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

EPA Region 5 Records Ctr.
330475

REPLY TO THE ATTENTION OF

February 15, 2005 C-14J

VIA OVERNIGHT MAIL
Eurika Durr
U.S. Environmental Protection Agency
Clerk of the Board, Environmental Appeals Board
Colorado Building
1341 G Street, N.W., Suite 600
Washington, DC 20005

RE: Petition Number: CERCLA 106(b) 04-01
Grand Pier Center, LLC, Chicago IL

Dear Ms. Durr:

With this letter, I am enclosing an original and five copies of U.S. EPA, Region 5's Response to Petition for Reimbursement of Costs under 42 U.S.C. Section 9606(b)(2). Per EAB instructions, I have also included one unbound set of attachments and three sets of bound attachments. Thank you for your assistance.

Sincerely yours,

Mary L. Fulghum
Associate Regional Counsel

Enclosures

cc: Frederick Mueller w/encl.

bcc (w/o encl):
Cathleen Martwick
Stephen Botts
Lee Tyner

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CERTIFICATE OF SERVICE

I certify that the foregoing U.S. EPA'S RESPONSE TO PETITIONER'S PETITION FOR REIMBURSEMENT OF COSTS UNDER 42 U.S.C. SECTION 9606(b)(2) was sent this day in the following manner to the addressees listed below.

Original and five copies, with three sets of attachments, by overnight mail to:

Environmental Appeals Board:

Eurika Durr
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One copy with attachments by overnight mail to:

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Mary L. Fulghum
Associate Regional Counsel

Dated: Feb 15, 2005

CERTIFICATE OF SERVICE

I certify that the foregoing U.S. EPA'S RESPONSE TO PETITIONER'S PETITION FOR REIMBURSEMENT OF COSTS UNDER 42 U.S.C. SECTION 9606(b)(2) was sent this day in the following manner to the addressees listed below.

Original and five copies, with three sets of attachments, by overnight mail to:

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Eurika Durr
U.S. Environmental Protection Agency
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Counsel for Petitioner:

Frederick S. Mueller
Johnson & Bell, Ltd.
Suite 4100
55 East Monroe
Chicago, IL 60603

Mary L. Fulghum
Associate Regional Counsel

Dated: Feb 15, 2005

BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D. C.

In the Matter of:	)	
	)	
Grand Pier Center, LLC	)	**CERCLA 106(b) Petition No. 04-01**
	)	

U.S. EPA, REGION 5'S RESPONSE TO PETITION FOR REIMBURSEMENT OF COSTS UNDER 42 U.S.C. SECTION 9606(b)(2)

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TABLE OF CONTENTS

I. Summary of U.S. EPA, Region 5's Response 2

II. Statement of Facts 2

A. History of the Contamination 3
1. Streeterville Lakefill 3
2. Lindsay Light Manufacturing Operations in Streeterville 3
3. Lindsay Light Moves to West Chicago 5

B. History of Streeterville CERCLA Thorium Removal Activities 7
1. Discovery of Thorium Contamination in Streeterville 7
2. UAO Issued to Compel Clean Up of 316 E. Illinois AKA River East 8
3. Right-of-Way Agreement Among River East, Kerr-McGee and City of Chicago 10
4. Discovery of Thorium Contamination at Grand Pier 12
i. Grand Pier Performed Environmental and Geotechnical Assessments But Did Not Include a Gamma Scan 12
ii. Grand Pier Begins Construction Activities Prior to Identifying Presence of Radioactive Contamination 12
iii. U.S. EPA, Region 5 Identifies Radioactive Thorium Contamination at Grand Pier 15
5. Grand Pier Arranged for Disposal of Radioactively Contaminated Soils at Landfill 16
6. U.S. EPA, Region 5 Amends 1996 UAO to Include Grand Pier 17
7. Grand Pier Conducts Off-site Caisson and Grade Beam Excavation 19
8. Grand Pier Experiences Financial Difficulties and Requests Cleanup of Sidewalk Right of Way Be Delayed 21
9. Grand Pier Completes Removal of Contamination in Sidewalk Right-of-Way 22

III. The Petition Lacks Merit Because Petitioner is Owner of Facility that Includes Sidewalk Right-of-Way 23
A. Grand Pier Admits "Site" Ownership 23
B. CERCLA Section 101(9) "Facility" Definition is not Limited to the Legal Description of a Property and Expressly Includes "any area where a hazardous substance has come to be located" 26
C. Agency Interpretation of "Facility" is Entitled to Deference 27

IV. The Petition Lacks Merit Because Grand Pier Also Was an Operator of the Facility 30
A. Grand Pier was a CERCLA 107(a)(1) Owner/Operator of a Facility 30
B. Grand Pier was a CERCLA 107(a)(2) Owner/Operator of a Facility 31

V. Conclusion 36

INDEX OF ATTACHED DOCUMENTS

1. Lindsay Light II Site certified copy of the administrative record index.

1-A. Declarations of U.S. EPA Region 5 On-Scene Coordinators, Verneta Simon and Fredrick A. Micke and Health Physicist, Larry Jensen.

2. L. Hill, The Chicago River: A Natural and Unnatural History 78 (2000).

3. D. Solzman, The Chicago River, 120 (1998), Map 20.

4. Lindsay Chemical Observes Fiftieth Year With Party, West Chicago Press, July 7, 1952.

5. Lindsay Light II Administrative Record, Update #1, Document 1, Work Plan for Characterization of Radioactive Contamination, 316 E. Illinois St., Chicago, IL Attachment E (Sept. 1993), pp. E-1 – E-26.

6. Boyer, The Manufacture of Gas Mantles, Scientific American, Oct. 31, 1908.

7. U.S. EPA website on Radiation Information, http://www.epa.gov/radiation/radionuclides/thorium.htm

8. Radiological Health Handbook, U.S. Department of Health Education and Welfare, Revised Jan. 1970) Figure 1.

9. Lindsay Light II Administrative Record, Update #9, Document 1, Report of Environmental Investigation for the Proposed Northwestern Memorial Hospital Facility Redevelopment Site, excerpts only of pp.1-17 and Figure 5.

10. The Welsbach Co. Plant, Chemical and Metallurgical Engineering (Oct. 15, 1919) at 5, col. 2.

11. STS Work Plan For Site Radiation Survey and Excavation Soil Management (Mar. 20, 2000)

12. Affidavit of Reginald Arkell, NEIC Civil Investigator (Feb. 2005).

13. Thorium Residuals in West Chicago, Illinois, Frigerio, et al., (Sept. 1978) excerpts only of pp. 1-9.

14. Administrative Record Update #7, Document No. 1, Letter re: U.S. EPA/IDNS Verification of Radioactivity at the 161 E. Grand Building (June 21, 1993).

15. Streeterville Thorium Investigation Map, City of Chicago (Oct. 10, 2002).

16. Lindsay Light II Administrative Record Original, Document No. 2, Letter Re: Site Assessment (Aug. 18, 1993).

17. AOC re: Lindsay Light II Site, 316 E. Illinois Street, Docket No. V-W-'94-223 (Jan. 27, 1994).

18. Consent Decree U.S. V. Kerr-McGee Chemical LLC Civil Action No. 04-C-2001 (June 8, 2004).

19. Letter from Verneta Simon to Richard Berggreen (May 19, 2000) (Re: Completion of On-Site Work.

20. McLean Buying Out His Partners in River East, Chicago Tribune, Sept. 17, 2002 and McLean Completes River East Restructuring, Chicago Tribune, Apr. 2, 2003.

21. Letter to Debbie Ragel (sic) Thomas J. Kelly (Oct. 1, 2003) (Re: Request for Information).

22. Right-of-Way Agreement Impacted Rights-of-Way Map that is Attachment E to Plaintiff's Exhibit #4.

23. Letter from Mary Fulghum to Frederick S. Mueller (Feb. 9, 2001).

24. Geotechnical Engineering Report Proposed Grand Pier Center, Chicago, Illinois (Feb. 22, 1999).

25. Phase II Subsurface Investigation Report to Ray M. Chin from ATC Associates, Inc. (July 8, 1999), p.3, pp 19-20.

26. Phase I Environmental Assessment Update Block 1 of Cityfront Center Plaza to R.M. Chin from Smith Technology (Sept. 3, 1997).

27. Final Closure Report Vol. 1 to Verneta Simon and Fred Micke from STS Consultants, Ltd., (July 2, 2001).

28. Memorandum to Rich Berggreen from Michael Witte, Additional Back-up for Beverly Gravel Report (September 13, 2002).

29. Declaration of Fredrick Micke, On-Scene Coordinator (Feb. 2005), Declaration of Reginald Arkell, NEIC Civil Investigator (Feb. 2005) and City of Chicago Department of Transportation Permits.

30. Beverly Gravel Summary Report to Grand Pier Center LLC from STS (Sept. 6, 2002); Attachment 1, Morse Diesel Daily Field Reports (Jan. 27, 2000), Attachment 3, Grand Pier Photographs, Progress Photos.

31. Letter to Tinka Hyde from Thomas R. Carey, re: Voluntary Self-Disclosure of Potential Violations of Thorium Transfer and Disposal Rules – Roy Strom Company (March 7, 2000).

32. Letter to Fred Micke and Verneta Simon from Richard Berggreen, STS re: Grade Beam and Right-of-Way Excavations (May 26, 2000).

33. Letter to Michael J. Witte from Fred Micke (Mar. 8, 2000).

34. Letter to Verneta Simon and Fred Micke from STS Consultants (Apr. 12, 2000).

35. Action Memorandum, Item No. 23 of Lindsay Light II Site/Grand Pier AR Update (Mar. 28, 2000).

36. Letter to Fred Micke and Verneta Simon from Richard G. Berggreen (June 8, 2000).

37. STS Columbus Drive Sidewalk Remediation Work Plan (Mar. 9, 2001).

38. Grand Pier Construction at Standstill, Chicago Tribune, June 1, 2001; Chin Looking into Partnership, Chicago Sun-Times, Nov. 7, 2001; and Developer, Lenders Head for Showdown, Chicago Tribune, Jan. 30, 2003.

39. Special Warranty Deed (In Lieu of Foreclosure) (Mar. 24, 2003).

40. Letter to Dalia Maor from Richard G. Berggreen (Aug. 22, 2000).

U.S. EPA, REGION 5'S RESPONSE TO PETITION FOR REIMBURSEMENT OF COSTS UNDER 42 U.S.C. SECTION 9606(b)(2)

The United States Environmental Protection Agency (U.S. EPA or Agency), Region 5 files the following response to Grand Pier Center, LLC's (Grand Pier or Petitioner) Petition for Reimbursement (Petition) for costs pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA[1]) 42 U.S.C. Sections 9601, 9606(b)(2)(A) and (C). A certified copy of the administrative record index for this site is attached as Attachment 1 to this document.[2]

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[1] Pub. L. No. 96-510, 94 Stat. 2767 (1980), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. No. 99-499, 100 Stat. 1613 (1986), codified as amended at 42 U.S.C. §§ 9601-9675. For clarity, CERCLA and the SARA Amendments will be collectively referred to as "CERCLA."

[2] CERCLA Section 113(k)(1) requires that the Agency "shall establish an administrative record upon which the [Agency] shall base the selection of a response action." 42 U.S.C. § 9316(k)(1). As the Environmental Appeals Board has noted, one purpose of the administrative record is "to provide a basis for a reviewing tribunal to review the selection of a response action in connection with reimbursement." In re A&W Smelters and Refiners, Inc., 6 E.A.D. 302, 332 (EAB 1996). Regulations concerning the contents of the administrative record for a response action appear in the National Contingency Plan (NCP) at 40 C.F.R. Sections 300.800-300.825. In addition to explaining that the administrative record must contain the documents that form the basis for the selection of a response action, the regulations also explain that U.S. EPA "is not required to include documents in the administrative record which do not form a basis for the selection of a response action." 40 C.F.R. Section 300.810(b). This Petition does not request a review of the selection of the response action; rather it challenges the Agency's assessment of liability against the Petitioner. As the Agency's "Final Guidance on Administrative Records for Selecting CERCLA Response Actions," OSWER Dir. 9833.3A-1 (Dec. 3 1990) states on page 33: "Information regarding [potentially responsible party] liability is generally not included in the record file for selection of the response action except to the extent such information (typically substance information) is considered or relied on in selecting the response action." Therefore, in its response to Petitioner, the Agency cites documents that were not used in the selection of the response action but instead constitute evidence of the Petitioner's liability under CERCLA Section 107(a). See Attachment 1-A, Declarations of On-Scene Coordinators, Verneta Simon and Fred Micke, and Health Physicist, Larry Jensen. Certain documents that evidence Petitioner's liability are

I. Summary of U.S. EPA's Response

CERCLA authorized U.S. EPA, Region 5 to order Petitioner, then the admitted owner of the "site," to clean up on-site radioactive contamination but also immediately adjacent "off-site" radioactive contamination that extended from Petitioner's property into the sidewalk right-of-way because that off-site contamination is part of the site owner's "facility" as defined by CERCLA Section 101(9). Furthermore, the Petitioner also is an operator of a "facility" as defined by CERCLA Section 101(20)(A). The radioactive contamination that extended from Petitioner's property to the sidewalk right of way was within the area of Petitioner's construction work and operations and therefore part of the "facility" as defined by CERCLA Section 101(9).

