TEMP PYRO | FUSION WELDS: WEDGE TEMP SET | FUSION WELDS: WEDGE TEMP PYRO | MEASURED SPEED FT / MIN | SPEED SETTING | PEEL VALUES LBS / INCH | | | PASS/ FAIL | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-16-92 | | | | 2 | | | | | | | | | | | | | |
| 13:34 | 42° | 78 | 1304 | 2064 | | | | | 750 | | | 50 | 142<br>133 | 134<br>124 | 139<br>125 | P | 206 |
| 14:32 | 42° | 78 | 1313 | 2038 | | | | | 725 | | | 45 | 126<br>124 | 130<br>128 | 109<br>143 | P | 201 |
| 10-17 | | | | | | | | | | | | | | | | | |
| 07:32 | 28° | 78 | 1304 | 2064 | | | | | 750 | | | 50 | 148<br>(37) | | | F | Peel |
| 07:33 | 28° | 78 | 1313 | 2038 | | | | | 725 | | | 45 | (65) | | | F | Peel |
| 07:42 | 28 | 78 | 1313 | 2038 | | | | | 725 | | | 35 | 151<br>128 | (153)<br>(148) | 141<br>135 | P | 126<br>131 |
| 07:51 | 28 | 78 | 1304 | 2064 | | | | | 750 | | | 35 | 141<br>121 | 110<br>131 | 144<br>121 | P | |
| 08:10 | 32° | 78 | 1304 | 2064 | | | | | 750 | | | 400 | 128<br>131 | 144<br>132 | 143<br>124 | P | |
| 13:16 | 45° | 78 | 1304 | 2064 | | | | | 750 | | | 40 | 130<br>112 | 102<br>112 | 132<br>121 | P | |
| 13:21 | 45° | 78 | 1313 | 2038 | | | | | 725 | | | 40 | 137<br>127 | 134<br>126 | 133<br>136 | P | |
| 13:32 | 45° | 78 | 1528 | 0051 | | | | | 700 | | | 50 | 137<br>139 | 151<br>137 | 143<br>142 | P | 133<br>111 |
| 15:15 | 45° | 78 | 1628 | 0051 | | | | | 700 | | | 45 | 134<br>123 | 136<br>132 | 133<br>113 | P | |

**NSC NATIONAL SEAL COMPANY**



# TRIAL WELD INFORMATION

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2154 MATERIAL DESCRIPTION: C06

| DATE/ TIME | AMBIENT TEMP | O.C. INITIALS | MACHINE NUMBER | SEAMER INITIALS | EXTRUSION WELDS: BARREL TEMP SET | EXTRUSION WELDS: BARREL TEMP PYRO | EXTRUSION WELDS: PREHEAT TEMP SET | EXTRUSION WELDS: PREHEAT TEMP PYRO | FUSION WELDS: WEDGE TEMP SET | FUSION WELDS: WEDGE TEMP PYRO | MEASURED SPEED FT / MIN | SPEED SETTING | PEEL VALUES LBS / INCH | | | PASS/ FAIL | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-18 | | | | | | | | | | | | | | | | | |
| 8:30 | 38° | 78 | 1313 | 2064 | | | | | 725 | | | 35 | 124<br>146 | 130<br>120 | 110<br>144 | P | |
| 8:06 | 39° | 78 | 1613 | 2007 | | | | | | | | | 132 | — | — | F | Peel |
| 9:50 | 40° | 78 | mx-06 | 2038 | 275 | | 285 | | | | | | 100 | 124 | 143 | P | |
| 9:55 | 40° | 78 | 1309 | 2007 | | | | | 725 | | | 40 | 150<br>143 | 130<br>138 | 119<br>135 | P | |
| 13:50 | 45° | 78 | 1309 | 2007 | | | | | 725 | | | 40 | 124<br>118 | 126<br>126 | 130<br>112 | P | |
| 13:56 | 45° | 78 | 1313 | 2064 | | | | | 725 | | | 35 | 125<br>123 | 131<br>112 | 129<br>105 | P | |
| 14:12 | 45° | 78 | 1308 | 2039 | | | | | 725 | | | 45 | 131<br>126 | 136<br>140 | 128<br>123 | P | |
| 10-14 9:20 | 25° | 78° | mx-08 | 2038 | 285 | | 275 | | | | | | 125 | 82 | 82 | F | Peel |
| 7:25 | 25° | 78 | 1313 | 2064 | | | | | 725 | | | 35 | 96<br>121 | 132<br>165 | 122<br>138 | P | |
| 7:30 | 25° | 78° | 1309 | 0051 | | | | | 725 | | | 38 | 128<br>127 | — | — | F | Peel |
| 8:10 | 26° | 78 | mx-08 | 2038 | 275 | | 285 | | 750 | | | | 115 | 113 | 100 | P | |
| 8:45 | 36° | 78 | 1309 | 0051 | | | | | 750 | | | 38 | 104<br>103 | 110<br>128 | 116<br>125 | P | |
| 13:45 | 41° | 78 | 1309 | 0051 | | | | | 750 | | | 42 | 124<br>143 | 133<br>136 | 130<br>138 | P | |
| 13:50 | 41° | 78 | 1313 | 2064 | | | | | 725 | | | 400 | 130<br>123 | 138<br>114 | 134<br>126 | P | |

**NSC** NATIONAL SEAL COMPANY



# TRIAL WELD INFORMATION

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: COLL

| DATE/ TIME | AMBIENT TEMP | Q.C. INITIALS | MACHINE NUMBER | SEAMER INITIALS | EXTRUSION WELDS BARREL TEMP SET | EXTRUSION WELDS BARREL TEMP PYRO | EXTRUSION WELDS PREHEAT TEMP SET | EXTRUSION WELDS PREHEAT TEMP PYRO | FUSION WELDS WEDGE TEMP SET | FUSION WELDS WEDGE TEMP PYRO | MEASURED SPEED FT / MIN | SPEED SETTING | PEEL VALUES LBS / INCH | | | PASS/ FAIL | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1356 10-19 | 41° | 78 | MX-08 | 2038 | 275 | | 285 | | | | | | 137 | 138 | 123 | P | |
| 10-20 | | | | | | | | | | | | | --- | --- | --- | | |
| 13:30 | 44° | 78 | 313 | 2064 | | | | | 725 | | | 40 | 132<br>114 | 122<br>125 | 122<br>140 | P | |
| | | 78 | MX-08 | 2007 | 275 | | 285 | | | | | | 101 | 94 | 108 | P | |
| 10-21 | | | | | | | | | | | | | --- | --- | --- | | |
| 755 | 41° | 78 | 1313 | 2064 | | | | | 725 | | | 400 | 112<br>134 | 121<br>127 | 130<br>136 | P | |
| 8:00 | | 78 | MX-08 | 2034 | 275 | | 285 | | | | | | 105 | 114 | 144 | P | 203 |
| 8:05 | | 78 | MX-08 | 2038 | 275 | | 285 | | | | | | 102 | 115 | 122 | P | 202 |
| 13:26 | | 78 | MX-08 | 2038 | 275 | | 285 | | | | | | 118 | 121 | 123 | P | |
| 10-22 | | | | | | | | | | | | | --- | --- | --- | | |
| 7:30 | | 78 | MX-08 | 2038 | 275 | | 285 | | | | | | 119 | 114 | 111 | P | |
| 10-23 | | | | | | | | | | | | | --- | --- | --- | | |
| 8114 | 61° | 78 | MX-08 | 2038 | 275 | | 285 | | | | | | 120 | 91 | 121 | P | |
| | 72° | 78 | MX-08 | 2034 | 275 | | 285 | | | | | | 113 | 134 | 117 | P | |
| | | | | | | | | | | | | | --- | --- | --- | | |

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# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: WAUKESAN PROJECT NUMBER: 2154 MATERIAL DESCRIPTION: Coal

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / − | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 10-16 | FS-P1 | 78 | 33 | 33 | 0 | 14:55 | 15:00 | Y | | 0' TO EOS |
| 10-17 | FS-P2 | 78 | 30 | 29 | -1 | 8:44 | 8:54 | Y | | 0' TO EOS |
| 10-17 | FS-P3 | 78 | 33 | 31 | -2 | 8:27 | 8:32 | Y | | 0' TO 13' |
| 10-17 | FS-P3 | 78 | 32 | 32 | 0 | 9:04 | 9:14 | Y | | 13' TO EOS |
| 10-17 | FS-P4 | 78 | 31 | 30.5 | -.5 | 9:16 | 9:21 | Y | | 0' TO EOS |
| 10-17 | FS-P5 | 78 | 30 | 28 | -2 | 9:43 | 9:48 | Y | | 0' TO EOS |
| 10-17 | FS-P6 | 78 | 30 | 30 | 0 | 9:41 | 9:46 | Y | | 0' TO EOS |
| 10-17 | FS-P7 | 78 | 30 | 30 | 0 | 10:14 | 10:19 | Y | | 0' TO EOS |
| 10-17 | FS-P8 | 78 | 31 | 30 | -1 | 10:26 | 10:31 | Y | | 0' TO EOS |
| 10-17 | FS-P9 | 78 | 33 | 33 | 0 | 10:54 | 10:59 | Y | | 0' TO EOS |
| 10-17 | FSP10 | 78 | 34 | 27 | -2 | 10:56 | 11:01 | Y | | 0' TO EOS |
| 10-17 | FSP-11 | 78 | 32 | 31 | -1 | 11:25 | 11:30 | Y | | 0' TO EOS |
| 10-17 | FSP-12 | 78 | 32 | 30 | -2 | 12:57 | 13:02 | Y | | 0' TO EOS |
| 10-17 | FSP-13 | 78 | 30 | 30 | 0 | 12:57 | 13:02 | Y | | 0' TO EOS |
| 10-17 | FSP-14 | 78 | 29 | 27 | -2 | 12:57 | 13:02 | Y | | 0' TO EOS |
| 10-17 | FSP-15 | 78 | 31 | 30 | -1 | 13:53 | 13:58 | Y | | 0' TO EOS |
| 10-17 | FSP-16 | 78 | 29 | 27 | -2 | 13:53 | 13:58 | Y | | 0' TO EOS |
| 10-17 | FSP-17 | 78 | 32 | 31 | -1 | 14:13 | 14:18 | Y | | 0' TO EOS |
| 10-17 | FSP 18 | 78 | 31 | 30 | -1 | 14:13 | 14:18 | Y | | 0' TO EOS |
| 10-17 | FSP-19 | 78 | 33 | 31 | -2 | 14:35 | 14:40 | Y | | 0' TO EOS |
| 10-17 | FSP-20 | 78 | 30 | 30 | 0 | 15:15 | 15:20 | Y | | 0' TO EOS |
| 10-17 | FSP-21 | 78 | 32 | 29 | -3 | 15:42 | [illegible] | Y | | 0' TO EOS |
| 10-17 | FSP-22 | 78 | 32 | 31 | -1 | 15:42 | 15:47 | Y | | 0' TO EOS. |
| 10-17 | FSP-23 | 78 | 30 | 30 | 0 | 16:06 | 16:11 | Y | | 0' TO EOS |
| 10-17 | FSP-24 | 78 | 30 | 28.5 | -1.5 | 16:06 | 16:11 | Y | | 0' TO EOS |
| 10-17 | FSP-25 | 78 | 30 | 28 | -2 | 16:05 | 16:10 | Y | | 0' TO EOS |

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NS NATIONAL SEAL COMPANY



# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: [illegible] PROJECT NUMBER: 2154 MATERIAL DESCRIPTION: [illegible]

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / − | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 10-17 | P-26 | 78 | 31 | 30 | -1 | 16:24 | 16:34 | Y | | 0' TO |
| 10-17 | P-26 | 78 | 32 | 31 | -1 | 16:24 | 16:34 | Y | | TO E.O.S |
| 10-17 | P-27 | 78 | 33 | 31 | -2 | 16:28 | 16:33 | Y | | 0' TO E.O.S |
| 10-17 | P-28 | 78 | 30 | 30 | 0 | 16:34 | 16:44 | Y | | 0' TO E.O.S |
| 10-17 | P-29 | 78 | 32 | 30 | -2 | 16:47 | 16:52 | Y | | 0' TO E.O.S |
| 10-17 | P-30 | 78 | 30 | 29 | -1 | 16:34 | 16:44 | Y | | 0' TO E.O.S |
| 10-18 | P-31 | 78 | 32 | 31 | -1 | 11:44 | 11:44 | Y | | 0' TO E.O.S |
| 10-18 | P-32 | 78 | 31 | 28 | -3 | 11:44½ | 11:49 | Y | | 0' TO E.O.S |
| 10-18 | P-33 | 78 | 29 | 28 | -1 | 11:45½ | 11:50 | Y | | 0' TO E.O.S. |
| 10-18 | P-34 | 78 | 30 | 30 | 0 | 14:27 | 14:32 | Y | | 0' TO E.O.S |
| 10-18 | P-35 | 78 | 33 | 32 | -1 | 14:28 | 14:33 | Y | | 0' TO E.O.S |
| 10-18 | P-36 | 78 | 33 | 32 | -1 | 15:29 | 15:34 | Y | | 0' TO E.O.S |
| 10-18 | P-37 | 78 | 33 | 32 | -1 | 15:29 | 15:34 | Y | | 0' TO E.O.S. |
| 10-19 | P-38 | 78 | 27 | 27 | 0 | 8:28 | 8:33 | Y | | 0' TO E.O.S |
| 10-19 | P-39 | 78 | 31 | 31 | 0 | 8:28 | 8:33 | Y | | 0' TO E.O.S |
| 10-19 | P-40 | 78 | 28.5 | 28 | -.5 | 9:37 | 9:42 | Y | | 125' TO E.O.S |
| 10-19 | P-40 | 78 | 30 | 30 | 0 | 14:44 | 14:44 | Y | | 0' TO 125' |
| 10-21 | P-41 | 78 | 30 | 28 | -2 | 14:27 | 14:32 | Y | | 0' TO 58' |
| 10-21 | P-41 | 78 | 34 | 31 | -3 | 14:21 | 14:26 | Y | | 58' TO 176' |
| 10-21 | P-41 | 78 | 29 | 28 | -1 | 14:28 | 14:33 | Y | | 176' TO E.O.S |
| 10-20 | P-42 | 78 | 31 | 30 | -1 | 15:20 | 15:25 | Y | | 0' TO E.O.S |
| 10-20 | P-43 | 78 | 33 | 32 | -1 | 15:40 | 15:45 | Y | | 0' TO E.O.S |
| 10-19 | P-44 | 78 | 31 | 30 | -1 | 11:11 | 11:16 | Y | | 0' TO E.O.S |
| 10-19 | P-45 | 78 | 32 | 32 | 0 | 11:09 | 11:14 | Y | | 0' TO |
| 10-19 | P-45 | 78 | 30 | 30 | 0 | 11:09 | 11:14 | Y | | TO E.O.S |
| 10-19 | P-46 | 78 | 32 | 30 | -2 | 11:13 | 11:18 | Y | | [illegible] E.O.S |

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# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: COCC

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / - | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 10-19 | P-47 | 78 | 32 | 31 | -1 | 11:23 | 11:28 | Y | | 0' TO E.O.S |
| 10-19 | P-48 | 78 | 31 | 30 | -1 | 11:50 | 11:55 | Y | | 0' TO E.O.S |
| | P-49 | | V | BOX | | | | | Y | EXTRUDED SEAM |
| 10-19 | P-50 | | 30 | 29 | -1 | 14:28 | 14:33 | | | 0' TO E.O.S |
| 10-19 | P-51 | | 28 | 27 | -1 | 14:29 | 14:34 | | | 0' TO E.O.S |
| 10-19 | P-52 | | 31 | 30 | -1 | 14:28 | 14:33 | | | 0' TO E.O.S |
| 10-19 | P-53 | | 30 | 28 | -2 | 14:28 | 14:33 | | | 0' TO E.O.S |
| 10-19 | P-54 | | 32 | 30 | -2 | 15:30 | 15:35 | | | 0' TO E.O.S |
| 10-19 | P-55 | | 31 | 30 | -1 | 15:30 | 15:35 | | | 0' TO E.O.S |
| 10-19 | P-56 | | 31 | 31 | 0 | 15:29 | 15:34 | | | 0' TO E.O.S |
| | P-57 | | 30 | 28 | -2 | 15:29 | 15:34 | | | 0' TO E.O.S |
| | P-58 | | 32 | 31 | -1 | 15:44 | 15:44 | | | 0' TO E.O.S |
| | P-59 | | 31 | 30 | -1 | 15:44 | 15:44 | | | 0' TO E.O.S |
| | P-60 | | 33 | 33 | 0 | 16:10 | 16:15 | | | 0' TO E.O.S |
| | P-61 | | 31 | 30.5 | -.5 | 16:10 | 16:15 | | | 0' TO E.O.S |
| | P-62 | | 29 | 29 | 0 | 16:41 | 16:46 | | | 0' TO E.O.S |
| | P-63 | | 32 | 31 | -1 | 16:41 | 16:46 | | | 0' TO E.O.S |
| | P-64 | | 31 | 29 | -2 | 16:41 | 16:46 | | | 0' TO E.O.S |
| | P-65 | | 30 | 30 | 0 | 17:27 | 17:32 | | | 0' TO E.O.S |
| | P-66 | | 32 | 30 | -2 | 17:27 | 17:32 | | | 0' TO E.O.S |
| | P-67 | | 32 | 30 | -2 | 17:26 | 17:31 | | | 0' TO E.O.S |
| 10-20 | P-68 | 78 | 30 | 30 | 0 | 15:06 | 15:11 | | | 0' TO E.O.S |
| 10-20 | P-69 | 78 | 27 | 27 | 0 | 14:49 | 14:54 | | | 0' TO E.O.S |
| 10-20 | P-70 | 78 | 32 | 30 | -2 | 14:47 | 14:52 | | | 0' TO E.O.S |
| 10-20 | P-71 | 78 | 30 | 29 | -1 | 14:47 | [illegible] | | | 0' TO E.O.S |
| 10-20 | P-72 | 78 | 30 | 28 | -2 | 15:47 | 15:52 | | | 0' TO E.O.S |

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# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION:

| DATE/ TIME | SEAM NO. | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / − | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | P-73 | 78 | 33 | 32 | -1 | 14:46 | 14:51 | Y | | 0' TO E.O.S |
| | P-74 | 78 | 28 | 28 | 0 | 15:09 | 15:14 | Y | | 0' TO E.O.S |
| | P-75 | 78 | 31 | 31 | 0 | 17:27 | 17:32 | Y | | 0' TO E.O.S |
| | P-76 | 2038 | V | BOX | | | | | Y | EXTRUDED SEAM. |
| | | | | | | | | | | |
| 10-21 | P-77 | 78 | 33 | 30 | -3 | 11:43 | 11:48 | Y | | 0' TO 33' |
| | | 2064 | V | BOX | | | | | Y | 33' TO 48' |
| | | 78 | 33 | 32 | -1 | 14:02 | 14:07 | Y | | 48' TO 63' |
| | | 78 | 30 | 28 | -2 | 14:02 | 14:07 | Y | | 63' TO 77' |
| | | 78 | 29 | 27 | -2 | 14:05 | 14:10 | Y | | 77' TO 92' |
| | | 78 | 29 | 28 | -1 | 14:05 | 14:10 | Y | | 92' TO 107' |
| | | 2064 | V | BOX | | | | | Y | 107' TO 151' |
| | | 78 | 31 | 29 | -2 | 16:56 | 17:01 | Y | | 151' TO 166' |
| | | 2064 | V | BOX | | | | | Y | 166' TO 181' |
| | | 78 | 28 | 25 | -3 | 17:06 | 17:11 | Y | | 181' TO 196' |
| | | 78 | 34 | 33 | -1 | 17:12 | 17:17 | Y | | 196' TO 211' |
| | | 78 | 32 | 31 | -1 | 17:12 | 17:17 | Y | | 211' TO E.O.S 226' |
| | | | | | | | | | | |
| 10-21 | TIE-IN E | 78 | 31 | 28 | -3 | 17:24 | 17:29 | Y | | 0' TO 17' |
| 10-21 | | 78 | 35 | 34 | -1 | 17:24 | 17:29 | Y | | 17' TO 35' |
| 10-21 | | 78 | 30 | 28 | -2 | 17:27 | 17:32 | Y | | 35' TO 41' |
| 10-21 | | 78 | 27 | 25 | -2 | 17:31 | 17:36 | Y | | 41' TO 52' |
| 10-20 | | 51 | V | BOX | | | | | Y | 52' TO 67' |
| 10-21 | | 78 | 35 | 34 | -1 | 17:37 | 17:42 | Y | | 67' TO 81' |
| 10-20 | | 51 | V | BOX | | | | | Y | 81 TO 87 |
| 10-21 | | 78 | 34 | 34 | 0 | 17:37 | 17:42 | Y | | 87' TO 101' |

NSC NATIONAL SEAL COMPANY



# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: Guardian PROJECT NUMBER: 2158 MATERIAL DESCRIPTION: [illegible]

| DATE/ TIME | SEAM NO | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / - | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 10-22 | Tie-in E | 78 | 30 | 30 | 0 | 10:05 | 10:10 | Y | | 101' To 193' |
| 10-21 | | 78 | 35 | 33 | -2 | 17:38 | 17:43 | Y | | 193' To 140' |
| 10-21 | | 78 | 30 | 30 | 0 | 17:38 | 17:43 | Y | | 140' To 157' |
| 10-20 | | 51 | U | Box | | | | | Y | 157' To 161 |
| 10-22 | | 78 | 29 | 29 | 0 | 9:55 | 10:00 | Y | | 161 To 174 |
| 10-20 | | 51 | U | Box | | | | | Y | 174 To 182' |
| 10-21 | | 78 | 30 | 30 | 0 | 17:45 | 17:50 | Y | | 182' To 191' |
| 10-22 | | 78 | 30 | 30 | 0 | 8:45 | 8:50 | Y | | 191 To 202' |
| 10-20 | | 51 | U | Box | | | | | Y | 202' To 204' |
| 10-22 | | 78 | 28 | 26 | -2 | 8:55 | 9:00 | Y | | 204' To 214' |
| 10-22 | | 78 | 31 | 31 | 0 | 9:00 | 9:05 | Y | | 214' To 234' |
| 10-22 | | 78 | 29 | 29 | 0 | 9:04 | 9:09 | Y | | 234' To 250' |
| 10-20 | | 51 | U | Box | | | | | Y | 250' To 277' |
| 10-22 | | 78 | 33 | 32 | -1 | 9:23 | 9:28 | Y | | 277' To 297' |
| 10-20 | | 51 | U | Box | | | | | Y | 297' To 304' |
| 10-22 | | 78 | 29 | 29 | 0 | 11:45 | 11:50 | Y | | 304' To 314' |
| 10-22 | | 78 | 30 | 30 | 0 | 9:28 | 9:32 | Y | | 314 To 332' |
| 10-22 | | 78 | 33 | 32 | -1 | 9:26 | 9:31 | Y | | 332' To 344' |
| 10-22 | | 78 | 33 | 33 | 0 | 9:27 | 9:32 | Y | | 344 To 365' |
| 10-21 | | 2064 | U | Box. | | | | | Y | 365' To End (374') |

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PAGE _____

# NON-DESTRUCTIVE TESTING FORM

PROJECT NAME: _____ PROJECT NUMBER: _____ MATERIAL DESCRIPTION: _____

| DATE/ TIME | SEAM NO | TESTER INITIAL | AIR TESTING PRESSURE START | PRESSURE END | + / − | TIME START | TIME END | COMPLETE Y / N | V BOX COMPLETE Y / N | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | WEST SIDE | | | | | | | | | |
| | Tie-in CB: (only) | | | | | | | | | |
| | | | | | | | | | | |
| 10-20 | P32/ 32 | 78 | ~~34~~ 31 | 29 | -2 | 11:44 | 11:54 | Y | | |
| 10-19 | P31/P30 | 78 | 28 | 27 | -1 | 17:17 | 17:22 | Y | | |
| 10-20 | P27/P30 | 78 | 29 | 29 | 0 | 11:26 | 11:31 | Y | | |
| 10-19 | P26/P30 | 78 | 32 | 30 | -2 | 17:17 | 17:22 | Y | | |
| 10-20 | P25/ P30,29 | 51 | V | BOX | | | | | Y | |
| 10-20 | P24/P29 | 51 | V | BOX | | | | | Y | |
| 10-19 | P23/P28 | 78 | 31 | 28 | -3 | 17:25 | 17:35 | Y | | |
| 10-20 | P22/ P5 | 78 | 32 | 31 | -1 | 10:17 | 10:22 | Y | | |
| 10-20 | P1/P5 | 78 | 32 | 32 | 0 | 11:04 | 11:09 | Y | | |
| 10-20 | P1/P3,P4 | 51 | V | BOX | | | | | Y | |
| 10-20 | P28/P3 | 51 | V | BOX | | | | | Y | |
| 10-21 | P14/P9 | 78 | 31 | 30 | | 14:50 | 14:55 | Y | | |
| 10-20 | P15/P9 | 51 | V | BOX | | | | | Y | |
| | P16/P10 | 78 | 31 | 30 | | 14:51 | 14:56 | Y | | |
| | P16/P10 | 78 | 34 | 32 | | 14:51 | 14:50 | Y | | |
| | P17/P11 | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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**NSC** NATIONAL SEAL COMPANY



# DESTRUCTIVE TEST LOG

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: COCL

| DATE | SAMPLE I.D. | SEAM NO. | MACH NO. | SEAMER INITIALS | PEEL VALUES LBS. / INCH | | | | | | PASS / FAIL | DATE TO LAB PKG SLIP NO | LAB PASS / FAIL | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-18 | | | | | | | | | | | | 10-18 | | |
| | DSP-1 | P-6 | 1309 | 2064 | 141 | 105 | | | 143 | 107 | P | | P | |
| | DSP-2 | P-8 | 1313 | 2038 | 108 | 104 | | | 111 | 138 | P | | P | |
| | DSP-3 | P-13 | 1309 | 2064 | 130 | 138 | | | 96 | 118 | P | | F | |
| | DSP-4 | P-17 | 1313 | 2038 | 155 | 135 | | | 100 | 128 | P | | P | |
| | DSP-5 | P-29 | 1309 | 2064 | 142 | 141 | | | 120 | 107 | P | | P | |
| | DSP-6 | Tie-in N.W. | 1313 | 2038 | 141 | 155 | | | 134 | 145 | P | | P | |
| | DSP-7 | P-33 | 1313 | 2064 | 131 | 134 | | | 163 | 114 | P | | P | |
| | DSP-8 | P-34 | 1309 | 2007 | 142 | 144 | | | 158 | 153 | P | | P | |
| | DSP-9 | P-37 | 1313 | 2064 | 126 | 127 | | | 138 | 135 | P | | F | |
| | DSP-10 | P-38 | 1528 | 2034 | 131 | 155 | | | 145 | 139 | P | | P | |
| | DSP-11 | P-39 | 1309 | 2007 | 126 | 136 | | | 146 | 145 | P | | P | |
| | DSP-12 | P-40 | 1313 | 2064 | 95 | 122 | | | 109 | 116 | P | | P | |
| 10-19 | | | | | | | | | | | | 10-19 | | |
| | DSP-13 | P-42 | 1309 | 0051 | 128 | 126 | | | 133 | 130 | P | | P | |
| | DSP-14 | P-43 | 1313 | 2064 | 140 | 142 | | | 113 | 116 | P | | P | |
| | DSP-15 | P-52 | 1309 | 0051 | 130 | 147 | | | 148 | 140 | P | | P | |
| | DSP-16 | P 55 | 1313 | 2064 | 105 | 145 | | | 121 | 121 | P | | P | |
| | DSP-17 | P-65 | 1309 | 0051 | 118 | 117 | | | 110 | 110 | P | | P | |
| | DSP-18 | P-64 | 1313 | 2064 | 119 | 116 | | | 113 | 110 | P | | P | |
| | DSP-19 | P-73 | 1309 | 0051 | 123 | 98 | | | 98 | 119 | P | | P | |
| | DSP-20 | P 72 | 1309 | 2064 | 140 | 108 | | | 148 | 129 | P | | P | |
| | DSP-21 | Tie-in E. | 1313 | 2064 | 118 | 139 | | | 145 | 131 | P | | P | |
| 10-21 | | | | | | | | | | | | 10-21 | | |
| | DSP-22 | P-77 | 1313 | 2064 | 125 | 106 | | | 130 | 137 | P | | P | |

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TRACKING

# DESTRUCTIVE TEST LOG

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: COIL

| DATE | SAMPLE I.D. | SEAM NO. | MACH NO | SEAMER INITIALS | PEEL VALUES LBS. / INCH | | | | | | PASS / FAIL | DATE TO LAB PKG SLIP NO | LAB PASS / FAIL | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-21 | DSP-3A | P-13 | 1304 | 2064 | 104 | 118 | | | 112 | 122 | P | 10-21 | F | |
| | DSP-3B | P-13 | 1304 | 2064 | 114 | 127 | | | 113 | 124 | P | | P | |
| | DSP-4A | P-37 | 1313 | 2064 | 104 | 114 | | | 116 | 123 | P | | P | |
| | DSP-4B | P-37 | 1313 | 2064 | 114 | 124 | | | 122 | 121 | P | | P | |
| 10-22 | | | | | | | | | | | | | | |
| | DSP-3A2 | P-15 | 1304 | 2064 | 118 | 124 | | | 114 | 128 | P | 10-22 | | |

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# REPAIR REPORT

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PROJECT NAME: WAUKELAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: COOL

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| FSP-36 | P37 / P38 | | | | | | | NO RUPS EOS 244' |
| FSP-35 | P37 / P36 | | | | | | | NO RUPS EOS 294' |
| FSP-34 | P36 / P35 | 10-14 | 2038 | MX-08 | 10-20 | 51 | P | 2X4 PATCH 253' DSP-8 EOS 295 |
| FSP-33 | P35 / P34 | 10-14 | 2038 | MX-08 | 10-20 | 51 | P | 2X4 PATCH DSP-7 124' |
| FSP-32 | P34 / P33 | 10-14 | 2038 | MX-08 | 10-20 | 51 | P | 2X10' CAP 244' TO E.O.S 244' |
| FSP-31 | P33 / P2 | | | | | | | NO RUPS EOS 249' |
| FSP-1 | P2 / P1 | | | | | | | NO RUPS EOS 259' |
| FSP-5 | P1 / P7 | | | | | | | NO RUPS EOS 172' |
| FSP-6 | P7 / P8 | 10-14 | 2038 | MX-08 | 10-20 | 51 | P | 2X4 PATCH ~~E~~ DSP-1 110' |
| FSP-6 | P7 / P8 | 10-14 | 2038 | MX-08 | 10-20 | 51 | P | EOS T 171' |
| FSP-7 | P8 / P9 | 10-14 | 2038 | MX-08 | 10-20 | 51 | P | EOS T 159' |
| FSP-8 | P9 / P10 | 10-14 | 2038 | MX-08 | 10-20 | 51 | P | EOS T 145' |
| FSP-8 | P9 / P10 | 10-14 | 2038 | MX-08 | 10-20 | 51 | P | 8X4 PATCH 86' DSP-2 |
| FSP-9 | P10 / P11 | 10-14 | 2038 | MX-08 | 10-20 | 51 | P | EOS T 130' |
| FSP-10 | P11 / P12 | 10-14 | 2038 | MX-08 | 10-20 | 51 | P | EOS T 114' |
| FSP-11 | P1 / P13 | 10-14 | 2038 | MX-08 | 10-20 | 51 | P | EOS T 94' |

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# REPAIR REPORT

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PROJECT NAME: WAUKELAN PROJECT NUMBER: 2154 MATERIAL DESCRIPTION: COOL

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| FSP-26 | P28 / P5 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | BOS T |
| | | 10-19 | 2038 | MX-08 | 10-20 | 51 | P | 2X10 CAP 84' |
| | | 10-21 | 2038 | MX-08 | 10-21 | 2064 | P | E.O.S. T 111' |
| FSP-2 | P5 / P4 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | BOS T |
| | P4 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | ~~[illegible]~~ BOOT 5X4 SKIRT 13' |
| FSP2 | P5 / P4 | 10-21 | 2038 | MX-08 | 10-21 | 2064 | P | E.O.S T 128 |
| FSP-3 | P4 / P3 | 10-18 | 2038 | MX-08 | 10-20 | 0051 | P | B.O.S T |
| | P4 / P3 | 10-21 | 2038 | MX-08 | 10-21 | 2064 | P | E.O.S T 131' |
| FSP-4 | P3 / P6 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | BOS T EOS |
| FSP-12 | P6 / P-14 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | 1X1 PATCH B.O.S. |
| FSP-12 | P6 / P14 | 10-21 | 2038 | MX-08 | 10-21 | 2064 | P | E.O.S T 170' |
| FSP-13 | P14 / P15 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | BOS T |
| | | 10-21 | 2038 | MX-08 | 10-21 | 2064 | P | 2X4 PATCH 71' DSP-3B |
| | | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | 2X4 PATCH 81' DSP-3 |
| ~~[illegible]~~ | ~~P6~~ / P6 | 10-21 | 2038 | MX-08 | 10-21 | 2064 | P | 2X4 PATCH 93' DSP-3A EOS 99' |
| FSP-4 | P3 / P6 | 10-21 | 2038 | MX-08 | 10-21 | 2064 | P | E.O.S 120' |

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# REPAIR REPORT

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PROJECT NAME: Waukegan PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: COEL

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| FSP-17 | P13 / P14 | 10-14 | 2038 | mx-08 | 10-20 | 51 | P | E.O.S T 99' |
| FSP-17 | P13 / P14 | 10-14 | 2038 | mx-08 | 10-20 | 51 | P | 2x4 PATCH 57' DSP-4 |
| FSP-18 | P19 / P20 | 10-14 | 2038 | mx-08 | 10-20 | 51 | P | E.O.S T 101' |
| FSP-19 | P20 / P21 | 10-14 | 2038 | mx-08 | 10-20 | 51 | P | E.O.S T 104' |
| | P 20 | 10-14 | 2038 | mx-08 | 10-20 | 51 | P | BOOT 4x5 SKIRT 17' 3' E of FSP-17 |
| FSP-16 | P 18 / P17 | 10-14 | 2038 | mx-08 | 10-20 | 51 | P | BOS T |
| FSP16 | P18 / P17 | 10-21 | 2038 | mx-08 | 10-21 | 2064 | P | E.O.S T 68' |
| FSP15 | P17 / P16 | 10-21 | 2038 | mx-08 | 10-21 | 2064 | P | E.O.S T 80' |
| FSP15 | P17 / P16 | 10-14 | 2038 | mx-08 | 10-20 | 51 | P | B.O.S T |
| FSP-14 | P14 / P15 | 10-21 | 2038 | mx-08 | 10-21 | 2064 | P | E.O.S T 84' |
| FSP14 | P16 / P15 | 10-14 | 2038 | mx-08 | 10-20 | 51 | P | BOS T |
| FSP13 | P15 / P14 | 10-14 | 2038 | mx-08 | 10-20 | 51 | P | B.O.S T |
| | | | | | | | | |
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# REPAIR REPORT

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PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2154 MATERIAL DESCRIPTION: CPPE

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| FSP 20 | P1 / P22 | 10-18 | 2038 ~~MX-08~~ | MX-08 | 10-20 | 51 | P | EOS 1X1 PATCH 94' |
| FSP-21 | P22 / P23 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | EOS 1X2 PATCH 83' |
| FSP 22 | P23 / P24 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | E.O.S T 69' |
| FSP 23 | P24 / P25 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | E.O.S T 56' |
| | P25 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | 2X4 PATCH E.O.P 4' W of FSP 23 DSP-6 |
| FSP 24 | P25 / P26 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | E.O.S T 47' |
| FSP-25 | P26 / P27 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | E.O.S T 34' |
| FSP 26 | P27 / P31 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | E.O.S T 31' |
| | | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | 2X4 PATCH 17' DSP-6 |
| FSP 30 | P31 / P32 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | 2X2 PATCH E.O.S 38' |
| | P 32 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | BOOT 4X4 SKIRT 19' 5' W of FSP 30 |
| | | | | | | | | |
| FSP28 | P30 / P29 | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | BOS T |
| | | 10-21 | 2038 | MX-08 | 10-21 | 2039 | P | E.O.S T 66' |
| FSP-27 | P29 / P28 | 10-21 | 2038 | MX-08 | 10-21 | 2039 | P | E.O.S T 90' |
| | | 10-18 | 2038 | MX-08 | 10-20 | 51 | P | BOS T |

**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT

PAGE 5 OF

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: CPCL

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| F437 | P38 / P39 | 10-21 | 2038 | MX-08 | 10-21 | 2064 | P | 2X4 PATCH 71' DSP-9B |
| | | 10-21 | 2036' | MX-08 | 10-21 | 2064 | P | EXTRUDED SEAM 71 TO 85' |
| | | 10-14 | 2038 | MX-08 | 10-20 | 0051 | P | 2X4 PATCH 85' DSP-9 |
| | | 10-21 | 2038 | MX-08 | 10-21 | 2064 | P | EXTRUDED SEAM 85' TO 98' |
| | | 10-21 | 2038 | MX-08 | 10-21 | 2064 | P | 2X4 PATCH DSP 9A 98' |
| P38 | P39 / P40 | 10-14 | 2038 | MX-08 | 10-20 | 0051 | P | 2X4 PATCH 150' DSP-10 |
| P-39 | P40 / P41 | 10-14 | 2038 | MX-08 | 10-20 | 0051 | P | DSP 11 2X4 PATCH 48' |
| P-40 | P41 / P42-43 | 10-14 | 2038 | MX-08 | 10-20 | 0051 | P | 1X1 PATCH 120' X-SEAM |
| | | | | | | | | |
| P-41 | P42,43 / P44 | 10-14 | 2038 | MX-08 | 10-20 | 0051 | P | 1X1 PATCH 120' X-SEAM |
| | P43 | 10-14 | 2038 | MX-08 | 10-20 | 0051 | P | BOOT 3X4 SKIRT 152' MID PAN |
| P40 | P40 / P42,43 | 10-14 | 2038 | MX-08 | 10-20 | 0051 | P | 2X4 PATCH 62' DSP-12 |
| | | | | | | | | |
| | | | | | | | | |
| P43 | P45 / P46 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | 2X4 PATCH 198' EOS 302' DSP- |
| P-44 | P4 / P47 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | E.O.S. T |

**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT



PROJECT NAME: WANRELAW PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: COLL

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| FSP-45 | P47 / P48 | 10-19 | 2038 | mx-08 | 10-20 | 0051 | P | 2X2 PATCH 50' |
| FSP-45 | P47 / P48 | 10-20 | 2007 | mx-08 | 10-21 | 0051 | P | E.O.S T |
| FSP-46 | P48 / P49 | 10-20 | 2007 | mx-08 | 10-21 | 0051 | P | E.O.S T |
| 1 | P 49 | 10-19 | 2038 | mx-08 | 10-20 | 0051 | P | BOOT 4X4 SKIRT 5' Eat FSP 46 25' N' |
| FSP-47 | P49 / P50 | 10-20 | 2007 | mx-08 | 10-21 | 0051 | P | E.O.S T |
| FSP-48 | P50 / P51 | 10-21 | 2038 | mx-8 | 10-21 | 0051 | P | 1X1 PATCH E.O.S |
| FSP-49 | P51 / P52 | 10-21 | 2039 | mx-8 | 10-21 | 0064 | P | EXTRUDED SEAM 0' TO E.O.S |
| FSP-53 | P P57 / P56 | 10-20 | 2007 | mx-8 | 10-21 | 0051 | P | B.O.S T |
| FSP-52 | P56 / P55 | 10-20 | 2007 | mx-8 | 10-21 | 0051 | P | B.O.S T |
| FSP-52 | P55 / P54 | 10-20 | 2007 | mx-8 | 10-21 | 0051 | P | 2X4 PATCH 15' DSP- 15 |
| FSP-51 | P P54 / P55 | 10-20 | 2007 | mx-8 | 10-21 | 0051 | P | B.O.S T |
| FSP-50 | P54 / P53 | 10-20 | 2007 | mx-8 | 10-21 | 0051 | P | B.O.S T |
| FSP-54 | P53 / P58 | 10-20 | 2007 | mx-8 | 10-21 | 0051 | P | B.O.S T |
| FSP-55 | P58 / P59 | 10-20 | 2007 | mx-8 | 10-21 | 0051 | P | B.O.S T |
| FSP-35 | P58 / P59 | 10-20 | 2007 | mx-8 | 10-20 | 0051 | P | 2X4 PATCH 47' DSP 16 |
| FSP-56 | P59 / P60 | 10-20 | 2007 | mx-8 | 10-20 | 0051 | P | B.O.S T |

**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT



PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: COEL

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | P54 | 10-20 | 2007 | mx-08 | 10-21 | 0051 | P | 2x4 PATCH B.O.P MID-PAN DSP. 21 |
| P-57 | P60/P61 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | B.O.S T |
| P-58 | P61/P62 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | B.O.S T |
| P-59 | P62/P63 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | B.O.S T |
| P-60 | P63/P64 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | B.O.S T |
| P-61 | P64/P65 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | B.O.S T |
| P-62 | P65/P66 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | B.O.S T |
| P-63 | P66/P67 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | B.O.S T |
| P-64 | P67/P68 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | B.O.S T |
| P-64 | P67/P68 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | 2x4 PATCH 18' DSP-18 |
| | P68 | 10-19 | 2036 | mx-08 | 10-20 | 0051 | P | BOOT 18' Hot ESP 64 18' E. 3x3 SHORT |
| P-65 | P68/P69 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | 3x4 PATCH B.O.S |
| P-65 | P68/P69 | 10-20 | 2017 | mx-08 | 10-20 | 0051 | P | 2x4 PATCH 56' DSP 17 |
| P-66 | P69/P70 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | B.O.S T |
| P-67 | P70/P71 | 10-20 | 2007 | mx-08 | 10-20 | 0051 | P | B.O.S T |
| P-68 | P[illegible]/P72 | 10-20 | 2007 | mx-08 | 10-20 | [illegible] | P | B.O.S T |

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# REPAIR REPORT

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PROJECT NAME: WBUILLGAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: CPEL

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| P-69 | P72/P73 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | B.O.S T |
| P-70 | P73/P74 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | B.O.S T |
| P-71 | P74/P75 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | B.O.S T |
| P-72 | P75/P76 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | B.O.S T |
| P-72 | P76/P76 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | 2X4 PATCH 14' DSP. 20 |
| P-73 | P76/P77 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | B.O.S T |
| P-73 | P76/P77 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | 2X4 PATCH 22' DSP. 19 |
| P-74 | P77/P78 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | B.O.S T |
| P-75 | P78/P79 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | B.O.S T |
| P-76 | P79/P80 | 10-20 | 2007 | MX-08 | 10-20 | 0051 | P | B.O.S T |
| P-76 | P79/P80 | 10-22 | 2038 | MX-08 | 10-22 | 2034 | P | EXTRUDED SEAM 0' TO E.O.S |
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**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT

PAGE _____ OF _____

PROJECT NAME: WAUKEGAN PROJECT NUMBER: 2159 MATERIAL DESCRIPTION: CCGL

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| FSP-15 | P-16/P17 | 10-23 | 2038 | MX-08 | 10-23 | 2039 | P | 10' 2X4 PATCH |
| | | 10-23 | 2038 | MX-08 | 10-23 | 2039 | P | 22' 1X1 PATCH |
| | | 10-23 | 2038 | MX-08 | 10-23 | 2039 | P | 25' 1X1 PATCH |
| | | 10-23 | 2038 | MX-08 | 10-23 | 2039 | P | 34' 1X1 PATCH |
| | | 10-23 | 2038 | MX-08 | 10-23 | 2039 | P | 38' 2X4 PATCH DSP 3A2 |
| | | | | | | | | |
| FSP-15 | P16/P17 | 10-23 | 2038 | MX-08 | 10-23 | 2038 | P | EXTRUDED SEAM 0' TO 38' (BETWEEN PATCHES ABOVE) |
| | | 10-23 | 2083 | MX-08 | 10-23 | 2039 | P | 1X1 PATCH 48' |
| | | | | | | | | 1X1 PATCH 52' |
| | | | | | | | | 1X1 PATCH 55' |
| | | | | | | | | EXTRUDED SEAM 38' TO EOS. (BETWEEN PATCHES) |
| FSP-18 | | 10-23 | 2038 | MX-08 | [illegible] | [illegible] | P | 2X2 PATCH 15' OS |
| FSP-18 | P | 10-23 | 2038 | MX-08 | 10-23 | 2039 | P | 2X4 PATCH 2' |
| | | | | | | | | 2X4 PATCH 74' DSP 3A3 |
| | | | | | | | | 1X1 PATCH 89 |
| | | | | | | | | 1X1 PATCH 91' |

# EAST CONTAINMENT CELL

89-27

**Canonie Environmental**

Project No. 90-407
Client W H T
Category QA/QC INFORMATION
Sub-Category SYNTHETIC COVER
Date 7-2-93
Originator CMB

# Non-Destructive Seam Test

PROJECT No.: 90-407
PAGE: 1 OF 9
COMPLETED BY: x

PROJECT NAME: Waukegan Harbor LOCATION: E.C.C.

TEST METHOD: Vacuume Box

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P1P2 | - | 30 | 29 | P | | | 6-11-93 | 2089 | |
| P3P4 | - | 31 | 30 | P | | | 6-11-93 | " | |
| P6P7 | 285' | 31 | 30 | P | | | 6-11-93 | " | |
| P6P2 | 63' | 32 | 30 | P | | | 6-11-93 | " | |
| P6P2 | 72' | 32 | 31 | P | | | 6-11-93 | " | |
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NOTES:

89-27

**Canonie Environmental**

# Non-Destructive Seam Test

PROJECT No.: 90-407

PAGE: 2 OF 9

PROJECT NAME: Waukegan Harbor LOCATION: ECC COMPLETED BY:

TEST METHOD:

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P6 P9 | 222' | 32 | 30 | P | – | – | 6-12-93 | 2087 | |
| P9 P2 | 222' | 31 | 30 | P | – | – | 6-12-93 | 2087 | |
| P2 P8 | 40' | 32 | 30 | P | – | – | 6-12-93 | 2087 | |
| P8 Patch | – | 31 | 30 | P | – | – | 6-12-93 | 2087 | |
| P2 Patch | – | | | P | – | – | | | V-Box 0'-09' P1-P8 |
| P7-P10 | 285' | 30 | 28 | P | – | – | 6-12-93 | 2087 | |
| P10-P11 | 202' | 32 | 31 | P | – | – | 6-12-93 | 2087 | |
| P10-P12 | 90' | 30 | 29 | P | – | – | 6-12-93 | 2087 | |
| P11-P12 | 20' | 30 | 29 | P | – | – | 6-12-93 | 2087 | |
| P12-P13 | 90' | 32 | 30 | P | – | – | 6-12-93 | 2087 | |
| P13-P11 | 205' | 33 | 32 | P | – | – | 6-12-93 | 2087 | |
| P13-P14 | 294' | 32 | 30 | P | – | – | 6-12-93 | 2087 | |
| P14-P15 | 294' | 30 | 29 | P | – | – | 6-12-93 | 2087 | |
| P14-P15 | 58 | 30 | 28 | P | – | – | 6-12-93 | 2087 | |
| P15-P17 | 165' | 30 | 28 | P | – | – | 6-12-93 | 2087 | |
| P16-P17 | 20' | 32 | 31 | P | – | – | 6-12-93 | 2087 | |

NOTES:

89-27

**Canonie** Environmental

# Non-Destructive Seam Test

PROJECT No.: 90-401

PAGE: 3 OF 9

COMPLETED BY:

PROJECT NAME: Waukegan Harbor LOCATION: ECC

TEST METHOD:

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P15-P16 | 130' | 32 | 30 | P | — | — | 6-12-93 | 2087 | |
| P16-P18 | 124' | 30 | 28 | P | — | — | 6-12-93 | 2087 | |
| P17-P18 | 170' | 32 | 30 | P | — | — | 6-12-93 | 2087 | |
| P18-P19 | 294' | 32 | 30 | P | — | — | 6-12-93 | 2087 | |
| P19-P20 | 294' | 32 | 30 | P | — | — | 6-12-93 | 2087 | |
| P20-P21 | 50' | 30 | 28 | P | — | — | 6-12-93 | 2087 | |
| P20-P22 | 244' | 32 | 30 | P | — | — | 6-12-93 | 2087 | |
| P22-P23 | 244' | 30 | 28 | P | — | — | 6-12-93 | 2087 | |
| P21-P23 | 50' | 30 | 28 | P | — | — | 6-12-93 | 2087 | |
| P24-26 | 142' | 32 | 30 | P | — | — | 6-12-93 | 2087 | |
| P24-P25 | 152' | 30 | 29 | P | — | — | 6-12-93 | 2087 | |
| P25-P27 | 152' | 30 | 28 | P | — | — | 6-12-93 | 2087 | |
| P26-29 | 142' | 31 | 30 | P | — | — | 6-12-93 | 2087 | |
| P27-28 | 294' | 35 | 34 | P | — | — | 6-12-93 | 2087 | |
| P28-P29 | 294' | 30 | 28 | P | — | — | 6-12-93 | 2087 | |
| P29-P30 | 70' | 35 | 33 | P | — | — | 6-12-93 | 2087 | |
| P-30-32 | 70' | 31 | 30 | P | — | — | 6-12-93 | 2087 | |

NOTES:

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**Canonie** Environmental

# Non-Destructive Seam Test

PROJECT No.: 90-407

PAGE: 4 OF 9

COMPLETED BY:

PROJECT NAME: Waukegan Harbor LOCATION: ECC

TEST METHOD:

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P18-P19 | 20' | — | — | P | — | — | 6-14-93 | 2113 | Patch |
| P23-P24 | 124' | 32 | 30 | P | — | — | 6-14-93 | 2087 | 170' to EOS |
| P-23-P24 | 63' | 32 | 30 | P | — | — | 6-14-93 | 2087 | 107' to 170 |
| P23-P24 | 37' | 35 | 33 | P | — | — | 6-14-93 | 2087 | 70' TO 107' |
| P23-P24 | 70' | 30 | 29 | P | — | — | 6-14-93 | 2087 | 0' to 70' |
| P26-P25 | 20' | 31 | 29 | P | — | — | 6 14-93 | 2087 | |
| P29-P31 | 297' | 31 | 29 | P | — | — | 6-14-93 | 2087 | |
| P30-P31 | 20' | 32 | 31 | P | — | — | 6-14-93 | 2087 | |
| P31-P32 | 228' | 32 | 30 | P | — | — | 6-14-93 | 2087 | |
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NOTES:

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**Canonie Environmental**

# Non-Destructive Seam Test

PROJECT No.: 90-407

PAGE: 5 OF 9

PROJECT NAME: Waukegan Harbor LOCATION: ECC COMPLETED BY:

TEST METHOD:

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P32-P33 | 275' | 30 | 29 | P | — | — | 6-15-93 | 2087 | |
| P33-P34 | 250' | 33 | 31 | P | — | — | 6-15-93 | 2087 | |
| P33-P34 | 25' | 32 | 31 | P | — | — | 6-15-93 | 2087 | |
| P34-P35 | 220' | 32 | 30 | P | — | — | 6-15-93 | 2087 | |
| P34-P36 | 70' | 31 | 30 | P | — | — | 6-15-93 | 2087 | |
| P35-P36 | 20' | — | — | — | — | — | 6-15-93 | — | Extrusion |
| P35-P37 | 220' | 32 | 30 | P | — | — | 6-15-93 | 2087 | |
| P36-P37 | 70' | 31 | 30 | P | — | — | 6-15-93 | 2087 | |
| P37-P38 | 215' | 31 | 29 | P | — | — | 6-15-93 | 2087 | 2' shy of Ditch on So. |
| P38-P39 | 20' | 31 | 30 | P | — | — | 6-15-93 | 2087 | |
| P37-P39 | 70' | 30 | 28 | P | — | — | 6-15-93 | 2087 | |
| P39-P40 | 70' | 30 | 29 | P | — | — | 6-15-93 | 2087 | |
| P38-P40 | 210' | 32 | 31 | P | — | — | 6-15-93 | 2087 | |
| P40-P41 | 330' | 30 | 29 | P | — | — | 6-15-93 | 2087 | |
| P41-P42 | 339' | 30 | 28 | P | — | — | 6-15-93 | 2087 | |
| | | | | | | | | | |

NOTES: P-40 2' shy on So. end.