II. Statement of Facts

The Statement of Facts describes the location, nature of contamination, manufacturing, disposal, and CERCLA removal history of the Grand Pier Center, LLC (Grand Pier) site.[3] U.S. EPA, Region 5 uses the terms "on-site," "off-site," and "facility" advisedly throughout this Response. "On-site" refers to the property included within a legal description. "Off-site" refers to areas associated with a site where a hazardous substance has come to be located. "Facility" is used in accordance with its CERCLA definition and includes both on-site and off-site areas where a hazardous

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voluminous and but a brief portion may be relevant to this proceeding. For that reason Attachments 5, 9 and 13 are excerpts of relevant pages of documents.

[3] This removal action was initially named the Lindsay Light II RV3 OU to distinguish it from the Lindsay Light II removal site at 316 E. Illinois, Chicago, Illinois for cost recovery purposes. It is also known as Grand Pier.

substance has come to be located. The term "site," however, has various meanings depending upon the context in which it is used.

A. History of the Contamination

1. Streeterville Lakefill

Grand Pier is one of several operable units related to the Lindsay Light Company (Lindsay Light) manufacturing operations. The Lindsay Light CERCLA removal sites are located in the Streeterville neighborhood of Chicago, Illinois. Streeterville lies north of the Chicago River between Michigan Avenue and the Lake Michigan shoreline. See Attachment 2, L. Hill, The Chicago River: A Natural and Unnatural History 78 (2000). Today, Streeterville is one of Chicago's most expensive real estate markets. See Attachment 2, L. Hill, The Chicago River: A Natural and Unnatural History 80 (2000). Prior to settlement of the City of Chicago, much of Streeterville, including the area of Grand Pier's development, was under Lake Michigan. See Attachment 3, D. Solzman, The Chicago River, 120 (1998), Map 20. The area takes its name from Captain John Wellington Streeter whose schooner ran aground in 1886 on a sandbar off of Michigan Avenue. The enterprising Captain Streeter turned his misfortune into profit by filling in a sandbar to eventually create approximately 168 acres of lakefill. See Attachment 3, D. Solzman, The Chicago River, 121 (1998). With its proximity to the Chicago River and North Pier, railroads, and tunnels, Streeterville became a manufacturing district.

2. Lindsay Light Manufacturing Operations in Streeterville

From approximately 1904 until the mid-1930s, the Lindsay Light Company manufactured commercial and residential incandescent gaslights and gaslight mantles at

three different Streeterville locations.[4] See Attachment 4, Lindsay Chemical Observes Fiftieth Year With Party, West Chicago Press, July 7, 1952. See Attachment 5, Administrative Record Update #1, Document No. 1, Work Plan for Characterization of Radioactive Contamination, 316 E. Illinois St., Chicago, IL, (Sept. 1993). Gas mantle manufacturing involved dipping gauze mantle bags into solutions containing thorium nitrate. The thorium nitrate caused the gaslight mantle to burn more brightly. See Attachment 6, Boyer, The Manufacture of Gas Mantles, Scientific American, Oct. 31, 1908. The principal ingredient in thorium nitrate is radioactive thorium, specifically, thorium-232. Thorium-232, the parent of the Thorium Decay Series has a half-life of 14 billion years.[5] Thorium is a radionuclide and a hazardous substance as defined by CERCLA.[6]

Lindsay Light also refined radioactive monazite ore in the vicinity of 316 E. Illinois. See Attachment 5, Lindsay Light II Administrative Record, Update #1, Document 1, Work Plan for Characterization of Radioactive Contamination, 316 E. Illinois St., Chicago, IL, (Sept. 1993) pp.1-5. During Lindsay Light's operation, the

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[4] U.S. EPA, Region 5 designated the 161 E. Grand Building as Lindsay Light I, the 316 E. Illinois parking lot as Lindsay Light II, and the contamination at 22 W. Hubbard as Lindsay Light III.

[5] Thorium is a naturally occurring radioactive material found in soil, rocks and water. The most common form of thorium, and the form discussed here, is thorium-232. Thorium-232 decays through emission of an alpha particle and accompanying gamma radiation. The first product in the thorium-232 decay series is radium-228. Attachment 7, U.S. EPA website on Radiation Information, http://www.epa.gov/radiation/radionuclides/thorium.htm , See Attachment 8, Radiological Health Handbook, U.S. Dept. of Health Ed. and Welfare (rev. Jan. 1970), Figure 1.

[6] The CERCLA Section 101(14) definition of hazardous substances includes "any hazardous air pollutant listed under section 112 of the Clean Air Act [42 U.S.C. Section 7412]. 42 U.S.C. 7412 (b) lists radionuclides as hazardous air pollutants.

316 E. Illinois property was contiguous to the present-day Grand Pier parcel. Columbus Drive (also known as Fairbanks) was not extended through the 316 E. Illinois and Grand Pier properties until the 1980s. See Attachment 9, Lindsay Light II Administrative Record, Update #9, Document 1, Report of Environmental Investigation for the Proposed Northwestern Memorial Hospital Facility Redevelopment Site, pp. 11-13 and Figure 5. Lindsay Light extracted thorium from monazite ore. The processed sands or "tailings" retained residual levels of radionuclides, specifically, thorium, radium and uranium. The refining process generated enormous quantities of radioactive mill tailings that required disposal and the tailings were used as fill material in Streeterville. See Attachment 10, The Welsbach Co. Plant, Chemical and Metallurgical Engineering (Oct. 15, 1919) at p. 5, col. 2. The presence of the thorium contamination may be detected by gamma surveillance and confirmed by laboratory sampling. The Grand Pier site is located between the 316 E. Illinois monazite processing facility and 161 E. Grand manufacturing facility. Columbus Drive, Grand Avenue, St. Clair Street, and Illinois Street bound the Grand Pier site. See Attachment 11, STS Work Plan For Site Radiation Survey and Excavation Soil Management (Mar. 20, 2000), Site Map.

3. Lindsay Light Moves To West Chicago

In the mid-1930s Lindsay Light moved its operations to the City of West Chicago, about 30 miles west of its Streeterville location. U.S. EPA, Region 5 has not located any records of Lindsay Light's waste disposal in downtown Chicago, but there are records and testimony that when Lindsay Light moved its monazite processing plant to the City of West Chicago, Lindsay offered the radioactive ore tailings for free to the

public and City of West Chicago for use as fill. See Attachment 12, Affidavit of Reginald Arkell, NEIC Civil Investigator (Feb. 2005).

In the mid-1980s, as the corporate successor to Lindsay Light, Kerr-McGee Chemical Corporation, began to close the West Chicago Lindsay Light plant, the Department of Energy (DOE), Nuclear Regulatory Commission (NRC), and U.S. EPA conducted a series of investigations that revealed the widespread thorium contamination around West Chicago.[7] The radioactive contamination discovered in residential areas, a park, school grounds and a sewage treatment plant was attributed to the practice of using the Lindsay Light thorium-contaminated tailings as fill. By 1992, U.S. EPA had designated four National Priority List sites in West Chicago resulting from the thorium fill.[8] The investigation of the West Chicago thorium contamination eventually led to the discovery of contamination at the 161 E. Grand Lindsay Light Building and to a radioactively contaminated parking lot at 316 E. Illinois. See Attachment 14, Administrative Record Update #7, Document No. 1, Letter re: U.S. EPA/IDNS Verification of Radioactivity at the 161 E. Grand Building (June 21, 1993). In addition to the Lindsay Light Building, River East, and Grand Pier properties elevated levels of thorium have also been identified at 341 E. Ohio (Golub fka Teacher's Retirement System), 245 E. Ohio (Hot Dog Stand), 500 N. Peshtigo (Kraft Building Parking Lot), 319 E. Illinois (HBE), 653 E. North Water, and 221 N. Columbus Drive (Lakeshore East). See Attachment 15, Streeterville Thorium Investigation Map, City of Chicago

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[7] Attachment 13, Thorium Residuals in West Chicago, Illinois, Frigerio, et al. (Sept. 1978).

[8] Reed-Keppler Park Site, Residential Area Sites, and Sewage Treatment Plant Site, 55 Fed. Reg. 35502 - 35512 (Aug. 30, 1990), Kress Creek/West Branch of the DuPage River Site, 56 Fed. Reg. 5598 - 5605 (Feb. 11, 1991).

(October 10, 2002). These numerous locations in the Streeterville vicinity indicate that the radioactive ore tailings from the Lindsay Light Streeterville monazite refining operations also were used as fill.

B. History of Streeterville CERCLA Thorium Removal Activities

1. Discovery of Thorium Contamination in Streeterville

In 1993, U.S. EPA discovered thorium contamination in the interior of the Lindsay Light Building at 161 E. Grand. See Attachment 14, Lindsay Light II Administrative Record Update #7, Document No.1, Letter re: U.S. EPA/IDNS Verification of Radioactivity at the 161 E. Grand Building (June 21, 1993). During the 161 E. Grand investigation, U.S. EPA also found elevated levels of radioactivity in a parking lot built over portions of the former 316 E. Illinois monazite processing facility. See Attachment 16, Lindsay Light II Administrative Record Original, Document No. 2, Letter Re: Site Assessment (Aug. 18, 1993). U.S. EPA entered into an Administrative Order on Consent dated January 27, 1994 with Chicago Dock and Trust, then the owner of 316 E. Illinois, to investigate the extent of thorium contamination. See Attachment 17, AOC re: Lindsay Light II Site, 316 E. Illinois Street, Docket No. V-W-'94-223 (Jan. 27, 1994). Chicago Dock and Trust used an environmental consulting contractor, STS Consultants, Ltd. (STS) to perform the radiation investigation. See Attachment 5, Lindsay Light II Administrative Record Update #1, Document No. 1, Work Plan for Characterization of Radioactive Contamination, 316 E. Illinois St., Chicago, IL, (Sept. 1993).

2. UAO Issued to Compel Clean up of 316 E. Illinois aka River East

After the property investigation was complete, U.S. EPA unsuccessfully attempted to negotiate a consent agreement for cleanup with the new owner and developer, River East LLC (River East), and Kerr-McGee Chemical, LLC (Kerr-McGee) the successor corporation to Lindsay Light, the operator at the time of disposal. The Agency issued a Unilateral Administrative Order dated June 6, 1996 (1996 UAO) to the River East owner and Kerr-McGee for the cleanup of the site.[9] See portion of Petitioner's Exhibit 1 containing 1996 UAO. Thorium emits gamma radiation. Radioactivity is measured in units called "curies." Exposure to elevated levels of gamma radiation may present a threat to human health and the environment. See Attachment 7, U.S. EPA website on Radiation Information, http://www.epa.gov/radiation/radionuclides/thorium.htm, and Attachment 8, Radiological Health Handbook, U.S. Department of Health Education and Welfare, (Revised January 1970) Figure 1. Based upon relevant and appropriate State and Federal radiation guidance, the 1996 UAO directed River East and Kerr-McGee to clean up the thorium to 5 pico Curies per gram (pCi/g) total radium above background or 7.1 pCi/g total radium (background conditions are 2.1 pCi/g total radium).[10]

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[9] The 1996 UAO was considered "friendly" because, although the parties were unsuccessful in negotiating a consensual agreement, significant negotiations regarding the manner of cleanup preceded the 1996 UAO's issuance. See Attachment 35 Action Memorandum, Item No.23 of Lindsay Light II/Grand Pier AR Update (Mar. 28, 2000) which includes the entire administrative record supporting the 1996 UAO. Note that in a 2004 settlement Kerr-McGee paid approximately 99% of U.S. EPA's past costs associated with completed removal actions associated with the 1996 UAO. See Attachment 18, U.S. v. Kerr-McGee Chemical LLC, Consent Decree, Civil Action No. 04 C-2001 (Jun. 8, 2004).