89-27

**Canonie** Environmental

# Non-Destructive Seam Test

PROJECT No.: 90-403

PAGE: 6 OF 9

COMPLETED BY:

PROJECT NAME: Waukegan Harbor LOCATION: ECC

TEST METHOD:

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (°F) | PANEL TEMP (°F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P47-48 | 220' | 32 | 30 | P | — | — | 6-15-93 | 2087 | |
| P47-48 | 120' | 34 | 33 | P | — | — | 6-15-93 | 2087 | |
| P48-49 | 360' | 30 | 29 | P | — | — | 6-15-93 | 2087 | |
| P49-50 | 85' | 30 | 28 | P | — | — | 6-15-93 | 2087 | |
| P49-50 | 290' | 30 | 29 | P | — | — | 6-15-93 | 2087 | |
| ~~P50-51~~ | ~~360'~~ | ~~33~~ | ~~32~~ | ~~P~~ | — | — | ~~6-16-93~~ | ~~2087~~ | |
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**Canonie Environmental**

# Non-Destructive Seam Test

PROJECT No.: 90-407

PAGE: 7 OF 9

PROJECT NAME: Waukegan Harbor LOCATION: ECC

COMPLETED BY:

TEST METHOD:

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P50-51 | 360' | 33 | 31 | P | — | — | 6-16-93 | 2087 | |
| P51-52 | 365' | 32 | 31 | P | — | — | 6-16-93 | 2087 | |
| P52-53 | 365' | 30 | 28 | P | — | — | 6-16-93 | 2087 | |
| P53-54 | 360' | 30 | 28 | P | — | — | 6-16-93 | 2087 | |
| P54-55 | 360' | 31 | 28 | P | — | — | 6-16-93 | 2087 | |
| P55-56 | 355' | 33 | 31 | P | — | — | 6-16-93 | 2087 | |
| P56-58 | 68' | All one Seam | | | | | | | |
| P56-59 | 59' | | | | | | | | |
| P56-61 | 60' | 31 | 30 | P | — | — | 6-16-93 | 2087 | |
| P56-62 | 68' | | | | | | | | No Panel 60 - VOIDED. |
| P56-63 | 59' | | | | | | | | |
| P56-64 | 55' | 31 | 30 | P | — | — | 6-16-93 | 2087 | |
| P58-59 | | | | | | | | | |
| P64-63 | 55' | 33 | 32 | P | — | — | 6-16-93 | 2087 | |
| P63-62 | 110' | 33 | 32 | P | — | — | 6-16-93 | 2087 | |
| P62-61 | 170' | 30 | 28 | P | — | — | 6-16-93 | 2087 | |

NOTES:

**Canonie** Environmental

# Non-Destructive Seam Test

PROJECT No.: 901/07

PAGE: 8 OF 9

PROJECT NAME: Waukegan Harbor LOCATION: ECC COMPLETED BY:

TEST METHOD:

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P61-59 | ~230' | 30 | 29 | P | — | — | 6-16-93 | 2087 | |
| P59-58 | ~287' | 31 | 29 | P | — | — | 6-16-93 | 2087 | |
| P58-57 | 190' | 30 | 29 | P | — | — | 6-16-93 | 2087 | |
| P58-57 | 163' | 31 | 29 | P | — | — | 6-16-93 | 2087 | |
| P59-65 | 351' | 30 | 28 | P | — | — | 6-16-93 | 2087 | |
| P65-66 | 352' | 31 | 29 | P | — | — | 6-16-93 | 2087 | |
| P66-67 | 101' | 33 | 32 | P | — | — | 6-16-93 | 2087 | |
| P66-67 | 249' | 30 | 29 | P | — | — | 6-16-93 | 2087 | |
| P67-68 | 20' | 30 | 29 | P | — | — | 6-16-93 | 2087 | |
| P68-69 | 249' | 32 | 30 | P | — | — | 6-16-93 | 2087 | |
| P69-67 | 101' | 31 | 30 | P | — | — | 6-16-93 | 2087 | |
| P69-70 | 350' | 31 | 29 | P | — | — | 6-16-93 | 2087 | |
| P70-71 | 140' | 34 | 32 | P | — | — | 6-16-93 | 2087 | |
| P70-72 | 210' | 32 | 31 | P | — | — | 6-16-93 | 2087 | |
| P71-72 | 20' | 30 | 29 | P | — | — | 6-16-93 | 2087 | |
| P71-73 | 140' | 30 | 29 | P | — | — | 6-16-93 | 2087 | |

NOTES:

**Canonie Environmental**

# Non-Destructive Seam Test

PROJECT No.: 90-407

PAGE: 9 OF 9

PROJECT NAME: Waukegan Harbor

LOCATION: ECC

COMPLETED BY:

TEST METHOD:

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P72-73 | 203' | 30 | 28 | P | — | — | 6-16-93 | 2087 | |
| P73-74 | 167' | 31 | 30 | P | — | — | 6-16-93 | 2087 | |
| P73-75 | 180' | 30 | 28 | P | — | — | 6-16-93 | 2087 | |
| P74-75 | 15' | 31 | 30 | P | — | — | 6-16-93 | 2087 | |
| P75-76 | 180' | 30 | | | | | | | |
| P74-76 | 167' | 30 | 29 | P | — | — | 6-16-93 | 2087 | |
| P76-78 | 15' | 31 | 30 | P | — | — | 6-16-93 | 2087 | |
| P76-77 | 50' | 30 | 29 | P | — | — | 6-16-93 | 2087 | |
| P76-77 | 113' | 30 | 28 | P | — | — | 6-16-93 | 2087 | |
| P76-77 | 17' | 30 | 29 | P | — | — | 6-16-93 | 2087 | |
| P78-80 | 130' | 33 | 32 | P | — | — | 6-16-93 | 2087 | |
| P78-79 | | | | | | | | | Extrusion. |
| P79-80 | 140' | 32 | 31 | P | — | — | 6-16-93 | 2087 | |
| P79-80 | 92' | 32 | 31 | P | — | — | 6-16-93 | 2087 | |
| P79-80 | 42' | 30 | 29 | P | — | — | 6-16-93 | 2087 | |
| | | | | | | | | | |

NOTES:

**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT



PROJECT NAME: Canonic PROJECT NUMBER: 2285 MATERIAL DESCRIPTION: 60 Mil

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| FS12 | P19 P20 | 6-12-93 6:10PM | 2111 | G#10 | 6-14-93 | 2113 | P | 50' North of S.T. 3'x5' Patch DP#6 |
| FS14 | P21 P22 P23 | 6-12-93 18:05 | 2111 | G#10 | 6-14-93 | 2113 | P | 91' North of S.T. 3'x5' Patch DP#7 |
| FS17 | P25 P26 P27 | 6-12-93 18:25 | 2111 | G#10 | 6-14-93 | 2113 | P | 153' North of S.T. 3'x5' Patch DP#8 |
| FS18 | P27 P28 | 6-14-93 16:10 | 2110 | G#10 | 6-14-93 | 2113 | P | 195' North of S.T. 3'x5' Patch DP#9 |
| FS19 | P28 P29 | 6-14-93 16:15 | 2110 | G#10 | 6-14-93 | 2113 | P | 205' North of S.T. 3'x5' Patch DP#10 |
| FS20 | P29 P30 P31 | 6-14-93 16:48 | 2110 | G#10 | 6-14-93 | 2113 | P | 100' North of S.T. 3'x5' Patch DP#11 |
| FS21 | P30 P31 P32 | 6-14-93 16:42 | 2111 | G#10 | 6-14-93 | 2113 | P | 125' North of S.T. 3'x5' Patch DP#12 |
| 361 FS22 | P32 P33 | 6-16-93 9:15 AM | 2111 | G#10 | 6-17-93 | 2087 | P | 275' North 1'x1' Patch EWS 3' to Patch Tie |
| 575 FS23 | P33 P34 | 6-15-93 7:55PM | 2110 | G#10 | 6-17-93 | 2087 | P | 25' North 3'x3' Patch Mouse Change |
| FS23 | P33 P34 | 6-15-93 6:22PM | 2110 | G#10 | 6-17-93 | 2087 | P | 190' North 3'x5' Patch DP13 |
| FS24 | P34 P35 P36 | 6-17-93 0830 | 2009 | G#13 | 6-17-93 | 2087 | P | 65' North 3'x5' Patch DP14B2 EWS North 10' to 75' |
| FS24 | P34 P35 P36 | 6-15-93 4:55PM | 2110 | G#10 | 6-17-93 | 2087 | P | 75' North 3'x5' Patch 14B1 EWS 10' to 14B EWS 10' to DP14 EWS 10' DP14A EWS 10' to Patch |
| FS24 | P34 P35 P36 | 6-17-93 0810 | 2009 | G#13 | 6-17-93 | 2087 | P | 115' North EWS. 10' to 125' 3'x5' Patch DP14A1 |
| FS24 | P34 P35 P36 | 6-15-93 6:32PM | 2110 | G#10 | 6-17-93 | 2087 | P | 220' North 2'x2' Patch at Butt Seam EWS Butt Seam 2'x3' Patch on Butt Seam Center |
| FS25 | P35 P36 P37 | 6-17-93 0825 | 2111 | G#10 | 6-17-93 | 2087 | P | at South Trench Patch and EXT Trench |
| FS26 | P37 P38 P39 | 6-17-93 0850 | 2111 | G#10 | 6-17-93 | 2087 | P | at South Trench Patch into Trench |

**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT

PAGE 1 OF ____

PROJECT NAME: Canonic PROJECT NUMBER: 2285 MATERIAL DESCRIPTION: [illegible]

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| FS1 | P1 P2 | 5:45 PM 6-12-93 | 2111 | G#10 | 6-14-93 | 2113 | P | 45' North of South Trench [illegible] |
| FS1 | P1 P2 | 11:[illegible] AM 6-10-93 | 2111 | G#10 | 6-12-93 | 2111 | P | 295' No. S.T. 2'x2' Patch |
| FS1 | P2 | 11:57 AM 6-10-93 | 2110 | G#10 | 6-12-93 | 2111 | P | Patch North of P2 9'x14' Trench P2 - P8 - P5 |
| FS2 | P2 P6 | 6:15 PM 6-11-93 | 2110 | G#10 | 6-14-93 | 2113 | P | 63' N of S.T. 2x3 Patch |
| FS2 | P2 P6 | 6:20 PM 6-11-93 | 2110 | G#10 | 6-12-93 | 2112 | P | EXT "V" 131' North to 137' P9 135' P2 |
| FS3 | P6 P7 | 5:35 PM 6-12-93 | 2111 | G#10 | 6-14-93 | 2113 | P | 105' North of S.T. 3x5' Patch DP#4 |
| | P10 | 4:30 PM 6-12-93 | 2110 | G#10 | 6-14-93 | 2113 | P | 18' North 4' West of [illegible] on Well |
| FS4 | P7 P10 | 9:30 AM 6-14-93 | 2111 | G#10 | 6-14-93 | 2113 | P | 2'x3' Patch 286' North of ST EWS to End of Seam 290' |
| | P5 | 10:57 AM 6-10-93 | 2110 | G#10 | 6-12-93 | 2111 | P | 275' North of ST in P5 East of [illegible] 25' East |
| FS6 | P11 P13 | 3:25 PM 6-12-93 | 2111 | G#10 | 6-14-93 | 2113 | P | 150' North of ST 3'x5' Patch [illegible] |
| FS8 | P14 P15 | 11:15 6-12-93 | 2110 | G#10 | 6-14-93 | 2113 | P | 145' North of ST 5'x5' Pre + Shorten Well Well [illegible] Seam |
| FS8 | P14 P15 | 6-12-93 5:10 3:25 3:39 6-14-93 | 2111 | G#10 | 6-14-93 | 2113 | P | 230' North DP#4 P13 3x5' Patch EWS to DP#4-B 3x5' Patch EWS to 3x5' Patch DP#4 [illegible] |
| FS10 | P16 P17 P18 | 6-12-93 6:00 | 2111 | G#10 | 6-14-93 | 2113 | P | 131' North 3'x5' Patch DP#5 |
| FS10 | P16 P17 P18 | 11:35 6-12-93 | 2110 | G#10 | 6-14-93 | 2113 | P | 168' North 3' East 2'x2' Patch |
| FS11 | FS12 CAP P18 P19 | 1000 AM 6-14-93 | 2093 | G#13 | 6-14-93 | 2113 | P | 9'x15' Patch At North Tie in 286' North |
| FS11 | P18 P19 | 6-12-93 2400 | 2110 | G#10 | 6-14-93 | 2113 | P | North EWS to Patch at 15' |

**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT



PROJECT NAME: Canonie PROJECT NUMBER: 2285 MATERIAL DESCRIPTION: 60 Mil

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| Tie In #1 | P1 P2 P5 | 11:55 AM 6-10-93 | 2110 | G#10 | 6-12-93 | 2111 | P | EXT Tie In Start P5 North West 19' |
| " | P5 P8 | 0845 6-14-93 | 2111 | G# 10 | 6-14-93 | 2113 | P | 19' to 50' Ext weld Seam Corner |
| " | P4 P8 P6 P7 P10 | 10:10 6-14-93 | 2111 | G#10 | 6-14-93 | 2113 | P | Ext Tie In West to 2'x2' Patch P5 9 EWS 7' to 2'x2' Patch Middle Panel 10 |
| " | P4 P10 P11 P13 P14 | 10:17 6-14-93 | 2110 | G#10 | 6-14-93 | 2113 | P | Ext Tie In 7' to Patch P8 5 EWS 15' to 1'x2' Patch EWS 13' to Cap 15' 10:50AM. Covers 4 Butt P3 P4 |
| " | P3 to N-S | 11:10 6-14-93 | 2110 | G#10 | 6-14-93 | 2113 | P | EWS Seam to 163' EWS to 172' 2'x3' Patch 130' EWS to 185' |
| " | P3 to N-S | 9:30 6-14-93 | 2093 | G#13 | 6-14-93 | 2113 | P | 185' EWS to 202' 1'x2' Patch EWS to 217' Cap to 227' (10:30AM) EWS to 310' 11:45 |
| " | P3 to N-S | 11:43 6-14-93 | 2110 | G#10 | 6-14-93 | 2113 | P | EWS 310' to 335' |
| Tie In #1 | P42 to N-S | 1:12 6-14-93 | 2111 | G#10 | 6-14-93 | 2113 | P | Corner Patch P5 21 335' EWS to 3'x3' Patch 338' EWS to 343 EWS 2' in Panel to 1'x1' Patch EWS to 355' |
| " | P42 to N-S | 6-16-93 0918 | 2111 | G#10 | 6-17-93 | 2087 | P | 355' EWS to 3'x3' Patch 361 EWS to 364' 6' EXT North West to 1'x1' Patch EWS to 373' P43 |
| " | P43 to N-S | 6-16-93 Seam P8 0940 1610 | 2111 | G#10 | 6-17-93 | 2087 | P | 373' EWS to 378' EXT "T" Turn Straight West EWS to 386' 3'x5' Patch [redacted] EWS to 393' |
| " | P43 to N-S | 6-16-93 0935 | 2111 | G#10 | 6-17-93 | 2087 | P | 393' Start Cap to 416' (Short Panels) EWS to 421' 6' EXT North to 1'x1' Patch and 1' South Ext 2'x1' Patch |
| " | P49 P43 to N-S | 6-16-93 1010 | 2111 | G#10 | 6-17-93 | 2087 | P | 421' EWS North West along P44 to 437' 1'x2' Patch and 7' Ext East to 1'x1' Patch |
| " | P44 to N-S | 6-16-93 1025 | 2111 | G#10 | 6-17-93 | 2087 | P | 437' EWS North West to 453' Corner Patch at P45 ~~and EXT North West~~ |
| " | P45 to N-S | 6-16-93 11:30 | 2110 | G#10 | 6-17-93 | 2087 | P | 453' EWS West to 500' 1'x5' Patch EWS West to 531' EXT South 5' to 1'x1' Patch 11:55AM |
| " | P45 to N-S | 6-16-93 12:00 | 2110 | G#10 | 6-17-93 | 2087 | P | 531' EWS West to 558' Stop |
| Tie In #1 | P45 P to N-S | 6-16-93 15:30, 1540 | 2110 | G#10 | 6-17-93 | 2087 | P | 558' 2'x7' Cap Start P46 EWS West to 57[illegible] 2'x7' Cap EWS West to 593' 6' Ext South to [illegible] Patch |

**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT



PROJECT NAME: Canonie PROJECT NUMBER: 2285 MATERIAL DESCRIPTION: 60 Mil

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| Tie In #1 | P46 to N-S | 6-16-93 1630 | 2110 | G#10 | 6-17-93 | 2087 | P | 593' West E.W.S. to 623 |
| " | P46 to N-S | 6-16-93 1645 | 2111 | G#10 | 6-17-93 | 2087 | P | 623' West E.W.S. to 637' 2' EXT South to 1'x1' Patch E.W.S. to 680' 3' EXT South to 1'x1' Patch EWS to 683 |
| " | P46 to N-S | 6-16-93 1956 | 2111 | G#10 | 6-17-93 | 2087 | P | 683' west 3'x5' Patch DP 24 E.W.S to 700' |
| " | P46 to N-S | 6-16-93 1735 | 2110 | G#10 | 6-17-93 | 2087 | P | 700' E.W.S to 773' |
| " | P46 to N-S | 6-16-93 1938 | 2111 | G#10 | 6-17-93 | 2087 | P | 773' West 3'x5' Patch DP#36 E.W.S. to 796' 1'x1' Patch E.W.S. to 820' |
| " | P46 to N-S | 6-16-93 19:15 | 2110 | G#10 | 6-17-93 | 2087 | P | 820' West 4'x4' Boot + Skirt on Well North of Seam E.W.S to 836' |
| Tie In #1 | P46 to P75 | 6-16-93 1515 | 2009 | G#13 | 6-16-93 | 2009 | P | 836' Weld, Extrusion accross Panel down into Trench E.N.D TIE-IN 849' |

**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT



PROJECT NAME: Canonie PROJECT NUMBER: 2285 MATERIAL DESCRIPTION: 60 Mil

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| FS26 | P37 P38 P39 | 6-15-93 6:40PM | 2110 | G#10 | 6-17-93 | 2087 | P | 200' North of S.T. 3'x5' Patch DP15<br>220' North of ST 1'x2' Patch 659PM |
| FS27 | P38 P39 P40 | 6-15-93 6:45PM | 2110 | G#10 | 6-17-93 | 2087 | P | 100' North of ST 3'x5' Patch DP16 |
| FS27 | P38 P39 P40 | 6-15-93 6:57PM | 2110 | G#10 | 6-17-93 | 2087 | P | 220' North of ST. 1'x2' Patch at Butt Seam<br>223' and 4' East 1'x1' Patch 233' 1'x1' Patch 293' 1'x1' Patch |
| FS28 | P40 P41 | 6-17-93 0925 | 2110 | G#10 | 6-17-93 | 2087 | P | 0' North Patch and EXT into Trench |
| FS29 | P41 P47 | 6-15-93 7:40PM | 2110 | G#10 | 6-17-93 | 2087 | P | 125' North of S.T. 3'x5' Patch |
| FS29 | P41 P47 | 6-15-93 7:15PM | 2110 | G#10 | 6-17-93 | 2087 | P | 205' North of S.T. 3'x5' Patch DP17 |
| FS30 | P47 P48 | 6-15-93 7:45pm | 2110 | G#10 | 6-17-93 | 2087 | P | 117' No. of S.T. 3'x5' Patch DP18 |
| FS30 | P47 P48 | 6-16-93 0946 | 2111 | G#10 | 6-17-93 | 2087 | P | 0' to 4' in Trench Patch 2'x4' |
| FS31 | P48 P49 | 6-17-93 1010 | 2110 | G#10 | 6-17-93 | 2087 | P | -1' in Trench 1'x1' Patch EWS 2' |
| FS32 | P49 P50 | 6-15-93 2013 | 2110 | G#10 | 6-17-93 | 2087 | P | 273' No. of S.T. 3'x5' Patch DP19 |
| FS33 | P50 P51 | 6-16-93 1945 | 2009 | G#13 | 6-17-93 | 2087 | P | 174' No. of S.T. 3'x5' Patch DP20 |
| FS33 | P50 P51 | 6-16-93 1035 | 2110 | G#10 | 6-17-93 | 2087 | P | 0' 2'x2' Patch EWS 2' into Ditch |
| FS34 | P51 P52 | 6-17-93 1045 | 2110 | G#10 | 6-17-93 | 2087 | P | -2 in Trench Patch + EWS 2' |
| FS34 | P51 P52 | 6-16-93 1930 | 2009 | G#13 | 6-17-93 | 2087 | P | 300' No. of S.T. 3'x5' Patch DP21 |
| FS36 | P53 P54 | 6-16-93 1910 | 2009 | G#13 | 6-17-93 | 2087 | P | 150' N. of S.T. 3'x5' Patch DP22 |
| FS37 | P5 P55 | 6-16-93 1925 | 2009 | G#13 | 6-17-93 | 208 | P | 215' N. of S.T. 3'x5' Patch DP23 |

**NSC** | **NATIONAL SEAL COMPANY**

Tie In #1
849 total

# REPAIR REPORT



PROJECT NAME: Canonic PROJECT NUMBER: 2285 MATERIAL DESCRIPTION: 60Mil

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| FS38 | P55 P56 | 6-17-93 11:20AM | 2111 | G#10 | 6-17-93 | 2087 | P | 1' South to 4' in Trench Triangle 3' |
| FS39 | P56 P61 | 6-16-93 18:50 | 2009 | G#13 | 6-17-93 | 2087 | P | 175' N. of S.T. 3'x5' Patch DP27 |
| FS39A | P58 P59 | 6-16-93 19:55 | 2009 | G#13 | 6-17-93 | 2087 | P | 233' North of FS 39 3'x5' Patch DP28 |
| FS39B | P59 P61 | 6-16-93 1900 | 2009 | G#13 | 6-17-93 | 2087 | P | 65' North of FS 39 3'x5' Patch DP26 |
| FS39D | P62 P63 | 6-16-93 1905 | 2009 | G#13 | 6-17-93 | 2087 | P | 53' North of FS 39 3'x5' Patch DP25 |
| FS41 | P57 P65 | 6-16-93 1830 | 2009 | G#13 | 6-17-93 | 2087 | P | 78' North of S.T. 3'x5' Patch DP29 |
| FS40 | P57 P58 | 6-17-93 0950 | 2009 | G#13 | 6-17-93 | 2087 | P | 190' North of S.T. Boot + Skirt on Well 3'x5' Skirt Well East of Seam 2' |
| FS42 | P68 P66 | 6-17-93 1020 | 2009 | G#13 | 6-17-93 | 2087 | P | 212' North of S.T. 3'x6' Patch DP#30 |
| FS44 | P68 P67 P69 | 6-17-93 1040 | 2009 | G#13 | 6-17-93 | 2087 | P | 320' N. of ST 3'x5' Patch DP#31 |
| FS46 | P70 P71 P72 | 6-16-93 2010 | 2009 | G#13 | 6-17-93 | 2087 | P | 235' N of ST 3'x5' Patch DP#32 |
| FS46 | P70 P71 P72 | 6-16-93 17:10 | 2110 | G#10 | 6-18-93 | 2087 | P | 2'x2' Patch in Trench |
| FS47 | P71 P72 P73 | 6-16-93 17:15 | 2110 | G#10 | 6-18-93 | 2087 | P | 2'x2' Patch in Trench |
| FS47 | P71 P72 P73 | 6-16-93 18:15 | 2009 | G#13 | 6-17-93 | 2087 | P | 63' N. of ST 3'x5' Patch DP 33 |
| FS46 | P70 P71 P72 | 6-16-93 20:10 | 2009 | G#13 | 6-17-93 | 2087 | P | 235' N. of S.T 3'x5' Patch DP 32 |
| FS48 | P73 P76 P74 | 6-16-93 17:25 | 2009 | G#13 | 6-17-93 | 2087 | P | 110' N. of S.T. 1'x 3' Patch at Butt Seam |
| FS48 | P73 P76 P74 | 6-16-93 18:05 | 2009 | G#13 | 6-17-93 | 2087 | P | 122' N of S.T. 3'x5' Patch DP31 |

**NSC** NATIONAL SEAL COMPANY

# REPAIR REPORT



PROJECT NAME: Canonie PROJECT NUMBER: 2285 MATERIAL DESCRIPTION: 60

| FIELD SEAM # | PANEL NO. | REPAIR DATE | REPAIR CREW | MACHINE NUMBER | TEST DATE | TEST CREW | TEST P/F | LOCATION / COMMENTS |
|---|---|---|---|---|---|---|---|---|
| FS49 | P74 P75 P76 P77 P78 | 6-17-93 1737 | 2110 | G#10 | 6-18-93 | 2087 | P | 17' North of S.T. 4'x6' Boot Skirt w/ell |
| FS49 | P74 P75 P76 P77 P78 | 1740 | 2009 | G#13 | 6-17-93 | 2087 | P | 133' N of S.T. 2'x2' Patch EWS 6' But Seam |
| FS49 | P74 P75 P76 P77 P78 | 1645 | 2009 | G#13 | 6-17-93 | 2087 | P | 270' N. of S.T. 2'x23' Cap |
| FS49 | P74 P75 P76 P77 P78 | 1700 | 2009 | G#13 | 6-17-93 | 2087 | P | 312' N of S.T. 3'x5' Patch DP 35 |
| FS50 | P75 P77 P78 | 1720 | 2110 | G#10 | 6-18-93 | 2087 | P | 4' N of S.T. 1'x2' Patch EWS to -4 Trend |
| FS50 | P75 P77 P78 | 1755 | 2009 | G#13 | 6-17-93 | 2087 | P | 133' N. of S.T. 3'x6' Patch at Butt Seam |

89-018-A26

# Canonie Environmental

## Repair Log

PROJECT No.: 90-407

PAGE: 1 OF 4

COMPLETED BY:

PROJECT NAME: Waukegan Harbor LOCATION: Waukegan IL. - ECC

| REPAIR No. | SEAM No. | LOCATION | REASON | REPAIR METHOD | REPAIR INSPECTION METHOD | INSPECTION RESULTS P/F | DATE/ TIME | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| #1 | #1 | P1-P2 (2451) | Air Test | Extrusion | Vac. Test | P | 6/10 11:16A | 2'x2' Patch |
| #2 | - | P2-P5-P8 | Corner | Extrusion | Vac Test | P | 6/10 11:57A | 9'x14' Triangle |
| #3 | ~~P4-6~~ | P1-2-5 | Tie In | Ext. | Vac T. | P | 6/10 11:57 | Tie In |
| #4 | — | P5 | Patch | Ext. | V.T. | P | 6/10 10:57 | Patch |
| #5 | — | P2-~~#~~6 | Patch | Ext. | V.T. | P | 6/11 6:15P | " |
| #6 | — | P2-P6 | Y | Ext. | V.T. | P | 6/11 6:20P | Ext. Y. |
| #7 | — | P1-2 | Patch | Ext. | V.T. | P | 6/12 5:45P | Patch |
| 8 | — | P6-7 | Patch | Ext. | V.T. | P | 6/12 5:35P | " |
| 9 | - | P10 | Well | Ext. | V.T. | P | 6/12 4:30P | Well |
| 10 | - | P11-13 | Patch | Ext. | V.T. | P | 6/12 5:25P | Patch |
| 11 | - | P14-15 | Well | Ext. | V.T. | P | 6/12 11:15 | Well |
| 12 | - | P14-15 | Patch | Ext. | V.T. | P | 6/12 5:10P | Patch |
| 13 | — | P16-17-18 | Patch | Ext. | V.T. | P | 6/12 6:00P | Patch |
| 14 | — | P16-17-18 | " | Ext. | V.T. | P | 6/12 11:35 | " |
| 15 | — | P18-19 | " | Ext. | V.T. | P | 6/12 1400 | " |
| 16 | - | P19-20 | Patch | Ext. | V.T. | P | 6/12 6:10P | " |
| 17 | - | P21-22-23 | Patch | Ext. | V.T. | P | 6/12 6:05P | " |
| 18 | - | P25-26-27 | " | Ext. | V.T. | P | 6/12 6:25P | " |
| 19 | - | P7-10 | Patch | Ext. | V.T. | P | 6/14 9:30A | " |
| 20 | - | P18-19 | Patch | Ext. | V.T. | P | 6/14 10:00 | " |
| 21 | — | P5-8 | Corner | Ext. | V.T. | P | 6/14 8:45 | CORNER |
| 22 | — | P4-6-7-8-10 | Patch | Ext | V.T. | P | 6/14 10:10 | Patch |
| 23 | — | P4-10-11-13-14 | Patch | Ext. | V.T. | P | 6/14 10:17 | Patch |
| 24 | — | P3 | Patch | Ext. | V.T. | P | 6/14 - 11:10 | " |
| 25 | - | P3 | " | Ext. | V.T. | P | 6/14 9:30 | " |

NOTES:

**Canonie Environmental**

# Repair Log

PROJECT No.: 90-407

PAGE: 1 OF 4

COMPLETED BY:

PROJECT NAME: Waukegan Harbor LOCATION: ECC.

| REPAIR No. | SEAM No. | LOCATION | REASON | REPAIR METHOD | REPAIR INSPECTION METHOD | INSPECTION RESULTS P/F | DATE/ TIME | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 26 | — | P3 | Patch | EXT. | V.T. | P | 6/14 11:43 | Patch |
| 27 | — | P42 | Tie In | " | " | P | 6/14 14:12 | Tie In |
| 28 | — | P 27-28 | Patch | " | " | P | 6/14 16:10 | Patch |
| 29 | — | P 28-29 | Patch | " | " | P | 6/14 16:15 | Patch |
| 30 | — | P29-30-31 | Patch | " | " | P | 6/14 16:48 | " |
| 31 | — | P30-31-32 | Patch | " | " | P | 6/14 16:42 | " |
| 32 | — | P33-34 | Mouse Chng. | " | " | P | 6/15 9:55P | Mouse Chng. |
| 33 | — | P33-34 | Patch | " | " | P | 6/15 6:22P | Patch |
| 34 | — | P34-35-36 | Patch | " | " | P | 6/15 4:55P | " |
| 35 | — | P34-35-36 | Patch | " | " | P | 6/15 6:32P | " |
| 36 | — | P 37-38-39 | Patch | " | " | P | 6/15 6:40P | " |
| 37 | — | P38-39-40 | Patch | " | " | P | 6/15 6:45P | " |
| 38 | — | P 38-39-40 | Patch | " | " | P | 6/15 6:57P | " |
| 39 | — | P41-47 | Patch | " | " | P | 6/15 9:40P | " |
| 40 | — | P41-47 | Patch | " | " | P | 6/15 9:15P | " |
| 41 | — | P47-48 | Patch | " | " | P | 6/15 9:45P | " |
| 42 | — | P49-50 | Patch | " | " | P | 6/15 20:13 | " |
| 43 | — | P42 | Patch | " | " | P | 6/16 0918 | " |
| 44 | — | P43 | " | " | " | P | 6/16 0920 | " |
| 45 | — | P43 | " | " | " | P | 6/16 0935 | " |
| 46 | — | P43 | " | " | " | P | 6/16 1010 | " |
| 47 | — | P44 | " | " | " | P | 6/16 1025 | " |
| 48 | — | P45 | " | " | " | P | 6/16 1130 | " |
| 49 | — | P45 | " | " | " | P | 6/16 1200 | " |
| 50 | — | P45-46 | " | " | " | P | 6/16 1530 | " |

NOTES:

**Canonie Environmental**

# Repair Log

PROJECT No.: 90-407

PAGE: 1 OF 4

COMPLETED BY:

PROJECT NAME: Waukegan Harbor LOCATION: ECC

| REPAIR No. | SEAM No. | LOCATION | REASON | REPAIR METHOD | REPAIR INSPECTION METHOD | INSPECTION RESULTS P/F | DATE/ TIME | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 51 | — | P32-33 | Patch | Ext. | Vac. T. | P | 6/16 9:15 | Patch |
| 52 | — | P46 | " | " | " | P | 6/16 1630 | Patch |
| 53 | — | P46 | " | " | " | P | 6/16 16:45 | " |
| 54 | — | P46 | " | " | " | P | 6/16 1956 | " |
| 55 | — | P46 | " | " | " | P | 6/16 1735 | " |
| 56 | — | P46 | " | " | " | P | 6/16 1938 | " |
| 57 | — | P46 | " | " | " | P | 6/16 1915 | " |
| 58 | — | P46-75 | TieIN | " | " | P | 6/16 1515 | " |
| 59 | — | P47-48 | Patch | " | " | P | 6/16 0946 | " |
| 60 | — | P50-51 | Patch | " | " | P | 6/16 1915 | " |
| 61 | — | P50-51 | " | " | " | P | 6/16 1035 | " |
| 62 | — | P51-52 | " | " | " | P | 6/16 1930 | " |
| 63 | — | P53-54 | " | " | " | P | 6/16 1910 | " |
| 64 | — | P54-54 | " | " | " | P | 6/16 1925 | " |
| 65 | — | P58-61 | Triangle | " | " | P | 6/16 1850 | Triangle |
| 66 | — | P58-59 | Patch | " | " | P | 6/16 1955 | Patch |
| 67 | — | P59-61 | Patch | " | " | P | 6/16 1900 | " |
| 68 | — | P62-63 | " | " | " | P | 6/16 1905 | " |
| 69 | — | P57-65 | " | " | " | P | 6/16 1830 | " |
| 70 | — | P70-71-72 | " | " | " | P | 6/16 2010 | " |
| 71 | — | P70-71-72 | " | " | " | P | 6/16 1910 | " |
| 72 | — | P71-72-73 | " | " | " | P | 6/16 1915 | " |
| 73 | — | P71-72-73 | " | " | " | P | 6/16 1815 | " |
| 74 | — | P70-71-72 | " | " | " | P | 6/16 2010 | " |
| 75 | — | P73-74-76 | " | " | " | P | 6/16 1725 | " |

NOTES:

**Canonie** Environmental

# Repair Log

PROJECT No.: 90-407

PAGE: 1 OF 4

COMPLETED BY:

PROJECT NAME: Waukegan Harbor LOCATION: ECC

| REPAIR No. | SEAM No. | LOCATION | REASON | REPAIR METHOD | REPAIR INSPECTION METHOD | INSPECTION RESULTS P/F | DATE/ TIME | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 76 | — | P73-74-76 | Patch | EXT. | Vac.T. | P | 6/16 1805 | Patch |
| 77 | — | P 34-35-36 | " | " | " | P | 6/17 0830 | " |
| 78 | — | P 3435-36 | " | " | " | P | 6/17 0810 | " |
| 79 | — | P 35-36-37 | " | " | " | P | 6/17 0825 | " |
| 80 | — | P 37-38-39 | " | " | " | P | 6/17 0850 | " |
| 81 | — | P 40-41 | " | " | " | P | 6/17 0925 | " |
| 82 | — | P48-49 | " | " | " | P | 6/17 1010 | " |
| 83 | — | P51-52 | " | " | " | P | 6/17 1045 | " |
| 84 | — | P55-56 | TRIANGLE | " | " | P | 6/17 1120 | Triangle |
| 85 | — | P57-58 | Well | " | " | P | 6/17 0950 | Well |
| 86 | — | P68-66 | Patch | " | " | P | 6/17 1020 | Patch |
| 87 | — | P67-68-69 | Patch | " | " | P | 6/17 1040 | " |
| 88 | — | P74-75-76-77-78 | Well | " | " | P | 6/17 1737 | Well |
| 89 | — | P74-75-76-77-78 | Patch | " | " | P | 6/17 1740 | Patch |
| 90 | — | P74-75-76-77-78 | " | " | " | P | 6/17 1645 | " |
| 91 | — | P74-75-76-77-78 | " | " | " | P | 6/17 1700 | " |
| 92 | — | P75-77-78 | " | " | " | P | 6/17 1720 | " |
| 93 | — | P75-77-78 | " | " | " | P | 6/17 1755 | " |
| | | | | | | | | |
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NOTES:

# RETENTION POND

89-27

89-018-A18

**Canonie** Environmental

# Non-Destructive Seam Test

PROJECT No.: 90-407

PAGE: 1 OF 5

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site

LOCATION: Waukegan, IL

TEST METHOD: VT = Vacuum Test
OTHER = Pressure Test

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 15' | 28 | 25 | P | 55 | | 3/24 | OK/KN | |
| | 81' | 31 | 29 | P | 55 | | 3/24 | OK/KN | |
| 2 | 9' | 30 | 28 | P | 55 | | 3/24 | OK/KN | |
| | 59' | 31 | 29 | P | 55 | | 3/24 | OK/KN | |
| 3 | 9' | VT | | P | 55 | | 3/24 | OK/KN | |
| | 46' | 28 | 26 | P | 55 | | 3/24 | OK/KN | |
| 4 | 9' | VT | | P | 55 | | 3/24 | OK/KN | |
| | 35' | 32 | 29 | P | 55 | | 3/24 | OK/KN | |
| 5 | 9' | VT | | P | 55 | | 3/24 | OK/KN | |
| | 22' | 28 | 26 | P | 55 | | 3/24 | OK/KN | |
| 6 | 9' | 28 | 26 | P | 55 | | 3/24 | OK/KN | |
| | 9' | 31 | 29 | P | 55 | | 3/24 | OK/KN | |
| 7 | 106' | VT | | P | 55 | | 3/24 | OK/KN | TIE IN |
| 8 | 32' | 29 | 26 | P | 55 | | 3/24 | OK/KN | |
| 9 | 47' | 29 | 27 | P | 55 | | 3/24 | OK/KN | |
| 10 | 67' | 30 | 28 | P | 55 | | 3/24 | OK/KN | |

NOTES: VT = Vacuum Test

**Canonie** Environmental

# Non-Destructive Seam Test

PROJECT No.: 90-407

PAGE: 2 OF 5

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL COMPLETED BY: KJH

TEST METHOD: VT = Vacuum TEST
Other = Pressure TEST

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 11 | 84' | 31 | 29 | P | 55 | | 3/24 | OK/KJH | |
| 12 | 40' | VT | | P | 55 | | 3/24 | OK/KN | |
| | 43.5' | 27 | 25 | P | 55 | | 3/24 | OK/KN | |
| 13 | 84' | 32 | 30 | P | 55 | | 3/24 | OK/KN | |
| 14 | 84' | 31 | 30 | P | 55 | | 3/24 | OK/KN | |
| 15 | 66' | 34 | 32 | P | 55 | | 3/24 | OK/KN | |
| 16 | 52' | 30 | 29 | P | 55 | | 3/24 | OK/KN | |
| 17 | 39' | 32 | 29 | P | 55 | | 3/24 | OK/KN | |
| 18 | 24' | 33 | 31 | P | 55 | | 3/24 | OK/KN | |
| 19 | 20' | 29 | 27 | P | 40 | | 3/25 | OK/KN | |
| 20 | 79' | 30 | 29 | P | 40 | | 3/25 | OK/KN | |
| 21 | 68' | 30 | 29 | P | 40 | | 3/25 | OK/KN | |
| 22 | 9' | 33 | 31 | P | 40 | | 3/25 | OK/KN | |
| | 43.5' | 33 | 31 | P | 40 | | 3/25 | OK/KN | |
| 23 | 37' | 34 | 33 | P | 40 | | 3/25 | OK/KN | |
| 24 | 150' | VT | | P | 40 | | 3/25 | OK/KN | TIE IN |

NOTES: VT = Vacuum Test

**Canonie** Environmental

# Non-Destructive Seam Test

PROJECT No.: 90-407

PAGE: 3 OF 5

COMPLETED BY: KTH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

TEST METHOD: VT = Vacuum Test
Other = Pressure Test

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 25 | 88' | 29 | 27 | P | 40° | | 3/25 | OK/KN | |
| | 66' | 32 | 31 | P | 40° | | 3/25 | OK/KN | |
| | 54 | VT | | P | 40° | | 3/25 | OK/KN | |
| 26 | 208' | 34 | 33 | P | 40° | | 3/25 | OK/KN | |
| 27 | 119' | 32 | 30 | P | 40° | | 3/25 | OK/KN | |
| 28 | 86' | 29 | 29 | P | 40° | | 3/25 | OK/KN | |
| 29 | 78' | 32 | 31 | P | 40° | | 3/25 | OK/KN | |
| 30 | 69' | 32 | 30 | P | 40° | | 3/25 | OK/KN | |
| 31 | 55' | 30 | 29 | P | 40° | | 3/25 | OK/KN | |
| 32 | 47' | 30 | 27 | P | 40° | | 3/25 | OK/KN | |
| 33 | 41' | 28 | 27 | P | 40° | | 3/25 | OK/KN | |
| 34 | 37' | VT | | P | 40° | | 3/25 | OK/KN | |
| 35 | 25' | 28 | 27 | P | 40° | | 3/25 | OK/KN | |
| 36 | 15' | 30 | 27 | P | 40° | | 3/25 | OK/KN | |
| | 38' | 31 | 29.5 | P | 40° | | 3/25 | OK/KN | |
| 37 | 9' | VT | | P | 40° | | 3/25 | OK/KN | |

NOTES:

**Canonie** Environmental

# Non-Destructive Seam Test

PROJECT No.: 90-407

PAGE: 4 OF 5

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

TEST METHOD: VT = Vacuum TEST
other = Pressure TEST

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 37 | 37' | 30 | 28 | P | 40° | | 3/25 | OK / KJH | |
| 38 | 34' | 32 | 30 | P | 40 | | 3/25 | OK / KN | |
| 39 | 13' | VT | | P | 40° | | 3/25 | OK / KJH | |
| 40 | 20' | VT | | P | 40' | | 3/25 | OK / KN | |
| 41 | 67' | 32 | 32 | P | 40° | | 3/25 | OK / KN | |
| 42 | 77' | 32 | 32 | P | 40° | | 3/25 | OK / KN | |
| 43 | 88' | 33 | 31 | P | 40 | | 3/25 | OK / KJH | |
| 44 | 82' | 27 | 26 | P | 45 | | 3/26 | OK / KN | |
| 45 | 79' | 29 | 26 | P | 45 | | 3/26 | OK / KN | |
| 46 | 30' | 28 | 25 | P | 45 | | 3/26 | OK / KN | |
| | 45' | 30 | 28 | P | 45 | | 3/26 | OK / KN | |
| 47 | 149' | VT | | P | 35 | | 3/27 | OK / KN | TIE IN |
| 48 | 9' | 27 | 27 | P | 45 | | 3/26 | OK / KN | |
| | 60' | 30 | 27 | P | 45 | | 3/26 | OK / KN | |
| 49 | 13' | 31 | 30 | P | 35 | | 3/27 | OK / KN | |
| | 39' | 28 | 26 | P | 35 | | 3/27 | OK / KN | |

NOTES:

**Canonie** Environmental

# Non-Destructive Seam Test

PROJECT No.: 90-407

PAGE: 5 OF 5

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site

LOCATION: Waukegan, IL

TEST METHOD: VT = Vacuum Test
OTHER = PRESSURE TEST

| SEAM NUMBER | SEAM LENGTH (FT.) | INITIAL PRESSURE | FINAL PRESSURE | P/F | AIR TEMP (F) | PANEL TEMP (F) | DATE | VISUAL INSPECTION/ INSPECTOR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 49-1 | 10' | VT | | P | 35 | | 3/27 | OK/KN | |
| 50 | 13' | VT | | P | 35 | | 3/27 | OK/KN | |
| ' | 30' | 28 | 25 | P | 35 | | 3/27 | OK/KN | |
| 51 | 16' | 29 | 27 | P | 35 | | 3/27 | OK/KN | |
| 52 | 15' | VT | | P | 35 | | 3/27 | OK/KN | |
| 53 | 30' | VT | | P | 35 | | 3/27 | OK/KN | |
| 54 | 10' | VT | | P | 35 | | 3/27 | OK/KN | |
| | 7' | 29 | 27 | P | 35 | | 3/27 | OK/KN | |
| 55 | 81' | VT | | P | 35 | | 3/27 | OK/KN | |
| 56 | 149' | VT | | P | 35 | | 3/27 | OK/KN | TIE IN |
| | | | | | | | | | |
| | | | | | | | | | |
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NOTES:

**Canonie** Environmental

# Panel Seaming Log

PROJECT No.: 90-407
DATE: 3/24 – 3/27/92
PAGE: 1 OF 5
COMPLETED BY: KJN

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

FIELD CONDITIONS
WEATHER: Cold TEMPERATURE: 30-50°F WIND: 6-10 mph

| SEAM NUMBER | TOP PANEL | BOTTOM PANEL | SEAM TYPE | SEAMING APPARATUS ID | SEAMER ID | PREHEATING TEMP. (°F) | SEAMING APPARATUS TEMP. (°F) PRESS. (PSI) | EXTENSION TO OUTSIDE EDGE | CLEAN/DRY | WRINKLES/ FISHMOUTHS | REPAIRS | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 2 | 2 | 3 | DF | 1205 | EVS | | 700° | | YES | | YES | |
| 3 | 3 | 4 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 4 | 4 | 5 | DF | 1205 | EVS | | 700° | | YES | | YES | |
| 5 | 5 | 6 | DF | 1205 | EVS | | 700° | | YES | | YES | |
| 6 | 6 | 7 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 7 | TIE | IN | DF | 1245 | CK | | 700° | | YES | | | Tie IN |
| 8 | 8 | 9 | DF | 1205 | EVS | | 700° | | YES | | YES | |
| 9 | 9 | 10 | DF | 1245 | CK | | 700° | | YES | | | |
| 10 | 10 | 11 | DF | 1205 | EVS | | 700° | | YES | | | |
| 11 | 11 | 12 | DF | 1205 | EVS | | 700° | | YES | | YES | |
| 12 | 12 | 13 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 13 | 13 | 14 | DF | 1205 | EVS | | 700° | | YES | | | |

NOTES: DF = Double Fusion

**Canonie Environmental**

# Panel Seaming Log

PROJECT No.: 90-407
DATE: 3/24 – 3/27/92
PAGE: 2 OF 5
COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

FIELD CONDITIONS
WEATHER: Cold TEMPERATURE: 30-50°F WIND: 6-10 mph

| SEAM NUMBER | TOP PANEL | BOTTOM PANEL | SEAM TYPE | SEAMING APPARATUS ID | SEAMER ID | PREHEATING TEMP. (°F) | SEAMING APPARATUS TEMP. (°F) PRESS. (PSI) | EXTENSION TO OUTSIDE EDGE | CLEAN/DRY | WRINKLES/ FISHMOUTHS | REPAIRS | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 14 | 15 | DF | 1245 | CK | | 700° | | YES | | | |
| 15 | 15 | 16 | DF | 1205 | EVS | | 700° | | YES | | | |
| 16 | 16 | 17 | DF | 1245 | CK | | 700° | | YES | | | |
| 17 | 17 | 18 | DF | 1205 | EVS | | 700° | | YES | | | |
| 18 | 18 | 19 | DF | 1205 | EVS | | 700° | | YES | | | |
| 19 | 19 | 24 | DF | 1205 | EVS | | 700° | | YES | | YES | |
| 20 | 20 | 1 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 21 | 21 | 20 | DF | 1245 | CK | | 700° | | YES | | | |
| 22 | 22 | 21 | DF | 1205 | EVS | | 700° | | YES | | YES | |
| 23 | 23 | 22 | DF | 1205 | EVS | | 700° | | YES | | | |
| 24 | | | DF | 1205 | EVS | | 700° | | YES | | | TIE IN |
| 25 | 25 | 1 | DF | 1245 | CK | | 700° | | YES | YES | YES | |
| 26 | 26 | 25 | DF | 1205 | EVS | | 700° | | YES | YES | | |

NOTES: DF = Double Fusion

**Canonie** Environmental

# Panel Seaming Log

PROJECT No.: 90-407
DATE: 3/24-3/27/92
PAGE: 3 OF 5
COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

FIELD CONDITIONS
WEATHER: Cold TEMPERATURE: 30-50° F WIND: 6-10 mpH

| SEAM NUMBER | TOP PANEL | BOTTOM PANEL | SEAM TYPE | SEAMING APPARATUS ID | SEAMER ID | PREHEATING TEMP. (°F) | SEAMING APPARATUS TEMP. (°F) PRESS. (PSI) | EXTENSION TO OUTSIDE EDGE | CLEAN/DRY | WRINKLES/ FISHMOUTHS | REPAIRS | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27 | 27 | 26 | DF | 1245 | CK | | 700° | | YES | | | |
| 28 | 28 | 27 | DF | 1245 | CK | | 700° | | YES | | | |
| 29 | 29 | 28 | DF | 1205 | EVS | | 700° | | YES | | YES | |
| 30 | 30 | 29 | DF | 1205 | EVS | | 700° | | YES | | | |
| 31 | 31 | 30 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 32 | 32 | 31 | DF | 1205 | EVS | | 700° | | YES | | | |
| 33 | 33 | 32 | DF | 1245 | CK | | 700° | | YES | | | |
| 34 | 34 | 33 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 35 | 35 | 34 | DF | 1205 | EVS | | 700° | | YES | | | |
| 36 | 36 | 37 | DF | 1205 | EVS | | 700° | | YES | | YES | |
| 37 | 37 | 38 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 38 | 38 | 39 | DF | 1205 | EVS | | 700° | | YES | | YES | |
| 39 | 39 | 40 | DF | 1245 | CK | | 700° | | YES | | YES | |

NOTES: DF = Double Fusion

**Canonie Environmental**

# Panel Seaming Log

PROJECT No.: 90-407

DATE:

PAGE: 4 OF 5

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

FIELD CONDITIONS

WEATHER: Cold TEMPERATURE: 30-50°F WIND: 6-10mph

| SEAM NUMBER | TOP PANEL | BOTTOM PANEL | SEAM TYPE | SEAMING APPARATUS ID | SEAMER ID | PREHEATING TEMP. (°F) | SEAMING APPARATUS TEMP. (°F) PRESS. (PSI) | EXTENSION TO OUTSIDE EDGE | CLEAN/DRY | WRINKLES/ FISHMOUTHS | REPAIRS | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 41 | 36 | DF | 1205 | EVS | | 700° | | YES | | | |
| 41 | 42 | 41 | DF | 1245 | CK | | 700° | | YES | | | |
| 42 | 43 | 42 | DF | 1205 | EVS | | 700° | | YES | | | |
| 43 | 44 | 43 | DF | 1245 | CK | | 700° | | YES | | | |
| 44 | 45 | 44 | DF | 1205 | ES | | 700° | | YES | | | |
| 45 | 46 | 45 | DF | 1245 | CK | | 700° | | YES | | | |
| 46 | 47 | 46 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 47 | 53 | 47 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 48 | 26 | 48 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 49 | 48 | 49A | DF | 1245 | CK | | 700° | | YES | | YES | |
| 49-1 | 49A | 49B | DF | 1245 | CK | | 700° | | YES | | YES | |
| 50 | 49A | 50 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 51 | 52 | 51 | DF | 1245 | CK | | 700° | | YES | | | |

NOTES: DF = Double Fusion

**Canonie** Environmental

# Panel Seaming Log

PROJECT No.: 90-407
DATE: 3/24-3/27/92
PAGE: 5 OF 5
COMPLETED BY: KJN

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

FIELD CONDITIONS
WEATHER: Cold TEMPERATURE: 30-50°F WIND: 6-10 mph

| SEAM NUMBER | TOP PANEL | BOTTOM PANEL | SEAM TYPE | SEAMING APPARATUS ID | SEAMER ID | PREHEATING TEMP. (°F) | SEAMING APPARATUS TEMP. (°F) PRESS. (PSI) | EXTENSION TO OUTSIDE EDGE | CLEAN/DRY | WRINKLES/ FISHMOUTHS | REPAIRS | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 52 | 51 | 40 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 53 | 35 | 40 | DF | 1245 | CK | | 700° | | YES | | YES | |
| 54 | 54 | 53 | DF | 1245 | CK | | 700° | | YES | | | |
| 56 | 54 | 50 | DF | 1245 | CK | | 700° | | YES | | YES | |

NOTES: DF = Double Fusion
There is No SEAM 55.

**Canonie Environmental**

# Panel Placement Log

PROJECT No.: 90-407
DATE: 5/24 - 3/27/92
PAGE: 1 OF 3
COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

FIELD CONDITIONS

WEATHER: Cold TEMPERATURE: 30-50°F WIND: 6-10 mph

| PANEL No. | SUBGRADE* CONDITIONS | PLACEMENT METHOD | VISUAL INSPECTION OF PANEL | DAMAGE DURING PLACEMENT | LENGTH OF PANEL (ft) | COMMENTS |
|---|---|---|---|---|---|---|
| P1 | SAND | | Good | NONE | 225' | |
| P2 | SAND | | Good | NONE | 91' | |
| P3 | SAND | | Good | YES | 73' | REPAIRED DAMAGE |
| P4 | SAND | | Good | NONE | 60 | |
| P5 | SAND | | Good | NONE | 51 | |
| P6 | SAND | | Good | NONE | 38' | |
| P7 | SAND | | Good | NONE | 22' | |
| P8 | SAND | | Good | YES | 35' | REPAIRED DAMAGE |
| P9 | SAND | | Good | NONE | 48' | |
| P10 | SAND | | Good | NONE | 68' | |
| P11 | SAND | | Good | NONE | 85' | |
| P12 | SAND | | Good | NONE | 94' | |
| P13 | SAND | | Good | NONE | 94' | |
| P14 | SAND | | Good | NONE | 93' | |
| P15 | SAND | | Good | NONE | 84' | |
| P16 | SAND | | Good | NONE | 66' | |
| P17 | SAND | | Good | NONE | 54' | |
| P18 | SAND | | Good | NONE | 40' | |
| P19 | SAND | | Good | NONE | 31' | |
| P20 | SAND | | Good | NONE | 82' | |
| P21 | SAND | | Good | NONE | 68' | |

NOTES:

* SUBGRADE INSPECTION INCLUDES: LINES AND GRADE, SURFACE COMPACTION, PROTRUSIONS, PONDED WATER AND DESSICATION.

**Canonie** Environmental

# Panel Placement Log

PROJECT No.: 90-407

DATE: 3/23 - 3/27

PAGE: 2 OF 3

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

## FIELD CONDITIONS

WEATHER: Cold TEMPERATURE: 30-50°F WIND: 6-10 mpH

| PANEL No. | SUBGRADE* CONDITIONS | PLACEMENT METHOD | VISUAL INSPECTION OF PANEL | DAMAGE DURING PLACEMENT | LENGTH OF PANEL (ft.) | COMMENTS |
|---|---|---|---|---|---|---|
| P22 | SAND | | Good | NONE | 52' | |
| P23 | SAND | | Good | NONE | 36' | |
| P24 | SAND | | Good | NONE | 31' | |
| P25 | SAND | | Good | NONE | 225' | |
| P26 | SAND | | Good | NONE | 225' | |
| P27 | SAND | | Good | NONE | 130' | |
| P28 | SAND | | Good | NONE | 91' | |
| P29 | SAND | | Good | NONE | 81' | |
| P30 | SAND | | Good | NONE | 70' | |
| P31 | SAND | | Good | NONE | 58' | |
| P32 | SAND | | Good | NONE | 48' | |
| P33 | SAND | | Good | NONE | 48' | |
| P34 | SAND | | Good | NONE | 39' | |
| P35 | SAND | | Good | NONE | 39' | |
| P36 | SAND | | Good | NONE | 64' | |
| P37 | SAND | | Good | NONE | 61' | |
| P38 | SAND | | Good | NONE | 46' | |
| P39 | SAND | | Good | NONE | 38' | |
| P40 | SAND | | Good | NONE | 22' | |
| P41 | SAND | | Good | NONE | 87' | |
| P42 | SAND | | Good | NONE | 92' | |

NOTES:

* SUBGRADE INSPECTION INCLUDES: LINES AND GRADE, SURFACE COMPACTION, PROTRUSIONS, PONDED WATER AND DESSICATION.

**Canonie Environmental**

# Panel Placement Log

PROJECT No.: 90-407

DATE: 3/24 - 3/27/92

PAGE: 3 OF 3

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

FIELD CONDITIONS

WEATHER: Cold TEMPERATURE: 30-50° F WIND: 6-10 mph

| PANEL No. | SUBGRADE* CONDITIONS | PLACEMENT METHOD | VISUAL INSPECTION OF PANEL | DAMAGE DURING PLACEMENT | LENGTH OF PANEL (ft.) | COMMENTS |
|---|---|---|---|---|---|---|
| P43 | SAND | | Good | NONE | 92' | |
| P44 | SAND | | Good | NONE | 86' | |
| P45 | SAND | | Good | NONE | 84' | |
| P46 | SAND | | Good | NONE | 84' | |
| P47 | SAND | | Good | NONE | 72' | |
| P48 | SAND | | Good | NONE | 71' | |
| P49 | SAND | | Good | NONE | 62' | |
| P49A | SAND | | Good | NONE | 19' | |
| P49B | SAND | | Good | NONE | 49' | |
| P50 | SAND | | Good | NONE | 50' | |
| P51 | SAND | | Good | YES | 28' | Cut to Fit Corner |
| P52 | SAND | | Good | NONE | 27' | |
| P53 | SAND | | Good | NONE | 44' | |
| P54 | SAND | | Good | NONE | 21' | |
| P55 | SAND | | Good | NONE | 15' | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

NOTES:

* SUBGRADE INSPECTION INCLUDES: LINES AND GRADE, SURFACE COMPACTION, PROTRUSIONS, PONDED WATER AND DESSICATION.

**Canonie** Environmental

# Destructive Seam Test

PROJECT No.: 90-407

DATE/TIME: 12N 3/26/92

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site

LOCATION: Waukegan, IL

## FIELD CONDITIONS

WIND: 6-10 mph TEMPERATURE: 40-53° F WEATHER: Cold

## SAMPLE

SEAM NUMBER: 11 LOCATION: 33'

PANEL NUMBERS: 11 & 12 SAMPLE ID: DS#P1

REASON FOR SAMPLE: Random Sampling

## FIELD TEST

### PEEL ADHESION TEST

SAMPLE WIDTH (in.): 1"

PEAK LOAD (lb.): 103

NORMALIZED PEAK LOAD (lb./in.): 103

COMMENTS: Values are an average.

### BONDED SEAM (SHEAR) TEST

SAMPLE WIDTH (in.):

PEAK LOAD (lb.):

NORMALIZED PEAK LOAD (lb./in.):

COMMENTS: Not done in Field.

### LAB RESULTS

NORMALIZED PEAK LOAD (lb./in.): 79

### LAB RESULTS

NORMALIZED PEAK LOAD (lb./in.): 115

## REPAIRS

REPAIR MADE: ☑ REPAIR ID: #18 NON-DESTRUCTIVE TEST OF REPAIR: VT

NOTES: VT=Vacuum Test

-018-A15

**Canonie** Environmental

# Destructive Seam Test

PROJECT No.: 90-407
DATE/TIME: 12 N 3/26/92
COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site
LOCATION: Waukegan, IL

## FIELD CONDITIONS

WIND: 6-10 mpH
TEMPERATURE: 40-53°F
WEATHER: Cold

## SAMPLE

SEAM NUMBER: 20
LOCATION: 35'
PANEL NUMBERS: 20 & 1
SAMPLE ID: DS*P2
REASON FOR SAMPLE: Random Sampling

## FIELD TEST

### PEEL ADHESION TEST

SAMPLE WIDTH (in.): 1"
PEAK LOAD (lb.): 96
NORMALIZED PEAK LOAD (lb./in.): 96
COMMENTS: Values are an average.

### BONDED SEAM (SHEAR) TEST

SAMPLE WIDTH (in.):
PEAK LOAD (lb.):
NORMALIZED PEAK LOAD (lb./in.):
COMMENTS: Not done in the field.

### LAB RESULTS

NORMALIZED PEAK LOAD (lb./in.): 80

### LAB RESULTS

NORMALIZED PEAK LOAD (lb./in.): 107

## REPAIRS

REPAIR MADE: [X]
REPAIR ID: *29
NON-DESTRUCTIVE TEST OF REPAIR: VT

NOTES: VT = Varuum test.

**Canonie** Environmental

# Destructive Seam Test

PROJECT No.: 90-407
DATE/TIME: 12 N 3/26/92
COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site
LOCATION: Waukegan, IL

## FIELD CONDITIONS

WIND: 6-10 mph
TEMPERATURE: 40-53° F
WEATHER: Cold

## SAMPLE

SEAM NUMBER: 25
LOCATION: 44'
PANEL NUMBERS: 25 & 1
SAMPLE ID: DS# P3
REASON FOR SAMPLE: Random Sampling

## FIELD TEST

### PEEL ADHESION TEST

SAMPLE WIDTH (in.): 1"
PEAK LOAD (lb.): 88
NORMALIZED PEAK LOAD (lb./in.): 88
COMMENTS: Values are an average.

### BONDED SEAM (SHEAR) TEST

SAMPLE WIDTH (in.):
PEAK LOAD (lb.):
NORMALIZED PEAK LOAD (lb./in.):
COMMENTS: Not done in the field.

### LAB RESULTS

NORMALIZED PEAK LOAD (lb./in.): 79

### LAB RESULTS

NORMALIZED PEAK LOAD (lb./in.): 108

## REPAIRS

REPAIR MADE: [X]
REPAIR ID: 37
NON-DESTRUCTIVE TEST OF REPAIR: VT

NOTES: VT= Vacuum test.

**Canonie** Environmental

# Destructive Seam Test

PROJECT No.: 90-407
DATE/TIME: 12N 3/24/92
COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site
LOCATION: Waukegan, IL

## FIELD CONDITIONS

WIND: 6-10 mph TEMPERATURE: 40-53°F WEATHER: Cold

## SAMPLE

SEAM NUMBER: 29 LOCATION: 17'
PANEL NUMBERS: 29 & 28 SAMPLE ID: DS*P4
REASON FOR SAMPLE: Random Sampling.

## FIELD TEST

### PEEL ADHESION TEST

SAMPLE WIDTH (in.): 1"
PEAK LOAD (lb.): 99
NORMALIZED PEAK LOAD (lb./in.): 99
COMMENTS: Values are an average.

LAB RESULTS
NORMALIZED PEAK LOAD (lb./in.): 85

### BONDED SEAM (SHEAR) TEST

SAMPLE WIDTH (in.):
PEAK LOAD (lb.):
NORMALIZED PEAK LOAD (lb./in.):
COMMENTS: Not done in field.

LAB RESULTS
NORMALIZED PEAK LOAD (lb./in.): 109

## REPAIRS

REPAIR MADE: [X] REPAIR ID: 50 NON-DESTRUCTIVE TEST OF REPAIR: VT

NOTES: VT = Vacuum test.

**Canonie** Environmental

# Destructive Seam Test

PROJECT No.: 90-407

DATE/TIME: 12 N 3/26/92

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site

LOCATION: Waukegan, IL

## FIELD CONDITIONS

WIND: 6-10 mpH TEMPERATURE: 40-53°F WEATHER: cold

## SAMPLE

SEAM NUMBER: 37 LOCATION: 39'

PANEL NUMBERS: 37 & 38 SAMPLE ID: DS #P5

REASON FOR SAMPLE: Random Sampling

## FIELD TEST

### PEEL ADHESION TEST

SAMPLE WIDTH (in.): 1"

PEAK LOAD (lb.): 94

NORMALIZED PEAK LOAD (lb./in.): 94

COMMENTS: Values are Averages.

### BONDED SEAM (SHEAR) TEST

SAMPLE WIDTH (in.):

PEAK LOAD (lb.):

NORMALIZED PEAK LOAD (lb./in.):

COMMENTS: Not done in the Field.

### LAB RESULTS

NORMALIZED PEAK LOAD (lb./in.): 73

### LAB RESULTS

NORMALIZED PEAK LOAD (lb./in.): 107

## REPAIRS

REPAIR MADE: [X] REPAIR ID: 57 NON-DESTRUCTIVE TEST OF REPAIR: VT

NOTES: VT = Vacuum test.

**Canonie** Environmental

# Destructive Seam Test

PROJECT No.: 90-407
DATE/TIME: 12N 3/26/92
COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site
LOCATION: Waukegan, IL

## FIELD CONDITIONS

WIND: 6-10 mph TEMPERATURE: 40-53° F WEATHER: cold

## SAMPLE

SEAM NUMBER: 46 LOCATION: 27'
PANEL NUMBERS: 46 & 47 SAMPLE ID: DS#P6
REASON FOR SAMPLE: Random Sampling.

## FIELD TEST

### PEEL ADHESION TEST

SAMPLE WIDTH (in.): 1"
PEAK LOAD (lb.): 96
NORMALIZED PEAK LOAD (lb./in.): 96
COMMENTS: Values are Averages.

### BONDED SEAM (SHEAR) TEST

SAMPLE WIDTH (in.):
PEAK LOAD (lb.):
NORMALIZED PEAK LOAD (lb./in.):
COMMENTS: Not done in the Field.

### LAB RESULTS

NORMALIZED PEAK LOAD (lb./in.): 85

### LAB RESULTS

NORMALIZED PEAK LOAD (lb./in.): 108

## REPAIRS

REPAIR MADE: [X] REPAIR ID: 67 NON-DESTRUCTIVE TEST OF REPAIR: VT

NOTES: VT = Vacuum Test.

C.Q.C. LAB
Date Tested:
3/26/92

FIELD SEAM SAMPLES
40 mil Polyethylene Geomembrane
Job#2044

RT.41 South
Galesburg,IL
309-342-1936

| Sample Number | Seam Peel Adhesion (ppi) | Film Tear Bond | Bonded Seam Strength (ppi) | Film Tear Bond |
|---|---|---|---|---|
| | Outer/Inner | Outer/Inner | | |
| DS#P1 | 77/76 | FTB/FTB | 128 | FTB |
| | 74/83 | FTB/FTB | 128 | FTB |
| M#1205 | 77/83 | FTB/FTB | 106 | FTB |
| | 69/86 | FTB/FTB | 108 | FTB |
| Seam 11 | 83/82 | FTB/FTB | 107 | FTB |
| Avg: | 79 | | 115 | |
| SD: | 5 | | 12 | |
| DS#P2 | 81/77 | FTB/FTB | 108 | FTB |
| | 82/76 | FTB/FTB | 108 | FTB |
| M#1245 | 89/77 | FTB/FTB | 107 | FTB |
| | 82/75 | FTB/FTB | 107 | FTB |
| Seam 20 | 86/78 | FTB/FTB | 107 | FTB |
| Avg: | 80 | | 107 | |
| SD: | 5 | | 1 | |
| DS#P3 | 69/90 | FTB/FTB | 108 | FTB |
| | 81/82 | FTB/FTB | 108 | FTB |
| M#1245 | 72/82 | FTB/FTB | 108 | FTB |
| | 69/81 | FTB/FTB | 108 | FTB |
| Seam 25 | 81/86 | FTB/FTB | 109 | FTB |
| Avg: | 79 | | 108 | |
| SD: | 7 | | 1 | |
| DS#P4 | 85/90 | FTB/FTB | 111 | FTB |
| | 78/85 | FTB/FTB | 108 | FTB |
| M#1205 | 85/82 | FTB/FTB | 109 | FTB |
| | 81/86 | FTB/FTB | 110 | FTB |
| Seam 29 | 81/93 | FTB/FTB | 108 | FTB |
| Avg: | 85 | | 109 | |
| SD: | 4 | | 1 | |

C.Q.C. LAB
Date Tested:
3/26/92

FIELD SEAM SAMPLES
40 mil Polyethylene Geomembrane
Job#2044

RT.41 South
Galesburg,IL
309-342-1936

| Sample Number | Seam Peel Adhesion (ppi) | Film Tear Bond | Bonded Seam Strength (ppi) | Film Tear Bond |
|---|---|---|---|---|
| | Outer/Inner | Outer/Inner | | |
| DS#P5 | 61/74 | FTB/FTB | 109 | FTB |
| | 66/78 | FTB/FTB | 105 | FTB |
| M#1245 | 71/82 | FTB/FTB | 108 | FTB |
| | 66/83 | FTB/FTB | 107 | FTB |
| ~~Seam 38~~ Seam 37 | 64/80 | FTB/FTB | 107 | FTB |
| Avg: | 73 | | 107 | |
| SD: | 8 | | 1 | |
| DS#P6 | 83/88 | FTB/FTB | 108 | FTB |
| | 80/88 | FTB/FTB | 109 | FTB |
| M#1245 | 85/82 | FTB/FTB | 108 | FTB |
| | 87/85 | FTB/FTB | 109 | FTB |
| ~~Seam 47~~ Seam 46 | 89/87 | FTB/FTB | 108 | FTB |
| Avg: | 85 | | 108 | |
| SD: | 3 | | 1 | |

Material Roll Identification Numbers

40 Mill Thickness

| | |
|---|---|
| Panels 1-24 | I11071 |
| Panels 25-41 | I11101 |
| Panels 42-49 | I12081 |
| Panel 50 | I11101 |
| Panels 51-55 | 2A2413B1 |

J9-018-A19

**Canonie Environmental**

# Trial Seam Testing Log

PROJECT No.: 90-407

PAGE: 1 OF 4

COMPLETED BY: KTH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

| DATE | TIME | MACHINE No. | TEMP. SETTING | OPERATOR | PEEL ADHESION | | BONDED SEAM (SHEAR) | |
|---|---|---|---|---|---|---|---|---|
| | | | | | lb./in. | P/F | lb./in. | P/F |
| 3/24/92 | 10:27 | Mx22P | 200° | DV #147 | 115 | P | | |
| 3/24/92 | 10:27 | Mx22P | 200° | DV #147 | 103 | P | | |
| 3/24/92 | 10:27 | Mx22P | 200° | DV #147 | 108 | P | | |
| 3/24/92 | 10:36 | Mx22P | 200° | TANG #31 | 91 | P | | |
| 3/24/92 | 10:36 | Mx22P | 200° | TANG #31 | 95 | P | | |
| 3/24/92 | 10:36 | Mx22P | 200° | TANG #31 | 107 | P | | |
| 3/24/92 | 11:06 | 1245 | 700° | CK #74 | 91 | P | | |
| 3/24/92 | 11:06 | 1245 | 700° | CK #74 | 85 | P | | |
| 3/24/92 | 11:06 | 1245 | 700° | CK #74 | 86 | P | | |
| 3/24/92 | 11:06 | 1245 | 700° | CK #74 | 82 | P | | |
| 3/24/92 | 11:06 | 1245 | 700° | CK #74 | 71 | P | | |
| 3/24/92 | 11:06 | 1245 | 700° | CK #74 | 92 | P | | |
| 3/24/92 | 11:20 | 1245 | 700° | CK #74 | 91 | P | | |
| 3/24/92 | 11:20 | 1245 | 700° | CK #74 | 88 | P | | |
| 3/24/92 | 11:20 | 1245 | 700° | CK #74 | 86 | P | | |
| 3/24/92 | 11:20 | 1245 | 700° | CK #74 | 66 | P | | |
| 3/24/92 | 11:20 | 1245 | 700° | CK #74 | 78 | P | | |
| 3/24/92 | 11:20 | 1245 | 700° | CK #74 | 66 | P | | |
| 3/24/92 | 11:40 | 1245 | 700° | CK #74 | 69 | P | | |
| 3/24/92 | 11:40 | 1245 | 700° | CK #74 | 86 | P | | |
| 3/24/92 | 11:40 | 1245 | 700° | CK #74 | 71 | P | | |
| 3/24/92 | 11:40 | 1245 | 700° | CK #74 | 86 | P | | |
| 3/24/92 | 11:40 | 1245 | 700° | CK #74 | 66 | P | | |
| 3/24/92 | 11:40 | 1245 | 700° | CK #74 | PEEL | F | | |
| 3/24/92 | 12:00 | 1245 | 700° | CK #74 | 69 | P | | |
| 3/24/92 | 1200 | 1245 | 700° | CK #74 | 75 | P | | |
| 3/24/92 | 1200 | 1245 | 700° | CK #74 | 79 | P | | |
| 3/24/92 | 1200 | 1245 | 700° | CK #74 | 83 | P | | |
| 3/24/92 | 1200 | 1245 | 700° | CK #74 | 84 | P | | |
| 3/24/92 | 1200 | 1245 | 700° | CK #74 | 70 | P | | |
| 3/24/92 | 13:50 | 1205 | 700° | EVS #130 | 92 | P | | |

89-018-A19

**Canonie Environmental**

# Trial Seam Testing Log

PROJECT No.: 90-407

PAGE: 2 OF

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

| DATE | TIME | MACHINE No. | TEMP. SETTING | OPERATOR | PEEL ADHESION | | BONDED SEAM (SHEAR) | |
|---|---|---|---|---|---|---|---|---|
| | | | | | lb./in. | P/F | lb./in. | P/F |
| 3/24/92 | 13:50 | 1205 | 700° | EVS #130 | 87 | P | | |
| 3/24/92 | 13:50 | 1205 | 700° | EVS #130 | 78 | P | | |
| 3/24/92 | 13:50 | 1205 | 700° | EVS #130 | 86 | P | | |
| 3/24/92 | 13:50 | 1205 | 700° | EVS #130 | 83 | P | | |
| 3/24/92 | 13:50 | 1205 | 700° | EVS #130 | 86 | P | | |
| 3/24/92 | 13:55 | MX22P | 200° | DV #147 | 101 | P | | |
| 3/24/92 | 13:55 | MX22P | 200° | DV #147 | 102 | P | | |
| 3/24/92 | 13:55 | MX22P | 200° | DV #147 | 105 | P | | |
| 3/24/92 | 1400 | 1245 | 700° | CK #74 | 77 | P | | |
| 3/24/92 | 14:00 | 1245 | 700° | CK #74 | 81 | P | | |
| 3/24/92 | 14:00 | 1245 | 700° | CK #74 | 93 | P | | |
| 3/24/92 | 14:00 | 1245 | 700° | CK #74 | 85 | P | | |
| 3/24/92 | 14:00 | 1245 | 700° | CK #74 | 64 | P | | |
| 3/24/92 | 14:00 | 1245 | 700° | CK #74 | 86 | P | | |
| 3/25/92 | 6:40 | 1245 | 700° | CK #74 | 87 | P | | |
| 3/25/92 | 6:40 | 1245 | 700° | CK #74 | 88 | P | | |
| 3/25/92 | 6:40 | 1245 | 700° | CK #74 | 95 | P | | |
| 3/25/92 | 6:40 | 1245 | 700° | CK #74 | 66 | P | | |
| 3/25/92 | 6:40 | 1245 | 700° | CK #74 | 93 | P | | |
| 3/25/92 | 6:40 | 1245 | 700° | CK #74 | 98 | P | | |
| 3/25/92 | 6:45 | 1205 | 700° | EVS #130 | 100 | P | | |
| 3/25/92 | 6:45 | 1205 | 700° | EVS #130 | 107 | P | | |
| 3/25/92 | 6:45 | 1205 | 700° | EVS #130 | 116 | P | | |
| 3/25/92 | 6:45 | 1205 | 700° | EVS #130 | 116 | P | | |
| 3/25/92 | 6:45 | 1205 | 700° | EVS #130 | 101 | P | | |
| 3/25/92 | 6:45 | 1205 | 700° | EVS #130 | 116 | P | | |
| 3/25/92 | 6:50 | MX22P | 210° | DV #147 | 102 | P | | |
| 3/25/92 | 6:50 | MX22P | 210° | DV #147 | 110 | P | | |
| 3/25/92 | 6:50 | MX22P | 210° | DV #147 | 125 | P | | |
| 3/25/92 | 1315 | 1245 | 700° | CK #74 | 80 | P | | |
| 3/25/92 | 1315 | 1245 | 700° | CK #74 | 86 | P | | |

89-28

9-018-A19

**Canonie Environmental**

# Trial Seam Testing Log

PROJECT No.: 90-407

PAGE: 3 OF 4

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

| DATE | TIME | MACHINE No. | TEMP. SETTING | OPERATOR | PEEL ADHESION | | BONDED SEAM (SHEAR) | |
|---|---|---|---|---|---|---|---|---|
| | | | | | lb./in. | P/F | lb./in. | P/F |
| 3/25/92 | 1345 | 1245 | 700° | CK#74 | 85 | P | | |
| 3/25/92 | 1345 | 1245 | 700° | CK#74 | 88 | P | | |
| 3/25/92 | 1345 | 1245 | 700° | CK#74 | 87 | P | | |
| 3/25/92 | 1315 | 1245 | 700° | CK#74 | 95 | P | | |
| 3/25/92 | 1325 | MX22P | 210° | TD | 73 | P | | |
| 3/25/92 | 1325 | MX22P | 210° | TD | 75 | P | | |
| 3/25/92 | 1325 | MX22P | 210° | TD | 100 | P | | |
| 3/25/92 | 1325 | 1205 | 700° | EVS #130 | 102 | P | | |
| 3/25/92 | 1325 | 1205 | 700° | EVS#130 | 100 | P | | |
| 3/25/92 | 1325 | 1205 | 700° | EVS#130 | 103 | P | | |
| 3/25/92 | 1325 | 1205 | 700° | EVS#130 | 102 | P | | |
| 3/25/92 | 1325 | 1205 | 700° | EVS#130 | 104 | P | | |
| 3/25/92 | 1325 | 1205 | 700° | EVS#130 | 102 | P | | |
| 3/26/92 | 0715 | MX101 | 210° | TANG | 88 | P | | |
| 3/26/92 | 0715 | MX101 | 210° | TANG | 61 | P | | |
| 3/26/92 | 0715 | MX101 | 210° | TANG | 65 | P | | |
| 3/26/92 | 1010 | MX22P | 190° | DV | 97 | P | | |
| 3/26/92 | 1010 | MX22P | 190° | DV | 103 | P | | |
| 3/26/92 | 1010 | MX22P | 190° | DV | 96 | P | | |
| 3/26/92 | 1020 | MX101 | 205° | TANG | 72 | P | | |
| 3/26/92 | 1020 | MX101 | 205° | TANG | 102 | P | | |
| 3/26/92 | 1020 | MX101 | 205° | TANG | 74 | P | | |
| 3/26/92 | 1415 | MX101 | 210° | TANG | 115 | P | | |
| 3/26/92 | 1415 | MX101 | 210° | TANG | 105 | P | | |
| 3/26/92 | 1415 | MX101 | 210° | TANG | 92 | P | | |
| 3/27/92 | 0755 | 1245 | 700° | CK#74 | 110 | P | | |
| 3/27/92 | 0755 | 1245 | 700° | CK#74 | 89 | P | | |
| 3/27/92 | 0755 | 1245 | 700° | CK#74 | 118 | P | | |
| 3/27/92 | 0755 | 1245 | 700° | CK#74 | 78 | P | | |
| 3/27/92 | 0755 | 1245 | 700° | CK#74 | 113 | P | | |
| 3/27/92 | 0755 | 1245 | 700° | CK#74 | 103 | P | | |

89-018-A19

**Canonie Environmental**

# Trial Seam Testing Log

PROJECT No.: 90-407

PAGE: 4 OF

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

| DATE | TIME | MACHINE No. | TEMP. SETTING | OPERATOR | PEEL ADHESION | | BONDED SEAM (SHEAR) | |
|---|---|---|---|---|---|---|---|---|
| | | | | | lb./in. | P/F | lb./in. | P/F |
| 3/27/92 | 0910 | MX22P | 210° | PR | 102 | P | | |
| 3/27/92 | 0910 | MX22P | 210° | PR | 103 | P | | |
| 3/27/92 | 0910 | MX22P | 210° | PR | 113 | P | | |
| 3/27/92 | 1110 | MX50P | 205° | RW | 94 | P | | |
| 3/27/92 | 1110 | MX50P | 205° | RW | 129 | P | | |
| 3/27/92 | 1110 | MX50P | 205° | RW | 119 | P | | |
| 3/27/92 | 1310 | MX22P | 200° | PR | 101 | P | | |
| 3/27/92 | 1310 | MX22P | 200° | RR | 99 | P | | |
| 3/27/92 | 1310 | MX22P | 200° | PR | 90 | P | | |
| 3/27/92 | 1317 | MX101 | 210° | TD | 71 | P | | |
| 3/27/92 | 1317 | MX101 | 210° | TD | 62 | P | | |
| 3/27/92 | 1317 | MX101 | 210 | TD | 98 | P | | |

89-28

**Canonie Environmental**

# Repair Log

PROJECT No.: 90-407

PAGE: 1 OF 4

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

| REPAIR No. | SEAM No. | LOCATION | REASON | REPAIR METHOD | REPAIR INSPECTION METHOD | INSPECTION RESULTS P/F | DATE/ TIME | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 15' | LostLap | Cap | VT | P | 3/26 | 2'x8' |
| 2 | 1 | EOS | TieIn | Patch | VT | P | 3/26 | 5'x7' |
| 3 | 2 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 4 | 2' | 9' | SeamRepair | Patch | VT | P | 3/26 | 2'x3' |
| 5 | 3 | 7' | SeamRepair | Patch | VT | P | 3/26 | 3'x3' |
| 6 | 3 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 7 | 4 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 8 | 4 | 9' | SeamRepair | Patch | VT | P | 3/26 | 5'x3' |
| 9 | 5 | 4' | SeamRepair | Patch | VT | P | 3/26 | 5'x3' |
| 10 | 5 | 10' | SeamRepair | Patch | VT | P | 3/27 | 1'x1' |
| 11 | 5 | EOS | TEE | Extruded | VT | P | 3/27 | |
| 12 | 6 | 10' | SeamRepair | Patch | VT | P | 3/27 | 2'x3' |
| 13 | 6 | EOS | TEE | Extruded | VT | P | 3/27 | |
| 14 | 8 | 27' | SeamRepair | Patch | VT | P | 3/27 | 1'x1' |
| 15 | 8 | EOS | TEE | Patch | VT | P | 3/26 | 5'x3' |
| 16 | 9 | EOS | TEE | Extruded | VT | P | 3/27 | |
| 17 | 10 | EOS | TEE | Extruded | VT | P | 3/27 | 3'x4' |
| 18 | 11 | 33' | DS*P1 | Patch | VT | P | 3/27 | 3'x4' |
| 19 | 12 | 42' | Leak | Patch | VT | P | 3/26 | 1'x1' |
| 20 | 12 | EOS | Leak | Extruded | VT | P | 3/26 | |
| 21 | 13 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 22 | 14 | 84' | Leak | Patch | VT | P | 3/26 | 4'x4' |
| 23 | 15 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 24 | 16 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 25 | 17 | EOS | TEE | Extruded | VT | P | 3/26 | |

NOTES: VT = Vacuum Test, EOS = End of Seam

# Canonie Environmental

## Repair Log

PROJECT No.: 90-407

PAGE: 2 OF 4

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

| REPAIR No. | SEAM No. | LOCATION | REASON | REPAIR METHOD | REPAIR INSPECTION METHOD | INSPECTION RESULTS P/F | DATE/ TIME | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 26 | 18 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 27 | 19 | EOS | Leak | Patch | VT | P | 3/26 | 1'x1' |
| 28 | 20 | 35' | Leak | Patch | VT | P | 3/26 | 2' x 4' |
| 29 | 20 | EOS | DS#P2 | Patch | VT | P | 3/26 | 2'x4' |
| 30 | 21 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 31 | 22 | 7' | Seam Repair | Patch | VT | P | 3/26 | 2'x2' |
| 32 | 22 | 10' | Seam Repair | Patch | VT | P | 3/26 | 1'x1' |
| 33 | 22 | 50' | Leak | Patch | VT | P | 3/26 | 2x2' |
| 34 | 22 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 35 | 23 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 36 | 24 | 24' | Leak | Patch | VT | P | 3/26 | 3'x2' |
| 37 | 25 | 44' | DS#P3 | Patch | VT | P | 3/26 | 2'x4' |
| 38 | 25 | 84' | Seam Repair | Patch | VT | P | 3/26 | 2'x2' |
| 39 | 25 | 154' | Seam Repair | Patch | VT | P | 3/26 | 2'x2' |
| 40 | 25 | 169' | Seam Repair | Patch | VT | P | 3/26 | 2'x2' |
| 41 | 25 | 179' | Seam Repair | Patch | VT | P | 3/26 | 1'x2' |
| 42 | 25 | 191' | Seam Repair | Patch | VT | P | 3/26 | 1x2' |
| 43 | 25 | 195' | Seam Repair | Patch | VT | P | 3/26 | 1'x1' |
| 44 | 25 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 45 | 26 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 46 | 27 | EOS | Leak | Patch | VT | P | 3/26 | 2'x3' |
| 47 | 28 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 48 | 28 | EOP | Leak | Patch | VT | P | 3/26 | 1' from P29 |
| 49 | 29 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 50 | 29 | 17' | DS#P4 | Patch | VT | P | 3/26 | 2'x4' |

NOTES: VT = Vacuum Test; EOS = End of Seam

# Canonie Environmental

## Repair Log

PROJECT No.: 90-407

PAGE: 3 OF 4

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site LOCATION: Waukegan, IL

| REPAIR No. | SEAM No. | LOCATION | REASON | REPAIR METHOD | REPAIR INSPECTION METHOD | INSPECTION RESULTS P/F | DATE/ TIME | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 51 | 30 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 52 | 31 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 53 | 31 | 49' | LEAK | PATCH | VT | P | 3/26 | 2'x3' |
| 54 | 32 | 9' | Seam Repair | Patch | VT | P | 3/27 | |
| 55 | 34 | 13' | Leak | Patch | VT | P | 3/27 | 1'x1' |
| 56 | 34 | EOS | LEAK | PATCH | VT | P | 3/27 | 1'x1' |
| 57 | 37 | 39' | DS#P5 | PATCH | VT | P | 3/27 | 1'x2' |
| 58 | 38 | 8' | Seam Repair | Patch | VT | P | 3/26 | 1'x2' |
| 59 | 39 | 10' | Seam Repair | Patch | VT | P | 3/27 | 1'x2' |
| 60 | 39 | 20' | TEE | Patch | VT | P | 3/27 | 1'x1' |
| 61 | 40 | Well CAP | Seal | Patch | VT | P | 3/26 | 5'x5' |
| 62 | 42 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 63 | 43 | 22' | BOOT | PATCH | VT | P | 3/26 | 10'x10' |
| 64 | 43 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 65 | 44 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 66 | 45 | EOS | TEE | Extruded | VT | P | 3/26 | |
| 67 | 46 | 27' | DS#P6 | PATCH | VT | P | 3/27 | 1'x3' |
| 68 | 47 | 9' | Seam Repair | Patch | VT | P | 3/27 | 1'x2' |
| 69 | 47 | 35' | Leak | Patch | VT | P | 3/27 | 2'x2' |
| 70 | 48 | 9' | Seam Repair | Patch | VT | P | 3/27 | 1'x2' |
| 71 | 49 | 9' | Seam Repair | Patch | VT | P | 3/27 | 3'x4' |
| 72 | 49 | 14' | Seam Repair | Patch | VT | P | 3/27 | 1'x1' |
| 73 | 50 | EOS | Leak | Patch | VT | P | 3/27 | 1'x2' |
| 74 | 50 | 5' | Gap Cover | Patch | VT | P | 3/27 | 9'x6' |
| 75 | 53 | 9' | Seam Repair | Patch | VT | P | 3/27 | 2'x2' |

NOTES: VT = Vacuum Test, EOS = End of Seam

**Canonie Environmental**

# Repair Log

PROJECT No.: 90-407

PAGE: 4 OF 4

COMPLETED BY: KJH

PROJECT NAME: OMC Remediation Site

LOCATION: Waukegan, IL

| REPAIR No. | SEAM No. | LOCATION | REASON | REPAIR METHOD | REPAIR INSPECTION METHOD | INSPECTION RESULTS P/F | DATE/ TIME | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 76 | 56 | 17' | TEE | Extended | VT | P | 3/27 | |
| 77 | 56 | 21' | LEAK | PATCH | VT | P | 3/27 | 1'x2' |
| 78 | 56 | 35' | Leak | PATCH | VT | P | 3/27 | 1'x2' |
| 79 | Panel 46 | Well Head | CAP | PATCH | VT | P | 3/26 | 5'x5' |
| 80 | Panel 43 | Man Hole | CAP | PATCH | VT | P | 3/26 | 7'x7' |
| 81 | PANEL 41 | 15' | hole | PATCH | VT | P | 3/26 | 1'x1' |
| 82 | Panel 3 | 12' | hole | Extruded | VT | P | 3/26 | |
| 83 | Panel 8 | 12' | hole | Extruded | VT | P | 3/26 | |
| 84 | Panel 25 | 15' | hole | Extended | VT | P | 3/26 | |

NOTES: VT = Vacuum Test; EOS = End of Seam.

# APPENDIX F

# BORING LOGS, WELL, AND PIEZOMETER DETAILS

Canonie

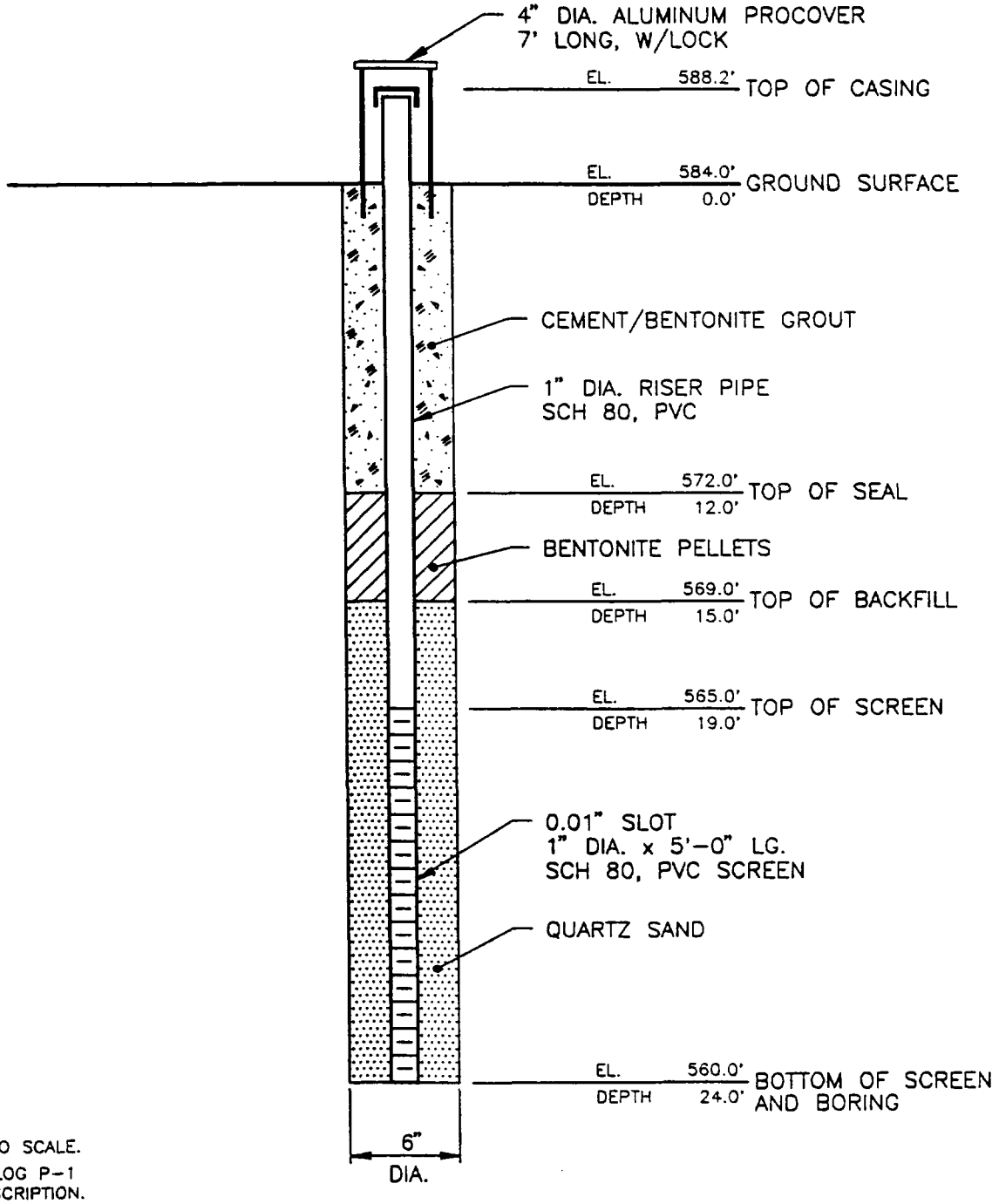
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-1

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 4,440.93 E. 4,641.91 DATE 7-23-92 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-1 FOR SOIL DESCRIPTION.
3. THE GROUND SURFACE ELEVATION IS THE APPROXIMATE ELEVATION AT THE TIME OF INSTALLATION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. P-1
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 4440.93 E 4641.91 SURFACE ELEVATION 584.0
DRILLER Fox Drilling, Inc. DATE: START 7/23/92 FINISH 7/23/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0"-6" | BLOW COUNT 6"-12" | BLOW COUNT 12"-18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |
| | | | | | | | | | SP | | | | Brown Fine Sand. | |
| 15 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 24.0 | | |
| 25 | | | | | | | | | | | | | Bottom Of Boring At 24.0 Ft. | |
| 30 | | | | | | | | | | | | | Notes:<br>1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings.<br>2. Upon Completion, A 1-Inch-Diameter PVC Piezometer Was Installed In The Borehole. See P-1 Piezometer Detail For Construction Details.<br>3. Ground Surface Elevation Is The Approximate Elevation At The Time Of Installation. | |
| 35 | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | |

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Canonie

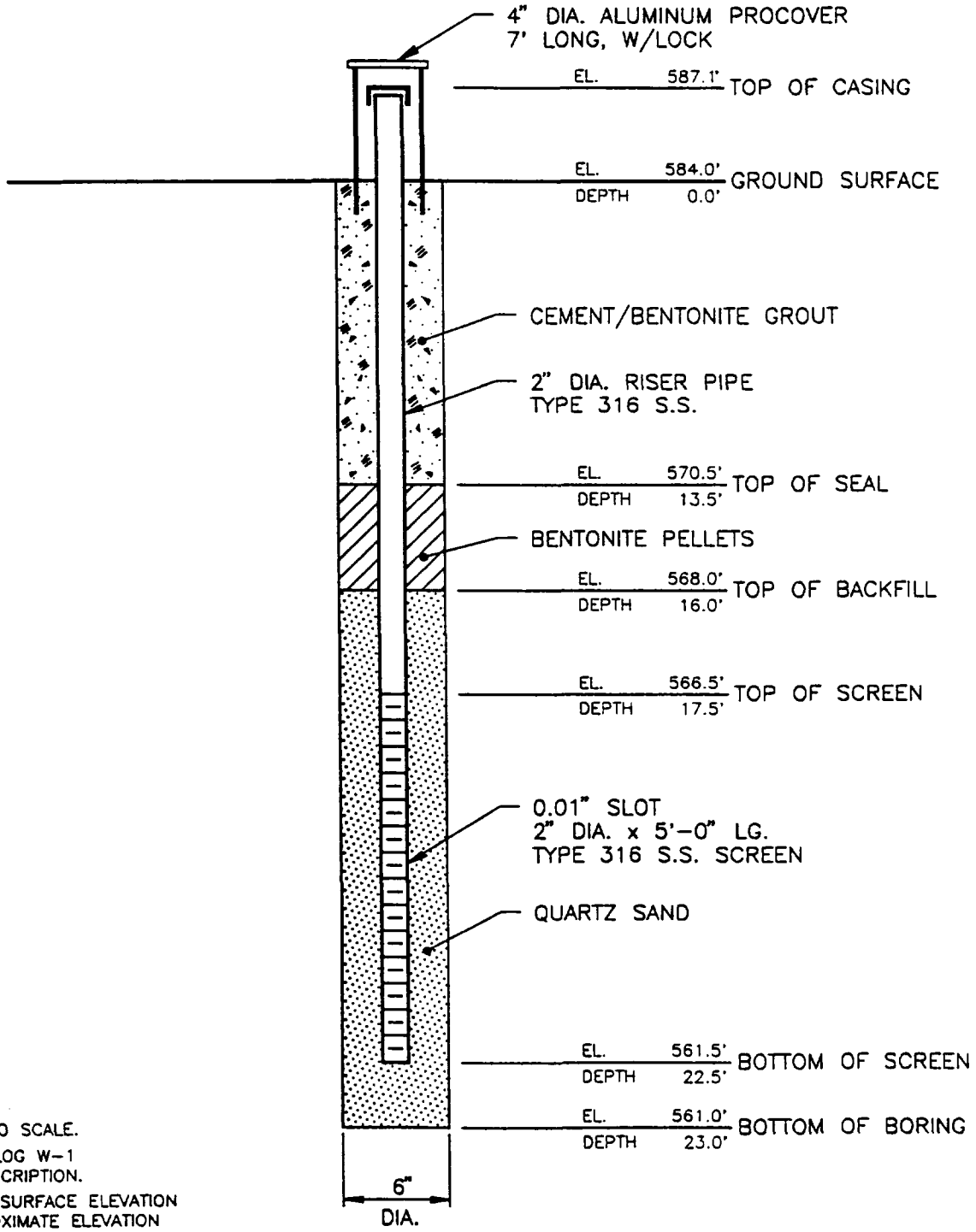
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-1

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 4,437.23 E. 4,626.60 DATE 7-23-92 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-1 FOR SOIL DESCRIPTION.
3. THE GROUND SURFACE ELEVATION IS THE APPROXIMATE ELEVATION AT THE TIME OF INSTALLATION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-1
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 4437.23 E 4626.60 SURFACE ELEVATION 584.0
DRILLER Fox Drilling, Inc. DATE: START 7/23/92 FINISH 7/23/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0"-6" / 6"-12" / 12"-18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | |
| 10 | | | | | | | SP | | | | Brown Fine Sand. | |
| 15 | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | |
| | | | | | | | | | | 23.0 | Bottom Of Boring At 23.0 Ft. | |
| 25 | | | | | | | | | | | Notes: | |
| 30 | | | | | | | | | | | 1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 35 | | | | | | | | | | | 2. Upon Completion, A 2-Inch-Diameter Stainless-Steel Monitoring Well Was Installed In the Borehole. See W-1 Monitoring Well Detail For Well Construction Details. | |
| 40 | | | | | | | | | | | 3. Ground Surface Elevation Is The Approximate Elevation At The Time Of Installation. | |

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**Canonie**

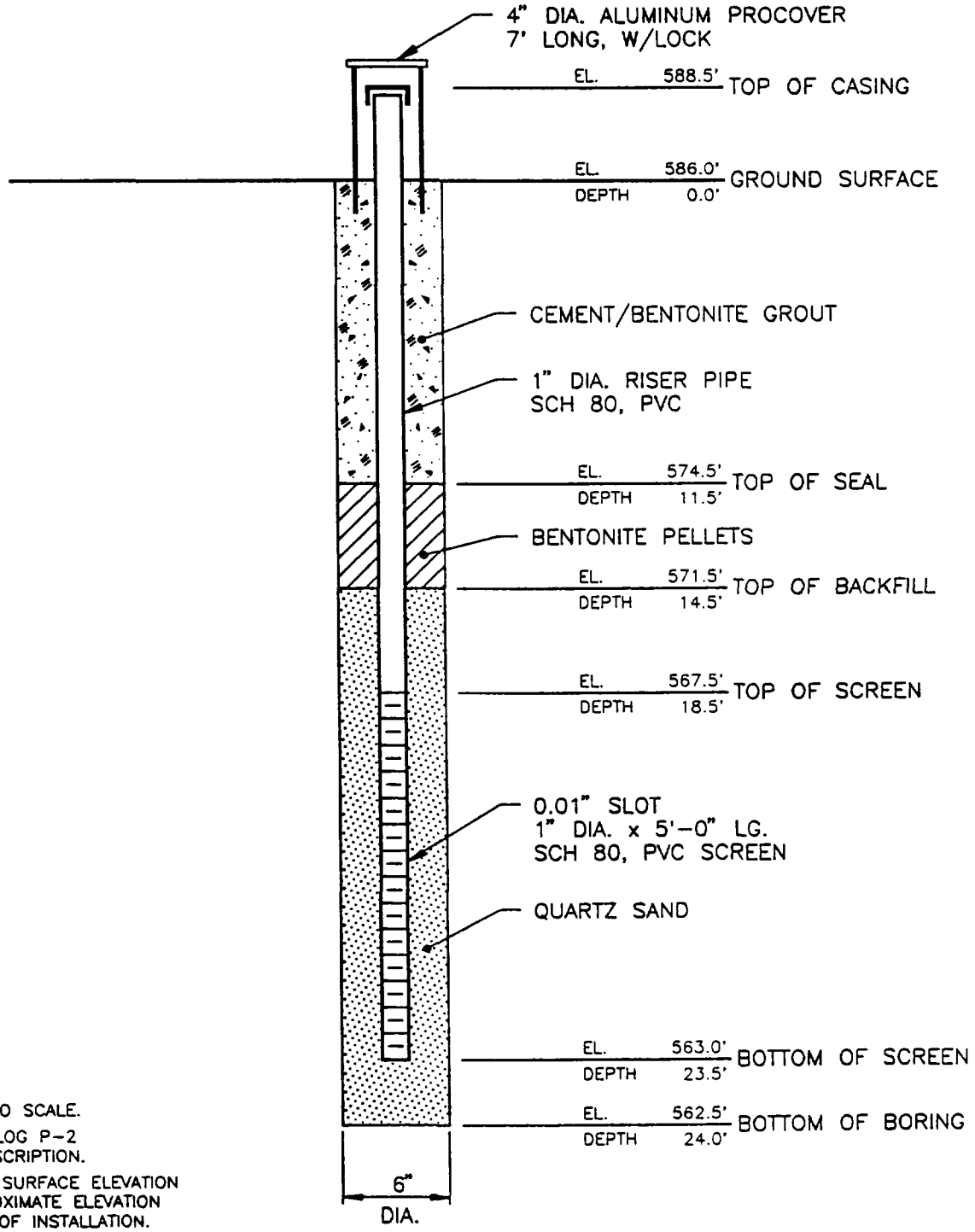
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-2

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 4,922.66 E. 4,283.86 DATE 7-21-92 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-2 FOR SOIL DESCRIPTION.
3. THE GROUND SURFACE ELEVATION IS THE APPROXIMATE ELEVATION AT THE TIME OF INSTALLATION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. P-2
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N4,922.66 E4,283.86 SURFACE ELEVATION 586.0
DRILLER Fox Drilling, Inc. DATE: START 7/21/92 FINISH 7/21/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" 6" 12" | BLOW COUNT 6" 12" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | |
| 10 | | | | | | | | SP | | | | Fine Brown Sand. | |
| 15 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| | | | | | | | | | | | 23.0 | | |
| | | | | | | | | CL | | | 24.0 | Hard Gray Silty Clay. | |
| 25 | | | | | | | | | | | | Bottom Of Boring At 24.0 Ft. | |
| 30 | | | | | | | | | | | | Notes: | |
| 35 | | | | | | | | | | | | 1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 40 | | | | | | | | | | | | 2. Upon Completion, A 1-Inch-Diameter PVC Piezometer Was Installed In The Borehole. See P-2 Piezometer Detail For Construction Details. | |
| | | | | | | | | | | | | 3. Ground Surface Elevation Is The Approximate Elevation At The Time Of Installation. | |

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Canonie

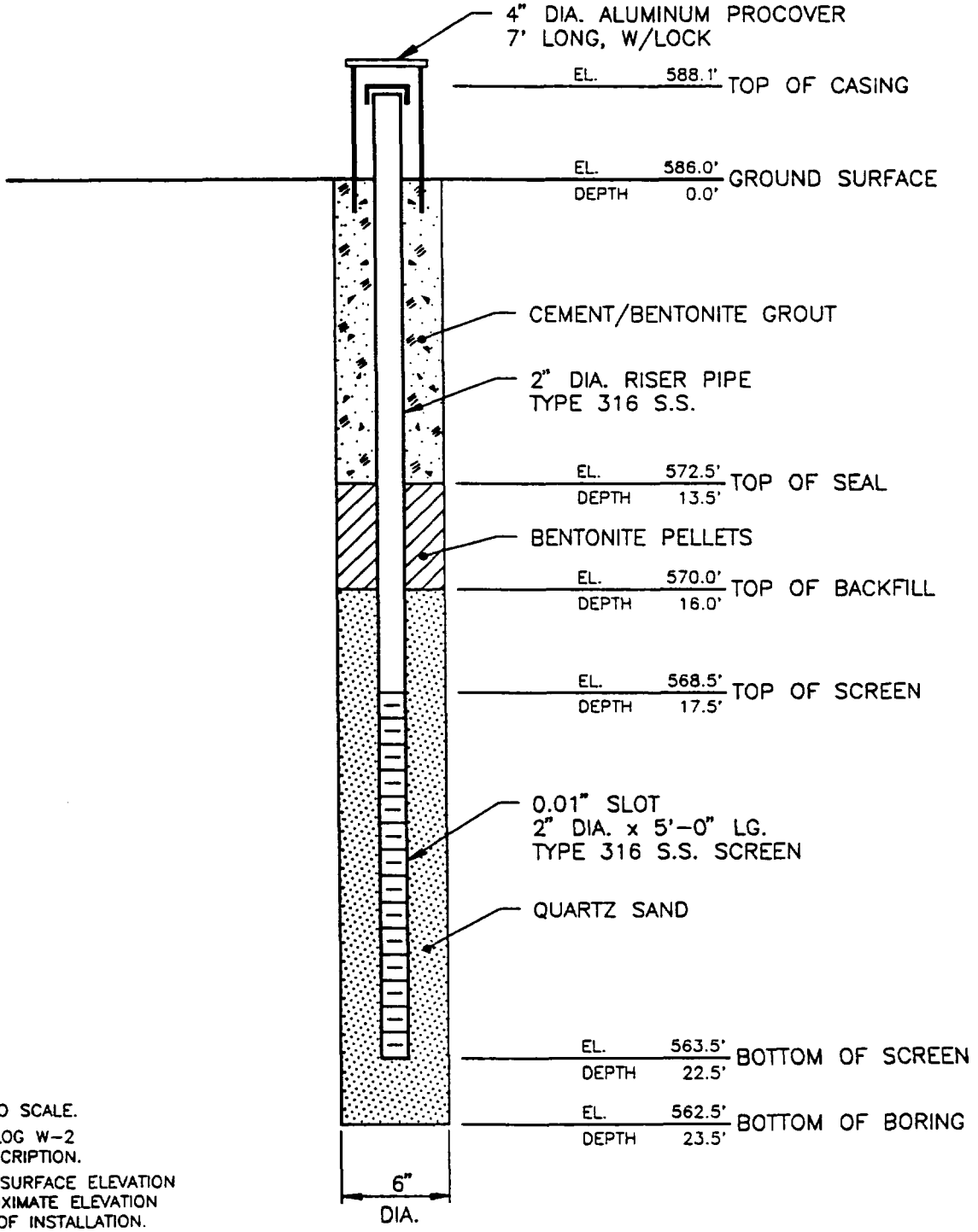
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-2

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 4,912.11 E. 4,271.79 DATE 7-22-92 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-2 FOR SOIL DESCRIPTION.
3. THE GROUND SURFACE ELEVATION IS THE APPROXIMATE ELEVATION AT THE TIME OF INSTALLATION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-2
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N4,912.11 E4,271.79 SURFACE ELEVATION 586.0
DRILLER Fox Drilling, Inc. DATE: START 7/22/92 FINISH 7/22/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" / 6" 12" | BLOW COUNT 6" 12" / 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | |
| 10 | | | | | | | | SP | | | | Fine Brown Sand. | |
| 15 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| | | | | | | | | | | | 23.0 | | |
| | | | | | | | | | | | 23.5 | Hard Gray Silty Clay. | |
| 25 | | | | | | | | CL | | | | Bottom Of Boring At 23.5 Ft. | |
| 30 | | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | | 1. Boring Was Advanced Continuously With 6-Inch Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 35 | | | | | | | | | | | | 2. Upon Completion, A 2-Inch-Diameter Stainless-Steel Monitoring Well Was Installed In The Borehole. See W-2 Monitoring Well Detail For Well Construction Details. | |
| | | | | | | | | | | | | 3. Ground Surface Elevation Is The Approximate Elevation At The Time Of Installation. | |
| 40 | | | | | | | | | | | | | |

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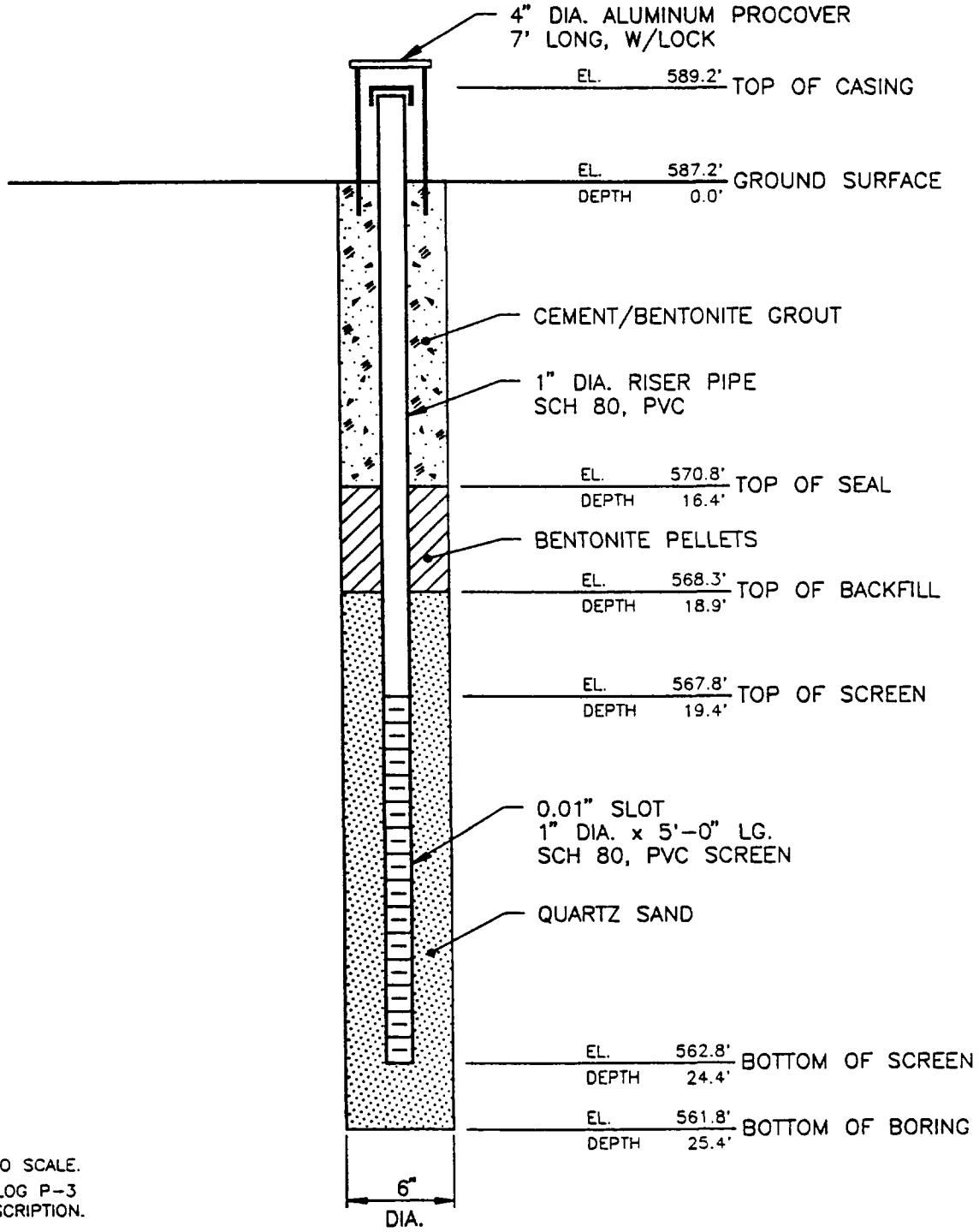
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-3

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 4,991.22 E. 4,319.06 DATE 7-22-92 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-3 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. P-3
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 4991.22 E 4319.06 SURFACE ELEVATION 587.2
DRILLER Fox Drilling, Inc. DATE: START 7/22/92 FINISH 7/22/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" | BLOW COUNT 6" 12" | BLOW COUNT 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | SP | | | | Brown Fine Sand. | |
| 15 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 24.9 | | |
| 25 | | | | | | | | | CL | | | 25.4 | Hard Gray Silty Clay. | |
| | | | | | | | | | | | | | Bottom Of Boring At 25.4 Ft. | |
| 30 | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | |

Notes:

1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings.

2. Upon Completion, A 1-Inch-Diameter PVC Piezometer Was Installed In The Borehole. See P-3 Piezometer Detail For Construction Details.

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**Canonie**

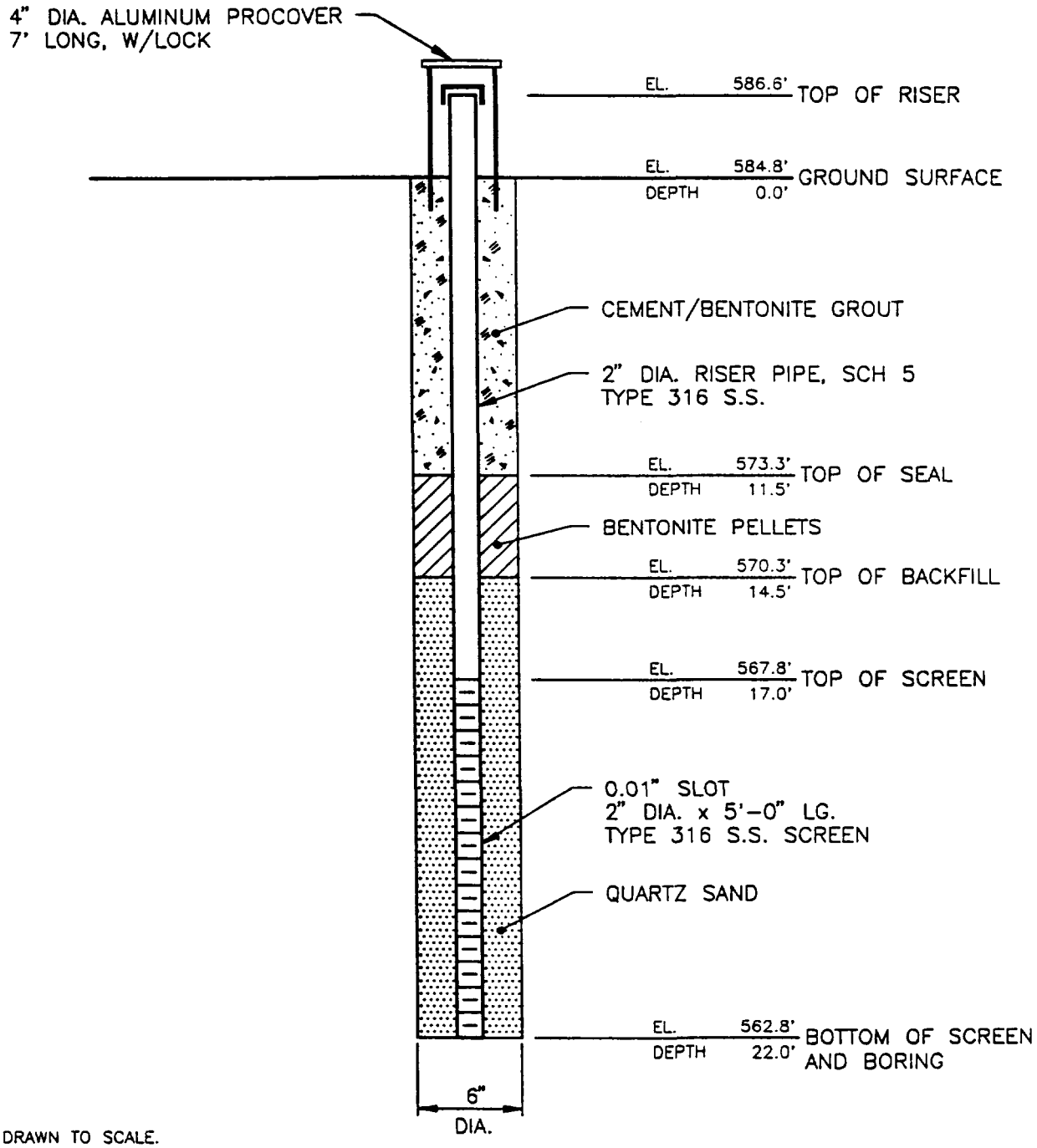
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-3

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 5,017.52 E, 4,305.14 DATE 7-22-92 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-3 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-3
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 5017.52 E 4305.14 SURFACE ELEVATION 584.8
DRILLER Fox Drilling, Inc. DATE: START 7/22/92 FINISH 7/22/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" 6" 12" | BLOW COUNT 6" 12" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | |
| 10 | | | | | | | | SP | | | | Brown Fine Sand. | |
| 15 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | 22.0 | | |
| | | | | | | | | | | | | Bottom Of Boring At 22.0 Ft. | |
| 25 | | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | | 1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 30 | | | | | | | | | | | | 2. Upon Completion, A 2-Inch-Diameter Stainless-Steel Monitoring Well Was Installed In The Borehole. See W-3 Monitoring Well Detail For Well Construction Details. | |
| 35 | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | |

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Canonie

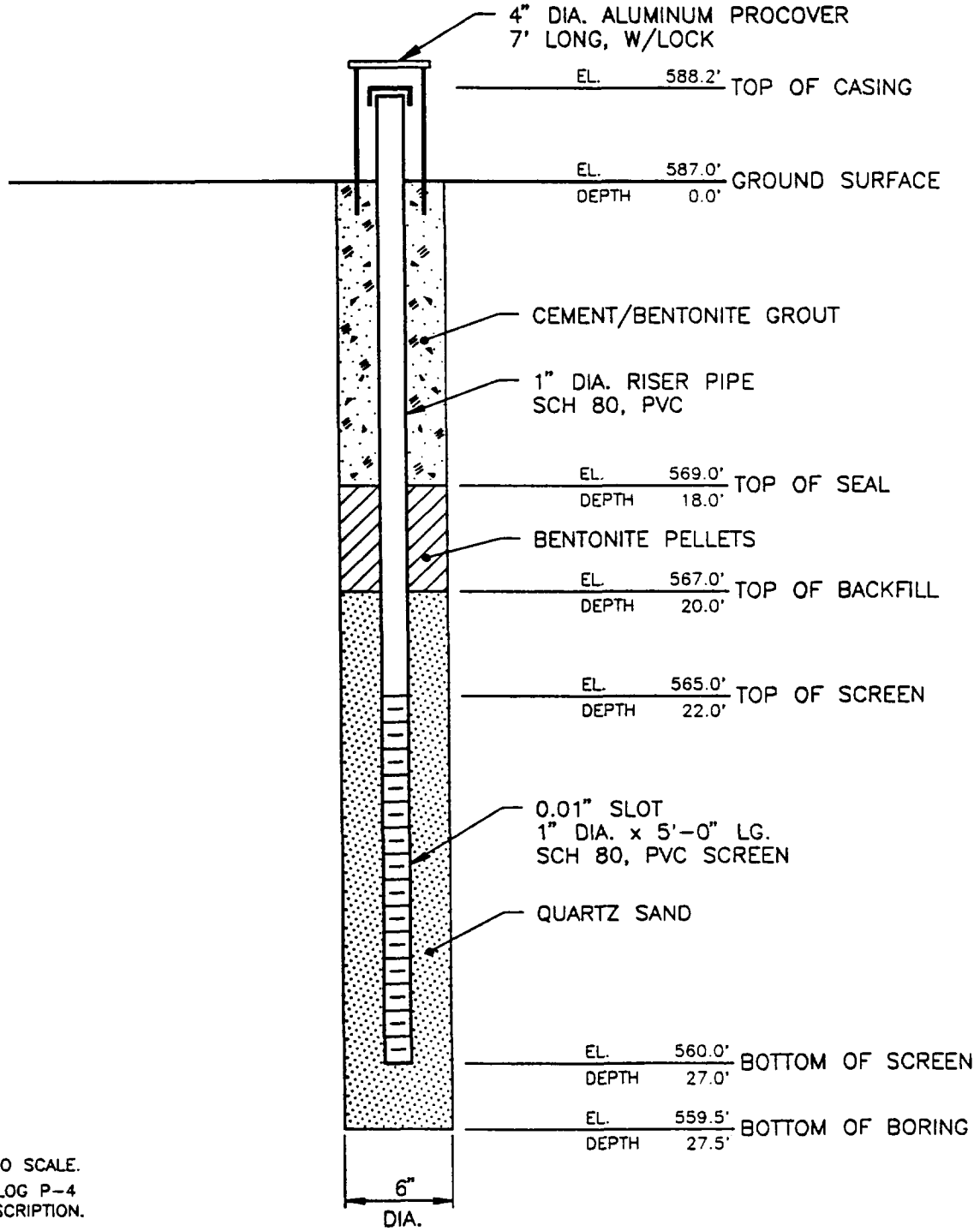
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-4

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 4,720.62 E. 4,738.05 DATE 7-23-92 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-4 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. P-4
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 4720.62 E 4738.05 SURFACE ELEVATION 587.0
DRILLER Fox Drilling, Inc. DATE: START 7/23/92 FINISH 7/23/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" 12" / 6" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| 15 | | | | | | | SP | | | | Brown Fine Sand. | |
| 20 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| | | | | | | | | | | 27.5 | Bottom Of Boring At 27.5 Ft. | |
| 30 | | | | | | | | | | | Notes: | |
| 35 | | | | | | | | | | | 1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 40 | | | | | | | | | | | 2. Upon Completion, A 1-Inch-Diameter PVC Piezometer Was Installed In the Borehole. See P-4 Piezometer Detail For Construction Details. | |