[10] The primary federal Applicable or Relevant and Appropriate Regulation for radioactive soil cleanup criteria is Title 40, Part 192 of the Code of Federal Regulations, "Health and

River East used its environmental consultant, STS, to perform the radiation cleanup at 316 E. Illinois. After completing the on-site thorium removal work, U.S. EPA Region 5, at the request of River East, issued a determination, in May 2000, that all on-site work was completed at River East in accordance with the 1996 UAO. See Attachment 19, Letter from Verneta Simon to Richard Berggreen (May 19, 2000) (Re: Completion of On-Site Work). River East reportedly had experienced financial setbacks and U.S. EPA, Region 5 wanted to avoid impeding redevelopment of the on-site property. See Attachment 20, McLean Buying Out His Partners in River East, Chicago Tribune, Sept. 17, 2002 and McLean Completes River East Restructuring, Chicago Tribune, Apr. 2, 2003. U.S. EPA Region 5's on-site completion determination allowed River East to demonstrate that the property within the legal description had been cleaned up and a new owner would not become a CERCLA Section 107 current

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Environmental Protection Standards for Uranium and Thorium Mill Tailings." Ancillary ARARs include the NRC's Title 10, Part 20, of the Code of Federal Regulations, "Standards for Protection Against Radiation," NRC Regulatory Guide 1.86, "Termination of Operating License for Nuclear Reactors," and the Department of Transportation's Title 49 for shipping hazardous materials. Also, many of the regulations carried out by the NRC have been delegated to the Illinois Emergency Management Agency, Division of Nuclear Safety. Relevant U.S. EPA guidance includes OSWER Directive No. 9200.4-25, issued February 12, 1998, regarding the "Use of Soil Cleanup Criteria in 40 C.F.R. Part 192 as Remediation Goals for CERCLA Sites." Although Petitioner is not challenging the cleanup standard here, it is important to recognize that U.S. EPA applied the principle of ALARA (As Low As Reasonably Achievable) to require cleanup of all materials above the cleanup standard. ALARA is described in DOE and NRC orders and regulations and is mentioned in U.S. EPA regulations at 40 C.F.R. §192.22. U.S. EPA made the decision to apply ALARA in an attempt to maximize protection of human health. ALARA's application is particularly relevant to the highly elevated radioactive materials in the Columbus Drive sidewalk right-of-way. As the 1996 UAO, Section V. 3 states "Respondents shall perform, at a minimum the following response activities ... Averaging over areas up to 100 square meters will be allowed but only after reasonable efforts have been made to achieve levels As Low As Reasonably Achievable (ALARA). It is not U.S. EPA's intent to leave any elevated areas of contamination if at all possible." Petitioner's Exhibit 1, 1996 UAO at p. 7.

owner or operator by virtue of taking title to that property. In March 2003, the River East owner executed a deed in lieu of foreclosure transferring the River East property to a secured creditor. See Attachment 21, Letter to Debbie Ragel (sic) Thomas J. Kelly (Oct. 1, 2003) (Re: Request for Information).

3. Right-of-Way Agreement Among Kerr-McGee, River East, and the City of Chicago

With respect to both known and unknown off-site contamination in right-of-ways surrounding the River East site, U.S. EPA, Region 5 wanted to ensure, given the long-lived nature of thorium, that any person intruding into the right-of-ways would take proper precautions and manage and dispose of any radioactively contaminated material encountered. U.S. EPA, Region 5 worked with River East, Kerr-McGee and the City of Chicago to develop a system to notify U.S. EPA, Region 5, Kerr-McGee and River East whenever a person applied for a permit from the City of Chicago to intrude into those right-of-ways. See Petitioner's Exhibit #4, Right of-Way Agreement dated September 27, 1999.[11] Using the Right-of-Way Agreement as an institutional control over the intrusion into the right-of-ways surrounding River East, U.S. EPA, Region 5 allowed River East to leave, within a sidewalk right-of-way, radioactive contamination that surrounded an electrical utility vault. See Petitioner's Exhibit #4 and U.S. EPA's Attachment 22, Impacted Rights-of-Way Map that is Attachment E to Plaintiff's Exhibit #4. Removal of the utility vault contamination would have required major utility service interruption in Streeterville. Such off-site contamination, as well as any unidentified off-site contamination in the immediately surrounding sidewalk and street

[11] Petitioner's Exhibit #4 did not include all the original and recorded Attachments to the Right-of-Way Agreement. Specifically, it did not contain Attachment E which shows locations where thorium was identified in the right-of-ways.

right-of-ways and in the general vicinity of the River East site, remains subject to the 1996 UAO. The presence of identified and potential areas of contamination within the sidewalk and street right-of-ways adjacent to the River East development is recorded on a map designated as Attachment E to the Right-of-Way Agreement in the Cook County Recorder of Deeds office in Chicago. Further, the City of Chicago created a notice in its permit database designed to alert any permit applicant of the potential presence of radiation and the need to survey for radiation and properly manage and dispose of any radiation. See Petitioner's Exhibit # 4, Right-of-Way Agreement.

In February 2000, however, one entire block adjacent to River East was excavated for a replacement sewer line to serve the River East development. Unfortunately, the City's permit notice system utterly failed. Not only did U.S. EPA not receive notice of the intrusive work, no health and safety precautions were taken and the right-of-way was not surveyed for radiation. Following U.S. EPA, Region 5's discovery of the breach of the Right-of-Way Agreement, the excavation was radiologically surveyed and significant deposits of radioactive thorium were identified and removed. This sobering incident led U.S. EPA, Region 5 to reevaluate reliance upon the Right-of-Way Agreement as an effective institutional control to prevent uncontrolled exposure to any thorium remaining in the right-of-ways. See Attachment 23, Letter from Mary Fulghum to Frederick S. Mueller, (Feb. 9, 2001) (describing repeated breaches of Right-of-Way Agreement), p.2.

4. Discovery of Thorium Contamination at Grand Pier

i. Grand Pier Performed Environmental and Geotechnical Assessments But Did Not Include a Gamma Scan

Grand Pier also engaged STS, the same environmental consultant used by River East, to conduct a geotechnical investigation of the Grand Pier subsurface soils in 1999. STS prepared a report for Grand Pier on February 22, 1999. See Attachment 24, Geotechnical Engineering Report Proposed Grand Pier Center, Chicago, Illinois, (February 22, 1999). Yet, despite Grand Pier's immediate proximity to a known thorium contamination site listed in CERCLIS and Grand Pier's knowledge that the properties were contiguous until the 1980s when Columbus Drive was extended through the properties, Grand Pier failed to investigate the radiation levels at the Grand Pier property. See Attachment 25, Phase II Subsurface Investigation Report to Ray M. Chin from ATC Associates, Inc. (July 8, 1999), pp.3, 19-20. See also Attachment 26, Phase I Environmental Assessment Update Block 1 of Cityfront Center Plaza to R. M. Chin from Smith Technology (September 3, 1997), p. 2.

ii. Grand Pier Begins Construction and Disposal Activities Prior to Identifying Presence of Radioactive Contamination

In December 1999, unbeknownst to U.S. EPA, Region 5, Grand Pier began to develop and excavate the property directly across the street from River East. The construction site was surrounded by the 500 block of North Columbus Drive (Columbus Drive) which is also known as Fairbanks Drive, the 200 block of Illinois Street, a portion of the 200 block of Grand Avenue and a portion of the 500 block of St. Clair Street. See Attachment 27, STS Final Closure Report, Vol. 1. (July 2, 2001), Figure 1.1: Site Location Map Grand Pier Center. Grand Pier, through its contractors, obtained

permits to barricade or work within the Columbus Drive sidewalk right-of-way and permits to barricade or work within the other sidewalk and street right-of-ways surrounding the Grand Pier property. See Attachment 28, September 13, 2002 Memorandum to Rich Berggreen from Michael Witte, Additional Back-up for Beverly Gravel Report, p.1 and Photograph AMEC 050365 (showing, prior to February 29, 2000, fencing placed around the entire width of the Columbus Drive sidewalk and jersey blocks placed streetside of the Columbus Drive curb). At least fourteen of these permits were for utility installations, maintenance, and upgrades necessary to support the improvement of the Grand Pier property. See Attachment 29, Declaration of Fredrick Micke, On-Scene Coordinator (Feb. 2005), Declaration of Reginald Arkell, NEIC Civil Investigator (Feb. 2005) and City of Chicago Department of Transportation Permits.

At Grand Pier's direction, heavy equipment drilled caissons, excavated and disposed of soils, debris, and other materials that contained radioactive thorium including contaminated material from the Columbus Drive sidewalk right-of-way. See Attachment 30, Beverly Gravel Summary Report to Grand Pier Center LLC from STS (Sept. 6, 2002) including: Attachment 1 – Morse-Diesel Daily Field Report dated January 27, 2000; and Attachment 3 – Grand Pier Progress Photos 02/18/00 (photographs 7 and 8 showing excavated dirt and waste piles), Grand Pier Progress Photos 02/21/00 (photographs 5 and 6 showing waste piles and truck tire tracks and photographs 11 and 12 showing fencing along Columbus Drive), and Progress Photos February 29, 2000 (photograph 1 showing caisson equipment and soiled sidewalk from truck tracking dirt from site).

Prior to U.S. EPA's involvement, Grand Pier excavated approximately 5,782 tons of material and arranged for it to be transported off-site to at least six disposal sites. See Attachment 31, Letter to Tinka Hyde from Thomas R. Carey, re: Voluntary Self-Disclosure of Potential Violations of Thorium Transfer and Disposal Rules (March 7, 2000) (Roy Strom Company stating that it had removed 257 semi-loads of potentially contaminated materials from Grand Pier to five different landfills). Grand Pier had surrounded the site with fencing and/or concrete jersey blocks that were located in the sidewalk and street right-of-ways). See Attachment 32, Letter to Fred Micke and Verneta Simon from Richard Berggreen, STS re: Grade Beam and Right-of-Way Excavations, (May 26, 2000) Fig. 1 showing fencing and jersey blocks placed beyond property line along Columbus Drive. With respect to Columbus Drive, Grand Pier had obtained permits from the City of Chicago that allowed it to fence an approximately eight foot (8') wide area beyond its property line that stretched from Grand Avenue to Illinois Street. The fence and jersey barriers allowed Grand Pier to conduct construction activities in the Columbus Drive right-of-way. See Attachment 30, Beverly Gravel Summary Report to Grand Pier Center LLC from STS (Sept. 6, 2002) including: Attachment 1 – Morse-Diesel Daily Field Report dated January 27, 2000; and Attachment 3 – Progress Photos February 29, 2000 (photograph 1 showing fencing in Illinois Street sidewalk). See also Attachment 28, Memorandum to Rich Berggreen from Michael Witte, Additional Back-up for Beverly Gravel Report (September 13, 2002), Photographs AMEC 050365, 050366, 050372, and 05073.

iii. U.S. EPA, Region 5 Identifies Presence of Thorium Contamination at Grand Pier

On February 29, 2000, after U.S EPA, Region 5 had spent weeks attempting to gain access to the Grand Pier site, Grand Pier allowed U.S. EPA, Region 5 to enter the property to test for radiation. See Attachment 33, Letter to Michael J. Witte from Fred Micke, p. 1 (Mar. 8, 2000). U.S. EPA, Region 5 discovered levels of radioactive contamination in and around the excavation for a caisson that encroached into the Columbus Drive sidewalk right-of-way. The radioactive contamination levels at that location "pegged" (exceeded the device's capacity to measure) U.S. EPA, Region 5's gamma meters as the equipment detected the highest radiation levels previously encountered at any Lindsay Light location in Streeterville. See Attachment 30, Beverly Gravel Summary Report to Grand Pier Center LLC from STS, (Sept. 6, 2002) including Attachment 1 - Morse Diesel Daily Field Report dated March 1, 2000 (describing 1,000,000 counts per minute that was approximately eight times higher than highest radioactivity found at adjacent River East). In an April 12, 2000 letter from Grand Pier's contractor to U.S. EPA, Region 5, STS states, "the caisson installed close to the area of elevated contamination is caisson C-25." See Attachment 34, Letter to Verneta Simon and Fred Micke from STS Consultants, p. 1 (Apr. 12, 2000). Note that the excavation for caisson C-25 shaft and bell extend beyond Grand Pier's property line into the Columbus Drive sidewalk right-of-way. See Attachment 11, Work Plan for Site Radiation Survey and Excavation Soil Management, Figure 2B, Caisson Plan Area C (Mar. 20, 2000) (indicating shaft and bell maximum encroachments). The April 12, 2000 letter continues to state, "the fact the caisson in question was not drilled until February 29, indicates the

excavation spoil is still on-site and likely in the fill pile recently screened ... Several cubic yards of contaminated soil were detected and segregated." See Attachment 34, Letter to Verneta Simon and Fred Micke from STS Consultants, p. 1 (Apr. 12, 2000). This statement demonstrates that prior to U.S. EPA, Region 5's involvement, Grand Pier had excavated thorium-contaminated soils from the off-site Columbus Drive sidewalk right-of-way and disposed of them on-site. In addition, the documented off-site disposal of thorium-containing wastes, the unwillingness of a construction contractor to undertake proper decontamination, and site photographs of waste piles further demonstrate that there had been a release of hazardous substances to the environment and that there was an obvious threat of a further release (whether by wind-blown deposition or otherwise). See Attachment 30, Beverly Gravel Summary Report to Grand Pier Center LLC from STS (Sept. 6, 2002) including: Attachment 1 – Morse-Diesel Daily Field Report dated January 27, 2000; and Attachment 3 – Progress Photos February 29, 2000 (Photographs 1, 3 and 4 showing piles of excavated soils). See also Attachment 28, Memorandum to Rich Berggreen from Michael Witte, Additional Back-up for Beverly Gravel Report (September 13, 2002), Photographs AMEC 050376 and 050376 (showing dirt and debris in excavations along caisson column line 25).