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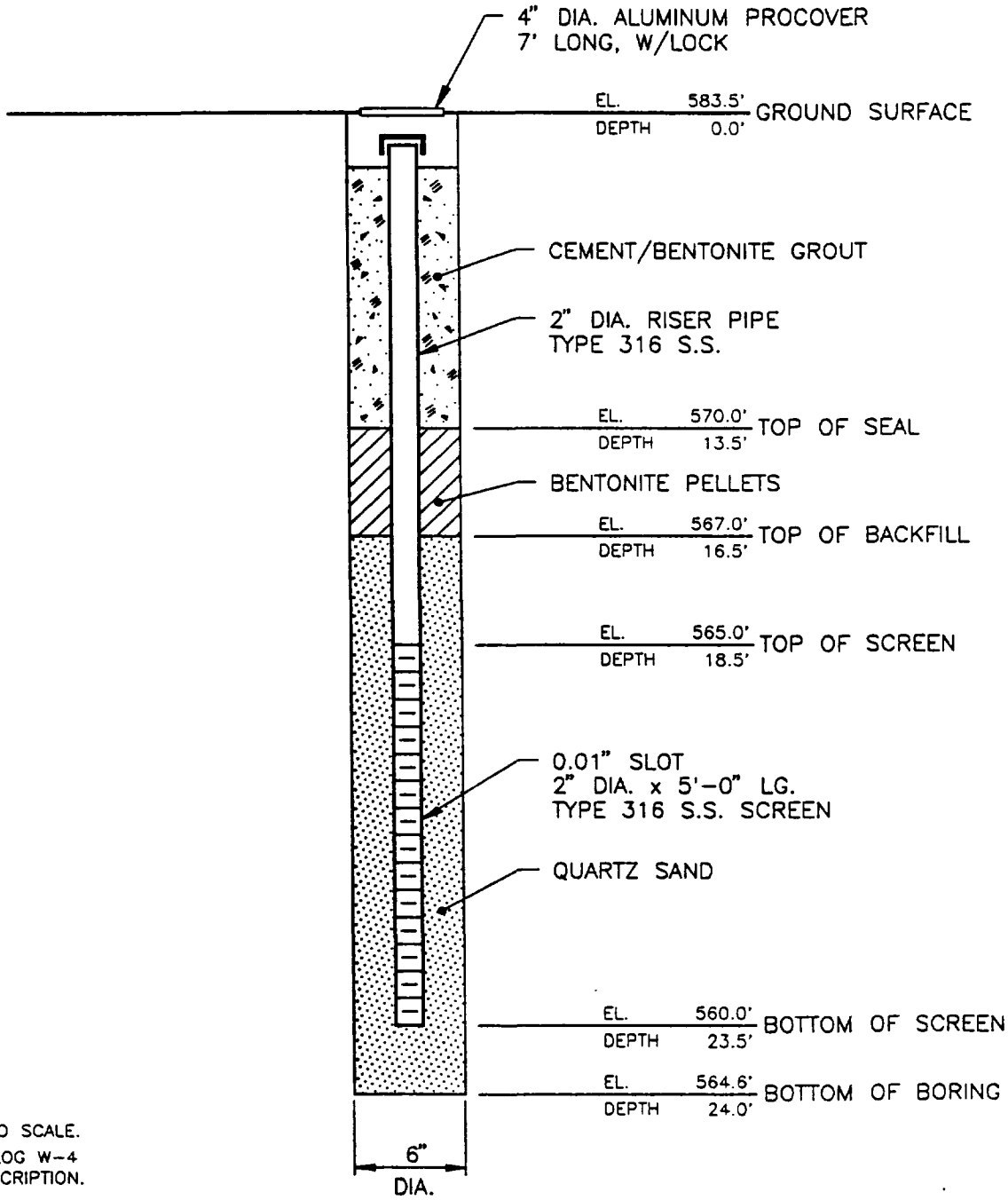
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-4

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 4,741.72 E, 4,751.28 DATE 7-24-92 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-4 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-4
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 4741.72 E 4751.28 SURFACE ELEVATION 583.5
DRILLER Fox Drilling, Inc. DATE: START 7/24/92 FINISH 7/24/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | INTERVAL FROM | INTERVAL TO | BLOW COUNT 0"-6" | BLOW COUNT 6"-12" | BLOW COUNT 12"-18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | 2 | SS | 9.5 | 11.5 | | | | | SP | | | | Brown Fine Sand. | |
| 15 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 23.5 | | |
| | | | | | | | | | CL | | | 24.0 | Hard Gray Silty Clay. | |
| 25 | | | | | | | | | | | | | Bottom Of Boring At 24.0 Ft. | |
| 30 | | | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | | | 1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 35 | | | | | | | | | | | | | 2. Upon Completion, A 2-Inch-Diameter Stainless-Steel Monitoring Well Was Installed In The Borehole. See W-4 Monitoring Well Detail For Construction Details. | |
| 40 | | | | | | | | | | | | | | |

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Canonie

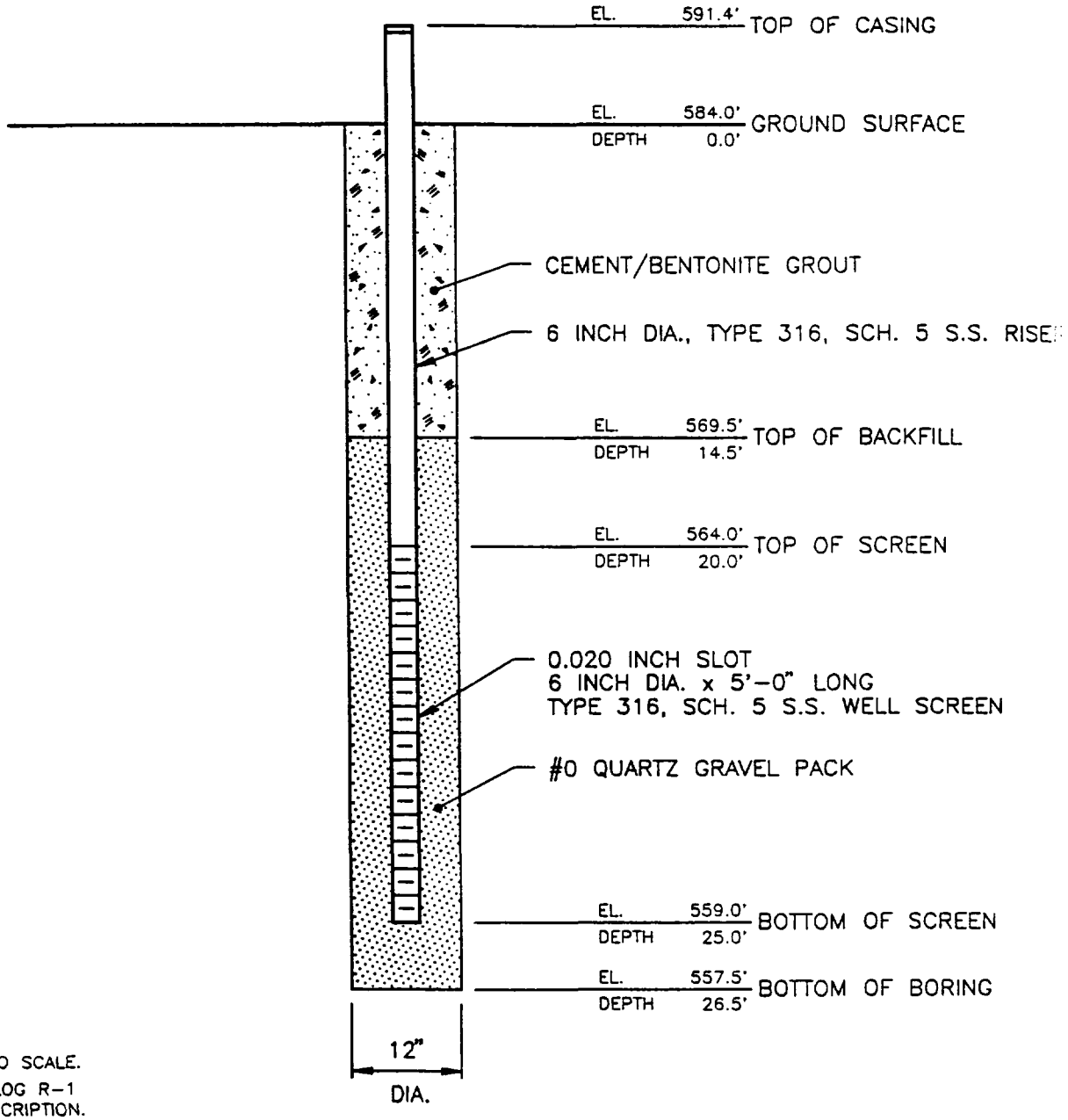
# Recovery Well Detail

PROJECT No. 90-407

WELL No. R-1

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 4,846.70 E. 4,444.04 DATE 3-30-92 BY KH/PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG R-1 FOR SOIL DESCRIPTION.
3. PUMP AND WELL SCREEN ARE FLUSH THREADED STAINLESS STEEL.
4. GROUND SURFACE ELEVATION IS THE APPROXIMATE ELEVATION AT THE TIME OF INSTALLATION.

90-22

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. R-1
LOGGED BY KH/PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 4,846.70 E 4,444.04 SURFACE ELEVATION 584.0
DRILLER Fox Drilling, Inc. DATE: START 3/30/92 FINISH 3/30/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" | BLOW COUNT 6" 12" | BLOW COUNT 12" 18" | REC (In) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Brown Fine To Medium Sand, Dry. | |
| | | | | | | | | | | | | 5.0 | | |
| 5 | | | | | | | | | OH | | | | Encountered Muck At Approximately 5 Ft., Wet. | |
| | | | | | | | | | | | | 10.0 | | |
| 10 | | | | | | | | | SP | | | | Dark Gray Fine To Medium Sand, Wet. | |
| 15 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |
| 25 | | | | | | | | | CL | | | 25.5 | Hard Silty Clay. | |
| | | | | | | | | | | | | 26.5 | Bottom Of Boring At 26.5 Ft. | |
| 30 | | | | | | | | | | | | | Notes: | |
| 35 | | | | | | | | | | | | | 1. Boring Was Advanced Continuously With 12-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 40 | | | | | | | | | | | | | 2. Upon Completion, A 6-Inch Diameter Stainless-Steel Recovery Well Was Installed In The Borehole. See R-1 Recovery Well Detail For Well Construction Details. | |

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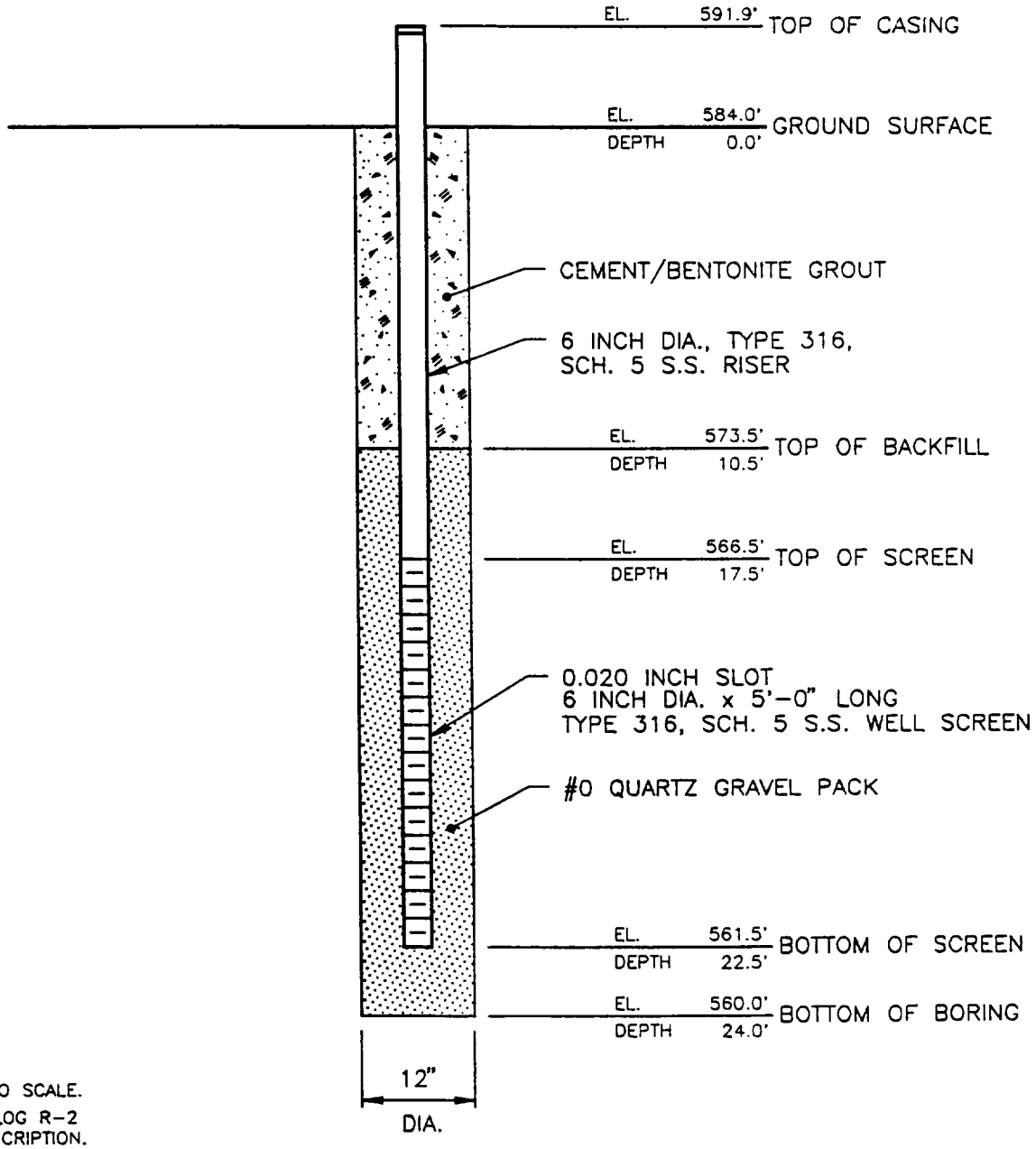
# Recovery Well Detail

PROJECT No. 90-407

WELL No. R-2

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 4,707.70 E. 4,626.44 DATE 3-31-92 BY KH




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG R-2 FOR SOIL DESCRIPTION.
3. PUMP AND WELL SCREEN ARE FLUSH THREADED STAINLESS STEEL.
4. GROUND SURFACE ELEVATION IS THE APPROXIMATE ELEVATION AT THE TIME OF INSTALLATION.

90-22

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. R-2
LOGGED BY KH/PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 4,707.70 E 4,626.44 SURFACE ELEVATION 584
DRILLER Fox Drilling, Inc. DATE: START 3/31/92 FINISH 3/31/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" 12" / 6" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | SP | | | 5.0 | Brown Fine To Medium Sand. | |
| 5 | | | | | | | | | | | | |
| | | | | | | | SP | | | | Dark Gray Fine To Medium Sand. | |
| 10 | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | |
| 20 | | | | | | | | | | 23.0 | | |
| | | | | | | | CL | | | 24.0 | Hard Silty Clay. | |
| 25 | | | | | | | | | | | Bottom Of Boring At 24.0 Ft. | |
| 30 | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | 1. Boring Was Advanced Continuously With 12-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| | | | | | | | | | | | 2. Upon Completion, A 6-Inch Diameter Stainless-Steel Recovery Well Was Installed In The Borehole. See R-2 Recovery Well Detail For Well Construction Details. | |
| 35 | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | |

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Canonie

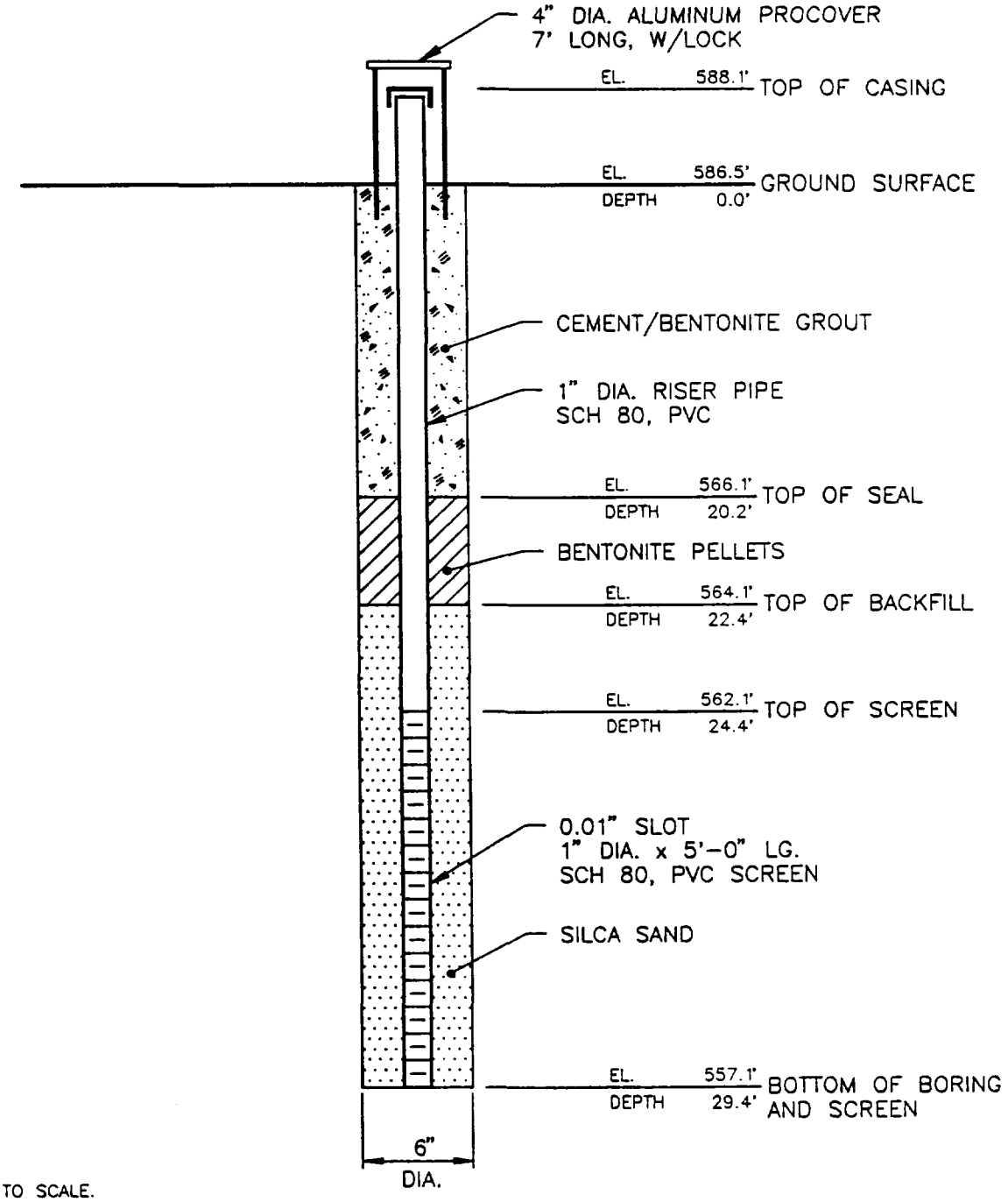
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-5

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,011.42 E. 6,352.88 DATE 9-30-92 BY KJH




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-5 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. P-5
LOGGED BY KJH
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,011.42 E 6,352.88 SURFACE ELEVATION 586.5
DRILLER Fox Drilling, Inc. DATE: START 9/30/92 FINISH 9/30/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" 12" / 6" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | |
| 10 | | | | | | | SP | | | | Gray Fine Sand. | |
| 15 | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 30 | | | | | | | | | | 29.4 | Bottom Of Boring At 29.4 Ft. | |
| 35 | | | | | | | | | | | Notes: 1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. 2. Upon Completion, A 1-Inch Diameter PVC Piezometer Was Installed In The Borehole. See P-5 Piezometer Detail For Construction Details. | |
| 40 | | | | | | | | | | | | |

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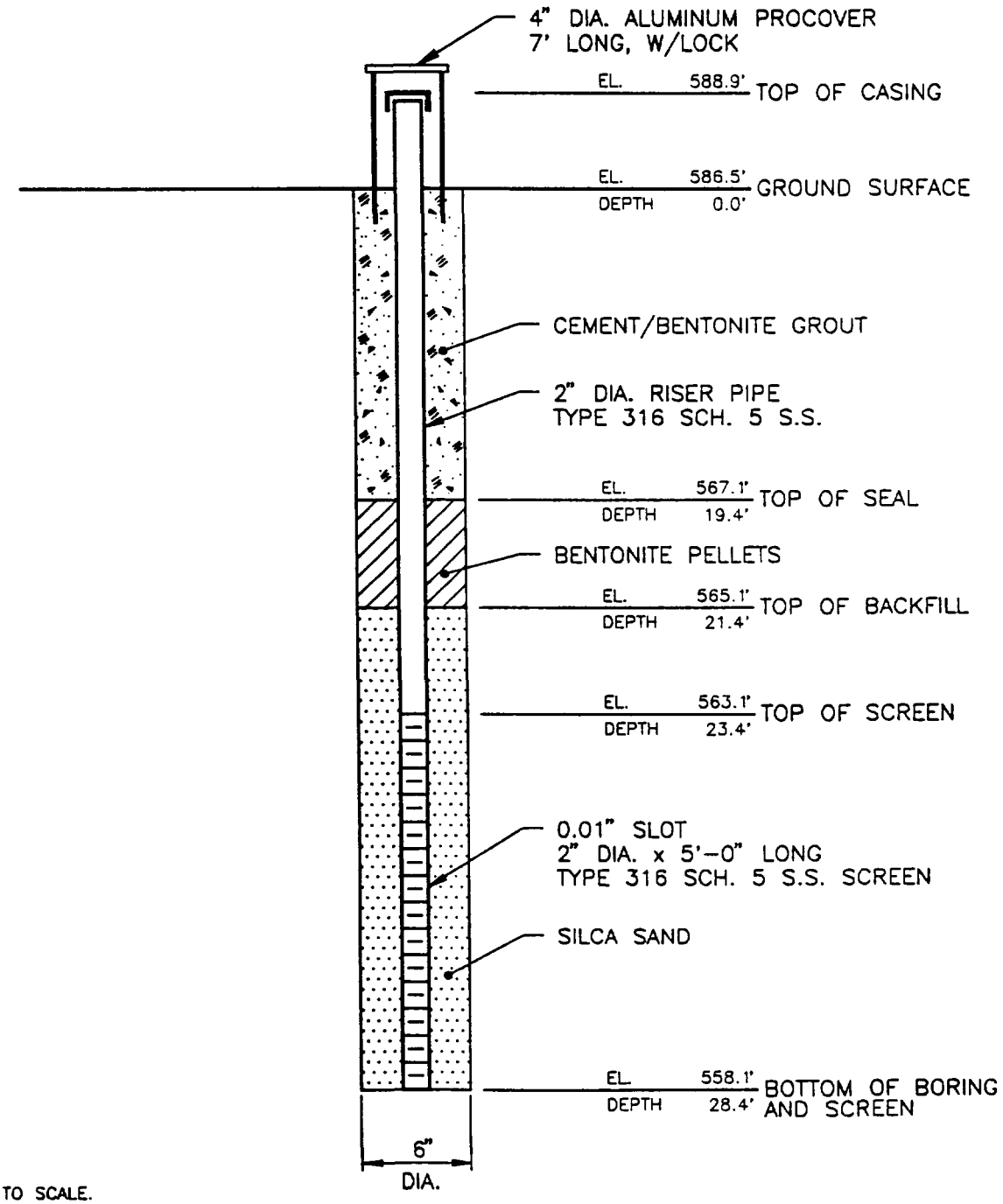
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-5

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 5,999.91 E. 6,352.15 DATE 9-30-92 BY KJH




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-5 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-5
LOGGED BY KJH
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 5,999.91 E 6,352.15 SURFACE ELEVATION 586.5
DRILLER Fox Drilling, Inc. DATE: START 9/30/92 FINISH 9/30/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" 6" 12" | BLOW COUNT 6" 12" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | |
| 10 | | | | | | | | SP | | | | Gray Fine Sand. | |
| 15 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| | | | | | | | | | | | 28.4 | Bottom Of Boring At 28.4 Ft. | |
| 30 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | |

Notes:

1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings.

2. Upon Completion, A 2-Inch Diameter Stainless-Steel Well Was Installed In The Borehole. See W-5 Well Detail For Construction Details.

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Canonie

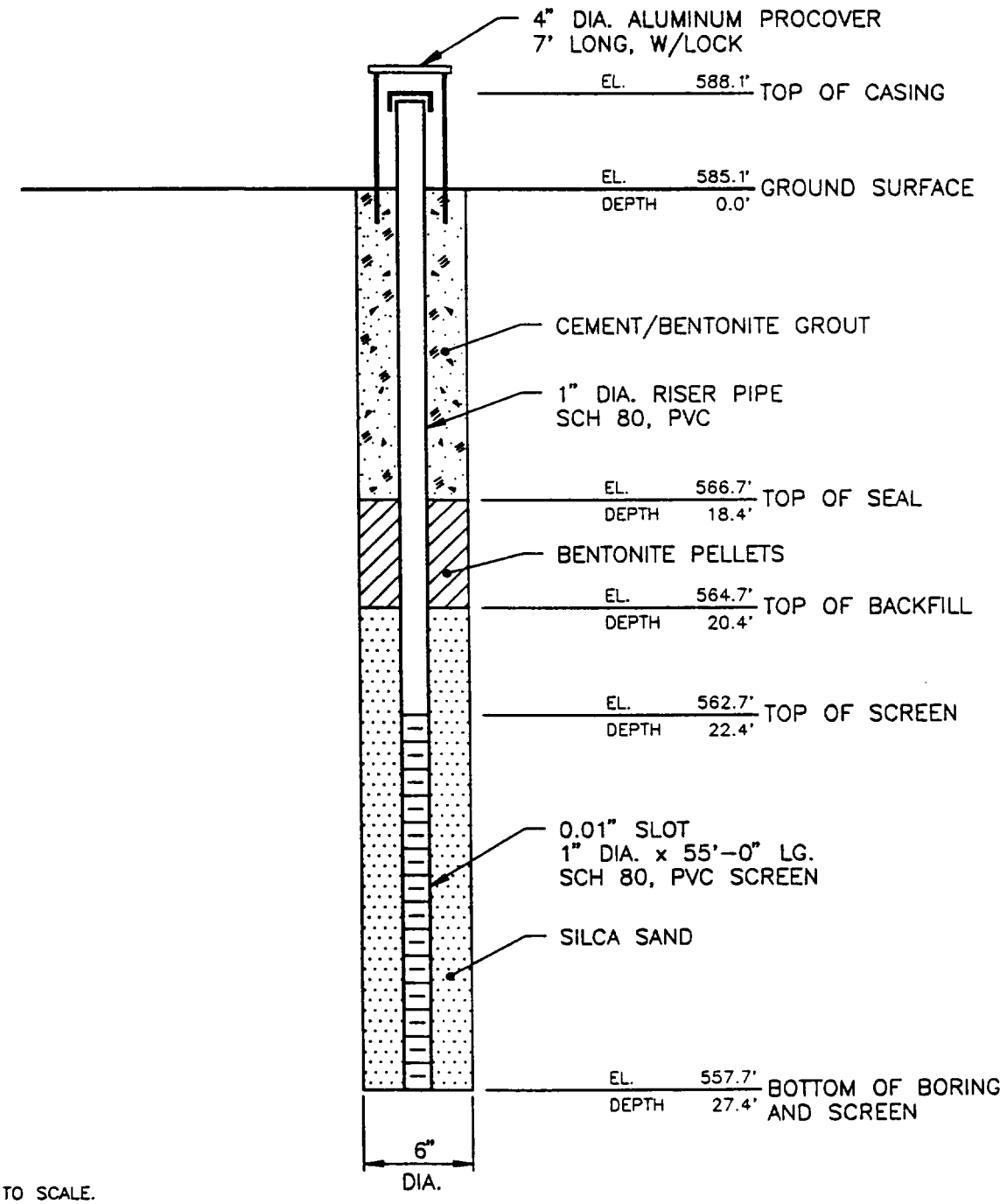
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-6

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 5,956.9 E. 5,662.6 DATE 5-10-93 BY SJM




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-6 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. P-6
LOGGED BY SJM
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 5,952.56 E 5,657.43 SURFACE ELEVATION 585.1
DRILLER Fox Drilling, Inc. DATE: START 5/10/93 FINISH 5/10/93

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" | BLOW COUNT 6" 12" | BLOW COUNT 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |
| | | | | | | | | | SP | | | | Brown Fine Sand. | |
| 15 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 27.4 | | |
| | | | | | | | | | | | | | Bottom Of Boring At 27.4 Ft. | |
| 30 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Notes: | |
| 35 | | | | | | | | | | | | | 1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| | | | | | | | | | | | | | 2. Upon Completion, A 1-Inch Diameter PVC Piezometer Was Installed In The Borehole. See P-6 Piezometer Detail For Construction Details. | |
| 40 | | | | | | | | | | | | | | |

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Canonie

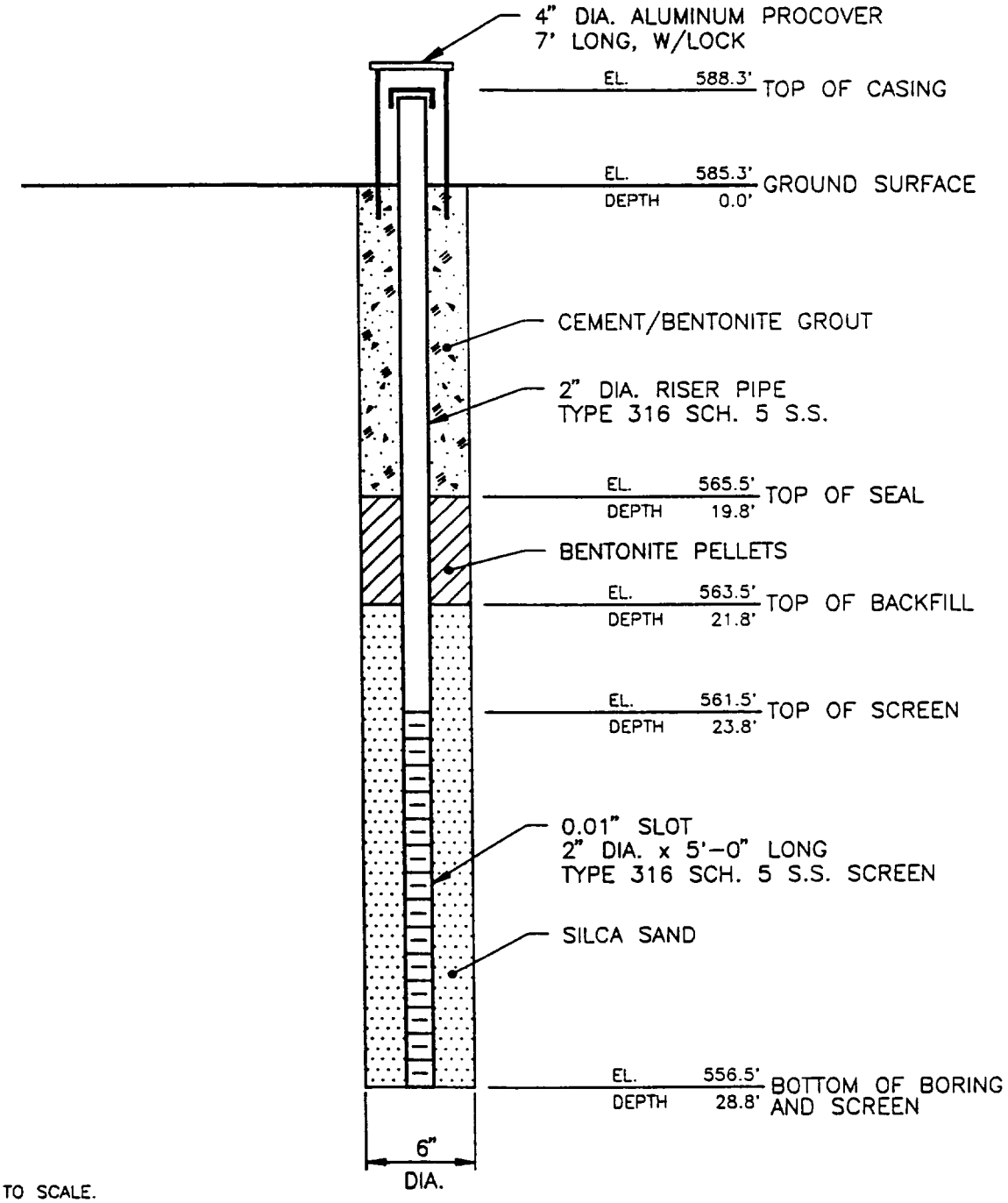
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-6

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 5,941.57 E, 5,642.64 DATE 5-11-93 BY SJM




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-6 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-6
LOGGED BY SJM
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 5,941.57 E 5,642.64 SURFACE ELEVATION 585.3
DRILLER Fox Drilling, Inc. DATE: START 5/11/93 FINISH 5/11/93

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" | BLOW COUNT 6" 12" | BLOW COUNT 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |
| | | | | | | | | | SP | | | | Brown Fine Sand. | |
| 15 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 28.8 | | |
| 30 | | | | | | | | | | | | | Bottom Of Boring At 28.8 Ft. | |
| 35 | | | | | | | | | | | | | Notes:<br>1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 40 | | | | | | | | | | | | | 2. Upon Completion, A 2-Inch Diameter Stainless-Steel Well Was Installed In The Borehole. See W-6 Well Detail For Construction Details. | |

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**Canonie**

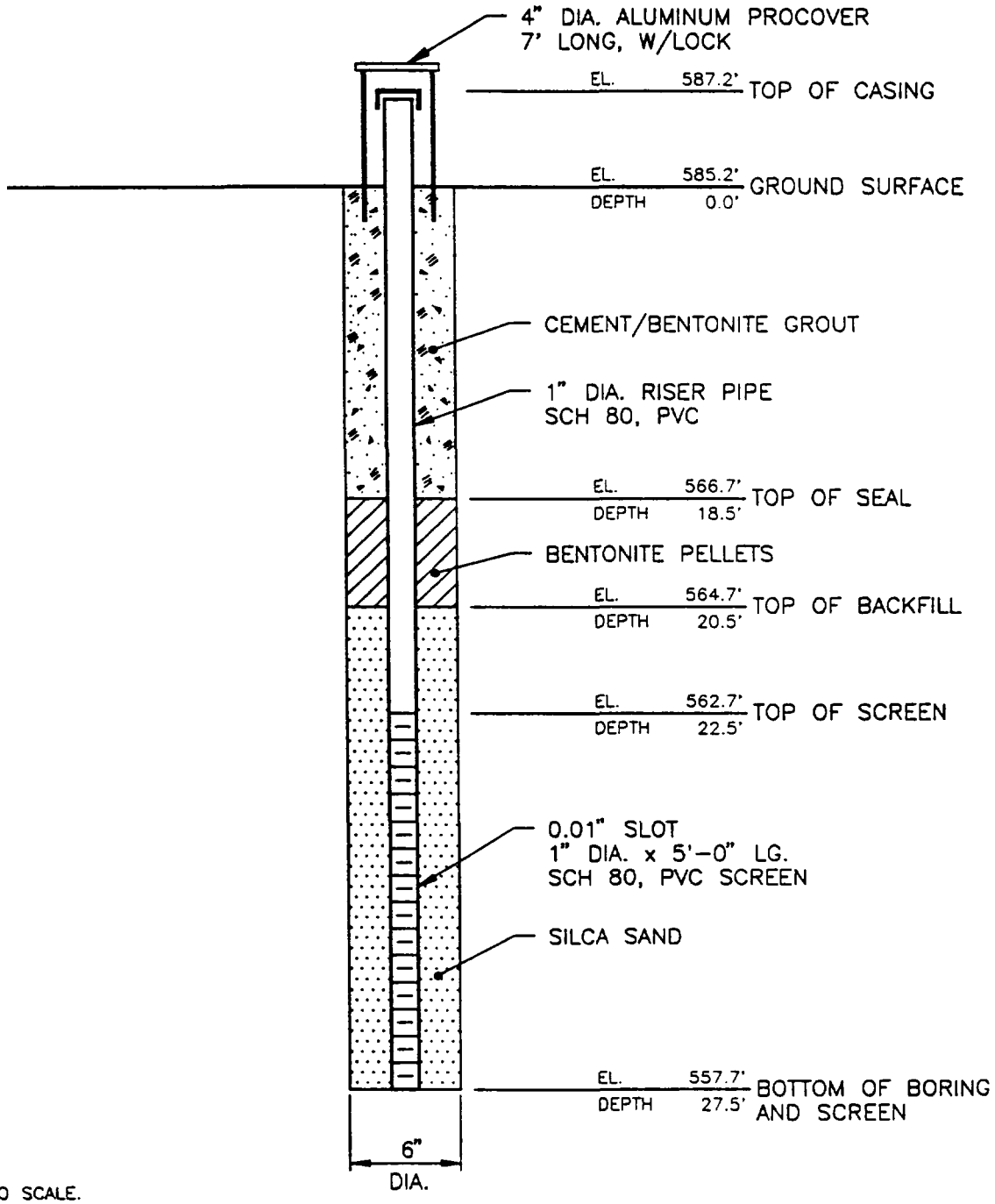
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-7

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,289.5 E. 5,669.0 DATE 5-11-93 BY SJM




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-7 FOR SOIL DESCRIPTION.

91-14

**Canonie**

# BORING LOG

PROJECT No. 90-407
BORING No. P-7
LOGGED BY SJM
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,289.5 E 5,699.0 SURFACE ELEVATION 585.2
DRILLER Fox Drilling, Inc. DATE: START 5/11/95 FINISH 5/11/95

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" 6" 12" | BLOW COUNT 6" 12" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | |
| 10 | | | | | | | | SP | | | | Brown Fine Sand. | |
| 15 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| | | | | | | | | | | | 27.5 | Bottom Of Boring At 27.5 Ft. | |
| 30 | | | | | | | | | | | | Notes: | |
| 35 | | | | | | | | | | | | 1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 40 | | | | | | | | | | | | 2. Upon Completion, A 1-Inch Diameter PVC Piezometer Was Installed In The Borehole. See P-7 Piezometer Detail For Construction Details. | |

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Canonie

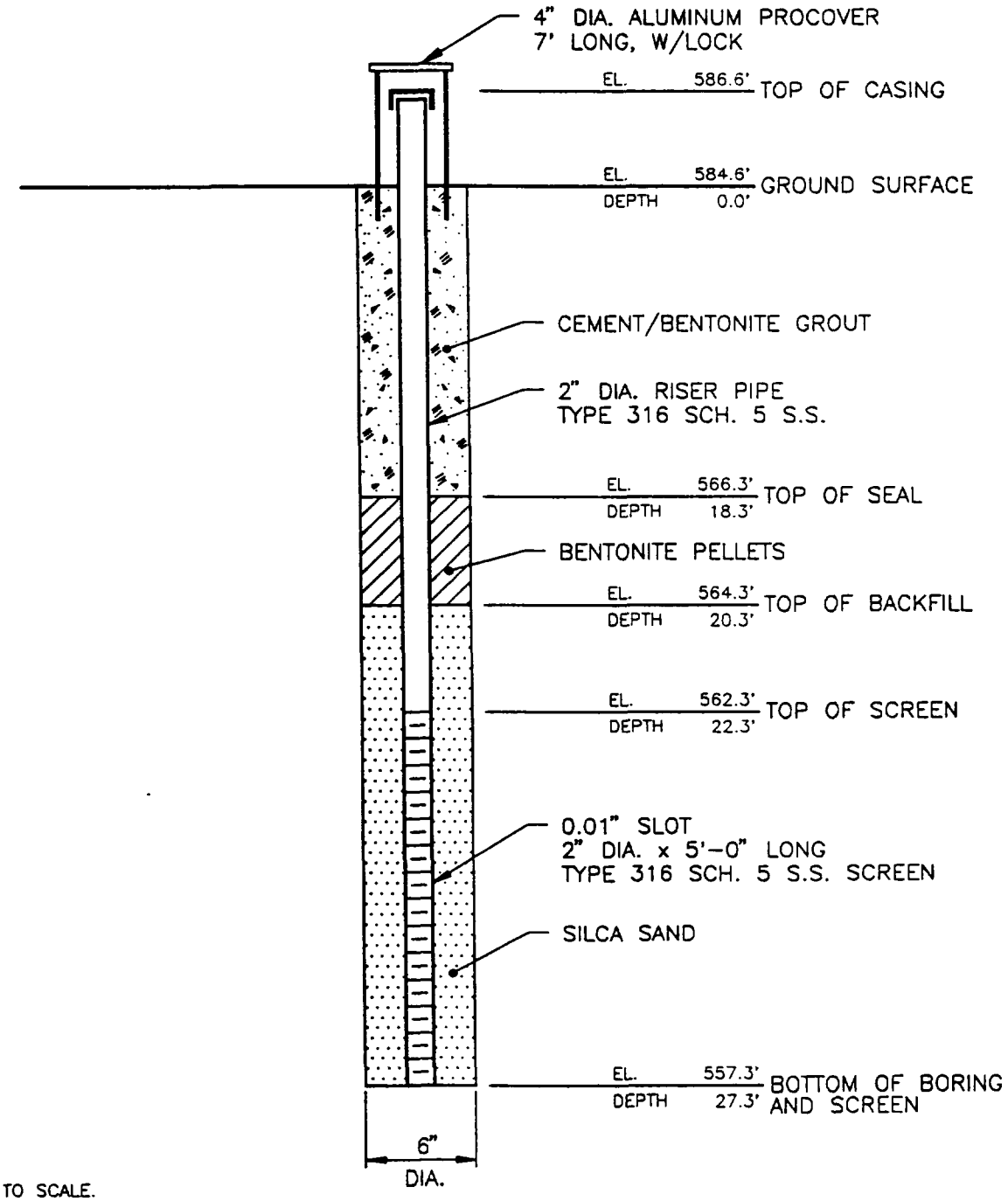
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-7

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,300.31 E, 5,667.03 DATE 5-11-93 BY SJM




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-7 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-7
LOGGED BY SJM
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,300.31 E 5,667.03 SURFACE ELEVATION 584.6
DRILLER Fox Drilling, Inc. DATE: START 5/11/93 FINISH 5/11/93

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" | BLOW COUNT 6" 12" | BLOW COUNT 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |
| 15 | | | | | | | | | SP | | | | Brown Fine Sand. | |
| 20 | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | 27.3 | | |
| | | | | | | | | | | | | | Bottom Of Boring At 27.3 Ft. | |
| 30 | | | | | | | | | | | | | Notes: | |
| 35 | | | | | | | | | | | | | 1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 40 | | | | | | | | | | | | | 2. Upon Completion, A 2-Inch Diameter Stainless-Steel Well Was Installed In The Borehole. See W-7 Well Detail For Construction Details. | |

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Canonie

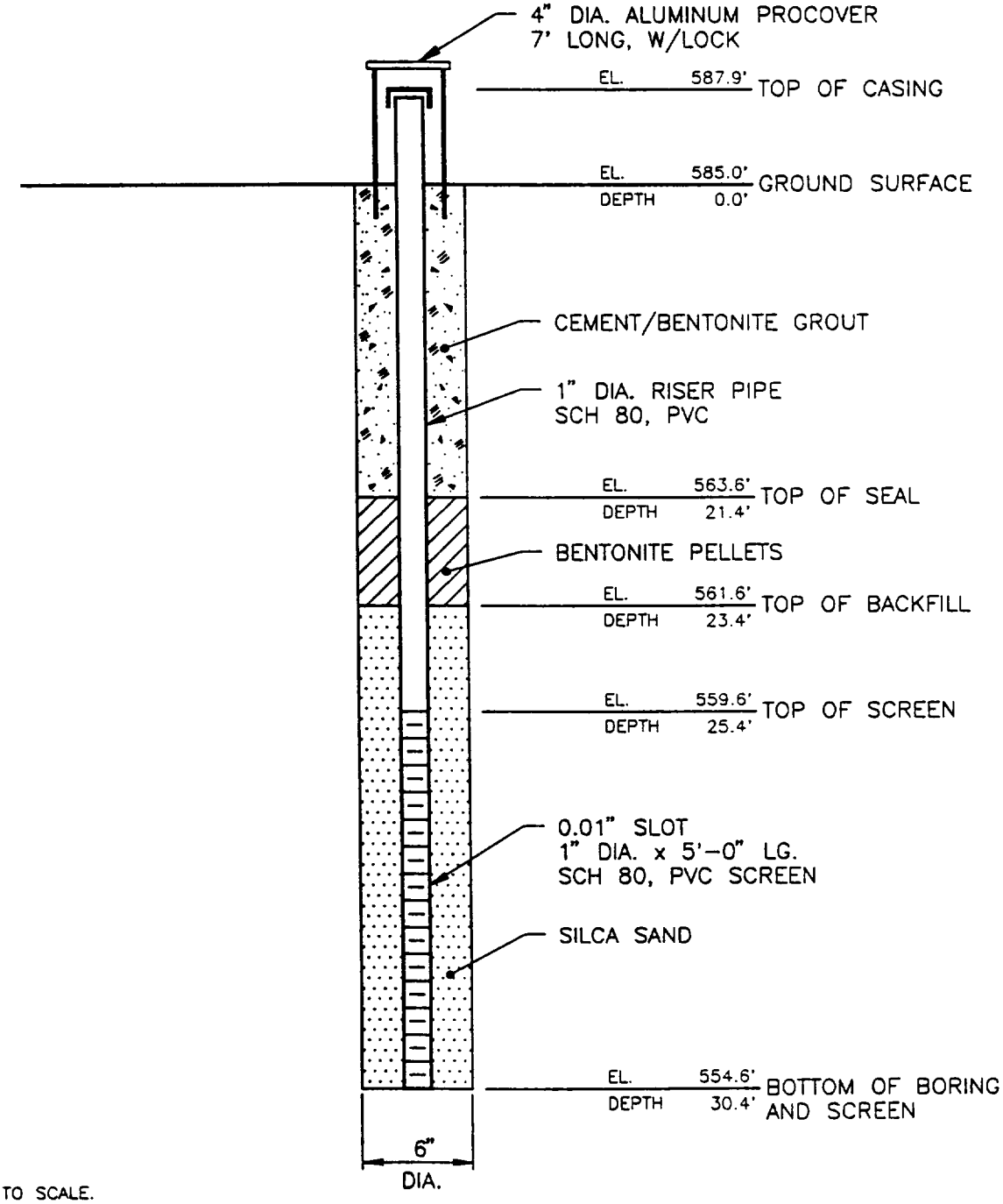
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-8

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,279.63 E. 6,396.27 DATE 10-1-92 BY KJH




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-8 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. P-8
LOGGED BY KJH
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,279.63 E 6,396.27 SURFACE ELEVATION 585.0
DRILLER Fox Drilling, Inc. DATE: START 10/1/92 FINISH 10/1/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0"-6" | BLOW COUNT 6"-12" | BLOW COUNT 12"-18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |
| 15 | | | | | | | | | SP | | | | Gray Fine Sand. | |
| 20 | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | 30.4 | Bottom Of Boring At 30.4 Ft. | |
| 35 | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | |

Notes:

1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings.

2. Upon Completion, A 1-Inch Diameter PVC Piezometer Was Installed In The Borehole. See P-8 Piezometer Detail For Construction Details.

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Canonie

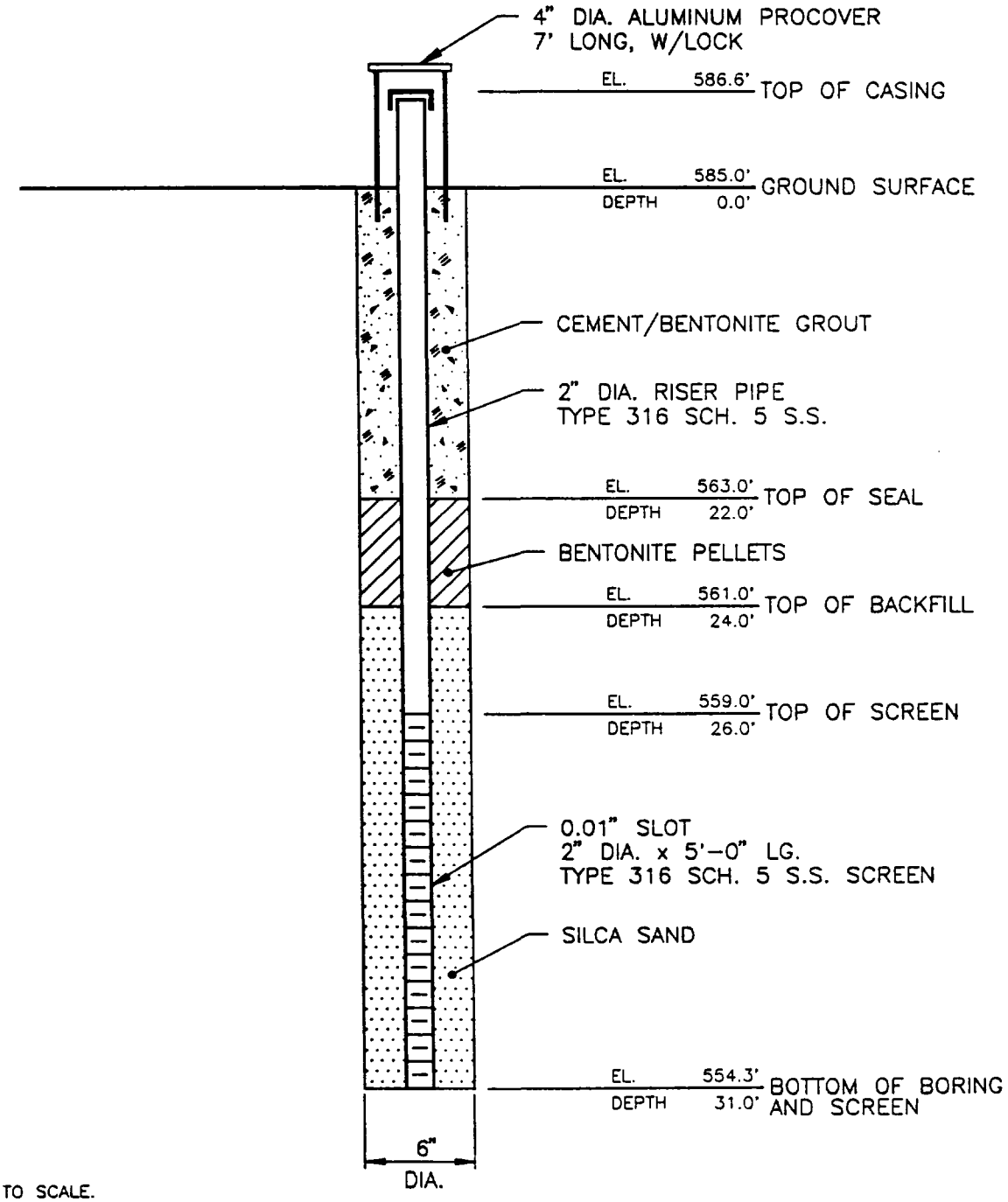
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-8

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,288.99 E. 6,398.96 DATE 10-1-92 BY KJH




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-8 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-8
LOGGED BY KJH
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,288.99 E 6,398.96 SURFACE ELEVATION 585.0
DRILLER Fox Drilling, Inc. DATE: START 10/1/92 FINISH 10/1/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0"-6" | BLOW COUNT 6"-12" | BLOW COUNT 12"-18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |
| 15 | | | | | | | | | SP | | | | Gray Fine Sand. | |
| 20 | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | 31.0 | | |
| 35 | | | | | | | | | | | | | Bottom Of Boring At 31.0 Ft. | |
| 40 | | | | | | | | | | | | | Notes: | |

1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings.

2. Upon Completion, A 2-Inch Diameter Stainless-Steel Well Was Installed In The Borehole. See W-8 Well Detail For Construction Details.

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Canonie

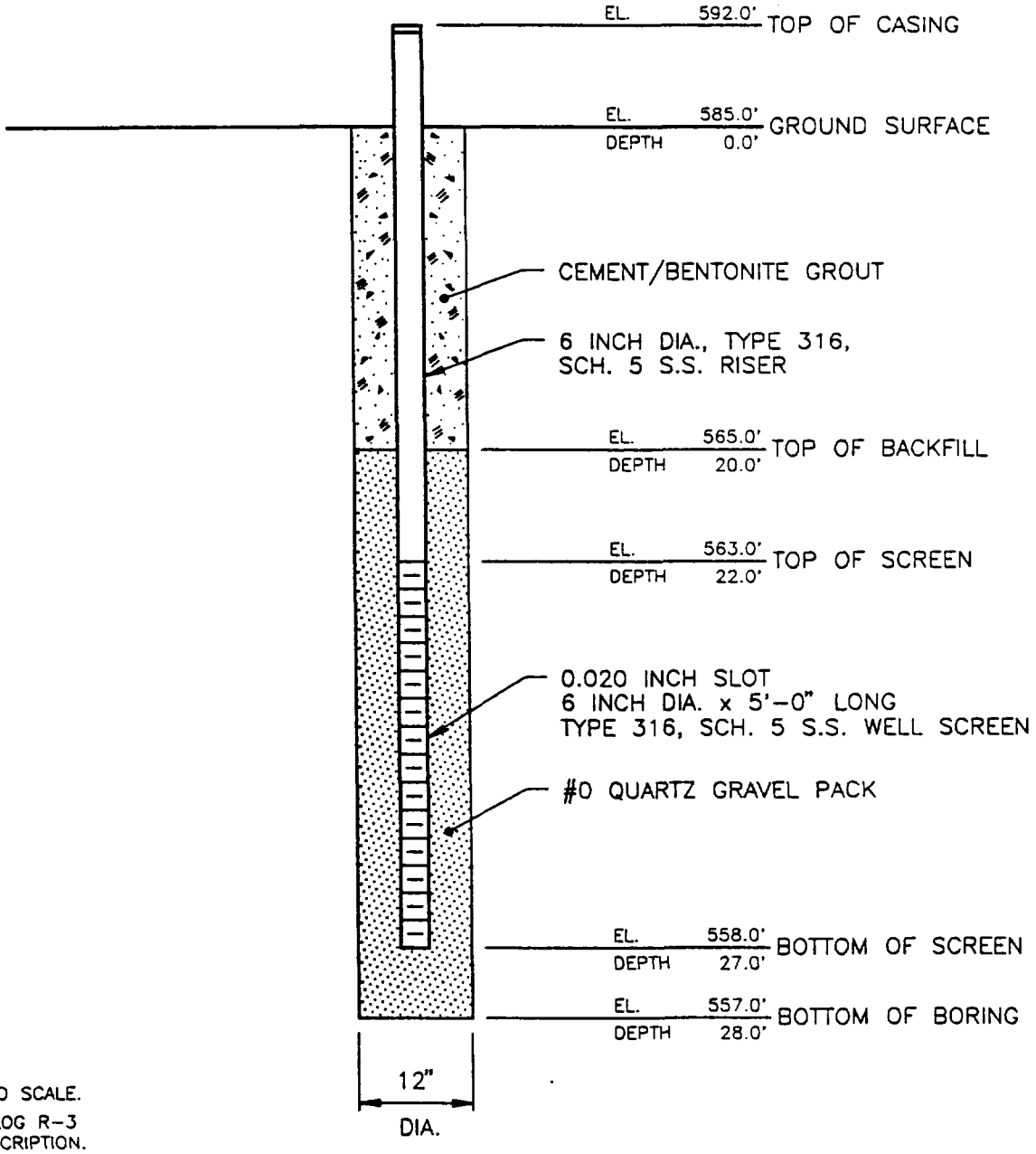
# Recovery Well Detail

PROJECT No. 90-407

WELL No. R-3

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,126.20 E. 5,788.40 DATE 9-15-92 BY KJH




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG R-3 FOR SOIL DESCRIPTION.
3. GROUND SURFACE ELEVATION IS THE APPROXIMATE ELEVATION AT THE TIME OF INSTALLATION.

90-22

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. R-3
LOGGED BY KJH
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,126.20 E 5,788.40 SURFACE ELEVATION 585.0
DRILLER Fox Drilling, Inc. DATE: START 9/14/92 FINISH 9/14/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" 12" / 6" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| | | | | | | | SP | | | | Brown Fine Sand. | |
| 15 | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| | | | | | | | | | | 27.0 | | |
| | | | | | | | | | | 28.0 | Gray Hard Silty Clay. | |
| | | | | | | | | | | | Bottom Of Boring At 28.0 Ft. | |
| 30 | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | 1. Boring Was Advanced Continuously With 12-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 35 | | | | | | | | | | | 2. Upon Completion, A 6-Inch Diameter Stainless-Steel Recovery Well Was Installed In The Borehole. See R-3 Recovery Well Detail For Well Construction Details. | |
| 40 | | | | | | | | | | | | |

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Canonie

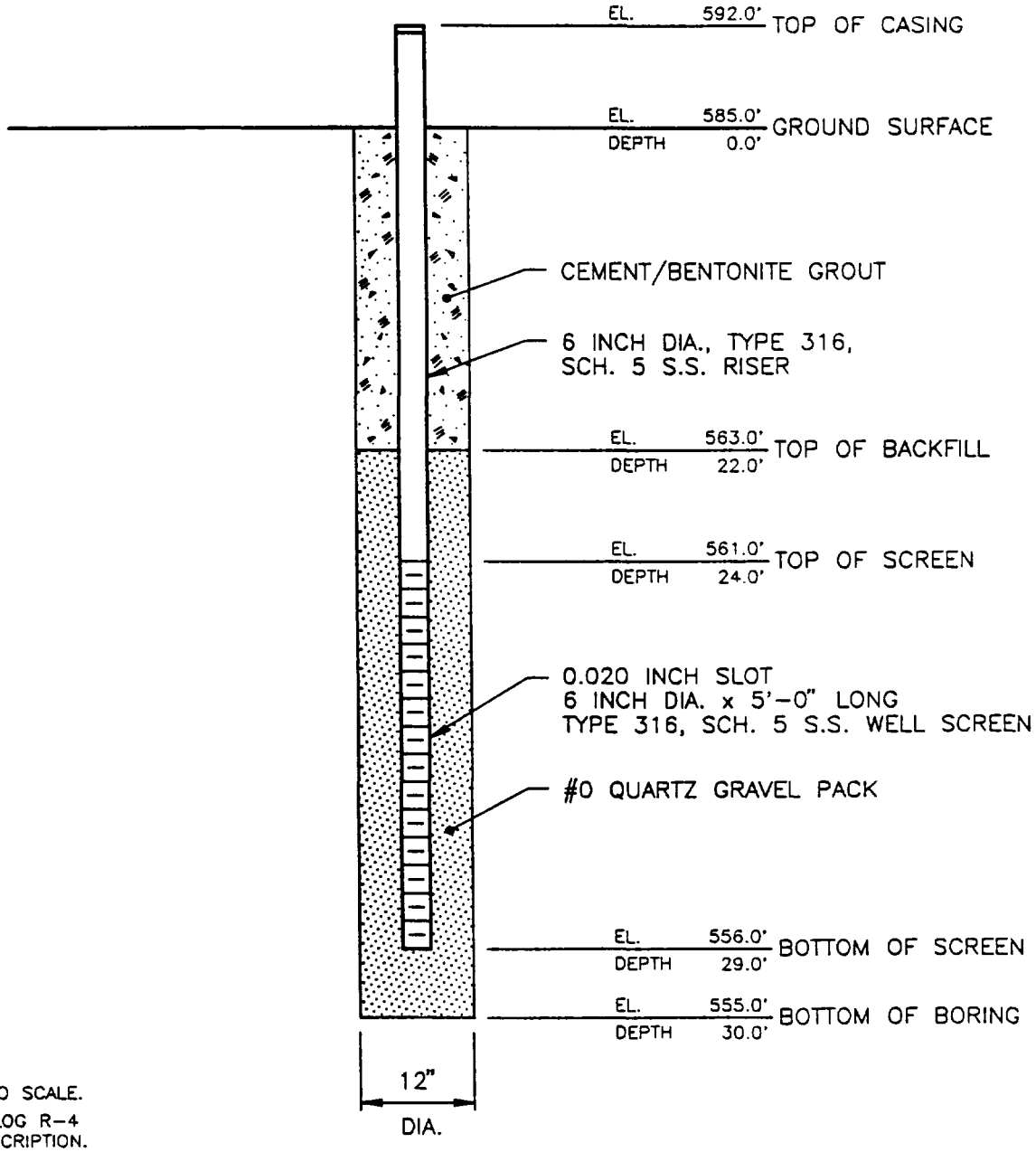
# Recovery Well Detail

PROJECT No. 90-407

WELL No. R-4

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,139.00 E. 6,294.80 DATE 9-16-92 BY KJH




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG R-4 FOR SOIL DESCRIPTION.
3. GROUND SURFACE ELEVATION IS THE APPROXIMATE ELEVATION AT THE TIME OF INSTALLATION.

90-22

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. R-4
LOGGED BY KJH
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,139.90 E 6,294.80 SURFACE ELEVATION 585.0
DRILLER Fox Drilling, Inc. DATE: START 9/15/95 FINISH 9/15/95

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" 6" 12" | BLOW COUNT 6" 12" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 15 | | | | | | | | SP | | | | Gray Fine Sand. | |
| 20 | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | |
| | | | | | | | | | | | 29.0 | | |
| 30 | | | | | | | | CL | | | 30.0 | Hard Gray Silty Clay. | |
| | | | | | | | | | | | | Bottom Of Boring At 30.0 Ft. | |
| 35 | | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | | 1. Boring Was Advanced Continuously With 12-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| | | | | | | | | | | | | 2. Upon Completion, A 6-Inch Diameter Stainless-Steel Recovery Well Was Installed In The Borehole. See R-4 Recovery Well Detail For Well Construction Details. | |
| 40 | | | | | | | | | | | | | |

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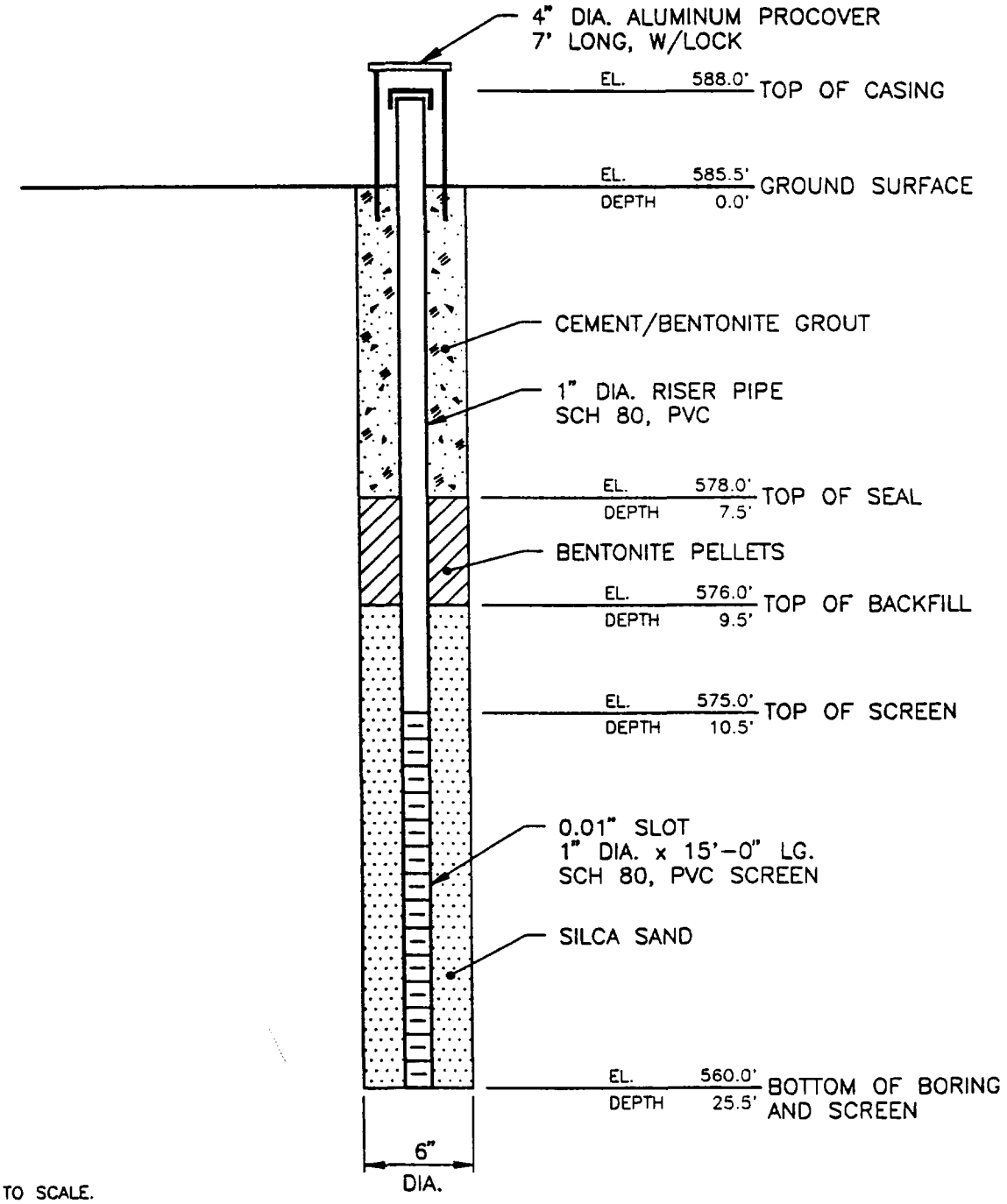
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-9

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 5,996.20 E. 4,577.5 DATE 9-25-91 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-9 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. P-9
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 5,996.2 E 4,577.5 SURFACE ELEVATION 585.5
DRILLER Fox Drilling, Inc. DATE: START 9/25/91 FINISH 9/25/91

| DEPTH | SAMPLE No. | TYPE | INTERVAL FROM | TO | BLOW COUNT 0" 6" 12" / 6" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 1 | SS | 5.0 | 6.5 | 10 6 6 | 15 | SP | | | | Brown Fine To Medium Sand, Moist. | |
| 10 | 2 | SS | 10.0 | 11.5 | 12 12 17 | 18 | SP | | | | Gray Fine To Medium Sand, Wet. | |
| 15 | 3 | SS | 15.0 | 16.5 | 17 20 18 | 15 | SP | | | | | |
| 20 | 4 | SS | 20.0 | 21.5 | 31 24 28 | 9 | SP | | | | | |
| 25 | 5 | SS | 25.0 | 25.5 | 41 | 3 | SP CL | | | 25.5 | Bottom Of Boring At 25.5 Ft. | |
| 30 | | | | | | | | | | | Notes: | |
| 35 | | | | | | | | | | | 1. Boring Was Advanced With 6-Inch O.D. Hollow-Stem Augers. | |
| 40 | | | | | | | | | | | 2. Upon Completion, A 1-Inch Diameter PVC Piezometer Was Installed In The Borehole. See P-9 Piezometer Detail For Construction Details. | |

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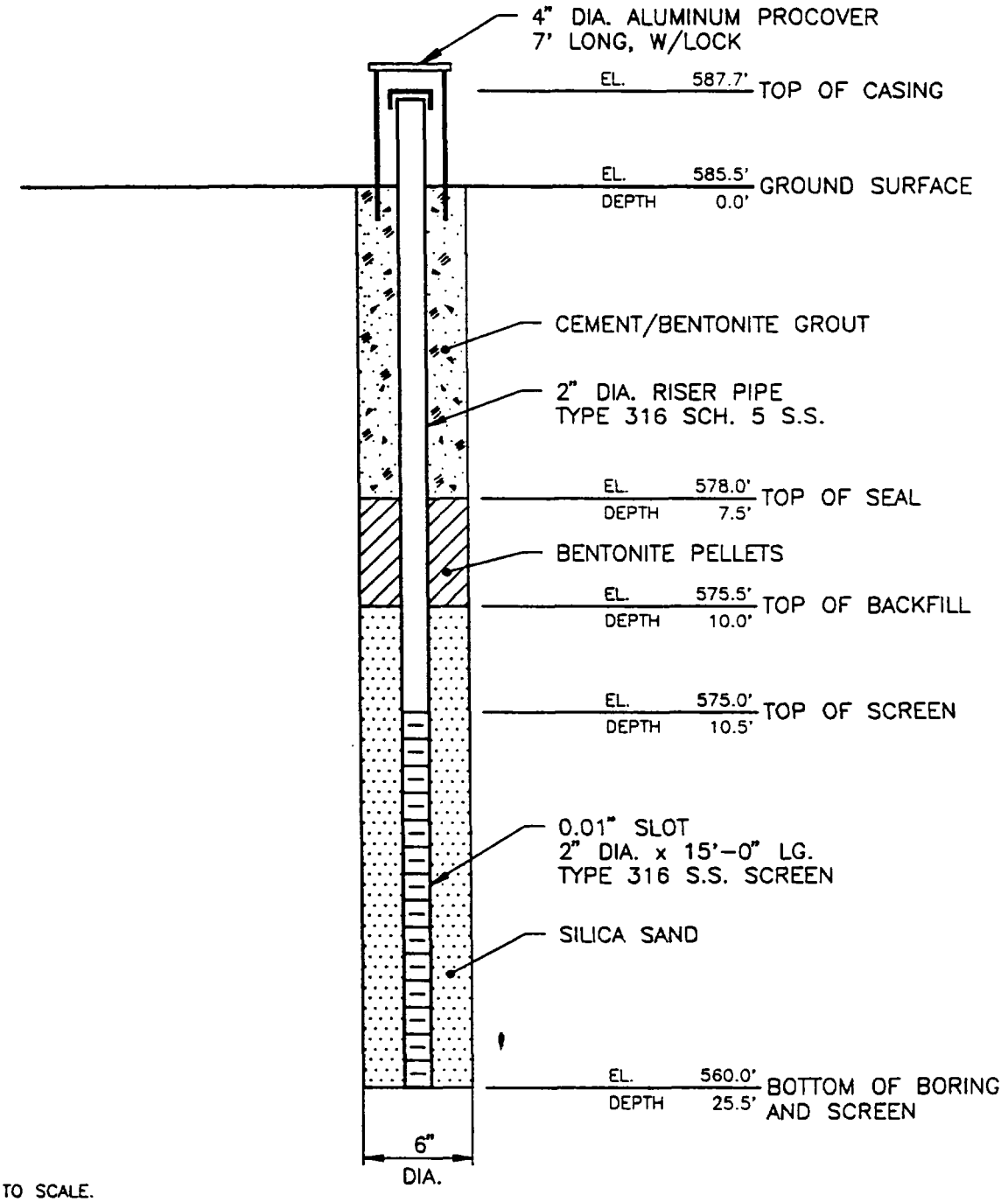
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-9

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 5,985.60 E. 4,606.30 DATE 9-23-91 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-9 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-9
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 5,985.6 E 4,606.3 SURFACE ELEVATION 585.5
DRILLER Fox Drilling, Inc. DATE: START 9/23/91 FINISH 9/23/91

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0"-6" | BLOW COUNT 6"-12" | BLOW COUNT 12"-18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 1 | SS | 5.0 | 6.5 | 6 | 7 | 10 | 18 | SP | | | | Brown Fine To Medium Sand, Moist. | |
| 10 | 2 | SS | 10.0 | 11.5 | 18 | 20 | 26 | 15 | SP | | | | Gray/Brown Fine To Medium Sand, Wet. | |
| 15 | 3 | SS | 15.0 | 16.5 | 13 | 22 | 31 | 12 | SP | | | | | |
| 20 | 4 | SS | 20.0 | 21.5 | 15 | 18 | 26 | 15 | SP | | | | | |
| 25 | 5 | SS | 25.0 | 25.5 | 38 | | | | SP<br>CL | | | 25.5 | Bottom Of Boring At 25.5 Ft. | |
| 30 | | | | | | | | | | | | | Notes:<br>1. Boring Was Advanced With 6-Inch O.D. Hollow-Stem Augers. | |
| 35 | | | | | | | | | | | | | 2. Upon Completion, A 2-Inch Diameter Stainless-Steel Monitoring Well Was Installed In The Borehole. See W-9 Monitoring Well Detail For Construction Details. | |
| 40 | | | | | | | | | | | | | | |

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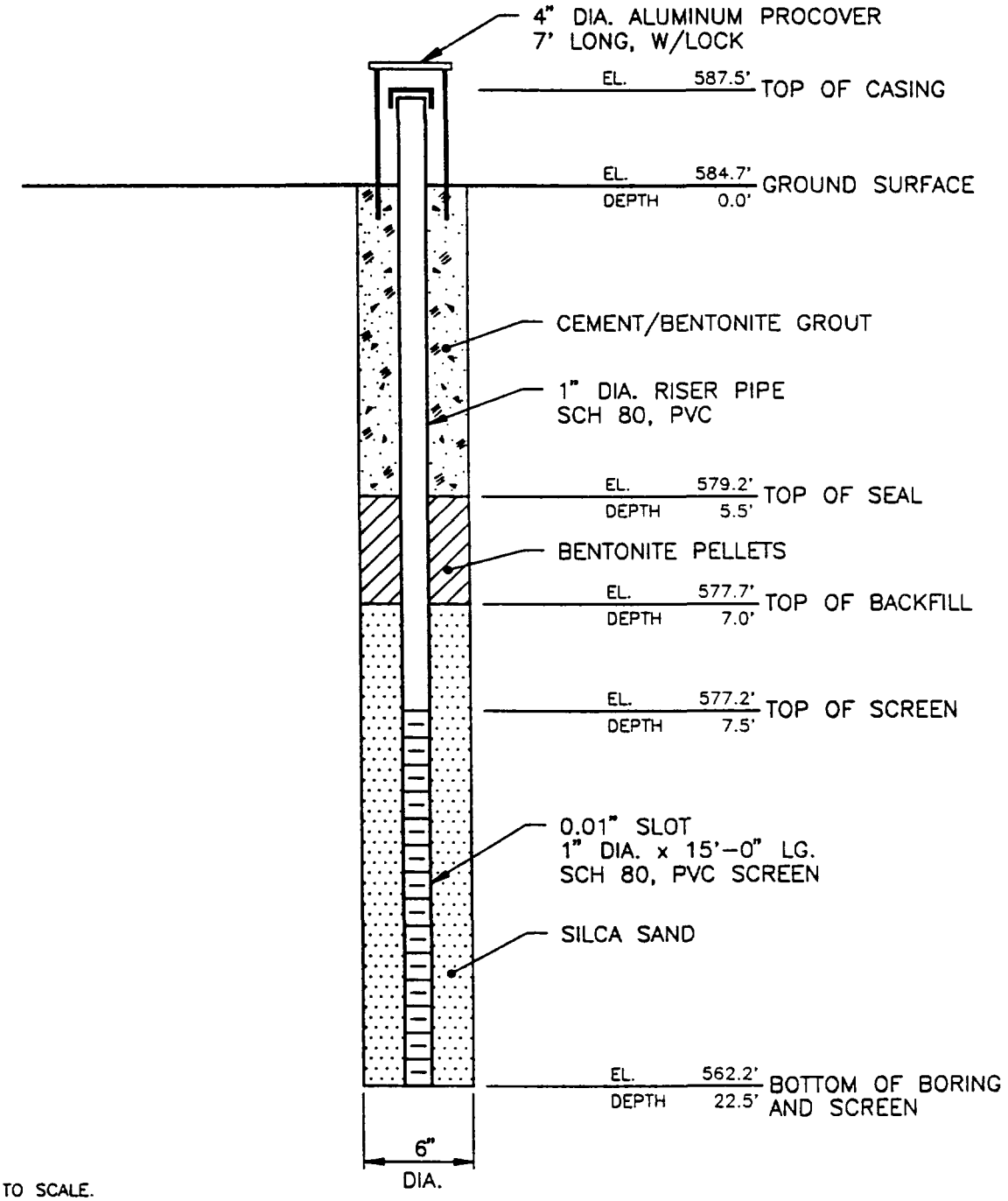
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-10

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 5,991.00 E. 4,200.00 DATE 9-25-91 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-10 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. P-10
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 5,991.00 E 4,200.00 SURFACE ELEVATION 584.7
DRILLER Fox Drilling, Inc. DATE: START 9/25/91 FINISH 9/25/91

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0"-6" | BLOW COUNT 6"-12" | BLOW COUNT 12"-18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 1 | SS | 5.0 | 6.5 | 4 | 8 | 10 | 12 | SP | | | | Brown/Gray Fine To Medium Sand, Wet. | |
| 10 | 2 | SS | 10.0 | 11.5 | 12 | 18 | 25 | 15 | SP | | | | | |
| 15 | 3 | SS | 15.0 | 16.5 | 20 | 26 | 32 | 12 | SP | | | | Gray Fine To Medium Sand, Trace Of Coarse Wet. | |
| 20 | 4 | SS | 20.0 | 21.5 | 20 | 22 | 24 | 9 | SP | | | | | |
| | | | | | | | | | CL | | | 22.5 | Bottom Of Boring At 22.5 Ft. | |
| 25 | | | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | | | 1. Boring Was Advanced With 6-Inch O.D. Hollow-Stem Augers. | |
| 30 | | | | | | | | | | | | | 2. Upon Completion, A 1-Inch Diameter PVC Piezometer Was Installed In The Borehole. See P-10 Piezometer Detail For Construction Details. | |
| 35 | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | |

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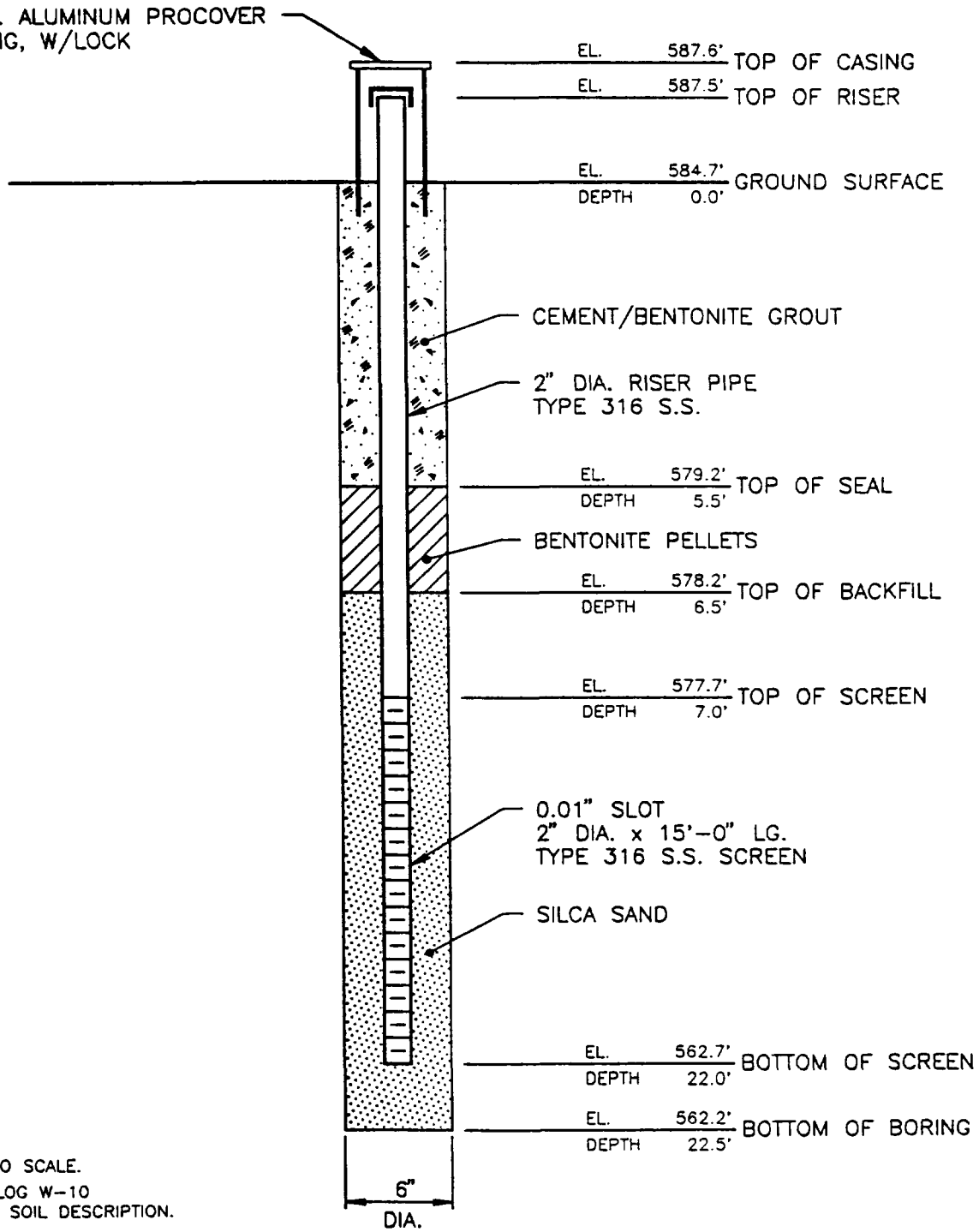
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-10

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 5,964.00 E. 4,190.00 DATE 9-24-91 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-10 FOR DETAILED SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-10
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 5,964.0 E 4,190.0 SURFACE ELEVATION 584.7
DRILLER Fox Drilling, Inc. DATE: START 9/24/91 FINISH 9/24/91

| DEPTH | SAMPLE No. | SAMPLE TYPE | INTERVAL FROM | INTERVAL TO | BLOW COUNT 0"-6" | BLOW COUNT 6"-12" | BLOW COUNT 12"-18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | 1 | SS | 10.0 | 11.5 | 24 | 21 | 29 | 15 | SP | | | | Gray Fine To Medium Sand, Wet. | |
| 15 | | | | | | | | | | | | | | |
| 20 | 2 | SS | 20.0 | 21.5 | 18 | 26 | 20 | 12 | SP | | | | | |
| | | | | | | | | | CL | | | 22.5 | Bottom Of Boring At 22.5 Ft. | |
| 25 | | | | | | | | | | | | | Notes: | |
| 30 | | | | | | | | | | | | | 1. Boring Was Advanced Using A 6-Inch. O.D. Hollow-Stem Auger. | |
| 35 | | | | | | | | | | | | | 2. Upon Completion, A 2-Inch Diameter Stainless-Steel Monitoring Well Was Installed In The Borehole. See W-10 Monitoring Well Detail For Well Construction Details. | |
| 40 | | | | | | | | | | | | | | |

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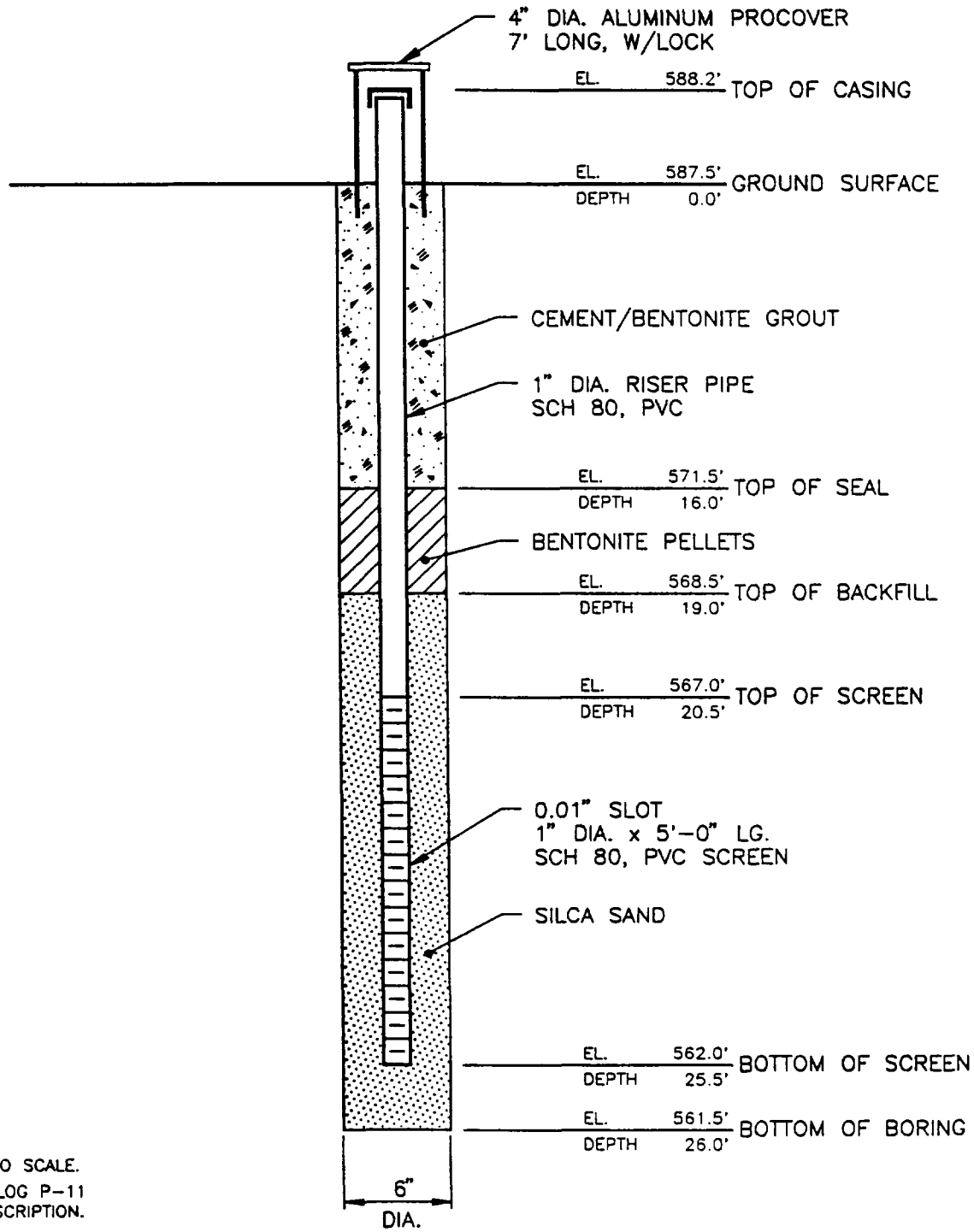
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-11

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,261.61 E. 4,230.75 DATE 7-21-92 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-11 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. P-11
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,261.61 E 4,230.75 SURFACE ELEVATION 587.5
DRILLER Fox Drilling, Inc. DATE: START 7/21/92 FINISH 7/21/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0"-6" | BLOW COUNT 6"-12" | BLOW COUNT 12"-18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | SP | | | | Brown/Gray, Fine To Medium Sand, Wet. | |
| 15 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 25.0 | | |
| 25 | | | | | | | | | CL | | | 26.0 | Hard Gray Silty Clay. | |
| | | | | | | | | | | | | | Bottom Of Boring At 26.0 Ft. | |
| 30 | | | | | | | | | | | | | Notes: | |
| 35 | | | | | | | | | | | | | 1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 40 | | | | | | | | | | | | | 2. Upon Completion, A 1-Inch Diameter Piezometer Was Installed In The Borehole. See P-11 Piezometer Detail For Construction Details. | |

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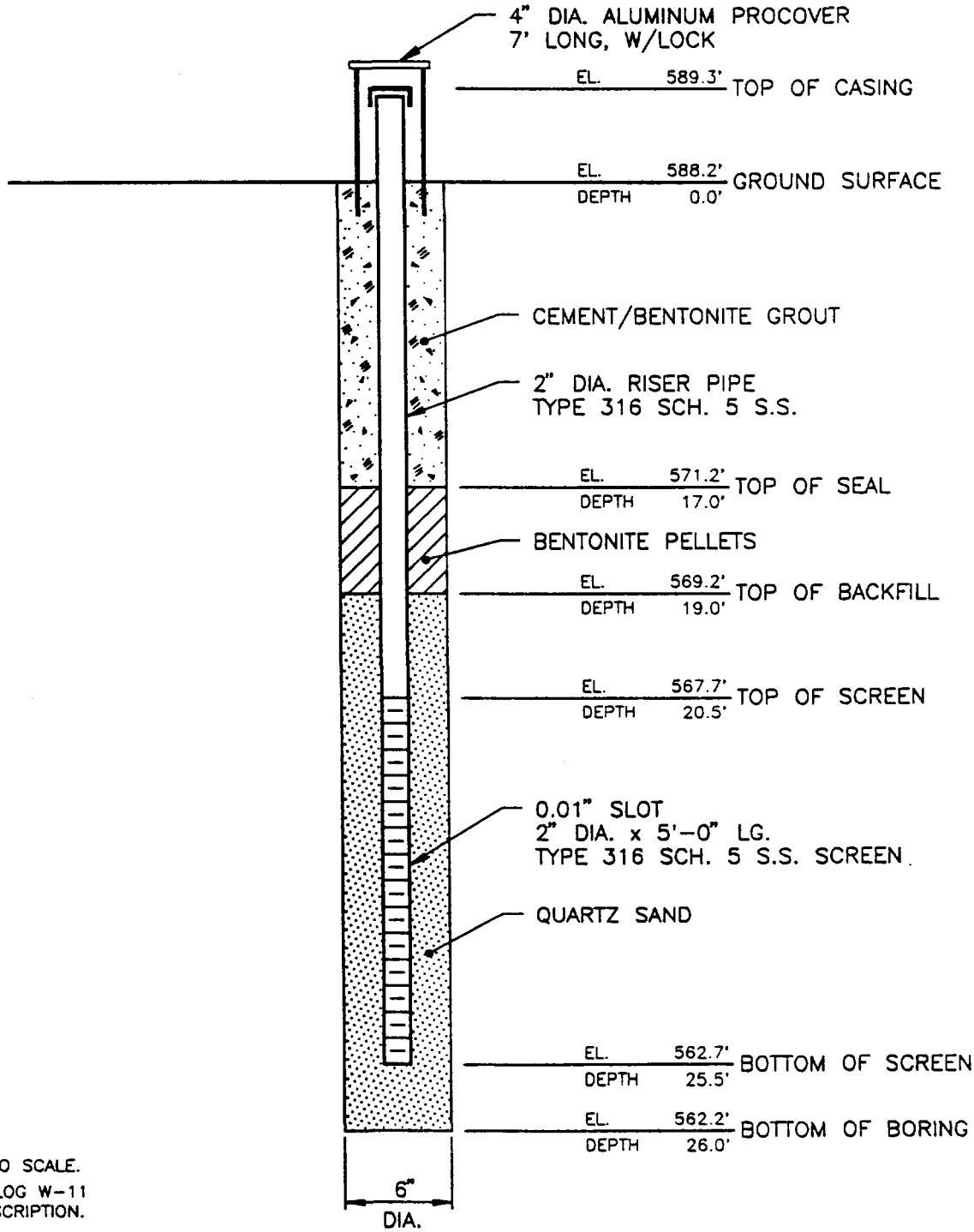
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-11

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,287.50 E. 4,226.70 DATE 7-24-92 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-11 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-11
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,287.50 E 4,226.70 SURFACE ELEVATION 588.2
DRILLER Fox Drilling, Inc. DATE: START 7/20/92 FINISH 7/20/92

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" | BLOW COUNT 6" 12" | BLOW COUNT 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | SP | | | | Brown/Gray Fine To Medium Sand, Wet. | |
| 15 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 25.0 | | |
| 25 | | | | | | | | | CL | | | 26.0 | Hard Gray Silty Clay. | |
| | | | | | | | | | | | | | Bottom Of Boring At 26.0 Ft. | |
| 30 | | | | | | | | | | | | | Notes:<br>1. Boring Was Advanced Continuously With 6-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 35 | | | | | | | | | | | | | 2. Upon Completion, A 2-Inch Diameter Stainless-Steel Monitoring Well Was Installed In The Borehole. See W-11 Monitoring Well Detail For Construction Details. | |
| 40 | | | | | | | | | | | | | | |

Rev. 8-94

Canonie

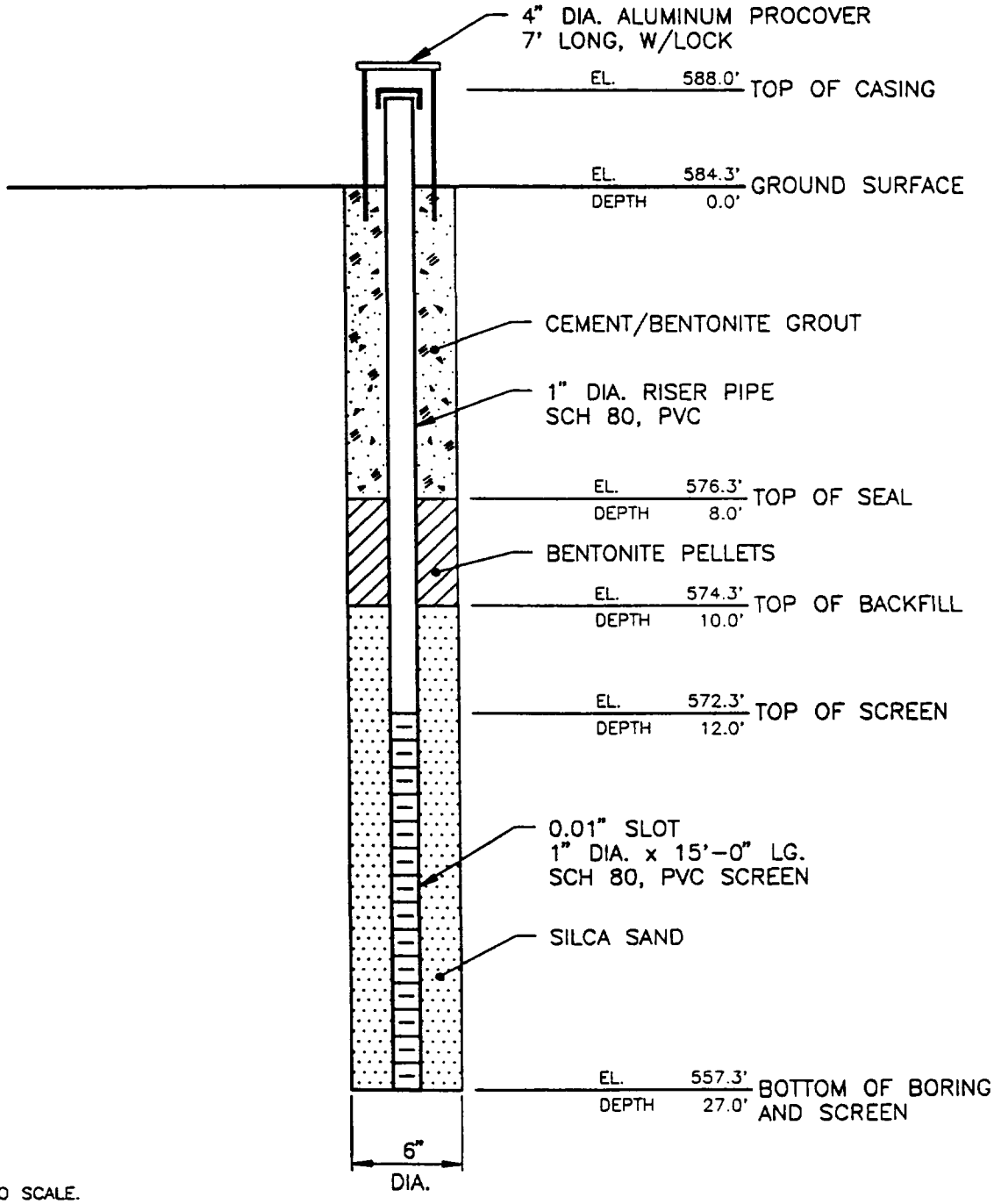
# Piezometer Detail

PROJECT No. 90-407

WELL No. P-12

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,244.10 E, 4,712.00 DATE 9-25-91 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG P-12 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. P-12
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,224.10 E 4,712.00 SURFACE ELEVATION 584.3
DRILLER Fox Drilling, Inc. DATE: START 9/25/91 FINISH 9/25/91

| DEPTH | SAMPLE No. | TYPE | INTERVAL FROM | TO | BLOW COUNT 0" 6" 6" | 6" 12" 12" | 12" 18" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 1 | SS | 5.0 | 6.5 | 3 | 8 | 7 | 18 | SP | | | | Brown/Gray Fine To Medium Sand, Moist. | |
| 10 | 2 | SS | 10.0 | 11.5 | 12 | 13 | 14 | 15 | SP | | | | Gray Fine To Coarse Sand, Wet. | |
| 15 | 3 | SS | 15.0 | 16.5 | 20 | 16 | 16 | 12 | SP | | | | | |
| 20 | 4 | SS | 20.0 | 21.5 | 17 | 21 | 31 | 12 | SP | | | | | |
| 25 | 5 | SS | 25.0 | 26.5 | 24 | 26 | 35 | 15 | SP<br>CL | | | 27.0 | | |
| 30 | | | | | | | | | | | | | Bottom Of Boring At 27.0 Ft.<br><br>Notes:<br><br>1. Boring Was Advanced With 6-Inch O.D. Hollow-Stem Augers. | |
| 35 | | | | | | | | | | | | | 2. Upon Completion, A 1-Inch Diameter PVC Piezometer Was Installed In the Borehole. See P-12 Piezometer Detail For Construction Details. | |
| 40 | | | | | | | | | | | | | | |

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Canonie

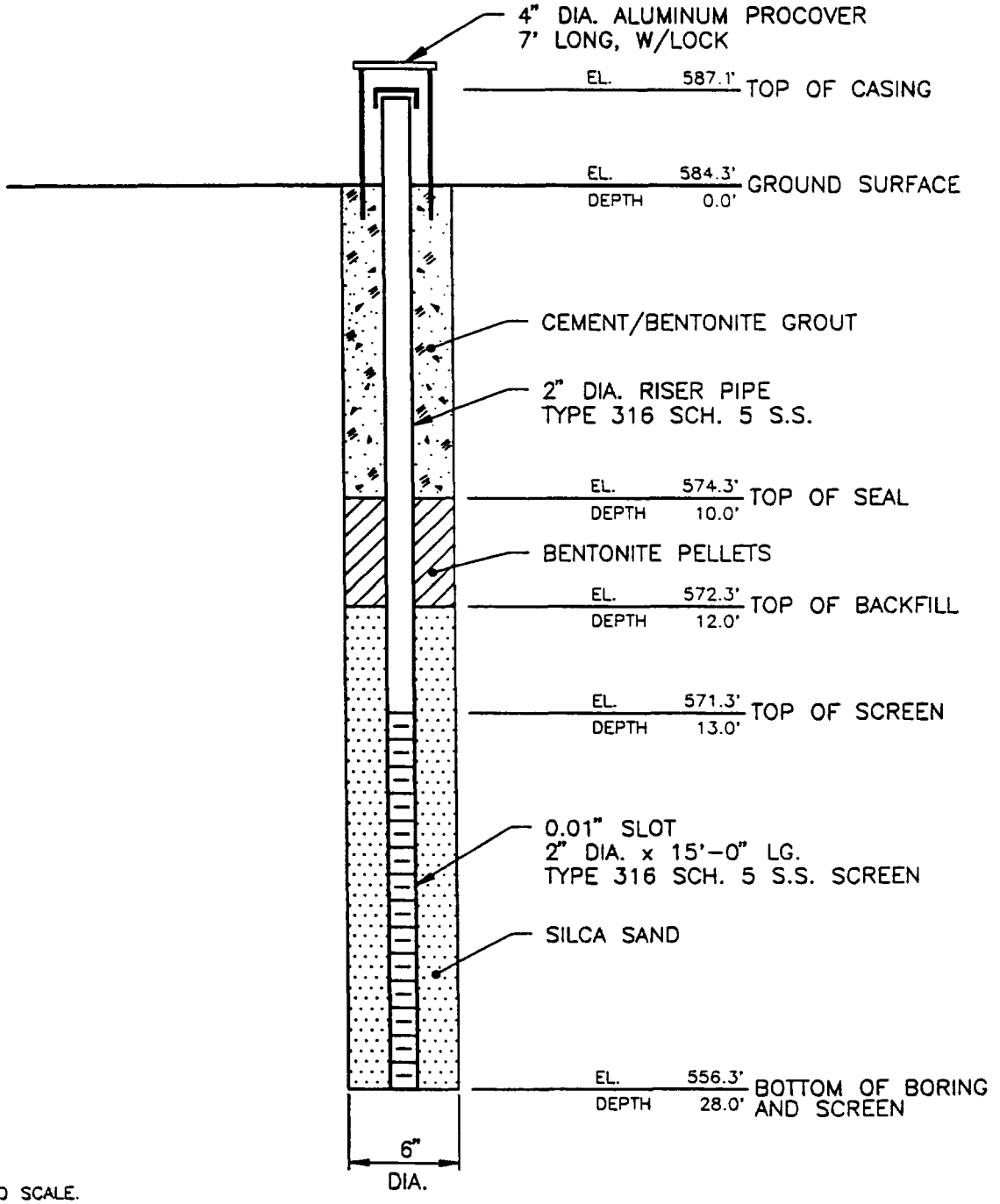
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. W-12

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,233.80 E. 4,738.40 DATE 9-24-91 BY PRS




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG W-12 FOR SOIL DESCRIPTION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. W-12
LOGGED BY PRS
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,223.80 E 4,738.40 SURFACE ELEVATION 584.3
DRILLER Fox Drilling, Inc. DATE: START 9/24/91 FINISH 9/24/91

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" | BLOW COUNT 6" 12" | BLOW COUNT 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | | | | | | |
| 10 | 1 | SS | 10.0 | 11.5 | 16 | 24 | 37 | 15 | SP | | | | Gray/Brown Fine To Medium Sand, Wet. | |
| 15 | | | | | | | | | | | | | | |
| 20 | 2 | SS | 20.0 | 21.5 | 20 | 21 | 23 | 12 | SP | | | | Gray Fine To Medium Sand, Wet. | |
| 25 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 28.0 | Bottom Of Boring At 28.0 Ft. | |
| 30 | | | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | | | 1. Boring Was Advanced With 6-Inch O.D. Hollow-Stem Augers. | |
| 35 | | | | | | | | | | | | | 2. Upon Completion, A 2-Inch Diameter Stainless-Steel Monitoring Well Was Installed In The Borehole. See W-12 Well Detail For Construction Details. | |
| 40 | | | | | | | | | | | | | | |

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**Canonie**

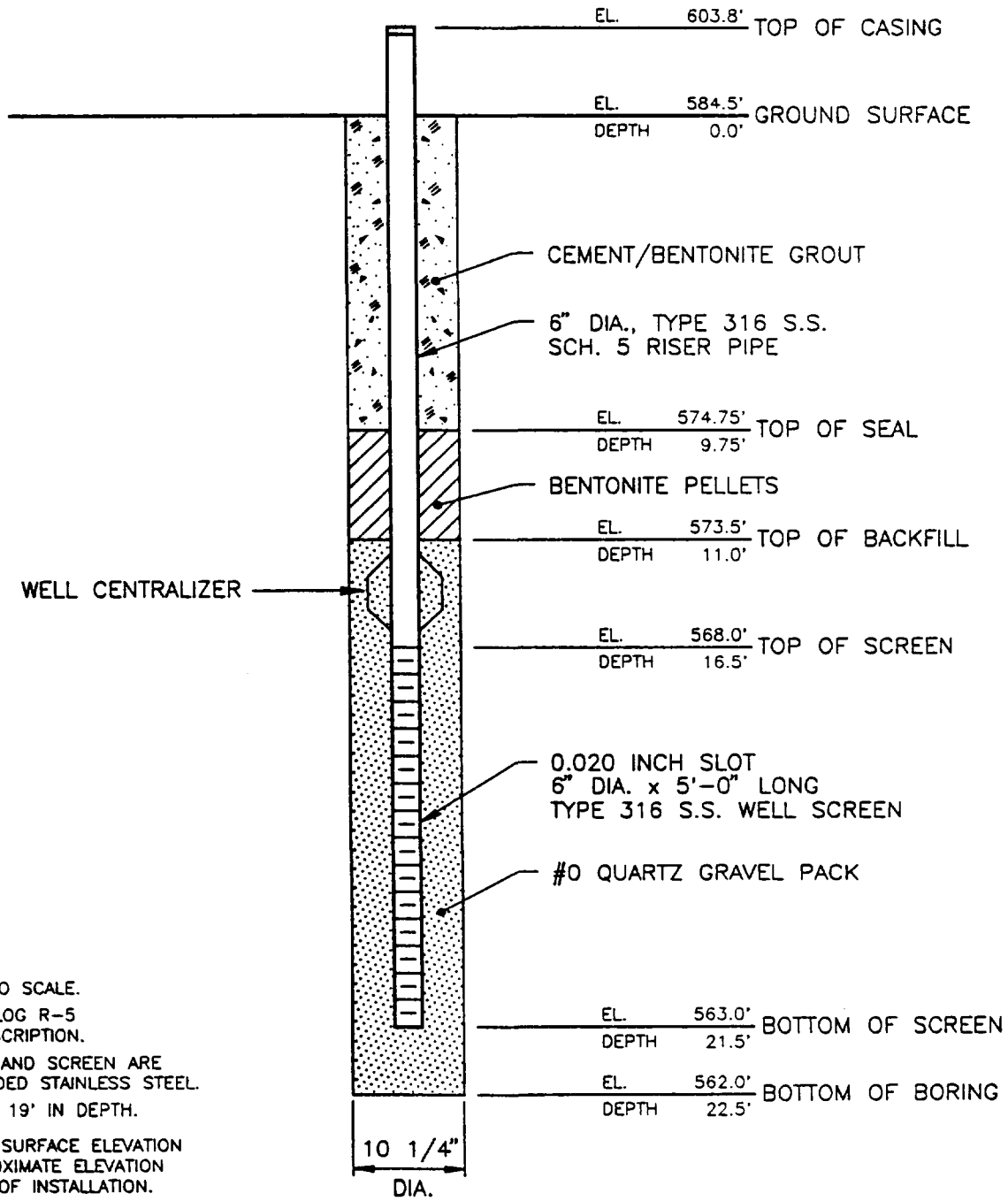
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. R-5

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,160.30 E, 4,318.00 DATE 8-7-91 BY SJM




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG R-5 FOR SOIL DESCRIPTION.
3. WELL CASING AND SCREEN ARE FLUSH THREADED STAINLESS STEEL.
4. PUMP SET AT 19' IN DEPTH.
5. THE GROUND SURFACE ELEVATION IS THE APPROXIMATE ELEVATION AT THE TIME OF INSTALLATION.

91-14

# Canonie

## BORING LOG

PROJECT No. 90-407
BORING No. R-5
LOGGED BY SJM
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION N 6,160.30 E 4,318.00 SURFACE ELEVATION 584.5
DRILLER Layne Western DATE: START 8/7/91 FINISH 8/7/91

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" 12" / 6" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Fine To Coarse Sand, Trace Of Silt. | |
| 5 | | | | | | | | | | | | |
| 10 | | | | | | | SP | | | | Fine To Medium Sand, Some Silt, Wet. | |
| 15 | | | | | | | | | | | Fine To Medium Sand, Some Silt And Coarse Sand, Wet. | |
| 20 | | | | | | | | | | 21.5 | | |
| | | | | | | | CL | | | 22.5 | Hardpan At 21.5 Ft. | |
| | | | | | | | | | | | Bottom Of Boring At 22.5 Ft. | |
| 25 | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | 1. Boring Was Advanced Continuously With 10-1/4-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 30 | | | | | | | | | | | 2. Upon Completion, A 6-Inch Diameter Stainless-Steel Recovery Well Was Installed In The Borehole. See R-5 Recovery Well Detail For Well Construction Detail. | |
| 35 | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | |

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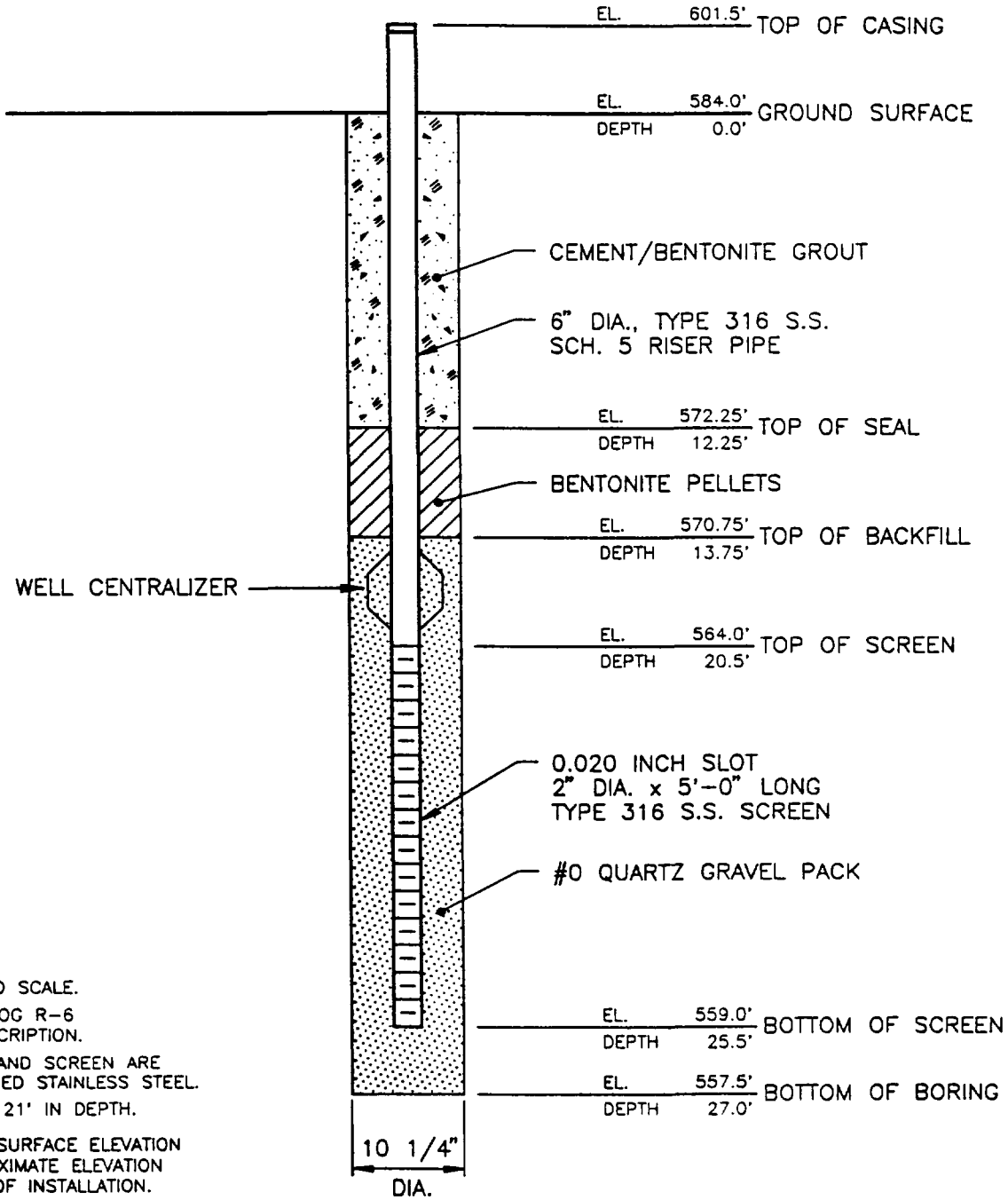
# Monitoring Well Detail

PROJECT No. 90-407

WELL No. R-6

PROJECT NAME WAUKEGAN HARBOR REMEDIATION

WELL LOCATION N 6,121.14 E, 4,497.53 DATE 8-9-91 BY SJM




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG R-6 FOR SOIL DESCRIPTION.
3. WELL CASING AND SCREEN ARE FLUSH THREADED STAINLESS STEEL.
4. PUMP SET AT 21' IN DEPTH.
5. THE GROUND SURFACE ELEVATION IS THE APPROXIMATE ELEVATION AT THE TIME OF INSTALLATION.

91-14

# Canonie

## BORING LOG

| | |
|---|---|
| PROJECT No. | 90-407 |
| BORING No. | R-6 |
| LOGGED BY | SJM |
| PAGE No. | 1 of 1 |

| | | | | | |
|---|---|---|---|---|---|
| PROJECT NAME | Waukegan Harbor Remediation | | | | |
| BORING LOCATION | N 6,121.14 E 4,497.53 | SURFACE ELEVATION | 586 | | |
| DRILLER | Layne Western | DATE: START | 8/8/91 | FINISH | 8/9/91 |

| DEPTH | SAMPLE No. | SAMPLE TYPE | SAMPLE INTERVAL FROM | SAMPLE INTERVAL TO | BLOW COUNT 0" 6" | BLOW COUNT 6" 12" | BLOW COUNT 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Black Cinder | |
| | | | | | | | | | | | | 4.0 | | |
| 5 | | | | | | | | | | | | | Fine To Medium Sand, Some Fine Gravel, Moist. | |
| | | | | | | | | | | | | | Ground Water At 9.0 Ft. | |
| 10 | | | | | | | | | SP | | | | Fine To Medium Sand, Some Silt, Wet. | |
| 15 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | Fine Sand, Some Silt, Wet. | |
| 20 | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | 25.5 | Hardpan At 25.5 Ft. | |
| | | | | | | | | | | | | 27.0 | Bottom Of Boring At 27.0 Ft. | |
| 30 | | | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | | | 1. Boring Was Advanced Continuously With 10-1/4-Inch O.D. Hollow-Stem Augers. Soil Classification Based On Drill Cuttings. | |
| 35 | | | | | | | | | | | | | 2. Upon Completion, A 6-Inch Diameter Stainless-Steel Recovery Well Was Installed In The Borehole. See R-6 Recovery Well Detail For Well Construction Detail. | |
| 40 | | | | | | | | | | | | | | |

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# Canonie

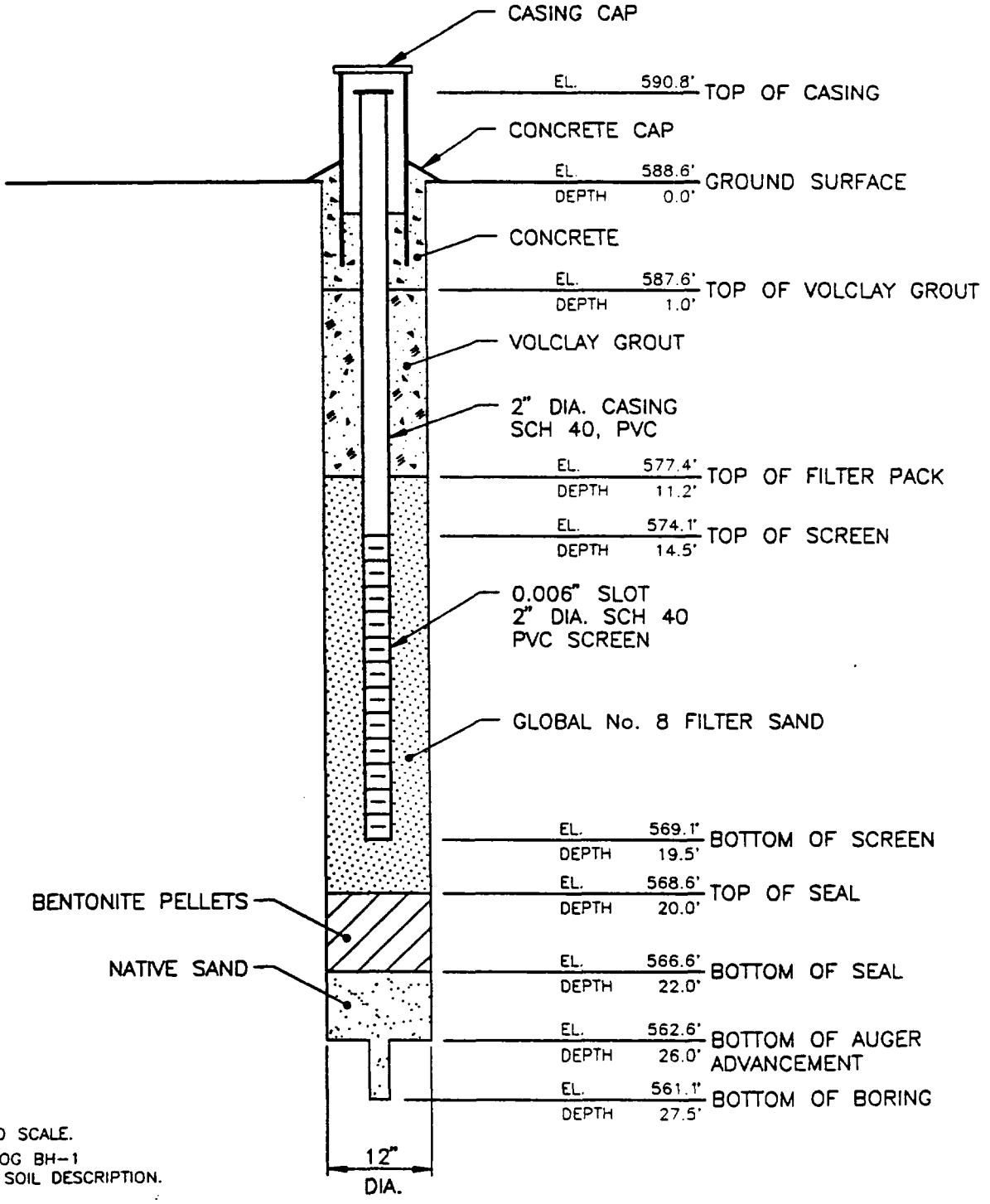
# Piezometer Detail

PROJECT No. 90-407-02

WELL No. BH-1

PROJECT NAME WAUKEGAN HARBOR

WELL LOCATION SLIP No. 3 DATE 5-17-94 BY KMB




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG BH-1 FOR DETAILED SOIL DESCRIPTION.
3. ELEVATIONS ARE APPROXIMATE.