5. Grand Pier Arranged for Disposal of Radioactively Contaminated Soils at Landfill

At that time, U.S. EPA, Region 5 discovered that from December 1999 until U.S. EPA, Region 5 identified radioactive contamination at the Grand Pier site, Grand Pier arranged for the transportation and disposal of potentially radioactively contaminated soil from its property. Over 257 truck loads of potentially contaminated material were transported off-site. Approximately 148 truckloads of soil were shipped

from the Grand Pier site to a former gravel pit known as Beverly Gravel located about 35 miles away from Chicago in Elgin, Illinois. Beverly Gravel was not licensed to accept radioactively contaminated wastes. See Attachment 31, Letter to Tinka Hyde from Thomas R. Carey (Mar. 7, 2000) (Roy Strom Company stating that it had removed 148 semi-loads of potentially contaminated materials from Grand Pier to Beverly Gravel). In, 2000, U.S. EPA, Region 5 Region identified off-site thorium contamination at Beverly Gravel. As described below in Section 6, in 2001, Grand Pier conducted an investigation and cleanup at Beverly Gravel and removed approximately 240.6 tons for shipment to a properly-licensed disposal facility. See Attachment 30, Beverly Gravel Summary Report to Grand Pier Center LLC from STS, p.8. (Sept. 6, 2002).

6. U.S. EPA, Region 5 Amends 1996 UAO to Include Grand Pier

After discovering thorium contamination at the Grand Pier construction site, U.S. EPA, Region 5 met with Grand Pier, Kerr-McGee, and the owner of River East on March 9, 2000 to determine the most effective and efficient manner to address the site and to investigate off-site landfills at which Grand Pier arranged for disposal of materials excavated from its property. Attachment 33, Letter to Michael J. Witte from Fred Micke, p. 1 (Mar. 8, 2000). Kerr-McGee again declined to participate in a consensual cleanup agreement.[12] Grand Pier understandably wanted to avoid costly construction delays. Consequently, instead of entering protracted negotiations to obtain a consensual agreement that might further delay the Grand Pier project, on March 28, 2000, U.S. EPA issued an Action Memorandum that documented the actual and

[12] At that time, Kerr-McGee had declined to enter into a consensual agreement with U.S. EPA Region 5 at any of the West Chicago Kerr-McGee NPL sites or the Lindsay Light II removal site.

threatened release of radioactive contamination from the Grand Pier facility and amended the 1996 UAO (Amended 2000 UAO) to include the Grand Pier property as Operable Unit 01 (OU 1) and Grand Pier as a Respondent. See Attachment 35, Action Memorandum, Item No. 23 of Lindsay Light II Site/Grand Pier AR Update #7 (Mar. 28, 2000).

The property owner, Grand Pier Center, LLC, notified U.S. EPA that it would comply with the Amended 2000 UAO. Grand Pier designated Mr. Richard Berggreen as its project manager and technical contact to U.S. EPA. Attachment 33, Letter to Michael J. Witte from Fred Micke, p. 1 (Mar. 8, 2000). To further minimize the financial burden on Grand Pier, U.S. EPA agreed to a work plan that allowed cleanup and construction to take place simultaneously but imposed additional health and safety measures and other responsibilities upon U.S. EPA Region 5 personnel. See Attachment 23, Letter from Mary Fulghum to Frederick S. Mueller, pp. 1-2 (Feb. 9, 2001) (describing Region 5's efforts to accommodate development activities at Grand Pier). Grand Pier submitted a draft Work Plan on March 20, 2000 that U.S. EPA approved. See Attachment 11, STS Work Plan for Site Radiation Survey and Excavation Soil Management (Mar. 20, 2000). In addition to the on-site contamination, Grand Pier also removed off-site contamination from several locations in the Columbus Drive (not including the disputed portion of Columbus Drive sidewalk right-of-way) and Grand Avenue sidewalk right-of-ways. See Attachment 27, STS Final Closure Report, Vol. 1 (July 2, 2001) (Figures 2.2A and 2.2B showing areas in respective Grand Avenue and Columbus Drive sidewalk right-of-ways that were remediated as part of on-site cleanup.)

7. Grand Pier Conducts Off-Site Caisson and Grade Beam Excavation

Grand Pier's correspondence, site drawings and work plans reflect Grand Pier's construction work in the Columbus Drive sidewalk right-of-way including the disputed portion of the Columbus Drive sidewalk. On March 20, 2000 Grand Pier submitted a Work Plan for Site Radiation Survey and Excavation Soil Management, which clearly showed the Caisson Plan for Area C (Figure 2B) intruding into the Columbus Drive sidewalk right-of-way. See Attachment 11, STS Work Plan for Site Radiation Survey and Excavation Soil Management (Mar. 20, 2000). Further, Grand Pier's May 26, 2000 correspondence to U.S. EPA, Region 5 explained "[t]his letter is to advise you of the proposed schedule and anticipated procedure for the grade beam excavations, with particular attention to the perimeter of the site where the excavation sideslopes will involve portions of the right-of-way." The letter further explains that a Figure 1 shows the minimum extent of the excavations ... and states *"[n]ote that this extent involves the entire sidewalk to the curb..."* . (Emphasis added.) See Attachment 32, Letter to Fred Micke and Verneta Simon from Richard G. Berggreen, p.1 and Figure 1 (May 26, 2000) (Re: Grade Beam and Right-of-Way Excavations). Grand Pier's Work Plan and Final Report show that Grand Pier excavated the entire length of the Columbus Drive sidewalk right-of-way, an area entirely outside of its legal boundaries. Grand Pier excavated beyond its legal boundaries into the sidewalk right-of-ways on Grand Avenue, Columbus Drive, and Illinois Street. See Attachment 11, STS Work Plan for Site Radiation Survey and Excavation Soil Management, pp. 7-8 (Mar 20, 2000); see also Attachment 32, Letter to Fred Micke and Verneta Simon from Richard G. Berggreen, p.1 and Figure 1 (May 26, 2000) (Re: Grade Beam and Right-of-Way

Excavations). Not including the disputed material in the Columbus Drive sidewalk right-of-way, Grand Pier eventually removed 10,606.4 tons of radioactively contaminated soil from the site and immediately adjacent off-site areas. See Attachment 27, STS Final Closure Report, Vol. 1 (July 2, 2001), p.11, Section 2.7.2.

The Columbus Drive sidewalk right-of-way is approximately 14 feet wide. See Attachment 27, STS Final Closure Report, Vol. 1 (July 2, 2001), Appendix A, Figure 1. To allow adequate sideslope and room for workers and equipment to construct concrete forms for grade beams to be built on-site, Grand Pier excavated an approximately 6-foot wide strip of the sidewalk right-of-way the entire length of the Columbus Drive. See Attachment 32, Letter from Richard G. Berggreen, to Fred Micke and Verneta Simon, p.1 and Figure 1 (May 26, 2000) (Re: Grade Beam and Right-of-Way Excavations). The level of radioactivity in the grade beam excavation area within the sidewalk right-of-way ranged as high as 4,620 pCi/g or more than 650 times the 7.1 pCi/g cleanup level. See Attachment 27, STS Final Closure Report, Vol. 1 (July 2, 2001) p. 9, Section 2.4. Grand Pier installed plywood and plastic sheeting to protect workers from the gamma radiation emanating from the remaining contamination in the sidewalk right-of-way. U.S. EPA, Region 5 consulted with the Agency for Toxic Substances and Disease Registry (ATSDR), and determined that the plywood and plastic sheeting would not adequately protect workers. U.S. EPA, Region 5, therefore, required Grand Pier to install steel plates to shield workers constructing the concrete forms for Grand Pier's grade beams. See Attachment 27, STS Final Closure Report, Vol. 1 (July 2, 2001), at pp. 9-10.

8. Grand Pier Experiences Financial Difficulties and Requests that the Cleanup of the Sidewalk Right-of-Way be Delayed.

Although Grand Pier agreed in April 2000 to remove the contaminated materials that extended into the remaining 6 feet of the Columbus Drive sidewalk right-of-way, Grand Pier later requested that U.S. EPA Region 5 allow it to delay completion of the sidewalk right-of-way cleanup. Grand Pier explained that removal of the remainder of the sidewalk right-of-way contamination at that time was inconvenient. See Attachment 36, Letter to Fred Micke and Verneta Simon from Richard G. Berggreen (June 8, 2000). U.S. EPA agreed to delay the removal of the contaminated material that extended beyond the steel plates further into the sidewalk right-of-way. After the grade beams were constructed, the two steel plates were left in place when the excavation was backfilled. See Attachment 37, STS Columbus Drive Sidewalk Remediation Work Plan (Mar. 9, 2001). As Grand Pier explained in its Work Plan for Columbus Drive Sidewalk Remediation dated March 9, 2001:

> [t]he previous excavation on the Grand Pier Center site were made for two purposes, to remove the impacted soil encountered, and to excavate foundation elements, including along the Columbus Drive side of the site, a trench for the construction of the foundation grade beams. At this location, an effort was made to excavate the impacted soil under the sidewalk, including excavation into portions of the right-of-way an estimated 6 feet (see Figure 1). However, relatively high levels of impacted soil remained in the excavation wall. As a result of the levels of radiation that remained, steel plates were placed against the trench wall to provide the construction workers with shielding, in addition to the plywood sheeting and plastic membrane that was used to isolate the impacted soil. Those plates were placed over the highest levels

> measured in surveying the wall. Those plates were left in place when the excavation was backfilled after the grade beams were constructed.

See Attachment 37, STS Columbus Drive Sidewalk Remediation Work Plan (Mar. 9, 2001).

Grand Pier submitted the Final Closure Report for the cleanup of on-site contamination in 2001. Note that Grand Pier's "on-site" cleanup also included certain off-site contamination located in the right-of-ways including the disputed Columbus Drive sidewalk right-of-way. See Attachment 27, STS Final Closure Report, Vol. 1 (July 2, 2001) (Figures 2.2A and 2.2B showing several other areas of Columbus Drive and Illinois Street sidewalk right-of-ways where thorium contamination was removed during on-site cleanup). Grand Pier experienced a contractor dispute and, in June 2001, work at the site stopped. See Attachment 38, Grand Pier Construction at Standstill, Chicago Tribune, June 1, 2001, Chin Looking into Partnership, Chicago Sun Times, Nov. 7, 2001 and Developer, Lenders Head for Showdown, Chicago Tribune, Jan. 30, 2003. In March 2003 the project was taken over by Lehman Bros. Streeterville LLC. See Attachment 39, Special Warranty Deed (In Lieu of Foreclosure) (Mar. 24, 2003).

9. Grand Pier Completes Removal of Remaining Contamination in Sidewalk Right-of-Way

Finally, in June 2004, Grand Pier remobilized to remove the remaining contamination in the Columbus Drive sidewalk right-of-way. During the previous construction work, Grand Pier had excavated the entire length of the Columbus Drive sidewalk right-of-way. See Attachment 32, Letter from Richard G. Berggreen, to Fred Micke and Verneta Simon, Figure 1 (May 26, 2000) (Re: Grade Beam and Right-of-Way Excavations), and Petitioner's Exhibit 9, Appendix A, Figure 1 and Petitioner's

Exhibit 9, Appendix A, Figure 1 (showing the steel sheeting installed during the grade beam construction was located 6 feet beyond the property line). Grand Pier discovered that the two steel plates installed to protect construction workers were gone. Grand Pier did not know who removed the steel plates or when the steel plates were removed from the highly contaminated area. See Plaintiff's Exhibit 9, page 5 section 2.3.2. The unexplained disappearance of these steel plates underscores the potential for utility and construction worker exposure to releases from this highly elevated radioactive contamination and the need to remove this contamination from a facility undergoing development. Grand Pier removed the remaining radioactive contamination that had extended from its property into the Columbus Drive sidewalk right-of-way. According to Grand Pier's Final Report, the area of sidewalk right-of-way remediation was approximately 7 to 10 feet wide by 46 feet long. Grand Pier filed its Final Report on the off-site sidewalk contamination on August 31, 2004 and U.S. EPA issued its Notice of Completion regarding the off-site contamination in the sidewalk right-of-way on October 8, 2004. See Plaintiff's Exhibit 9 and Exhibit 10.

III. The Petition Lacks Merit Because Petitioner is Owner of Facility That Includes Sidewalk Right-of-Way.

A. Grand Pier Admits "Site" Ownership.

In Grand Pier's Petition for Reimbursement at page 7, Petitioner states that "[t]he Petitioner Admits for the purposes of this Petition for Reimbursement that it was the owner of the Site, Parcel Number 17 10 212 019 as alleged...." Grand Pier specifically disclaims ownership of the "Off-Site Sidewalk Area depicted in Petitioner's Exhibit 8." Grand Pier's Petition carefully sidestepped restating CERCLA Section

107(a)(1), however, which attaches liability to the "owner or operator of a vessel or a facility." 42 U.S.C. § 9607(a)(1) (emphasis added). Grand Pier also adroitly avoided any statement that the off-site sidewalk area was or was not part of the "facility" only that it was beyond the legal boundary of the property Grand Pier owned. CERCLA Section 101(9)(B), however, defines a facility to mean "any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; ... ." 42 U.S.C. § 9601(9)(B).