91-16

# BORING LOG

| | |
|---|---|
| PROJECT No. | 90-407-02 |
| BORING No. | BH-1 |
| LOGGED BY | KMB |
| PAGE No. | 1 of 1 |

| | | | |
|---|---|---|---|
| PROJECT NAME | Waukegan Harbor Remediation | | |
| BORING LOCATION | Slip No. 3 | SURFACE ELEVATION | 588.6 |
| DRILLER | Fox Drilling, Inc. | DATE: START 5/17/94 | FINISH 5/17/94 |

| DEPTH | SAMPLE No. | TYPE | INTERVAL FROM | TO | BLOW COUNT 0" 6" 6" | 6" 12" 12" | 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | SS | 2.0 | 4.0 | 3 13 | 4 | 7 | 17 | SP | | | | Medium Dense Brown Fine Sand, Dry. | |
| 5 | 2 | SS | 6.0 | 8.0 | 4 4 | 3 | 3 | 14 | SP | | | | Loose Gray Fine Sand, Wet. | |
| | | | | | | | | | | | | 9.0 | | |
| 10 | 3 | SS | 10.0 | 12.0 | 1 1 | – | 1 | 24 | MH | 88.0 | <0.25 | | Very Soft Black Clayey Silt, Trace Of Organics. | |
| | 4 | ST | 14.0 | 16.0 | | | | 24 | MH | 81.1 | | | | |
| 15 | | | | | | | | | | | | | | |
| | 5 | SS | 18.0 | 20.0 | 1 – | – | 1 | 24 | MH | 69.1 | <0.25 | | Very Soft Black Clayey Silt, Trace Of Sand And Gravel, Trace Of Organics. | |
| 20 | | | | | | | | | | | | 21.0 | | |
| | 6 | SS | 22.0 | 24.0 | 2 5 | 4 | 4 | 22 | SP | | | | Loose Fine To Medium Gray Sand, 2-Inch Layer Of Fine Gravel At 23.5 Ft. | |
| 25 | | | | | | | | | | | | 25.5 | | |
| | 7 | SS | 26.0 | 27.5 | 11 | 26 | 42 | 13 | CL | | >4.0 | 27.5 | Hard Gray Silty Clay, Trace Of Gravel. | |
| | | | | | | | | | | | | | Bottom Of Boring At 27.5 Ft. | |
| 30 | | | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | | | 1. Boring Was Advanced With 6-1/4-Inch I.D. Hollow-Stem Augers. | |
| 35 | | | | | | | | | | | | | 2. Upon Completion, A 2-Inch-Diameter Observation Well Was Installed. | |
| | | | | | | | | | | | | | 3. Water Level In Borehole During Drilling Was 18.9 Ft. Below Ground Surface. Water Level In Piezometer Was 10.8 Ft. Below Ground Surface Approximately 19 Hours After Installation. | |
| 40 | | | | | | | | | | | | | | |

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**Canonie**

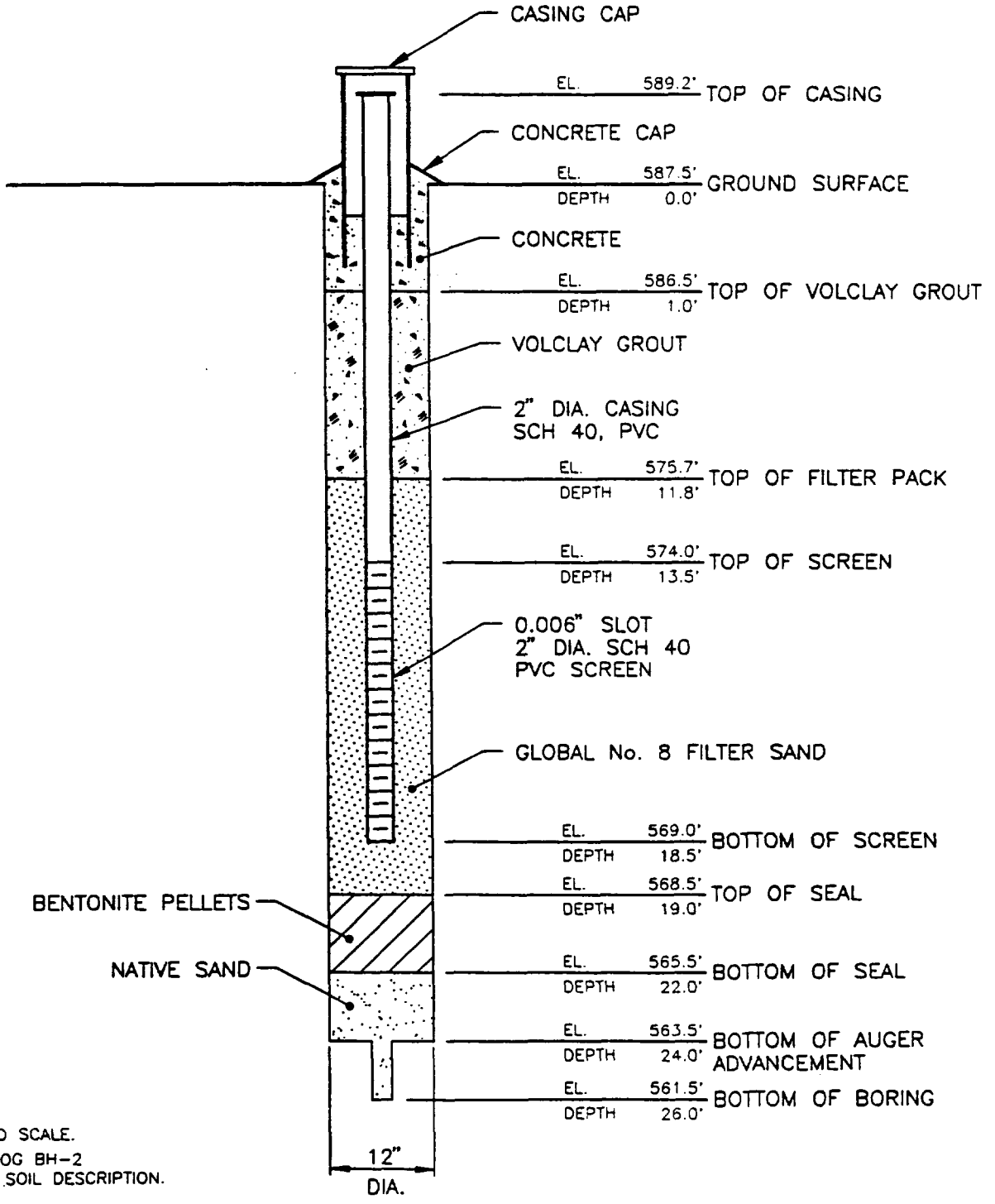
# Piezometer Detail

PROJECT No. 90-407-02

WELL No. BH-2

PROJECT NAME WAUKEGAN HARBOR

WELL LOCATION SLIP No. 3 DATE 5-17-94 BY KMB




NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG BH-2 FOR DETAILED SOIL DESCRIPTION.
3. ELEVATIONS ARE APPROXIMATE.

91-19

# BORING LOG

PROJECT No. 90-407-02
BORING No. BH-2
LOGGED BY KMB
PAGE No. 1 of 1

PROJECT NAME Waukegan Harbor Remediation
BORING LOCATION Slip No. 3 SURFACE ELEVATION 587.5
DRILLER Fox Drilling, Inc. DATE: START 5/17/94 FINISH 5/17/94

| DEPTH | SAMPLE No. | TYPE | INTERVAL FROM | TO | BLOW COUNT 0" 6" 12" / 6" 12" 18" | REC (in) | USCS SOIL TYPE | WC (%) | qu (TSF) | CONTACT DEPTH | SOIL DESCRIPTION AND REMARKS | PIEZO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | SS | 2.0 | 4.0 | 3 3 5 / 7 | 20 | SP | | | | Loose Fine Brown Sand, Dry. | |
| 5 | 2 | SS | 6.0 | 8.0 | 3 3 3 / 2 | 15 | SP | | | | Loose Fine Dark Brown Sand, Wet. | |
| | | | | | | | | | | 9.0 | | |
| 10 | 3 | SS | 10.0 | 12.0 | – – – / – | 24 | MH | 95.5 | <0.25 | | Very Soft Black Clayey Silt, Trace Of Organics. | |
| | 4 | SS | 12.0 | 14.0 | – – – / – | 24 | MH | 98.3 | <0.25 | | | |
| | 5 | SS | 14.0 | 16.0 | – – – / – | 24 | MH | 91.7 | <0.25 | | | |
| 15 | 6 | SS | 16.0 | 18.0 | – – – / 1 | 24 | MH | 85.4 | <0.25 | | | |
| | 7 | ST | 18.0 | 20.0 | | 28 | CH | 84.1 | | | | |
| 20 | 8 | SS | 20.0 | 22.0 | 1 2 4 / 8 | 24 | MH | 80.4 | <0.25 | 20.9 | | |
| | 9 | SS | 22.0 | 24.0 | 7 7 9 / 11 | 13 | SW | | | 24.0 | Medium Dense Fine To Coarse Gray Sand With Trace To Some Gravel. | |
| 25 | 10 | SS | 24.0 | 26.0 | 14 20 22 / 22 | 16 | CL | | >4.0 | 26.0 | Hard Gray Silty Clay, Trace Of Gravel. | |
| | | | | | | | | | | | Bottom Of Boring At 26.0 Ft. | |
| 30 | | | | | | | | | | | Notes: | |
| | | | | | | | | | | | 1. Boring Was Advanced With 6-1/4-Inch I.D. Hollow-Stem Augers. | |
| 35 | | | | | | | | | | | 2. Upon Completion, A 2-Inch Observation Well Was Installed. | |
| | | | | | | | | | | | 3. Water Level In The Piezometer Was 6.3 Ft. Below Ground Surface Approximately 19 Hours After Installation. | |
| 40 | | | | | | | | | | | | |

Rev. 8-88

# APPENDIX G

## SEWER CONNECTION PERMIT AND IEPA CONSTRUCTION PERMIT

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 1260-92 PERMIT NO.: 1992-EE-1260

FINAL PLANS, SPECIFICATIONS, APPLICATION AND SUPPORTING DOCUMENTS DATE ISSUED: September 2, 1992
PREPARED BY: Kevin Brissette of Canonie Environmental Services Corp.

SUBJECT: CANONIE ENVIRONMENTAL SERVICES CORP. -- Pretreatment of Soil Pore Water from the Waukegan Harbor Superfund Site -- Tributary to the North Shore Sanitary District (Waukegan STP)

PERMITTEE TO CONSTRUCT
Canonie Environmental Services, Corp.
800 Canonie Drive
Porter, Indiana 46304

Permit is hereby granted to the above designated permittee to construct water pollution control facilities described as follows:

A 4,000 gallon flocculation tank, a 5,500 gallon tube pack settler, a 0.5 micron bag filter, a unit utilizing 2,000 lbs. of oil absorbent, a 5,000 gallon hydrogen peroxide reaction tank, a U.V. destruction unit, a 5,000 gallon neutralization tank, a sand filter, a 1.0 micron bag filter, three 165 lb. activated carbon units in series, four 25,000 gallon and two 21,000 gallon treated water storage tanks and all necessary piping pumps and appurtenances to treat a maximum of 150,000 gallons of soil pore water tributary to the North Shore Sanitary District (Waukegan).

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplemental Permit.

SPECIAL CONDITION 1:

a) Liquids, solids, or gases which by reason of their nature or quantity may cause fire or explosion; or be injurious in any other way to sewers, treatment works, structures or to the operation of the treatment works, or cause a safety hazard to the personnel operating the treatment works, or cause the effluent from the treatment works to violate applicable effluent standards are prohibited;

b) Solid or viscous wastes which cause obstruction to the flow in sewers or other interference with the proper operation of any sewer or treatment works are prohibited.

Continued on Page 2

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

TGM:REP:bjh/2266r/20,21
cc: EPA - Maywood Regional Office
Records
Binds
North Shore Sanitary District

DIVISION OF WATER POLLUTION CONTROL

Thomas G. McSwiggin, P.E.
Manager, Permit Section

Project No. 90-407
Client WHT
Category COER.
Sub-Category FROM SETA
Date 9-8-92
Originator EMB

IL 532-0009
WPC 146 (Rev. 2/82)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 1260-92 PERMIT NO.: 1992-EE-1260

FINAL PLANS, SPECIFICATIONS, APPLICATION AND SUPPORTING DOCUMENTS DATE ISSUED: September 2, 1
PREPARED BY: Kevin Brissette of Canonie Environmental Services Corp.

SUBJECT: CANONIE ENVIRONMENTAL SERVICES CORP. -- Pretreatment of Soil Pore Water from the Waukegan Harbor Superfund Site -- Tributary to the North Shore Sanitary District (Waukegan STP)

SPECIAL CONDITION 2: The operation of the pretreatment facilities must be under the direct and active field supervision of a certified industrial treatment plant operator in accordance with the State of Illinois Rules and Regulations, Title 35, Subtitle C, Chapter 1, Part 312.

SPECIAL CONDITION 3: The issuance of this permit does not relieve the permittee of the responsibility of complying with 35 Ill. Adm. Code, Part 307 and/or the General Pretreatment Regulations (40 CFR 403) and any guidelines developed pursuant to Section 301, 306, or 307 of the Federal Clean Water Act of 1977.

SPECIAL CONDITION 4: The issuance of this permit does not relieve the permittee of the responsibility of complying with any limitations and provisions imposed by the North Shore Sanitary District.

SPECIAL CONDITION 5: All sludges and other waste generated on site shall be disposed of at a site and in a manner acceptable to the Agency.

SPECIAL CONDITION 6: The operational portion of this permit shall be governed by North Shore Sanitary District.

# NORTH SHORE SANITARY DISTRICT

POST OFFICE BOX 750, RUSSELL ROAD, GURNEE, ILLINOIS 60031
708/623-6060 FAX 708/623-3205



BOARD OF TRUSTEES
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GENERAL MANAGER GENE D. LUKASIK

SECRETARY DOROTHY A. BAKER

ATTORNEY MURRAY R. CONZELMAN


September 16, 1992

Mr. Kevin Brissette, P.E.
Canonie Environmental Services
800 Canonie Drive
Porter, Indiana 46304

Dear Mr. Brissette:

Included in this package is the North Shore Sanitary District Connection Permit No. 14828-I for the Canonie project at 190 Seahorse Drive, Waukegan, Illinois. Attached to the permit is Discharge Control Document No. 92-EG-01 and a copy of the signed Environmental Remediation Wastewater Agreement No. ERW-92-G01. The letter of September 15th which qualifies certain conditions of the DCD has already been received by you.

The analytical results from Tank 1 and Tank 2 are acceptable. Canonie may begin discharge of the treated water from these two tanks upon verification by the District of proper flow meter installation.

Should you have any questions, please do not hesitate to call.

Sincerely,

Karen L. Farrell
Director of Laboratory Services
NORTH SHORE SANITARY DISTRICT

KLF:mjg
cc: Brian Dorn
Lab File

Project No. 90-407
Client W HT
Category COER
Sub-Category FROM NSSD
Date 9-17-92
Originator KLF

RECEIVED
SEP 16 1992

RECEIVED
SEP 17 1992
CANONIE ENVIRONMENTAL

north shore sanitary district
RUSSELL ROAD
POST OFFICE BOX 750, GURNEE, ILLINOIS 60031 / Telephone: [redacted] 708-623-6060

N.S.S.D. USE ONLY
PERMIT NO. 14828-I
TRACT NO. 08-22-100
ACCOUNT NO. _____

# PERMIT APPLICATION FOR COMMERCIAL OR INDUSTRIAL SEWER CONNECTION

ORIGINAL

NAME OF APPLICANT (OWNER) Waukegan Harbor Trust

MAILING ADDRESS 190 Seahorse Drive
Waukegan, IL 60085
TELEPHONE (708) 689-5393

ADDRESS OF CONNECTION 190 Seahorse Drive
Waukegan, IL 60085

NAME & ADDRESS OF CONTRACTOR Canonie Environmental Services Corp. c/o Outboard Marine Corporati
190 Seahorse Drive
Waukegan, IL 60085
TELEPHONE (708) 263-1100

BRIEF PROJECT DESCRIPTION Discharge of pretreated water from thermal soil treatment.

LEGAL DESCRIPTION OF PROPERTY

NOTE: ALL COMMERCIAL AND INDUSTRIAL APPLICATIONS SHALL BE SUBMITTED WITH TWO SETS EACH OF SITE PLANS, BUILDING PLANS, LOCATION SKETCH AND ANSWERS TO ALL QUESTIONS ON PAGES 3-6, TOGETHER WITH ALL SUPPORTING DATA AS REQUIRED.

THE UNDERSIGNED HEREBY AGREES TO THE TERMS AND CONDITIONS LISTED ON PAGE 2.

THE Sanitary District OF North Shore
(CITY, VILLAGE, OR SANITARY DISTRICT)
MUST ALSO ISSUE A SEWER PERMIT FOR THE IMPROVEMENTS AS DETAILED IN THIS APPLICATION. ALL FEES AND REQUIREMENTS OF THE CITY, VILLAGE, OR SANITARY DISTRICT MUST ALSO BE MET.

Kevin M. Brissette
SIGNATURE OF APPLICANT OR AUTHORIZED AGENT

DATE 6-5-92

KEVIN M. BRISSETTE
NAME OF SIGNER (*PLEASE PRINT*)

For the purpose of procuring sa. ermit the belowsigned does hereby re ~esent, covenant and agree to and with the North Shore Sanitary District as stated below:

A. That all work done pursuant to the permit herein applied for shall be strictly in conformity with the sewer connection and use ordinance of the District (a copy of which is hereunto attached and made a part hereof) regulating the design, construction, operation, maintenance and use of the proposed or existing sewer or sewer system, and with the description of the work herein contained, and with the plans and specifications for said work hereunto attached.

B. That applicant shall restore all sewers, appurtenances, pavement and/or other structures or surfaces disturbed by the work of making connection to the sewerage work of the District, to as good condition as the same existed at the time of commencement of said work and in accordance with the regulations and easements of the District.

C. That applicant shall indemnify and save harmless the District from any and all loss, cost, damage and expense which may come to the District by reason of or in any manner growing out of or connected with said work, or the resulting connection to and subsequent use of any facilities, provided, however, that the liability, if any, of the applicant to the District shall not be limited to the specific liabilities mentioned, but the applicant shall in any event be liable to the District for any and all loss, cost, damage and/or expense of every kind and character arising from, growing out of and/or connected with such work or the resulting connections to and subsequent use of any facilities.

D. That in case of any suit, action or proceeding against the District for damages or on account of any liability or claim arising from, growing out of or in any way connected with said work, applicant shall, on demand of the District, enter his or its appearance therein, defend the same and pay all the costs, attorneys' fees, solicitors' fees and expense thereof and the amount of any and all final judgments, decrees and/or awards against the District entered or made therein.

E. Applicant agrees to notify the District and the City or Village at least twenty-four hours prior to the commencement of the work to be done.

F. "The Applicant hereby releases the District from any and all claims, causes of action and the like which might or may arise by virtue of this Application, any Permit connection hereunder, any connection made as a result of said Permit and any use of any facility or equipment of the District as a result of the foregoing, including but not limited to any act of the District or any failure of the District to act."

G. THE DISCHARGES FROM THIS SEWER CONNECTION SHALL COMPLY WITH THE REQUIREMENTS OF THE NORTH SHORE SNAITARY DISTRICTS ENVIRONMENTAL REMEDIATION WASTEWATER DISCHARGE CONTROL DOCUMENT NO. 92-EG-01. (COPY ATTACHED).

Special Instructions: If additional space is required to answer the following questions, please answer on additional sheet(s) of paper.

1. Area (Square Feet) N/A

2. Number of Floors N/A

3. Number of Plumbing Fixtures

| | | | |
|---|---|---|---|
| A. Water Closets | 0 | E. Baths | 0 |
| B. Urinals | 0 | F. Showers | 0 |
| C. Lavatories | 0 | G. Other | 0 |
| D. Sinks | 0 | | |

4. Is your water supplied by your own well? Yes _____ No X If No, what Municipality supplies your water? Water is produced during soil treatment. See attached description of project.

5. Please check all of the appropriate business functions of your company:

| | | |
|---|---|---|
| ____ office space | ____ printing/engraving | ____ warehouse |
| ____ retail store | ____ medical office | ____ packaging |
| ____ restaurant/cafeteria | ____ research facility/lab | ____ assembling |
| ____ auto/truck repair | ____ computer center | ____ fabricating |
| ____ laundry | ____ wholesale/distributor | ____ manufacturing |
| ____ car wash | ____ photo developing | X other environmental remediation facility |

6. Brief narrative description of manufacturing or service activity at premise to be connected

See attached Process Description

7. Standard Industrial Classification Code (if known) _____

8. Anticipated Hours of Operation

| Shift | Will Shift Exist? | Time | Days Per Week | Number of Employees Per Shift: Office | Number of Employees Per Shift: Plant |
|---|---|---|---|---|---|
| 1st | Yes X No ____ | 8 am | 7 | N/A | N/A |
| 2nd | Yes X No ____ | 8 pm | 7 | N/A | N/A |
| 3rd | Yes ____ No ____ | | | | |

TOTAL _____

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9. Will there be any scheduled shutdown periods(s)? Yes _____ No X

If Yes, please describe _____

10. Will production be seasonal? Yes _____ No X

If Yes, please describe No, but discharges to NSSD are only anticipated during June, July, and August, 1992.

11. Principal raw materials or products used

$FeSO_4$

$H_2SO_4$

$H_2O_2$

NaOH

12. List those chemicals which will be used and are registered under the Toxic Substance Control Act

PCBs are present within the soil being treated, but are not brought onto the site.

13. List the anticipated water consumption within the plant:

| Type | Estimated Average Volume (gallons/day) | Maximum Volume (gallons/minute) |
|---|---|---|
| A. Sanitary/Domestic | 0 | 0 |
| B. Food Service | 0 | 0 |
| C. Cooling Water (direct contact) | 0 | 0 |
| D. Cooling Water (non-contact) | 0 | 0 |
| E. Boiler Feed | 0 | 0 |
| F. Air Conditioning | 0 | 0 |
| G. Process Water | 0 | 0 |
| H. Air Pollution Equipment | 0 | 0 |
| I. Landscape Watering | 0 | 0 |
| J. Other _____ | 0 | 0 |
| TOTAL | 0 | 0 |

14. List the anticipated volume of discharge or water losses to:

| | Estimated Average Discharge (gallons/day) |
|---|---|
| A. Municipal sewers | 14,400 |
| B. Natural water bodies | 0 |
| C. Waste haulers | 0 |
| D. Evaporation | 0 |
| E. Contained in product | 0 |
| TOTAL | 14,400 |

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15. Will the wastes discharged be: Intermittently X steady ___

16. Will the waste strength discharged be consistent? Yes X No ___

17. Will the wastes be pretreated before discharge? Yes X No ___

If Yes, describe See Process Description.

18. Will your waste contain

| | Yes | No |
|---|---|---|
| strong acids (pH lower 5.5) | | X |
| strong bases (pH in excess of 9.5) | | X |
| iron pickling wastes | | X |
| plating solutions | | X |
| radioactive waste or isotopes | | X |
| mercury | X | |
| cyanide | | X |
| fats, oils and/or grease | X | |
| phenolics | X | |
| solvents | X | |

Please attach a sheet outlining the use of any of the above materials.

19. Describe any water recycling or material reclaiming process utilized on an attached sheet.

N/A

20. Will your facility have a hazardous waste disposal number from the Federal Government?

Yes ___ No X If Yes, for what? ___

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PLEASE DO NOT WRITE ON THIS PAGE — NSSD USE ONLY

IS THIS PROJECT WITHIN THE PRESENT BOUNDARIES OF THE NSSD? YES ✓ NO ____

IF THE PROJECT IS NOT WITHIN THE PRESENT BOUNDARIES, IS THE PROPERTY COVERED BY:

A. PRE-ANNEXATION AGREEMENT? YES ____ NO ____ GURNEE STP ____

B. SEWER SERVICE AGREEMENT? YES ____ NO ____ WKGN STP ✓

NSSD ANNEXATION NO. ____ CLAVEY RD. STP ____

POPULATION EQUIVALENT 339

IS A SAMPLING MANHOLE REQUIRED? YES ____ NO ✓ OTHER ____

IS AN I.E.P.A. PERMIT REQUIRED? YES ✓ NO ____ I.E.P.A. NO. ____

NAME OF LOCALITY Waukegan

CONNECTION FEE $ 423.75

ANNEXATION FEE $ 0

TOTAL FEE $ 423.75

PAYMENT OF Four Hundred Twenty Three and 75/100 Dollars (423.75)
WORDS NUMBERS

TO THE NORTH SHORE SANITARY DISTRICT IS ACKNOWLEDGED AND RECEIPTED FOR.

BY Sandy Rasmussen DATE 9/15/92

CHECK NO. 1217

APPLICATION REVIEWED AND APPROVED FOR PERMIT ISSUANCE.

BY Linda Burchard DATE 9/16/92

COORDINATOR OF INDUSTRIAL WASTE CONTROL

INDUSTRY ADDED TO IND. WASTE CONTROL LIST DATE ____

APPLICATION APPROVED AND PERMIT ISSUED.

William D. Kessel, Sr. DATE 9/16/92

~~ENGINEER OF DESIGN AND CONSTRUCTION~~
DIRECTOR OF ENGINEERING SERVICES

SEWER INSPECTED & APPROVED DATE ____

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NSSD FORM NO. 9C (4/81)

## Process Description

Remedial action occurring at the Waukegan Harbor Site involves the thermal treatment of soils. During this process, water is liberated from the soil. The water is collected in a settling tank, where gravity separation allows the water to be separated from the heavy and light oils. Following separation the water is pumped through 0.5-micron filters and an oil absorbing clay to remove insoluble oils. Next, the water is treated using a batch oxidation process and oxidized additionally using ultraviolet radiation. Finally, the water is polished through a treatment train which includes a sand filter, a 1.0-$\mu$ filter, and activated carbon filters prior to the proposed discharge to the North Shore Sanitary District. A process flow diagram is attached as Figure 1.

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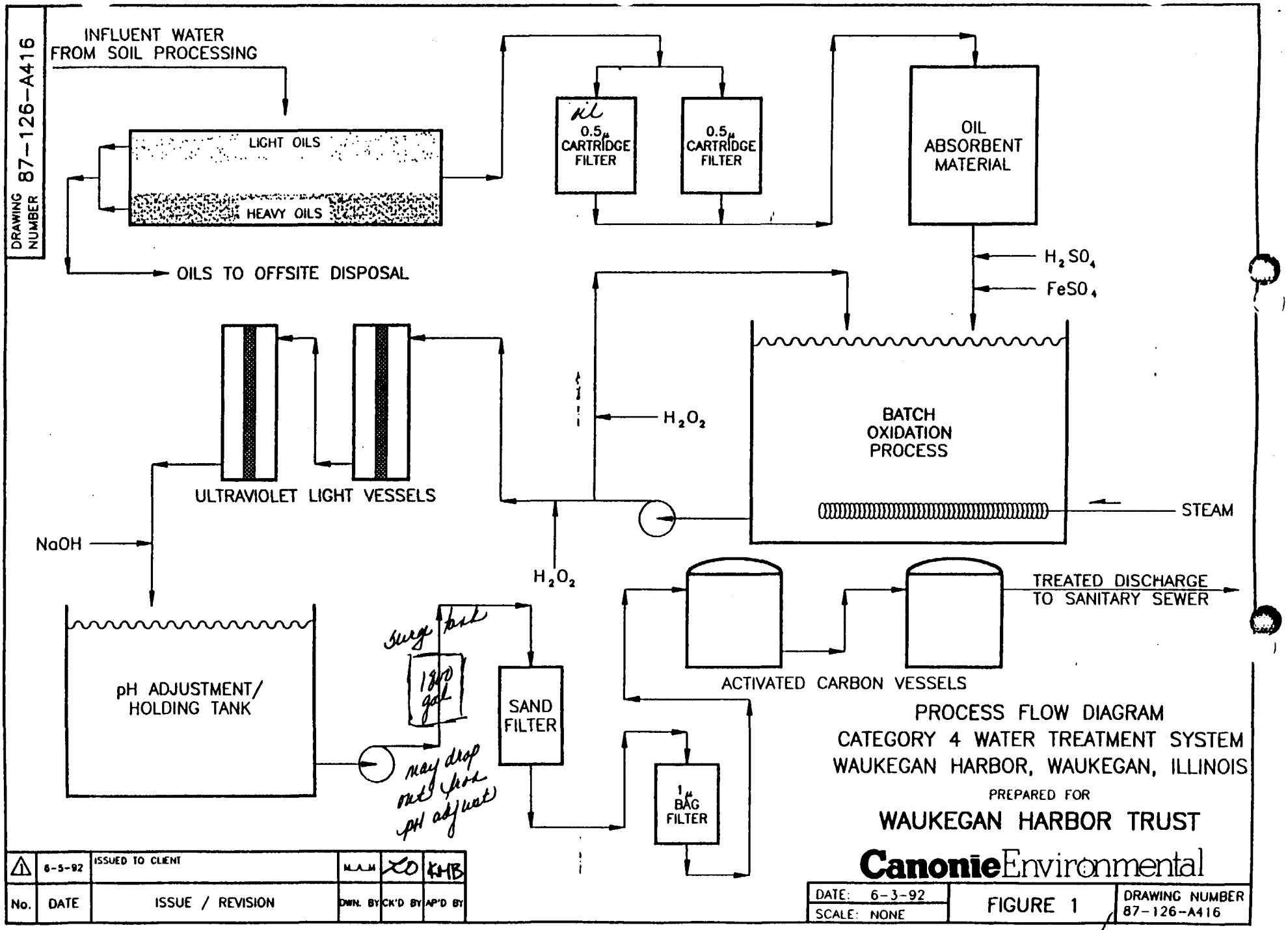


PROCESS FLOW DIAGRAM
CATEGORY 4 WATER TREATMENT SYSTEM
WAUKEGAN HARBOR, WAUKEGAN, ILLINOIS

PREPARED FOR

WAUKEGAN HARBOR TRUST

Canonie Environmental

| No. | DATE | ISSUE / REVISION | DWN. BY | CK'D BY | AP'D BY |
|---|---|---|---|---|---|
| 1 | 6-5-92 | ISSUED TO CLIENT | M.A.M | LO | KHB |

DATE: 6-3-92
SCALE: NONE

FIGURE 1

DRAWING NUMBER 87-126-A416

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# NORTH SHORE SANITARY DISTRICT

POST OFFICE BOX 750, RUSSELL ROAD, GURNEE, ILLINOIS 60031
708/623-6060 FAX 708/623-3205



BOARD OF TRUSTEES
PRESIDENT A. E. MACHAK, WAUKEGAN
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TRUSTEE MARJOAN BURKE, WAUKEGAN

GENERAL MANAGER GENE D. LUKASIK

SECRETARY DOROTHY A. BAKER

ATTORNEY MURRAY R. CONZELMAN


## ENVIRONMENTAL REMEDIATION WASTEWATER DISCHARGE CONTROL DOCUMENT NO. 92 - EG - 01 PART OF ERW AGREEMENT NO. ERW - 92 - G01

| | |
|---|---|
| Business Name: | **CANONIE ENVIRONMENTAL SERVICES CORP.** |
| Facility or Site Name: | **OMC - WAUKEGAN HARBOR TRUST SOIL PROCESSOR** |
| Location Address: | **190 SEAHORSE DRIVE WAUKEGAN, IL 60085** |
| Mailing Address: | **800 CANONIE DRIVE PORTER, INDIANA 46304** |
| Telephone Number: | **219 / 926-8651** |
| Site Telephone Number: | **708 / 263-1100** |
| Authorized Representative: | **KEVIN M. BRISSETTE, P.E.** |
| Title: | **PROJECT MANAGER** |

In accordance with the provisions of the Clean Water Act, (33 U.S.C. 1251); the General Pretreatment Regulations (40 CFR Part 403); and any Federal, state or local regulations not specifically mentioned herein that regulate the discharge from the facility; Chapter 7 of "AN ORDINANCE RELATING TO SEWERS AND SEWER SYSTEMS"; and the requirements of the Environmental Remediation Wastewaters (ERW) contractual agreement, **CANONIE ENVIRONMENTAL SERVICES CORP.**, is authorized to discharge non-residential waste from the above identified facility into the North Shore Sanitary District sewer system in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this discharge control document, hereafter referred to as DCD.

Compliance with this DCD does not relieve the holder of its obligations to comply with any or all applicable pretreatment regulations, standards or requirements under local, State and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this DCD. The DCD holder must also conform to all other applicable sections of the District's sewer use ordinance, "AN ORDINANCE RELATING TO SEWERS AND SEWER SYSTEMS", all correspondence associated with the issuance of the District's Sewer Connection Permit and the associated Environmental Remediation Wastewater agreement.

Noncompliance with any term or condition of this DCD or the ERW Agreement shall constitute a violation of the North Shore Sanitary District sewer use ordinance.

Except as otherwise specified herein, this DCD replaces all previously issued DCDs and shall become effective at 12:01 a.m. on 9/15/92 and expires at midnight on 11/15/92.

Issued on September 15, 1992.

Eugene D. Lukasik

General Manager

## PART I WASTEWATER DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

**A. DESCRIPTION OF DISCHARGE:** During the effective period of this document, non-residential discharger is authorized to discharge wastewater from the location(s) which are EP (end of process) or EOP (end-of-pipe) into the NSSD sewer system as specified below:

| NSSD CODE | CATEGORY | EP/EOP | LOCATION |
|---|---|---|---|
| OMCHSP | ERW | EOP | SOIL PROCESSOR |

### B. FREQUENCY

The frequency of sampling and the types and frequency of the various analyses to be done by the District on non-residential dischargers for the purpose of determining compliance with the provisions of this document shall be in accordance with the District's requirements. The sampling frequency and parameters are included in Section E of this DCD. If any sampling and analysis of the wastestream is performed by the non-residential discharger, those results shall be submitted to the District.

### C. SAMPLE TYPE

The particular analysis involved shall normally determine whether a twenty-four (24) hour composite is appropriate, or whether a grab sample or a series of grab samples should be taken. The District reserves the right to determine the most appropriate type of sample to be obtained for compliance monitoring. Normally, but not always, BOD and suspended solids analyses shall be obtained from a twenty-four (24) hour composite. Samples taken for pH, oil and grease, sulfide, cyanide, total phenols and volatile organics analyses shall normally be determined from periodic grab samples. Maximum allowable discharge limitations shall be met at all times whether grab or composite samples are taken.

### D. ANALYSIS

All measurements, tests and analyses of the characteristics of water and wastes to which reference is made in this DCD shall be determined and reported within limits of precision and accuracy of the test in accordance with the 16th edition of "Standard Methods for the Examination of Water and Wastewater," "Methods for Chemical Analysis of Water and Waste-1983," 40 CFR 136 and amendments thereto or other accepted methods as approved by the United States Environmental Protection Agency and published in the Federal Register.

Where 40 CFR 136 does not contain sampling or analytical techniques appropriate to the pollutant in question, or where the Administrator determines that the Part 136 sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analyses shall be performed by using validated analytical methods or any other applicable sampling and analytical procedures, including procedures suggested by the District or other persons approved by the Administrator.

## E. DISCHARGE LIMITS - LOCAL LIMITS

| OMCHSP Discharge | | | | | |
|---|---|---|---|---|---|
| ORDINANCE | | SITE SPECIFIC | | | |
| POLLUTANT | Daily Max | POLLUTANT | Daily Max | Monthly Average | Monitoring Frequency* |
| pH (pH units) | 6-9 | pH | | | 1 |
| COD | 900 | COD | 1900 | | 1 |
| BOD5 | 300 | BOD5 | 600 | | 1 |
| TSS | 350 | | | | |
| Ammonia N | 50.0 | | | | |
| Nitrate N | 45.0 | | | | |
| Phosphorus as P | 20.0 | | | | |
| Fluoride | 3.0 | | | | |
| TDS | 3500 | | | | |
| Oil/Grease | 75.0 | Oil/Grease | | | 1 |
| Cyanide (total) | 0.025 | | | | |
| Phenol | 4.0 | Phenol | | | 1 |
| Arsenic | 1.0 | Arsenic | | | 2 |
| Barium | 15.0 | | | | |
| Cadmium | 1.0 | | | | |
| Chromium (total) | 14.0 | | | | |
| Chromium, +6 | 0.7 | | | | |
| Copper | 3.0 | | | | |
| Iron (total) | 15.0 | Iron (total) | 50.0 | | 2 |
| Iron (dissolved) | 3.0 | | | | |
| Lead | 0.1 | | | | |
| Manganese | 12.0 | | | | |
| Mercury | 0.003 | Mercury | | | 2 |
| Nickel | 3.0 | | | | |
| Selenium | 14.0 | | | | |
| Silver | 0.5 | | | | |
| Zinc | 2.0 | Zinc | | | 2 |
| | | Acetone | 2.0 | | 1 |
| | | PCBs (ppb) | 5.0 | 1.0 | 1 |
| | | VOCs | | | 1 |

NOTES:
- Unless otherwise noted, all limitations are in concentration units of mg/l.
- All parameters are Total unless otherwise specified.
- For Pollutants with Two Limits For The Same Parameter, the site specific limit will be assessed for compliance. All others, Ordinance Limit shall be used for determining compliance.

* 1 = Daily monitoring when discharging.

* 2 = Analyze first day of discharge, every third day thereafter.

## F. PROHIBITIVE DISCHARGE LIMITATIONS

The non-residential discharger shall not discharge wastewater containing any of the substances stated in Section 5.01 of "AN ORDINANCE RELATING TO SEWERS AND SEWER SYSTEMS" which is included as Attachment I.

## G. FLOW MONITORING / SPECIAL SAMPLING REQUIREMENTS

FLOW:

The District has required the discharger to install a device with a recording and totalizing register for measurement of the liquid quantity. This equipment shall be installed and maintained by the discharger at his own sole expense. The meter shall be inspected and sealed by the Engineering Department of the District prior to commencing discharge.

OPERATION AND MAINTENANCE:

The Dischargers who operate flow measuring devices and sampling equipment will submit the procedure for operation and maintenance (O & M) to the District. Upon approval of the procedures, the discharger shall further document O & M in a log which shall be available for inspection by District personnel.

## PART II REPORTING REQUIREMENTS

### A. PERIODIC REPORTS

All reporting (including written notifications and discharge monitoring reports) required by this discharge control document shall, unless otherwise specified, be addressed to:

NORTH SHORE SANITARY DISTRICT
INDUSTRIAL WASTE DEPARTMENT
P.O. BOX 750
GURNEE, ILLINOIS 60031

### B. ADDITIONAL / SPECIAL MONITORING REQUIREMENTS

The Discharger shall provide analysis for those regulated pollutants for which the District has not monitored.

### C. INTERMITTENT REPORTS - submitted when applicable.

1. VIOLATION NOTIFICATION (6.05g): If results of the discharger's wastewater analysis indicates that a violation of this DCD has occurred, the discharger must:

   A. Inform the NSSD of the violation within 24 hours of knowledge of violation; and

   B. Repeat the sampling and pollutant analysis and submit, in writing, the results of this second analysis within 30 days of the first violation. (Repeat sampling will not be required if the District intends to sample and analyze within 30 days.)

2. SPILL NOTIFICATION (5.04): CANONIE ENVIRONMENTAL shall notify the North Shore Sanitary District immediately upon the occurrence of an accidental discharge of substances prohibited by District Ordinance or any slug loads or spills that may enter or have the potential to enter the public sewer. During normal business hours, North Shore Sanitary District shall be notified by telephone at 708-623-6060. At all other times, the North Shore Sanitary District shall be notified by telephone at 708-249-3895. This emergency spill report telephone number shall be used after 4:30 p.m., Monday - Friday or weekends and holidays.

   Notification shall include the location of discharge, date and time of the spill, type of substance spilled, including concentration and volume, and corrective actions taken. The discharger's notification of accidental release(s) in accordance with this section does not relieve it of other reporting requirements that arise under Local, State, or Federal laws.

3. SPILL DOCUMENTATION (5.04): Within 5 days following an accidental discharge, the DCD holder shall submit to the North Shore Sanitary District a detailed written report of the incident on a form prescribed by the District.

## PART III SPECIAL CONDITIONS

### A. REPORTING

1. CHANGED DISCHARGE (6.01d): Discharger shall notify the District prior to any substantial process change including changes which affect the volume or characteristics of the wastewater being introduced into the POTW from the discharger's processes. Formal written notification on forms provided by the District shall be made 120 days prior to the change.

### B. REOPENER CLAUSE

The District or its agents may modify or terminate this DCD for good cause including, but not limited to, the following:

1. To incorporate any new or revised Federal, State of Illinois, or District pretreatment standards or requirements,

2. To address significant alterations, additions or subtractions, to the non-residential discharger's operation, processes, or wastewater volume or characteristics since the time of DCD issuance,

3. A change within the District that requires either a temporary or permanent reduction or elimination of the authorized discharge,

4. Information indicating that the controlled discharge poses a threat to the District POTW, personnel or the receiving waters,

5. Violation of any terms or conditions of the wastewater DCD,

6. Misrepresentations or failure to fully disclose all relevant facts in the wastewater DCD application or in any required reporting,

7. To correct typographical or other errors in the DCD,

8. To reflect a transfer of the facility ownership and/or operation of a new owner/operator,

9. Any violation of the ERW contract with the North Shore Sanitary District.

The discharger may request a change to certain conditions within the DCD, however the filing of a request by the permittee for a DCD modification does not stay any DCD condition. Substantial modification to an existing site or addition of a new process by any Environmental Remediation Project will require notification to the District 120 days prior to startup and subsequent issuance of or revision to a discharge control document if necessary. Discharge control document renewals shall be submitted, on a form provided by the District, 120 days prior to the expiration date of said document.

## PART IV STANDARD CONDITIONS

The following standard conditions apply to every Discharge Control Document (DCD) issued by the North Shore Sanitary District:

1. DUTY TO COMPLY: The discharger must comply with all conditions of this DCD. Failure to comply with requirements of this document may be grounds for administrative action including, but not limited to, the District's enforcement procedures and penalties pursuant to "AN ORDINANCE RELATING TO SEWERS AND SEWER SYSTEMS", CHAPTER 9.

2. DUTY TO MITIGATE: The discharger shall take all reasonable steps to minimize or correct any adverse impact to the District treatment plant, collection and transfer facilities or the environment resulting from noncompliance with this DCD, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

3. SEVERABILITY: If any provision of this DCD, or the application of any provision of this DCD to any circumstance is invalidated; the application of such provision to other circumstances and the remainder of this DCD shall continue in full force and effect.

4. APPEALS: Any non-residential discharger may petition the District to reconsider the terms of a DCD within 30 days of its issuance. The appeal process must conform to the following conditions:

   - In petition, the appealing party must indicate the DCD provisions objected to, the reasons for this objection, and the alternative condition, if any, it seeks to place in the DCD.

   - The effectiveness and all limitations within the DCD shall not be stayed pending the appeal.

   - Failure to submit a timely petition for review shall be deemed to be a waiver of the administrative appeal.

   - If the District fails to act within 60 days, a request for reconsideration shall be deemed to be denied.

5. TRANSFERS: Wastewater DCDs may be reassigned or transferred to a new owner and/or operator only if the existing operation gives at least 120 days advance notice to the General Manager of the District. The DCD transfer or reassignment must be approved by the General Manager. The notice to the General Manager must include a written certification by the new owner and/or operator which:

   - States that the new owner and/or operator has no immediate intent to change the facility's operations and processes,

   - Identifies the specific date on which the transfer is to occur,

   - Acknowledges full responsibility for complying with the existing DCD, and

   - Defines the responsibility of payment to the District for outstanding invoices for the existing facility.

   Failure to provide advance notice of a transfer may render the DCD void on the date of the facility transfer.

6. TERMINATION: This DCD may be terminated for the following reasons:

   - Falsifying self-monitoring reports,
   - Tampering with monitoring equipment,
   - Refusing to allow timely access to the facility premises and records,
   - Failure to meet effluent limitations,
   - Failure to notice significant changes in production volume and type,
   - Failure to pay fines,
   - Failure to pay sewer charges, and
   - Failure to meet compliance schedules.

DCD termination will result in additional and escalated enforcement consistent with Chapter 8 of AN ORDINANCE RELATING TO SEWERS AND SEWER SYSTEMS including but not limited to revocation of service.

7. ACCESS: When required the discharger shall provide monitoring facilities at a District designated location, installed and maintained at all times at the user's expense; allow for inspection, sampling, and flow measurement at locations identified in PART I of this DCD. There shall be ample room in and near such monitoring facilities to allow sampling and monitoring equipment to be installed and the preparation of samples for analysis.

   Where required by Federal or State regulations, such monitoring facilities shall be provided at the end of a process or unit of production from which regulated toxic pollutants are discharged.

   The discharger shall allow North Shore Sanitary District personnel or an authorized representative, upon the presentation of suitable identification as may be required by law, to enter the premises at all reasonable hours for the following purposes:

   - access to and copying of any records that must be kept under the conditions of this DCD,
   - entrance for inspection of any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this DCD,
   - access for sampling or monitoring of any substances or parameters at any location, and
   - inspection of any production manufacturing, fabricating or storage area where pollutants regulated under this DCD could originate, be stored, or be discharged to the sanitary sewer.

8. RECORDS RETENTION: Discharger shall retain wastewater monitoring records for a period of five years. During this period, said record shall be available for inspection and duplication by authorized representatives of the District.

9. SIGNATORY REQUIREMENTS: All Discharge Reports must be signed by an authorized representative of the discharger consistent with the definition found in "AN ORDINANCE RELATING TO SEWERS AND SEWER SYSTEMS", Chapter 2 Section c 5).

10. ANNUAL PUBLICATION: A list of all industrial users which were determined to be significantly non-compliant during the previous 12 months shall be published annually by the North Shore Sanitary District in the largest daily newspaper within its service area. Accordingly, the discharger is apprised that non-compliance with this DCD may lead to an enforcement action and may result in publication of its name in the appropriate newspaper in accordance with District Ordinance Section 8.09.

11. CIVIL AND CRIMINAL LIABILITIES/COST RECOVERY: Nothing in this DCD shall be construed to relieve the DCD holder from civil and/or criminal penalties for non-compliance under AN ORDINANCE RELATING TO SEWERS AND SEWER SYSTEMS, or State or Federal laws or regulations.

    In addition to civil and criminal liability, the discharger violating any of the provisions of this DCD or District Ordinance, or causing damage to or otherwise inhibiting the North Shore Sanitary District wastewater disposal system or causing the District to take extra measures to counteract the effect of the discharge shall be liable to the North Shore Sanitary District for any expense, loss, or damage caused by such violation or discharge. The North Shore Sanitary District shall bill the DCD holder for the cost incurred by the North Shore Sanitary District for any cleaning, repair, additional measures taken or replacement work caused by the violation or discharge. Refusal to pay the assessed costs shall constitute a separate violation of AN ORDINANCE RELATING TO SEWERS AND SEWER SYSTEMS.

12. PENALTIES: Any entity who is found to have violated an Order of the District or who has failed to comply with any provision of such Order, the Ordinance, this DCD, or the regulations or rules of the District, or orders of any court of competent jurisdiction, may be subject to the imposition of a civil penalty of not less than $500 and not more than $10,000 for the first violation of such Ordinance, Order or DCD and $1000 a day for each violation upon which a violation of any of the above documents occurs or continues.

# WASTEWATER DISCHARGE CONTROL DOCUMENT
# PROHIBITIVE DISCHARGE LIMITATIONS
# REGULATIONS FOR INDIVIDUAL DISCHARGERS

ATTACHMENT I

No Discharger shall contribute or cause to be contributed, directly or indirectly to the District, any pollutant or wastewater contaminant which will pass through, cause interference with or inhibition of the operation of the POTW.

No discharger shall contribute, or cause to be discharged, either directly or indirectly, any of the following described substances into the wastewater collection and treatment system, or otherwise to the facilities of the District:

a) No discharger shall increase the use of potable or process water in any way, nor mix separate waste streams for the sole purpose of diluting a discharge as a partial or complete substitute for adequate treatment, in order to achieve compliance with standards as set forth in the Ordinance or this DCD.

b) Any unpolluted water including, but not limited to, uncontaminated non-contact cooling water, storm water, surface and groundwaters, roof run-off, footing drains or construction drainage.

c) Any solids, solid wastes, liquids or gases which by reason of their nature or quantity, are or may be sufficient, either alone or by interaction, to cause fire or explosion or be injurious in any other way to the facilities or personnel of the District, or to the operation of District facilities.

Materials considered in this regard include, but are not limited to: gasoline, kerosene, naptha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, sulfides and any wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the methods specified in 40 CFR 261.21.

d) Any solid, solid waste or viscous substance which shall or may cause obstruction to the flow in a [illegible]r, or other interference to the operation of the wastewater system. Prohibited materials include b[illegible]re not limited to: grease, grease trap waste, garbage with particles greater than one-half inch (1/2") in any dimension, animal guts or tissues, paunch manure, bones, hair hides or fleshings, entrails, whole blood, feathers, ashes, cinders, sand, spent lime, stone or marble dust, metal, glass, straw, shavings, grass clippings, rags, spent grains or hops, paper, wood, plastics, residues from gas, tar or asphalt, residues from refining or processing of fuel or lubricating oils, mud or glass grinding or polishing waste, fatty acids or esters of fatty acids, or any material which can be disposed of as trash.

e) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass-through.

f) Any wastewater containing noxious or malodorous solids, liquids, or gases, which either singly or by their interaction are capable of creating a public nuisance or hazard to life, or are in sufficient quantities to prevent entry into the sewers for their maintenance and repair.

g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the District facilities in a quantity that may cause acute worker health and safety problems or which necessitate the District taking special measures to counteract and/or alleviate the impact of the pollutants.

h) Any wastewater having a temperature which shall inhibit biological activity in the District's facilities, but in no case heat in such a quantity that the influent temperature at the sewage treatment plant to which the user discharges will exceed 40°C (104°F).

i) Any substance or combination of substances which shall cause the District facilities to be in violation of its NPDES and/or other disposal systems permits, or to cause the District's facilities to violate receiving stream water quality and/or general effluent discharge standards.

j) Any substance with objectional color which is not removed in the treatment processes, such as, but not limited to: dye waste, ink waste, and vegetable tanning solutions.

k) Any wastewater having a pH less than 6.0 or higher than 9.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment or personnel in the system. The pH limits shall be met at all times, and are not subject to averaging.

l) Any wastewater containing toxic pollutants in sufficient quantity, either singly or by interaction, to injure or interfere with any wastewater treatment processes, constitute a hazard to humans or animals, or to exceed limitations as set forth in the existing Clean Water Act (Act), or the Act as it may be amended.

m) Any substance which may cause the District's treatment facility's effluents, sludges or scums, to be unsuitable for reclamation and re-use, or interfere with the reclamation processes. In no case shall a substance discharged to the District's facilities cause the District to be in non-compliance with any sludge use or disposal regulations developed under section 405 of the Act; or any regulations affecting sludge use or disposal developed pursuant to the Resource Conservation and Recovery Act, Solids Waste Disposal Act, Toxic Substance Control Act, or any State or local standards applicable to any sludge management methods either being used or considered by the District.

n) Any pollutant, including oxygen demanding pollutants, released in a discharge at a flow rate and or concentration (including any slug load), which may cause interference to or inhibition of District operations.

o) Any wastewater containing any radioactive wastes or isotopes.

p) Any wastewater containing any organism, including viruses, considered pathogenic and/or detrimental to process organisms other than by direct excrement and any other wastes defined as medical waste.

q) Any leachate, groundwater remediation or waste material, originating within the District service area, which has NOT been previously pretreated to remove pollutants to below the discharge limitations as set forth in AN ORDINANCE RELATING TO SEWERS AND SEWER SYSTEMS, or evaluated for limits if the pollutant contained in the waste does not have discharge limits specified in the Ordinance, and is not permitted as set forth in Chapter 7 of the Ordinance.

r) Any septic tank wastes, unless specifically permitted by the District, and delivered to the District facilities at designated discharge points, via a permitted septic waste hauler previously approved by the District as set forth in Chapter 7 of AN ORDINANCE RELATING TO SEWERS AND SEWER SYSTEMS.

s) Any sludges, screenings, or other residues from the pretreatment of industrial wastes.

t) Any wastewater causing the treatment plant's effluent to fail a toxicity test.

u) Any wastes containing detergents, surface active agents, or other substances which may cause excessive foaming in the District's treatment plants.

Wastes as cited above and prohibited in Section 5.01 of AN ORDINANCE RELATING TO SEWERS AND SEWER SYSTEMS shall not be processed or stored in such a manner that they could be discharged to the District sewer system.

**AGREEMENT TO ACCEPT**

**ENVIRONMENTAL REMEDIATION WASTEWATERS**

**THIS AGREEMENT**, dated as of September 15, 1992, by and between the North Shore Sanitary District, hereinafter called the "District" and Canonie Environmental Services Corp., hereinafter called the "Customer", such Agreement being identified as ERW-92-G01,

**WITNESSETH:**

WHEREAS, pursuant to the North Shore Sanitary District Act (sec. 276, 99 et. seq., Chap. 42 IL Rev. Statutes), the Board of Trustees of the District is empowered to pass all necessary ordinances, rules and regulations for the proper management and conduct of the business of the District, and

WHEREAS, the District has been requested to accept wastewaters in the form of leachate, wastewaters from Superfund sites, contaminated stormwater runoff and wastewater from surface and below ground water treatment discharges all to be known as Environmental Remediation Wastewaters (ERW), and

WHEREAS, the portion of such wastewaters received from Superfund and other environmental remediation sites that would be delivered to the District by truck, rail or dedicated pipeline is a hazardous waste under Federal regulations, and as such would not be accepted by the District, and

WHEREAS, before acceptance of such contaminated wastewaters via conveyance by the sewer system, the District requires written assurances from the USEPA and IEPA, as necessary, that such wastewaters are included within the Domestic Sewage Exclusion, and

WHEREAS, all wastewaters received under this Agreement must be in compliance with District local limits and must not be deemed hazardous according to the RCRA TCLP test, and

WHEREAS, rates established pursuant to this Agreement are intended to be in lieu of certain rates and charges and to affect other rates and charges established by District ordinances, and

WHEREAS, the District has no legal obligation to accept such wastewaters, but as a service to the Customer has voluntarily agreed to do so;

**NOW THEREFORE** it is hereby agreed between the District and the Customer as follows:

**ARTICLE I:** **DISTRICT TO ACCEPT CUSTOMER'S ERW**

The District voluntarily agrees to accept such ERW as may be conveyed to it by the Customer through the sewerage works of the District and limited to the location(s) specified in the attached Wastewater Discharge Control Document (DCD), which is hereby

made a part of this Agreement. Such acceptance is conditioned on the premise that the Customer is and fully remains in compliance with the terms of this Agreement, the attached DCD, and all other applicable requirements of the District's Ordinance Relating to Sewers and Sewer Systems, in force and effect from time to time.

**ARTICLE II:** **CONNECTION PERMITS**

If required by the District, as per the terms and conditions of the Ordinance Relating to Sewers and Sewer Systems, the Customer will obtain a connection permit from the District including the payment of the associated required fee. The connection permit and DCD must be issued by the District before any ERW may be discharged. The Customer is also responsible for obtaining any required permits from any other agencies, including the Illinois Environmental Protection Agency.

It is understood by the District that Environmental Remediation projects tend not to be permanent projects but instead usually last from only days to several years. Since the normal connection fee is based on the premise that a connection will be a permanent one, the District recognizes that an adjustment of the fee determination process is in order. Therefore, as a clarification of the Ordinance Relating to Sewers and Sewer Systems, the District will determine the Customer's preliminary connection fee based on the following formula:

Preliminary Connection Fee = Normal Connection Fee X (length in years Agreement to be in effect : 20 years) x 1.5

Upon termination of the Agreement, the final connection fee will be determined based on the following formula:

Final Connection Fee = Normal Connection Fee x (length in years Agreement in effect : 20 years)

If the final connection fee is different than the preliminary connection fee originally paid, either a supplemental amount will be assessed or a rebate issued, as the case may be.

**ARTICLE III:** **METERING AND SAMPLING**

The customer is required to meter the discharge. The meter and its installation must be approved by the District but paid for by the customer. Upon approval of the installation, the meter will be sealed by the District and an initial reading taken. The District shall thereafter have the right to inspect the meter and to take periodic readings.

The District also reserves the right to determine the frequency of sampling the discharge, which will be communicated to the customer. The District also reserves the right to change the frequency based on such factors as whether the customer appears to have exceeded the discharge limits mentioned in the DCD.

**ARTICLE IV:** **ERW ADMINISTRATIVE FEE**

The District and the Customer both recognize and agree that a significant amount of District staff time may be spent on determining the contents of the DCD, issuing a connection permit, and subsequent to signing this Agreement, in administering the Agreement. Both parties further recognize that the amount of time spent is not necessarily related to the volume of ERW discharged. Therefore, the Customer agrees to pay an administrative fee as per the schedule in the Ordinance Establishing the Fees and Charges of the North Shore Sanitary District, and further, that it is a Class G discharger according to the list of classification definitions attached and made a part of this Agreement, said class being the one that best describes the Customer.

**ARTICLE V:** **ERW VOLUME FEE**

The Customer agrees to pay the District a fee, called the ERW Volume Fee, at the rate per gallon for each gallon of such wastewaters delivered to the District as per Article I, as per the rate listed in the Ordinance Establishing the Fees and Charges of the North Shore Sanitary District.

**ARTICLE VI:** **SAMPLING AND ANALYTICAL FEES**

The Customer agrees to pay all required sampling and laboratory analytical fees for any samples and tests authorized by the District at the industrial rates in effect at the time the work was done according to the schedules in the Ordinance Establishing the Fees and Charges of the North Shore Sanitary District.

**ARTICLE VII:** **VIOLATION SURCHARGE**

Upon the recommendation of the General Manager, the Board of Trustees may agree that the Customer has violated the discharge limits contained in the DCD.

Upon this finding, the Board of Trustees shall have the power to unilaterally increase the rate mentioned in Article V by a factor of 50% for all ERW discharged on or after such determination has been made. District Staff has the authority to require the discharge to cease after a violation of the provisions within the DCD. The increased fee will be effective upon resuming of the discharge.

**ARTICLE VIII:** **ERW OUT-OF-DISTRICT FEE**
Any ERW originating or discharged at a location that is outside the legal boundaries of the District shall be invoiced at twice the rate per gallon mentioned in Article V.

**ARTICLE IX:** **INVOICING OF FEES**
The connection fee relating to the connection permit shall not be invoiced but shall be fully paid before the permit is issued. All other fees shall be invoiced monthly and shall be due 30 days upon issuance of the invoice. The invoice shall be sent to the name and address appearing in the DCD unless the Customer so specifies otherwise in writing. The District shall have the right to take any steps it deems necessary, and which it would for any other customer, to collect any amount past due. It shall also have the right to terminate and/or suspend the Agreement as per the terms of Article X.

**ARTICLE X:** **SUSPENSION AND TERMINATION OF THE AGREEMENT**
The District and the Customer may terminate this Agreement at any time by written notice.

**ARTICLE XI:** **HOLD HARMLESS CLAUSE**
The Customer agrees to indemnify, defend and hold harmless the District from any and all claims, causes of action and the like, including attorney fees, arising out of this Agreement and the actions of the Customer hereunder.

**ARTICLE XII:** **VALIDITY**
The validity of any article, clause, sentence, or provisions of this Agreement shall not affect the validity of any other part of this Agreement which can be given effect without such invalid part or parts.

**IN WITNESS WHEREOF**, the parties have caused this Agreement to be executed by their respective officers, thereunto duly authorized and their corporate seals to be hereunto affixed, the day and year first above written.

| CANONIE ENVIRONMENTAL SERVICES CORP. | NORTH SHORE SANITARY DISTRICT |
|---|---|
| BY: Kevin M. Brissette 9-15-97 | BY: Eugene D. Lukasik |
| TITLE: PROJECT MANAGER | TITLE: General Manager |
| ATTEST: Adelbert R. Knight 9-15-97 | ATTEST: Dorothy A. Baker |
| TITLE: Construction Mgr. | TITLE: SECRETARY |
| (BY: Kevin M. Brissette<br>TITLE: Project Manager) | (BY: Eugene D. Lukasik<br>TITLE: General Manager) |
| (ATTEST: Adelbert R. Knight<br>TITLE: Construction Manager) | (ATTEST: Dorothy A. Baker<br>TITLE: Secretary) |

# APPENDIX H

# SOILTECH DAILY QA/QC REPORTS

# SOILTECH DAILY QA/QC REPORT

Date Prepared: JAN 24-92
Report Date: JAN 23-92
Report Number: 99

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall: LIGHT
Temperature High: 29°F Low: 10°F

General Activity: BOTTOMS DUMPS ARE GOING WELL, OIL SAMPLES ARE THIN AND VIRTUALLY FREE OF FINES. LO G WAS RUNNING HIGHER THAN NORMAL, FOUND HOSE TO COMBUSTION AIR FEED OFF. FEED KEPT RUNNING DRY ON BELT, FOUND WIND CHILL FREEZING A CROWN ON TOP OF HOPPER CAUSING BRIDGING.

SoilTech On-line Time (hrs): 23 3/4 HRS.
SoilTech Production (tons): 209.2
SoilTech Production - Project To Date (tons): 223.4
Plant Water Consumed (gallons):
Waste Water Generated (gallons): 4035

Comments: STILL TRYING TO MAINTAIN 7.5 TO 10 TPH WITH MINOR INTERRUPTIONS. INSTALLED NEW PUMP ON BOILER, STEAM BACK ON LINE.

Recovered Oil Inventory (gallons): 1800
Recovered Oil to Date (gallons): 1800
Process Oil Inventory (gallons): NOT AVAILABLE
Diesel Oil Inventory (gallons): " "

Spills/Overflows/Explosions: NONE

Housekeeping:

Miscellaneous:

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: JAN 23-92
Report Date: JAN 22-92
Report Number: 50

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall: LIGHT
Temperature High: 43°F Low: 21°F

General Activity: PLACED NEW DRIVE PARTS ON FEED CONVEYOR. REWORKED DAMPER ASSEMBLY FOR FLUE GAS FAN #1. VAPOR SCRUBBER TOWER WAS PLUGGED, HAD TO OPEN AND CLEAN TOWER. DEBUGGING SEVERAL ITEMS OF SUPPORT FOR THE PLANT FOR START-UP OF CONTAMINATED FEED.

SoilTech On-line Time (hrs): 2 hrs 20 min
SoilTech Production (tons): 14.2 TONS
SoilTech Production - Project To Date (tons): 14.2 TONS.
Plant Water Consumed (gallons): NOT AVAILABLE
Waste Water Generated (gallons): 852

Comments: LOAD UP SAND AND FEED HOPPERS. * STARTED CONTAMINATED FEED AT 21:40 hrs / 4.5 TPH. * FEED UP TO 7.5 TPH BY 22:30 hrs. ALL IS RUNNING WELL.

Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 0
Process Oil Inventory (gallons): NOT AVAILABLE
Diesel Oil Inventory (gallons): " "

Spills/Overflows/Explosions: NONE

Housekeeping: GOOD.

Miscellaneous: PAD PLACED IN FULL LEVEL "C"

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: JAN 25-92
Report Date: JAN 24-92
Report Number: 51

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall: 1"
Temperature High: 25°F Low: 11°F

General Activity: TAILINGS SCREW TRIPPED OVERLOADS SEVERAL TIMES, FOUND THAT USING TOO MUCH WATER CAUSES A HIGH LOAD IN THE TROUGH. BAGHOUSE #2 PLUGGED, A ROTARY VALVE COUPLING BROKE. REPAIRED VAPOR CYC #2 DUMP VALVE.

SoilTech On-line Time (hrs): 23 hrs 15 min
SoilTech Production (tons): 195.7
SoilTech Production - Project To Date (tons): 419.1
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments: FEED VERY HIGH IN MOISTURE CONTENT. PREHEAT WATER WOULD NOT FLOW. FOUND PROBLEM IN DISC [redacted]STEM ASSEMBLY OF PNEUMATIC VALVE.

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 35
Diesel Oil Inventory (gallons): 40" UP LOW 77"

Spills/Overflows/Explosions:

Housekeeping: GOOD

Miscellaneous:

Prepared By: Robert P. Ladowski
Issued By: C Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: JAN 27-92
Report Date: JAN 25, 1992
Report Number: 52

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 26 Low: 14

General Activity: REFLUX LINE FROM FRACTIONATOR TO VAPOR SCRUBBER PLUGGED - HAD TO MANUALLY CROSSOVER REFLUX OIL. ALSO, BASKET FOR #2 HEAVY'S PUMP PLUGGED AND FOUND #1 HEAVY'S PUMP NOT OPERATIONAL DUE TO BAD MECH. SEAL. AT THIS TIME WENT TO SAND FEED.

SoilTech On-line Time (hrs): 19.83
SoilTech Production (tons): 175.7
SoilTech Production - Project To Date (tons): 594.8
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments: Water system lines (inflow) need to be extended in to rear of staging tank.

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons): 2916
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous:

Prepared By: G Williams
Issued By: G Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: JAN 27-92
Report Date: JAN 26-92
Report Number: 53

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 32°F Low: 16°F

General Activity: HEAVY OIL PUMP #1 CHANGED. BLOCKAGE THROUGH REFLUX VALVE 118 INTO VAPOR SCRUBBER CLEARED. BACK ON CONTAMINATED FEED AT 05:30. BEEN ON SAND FOR 6½ hrs.

SoilTech On-line Time (hrs): 18½ hrs
SoilTech Production (tons): 169.5
SoilTech Production - Project To Date (tons): 764.3
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments: LIGHT OIL PUMP FREZE UP, HAS BEEN CLEARED SINCE. CHANGED STRAINER BASKET ON #2 HEAVY'S PUMP. PACKED WITH FINES. PERFORMANCE OF NEW VAPOR CYCLONES SHOULD BE LOOKED AT.

Recovered Oil Inventory (gallons): 436.19 LBS
Recovered Oil to Date (gallons): 39,256.4 LBS 90" wc 3564 gal
Process Oil Inventory (gallons): 37"
Diesel Oil Inventory (gallons): 49 up 29 low

Spills/Overflows/Explosions: OIL LEAKING FROM MECH SEAL ON OLD #1 HEAVY PUMP. CONTAINED AND CLEANED UP ON OIL SKID.

Housekeeping: GOOD

Miscellaneous:

Prepared By: Robert P. Lachowski
Issued By: C. Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: JAN 28-92
Report Date: JAN 27-92
Report Number: 54

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 33°F Low: 24°F

General Activity: STARTED UP AUX COOLING FAN, FOUND A DEFECTIVE BEARING WILL REPAIR. FEED HAD PLUGGED UP. SOME QUANTITIES OF OILY SLUDGE DROPPED OUT OF PREHEAT CYCLONE, ONTO FEED BELT, ONLY ABOUT A 5 MIN DISRUPTION. KEEPING RX ZONE BETWEEN 1000 TO 1100°F.

SoilTech On-line Time (hrs): 24 hrs
SoilTech Production (tons): 226.5
SoilTech Production - Project To Date (tons): 990.8
Plant Water Consumed (gallons): N/A
Waste Water Generated (gallons): N/A

Comments: A WATER METER WILL BE INSTALLED ON WASTE WATER SYSTEM.

Recovered Oil Inventory (gallons): .378
Recovered Oil to Date (gallons): 3942
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping: GOOD

Miscellaneous: BUILDING A DECON AREA, FOR LEAD OPERATORS, FROM THE CONTROL ROOM TO EXCLUSION ZONE.

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: JAN 29-92
Report Date: JAN 28-92
Report Number: 55

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 43°F Low: 24°F

General Activity: CLEAN AIR ENGINEERING ON SITE TAKING TESTS. DAMPER ON FLUE GAS FAN NOT FUNCTIONING CORRECTLY NOT ENOUGH AIR FLOW-WILL ADJUST. NEED TO REGASKET TOP OF BAGHOUSE #1. AIR LEAKS IN VARIOUS LOCATIONS. RUNNING LINES OUT (ELECTRIC), FOR FAIRBANKS SCALE IN FEED PILE AREA.

SoilTech On-line Time (hrs): 24 hrs
SoilTech Production (tons): 240.4
SoilTech Production - Project To Date (tons): 1231.2
Plant Water Consumed (gallons): N/A
Waste Water Generated (gallons): N/A

ANALYTICAL RESULTS

| DATE | FEED | TAILINGS | RML EFF |
|---|---|---|---|
| 1-22-92 | 11,000 ppm | 2.2 ppm | 99.9 |
| 1-23-92 | 23000 | 2.2 | 99.9 |
| 1-24-92 | 15000 | 4.5 | 99.9 |
| 1-25-92 | 13000 | 5.9 | 99.9 |

Comments:

Recovered Oil Inventory (gallons): 918
Recovered Oil to Date (gallons): 4860
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping: GOOD

Miscellaneous: KILN OPERATION HAS BEEN STEADY AND CONSISTENT AT FEED CONSUMPTION AVG. 10 TPH.

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 1-30-92
Report Date: 1-29-92
Report Number: 56

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 40 Low: 32

General Activity: ENTRANCE TO VAPOR SCRUBBER PLUGGED - WENT ON SAND AT 17:50. POLLED MANWAY AND CLEANED OUT OBSTRUCTED AREA. BACK ON CONTAMINATED FEED AT 20:05
FAIRBANKS SCALE CERTIFIED ON 1-28-92.

SoilTech On-line Time (hrs): 21.75
SoilTech Production (tons): 218.75
SoilTech Production - Project To Date (tons): 1449.95
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments: WATER TREATMENT LINES AT WWTS TANK EXTENDED AND NOW INFLOW IS DIRECTED TO OPPOSITE END OF THE DISCHARGE OF TANK. THIS SHOULD MINIMIZE SUSPENDED SOLIDS TO CANONIE PLANT.

Recovered Oil Inventory (gallons): 648
Recovered Oil to Date (gallons): 5508
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions: NONE

ANALYTICAL RESULTS

| SAMPLE | DATE | RESULTS |
|---|---|---|
| WATER SCRUBBER | 1-25-92 | 0.28 ppm |
| FEED | 1-26-92 | 8500 ppm |
| TAIL | 1-26-92 | 7.4 ppm |
| FEED | 1-27-92 | 9600 ppm |
| TAIL | 1-27-92 | 8.9 ppm |

Housekeeping:

Miscellaneous: WHENEVER PROCESSOR FEED IS SWITCHED TO SAND - TONNAGE IS BACKED OUT OF DAILY PRODUCTION.

Prepared By: William
Issued By: William

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 1-31-92
Report Date: 1-30-92
Report Number: 57

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 44 Low: 36

General Activity: LOST FEED AT 21:26 WHEN FEED HOPPER JAMMED WITH PIECE OF LINER WENT ON SAND AT 21:30 AND REMOVED OBSTRUCTION. BACK ON CONTAMINATED FEED AT 21:40.

SoilTech On-line Time (hrs): 23.77
SoilTech Production (tons): 242.0
SoilTech Production - Project To Date (tons): 1691.95
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments: ANALYITICAL RESULTS: FEED (1-28) 9600 ppm; TAILING (1-28) 1.2 ppm; EFF 99.99%

Recovered Oil Inventory (gallons): 324
Recovered Oil to Date (gallons): 5832
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions: NONE

Housekeeping:

Miscellaneous: POURED CONCRETE FOR SCALE SUPPORT TODAY.

Prepared By: William
Issued By: William

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-3-92
Report Date: 1-31-92
Report Number: 58

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 43 Low: 32

General Activity: FEED HOPPER JAMMED WITH PLASTIC LINER MAT'L - HAND FED AROUND LINER UNTIL PROBLEM FIXED.

SoilTech On-line Time (hrs): 24
SoilTech Production (tons): 236.20
SoilTech Production - Project To Date (tons): 1928.15
Plant Water Consumed (gallons): —
Waste Water Generated (gallons): —

Comments:

Recovered Oil Inventory (gallons): 324
Recovered Oil to Date (gallons): 6156
Process Oil Inventory (gallons): —
Diesel Oil Inventory (gallons): —

Spills/Overflows/Explosions: NONE

Housekeeping:

Miscellaneous:

Prepared By: C Williams
Issued By: C Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-3-92
Report Date: 2-1-92
Report Number: 59

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 49 Low: 34

General Activity: Processor went positive due to water in off gas and went down - restarted immediately. Hopper jammed with frozen matl and had to go on sand at 0933. Blockage cleared at 10:04

SoilTech On-line Time (hrs): 23.52
SoilTech Production (tons): 231.7
SoilTech Production - Project To Date (tons): 2159.85
Plant Water Consumed (gallons): —
Waste Water Generated (gallons): —

Comments:

Recovered Oil Inventory (gallons): 848
Recovered Oil to Date (gallons): 6804
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions: NONE

Housekeeping:

Miscellaneous: Scale in place should be hooked up on 2-3-92. Having problems regulating even flow through baghouses.

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-3-92
Report Date: 2-2-92
Report Number: 60

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 50 Low: 35

General Activity: HAVING PROBLEMS WITH LOSE SW SET OF DRIVE WHEELS. SHUT DOWN AT 1622 TO BEGIN REPAIRS - RESTART AT 1643. SHUT DOWN AGAIN AT 17:36 TO FINISH REPAIR - BACK UP AT 1805. WHEELS CENTERED AND LUGS REPLACED.

SoilTech On-line Time (hrs): 23.17
SoilTech Production (tons): 239.9
SoilTech Production - Project To Date (tons): 2399.75
Plant Water Consumed (gallons): —
Waste Water Generated (gallons): —

Comments:

Recovered Oil Inventory (gallons): 971
Recovered Oil to Date (gallons): 7775
Process Oil Inventory (gallons): —
Diesel Oil Inventory (gallons): —

Spills/Overflows/Explosions: NONE

Housekeeping:

Miscellaneous:

Prepared By: C Williams
Issued By: C Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-4-92
Report Date: 2-3-92
Report Number: 61

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 52 Low: 34

General Activity: HAVING DIFFICULTIES REGULATING FLOW THROUGH BAGHOUSES — DAMPERS NOT WORKING. SHUT DOWN FLUEGAS FAN #1 IN ATTEMPT TO REDUCE FLOW WHICH RESULTED IN CONDENSATION OF VAPORS IN BAGHOUSE #1. WENT ON "HOT HOLD" AT 0825 TO INSPECT/CLEAN OUT BAGHOUSES FOUND ACCUMULATION OF DRY FINES UP TO DOOR AND MOIST FINES PACKED ALONG WALLS. ALSO, FOUND BAD SEAL AROUND TOP OF BAGHOUSE #1. WENT BACK ON CONTAMINATED AT 11:2[illegible]

SoilTech On-line Time (hrs): 19.68
SoilTech Production (tons): 178.4
SoilTech Production - Project To Date (tons): 2578.15
Plant Water Consumed (gallons): —
Waste Water Generated (gallons): —

Comments: PUT PROCESSOR BACK ON "HOT HOLD" AT 14:00 TO FINISH BAGHOUSES AND TO CALIBRATE (FINETUNE) FEED BELT SCALE. ALSO, TIGHTENED LUGS ON DRIVE WHEELS. BACK ON CONTAMINATED FEED AT 15:24.

Recovered Oil Inventory (gallons): 972
Recovered Oil to Date (gallons): 8747
Process Oil Inventory (gallons): —
Diesel Oil Inventory (gallons): —

| DATE | FEED | TAILINGS | EFF(%) |
|---|---|---|---|
| 1-29-92 | 2400 | 1.5 | 99.94 |
| 1-30-92 | 9600 | 3.9 | 99.96 |
| 1-31-92 | 12000 | 5.9 | 99.95 |
| 2-1-92 | 13000 | 3.7 | 99.97 |
| 2-2-92 | 8600 | 1.6 | 99.98 |

Spills/Overflows/Explosions: NONE

Housekeeping:

Miscellaneous: OMC WILL TAKE LOAD OF PCB WASTE OIL ON 2-5-92

Prepared By: C Williams
Issued By: C Williams

2400 - 2031.0
tons 1837.4

175

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02-05-92
Report Date: 02-09-92
Report Number: 62

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear
Rainfall/Snowfall: NONE
Temperature High: 38 Low: 18

General Activity: Processing contaminated materials and related activities - PAT water level very erratic seems to be instrumentation problems Ice chunks in Feed

SoilTech On-line Time (hrs): 24
SoilTech Production (tons): 172.4
SoilTech Production - Project To Date (tons): 2572.1 2750.55
Plant Water Consumed (gallons): —
Waste Water Generated (gallons): —

Comments: PAT water level control needed Flushed one man didn't show for work Jerry Erwin

Recovered Oil Inventory (gallons): 243
Recovered Oil to Date (gallons): 8018
Process Oil Inventory (gallons): —
Diesel Oil Inventory (gallons): —

Spills/Overflows/Explosions: —

Housekeeping: —

Miscellaneous: — BEGAN SCALING TAILINGS PILES WHICH HAVE BEEN APPROVED

Prepared By: Don Weigel
Issued By: C Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02-05-92
Report Date: 02-05-92
Report Number: 63

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear
Rainfall/Snowfall: No
Temperature High: 35 Low: 15

General Activity: Processing soil at a steel [illegible] drained PCB bulk oil tank ~~[illegible]~~ general plant maintenance and upkeep
Stack Test today 1100 - 1500

SoilTech On-line Time (hrs): 24 hrs
SoilTech Production (tons): 174.8
SoilTech Production - Project To Date (tons): 2745.5 2925.5 [illegible]
Plant Water Consumed (gallons): —
Waste Water Generated (gallons): —

Comments: Repaired Positive Positioner at PHT Blowers lost plant water supply due to broken line
Plumbed Diesel storage tank #2 into #1

Recovered Oil Inventory (gallons): 180
Recovered Oil to Date (gallons): 5986 *
Process Oil Inventory (gallons): —
Diesel Oil Inventory (gallons): —

Spills/Overflows/Explosions: NO

ANALYTICAL

| SAMPLE | DATE | RESULT |
|---|---|---|
| SCRUBBER | 2-1-92 | 160 ppb |
| FEED | 2-3-92 | 14000 ppm |
| TAILING | 2-3-92 | 3.5 ppm |
| FEED | 2-4-92 | 15000 ppm |
| TAILING | 2-4-92 | 2.1 ppm |

Housekeeping: ongoing

Miscellaneous: Nick Baartz on C shift To REPLACE JERRY IRWIN. * OIL LEVELS HAVE BEEN ADJUSTED. OMC REMOVED ~3800 GALLONS FROM SOILTECH'S WASTE OIL TANK —

Prepared By: Don Wergel
Issued By: Williams

08/5.4

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02-07-92
Report Date: 02-08-92
Report Number: 64

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear cool
Rainfall/Snowfall: no
Temperature High: 40 Low: 20

General Activity: Processing soil and general plant maintenance cleaned cooling tower sprays Flue Gas Fans repaired pump installed to transfer diesel

SoilTech On-line Time (hrs): 24 hrs
SoilTech Production (tons): 180 Tons
SoilTech Production - Project To Date (tons): 2425.1 3,105.35
Plant Water Consumed (gallons): —
Waste Water Generated (gallons): —

Comments: CARBON CHANGED OUT IN CANONIES WWTS.

Recovered Oil Inventory (gallons): 175
Recovered Oil to Date (gallons): 6161
Process Oil Inventory (gallons): —
Diesel Oil Inventory (gallons): —

Spills/Overflows/Explosions: —

Housekeeping: —

Miscellaneous: ADDING PROCESS OIL TO FRONT END OF PROCESSOR IN AN ATTEMPT TO GAIN TEMPERATURES IN PROCESSOR.

Prepared By: Don Weigel
Issued By:

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02-07-92
Report Date: 02-07-92
Report Number: 65

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear
Rainfall/Snowfall: no
Temperature High: 25 Low: 12

General Activity: General plant maintenance [illegible] ran out of Process oil at 0700 process oil ~~[illegible]~~ delivered 1900 feed is very wet

SoilTech On-line Time (hrs): 24 hrs
SoilTech Production (tons): 173.4
SoilTech Production - Project To Date (tons): 3369.2 3,228.25
Plant Water Consumed (gallons): –
Waste Water Generated (gallons): –

Comments:

Recovered Oil Inventory (gallons): 100
Recovered Oil to Date (gallons): 6261
Process Oil Inventory (gallons): 2000 gals
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions: no

Housekeeping: –

Miscellaneous:

Prepared By: Don Weigel
Issued By: [illegible]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02-09-92
Report Date: 02-08-92
Report Number: 66

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear/cold
Rainfall/Snowfall:
Temperature High: 20° Low: 5°

General Activity: General plant operations and maintenance
repaired actuators on PAT and air Gas blowers
Speed roller on Feed belt slipping needed constant attention

SoilTech On-line Time (hrs): [illegible]
SoilTech Production (tons): 155.6 TONS
SoilTech Production - Project To Date (tons): 3,434.35
Plant Water Consumed (gallons): —
Waste Water Generated (gallons): —

Comments: Feed very wet causing freeze up and bridging in Feed hopper. LOST FEED ONCE DUE TO FROZEN MAT'L JAMMING HOPPER DISCHARGE (5 MIN). ALSO, SHUT DOWN CONTAMINATED ONCE TO BRING TEMPS. UP IN REACTOR (5 MIN)

Recovered Oil Inventory (gallons): 100
Recovered Oil to Date (gallons): 6361
Process Oil Inventory (gallons): 2000 gals
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions: None

Housekeeping: —

Miscellaneous: —

Prepared By: Don Weigel
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02-09-92
Report Date: 02-09-92
Report Number: 67983

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear
Rainfall/Snowfall: no
Temperature High: 28 Low: 8

General Activity: General plant operations and maintenance

SoilTech On-line Time (hrs): 24 hrs
SoilTech Production (tons): 155.9
SoilTech Production - Project To Date (tons): 3534.1 3,590.25
Plant Water Consumed (gallons): —
Waste Water Generated (gallons): —

Comments: Boxer #1 was not operating for about 4 hours, relay was bad Bob L. got it going again PHT $H_2O$ dump line froze up thawed it out and everything is working now

Recovered Oil Inventory (gallons): 100 gals
Recovered Oil to Date (gallons): 3582.2
Process Oil Inventory (gallons): 2000 gals
Diesel Oil Inventory (gallons):

ANALYTICAL

| | | |
|---|---|---|
| 2-5 | FEED | 10000 |
| | TAILINGS | 2.5 |
| 2-6 | FEED | 12000 |
| | TAILINGS | 1.5 |

Spills/Overflows/Explosions: no

Housekeeping: Cleaning up around Feed and tailings belt

Miscellaneous: —

Prepared By: Don Weigel
Issued By: C Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02-10-92
Report Date: 02-10-92
Report Number: 68

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear
Rainfall/Snowfall: no
Temperature High: 35 Low: 20

General Activity: Processing going well. Adjusted burners and gained some production - 152 #/hour again but after some adjusting it came back low ΔP on baghouse #2 caused feed to shutdown for a few minutes.

SoilTech On-line Time (hrs): 24 hrs
SoilTech Production (tons): 192.1
SoilTech Production - Project To Date (tons): 3830.2 3,782.35
Plant Water Consumed (gallons): —
Waste Water Generated (gallons): —

Comments: Feed jamming up hopper due to Ice chunks
Stack gas monitoring continued today

Recovered Oil Inventory (gallons): 118
Recovered Oil to Date (gallons): 6733
Process Oil Inventory (gallons): 2000 gals
Diesel Oil Inventory (gallons): 300 gals

Spills/Overflows/Explosions: No

Housekeeping: ON going

Miscellaneous:

Prepared By: Don Wengel
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-12-92
Report Date: 2-11-92
Report Number: 69

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 34° Low: 21°

General Activity: OFF CONTAMINATED FEED 4 TIMES, FOR A TOTAL OF ONE HOUR - 26 MINUTES. (1) SHUTDOWN TO CHECK WAYNES & INSTALL DAMPER IN COMB AIR FAN #2 (2) BURNER #1 TRIPPED OUT BECAUSE OF HIGH-TEMP IN COMB ANNULUS. (3) & (4) LOW TEMPS IN AFTER ZONE

SoilTech On-line Time (hrs): 22 HRS. 54 MIN.
SoilTech Production (tons): 182.98 TONS
SoilTech Production - Project To Date (tons): 4055.72 TONS 3,965 25
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments: OFF-GAS VAPOR LINE TO VAPOR SCRUBBER WILL NEED TO BE CLEANED OUT AGAIN. SUCTION IS INCREASING IN NEG. PRESSURE TO AN UNACCEPTABLE LEVEL AGAIN. OBSTRUCTION EVIDENT.

Recovered Oil Inventory (gallons): 130 GALLONS TODAY
Recovered Oil to Date (gallons): 6863
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous: TEMPS WERE INCONSISTENT THROUGHOUT LATTER PART OF DAY, HARD TO REGULATE COMB ZONE PERFECTLY.

Prepared By: Charles Richards Jr
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-13-92
Report Date: 2-12-92
Report Number: 70

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear
Rainfall/Snowfall: —
Temperature High: 36° Low: 25°

General Activity: ADJUSTED AIR TO BURNERS HAD SOME TEMP. PROBLEMS AS A RESULT. WENT OFF CONT. FEED 3 TIMES, TO REGAIN TEMPS. FOR A TOTAL OF 28 MINUTES. OTHER THAN THAT TONNAGE WAS GOOD THROUGHOUT REMAINER OF DAY.

SoilTech On-line Time (hrs): 23 HRS - 3[illegible] MIN.
SoilTech Production (tons): 179.72 tons
SoilTech Production - Project To Date (tons): 4235.44 4,144.97
Recovered Oil Inventory (gallons): 356 GAL
Recovered Oil to Date (gallons): 7219
Process Oil Inventory (gallons): 81.5 IN.
Diesel Oil Inventory (gallons): 121.5 IN.

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency: (cum.) 99.97 (thru 2-9-92)

Housekeeping:

Miscellaneous: EXPERIENCED DIFFICULTIES WITH 024 AT ENTRY TO THE FRACTIONATOR. COULD NOT REFLUX FROM OVHD LATE TODAY, STILL WORKING ON IT.

Prepared By: Charles M. Rubinstein
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-14-92
Report Date: 2-13-92
Report Number: 71

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 36° Low: 28°

General Activity: WE WENT OFF CONTAMINATED FEED @ 0300 DUE TO ERRATIC BEHAVIOR IN BOTH THE PREHEAT AND REACTION ZONES. WHICH INDICATED THAT REACTOR DOOR WAS OFF OR LOOSE. SHUT DOWN AND PULLED PREHEAT DOOR TO FIND OUT THAT WASN'T THE CASE. BUT INSTEAD, FOUND OFF GAS VAPOR LINE TO SCRUBBER WAS HEAVILY OBSTRUCTED. CLEANED IT OUT AND CALIBRATED BELTS AS WELL AS FULLY INSPECTING OTHER ZONES. WENT BACK ON CONTAMINATED FEED @ 11:30.

SoilTech On-line Time (hrs): 15.5
SoilTech Production (tons): 132.16
SoilTech Production - Project To Date (tons): 4367.60 4,277.13
Recovered Oil Inventory (gallons): 158" 4024
Recovered Oil to Date (gallons): 7824
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| 2-13-92 | FEED | 13000 ppm |
| 2-13-92 | TAILINGS | 2.4 ppm |

Treatment Efficiency: [redacted] 99.98 (2-13-92)

Housekeeping: ADDED MORE INSULATION TO PROBLEMED AREA ON EXTERIOR OF VAPOR SCRUBBER.

Miscellaneous: ALSO CLEANED TAILINGS SCREW. IT WAS CAKED PRETTY HEAVILY THROUGHOUT UNIT.

Prepared By: Charles M. Richardson Jr.
Issued By: C Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-15-92
Report Date: 2-14-92
Report Number: 72

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: ¼" rain turned to sleet
Rainfall/Snowfall:
Temperature High: 34° Low: 29°

General Activity: Plant ran flawlessly @ 9.tph most of the day. Tailings screw tripped out briefly @ 0615 because of over quenching. Bumped it in reverse and went right back up. And slightly reduced quench. no problems from then on.

SoilTech On-line Time (hrs): 24 hrs.
SoilTech Production (tons): 219.20 tons
SoilTech Production - Project To Date (tons): ~~4586.8~~ 4696.33
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| 2-14-92 | FEED | 14000 ppm |
| 2-14-92 | TAILINGS | 2.9 ppm |
| | | |

Treatment Efficiency: 99.98 TAW 2-14-92

Housekeeping:

Miscellaneous:

Prepared By: [signature]
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-16-92
Report Date: 2-15-92
Report Number: 73

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 36° Low: 30°

General Activity: Drive belt to feed conveyor came off @ 0426. 2 minutes later we were rolling again. Then at 0657 it happened again. Installed new belt and were fully up, in 13 minutes. other than that, we had a relatively productive day @ 9.1 tph

SoilTech On-line Time (hrs): 23.75 HRS
SoilTech Production (tons): 215.81 TONS TODAY
SoilTech Production - Project To Date (tons): 4807.61 4,712x14
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| 2-15-92 | FEED | 13000 ppm |
| 2-15-92 | TAILINGS | 3.8 ppm |
| 2-15-92 | SCRUBBER | .570 ppm |

Treatment Efficiency: 99.97 (2-15-92)

Housekeeping:

Miscellaneous: @ 0730 Loader operator got tangled with tailings conveyor and it tripped out momentarily as a result, Its a little off balance.

Prepared By: [signature]
Issued By: W. Mimms

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-18-92
Report Date: 2-16-92
Report Number: 74

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: _____ Low: _____

General Activity: CUT FEED OFF @ 11:30 TO GAIN TEMPS. BACK UP AT 11:33. HAVING PROBLEMS KEEPING BOTH BURNERS LIT (LIMITED FEED RATE)

SoilTech On-line Time (hrs): 23.98
SoilTech Production (tons): 215.43
SoilTech Production - Project To Date (tons): 5018.04 4927.54
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| 2-16-92 | FEED | 11000 |
| 2-16-92 | TAILINGS | 2.1 |
| | | |

Treatment Efficiency: 99.98 (2-16-92)

Housekeeping:

Miscellaneous: ALL TAILINGS SCALED EXCEPT 2-14-92 AND 2-15-92 WAITING FOR RESULTS. BEGAN SCALING FEED MATERIAL IN MORNING @ 08:00

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-18-92
Report Date: 2-17-92
Report Number: 75

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 36° Low: 30°

General Activity: went on sand @ 0120 in preparation for inspection of comb. end of processor. We developed a vibration and scraping noise there. Also experienced abnormally high to low negative pressures in the preheat and reaction zones. 0220 came back up on cont. feed couldn't relight burner #2 until 0840. Seriously cut production.

SoilTech On-line Time (hrs): 0154 - 0220 DOWN 23.57 HRS.
SoilTech Production (tons): 202.64 09:54 (2-17-92) TO 06:20 (2-18-92)
SoilTech Production - Project To Date (tons): 5220.68
Recovered Oil Inventory (gallons): 4672
Recovered Oil to Date (gallons): 8472
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

5130.21

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By:
Issued By:

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02/19/92
Report Date: 02/18/92
Report Number: 76

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Rain and fog
Rainfall/Snowfall:
Temperature High: 38° F Low: 28° F

General Activity: Still experiencing abnormal high and low negative pressures in the preheat and reaction zones. Stack Testing being done. Finished the scaling of the tailings piles. ONLY FEED MATERIAL WILL BE WEIGHED FROM NOW ON.

SoilTech On-line Time (hrs): 24 hrs.
SoilTech Production (tons): 207.61 - (06:20 2/18 thru 05:30 2/19/92
SoilTech Production - Project To Date (tons): 5428.29 51334.82
Recovered Oil Inventory (gallons): 182.5 4834
Recovered Oil to Date (gallons): 8634
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: ON GOING

Miscellaneous:

Prepared By: [illegible]
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02/20/92
Report Date: 02/19/92
Report Number: 77

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Fair with snow showers
Rainfall/Snowfall:
Temperature High: 36° F Low: 34° F

General Activity: Down AT 0409 UP AT 0420
Off contaminated feed for 11 minutes due to material jam on belt. Lost burner #2 resulting in running the plant at a reduced feed rate for 3 hours

SoilTech On-line Time (hrs): 23.82 hrs. 218.60
SoilTech Production (tons): 280.21 (0530 2/17 thru 07.05 2/20)
SoilTech Production - Project To Date (tons): ~~5,268.50~~ 5,556.42
Recovered Oil Inventory (gallons): 5320
Recovered Oil to Date (gallons): 9120
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| 2-17-92 | FEED | 9200 ppm |
| 2-17-92 | TAILING | 4.1 ppm |
| 2-18-92 | FEED | 9000 ppm |
| 2-18-92 | TAILINGS | 1.4 ppm |

Treatment Efficiency: 2-17 (99.96) 2-18 (99.98

Housekeeping: on going

Miscellaneous:

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02/21/92
Report Date: 02/20/92
Report Number: 28

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Fair - cool
Rainfall/Snowfall:
Temperature High: 38°F Low: 30°F

General Activity: DOWN AT 17:29 BACK UP AT 13:40. Processor was shut down for 20 minutes due to the loss of both burners. Motor on vapor double dump valve burnt up and was repaired. Modifications were made on vapor cyclone screw.

SoilTech On-line Time (hrs): 23 hrs. 40 min.
SoilTech Production (tons): 235.10 BASED ON WEIGH SCALE
SoilTech Production - Project To Date (tons): 5943.62 5179.62
Recovered Oil Inventory (gallons): 5482
Recovered Oil to Date (gallons): 9282
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous: VAPOR CYCLONE SCREW PIPE DISCONNECTED FROM COMBUSTION ZONE AND PLATE WELDED TO SEAL COMBUSTION ZONE

Prepared By:
Issued By:

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02/22/92
Report Date: 02/21/92
Report Number: 79

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: fair
Rainfall/Snowfall:
Temperature High: 44 Low: 30

General Activity: Plant running very well. Averaging around 10.5 T.P.H.

SoilTech On-line Time (hrs): 24 hrs.
SoilTech Production (tons): 250.8
SoilTech Production - Project To Date (tons): 6194.40 6,042.32
Recovered Oil Inventory (gallons): 5806
Recovered Oil to Date (gallons): 9606
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous:

Prepared By:
Issued By:

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 02/23/92
Report Date: 02/22/92
Report Number: 80

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: partly sunny
Rainfall/Snowfall:
Temperature High: 42° Low: 30°

General Activity: Plant still running good. Maintaining around 10.5 T.P.H.

SoilTech On-line Time (hrs): 24 hrs.
SoilTech Production (tons): 253.50
SoilTech Production - Project To Date (tons): 6386.29 6,295.82
Recovered Oil Inventory (gallons): 5887
Recovered Oil to Date (gallons): 9687
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result | | EFF |
|---|---|---|---|---|
| 2-21-92 | FEED | 11,000 ppm | > | 99.98% |
| 2-21-92 | TAILINGS | 2.2 ppm | | |
| 2-20-92 | FEED | 10,000 ppm | > | 99.98% |
| 2-20-92 | TAILINGS | 2.5 | | |
| 2-19-92 | FEED | 9500 | > | 99.98% |
| 2-19-92 | TAILINGS | 1.5 | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous: Speed roller keeps malfunctioning on tailings conveyor

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: FEB 24-92
Report Date: FEB 23-92
Report Number: 81

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR - SUNNY
Rainfall/Snowfall:
Temperature High: 43°F Low: 30°F

General Activity: DOUBLE DUMP VALVE ON PREHEAT CYCLONE INNER PARTS BROKEN OFF. POSITIVE POSITIONERS ON PREHEAT BLOWERS NEEDED RECALIBRATED. VAPOR CYCLONE SCREW V BELTS BROKE, ARE NOW REPLACED

SoilTech On-line Time (hrs): 24 HRS
SoilTech Production (tons): 253.61 TONS
SoilTech Production - Project To Date (tons): ~~6639.90~~ 6,549.43
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons): 5644
Recovered Oil to Date (gallons): 9444
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping: GOOD

Miscellaneous:

Prepared By: R. Lachowski
Issued By: A Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-25-92
Report Date: 2-24-92
Report Number: 82

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: SNOW
Rainfall/Snowfall: 1"
Temperature High: 42 Low: 29

General Activity: LOST POWER TO PLANT AT 16:40 - ENGAGED INCHING DRIVE AT 16:56 - BACK TO FULL POWER BY 17:10. WENT ON SAND AT 17:25 TO BEGIN COOLING DOWN FOR MAINTENANCE TURNAROUND. DUMPED FRACTIONATOR / VAPOR SCRUBBER DRAINED OVERHEAD AND PHT TOWER. INSTALLED NEW DEMISTER & CLEANED INTAKE AND DISCHARGE PIPES TO DEMISTER. OPENED UP OFFGAS HEAT EXCHANGER.

SoilTech On-line Time (hrs): 16.92
SoilTech Production (tons): 218.48
* SoilTech Production - Project To Date (tons): 6237.49 (6467.91)
Recovered Oil Inventory (gallons): 2404
Recovered Oil to Date (gallons): 11204
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous: CLEAN AIR ENGINEERING ON-SITE TO SAMPLE RECYCLE GAS. OMC HAULED 5000 GALLONS OF WASTE OIL FROM SOILTECHS WASTE TANK.

Prepared By: Williams
Issued By: Williams

* AN ADJUSTMENT OF 618.89 TONS HAS BEEN MADE TO SOILTECH'S "PRODUCTION TO DATE" ON 2/25/92 TO ACCOUNT FOR DISCREPANCIES BETWEEN FEED BELT SCALE TONNAGE AND ACTUAL PROCESSED TONNAGE THROUGH 08:43 ON 2-16-92. (VERIFIED BY CERTIFIED FAIRBANKS SCALE)

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-26-92
Report Date: 2-25-92
Report Number: 83

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: ptly sunny
Rainfall/Snowfall: —
Temperature High: 39 Low: 22

General Activity: DRAINED WET SCRUBBER / COOLING TOWER, PULLED CARBON BED FRO STACK AND BEGAN PREPARING NEW BASKET, INSPECTED THE INSIDE OF THE COMB. END OF PROCESSOR - LOOKS GOOD NO STRUCTURAL FAILURE, CLEANED OVHD DRUM AND BOOT, PULLED WET SCRUBBER BASKETS AND PACKING AND INSPECTED, MUCKED OUT SCRUBBER, FRACT. BASKET AND PACKING REMOVED AND REPLACED W / CLEAN UNIT, CLEANED BO BELTS AND ROLLERS, REPLACED SOME ROLLE ON TAILINGS CONV, PLA SUPPORTS FOR T. CONVE

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 6239.49
Recovered Oil Inventory (gallons): 2404
Recovered Oil to Date (gallons): 11204
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result | |
|---|---|---|---|
| 2-22-92 | FEED | 7300 ppm | > 99.98% |
| 2-22-92 | TAILING | 1.3 ppm | |
| 2-23-92 | FEED | 6900 ppm | > 99.97% |
| 2-23-92 | TAILING | 1.8 ppm | |

Treatment Efficiency: CUMULATIVE 99.97%

Housekeeping:

Miscellaneous: CLEANED SPRAYS IN SCRUBBER TOWER, CLEANED INLET TO VAPOR SCRUBBER AND FRACTIONATOR, CHANGED STRAINERS ON BOTH BOTTOMS PUMPS AND CHECKED STRAINERS ON HEAVIES PUMPS

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-27-92
Report Date: 2-26-92
Report Number: 83

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 45 Low: 28

General Activity: cleaned pressure relief valves on side of fractionator & VPS and installed slide on front, VPS, and oxid Hx & and scrubber demister unit. inspected/repaired pht double dump valve. prepared new carbon bed and installed. Removed cover on pht Hx and flushed tube. had to replace demister. Removed/installed FG fan damper. continue work on thermocouples

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 6239.49
Recovered Oil Inventory (gallons): 2404
Recovered Oil to Date (gallons): 11204
Process Oil Inventory (gallons): —
Diesel Oil Inventory (gallons): —

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 2-28-92
Report Date: 2-27-92
Report Number: 85

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear
Rainfall/Snowfall: —
Temperature High: 45 Low: 26

General Activity: COOLING TOWER FLUSHED OUT, CLEANED OUT HEADERS/SPRAYS, WELDING IN PHT FINISHED, OFFGAS RETURN LINE CLEANED OUT, SEALED BAGHOUSE DOORS. ANTICIPATE START-UP EARLY ON 2-28-92

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 6239.49
Recovered Oil Inventory (gallons): 2404
Recovered Oil to Date (gallons): 11204
Process Oil Inventory (gallons): —
Diesel Oil Inventory (gallons): —

Analytical:

| Date | Sample | Result |
|---|---|---|
| 2-24-92 | FEED | 7300 ppm > 99.98% |
| 2-24-92 | TAILINGS | 1.6 ppm |

Treatment Efficiency: CUM: 99.97%

Housekeeping: ON GOING

Miscellaneous:

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-2-92
Report Date: 2-28-92
Report Number: 86

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear
Rainfall/Snowfall: —
Temperature High: 52 Low: 34

General Activity: Filled oil in fractionator/vapor scrubber and began circulation, filled cooling tower and began circulation, completed repairs to conv. seal, added carbon to carbon tower to bring depth to about 20", replaced lugs on drive/idler wheels as necessary. calibrated fce belt, repaired broken water line (plant water), Began heat up at 17:45, Sand started @ 18:55 started pugg up at processor when rubber flaps were added during down-turn to help seal pkt. - rubber flaps modified and sand restarted at 21:00.

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 6767.91
Recovered Oil Inventory (gallons): 2404
Recovered Oil to Date (gallons): 11204
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-2-92
Report Date: 2-29-92
Report Number: 87

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 50 Low: 36

General Activity: STARTED CONTAMINATED FEED AT 00:05 HAD TO REPLACE LEAKING BOTTOMS OIL PUMP. LOST POWER TO PLANT FOR FEW MINUTES AT 0645 AND AGAIN SHORTLY AFTER.

SoilTech On-line Time (hrs): 23.92
SoilTech Production (tons): 769.5
SoilTech Production - Project To Date (tons): 6937.41
Recovered Oil Inventory (gallons): 2404
Recovered Oil to Date (gallons): 11204
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: ON GOING

Miscellaneous:

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-2-92
Report Date: 3-1-92
Report Number: 88

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 71 Low: 46

General Activity: LOST FEED AT 1600 AND 21:24 DUE TO BRIDGING AT HOPPER — REGAINED FEED IMMEDIATELY BOTH TIMES.

SoilTech On-line Time (hrs): 24
SoilTech Production (tons): 188.6
SoilTech Production - Project To Date (tons): 7126.01
Recovered Oil Inventory (gallons): 2404
Recovered Oil to Date (gallons): 11204
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3/3/92
Report Date: 3/2/92
Report Number: 89

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 50° Low: 38°

General Activity: Lost 15 min. Due To High Amp on Flue Gas Fan #1.
Lost Tailings Screw once Plant ran good. Clean Air on site Stack Testing.

SoilTech On-line Time (hrs): 23.75 hrs.
SoilTech Production (tons): 185.90 Tons
SoilTech Production - Project To Date (tons): 7311.91
Recovered Oil Inventory (gallons): 195" inc. 5720
Recovered Oil to Date (gallons): 14170
Process Oil Inventory (gallons): = 67"
Diesel Oil Inventory (gallons): = 62½"

TANK #1 27" #2 40"

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: Good.

Miscellaneous:

Prepared By: Wayne Rawlinson
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 03/04/92
Report Date: 03/03/92
Report Number: 90

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 47° Low: 36°

General Activity: Went off contaminated feed at 18:00 for 3 hours due to testing of flue gas stream. Also the carbon bed was filled.

SoilTech On-line Time (hrs): 21 hrs.
SoilTech Production (tons): 168.3 Tons
SoilTech Production - Project To Date (tons): 7488.21
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| ~~Date~~ | ~~Sample~~ | Result |
|---|---|---|
| FEED | 2-28-92 | 6400 |
| TAILINGS | 2-28-92 | .98 |
| FEED | 2-29-92 | 7500 |
| TAILINGS | 2-29-92 | .99 |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous:

Prepared By: [signature]
Issued By:

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 03/05/92
Report Date: 03/04/92
Report Number: 91

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 49° Low: 37°

General Activity: plant ran fairly good, maintained an 8 TPH rate CLEAN AIR ENGR. ON SITE FOR STACK TESTING

SoilTech On-line Time (hrs): 24 hr.
SoilTech Production (tons): 190.7 Tons
SoilTech Production - Project To Date (tons): 7690.91
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous:

Prepared By: DK
Issued By: W Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 03-06-92
Report Date: 03-05-92
Report Number: 92

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Foggy
Rainfall/Snowfall: light rain
Temperature High: 55 Low: 35

General Activity: Processing soil wasteoil pump leaking shut it down and will repair seal gear pump for process oil leaking
Flushing fractionator and vapor scrubber to prepare for flue gas test 2 flue gas test runs today started shutdown at 2 out hrs (1073.4)

SoilTech On-line Time (hrs): 20 hrs
SoilTech Production (tons): 18.8 tons
SoilTech Production - Project To Date (tons): 7829.21
Recovered Oil Inventory (gallons): 4834
Recovered Oil to Date (gallons): 19834
Process Oil Inventory (gallons): 97"
Diesel Oil Inventory (gallons): 57"

Analytical:

| Date | Sample | Result |
|---|---|---|
| 3-1-92 | FEED | 7900 ppm |
| 3-1-92 | TAILING | 0.86 ppm |
| 3-2-92 | FEED | 6400 ppm |
| 3-2-92 | TAILING | 0.43 ppm |

Treatment Efficiency:

Housekeeping: ongoing

Miscellaneous:

Prepared By: Don Weigel
Issued By: G Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 03-08-92
Report Date: 03-06-92
Report Number: 93

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Cloudy Fog
Rainfall/Snowfall: .75
Temperature High: 58 Low: 40

General Activity: Process operations are shutdown while awaiting Flue Gas test results. Crew will be working on housekeeping and general maintenance chores

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 7829.21
Recovered Oil Inventory (gallons): 4834
Recovered Oil to Date (gallons): 13634
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result | |
|---|---|---|---|
| 3-3-92 | FEED | 8100 ppm | > 99.99% |
| 3-3-92 | TAILINGS | 0.51 ppm | |
| 3-4-92 | FEED | 6600 ppm | > 99.99% |
| 3-4-92 | TAILINGS | 0.61 ppm | |

Treatment Efficiency: THRU 3-4-92 99.97

Housekeeping: Washing down oil recovery skid

Miscellaneous:

Prepared By: Don Weigel
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 03-08-92
Report Date: 03-07-92
Report Number: 94

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Cloudy Foggy
Rainfall/Snowfall:
Temperature High: 52 Low: 41

General Activity: No material processed today operations put on temporary hold awaiting flue gas test results crew is cleaning equipment and performing minor maintenance tasks

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 7829.21
Recovered Oil Inventory (gallons): 4834
Recovered Oil to Date (gallons): 13634
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: Don Weigel
Issued By: A Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 03-09-92
Report Date: 03-09-92
Report Number: 95

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Cloudy
Rainfall/Snowfall:
Temperature High: 55 Low: 40

General Activity: Plant is down waiting for flue gas analysis results. Cleaning up around processor. required PHT water and oil pumps

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 7829.21
Recovered Oil Inventory (gallons): 4834
Recovered Oil to Date (gallons): 13634
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: Cleaning around processor

Miscellaneous:

Prepared By: Don Wangel
Issued By: [illegible]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 03-10-92
Report Date: 03-09-92
Report Number: 96

Job Location: Waukegan
Job Number: 91-284

Weather:
Condition: Cooling down Evening Snow and rain
Rainfall/Snowfall: 0
Temperature High: 61° Low: 20°

General Activity: Brought processor up to operating temperature and ran clean sand for a few hours. Shutdown processor. Drained all vessels that contain water, drained all water pumps in case it gets below freezing tonight. Continuing minor repairs and maintenance on various units

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| 3-5-92 | FEED | 6300 ppm |
| 3-5-92 | TAILINGS | 0.53 ppm |

> 99.99%

Treatment Efficiency: THRU 3-5-92 99.97%

Housekeeping:

Miscellaneous: lost electrical power 12:55 hrs short outage

Prepared By: Don Weigel
Issued By: A Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-12-92
Report Date: 3-10-92
Report Number: 97

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Snow
Rainfall/Snowfall: 3"
Temperature High: 25 Low: 12

General Activity: (1) REBUILDING DOUBLE DUMP VALVES (2) INSTALLING WATER LINE FROM COOLING TOWER PIPING TO TAILINGS QUENCH (3) CLEANED ENTRANCES TO VAPOR SCRUBBER AND FRACTIONATOR

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: C Williams
Issued By: C Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-12-92
Report Date: 3-11-92
Report Number: 98

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 24 Low: 10

General Activity: (1) CONTINUING WORK ON DOUBLE DUMP VALVES (2) INSTALLING SAMPLE PORTS ON PHT AND OFF-GAS LINES (3) INSTALLING THERMOCOUPLES (4) ADJUSTING BURNERS (5) WELDED CRACKED HUB (6) CLEANED STRAINER BASKETS ON BIOREACTOR AND HEAVY'S PUMPS

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-16-92
Report Date: 3-12-92
Report Number: 99

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 35 Low: 18

General Activity: (1) MAKING CARBON UNITS FOR PHT AND OFF GAS VAPOR LINES (2) MAKING RUBBER SEALS FOR PHT ENTRY BOX (3) REMOVING BAGS FROM BAGHOUSES (4) CHANGED CARBON IN TOWER AND FILLED WET SCRUBBER BASKETS WITH PACKING

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-16-92
Report Date: 3-13-92
Report Number: 100

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 38 Low: 20

General Activity: (1) REPLACED ALL BAGS IN BAGHOUSES AND COATED BAGS WITH LIME (2) INSTALLING CARBON FILTERS ON PHT AND OFFGAS VAPOR LINES (3) INSTALLED RUBBER SEALS ON PHT ENTRY BOX

SoilTech On-line Time (hrs):
SoilTech Production (tons):
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: [illegible]
Issued By: [illegible]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-16-92
Report Date: 3-14-92
Report Number: 101

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 40 Low: 24

General Activity: ① CHECKED BAGHOUSES FOR LEAKS - NO LEAKS DETECTED ② CONTINUED WORK ON PHT AND OFF-GAS CARBON UNITS

SoilTech On-line Time (hrs): 8
SoilTech Production (tons):
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-16-92
Report Date: 3-15-92
Report Number: ~~89~~ 102

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 42 Low: 24

General Activity: ① FINISHED PIPING ON OFF-GAS CARBON FILTER AND ON PAT FILTER

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous: LOST POWER FROM 0745 TO 1410

Prepared By: G Williams
Issued By: G Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-17-92
Report Date: 3-16-92
Report Number: 103

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall: ½" RAIN
Temperature High: 35° Low: 22°

General Activity: Started systems and components checks @ 0000 Burners on @ 0430 and clean sand started @ 0646 Lost a seal on Heavies Oil pump #1 valved out and operating with #2 pump only. Did not heat up oil handling skid yet. But started the preheat system @ 21:00 on sand and holding temps. until am when hopefully we will get o.k. to go on feed.

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 7829.21
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons): 13634
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: ON GOING

Miscellaneous: While checking plant components, Had to install motor on vapor cyclone #2 double-dump valve. Also had difficulties with compressors freezing lines.

Prepared By: Charles M. Rudenberg
Issued By: CWilliams

# SUBCONTRACTOR DAILY REPORT

REPORT NO.: 103
DATE: 3-16-92
WEATHER: CLEAR

SUBCONTRACTOR SOILTECH ATP SYSTEMS, INC.

WORK DESCRIPTION:
Started heating plant up @ 0430 went on sand @ 0646. Had a few equipment failures but nothing serious. On sand (clean) unit go ahead from Joe tommorow. At which time we will go on contaminated in preparation for stack-testing

PRODUCTION:
on-line for 0 hours
processed 0 tons

MANPOWER: (NUMBER IN EACH CLASSIFICATION)

SUPERVISION: 8
MECHANICS: 8
APPRENTICES: 2
UMATAC: 0
OTHER: 1 Admin

EQUIPMENT:

| QUANTITY | DESCRIPTION |
|---|---|
| 1 | CASE 1845 "BOBCAT" (SOILTECH) |
| 2 | CAT IT28-B HI-LIFT (PATTEN) |
| 1 | HYDRULIC CRANE |

SAFETY:
No problems today

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 03/18/92
Report Date: 03/17/92
Report Number: 104

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 38° Low: 24°

General Activity: Went on contaminated feed @ 10:42 preparing for stack test on Wednesday. Ran a test on the flue gas cyclone fines. WENT ON SAND AT 20:46 BACK ON CONTAMINATED AT 21:50.

SoilTech On-line Time (hrs): 12.23
SoilTech Production (tons): 105.5
SoilTech Production - Project To Date (tons): 7934.71
Recovered Oil Inventory (gallons): 3400
Recovered Oil to Date (gallons): 13800 SHIPPED OUT
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous: Tailings screw: Tripped on high amps. @ 18:30. Had problems with high water level in preheat Tower. Valve had Trash in it.

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 03/19/92
Report Date: 03/18/92
Report Number: 105

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 40° Low: 28°

General Activity: Stack Test was started @ 12:23 and was completed @ 16:30. Went off contaminated feed @ 17:43 and went on sand feed. Will continue in a hot hold, running @ 4 TPH on sand until noon Tomorrow.