Grand Pier does not argue that its property or the right-of-way are not part of a facility. Grand Pier only argues that it does not own the right-of-way. Grand Pier's logic appears to equate the term "facility" with "property boundary." However, that construction does not comport with the plain statutory language of CERCLA Section 107(a)(1), the definition of owner in CERCLA Section 101(20)(A) and the definition of facility in CERCLA Section 101(9). Further, Petitioner neglected to mention that Grand Pier had conducted extensive construction activities not related to the thorium cleanup through the entire length of the Columbus Drive sidewalk right-of-way. Petitioner may not own the sidewalk right-of-way but for the purposes of CERCLA's remedial intent and consistent with CERCLA's statutory definitions, the Columbus Drive Sidewalk right-of-way was part of the "facility." If Petitioner is the owner of the "Site, Parcel Number 17 10 212 019 as alleged..." then Petitioner is also owner of the "facility" which included the "Off-Site Sidewalk Area."

Petitioner cites Toledo v. Beazer, 923 F. Supp. 1013, 1015 (N.D. Ohio 1996) in support of the contention that the City of Chicago, Illinois owns the sidewalk right-of-way and that, consequently, "[p]etitioner lacks ownership of the contaminated right-of-

way and is not a CERCLA 'owner.'" See Petition at page 8, paragraph 22. In Beazer, corporations seeking contribution under CERCLA Section 113(f) from the City of Toledo filed cross-motions for summary judgment. Id. at 1014. The City had purchased a contaminated-right-of-way. Id. at 1016. The City, similar to Grand Pier, tried to shift responsibility for clean up of the contaminated right-of-way, claiming it was not responsible for the contamination in the right-of-way. Id. at 1014. In addition to being the current title owner, the court found that the City also was an operator because the City had asserted its control over the property by fencing the perimeter of the contaminated right-of-way. Id. at 1016-17. Grand Pier similarly erected a fence, jersey blocks and conducted excavation work within the sidewalk right-of-ways. See Attachment 28, Memorandum to Rich Berggreen from Michael Witte, Additional Back-up for Beverly Gravel Report, (September 13, 2002), p.1 and Photograph AMEC 050365 (showing, prior to February 29, 2000, fencing placed around the entire width of the Columbus Drive sidewalk and jersey blocks placed streetside of the Columbus Drive curb). See also Attachment 30, Beverly Gravel Summary Report to Grand Pier Center LLC from STS (Sept. 6, 2002) including: Attachment 1 – Morse-Diesel Daily Field Report dated January 27, 2000 (discussing placement of jersey barriers on Columbus Drive), Field Report dated February 1, 2000 (discussing potholing and construction removal along Columbus Drive), and Field Report dated February 2, 2000 (describing completion of potholing at column line 25); and Attachment 3 – Grand Pier Progress Photos 02/18/00 (photographs 7 and 8 showing excavated dirt and waste piles), Grand Pier Progress Photos 02/21/00 (photographs 5 and 6 showing waste piles and truck tire tracks and photographs 11 and 12 showing fencing along Columbus

Drive). The Beazer court did not hold, as Grand Pier suggested, that a property owner is not liable for contamination that extends from the legal boundary of his property into a right-of-way. Beazer stands for the proposition that the City was both the current owner of and the operator within the right-of-way. As such, the Beazer court held that the City was a liable person under CERCLA Section 107(a)(1). Id. at 1019.

B. CERCLA Section 101(9) "Facility" Definition is not Limited to the Legal Description of a Property and Expressly Includes "any area where a hazardous substance ... has come to be located."

The CERCLA Section 101(9) definition of "facility" is not limited to the legal boundaries of a property and expressly includes "any area where a hazardous substance ... has come to be located." 42 U.S.C. § 9601(9). As the Petitioner's work plans and reports establish, the radioactive contamination extended from Grand Pier's on-site property into the off-site sidewalk right-of-way. As described above in the Statement of Facts, Sections 4-9, Grand Pier's construction and remediation diagrams (including the Caisson Installation and Grade Beam Construction Plans), correspondence and site photographs evidence, Grand Pier's construction activities extended into all the right-of-ways surrounding Grand Pier's property including the Columbus Drive sidewalk right-of-way. Grand Pier is not an innocent landowner forced to clean up hazardous substances that migrated to its property from adjoining land, but rather is an owner liable for the cleanup of contamination within its "facility." As the Sixth Circuit has noted regarding the meaning of "facility," "[t]he words of the statute suggest that the bounds of a facility should be defined at least in part by the bounds of the contamination.... [h]owever, an area that cannot be reasonably or naturally divided into multiple parts or functional units should be defined as a single 'facility,'..." U.S. v.

Township of Brighton, 153 F.3d 307, 313 (6th Cir. 1998), citing Clear Lake Properties v. Rockwell Int'l Corp., 959 F. Supp. 763, 767-68 (S.D. Tex. 1997). At the Grand Pier development, the "functional unit" included both the on-site contamination as well as the contamination that crossed the property line into the sidewalk right-of-way. Grand Pier basically excavated, as part of its construction work (as opposed to remediation work), the entire length of the Columbus Drive sidewalk right-of-way with the exception of the easternmost strip of the sidewalk. It is noteworthy that U.S. EPA, Region 5 did not demand that Grand Pier "chase" the contamination that extended from Grand Pier's property across the sidewalk right-of-way and into the Columbus Drive right-of-way. Rather, U.S. EPA, Region 5 reasonably limited the Grand Pier "facility" to include only the sidewalk right-of-way into which thorium contamination extended. This limit was consistent with the facts presented, where Grand Pier had conducted extensive excavation and construction work in the right-of-way and where utilities were installed, upgraded, or maintained in the right-of-way to support Grand Pier's development.

C. Agency Interpretation of Facility Is Entitled to Deference

U.S.EPA, Region 5's interpretation of "facility" in this case should be permissible because a court would likely give it deference. The U.S. Supreme Court has held that if Congress has clearly defined the statutory term at issue, and the intent of Congress is clear, then "that is the end of the matter[.]" Chevron USA Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837, 842, 81 L. Ed. 2d 694, 703, 104 S. Ct. 2778, 2781 (1984). "[I]f the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the

statute." Chevron, 467 U.S. at 843. The 10th Circuit recently held, as it interpreted the term "facility," that to give "effect through the unambiguously expressed intent of Congress," Id., "we must hold that the entire contiguous ... site" is included in the definition of "facility." Sierra Club v. Seaboard Farms Inc., 387 F.3d 1167, 1171 (10th Cir. 2004) (examining various federal court treatments of the definition of facility under CERCLA Section 107). If any ambiguity exists regarding the statutorily defined term "facility" in the catch-all provision of CERCLA Section 101(9)(B) (any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or other wise come to be located), "then we must defer to the agency's interpretation, if it is based upon a permissible construction." Pharmanex v. Shalala, 221 F.3d 1151, 1154 (10th Cir. 2000).

U.S. EPA's interpretation of the definition of facility is consistent with CERCLA's broad remedial purposes, especially "to facilitate the expeditious cleanup of environmental contamination caused by hazardous waste releases." Daigle v. Shell Oil Co., 972 F.2d 1527, 1533 (10th Cir. 1992). CERCLA was enacted "in response to the serious environmental and health risks posed by industrial pollution [,]" and must be interpreted liberally so as to accomplish its remedial goals. U.S. v. Bestfoods, 524 U.S. 51, 55-56, 141 L. Ed. 2d 43, 52-53, 118 S. Ct. 1876, 1881-1882 (1998). As Seaboard construed "facility" "[c]onsistent with a liberal construction to further CERCLA's purposes," 387 F.3d at 1172, the Bestfoods Court affirmed that "the term 'facility' enjoys a broad and detailed definition[.]" 524 U.S. at 56 (citing Section 101(9) in an action brought under CERCLA Section 107). In Seaboard, the 10th Circuit carefully examined Federal courts' treatment of "facility." 387 F.3d at 1173-1175. Among the

cases Seaboard noted that broadly interpreted "facility" was U.S. v. Rohm and Haas Co., 2 F.3d 1265, 1279 (3rd Cir. 1993) which examined liability under CERCLA Section 107. The Rohm Court noted it was evident from the broad statutory definition of "facility" that Congress "did not intend EPA to be straight-jacketed in situations involving a hazardous substance that transcended property boundaries." Id. If "facility" is narrowly interpreted to exclude contamination that extends from the property legal description boundary into a right-of-way that the property owner has extensively used to support its construction and property development, then CERCLA's remedial purpose to facilitate expeditious cleanup will be thwarted.

Under these specific circumstances, where the property owner, Grand Pier, conducted extensive construction and development activities within the sidewalk right-of-way, and a pocket of on-site contamination also extended beyond Grand Pier's legal boundary into the sidewalk right-of-way, U.S. EPA, Region 5 properly construed the term "facility" to include the contamination that extended from the on-site property into the adjoining sidewalk right-of-way. The property owner has admitted its liability under Section 107(a)(1) for CERCLA on-site hazardous substances. As the above discussion demonstrates, the property owner's liability under Section 107(a) includes off-site areas which are part of the facility. Thus, this property owner, Grand Pier, is liable for remediation of the Columbus Drive sidewalk right-of-way because the Columbus Drive right-of-way was part of the "facility."

IV. The Petition Lacks Merit Because Grand Pier Also Was an Operator of the Facility

A. Grand Pier was a CERCLA 107(a)(1) Owner/Operator of a Facility

CERCLA's Section 101(20)(A) definition of "operator" is notoriously circular: "[t]he term 'owner or operator' means ... in the case of an onshore facility, any person owning or operating such facility,... ." 42 U.S.C. § 9601 (20)(A). The 9th Circuit opined that the Section 101(20)(A) definition of "owner or operator" was "a bit like defining 'green' as 'green'." Long Beach Unified Sch. Dist. v. Godwin, 32 F.3d 1364, 1366 (9th Cir. 1994). The U.S. Supreme Court also struggled with the definition of "operator" in U.S. v. Bestfoods, 524 U.S. 51. The Court noted earlier in Exxon Corp. v. Hunt, 475 U.S. 355 at 363, 106 S. Ct. 1103 at 1109, 89 L. Ed. 2d 364 at 374 (1986), that "CERCLA, unfortunately, is not a model of legislative draftsmanship." Although Bestfoods involved a question of a parent corporation's liability for a subsidiary, the Court's analysis of the definition of "operator" is instructive. The Court stated that:

> [in] the organizational sense obviously intended by CERCLA, to "operate" a facility ordinarily means to direct the workings of, manage, or conduct the affairs of the facility. To sharpen the definition for purposes of CERCLA's concern with environmental contamination, an operator must manage, direct, or conduct operations specifically related to the leakage or disposal of hazardous waste, or decisions about compliance with environmental regulations.

Bestfoods, 524 U.S. at 52.

The environmental assessments, radiation investigation, and groundwater sampling confirmed the presence of hazardous substances at the Grand Pier facility and at the landfill at which Grand Pier arranged for the improper disposal of radioactively contaminated soils. While the Beazer court that Grand Pier relies upon would find

evidence of Grand Pier's operation at the facility simply by Grand Pier's erection of a barrier in the sidewalk-right-of-way, much more persuasive evidence of Grand Pier's operation of the facility exists. Grand Pier's extensive management of and decisions regarding environmental matters with regard to the excavation, transportation and disposal of the radioactively contaminated soils both prior to and following U.S. EPA, Region 5's involvement clearly demonstrates Grand Pier's operation of the facility generally and of the disputed Columbus Drive sidewalk right-of-way. Specifically, Grand Pier's: (1) development of construction plans calling for construction excavation in the disputed right-of-way, (2) excavation (especially prior to U.S. EPA, Region 5's involvement in the right-of-way) of thorium contaminated soils from the Columbus Drive sidewalk right-of-way and (3) disposal of thorium-contaminated soils on-site and off-site, make clear that Grand Pier exercised a degree of control over the disputed right-of-way which is consistent with a finding that it was an operator of this portion of the facility. See Attachment 34, Letter to Verneta Simon and Fred Micke from STS Consultants, p. 1 (Apr. 12, 2000) (describing disposal of contaminated caisson spoils on-site). In addition, it should not be overlooked that Grand Pier also discharged groundwater and surface water contaminated with hazardous substances, which further demonstrates Grand Pier's operator status at this facility. See Attachment 40, Letter to Dalia Maor from Richard G. Berggreen (Aug. 22, 2000) (letter requesting disposal of contaminated groundwater generated by construction dewatering activities).

B. Grand Pier was a CERCLA 107(a)(2) Owner/Operator of A Facility at the Time of Disposal

CERCLA imposes liability on ". . . any person who at the time of disposal of any hazardous substance owned or operated any facility at which hazardous substances were

disposed of . . ." 42 U.S.C. § 9607(a)(2). The term "disposal" means the "discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment[.]" 42 U.S.C. § 9601(29) (incorporating the definition found in the Solid Waste Disposal Act, 42 U.S.C. § 6903). On or about February 28, 2000, Grand Pier engaged in drilling and excavation activities at a facility, during which activities there was a release or threat of release of hazardous substances into the environment from that facility. Grand Pier is liable as an owner or operator of a facility, at the time of disposal of hazardous substances, due to the facts presented and supporting case law.

In Bestfoods, the Supreme Court addressed "the extent to which parent corporations may be held liable under CERCLA for operating facilities ostensibly under the control of their subsidiaries." Bestfoods, 524 U.S. at 60. In deciding this issue, the Court also provided, inter alia, guidance on the definition of direct operator liability under the statute. "An operator must manage, direct, or conduct operations specifically related to pollution, that is, operations having to do with the leakage or disposal of hazardous waste, . . ." Id. at 66. The Supreme Court's definition of direct operator liability under CERCLA supports U.S. EPA's claim of operator liability. Grand Pier hired contractors that physically controlled the facility and whose activities resulted in the disposal of hazardous substances on-site and off-site. Grand Pier is the admitted owner of the site, and it is also liable as an operator because Grand Pier controlled the hazardous waste generation, management, and disposal activity at the facility where the contamination occurred. Grand Pier drilled caissons that encroached into the adjacent

sidewalk right-of-ways and disposed of the contaminated drilling spoils on-site. See Attachment 37, Letter to Verneta Simon and Fred Micke from STS Consultants, p. 1 (Apr. 12, 2000) (explaining that the highly contaminated spoils from Caisson C-25 which encroached into Columbus Drive right-of-way were disposed of on-site). Grand Pier also excavated radioactively contaminated on-site soils and improperly disposed of the contaminated soils off-site at a landfill that was not licensed to accept radioactive waste. Thus, Grand Pier's actions fall squarely within the Supreme Court's definition of CERCLA "operator" liability, regardless of whether or not Grand Pier owned the adjacent Columbus Drive sidewalk right-of-way.

Further, Kaiser Aluminum & Chemical Corp. v. Catellus Dev. Corp., 976 F.2d 1338 (9th Cir. 1992), directly supports U.S. EPA's claim of operator liability through disposal of hazardous substances. See also Tanglewood E. Homeowners v. Charles-Thomas, Inc., 849 F.2d 1568, 1573 (5th Cir. 1988) (holding that a lending institution, residential developers, construction companies, and real estate agents and agencies that participated in the development of the subdivision were liable as persons who owned or operated a facility at the time of the disposal of toxins). In Kaiser, a site owner hired a contractor to "excavate and grade" a portion of a contaminated site. 976 F.2d at 1339. While working, the contractor inadvertently spread some contaminated soil over other parts of the property. Id. at 1340. The court found that the contractor was an operator subject to CERCLA. Id. at 1342. Part of the reasoning was that the activity that produced the contamination "occurred during, not after, the construction process." Id. at 1342 (emphasis in original). Similarly, Grand Pier's drilling of caissons and excavation of soils resulted in the deposition of a hazardous substance at on-site and at least one off-

site location. These excavation and disposal activities were managed, directed and conducted by Grand Pier through its contractors and resulted in the disposal of hazardous substances into the environment. Therefore, Grand Pier's activities fall squarely within the definition of "disposal," with attendant liability, per 42 U.S.C. § 9601(29), Kaiser, and Tanglewood.

It would be a misstatement of CERCLA case law to assert that in order to hold Grand Pier liable as an operator, U.S. EPA must show that Grand Pier operated the monazite refining facility at the time of the initial disposal of hazardous substances or that Grand Pier had actual or substantial control of the monazite refining operations that caused the pollution. Several Circuit Courts have interpreted CERCLA's definition of "disposal" to include the subsequent dispersal of contaminated soil during the excavation and grading of a construction site after initial disposal had occurred. See Kaiser, 976 F.2d at 1342; see also Tanglewood, 849 F.2d at 1573.

As discussed above, in Kaiser, it was alleged that a contractor had excavated contaminated soil during the construction of a housing development at the former site of a shipbuilding plant. Kaiser, 976 F.2d at 1339-40. The contractor allegedly spread this soil over uncontaminated portions of the property. Id. at 1342. Likewise, developers in Tanglewood, allegedly filled and graded creosote pools on the grounds of a former wood treatment facility. Tanglewood 849 F.2d at 1573. The courts in Kaiser and Tanglewood held that these third-parties had disposed of hazardous substances for CERCLA purposes even though they had not introduced the substances to the sites. See Kaiser, 976 F.2d at 1342; Tanglewood, 849 F.2d at 1573. The Eleventh Circuit has agreed with the Fifth and Ninth circuits, and held that a "disposal" may occur when a party disperses contaminated

soil during the course of grading and filling a construction site. Redwing Carriers, Inc. v. Saraland Apartments, 94 F.3d 1489, 1512 (11th Cir. 1996).

Moreover, an examination of case law that may appear to support any contention that Grand Pier's connection with the facility is insufficient to support a claim of CERCLA operator liability in this case are inapposite or distinguishable. In United States v. Vertac Chem. Corp., 46 F.3d 803 (8th Cir.), cert. denied sub nom, Arkansas Dept. of Pollution Control & Ecology v. United States, 515 U.S. 1158 (1995), the Eighth Circuit concluded "operator liability may result from actual or substantial control exercised by one entity over the activities of another." Id. at 808. The court also noted that determining what constitutes actual or substantial control "requires a fact-intensive inquiry and consideration of the totality of the circumstances." Id. In Vertac, the court held that the government was not an operator because it did not exercise actual or substantial control over the herbicide facility that had contracted with the government to produce Agent Orange. There were two turning points in Vertac, which suggested to the court that the government was not an operator. First, the herbicide facility made its own business decision and voluntarily elected to bid on the government contracts seeking the government's business. Id. at 809. Second, the government was never actively involved in, and thus never exercised substantial control over, the operations at the herbicide facility. Id. Vertac is simply inapposite. Here, Grand Pier is not so removed from the environmental contamination. Grand Pier was actively involved in, and controlled the activities which resulted in the release or threat of release of contamination from excavation work that encroached into the Columbus Drive sidewalk right-of-way, including, but not limited to, the decision to drill caissons, the location to drill caissons,

the excavation and disposal of caisson spoils, and hiring the contractors to conduct the drilling and disposal. These actions clearly support a finding that Grand Pier was the operator of the facility at the time of disposal.

In Lentz v. Mason, 961 F. Supp. 709, 716 (D.N.J. 1997), the court found that a real estate broker and its agent could not be liable operators if they did not have "the power to control the disposal activities undertaken." In Lentz, the broker merely introduced a lessee and lessor and promised to conduct a credit check. Id. at 714. These actions did not have a direct affect on the use of property where releases occurred. In contrast, Grand Pier controlled the excavation and disposal activities that led to the release and threat of release of hazardous substances from the facility. Here, the activities leading to the release of hazardous substances from Grand Pier's property and the Columbus Drive sidewalk right-of-way were initiated, controlled and conducted by Grand Pier through its contractors to further Grand Pier's business interests. Thus, Grand Pier acted as an "operator" as that term is defined in CERCLA Section 101(20)(a) and used in CERCLA Sections 107(a) (1) and (2).

V. Conclusion

Petitioner has not demonstrated by a preponderance of the evidence that the Petitioner is not liable for response costs under Section 107(a) of CERCLA, 42 U.S.C. § 9606(b)(2)(C). U.S. EPA Region 5 respectfully requests that the EAB deny Petitioner's petition for reimbursement on the basis that the U.S. EPA, Region 5 has established the elements necessary to find that Grand Pier was the "owner" or "operator" of a "facility" that included the disputed portion of the Columbus Drive sidewalk right-of-way.

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Dated: Feb. 15, 2005

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BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In the Matter of:	)	
Grand Pier Center; LLC	)	**CERCLA 106(b) Petition No. 04-01**

AFFIDAVIT

The affiant, Janet Pfundheller, states as follows:

1. That she is employed as the Superfund Division Records Manager, United States Environmental Protection Agency, Region 5, and has personal knowledge of the facts set forth in this affidavit.

2. That she has reviewed the attached Administrative Record Indices against the original Administrative Record Indices housed in the Superfund Division Records Center.

3. That the attached Administrative Record Indices are true and accurate copies of the original Administrative Record Indices housed in the Superfund Division Records Center.

4. That further this affiant sayeth not.

Pursuant to 28 U.S.C. §1746:

I declare, under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on February 2, 2005

Janet Pfundheller

Janet Pfundheller
Superfund Division Records Manager

ATTACHMENT 1

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II SITE
CHICAGO, ILLINOIS

ORIGINAL
MAY 2, 1994

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	06/21/93	Karl, R., U.S. EPA	Klinger, J., Illinois Dept. of Nuclear Safety	Letter re: Illinois Dept. of Nuclear Safety	1
2	08/18/93	Kouris, T., Ecology and	Pfundheller, J., U.S. EPA	Letter re: Site Assess- ment	4
3	08/26/93	TMA Eberline	Ecology and Environment, Inc.	Thermoluminescent Dosimeter Badges Data	3
4	08/27/93	Klinger, J., Illinois	Karl, R., U.S. EPA	Response to U.S. EPA Letter Dated 6/21/93	2
5	01/27/94	Muno, W., U.S. EPA	Chicago Dock & Canal Trust	Administrative Order by Consent	16
6	07/11/94	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum	12
			UPDATE #1 **SEPTEMBER 18, 1995**		
1	09/00/93	Rogers & Associates Engineering Corporation	Chicago Dock & Canal Trust	Work Plan for Character- ization of Radioactive Contamination, 316 East Illinois St., Chicago, Illinois: Appendix E, Supplemental; Other Sampling	17
2	10/05/95	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health or the Environment at the Lindsay Light II Site	22
			UPDATE #2 (REVISED) **APRIL 1, 1996**		
1	04/22/96	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health and the Environment at the Lindsay Light II Site	40

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
			UPDATE #3 JUNE 3, 1996		
1	10/27/95	STS Consultants, Ltd.	U.S. EPA	The Chicago Dock & Canal Trust Report for Characterization Investigation: Gamma Radiation Survey, Lindsay Light II Site w/Attachments A-E (3 Volumes)	1331
			UPDATE #4 JUNE 24, 1996		
1	10/25/96	Klinger, S., Illinois Dept. of Nuclear Safety	Thompson, R., U.S. EPA	Letter re: Classification of Radioactive Material at Lindsay Light II	1
2	05/30/96	Weber, M., Illinois EPA	Simon, V., U.S. EPA	Letter re: Coordination of Removal Effort and Identification of Applicable or Relevant and Appropriate Requirements (ARARs) for the Lindsay Light II Site	3
3	06/04/96	Allen, R., Illinois Dept. of Nuclear Safety	Simon, V., U.S. EPA	Letter re: Identification of Applicable or Relevant and Appropriate Requirements for the Lindsay Light II Site w/Attachment (Action Criteria for Superfund Removal Actions at the Kerr-McGee Residential Areas Site, West Chicago, IL)	21
4	06/13/96	Morin, C., Illinois EPA	Simon, V., U.S. EPA	Letter re: Response to June 2 Letter Regarding ARARs for the Lindsay Light II Site w/Attachment (List of State and Federal ARARs and TCBs re: Inclusion of ARARs in the Administrative Record)	9
			UPDATE #5 SEPTEMBER 22, 1999		
1	02/12/98	U.S. EPA/ OERR	U.S. EPA	Memo re: Use of Soil Cleanup Criteria in 40 CFR Part 192 as Remediation Goals for CERCLA sites (OERR Directive No. 9200.4-25)	6

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
2	09/22/99	Simon, V. & F. Micke; U.S. EPA	Muno, W., U.S. EPA	Action Memorandum Amendment: Determination that Specific Institutional Controls are Adequate to Abate the Threat to Public Health and the Environment from the Thorium Under the Rights-Of-Way Adjacent to the Lindsay Light II Site (PORTIONS OF THIS DOCUMENT HAVE BEEN REDACTED)	53

UPDATE #6
OCTOBER 18, 1999

1	09/27/99	City of Chicago	U.S. EPA	Residual Radioactive Waste Right-of-Way Agreement w/Attachments A-F	103

UPDATE #7
LINDSAY LIGHT II (RV3 NORTH COLUMBUS DRIVE) SITE
MARCH 28, 2000

1	06/21/93	Simon, V., U.S. EPA	Steele, R., 161 E. Grand Associates	Letter re: U.S. EPA/IDNS Verification of Radioactivity at the 161 E. Grand Building and Request to Install Thermoluminescent Dosimeter (TLD) Badges in the Building (Lindsay Light I Site)	2
2	09/00/93	U.S. EPA	File	TLD Data, ATSDR Recomendations and Gamma Survey Maps of Lindsay Light Building for the Lindsay Light I Site	16
3	10/22/93	Traub, J., U.S. EPA	Steele, R., 161 E. Grand Associates	Letter re: TLD Results for the 161 E. Grand Building (Lindsay Light I Site)	9
4	06/07/94	Anderson, G., U.S. DOL/ OSHA	Simon, V., U.S. EPA	Letter re: OSHA's May 11, 1994 Inspection at 161 E. Grand Avenue (Lindsay Light I Site)	5
5	07/09/96	Steele, R., 161 E. Grand Associates	Simon, V., U.S. EPA	FAX Transmission re: Final OSHA Ruling and Data for the 106 E. Grand Building	4
6	08/12/96	Charp, P., USDHHS/ USPHS/ ATSDR	Anderson, G., U.S. DOL/ OSHA	Letter re: ATSDR's Concern for Radiological Contamination at 161 E. Grand Avenue (Lindsay Light I Site)	3