SoilTech On-line Time (hrs): 17.77
SoilTech Production (tons): 154.28
SoilTech Production - Project To Date (tons): 8088.99
Recovered Oil Inventory (gallons): 3400
Recovered Oil to Date (gallons): 13800 SHIPPED
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous: Repaired leaking heavys oil pump #2

Prepared By: [illegible]
Issued By: [illegible]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-23-92
Report Date: 3-19-92
Report Number: 106

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: _____ Low: _____

General Activity: RUNNING ON SAND (COOL DOWN) UNTIL 17:09
ROSE TWP. CLIENTS ON-SITE. AFTER SHUTDOWN
DRAINED FRACTIONATOR, VAPOR SCRUBBER,
COOLING TOWER, & OVERHEAD TANK

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): _____
Recovered Oil Inventory (gallons): _____
Recovered Oil to Date (gallons): _____
Process Oil Inventory (gallons): _____
Diesel Oil Inventory (gallons): _____

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency: _____

Housekeeping: CLEANING CONTAINMENT AREA AROUND WASTE
OIL TANK

Miscellaneous: CHERRY PICKER TAKEN OFF SITE
FIRE DEPT. VISITED SITE FOR ORIENTATION

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-23-92
Report Date: 3-20-92
Report Number: 107

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: _____ Low: _____

General Activity: (1) WELDED INSPECTION PORT ABOVE PHT CYCLONE
(2) CLEANED OBSTRUCTION FROM VAPOR SCRUBBER ENTRANCE
(3) CLEANED PHT VAPOR TUBE FROM CYCLONE TO Hx

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): _____
Recovered Oil Inventory (gallons): _____
Recovered Oil to Date (gallons): _____
Process Oil Inventory (gallons): _____
Diesel Oil Inventory (gallons): _____

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency: _____

Housekeeping: _____

Miscellaneous: _____

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-23-92
Report Date: 3-21-92
Report Number: 108

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall: HEAVY
Temperature High: 26°F Low: 11°F

General Activity: PULL APART THERMOCOUPLE BOX ON SLIP RINGS, FOUND SEVERAL WIRES BROKEN. PULLED APART COMBUSTION VENT TO ATMOSPHERE AND REPAIR, INSTALL NEW AIR ACTUATOR FOR SAME. CUT DIAMETER ON BURNER BLOCK FROM 5" TO 7½" ALSO, CUT DIAMETER ON EXISTING BLOCK ANOTHER ¼"

SoilTech On-line Time (hrs): DOWN TURN
SoilTech Production (tons):
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: GOOD

Miscellaneous:

Prepared By: Robert P. Sachnoski
Issued By: [illegible]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-23-92
Report Date: 3-22-92
Report Number: 109

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: _____ Low: _____

General Activity: DID NOT WORK

SoilTech On-line Time (hrs): _____
SoilTech Production (tons): _____
SoilTech Production - Project To Date (tons): _____
Recovered Oil Inventory (gallons): _____
Recovered Oil to Date (gallons): _____
Process Oil Inventory (gallons): _____
Diesel Oil Inventory (gallons): _____

Analytical:

| Date | Sample | Result | |
|---|---|---|---|
| 3-17-92 | FEED | 9900 ppm | > 99.99 |
| 3-17-92 | TAILINGS | 1.4 ppm | |
| 3-18-92 | FEED | 10000 ppm | > 99.96 |
| 3-18-92 | TAILINGS | 3.8 ppm | |

Treatment Efficiency: 99.97

Housekeeping: ON GOING

Miscellaneous: _____

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-25-92
Report Date: 3-23-92
Report Number: 110

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 46 Low: 33

General Activity: PLANT MAINTENANCE AND CLEAN-UP. COOLING TOWER SPRAYS CLEANED, PHT SUMP EMPTIED, VAPOR CYCLONE FINES HOPPER EMPTIED, INSPECTED STRAINER BASKETS ON PUMPS

SoilTech On-line Time (hrs): _____
SoilTech Production (tons): _____
SoilTech Production - Project To Date (tons): _____
Plant Water Consumed (gallons): _____
Waste Water Generated (gallons): _____

Comments: _____

Recovered Oil Inventory (gallons): _____
Recovered Oil to Date (gallons): _____
Process Oil Inventory (gallons): _____
Diesel Oil Inventory (gallons): _____

Spills/Overflows/Explosions: _____

Housekeeping: _____

Miscellaneous: _____

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-25-92
Report Date: 3-24-92
Report Number: 118

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 50 Low: 34

General Activity: GENERAL PLANT MAINTENANCE AND CLEAN-UP. INSPECTED COOLING ZONE SUPPORTS (4 SUPPORTS BROKEN, 1 CHAIN BROKEN)

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous:

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-26-92
Report Date: 3-25-92
Report Number: 112

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 48 Low: 33

General Activity: (1) INSTALLED PREHEAT SEAL (2) REPLACED BROKEN SUPPORTS IN PREHEAT ZONE (3) CALIBRATED FEED AND TAILINGS BELTS

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-31-92
Report Date: 3-26-92
Report Number: 113

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 42 Low: 26

General Activity: PLANT REMAINS ON STAND-BY
GENERAL PLANT MAINTENANCE AND
CLEAN UP IS ONGOING

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-31-92
Report Date: 3-27-92
Report Number: 114

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 50 Low: 31

General Activity: PLANT REMAINS ON STANDBY
GENERAL PLANT MAINTENANCE AND
CLEANING IS ONGOING

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-31-92
Report Date: 3-28-92
Report Number: 115

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall:
Temperature High: 48 Low: 30

General Activity: BEGAN PAINTING PROCESSOR
CONTINUED TILING CONTROL ROOM FLOOR

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-31-92
Report Date: 3-29-92
Report Number: 116

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: _____ Low: _____

General Activity: DID NOT WORK TODAY

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 3-31-92
Report Date: 3-30-92
Report Number: 117

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 52 Low: 34

General Activity: CONTINUED PAINTING PROCESSOR MAINTENANCE TASKS AND CLEANING ONGOING.

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-6-92
Report Date: 3-31-92
Report Number: 118

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 40 Low: 28

General Activity: CONTINUE CLEAN-UP AND PAINTING.

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous:

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-6-92
Report Date: 4-1-92
Report Number: 119

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 46 Low: 34

General Activity: HOOK UP TELEMETRY UNIT

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous: DRUG & ALCOHOL PRESENTATION GIVEN BY ANDY KOCZON & LARRY ANDERSEN

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-6-92
Report Date: 4-2-92
Report Number: 120

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 46 Low: 30

General Activity: WELDING IN PROCESSOR, WORKING ON SODA ASH APPLICATION EQUIPMENT, TIED COOLING TOWER SPRAYS IN PLACE W/WIRE SO THAT PRESSURE CAN BE INCREASED

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments: FILLED TOWERS W/ PROCESS OIL IN ANTICIPATION OF HEAT UP ON 4-3-92. CONTINUE FINE TUNING OF TELEMETRY UNIT.

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous: BEGAN TRANSPORTING MISC. EQUIPMENT TO KINGSBURY FOR STORAGE.

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-6-92
Report Date: 4-3-92
Report Number: 121

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall:
Temperature High: 50 Low: 36

General Activity: CONTINUED WELDING IN PROCESSOR AND PAINTING. MAINTENANCE TO FLUE GAS FAN, HEAVIES PUMPS.

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous: MADE ANOTHER TRIP TO KINGSBURY TO STORE MISC. EQUIPMENT & SUPPLIES.

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-6-92
Report Date: 4-4-92
Report Number: 122

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall:
Temperature High: 50 Low: 32

General Activity: MAINTENANCE TO FLUE GAS FAN, HEAVIES PUMP

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous: SEAN GOODWIN & GORD TACIUK ON-SITE

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-6-92
Report Date: 4-5-92
Report Number: 123

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall:
Temperature High: 54 Low: 36

General Activity: COMPLETED WELDING IN PROCESSOR
WORKED ON TELEMETRY UNIT

SoilTech On-line Time (hrs):
SoilTech Production (tons):
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-7-92
Report Date: 4-6-92
Report Number: 124

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 57 Low: 42

General Activity: CALIBRATED FEED AND TAILINGS BELTS, INSPECTED BAGHOUSES, INSTALLED REACTOR STEAM BAFFLE, RAN SAND FOR 2 HOURS - SHUT DOWN TO INSPECT PREHEAT ZONE, INSPECTED BURNERS

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous:

Prepared By: CWilliams
ssued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-8-92
Report Date: 4-7-92
Report Number: 125

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 60° Low: 39°

General Activity: Worked on preheat, telemetry system and pumps until first shift arrived and prepped plant for start-up on sand. Started burner @ 1533. Remainder of day was used to fine tune components.

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-9-92
Report Date: 4-8-92
Report Number: 126

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 59° Low: 48°

General Activity: STARTED CONTAMINATED FEED @ 0506 RAN VERY WELL. EXPERIMENTING AND TESTING WENT ON ALL DAY. FEED WAS OFF FOR A TOTAL OF 23 MINUTES SINCE 506 AM FOR TEST PURPOSES.

SoilTech On-line Time (hrs): 18 hours and 31 minutes on cont. feed.
SoilTech Production (tons): 150.0
SoilTech Production - Project To Date (tons): 8238.99
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 1998
Diesel Oil Inventory (gallons): 888

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: ongoing.

Miscellaneous:

Prepared By: Charles M. Robertson Jr.
Issued By: William

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-10-92
Report Date: 4-9-92
Report Number: 127

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 68° Low: 49°

General Activity: Running on cont feed all day.
Vapor cyclones plugged up a few times due to new flights installed in reactor.
Flue gas tested today
Tailings screw tripped out because of overquenching.

SoilTech On-line Time (hrs): 23 hrs and 45 minutes
SoilTech Production (tons): 218.28
SoilTech Production - Project To Date (tons): 8457.27
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 570
Diesel Oil Inventory (gallons): 1926

Analytical:

| Date | Sample | Result |
|---|---|---|
| 4-7-92 | FEED | 6600 ppm |
| 4-7-92 | TAILING | 4.6 ppm |

Treatment Efficiency: 99.93% (4-7-92)

Housekeeping: Watered down area around and in plant to keep dust down.

Miscellaneous: Boiler back on line
Data logged every minute during testing.
Then back to 10 minute intervals

Prepared By: [signature]
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-11-92
Report Date: 4-10-92
Report Number: 128

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 69° Low: 52°

General Activity: Ran well today. Started stack test @ 0842 and completed @ 1303 went off cont. feed @ 1517 and went on sand to cool down. Took pressure profile of processor on inching drive. DURING STACK TEST ADDED POWDERED ACTIVATED CARBON TO BAGHOUSES

SoilTech On-line Time (hrs): 15 hrs 18 minutes
SoilTech Production (tons): 143.62
SoilTech Production - Project To Date (tons): 8600.89
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 482
Diesel Oil Inventory (gallons): 1926

Analytical:

| Date | Sample | Result ppm | |
|---|---|---|---|
| 4-8-92 | FEED | 9200 | > 99.98 |
| 4-8-92 | TAILING | 1.5 | |
| 4-9-92 | FEED | 8600 | > 99.99 |
| 4-9-92 | TAILING | 1 | |

Treatment Efficiency: THRU 4-9 99.97%

Housekeeping: Cleaned cyclones, prepared for shutdown emptied cont. feed hopper.

Miscellaneous: Coming down for modifications latter part of day. Tested today

Prepared By: Charles M. Richards Jr.
Issued By: W. Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-12-92
Report Date: 4-11-92
Report Number: 129

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 54° Low: 49°

General Activity: Continued cooldown procedure in preparation for reactor modification. went off sand @ 0145, stopped processor @ 0359. Worked until 1940 on removing s/s in reactor. Discovered preheat seals outside riding rings @ 2052 and still working to align it. Then prepping plant to resume operations.

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 8600.89
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 482
Diesel Oil Inventory (gallons): 1926

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency: 99.97%

Housekeeping: ON GOING

Miscellaneous: CLEANED OUT VAPOR SCRUBBER ENTRANCE AND OG HEAT EXCHANGER. REMOVED EXPANDED METAL AND ANGLE IRON FROM REACTOR

Prepared By: [signature]
Issued By: W. Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-14-92
Report Date: 4-12-92
Report Number: 130

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 49 Low: 34

General Activity: Started sand feed at 14:30 and went on contaminated at 20:16

SoilTech On-line Time (hrs): 3 hr 44 min
SoilTech Production (tons): 30.12
SoilTech Production - Project To Date (tons): 8631.01
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping: on going

Miscellaneous:

Prepared By: [illegible]
Issued By: [illegible]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04-13-92
Report Date: 04-13-92
Report Number: 131

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear
Rainfall/Snowfall: no
Temperature High: 48 Low: 30

General Activity: Processing soil until 1930 hrs tails screw auger shaft has broken in two shutdown processor crew will try to repair it

SoilTech On-line Time (hrs): 19½ hrs
SoilTech Production (tons): 194.9
SoilTech Production - Project To Date (tons): 8825.91
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments: PHT cyclone plugged on morning shift used steam to loosen material and clean the unit out DP cells on Vapor scrubber needed blowing out blew out dip legs on Frac tower also

Recovered Oil Inventory (gallons): 225 Gals
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 250 Gals
Diesel Oil Inventory (gallons): 2250

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous:

Prepared By: D. Merzel
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04/15/92
Report Date: 04/14/92
Report Number: 132

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: RAIN
(Rainfall)/Snowfall: 1/2
Temperature High: 56 Low: 38

General Activity: Went back on contaminated feed @ 0451 after the repair of a broken Tailings screw.

SoilTech On-line Time (hrs): 19.15
SoilTech Production (tons): 168.0
SoilTech Production - Project To Date (tons): 8993.91
Recovered Oil Inventory (gallons): 5401
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 182
Diesel Oil Inventory (gallons): 2430

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous: PHT seal out of Track
Northwest single idler wheel has a 3" crack

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04/16/92
Report Date: 04/15/92
Report Number: 133

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: RAIN
Rainfall/Snowfall: 2"
Temperature High: 58 Low: 42

General Activity: Shut down @ 12:05 To repair 5 broken support legs in the cooling zone. Also repair preheat seal. Repairs were completed and ready for startup @ 22:00

SoilTech On-line Time (hrs): 12.08
SoilTech Production (tons): 108.75
SoilTech Production - Project To Date (tons): 9102.66
Recovered Oil Inventory (gallons): 5482
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 182
Diesel Oil Inventory (gallons): 2400

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous: Cleaned out vapor scrubber

Prepared By: [illegible]
Issued By: [illegible]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04/17/92
Report Date: 04/16/92
Report Number: 134

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Rain showers
Rainfall/Snowfall:
Temperature High: 66 Low: 44

General Activity: Started on contaminated feed @ 0100 following repairs made on kiln. Stopped processor from 0218 To 0224 To replace battery on telemetry system. Also down from 0852 To 0855 To check thermocouples. Went on sand feed @ 1726 per Joe Hutton pending results of meeting with E.P.A. Tomorrow.

SoilTech On-line Time (hrs): 16 hr. 17 min.
SoilTech Production (tons): 125.78
SoilTech Production - Project To Date (tons): 9228.44
Recovered Oil Inventory (gallons): 6130
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 182
Diesel Oil Inventory (gallons): 8400

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous:

Prepared By:
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-20-92
Report Date: 4-17-92
Report Number: 135

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall: —
Temperature High: 65 Low: 55

General Activity: MAINTAINED HOT HOLD UNTIL 0900 WHEN REPAIRS WERE STARTED ON TAILINGS BELT TAIL BEARING AND ISOLATION VALVES WERE INSTALLED ON FRACTIONATOR HEAT EXCHANGER.

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228.44
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments: STACK TEMPERATURE INTERLOCK CONNECTED AND OPERATIONAL. ALARM WILL SOUND AT 195°F AND FEED WILL CUT OFF WHEN STACK DISCHARGE REACHES 200°F

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping: ON GOING

Miscellaneous: STARTED HEAT UP FOLLOWING REPAIRS AT 1510 NOTIFIED TO SHUT DOWN AT 1605. IMMEDIATELY STARTED COOL DOWN

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-20-92
Report Date: 4-18-92
Report Number: 136

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: RAIN
Rainfall/Snowfall: 1"
Temperature High: 74 Low: 57

General Activity: INSPECTED COOLING ZONE - 1 CHAIN BROKEN
1 SUPPORT MISSING

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228.44
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous: PLANT SHUT DOWN FOR EASTER AT 15:00 WILL RESUME SHIFTS AT 2300 ON 4-19-92

Prepared By: Williams
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-20-92
Report Date: 4-19-92
Report Number: 137

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: RAIN
Rainfall/Snowfall: 2"
Temperature High: 72 Low: 52

General Activity: SHIFTS RESUMED AT 2300 STARTED PROCESSOR ROTATION AT 2345 AND HEAT-UP AT 2353

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228.44
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping:

Miscellaneous:

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-21-92
Report Date: 4-20-92
Report Number: 138

Job Location: Waukegan
Job Number: 91-284

Weather:
Condition: RAIN
Rainfall/Snowfall: 1/2
Temperature High: 71 Low: 59

General Activity: CONTINUED HEAT UP OF PROCESSOR ON CLEAN SAND - MAINTAINED TEMPS UNTIL 1712 WHEN LEARNED THAT WE WOULD NOT BE OK TO START CONTAMINATED FEED UNTIL APPROVAL AT A LATER DATE.

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 1000
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result | |
|---|---|---|---|
| 4-10-92 | FEED | 9000 | > 99.99 |
| 4-10-92 | TAILINGS | 1.1 | |
| 4-11-92 | FEED | 8700 | > 99.98 |
| 4-11-92 | TAILINGS | 1.4 | |

Treatment Efficiency: 99.98

Housekeeping: ON GOING

Miscellaneous:

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04-22-92
Report Date: 4-21-92
Report Number: 139

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Cloudy
Rainfall/Snowfall:
Temperature High: 45 Low: 35

General Activity: cleaning PHT HX and related vapor tubes checking Carbon bed in the Gas stream bed to reposition bed to get a better seal repairing PHT Supports repairing cracks Found in PHT zone

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 976 gals
Diesel Oil Inventory (gallons): 2449

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on Going

Miscellaneous:

Prepared By: Don Weigel
Issued By:

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04-22-92
Report Date: 04-22-92
Report Number: 140

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: cloudy windy
Rainfall/Snowfall:
Temperature High: 45 Low: 35

General Activity: Sealed carbon bed in flue Gas stream
cleaned out vapor scrubber tower cleaned tailings screw
repairing brackets on rock recycle
cleaned the scrubber carbon baskets and filled with
clean carbon installing scoops on PHT seal end

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228.44
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 976 gals
Diesel Oil Inventory (gallons): 2449 gals

Analytical:

| Date | Sample | Result | |
|---|---|---|---|
| 41592 | FEED | 14000 | >99.99 |
| 41592 | TAILING | 1.3 | |
| 41692 | FEED | 21000 | >99.99 |
| 41692 | TAILING | 1.2 | |

Treatment Efficiency: 99.98

Housekeeping: on Going

Miscellaneous:

Prepared By: Don Weigel
Issued By: [illegible]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04-23-92
Report Date: 04-23-92
Report Number: 141

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Rain Am Cloudy Pm
Rainfall/Snowfall:
Temperature High: 50 Low: 40

General Activity: Working on repairs and modifications to PHT zone extended shelf at Feed entry area started on new accelerators installed steam line to Heavy oil HX

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 922844
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): [illegible]
Process Oil Inventory (gallons): 976
Diesel Oil Inventory (gallons): 2449

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: On Going

Miscellaneous:

Prepared By: Don Weigel
Issued By: [illegible]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 4-28-92
Report Date: 4-24-92
Report Number: 142

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: RAIN
Rainfall/Snowfall: 1/2"
Temperature High: 52 Low: 41

General Activity: REPOSITIONED ACCELERATOR FLIGHTS IN PHT ZONE

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228.44
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping: ON GOING

Miscellaneous: SHUT PLANT DOWN AT 1530 WILL RESUME SHIFTS AT 0700 ON 4-27-92.

Prepared By: CWilliams
Issued By: CWilliams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04-27-92
Report Date: 04-27-92
Report Number: 143

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear
Rainfall/Snowfall:
Temperature High: 55 Low: 35

General Activity: Working on new fines collection system under vapor cylinders. Continued repairs on PHT zone. Inspected cooling tower.

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 922844
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 476
Diesel Oil Inventory (gallons): 2449

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: On-Going

Miscellaneous:

Prepared By: Don Weigel
Issued By: Williams

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04-28-92
Report Date: 04-28-92
Report Number: 144

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear sunny
Rainfall/Snowfall:
Temperature High: 55 Low: 45

General Activity: Finishing work on vapor cyclone material collection system checking PHT zone for leaks calibrated feed and tailings belt

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 922844
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 950
Process Oil Inventory (gallons): 976
Diesel Oil Inventory (gallons): 2449

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous:

Prepared By: Don Weigel
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04-29-92
Report Date: 04-29-92
Report Number: 145

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: cloudy
Rainfall/Snowfall:
Temperature High: 62 Low: 45

General Activity: Work being done on tailings screw/hard surfacing heavy wear areas sampled carbon units on Preheat and off Gas vapor systems

SoilTech On-line Time (hrs): 8
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 922,044
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 956
Process Oil Inventory (gallons): 978
Diesel Oil Inventory (gallons): 2449

Spills/Overflows/Explosions:

Housekeeping: On Going

Miscellaneous:

Prepared By: Don Weigel
Issued By: D. Tontini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04-28-92
Report Date: 04-28-92
Report Number: 144

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear sunny
Rainfall/Snowfall:
Temperature High: 65 Low: 45

General Activity: Finishing work on vapor cyclone material collection system checking PHT zone for leaks calibrated feed and tailings belt

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 922844
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 950
Process Oil Inventory (gallons): 976
Diesel Oil Inventory (gallons): 2449

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on Going

Miscellaneous:

Prepared By: Don Weigel
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 04-30-92
Report Date: 04-30-92
Report Number: 146

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Cloudy
Rainfall/Snowfall:
Temperature High: 55 Low: 40

General Activity: Replaced tailings belt
Check ΔP across carbon bed in
flue gas stack

SoilTech On-line Time (hrs): 8
SoilTech Production (tons): 8
SoilTech Production - Project To Date (tons): 9228
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 951
Process Oil Inventory (gallons): 976
Diesel Oil Inventory (gallons): 2449

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By: Don Wenzel
Issued By: Anthony Pentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 05-01-92
Report Date: 05-01-92
Report Number: 147

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear
Rainfall/Snowfall:
Temperature High: 70 Low: 50

General Activity: Checking off Gas blowers - Adjusting tailings belt - inspecting bag house using ~~Flouse~~ Floresent powder

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9220
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 951
Process Oil Inventory (gallons): 976
Diesel Oil Inventory (gallons): 2949

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: Plot area was thoroughly cleaned including control room.

Miscellaneous: Inspection of carbon Bed and stack Reveal that carbon Bed changeout might ~~be~~ be necessary. Possible that air may be controlled better with different Bed.

Prepared By: Don Wenzel
Issued By: Anthony J. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 05-05-92
Report Date: 05-02-92
Report Number: 148

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear
Rainfall/Snowfall:
Temperature High: 58 Low: 40

General Activity: all Supervision and Field personell off today

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 951
Process Oil Inventory (gallons): 976
Diesel Oil Inventory (gallons): 2449

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: ON Going

Miscellaneous:

Prepared By: Don Wenzel
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 05-05-92
Report Date: 05-03-92
Report Number: 149

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Cloudy
Rainfall/Snowfall:
Temperature High: 50 Low: 42

General Activity: all supervision and Field Personnel off today

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 957
Process Oil Inventory (gallons): 976
Diesel Oil Inventory (gallons): 2449

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous: on going

Prepared By: Don Weigel
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 05-06-92
Report Date: 05-04-92
Report Number: 150

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear
Rainfall/Snowfall:
Temperature High: 52 Low: 38

General Activity: Changing carbon bed in flue gas stack installing bolt on flanges on cooling water supply and return lines. Sealed carbon bed in with silicone and manila rope

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 951
Process Oil Inventory (gallons): 926
Diesel Oil Inventory (gallons): 2449

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: ON Going

Miscellaneous:

Prepared By: Don Weigel
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 05-06-92
Report Date: 05-05-92
Report Number: 151

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear
Rainfall/Snowfall:
Temperature High: 56 Low: 40

General Activity: Installing Flanges on Cooling water supply and return lines. Did another test for leaks at Flue gas carbon bed. Pulled out Carbon beds from Flue gas scrubber unit and will continue processing without these beds.

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 951
Process Oil Inventory (gallons): 976
Diesel Oil Inventory (gallons): 2449

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: On Going

Miscellaneous:

Prepared By: Don Wayd
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 05-06-97
Report Date: 05-06-97
Report Number: 152

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear
Rainfall/Snowfall:
Temperature High: 55 Low: 40

General Activity: Installing more flanges on cooling water supply and return lines. Installed air diffuser plate in Flue Gas stack. Removing screen and hold down plates from top of Flue Gas Carbon bed

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 951
Process Oil Inventory (gallons): 916
Diesel Oil Inventory (gallons): 2444

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous:

Prepared By:
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 5-07-92
Report Date: 5-07-92
Report Number: 153

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 69° Low: 38°

General Activity: added carbon to scrubber baskets and sealed up top. Cleaned out preheat and off gas carbon canisters and filled with new carbon pellets and buttoned them back up.
Removing material from burned area and depositing in pile.
RAN GEAR BOX to drive and drained oil repeatedly

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments: Also working on cooling lines and off gas trap for condensation occuring in vertical line to towers and HX.

Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions: 0

Housekeeping: Inventoried all blueprints and straightened out blueprints in drawers.

Miscellaneous: Added Stack 1 and Stack 2 temps to Yokagawa printer.

Prepared By: Charles N. Richardson Jr
Issued By:

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 5-12-92
Report Date: 5-08-92
Report Number: 154

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 72 Low: 50

General Activity: Buttoned up the stack carbon and Scrubber carbon canister

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments:

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping: on going

Miscellaneous:

Prepared By: Anthony Trentini
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 5-12-92
Report Date: 5-09-92
Report Number: 155

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: _____ Low: _____

General Activity: No personell on site shutdown until Monday May 11, 1992

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228
Plant Water Consumed (gallons): _____
Waste Water Generated (gallons): _____

Comments: _____

Recovered Oil Inventory (gallons): _____
Recovered Oil to Date (gallons): _____
Process Oil Inventory (gallons): _____
Diesel Oil Inventory (gallons): _____

Spills/Overflows/Explosions: _____

Housekeeping: _____

Miscellaneous: _____

Prepared By: _____
'ssued By: R. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 5-12-92
Report Date: 5-10-92
Report Number: 156

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: _____ Low: _____

General Activity: No personell onsite - shutdown until May 11, 1992

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228
Plant Water Consumed (gallons): _____
Waste Water Generated (gallons): _____

Comments: _____

Recovered Oil Inventory (gallons): _____
Recovered Oil to Date (gallons): _____
Process Oil Inventory (gallons): _____
Diesel Oil Inventory (gallons): _____

Spills/Overflows/Explosions: _____

Housekeeping: _____

Miscellaneous: _____

Prepared By: _____
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 5-12-92
Report Date: 5-12-92
Report Number: 158

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 84° Low: 72°

General Activity: Started burners @ 0800. @ 10:45 started sand and tryed various air and H2O quench ratios to achieve a running mode with stack temp below 200°F and were unsaccessful. Baghouses got wet and gave us problems.

SoilTech On-line Time (hrs): 12 HRS on sand
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9228
Plant Water Consumed (gallons):
Waste Water Generated (gallons):

Comments: on clean sand all day

Recovered Oil Inventory (gallons):
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Spills/Overflows/Explosions:

Housekeeping: Cleaned bag houses out and replaced coupling on rotary valve due to failure.

Miscellaneous:

Prepared By: Charles M. Rukenbrod Jr.
Issued By:

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 5/13/92
Report Date: 5-12-92
Report Number: 158

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 80 Low: 68

General Activity: had problems with baghouses plugging up due To H20 quench. Problem corrected by moving H20 quench down stream from baghouse. Went on contaminated feed @ 11:15. Stack Testing began @ 13:34 & was completed @ 16:49

SoilTech On-line Time (hrs): 13 hr 27 min.
SoilTech Production (tons): 102.6
SoilTech Production - Project To Date (tons): 9335.6
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 951
Process Oil Inventory (gallons): 913
Diesel Oil Inventory (gallons): 2466

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous:

Prepared By: [signature]
Issued By:

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 5/14/92
Report Date: 5-13-92
Report Number: 159

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 70° Low: 48°

General Activity: continued running contaminated feed - completed two more stack tests - plant was down 8 minutes to check baghouses prior to testing - had problem with O.H.D. interface - having problem with bridging in feed hopper caused by very wet feed

SoilTech On-line Time (hrs): 22 hr. 55 min.
SoilTech Production (tons): 195.65
SoilTech Production - Project To Date (tons): 9531.25
Recovered Oil Inventory (gallons): —
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 848
Diesel Oil Inventory (gallons): 2466

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous:

Prepared By: [illegible]
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 05-27-92
Report Date: 05-16-92
Report Number: 160

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear
Rainfall/Snowfall:
Temperature High: 68 Low: 45

General Activity: Stack test #4 Started 0900 OUHD interface water dump line is plugged blew it out with $N_2$ ~~with~~ test complete at 1215 will bring Processor and related units to a cold shutdown using water sprays to keep stack temp under control

SoilTech On-line Time (hrs): 12 hrs
SoilTech Production (tons): 97 tons
SoilTech Production - Project To Date (tons): 9628.25
Recovered Oil Inventory (gallons): 100 gals *
Recovered Oil to Date (gallons): 1051 *
Process Oil Inventory (gallons): 914
Diesel Oil Inventory (gallons): 2986

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: On Going

Miscellaneous:

Prepared By: Don Wengel
Issued By:

* estimated from oil dumped records in log book

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 05-27-92
Report Date: 05-28-92
Report Number: 167

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear
Rainfall/Snowfall:
Temperature High: 76 Low: 48

General Activity: Processor and related units are shutdown awaiting stack test results. Performing general repairs and maintenance as needed on various units

SoilTech On-line Time (hrs): 0
SoilTech Production (tons): 0
SoilTech Production - Project To Date (tons): 9628.25
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 1051
Process Oil Inventory (gallons): 912
Diesel Oil Inventory (gallons): 1466

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on Going

Miscellaneous:

Prepared By: Don Wengel
Issued By:

Awaiting
EPA Approval
5-15-92
thru
5-29-92

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 05-31-92
Report Date: 05-30-92
Report Number: 161

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear Sunny
Rainfall/Snowfall:
Temperature High: 68 Low: 48

General Activity: Started Processing Contaminated soil at 1730. Nitrogen tank needed to be Filled Interface on OVHD needed to be adjusted numerous times during startup. Sour water pump seal is leaking

SoilTech On-line Time (hrs): 6.5
SoilTech Production (tons): 49.4 tons
SoilTech Production - Project To Date (tons): 9677.65
Recovered Oil Inventory (gallons): 0
Recovered Oil to Date (gallons): 1051
Process Oil Inventory (gallons): 600
Diesel Oil Inventory (gallons): 2022

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: On Going

Miscellaneous:

Prepared By: Don Weigel
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 06-01-92
Report Date: 05-31-92
Report Number: 167

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear sunny
Rainfall/Snowfall:
Temperature High: 68 Low: 50

General Activity: Processing contaminated soil. The cooling zone cut board seal came out of its seat because some fine sand had accumulated behind it and forced it out. Changed battery on telemetry system. Baghouse automatic pulse system needs some adjustment. Feed very oily, bridging and plugging in feed hopper

SoilTech On-line Time (hrs): 24 hrs
SoilTech Production (tons): 206.9
SoilTech Production - Project To Date (tons): 9884.55
Recovered Oil Inventory (gallons): * 250 → Estimated daily total
Recovered Oil to Date (gallons): 1301
Process Oil Inventory (gallons): 600
Diesel Oil Inventory (gallons): 2222

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on Going

Miscellaneous:

Prepared By: Don Weigel
Issued By: D. Pertini

3

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 06-02-92
Report Date: 06-02-92
Report Number: 163

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear sunny
Rainfall/Snowfall:
Temperature High: 76 Low: 55

General Activity: Processing Contaminated soils Repaired kiln bolt hole that is leaking. Pulsing Baghouse manually now until automatic System is repaired. Baghouse temperature is now set at 300°
Feed material is very oily which is causing feed hopper to plugg up and feed belt is slipping on drive pulley

SoilTech On-line Time (hrs): 24 hrs
SoilTech Production (tons): 216
SoilTech Production - Project To Date (tons): 10100.55
Recovered Oil Inventory (gallons): 400 *estimated total
Recovered Oil to Date (gallons): 1701
Process Oil Inventory (gallons): 600
Diesel Oil Inventory (gallons): 2022

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: on Going

Miscellaneous:

Prepared By: Don Wessel
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-03-92
Report Date: 6-02-92
Report Number: 164

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear/Sunny
Rainfall/Snowfall:
Temperature High: 78 Low: 58

General Activity: Processing contaminated Soil. Tuesday stack gas Sampling being done all day. 1st test run from 8:50 am to 12:35 2nd test from 13:27 to 16:38. Experimenting with the addition of Soda Ash. More Saw water storage may be necessary in future.

SoilTech On-line Time (hrs): 24 hours
SoilTech Production (tons): 197.4 Tons
SoilTech Production - Project To Date (tons): 10298
Recovered Oil Inventory (gallons): 600 ± estimated total
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons):
Diesel Oil Inventory (gallons):

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency: 99.999%

Housekeeping: On going

Miscellaneous:

Prepared By: A. Trentini
Issued By: A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-04-92
Report Date: 6-03-92
Report Number: 165

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR - SUNNY
Rainfall/Snowfall:
Temperature High: 79 Low: 51

General Activity: EXPERIENCING PRESSURE SPIKES IN [redacted]CTOR ZONE AT INTERVAL TIMES IN THE DAY. HIGH MOISTURE CONTENT IN FEED. PUMP ON SOUR WATER CHANGED, SEAL LEAKING PROFUSELY. CO WAS RUNNING HIGH, CUT DOWN ON FEED, BACK OFF ON BURNERS. FEED NOTICIBLY BLACK. 6" LEVEL GAIN IN SCRUBBER (JAN) ½ hr.

SoilTech On-line Time (hrs): 24 hrs.
SoilTech Production (tons): 207.3
SoilTech Production - Project To Date (tons): 10,505
Recovered Oil Inventory (gallons): 555 APPX. GAL
Recovered Oil to Date (gallons): –
Process Oil Inventory (gallons): 989 gal
Diesel Oil Inventory (gallons): 1,137 gal

Analytical:

| Date | Sample | Result |
|---|---|---|
| 6-1-92 | TOP 8" CARBON BED | 4,800 µg/kg (PPB) |
| 6-1-92 | TRITONS | 720 PPB |
| 6-1-92 | FEED | 17,000,000 PPB |

Treatment Efficiency:

Housekeeping: ON GOING

Miscellaneous:

Prepared By: R. KRCHOWSK.
Issued By: [redacted] A. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-5-92
Report Date: 6-4-92
Report Number: 166

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 68° Low: 59°

General Activity: Plant ran good all day with exception of feed bridging which was limited in occurance. Began using direct comb. air to control CO successfully.

SoilTech On-line Time (hrs): 24
SoilTech Production (tons): 201
SoilTech Production - Project To Date (tons): 10706
Recovered Oil Inventory (gallons): 473 gal
Recovered Oil to Date (gallons): -
Process Oil Inventory (gallons): 570
Diesel Oil Inventory (gallons): 1701

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: Ongoing as usuall

Miscellaneous: Scrubber entry port starting to plug up with coke again, creating - suction on D.G. system to be higher than desired.

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-6-92
Report Date: 6-5-92
Report Number: 167

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: HUMID
Rainfall/Snowfall:
Temperature High: 73° Low: 62°

General Activity: Had problems with feed early today in regards to bridging in hopper and RXN zone spikes. Also scrubber entry port was heavily obstructed. Shut down @ 0902 to clean it out and to inspect baghouses, stack; carbon-bed etc. Started back up @ 1155 then @ 1350 had foreign matter in tailings screw. Shut down and cleared debris. Ran well rest of day.

SoilTech On-line Time (hrs): 21 hours and 7 minutes
SoilTech Production (tons): 148.75
SoilTech Production - Project To Date (tons): 10855
Recovered Oil Inventory (gallons): ≈120 gal estimated
Recovered Oil to Date (gallons): —
Process Oil Inventory (gallons): 532
Diesel Oil Inventory (gallons): 1957

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping:

Miscellaneous: Installed 42 fitting in port of preheat cyclone
Baghouse #1 not pulsing bags totally clean?
Found Flue Gas Vent partially open and closed it.

Prepared By: [signature]
Issued By: Anthony Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-7-92
Report Date: 6-6-92
Report Number: 168

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: FOG + RAIN.
Rainfall/Snowfall:
Temperature High: 72° Low: 53°

General Activity: Plant ran well all day - Replaced standby preheat blower and drained carbon filters. also cleared condensate drain in a.c. system.

SoilTech On-line Time (hrs): 24
SoilTech Production (tons): 183.6
SoilTech Production - Project To Date (tons): 11039
Recovered Oil Inventory (gallons): ≈ 440 gal estimated
Recovered Oil to Date (gallons): —
Process Oil Inventory (gallons): 532
Diesel Oil Inventory (gallons): 1534

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: Ongoing.

Miscellaneous:

Prepared By: Charles M. Rickenbach Jr.
Issued By: Anthony F. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-8-92
Report Date: 6-7-92
Report Number: 169

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 73° Low: 63°

General Activity: Plant ran great today. Only problem was the interface on OVHD fluctuated early in day but no incidents were experienced. Also experienced quick feed losses.

SoilTech On-line Time (hrs): 24
SoilTech Production (tons): 197.3
SoilTech Production - Project To Date (tons): 11239
Recovered Oil Inventory (gallons): ≈ 560 gal estimated
Recovered Oil to Date (gallons): —
Process Oil Inventory (gallons): 532
Diesel Oil Inventory (gallons): 951

Analytical:

| Date | Sample | Result |
|---|---|---|
| 6/4 | Feed | |
| 6/4 | Tailings | |
| | | |

Treatment Efficiency:

Housekeeping: Ongoing all shifts.

Miscellaneous: Had slight fluctuation in H2O pressure all day. Not detremental to running of plant though.

Prepared By: [signature]
Issued By: Anthony T. Trentini

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-9-92
Report Date: 6-8-92
Report Number: 170

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 72° Low: 63°

General Activity: Plant ran good. Lost feed @ 0446 for 12 minutes because feed belt to processor stopped due to oil build up. Pressure washer was not functioning properly therefore couldn't wash off quick enough. Lost function of H2O quench to screw quick shutdown to rectify only 2 minutes total. @ 1000 wenton hot hold to clean screen of solidified material. 1040 back up.
(continued under miscellaneous:)

SoilTech On-line Time (hrs): 23 hours & 18 minutes.
SoilTech Production (tons): 185.24
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons): 620.4
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 532
Diesel Oil Inventory (gallons): 1483

Analytical:

| Date | Sample | Result | |
|---|---|---|---|
| 6-5-92 | FEED | 10,000 PPM | AROCHLOR 1248 |
| 6-5-92 | TAILINGS | 0.430 PPM | AROCHLOR 1248 |

Total Min. Feed Loss: 30 MINUTES (WHILE RUNNING)
Treatment Efficiency:

Housekeeping: Cleaned base of and around oil handling apparatus.

Miscellaneous: Comb annulus positive due to r/p in cooling zone upon restart after screw maint. Patched up while underways. Robt. put L.O. HX on line to cool towers on oil skid. Noticed feed belt splice fraying. Stack temp @ 0915 went to 193° lost feed for 10 min. N2 delivered today as well. ALSO CHANGED BOTH BLOWERS TODAY. OG + PRHT.

Prepared By: Charles M. Richardson Jr.
Issued By: R. Lachowski

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-10-92
Report Date: 6-9-92
Report Number: 171

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall:
Temperature High: 80°F Low: 60°F

General Activity: CONTINUE PROCESSING SOILS. REOCCURRING WATER OUTAGES, INSTALLED ADDITIONAL CITY WATER FEED LINE. PRESSURE GOING EXTREME NEGATIVE IN PREHEAT ZONE, NOT ALLOWING AIR TO PASS BY SEAL. FOUND PREHEAT SEAL, PLUGGED WITH MATERIAL, AFTER FLUSHING OUT, ZONES RETURNED TO PARAMETERS.

SoilTech On-line Time (hrs): 24 HOURS
SoilTech Production (tons): 197.57
SoilTech Production - Project To Date (tons):
Recovered Oil Inventory (gallons): 400 GAL.
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 532 GAL.
Diesel Oil Inventory (gallons): 1,483 GAL.

Analytical:

| Date | Sample | Result | |
|---|---|---|---|
| 6-6-92 | FEED | 10,000 PPM | AROCHLOR 1248 |
| 6-6-92 | TAILINGS | 7,100 PPM | AROCHLOR 1248 |

Treatment Efficiency:

Housekeeping: ON GOING

Miscellaneous: SOME TROUBLE WITH TAILINGS SCREW PLUGGING UP. HEAVY OIL COOLER IN USE.

Prepared By: [signature]
Issued By: R. Zachowski

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6/11/92
Report Date: 6/10/92
Report Number: 172

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: Clear/Sunny
Rainfall/Snowfall:
Temperature High: 82° Low: 62°

General Activity: Plant shutdown in early a.m. for an inspection of the tailing screw and Telemetry system maintenance. Plant shutdown again in early evening to change out the Flue gas Carbon bed

SoilTech On-line Time (hrs): 14.75 Hours
SoilTech Production (tons): 136
SoilTech Production - Project To Date (tons): 11753
Recovered Oil Inventory (gallons): 430.6
Recovered Oil to Date (gallons): —
Process Oil Inventory (gallons): 542
Diesel Oil Inventory (gallons): 1483

Analytical:

| Date | Sample | Result | |
|---|---|---|---|
| 6-7-92 | FEED | 9,400 PPM | AROCHLOR 1248 |
| 6-7-92 | TAILINGS | 3,100 PPM | AROCHLOR 1248 |

Treatment Efficiency:

Housekeeping: on going

Miscellaneous: Water system back in order.

Prepared By: A. Trentini
Issued By: R. Lechowski

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6/12/92
Report Date: 6/11/92
Report Number: 173

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: clear/sunny
Rainfall/Snowfall: —
Temperature High: 83° Low: 68°

General Activity: Processing contaminated feed. Large negative pressure swings continue to randomly occur. No explosion yet. No session problems occurred.

SoilTech On-line Time (hrs): 24 Hours
SoilTech Production (tons): 162.9
SoilTech Production - Project To Date (tons): 11,916
Recovered Oil Inventory (gallons): 470.7
Recovered Oil to Date (gallons):
Process Oil Inventory (gallons): 542
Diesel Oil Inventory (gallons): 1463

Analytical:

| Date | Sample | Result |
|---|---|---|
| 6-8-92 | FEED | 8,000 PPM AROCHLOR 1248 |
| 6-8-92 | TAILING | 1.30 PPM AROCHLOR 1248 |

Treatment Efficiency:

Housekeeping: on going as needed

Miscellaneous: Lights on the feed hopper and machine would be helpful in catching tarp material going into the hopper on night shift

Prepared By: A. Trentini
Issued By:

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-13-92
Report Date: 6-12-92
Report Number: 174

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 84°F Low: 65°F

General Activity: TEMPS IN VAPOR SCRUBBER AND FRACTIONATOR WENT HIGH. COULD NOT REFLUX. WENT TO SAND AT 22:55. CROSSOVER WAS BLOCKED. SPRAYS WERE BLOCKED. CONTAMINATED BACK ON AT 23:45. NEGATIVE IN OVHD -70.0". WENT TO SAND AT 0017. CLEANED PRE-HEAT SEAL OUT. PROBLEMS WITH DISC-DONUTS. SHUT DOWN AT 0400 6-13-92

SoilTech On-line Time (hrs): 23 HRS
SoilTech Production (tons): 185.5
SoilTech Production - Project To Date (tons): 12101.5
Recovered Oil Inventory (gallons): 337.7
Recovered Oil to Date (gallons): 3169.7
Process Oil Inventory (gallons): 542
Diesel Oil Inventory (gallons): 1338

Analytical:

| Date | Sample | Result | |
|---|---|---|---|
| 6-9-92 | FEED | 8,900 PPM | AROCHLOR 1248 |
| 6-9-92 | TAILINGS | 1.1 PPM | AROCHLOR 1248 |

Treatment Efficiency:

Housekeeping: THROUGHLY CLEANED OIL SKID.

Miscellaneous:

Prepared By: [signature]
Issued By: [signature]

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-14-92
Report Date: 6-13-92
Report Number: 175

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 88°F Low: 66°F

General Activity: EXPERIENCED OBSTRUCTION IN VAPOR SCRUBBER TOWER THAT MANDATED SHUTDOWN. CLEANED V.S., BAGHOUSES, COOLED PROCESSOR DOWN, INSPECTED INTERNALLY AND FOUND THAT PREHEAT SUPPORTS WERE BROKEN. WELDED IN NEW SUPPORTS. CLEANED ALL OBSTRUCTIONS OUT OF PREHEAT CYCLONE AND VAPOR TUBES. AT DAYS END, TRYING TO COMPLETE WORK ON OIL HANDLING SKID.

SoilTech On-line Time (hrs): 17 minutes
SoilTech Production (tons): SAND DURING RUN TIME 0
SoilTech Production - Project To Date (tons): 12101.5
Recovered Oil Inventory (gallons): 337.7
Recovered Oil to Date (gallons): 3169.7
Process Oil Inventory (gallons): 542
Diesel Oil Inventory (gallons): 1338

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: STEAM CLEANED O&L HANDLING SKID

Miscellaneous: WELDED BROKEN EAST IDLER HUB ON PROCESSOR. CONFINED SPACE ENTRY PERMITS AND TESTS PERFORMED BY TOM KLEIN. REPAIRED SPLICE ON FEED BELT. CLEANED BASKET STRAINERS ON PBO-6 & PBO-7.

Prepared By: Charles M. Richardson Jr.
Issued By: R. Lachowski

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-15-92
Report Date: 6-14-92
Report Number: 176

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 92°F Low: 71°F

General Activity: CALLED CRANE IN, PULLED DISC • DONUTS FROM VAPOR SCRUBBER BOTTOM HALF PLUGGED. ALL SPRAYS JAMMED SOLID, REPLACED SOME LINES, CLEANED REST WITH ROTO ROOTER. BLOW OUT DIP LEGS, CLEANED OUT TAILINGS SCREW. SOME LEAKS ON PIPES TO BE LOOKED AT.

SoilTech On-line Time (hrs): DOWN FOR MAINT.
SoilTech Production (tons): —
SoilTech Production - Project To Date (tons): 12101.5
Recovered Oil Inventory (gallons): -0-
Recovered Oil to Date (gallons): 3169.7
Process Oil Inventory (gallons): 542
Diesel Oil Inventory (gallons): 1338

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: VARIOUS PLACES ON GOING

Miscellaneous: WELD VARIOUS PREHEAT SUPPORTS & EYELETS BACK IN PLACE. 5 "DOGBONES" & 1 CHAIN.

Prepared By: R. Lachowski
Issued By: R. Lachowski

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-16-92
Report Date: 6-15-92
Report Number: 177

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 86° Low: 63°

General Activity: LEAKS IN VAPOR SCRUBBER SPRAY LINES BEING REPAIRED IN A.M. HEAT BEGINS IN A.M. AND ON CONTAMINATED FEED AT 11:30. TAILINGS BELT AND TAILINGS SCREW BEING CLEANED DURING A HOT HOLD IN EARLY P.M.

SoilTech On-line Time (hrs): 12 ½
SoilTech Production (tons): 96.24
SoilTech Production - Project To Date (tons): 12,197.7
Recovered Oil Inventory (gallons): 257
Recovered Oil to Date (gallons): 3402.9
Process Oil Inventory (gallons): 369
Diesel Oil Inventory (gallons): 505

Analytical:

| Date | Sample | Result |
|---|---|---|
| 6-11-92 | FEED | 9700 PPM AROCHLOR 1248 |
| 6-11-92 | TAILINGS | 0.61 PPM AROCHLOR 1248 |

Treatment Efficiency:

Housekeeping: ON GOING AS NEEDED

Miscellaneous: FEED BEGINNING VERY STICKY. NOT EXITING THE HOPPER VERY SMOOTHLY.

Prepared By: R. Trentini
Issued By: R. Lochinski

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-17-92
Report Date: 6-16-92
Report Number: 178

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: CLEAR
Rainfall/Snowfall:
Temperature High: 88°F Low: 67°F

General Activity: FEED BELT CONTINUES TO SLIP PERIODICALLY, LOSING FEED, SHUT DOWN TO SHOVEL OFF. CLEAN AIR RUNNING STACK TEST IN MORNING RUN. EPA RUNNING STACK TEST IN AFTERNOON RUN. CHANGED CARBON IN #2 OFF GAS FILTER. CHANGED LEAKY LIGHT OIL PUMP.

SoilTech On-line Time (hrs): 23 1/2 hrs.
SoilTech Production (tons): 191.8
SoilTech Production - Project To Date (tons): 12,197.7
Recovered Oil Inventory (gallons): 439.2
Recovered Oil to Date (gallons): 3842.1
Process Oil Inventory (gallons): 345
Diesel Oil Inventory (gallons): 2,063

Analytical:

| Date | Sample | Result | |
|---|---|---|---|
| 6-12-92 | FEED | 500 PPM | AROCHLOR 1248 |
| 6-12-92 | TAILINGS | 1.40 PPM | AROCHLOR 1248 |

Treatment Efficiency:

Housekeeping: ON-GOING

Miscellaneous:

Prepared By: W. Rawlinson
Issued By: R. Lachowski

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-18-92
Report Date: 6-17-92
Report Number: 179

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: TORNADO WARNINGS
Rainfall/Snowfall: HEAVY
Temperature High: 90°F Low: 66°F

General Activity: SECOND DAY OF EPA TESTING, SEVERELY HAMPERED BY VERY HIGH WINDS, RAIN, AND LIGHTNING. COMB. ANNULUS SHOWED POSITIVE, FOUND FILTERS ON ATMOSPHERE SIDE OF DP CELLS, BECOME SOAKED AND DIRTY, GAVE A FALSE INDICATION. REACTION VAPOR TEMP LOW, FOUND THERMOCOUPLE BURIED WITH DIRT AND SAND IN EXIT TEE.

SoilTech On-line Time (hrs): 24 HRS
SoilTech Production (tons): 187.7
SoilTech Production - Project To Date (tons): 12,385.4
Recovered Oil Inventory (gallons): 479.7
Recovered Oil to Date (gallons): 4145.4
Process Oil Inventory (gallons): 345
Diesel Oil Inventory (gallons): 2,063

Analytical:

| Date | Sample | Result |
|---|---|---|
| 6-15-92 | FEED | 10,000 PPM AROCHLOR 1248 |
| 6-15-92 | TAILINGS | 1.6 PPM AROCHLOR 1248 |
| 6-15-92 | CARBON BED " FROM BOTTOM | 0.77 PPM AROCHLOR 1242 |

Treatment Efficiency: STACK TEST 6-7-92. 99.99997 DRE

Housekeeping: ON-GOING

Miscellaneous: H&S HAVE ALL PERSONAL, INCLUDING EPA PERSONAL, TO GET OFF TOWERS AND SECURE COVER FROM STORM CONDITIONS

Prepared By: R. Lachowski
Issued By: R. Lachowski

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-19-92
Report Date: 6-18-92
Report Number: 180

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 90°F Low: 53°F

General Activity: SHUT DOWN PROCESSOR, FOUND BROKEN BELTS ON TAILINGS SCREW. LATER TAILINGS SCREW STOPPED AGAIN, HAD TO CLEAN OUT. TESTING FROM EPA AGAIN TODAY. FILM CREW FROM EPA, TAKING PICTURES OF EVERYTHING. SCALING TEST CHECKED 5 BUCKETS OF FEED WITH FAIRBANKS SCALE, THEN RAN THAT LOAD ON FEED BELT, RE WERE 0.8 TONS DIFFERENCE OF 1.7 TONS WEIGHT.

SoilTech On-line Time (hrs): 23 hrs
SoilTech Production (tons): 200.4
SoilTech Production - Project To Date (tons): ~~12,585.8~~ 12,300 *
Recovered Oil Inventory (gallons): 737.9
Recovered Oil to Date (gallons): 4883.3
Process Oil Inventory (gallons): 345
Diesel Oil Inventory (gallons): 2,063

Analytical:

| Date | Sample | Result |
|---|---|---|
| - NONE AVA. - | | |

Treatment Efficiency: —

Housekeeping: ON GOING

Miscellaneous: -

Prepared By: R. Lachowski
Issued By: R. Lachowski

* Revised SoilTech Production - based on material scaled on certified truck scale minus what we estimate is still to be processed.

F.S.

# SOILTECH DAILY QA/QC REPORT

Prepared: 6-22-92
port Date: 6-20-92
eport Number: 182

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 62°F Low: 50°F

General Activity: PROCESSOR SHUT DOWN AT 0605 AM, NOISE AT PREHEAT END. OPENED UP AND FOUND ALL OUTSIDE EDGE "DOG BONES" BROKEN AND 1 SAFETY CHAIN AS WELL. REPAIRS THROUGHOUT THE DAY. START ROTATING AGAIN AT 2255 PM, ON SAND AT 23:59 PM.

SoilTech On-line Time (hrs): 6 hrs
SoilTech Production (tons): 60.7
SoilTech Production - Project To Date (tons): 12,561
Recovered Oil Inventory (gallons): —
Recovered Oil to Date (gallons): —
Process Oil Inventory (gallons): NA
Diesel Oil Inventory (gallons): NA

Analytical:

| Date | Sample | Result |
|---|---|---|
| — | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: OK - GOOD

Miscellaneous: —

Prepared By: R. Lashowski
Issued By: R. Lashowski

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-22-92
Report Date: 6-21-92
Report Number: 183

Job Location: Waukegan
Job Number: 91-284

Weather: Condition: COLD
Rainfall/Snowfall:
Temperature High: 55°F Low: 44°F

General Activity: PROCESSOR COMING BACK UP TO PRODUCTION LEVEL. BACK ON CONTAMINATED FEED AT 0300 AM. O.G. FINES CONTINUE TO PLUG #2 CYCLONE. PROBLEMS DUMPING BOTTOM OIL TO TOWER. PREHEAT CYCLONE HAS LARGE AMOUNTS OF OILY TAR SUBSTANCE COMING OUT.

SoilTech On-line Time (hrs): 21 hrs
SoilTech Production (tons): 171.3
SoilTech Production - Project To Date (tons): 12,732
Recovered Oil Inventory (gallons): —
Recovered Oil to Date (gallons): 5847.7
Process Oil Inventory (gallons): 182
Diesel Oil Inventory (gallons): 2257

Analytical:

| Date | Sample | Result |
|---|---|---|
| | | |
| | | |
| | | |

Treatment Efficiency:

Housekeeping: ON GOING

Miscellaneous:

Prepared By: R. Lachowski
Issued By: R. Lachowski

# SOILTECH DAILY QA/QC REPORT

Date Prepared: 6-23-92
Report Date: 6-22-92
Report Number: 184

Job Location: Waukegan
Job Number: 91-284

Weather:
Condition:
Rainfall/Snowfall: LIGHT DRIZZEL
Temperature High: 70°F Low: 51°F

General Activity: PLANT RUNNING WELL. NEARLY 24 HRS OF FEED LEFT AS OF 0700 AM 6-22-92. STILL SOME PLUGGING UP OF TAILING SCREW. CLEARING OUT LINE FROM FRACTIONATOR TO PCB TANKER, BECAME PLUGGED TEMPORARILY

SoilTech On-line Time (hrs): 24 HRS
SoilTech Production (tons): 200.9
SoilTech Production - Project To Date (tons): 12,932.7
Recovered Oil Inventory (gallons): 631.2
Recovered Oil to Date (gallons): 6478.9
Process Oil Inventory (gallons): 182
Diesel Oil Inventory (gallons): 82.57

Analytical:

| Date | Sample | Result | |
|---|---|---|---|
| 6-19-92 | FEED | 11,000 PPM | AROCHLOR 1248 |
| 6-19-92 | TAILINGS | 0.75 PPM | AROCHLOR 1248 |
| 6-17-92 | CARBON BED | 8.3 PPM | 18" LEVEL ARO. 1242 |
| 6-17-92 | CARBON BED | 1.4 PPM | 8" LEVEL ARO. 1242 |

Treatment Efficiency:

Housekeeping: ON-GOING

Miscellaneous:

Prepared By: R. Lachowski
Issued By: R. Lachowski

# [illegible]

Date Prepared: 6-24-92
Report Date: 6-23-92
Report Number: 185

Job Location: Waukegan
Job Number: 91-284

Weather: Condition:
Rainfall/Snowfall:
Temperature High: 78°F Low: 58°F

General Activity: As of 06:45 AM, Selected Soil for Processing has Been Completed, for the Project. Demobilization has Also Begun. Running Sand and Rock to Scour the Inside of Processor, for Several Hours.

SoilTech On-line Time (hrs): 6.75 hrs
SoilTech Production (tons): 54.1
SoilTech Production - Project To Date (tons): 12986.8
Recovered Oil Inventory (gallons): 388
Recovered Oil to Date (gallons): 6866.9
Process Oil Inventory (gallons): 182
Diesel Oil Inventory (gallons): NA

Analytical:

| Date | Sample | Result |
|---|---|---|
| None Avail. | | |

Treatment Efficiency:

Housekeeping: Ongoing (Demob)

Miscellaneous:

Prepared By: [signature]
Issued By: [signature]