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
7	08/20/96	Charp, P., USDHHS/ USPHS/ ATSDR	Anderson, G., U.S. DOL/ OSHA	Letter re: Corrections to ATSDR's August 12, 1996 Letter Concerning Radiological Contamination at 161 E. Grand Avenue (Light I Site)	1
8	08/22/97	U.S. EPA/ OERR	U.S. EPA	Memorandum: Establishment of Cleanup Levels for CERCLA Sites with Radio-active Contamination (OSWER Directive 9200.4-18)	20
9	02/12/98	U.S. EPA/ OERR	U.S. EPA	Memorandum: Use of Soil Cleanup Criteria in 40 CFR Part 192 as Remediation Goals for CERCLA Sites (Directive 9200.4-25)	6
10	09/27/99	City of Chicago	Obligers	Right of Way Agreement for the Rights of Way Adjacent to 316 E. Illinois Street Between the City of Chicago, River East and Kerr-McGee Chemical	10
11	10/20/99	Prasad, N., City of Chicago/ Department of Environment	Iacullo, C., City of Chicago/ Department of Transportation	Memorandum re: Right of Way Agreement for the Rights of Way Adjacent to 316 E. Illinois Street	1
12	01/00/00	Metro Commercial Real Estate/ R.M. Chin & Associates		Development Brochure for the Grand Pier Center	22
13	01/21/00	Osakada, S., City of Chicago/ Department of Sewers	Rhymes, B., City of Chicago/ Department of Sewers	Memorandum re: Illinois Street Sewer from Columbus Drive to McClurg Court	1
14	01/24/00	City of Chicago/ Department of Sewers	File	Permit Application for Work to be Performed on the Main Sewer at Illinois Street from Columbus Drive to McClurg Court	1
15	02/23/00	Simon, V., U.S. EPA	Chin, R., R.M. Chin & Associates	Letter re: Lindsay Light II Site and Grand Pier Development w/Attached Consent for Access to Property Form	5

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
16	02/28/00	Chin, R., R.M. Chin & Associates	U.S. EPA	Signed Consent for Access to Property Form for the 2XX Block of Illinois Street	1
17	03/02/00	U.S. EPA	File	Table: Grand Pier Center Off Site Disposal (Semi Loads Hauled Off Site) for the Period January 14 - February 29, 2000	1
18	03/08/00	Micke, F., U.S. EPA	Witte, M., R.M. Chin & Associates	Letter re: Work to be Conducted Pursuant to the June 6, 1996 Unilateral Administrative Order at the Lindsay Light II (RV3 North Columbus Drive) Site	3
19	03/17/00	Karl, R., U.S. EPA	Chin, R., Grand Pier Center	Letter re: General Notice of Potential Liability for the Lindsay Light II (RV3 North Columbus Drive) Site	4
20	03/21/00	U.S. EPA	File	Tables: Comparison of Sample Results Related to the North Columbus Drive Site	6
21	03/22/00	Rissman, M., *Mayer, Brown & Platt*	Regel, D., U.S. EPA	Letter re: Grand Pier's Response to U.S. EPA's March 17, 2000 Notice Letter for the Lindsay Light II (RV3 North Columbus Drive) Site	2
22	03/23/00	Chin, R., R.M. Chin & Associates	U.S. EPA	Signed Consent for Access to Property Form for 200 East Illinois Street	1
23	03/28/00	Simon, V. & F. Micke; U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health or the Environment at the Lindsay Light II (RV3 North Columbus Drive) Site	121

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES

UPDATE #8
LINDSAY LIGHT II (OPERABLE UNIT #3/NORTH MCCLURG COURT) SITE
MARCH 1, 2001

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	05/31/00	Ramsey, T., *Piper, Marbury, Rudnick & Wolfe*	Fulghum, M., U.S. EPA	May 2000 Report: Summary of Radiological Survey for the Time-Life Property w/ Attached Cover Letter	53
2	10/27/00	Golub, L., Golub & Company	Pabian, T., Capital Associates Realty Advisors	Letter re: Cleanup Plan for the Time-Life Site of Cleanup Activities	1
3	12/20/00	Ramsey, T., *Piper, Marbury, Rudnick & Wolfe*	Fulghum, M., U.S. EPA	Fax Transmission re: Golub's Redevelopment Plans for the GMO (Grand, McClurg, Ohio) Site	2
4	01/25/01	Koh, B., B. Koh & Associates, Inc.	Simon, V., U.S. EPA	Letter re: Gamma Spectra Results for the Time-Life Property w/Attached Sampling Data	35
5	02/23/01	Ramsey, T., *Piper, Marbury, Rudnick & Wolfe*	Martwick, C., U.S. EPA	Letter re: U.S. EPA's Regulatory Requirements and Determinations for the GMO Site	2
6	03/01/01	Simon, V. & F. Micke; U.S. EPA	Muno, W., U.S. EPA	Action Memorandum Amendment: Determination of Presence of Off-Site Thorium Contamination Associated with the Lindsay Light II Site (OU3/North McClurg Court) and Determination of a Threat to Public Health or the Environment (PORTIONS OF THIS DOCUMENT HAVE BEEN REDACTED)	

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II SITE
CHICAGO, ILLINOIS

UPDATE #9
MAY 22, 2001

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	00/00/92	STS Consultants, Ltd.	U.S. EPA & Power/CRSS	Report of Environmental Investigation for the Proposed Northwestern Memorial Hospital Facility Redevelopment Site	110
2	12/02/93	Berggreen, R., & D. Hermann; STS Consultants, Ltd.	Simon, V., U.S. EPA	Letter re: Relevant STS Capabilities and Experience for the Proposed Remedial Investigation of the Former Lindsay Light Site	43
3	04/22/94	Simon, V., U.S. EPA	Berggreen, R., STS Consultants, Ltd.	Letter re: U.S. EPA's Comments on the March 1994 Work Plan and March 1994 Site Safety Plan for the Lindsay Light II Site	9
4	05/05/94	STS Consultants, Ltd.	U.S. EPA/ Chicago Dock and Canal Trust	Work Plan for Characterization of Radioactive Contamination: Volume 1 of 2 (Text, Tables, Figures and Appendices A-C)	262
5	05/05/94	STS Consultants, Ltd.	U.S. EPA/ Chicago Dock and Canal Trust	Work Plan for Characterization of Radioactive Contamination: Volume 2 of 2 (Appendices D-E)	650
6	05/13/94	Simon, V., U.S. EPA	Berggreen, R., STS Consultants, Ltd.	Letter re: U.S. EPA's Approval, with Modifications, of the Revised Work Plan for the Lindsay Light II Site	2
7	06/22/94	DiNardo, R. & R. Berggreen; STS Consultants, Ltd.	Simon, V., U.S. EPA	April 1994 Draft Phase I Environmental Assessment of the Proposed Chicago Music and Dance Theater Site at 319 E. Illinois Street w/Attached Transmittal Letter	81

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
8	10/13/95	Berggreen, R., STS Consultants, Ltd.	Simon, V., U.S. EPA	Letter Transmitting Attached Revisions to Sections of the *Report for Characterization Investigation Gamma Radiation Survey* for the Lindsay Light II Site	230
9	09/03/96	Lombardo, K. & N. Cochran; Grant Environmental, Inc.	Simon, V., U.S. EPA	Letter re: Kerr-McGee's Responses to U.S. EPA's Comments on the Health and Safety Plan of the Scoping and Planning Documents for the Excavation and Restoration Phase at the Lindsay Light II Site	64
10	09/12/96	Lombardo, K. & N. Cochran; Grant Environmental, Inc.	Simon, V., U.S. EPA	Letter re: Kerr-McGee's Responses to U.S. EPA's Comments on the Scoping and Planning Documents for the Excavation and Restoration Activities at the Lindsay Light II Site	43
11	10/01/96	Simon, V., U.S. EPA	White, J., Kerr-McGee Chemical Corporation	Letter re: U.S. EPA's Approval, with Modifications, of the September 12, 1996 Scoping and Planning Documents for the Lindsay Light II Site	4
12	10/18/96	Bono, B., Kerr-McGee Chemical Corporation	Simon, V., U.S. EPA	Letter re: Revision to the Work Order for Property Excavation and Restoration for the Lindsay Light II Site	7
13	10/29/96	Lombardo, K. & S. Wampler; Grant Environmental, Inc.	Simon, V., U.S. EPA	Letter re: Submittal of Kerr-McGee's Additional Responses to U.S. EPA's October 2, 1996 Comments and Replacement Pages for the Scoping and Planning Documents for the Lindsay Light II Site	563

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
14	11/01/96	White, J., Kerr-McGee Chemical Corporation	Simon, V., U.S. EPA	Letter re: Request for Modification to the Work Plan for the Lindsay Light II Site	2
15	09/15/98	STS Consultants, Ltd.	U.S. EPA/ MCL Companies	Site Excavation Soil Management Plan Work Order for the MCL River East Development at the Lindsay Light II Site	27
16	03/23/99	Berggreen, R. & S. Michels; STS Consultants, Ltd.	Micke, F., U.S. EPA	Letter re: Addenda to March 4, 1999 Work Order for Soil Management-Open Excavation for the Proposed MCL River East Center Development at the Former Lindsay Light II Site	33
17	04/16/99	Berggreen, R. & S. Michels; STS Consultants, Ltd.	Micke, F., U.S. EPA	Letter re: Addenda to March 23, 1999 Work Order for the Removal of Thorium Contamination at the Lindsay Light II Site	7
18	05/13/99	Berggreen, R. & S. Michels; STS Consultants, Ltd.	Micke, F., U.S. EPA	Letter re: Addenda to March 24, 1999 Work Order for the Proposed MCL River East Center Development at the Former Lindsay Light II Site	34
19	07/08/99	STS Consultants, Ltd.	U.S. EPA/ MCL Companies	Work Order for Soil Management Open Excavation for the River East Development at the Lindsay Light II Site	148
20	03/20/00	STS Consultants, Ltd.	U.S. EPA/ Grand Pier, L.L.C.	Work Plan for Site Radiation Survey and Excavation Soil Management for the Grand Pier Center	189
21	03/23/00	Simon, V., U.S. EPA	Berggreen, R., STS Consultants, Ltd.	Letter re: U.S. EPA's Approval, with Modifications, of the March 20, 2000 Work Plan for the Lindsay Light II/RV 3 North Columbus Drive Site	2

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
22	06/15/00	Jensen, L., U.S. EPA	Berggreen, R., STS Consultants, Ltd.	Letter Transmitting Photocopies of U.S. EPA Produced Maps for the Beverly Gravel Site in Elgin, Illinois	8
23	06/15/00	Jensen, L., U.S. EPA	Schrack, R., Schrack Environmental Consulting, Inc.	Letter Transmitting Photocopies of U.S. EPA Produced Maps for the Beverly Gravel Site in Elgin, IL	8

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II
(GRAND, MCCLURG, OHIO SITE)
CHICAGO, ILLINOIS

UPDATE #10
MAY 29, 2001

1	05/29/01	STS Consultants, Ltd.	Teacher's Retirement System for the State of Illinois	Removal Action Work Plan for the GMO Site	423

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

In the Matter of:	)
	)
	)
Grand Pier Center, LLC	)

DECLARATION OF VERNETA SIMON

I, Verneta Simon declare and state as follows:

1. I am currently employed as an On-Scene Coordinator (OSC), Superfund Division, United States Environmental Protection Agency, Region 5 ("U.S. EPA"). I have been employed in this capacity for approximately the past 20 years.

2. The statements made in this declaration are based on my personal knowledge and on knowledge I have gained from a review of files maintained by U.S. EPA.

3. As an OSC with U.S. EPA, my duties include: the performance of site investigations at potential hazardous waste and oil sites; the determination of the proper type and scope the response action; working with regional counsel to develop enforcement strategies; assisting in negotiations with potentially responsible parties (PRPs) and monitoring PRP cleanups; providing leadership for site cleanups and acting properly and decisively on field related sites; providing assistance, advice and support in the review of area wide and facility response plans; and maintaining a constant state of response readiness during both primary and standby periods.

4. Also as part of my duties as an OSC, I was involved in the oversight of removal activities conducted pursuant to Section 106 of CERCLA at the Grand Pier Site located at approximately the 500 block of North Columbus Drive, the 200 block of Illinois, a portion of the 200 block of Grand, and a portion of the 500 block of St. Clair, Chicago, Illinois.

5. I have reviewed and am familiar with Attachments 11, 14-19, 21-28, 30-37 and 40 which are true, accurate and complete copies of documents maintained in U.S. EPA, Region 5 Lindsay Light II files. I have also reviewed and am familiar with Attachments 5 and 9 which are true and accurate excerpted portions of those documents maintained in U.S. EPA, Region 5 Lindsay Light II files. These attachments, listed below on Declarants' Attached Document List, are attachments to U.S. EPA Regions 5's Response to Petition for Reimbursement of Costs Under 42 U.S.C. § 9606(b)(2):

DECLARANTS' ATTACHED DOCUMENTS

ATTACHMENT 5	Lindsay Light II Administrative Record, Update #1, Document 1, Work Plan for Characterization of Radioactive Contamination, 316 E. Illinois St., Chicago, IL Attachment E (Sept. 1993)
ATTACHMENT 9	Lindsay Light II Administrative Record, Update #9, Document 1, Report of Environmental Investigation for the Proposed Northwestern Memorial Hospital Facility Redevelopment Site, pp. 11-13 and Figure 5.
ATTACHMENT 11	STS Work Plan For Site Radiation Survey and Excavation Soil Management (Mar. 20, 2000)
ATTACHMENT 14	Administrative Record Update #7, Document No. 1, Letter re: U.S. EPA/IDNS Verification of Radioactivity at the 161 E. Grand Building (June 21, 1993).
ATTACHMENT 15	Streeterville Thorium Investigation Map, City of Chicago (Oct. 10, 2002).
ATTACHMENT 16	Lindsay Light II Administrative Record Original, Document No. 2, Letter Re: Site Assessment (Aug. 18, 1993).
ATTACHMENT 17	AOC re: Lindsay Light II Site, 316 E. Illinois Street, Docket No. V-W-'94-223 (Jan. 27, 1994).
ATTACHMENT 18	Consent Decree U.S. V. Kerr-McGee Chemical LLC Civil Action No. 04-C-2001 (June 8, 2004).
ATTACHMENT 19	Letter from Verneta Simon to Richard Berggreen (May 19, 2000) (Re: Completion of On-Site Work.
ATTACHMENT 21	Letter to Debbie Ragel (sic) Thomas J. Kelly (Oct. 1, 2003) (Re: Request for Information).
ATTACHMENT 22	Right-of-Way Agreement Impacted Rights-of-Way Map that is Attachment E to Plaintiff's Exhibit #4.

ATTACHMENT 23	Letter from Mary Fulghum to Frederick S. Mueller (Feb. 9, 2001).
ATTACHMENT 24	Geotechnical Engineering Report Proposed Grand Pier Center, Chicago, Illinois (Feb. 22, 1999).
ATTACHMENT 25	Phase II Subsurface Investigation Report to Ray M. Chin from ATC Associates, Inc. (July 8, 1999), p.3, pp 19-20.
ATTACHMENT 26	Phase I Environmental Assessment Update Block 1 of Cityfront Center Plaza to R.M. Chin from Smith Technology (September 3, 1997).
ATTACHMENT 27	Final Closure Report to Verneta Simon and Fred Micke from STS Consultants, Ltd. (July 2, 2001).
ATTACHMENT 28	Memorandum to Rich Berggreen from Michael Witte, Additional Back-up for Beverly Gravel Report (September 13, 2002).
ATTACHMENT 30	Beverly Gravel Summary Report to Grand Pier Center LLC from STS (Sept. 6, 2002); Attachment 1, Morse Diesel Daily Field Reports (Jan. 27, 2000), Attachment 3, Grand Pier Photographs, Progress Photos.
ATTACHMENT 31	Letter to Tinka Hyde from Thomas R. Carey, re: Voluntary Self-Disclosure of Potential Violations of Thorium Transfer and Disposal Rules – Roy Strom Company (March 7, 2000).
ATTACHMENT 32	Letter to Fred Micke and Verneta Simon from Richard Berggreen, STS re: Grade Beam and Right-of-Way Excavations (May 26, 2000).
ATTACHMENT 33	Letter to Michael J. Witte from Fred Micke (Mar. 8, 2000).
ATTACHMENT 34	Letter to Verneta Simon and Fred Micke from STS Consultants (Apr. 12, 2000).
ATTACHMENT 35	Action Memorandum, Item No. 23 of Lindsay Light II Site/Grand Pier AR Update (Mar. 28, 2000).
ATTACHMENT 36	Letter to Fred Micke and Verneta Simon from Richard G. Berggreen (June 8, 2000).

ATTACHMENT 37	STS Columbus Drive Sidewalk Remediation Work Plan (Mar. 9, 2001).
ATTACHMENT 40	Letter to Dalia Maor from Richard G. Berggreen (Aug. 22, 2000).

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: 2/15/05

By: Verneta Simon

Verneta Simon
On-Scene Coordinator
Emergency Response Branch
Superfund Division
U.S. EPA, Region 5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

In the Matter of:	)
	)
	)
Grand Pier Center, LLC	)

DECLARATION OF FREDRICK A. MICKE

I, Fredrick A. Micke declare and state as follows:

1. I am currently employed as an On-Scene Coordinator (OSC), Superfund Division, United States Environmental Protection Agency, Region 5 ("U.S. EPA"). I have been employed in this capacity for the past 8.5 years.

2. The statements made in this declaration are based on my personal knowledge and on knowledge I have gained from a review of files maintained by U.S. EPA.

3. As an OSC with U.S. EPA, my duties include: the performance of site investigations at potential hazardous waste and oil sites; the determination of the proper type and scope the response action; working with regional counsel to develop enforcement strategies; assisting in negotiations with potentially responsible parties (PRPs) and monitoring PRP cleanups; providing leadership for site cleanups and acting properly and decisively on field related sites; providing assistance, advice and support in the review of area wide and facility response plans; and maintaining a constant state of response readiness during both primary and standby periods.

4. Also as part of my duties as an OSC, I was involved in the oversight of removal activities conducted pursuant to Section 106 of CERCLA at the Grand Pier Site located at approximately the 500 block of North Columbus Drive, the 200 block of Illinois, a portion of the 200 block of Grand, and a portion of the 500 block of St. Clair, Chicago, Illinois.

5. I have reviewed and am familiar with Attachments 5, 11, 14-19, 21-28, 30-37 and 40 which are true, accurate and complete copies of documents maintained in U.S. EPA, Region 5 Lindsay Light II files. I have also reviewed and am familiar with Attachments 5 and 9 which are true and accurate excerpted portions of those documents maintained in U.S. EPA, Region 5 Lindsay Light II files. These attachments, listed below on Declarants' Attached Document List, are attachments to U.S. EPA Regions 5's Response to Petition for Reimbursement of Costs Under 42 U.S.C. § 9606(b)(2):

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ATTACHMENT 40	Letter to Dalia Maor from Richard G. Berggreen (Aug. 22, 2000).

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: 2/15/05

By: Fredrick A. Micke
Fredrick A. Micke, P.E.
On-Scene Coordinator
Emergency Response Branch
Superfund Division
U.S. EPA, Region 5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

In the Matter of:	)
	)
	)
Grand Pier Center, LLC	)

DECLARATION OF LARRY JENSEN

I, Larry Jensen declare and state as follows:

1. I am currently employed as Health Physicist in the Superfund Division, United States Environmental Protection Agency, Region 5 ("U.S. EPA"). I have been employed in this capacity for approximately the past 24 years.

2. The statements made in this declaration are based on my personal knowledge and on knowledge I have gained from a review of files maintained by U.S. EPA.

3. As a Health Physicist with U.S. EPA, my duties include: serving as the Superfund Radiation Expert, the Senior Health Physicist, and the Regional Radiation Risk Assessor. This includes providing advice on Superfund removal and remedial actions to U.S. EPA management, Federal officials, State and local government officials, potentially responsible parties, consultants, the media and the general public. It also includes participating in response actions that may include document review, instrument selection, health and safety plan development, site assessment, criteria development, risk assessment and cleanup verification.

4. Also as part of my duties as a Health Physicist, I was involved in the oversight of removal activities conducted pursuant to Section 106 of CERCLA at the Grand Pier Site located at approximately the 500 block of North Columbus Drive, the 200 block of Illinois, a portion of the 200 block of Grand, and a portion of the 500 block of St. Clair, Chicago, Illinois.

5. I have reviewed and am familiar with Attachment 13, Thorium Residuals in West Chicago, Illinois, Frigerio, et al., (Sept. 1978) excerpts only of pp. 1-9. which is a true and accurate excerpted portion of the document maintained in U.S. EPA, Region 5 Lindsay Light II files. This attachment is an attachment to U.S. EPA Regions 5's Response to Petition for Reimbursement of Costs Under 42 U.S.C. § 9606(b)(2).

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: 2/15/2005

By: Larry Jensen

Larry Jensen
Health Physicist

The Chicago River
A Natural and Unnatural History

Libby Hill

First Edition
Lake Claremont Press
Chicago

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by Libby Hill

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Maj. Junius Wheeler became the government's man-in-charge of harbors on Lake Superior and Lake Michigan in 1866 and remained at his post until 1870. He was not content with simply extending piers. He endorsed a proposal by the Chicago Canal and Dock Company for a major ship basin with an entry to the harbor from the north. Major Wheeler further recommended building a 455-acre enclosed outer harbor to the south. A 4,000-foot-long breakwater would be built at a right angle to the south pier, to create a 12-foot-deep protected area that would include piers and slips as well as harbor space. Another pier was to join the new breakwater to the shore. Because the Chicago harbor now ranked as the country's second or third major port, he persuaded the government to commit funds for the outer harbor construction. In 1867, after the Civil War was over, the Chicago Canal and Dock Company built their proposed Ogden Slip (along which today's North Pier is located). Afterwards, the piers were extended once again.

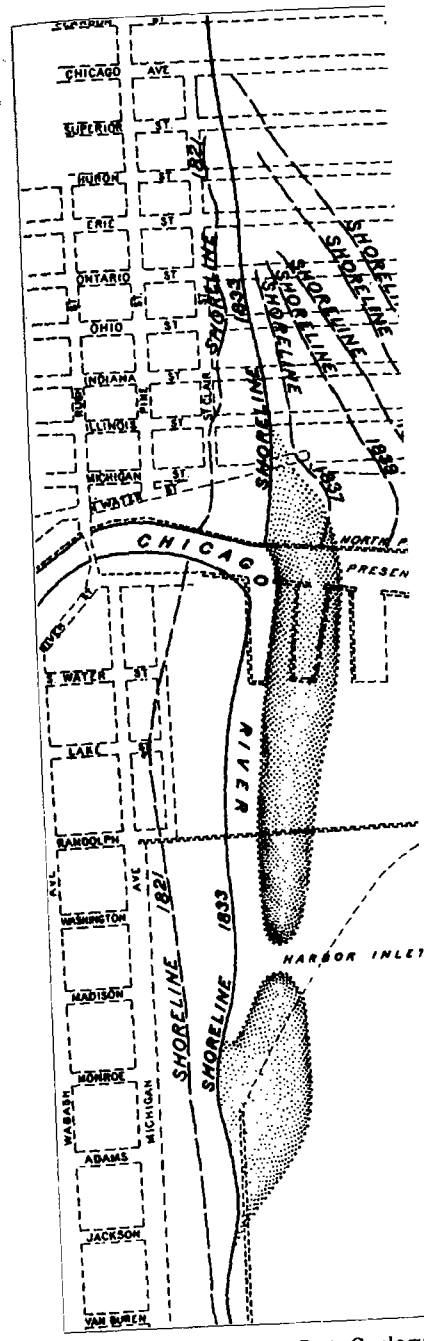
Unfortunately, Major Wheeler left in 1870 before he could oversee his project. His successor, Maj. David Crawford Houston, supervised construction, but because he was uncertain about the eventual need for the pier enclosure to the south, that portion of the project was never built.

Maj. George Gillespie replaced Houston in June, 1874. He completed the superstructure for the breakwater but did not enclose the basin. Major Gillespie was favorably impressed with the effects of the new outer harbor on the sand accumulations, which had ceased.[25] Though the sand must have continued to drop out, it probably accrued (and is still doing so) in deeper portions of the lake.

Of the history of constructing the harbor, Andreas acutely observed: ". . . it would seem . . . that the task of protecting the harbor entrance would be an indefinite contest between the governmental purse and the natural forces of wind, wave and current."[26]

The Sands and Streeterville

Andreas also noted: "The same forces that caused the bar across the mouth of the river in times of yore, have made hundreds of acres of land upon the north side of the pier, and the detritus and deposit that was formerly a formidable obstacle to navigation has become dry land, and a valuable accessory to Chicago's greatness."[27] These hundreds of acres of new sandy land were not, of course, on the original federal government Public Lands Survey Map made in 1821 by John Walls, who had precisely delineated Lake Michigan's shoreline. As the sand accumulated, maps located the shoreline farther to the east. In 1883, one map showed a shoreline almost a third of a mile east of Walls's line. Who owned this land that had been created by improving the mouth of the Chicago River? It had never been platted for the canal commissioners to sell. Did it belong to the landowners who had legally purchased acreage along the lakefront? Squatters did not worry about these legal niceties. They took possession of it and, according to historian Currey, built "rude shanties and obtained a livelihood by fishing and collecting debris which had floated ashore, and which had a salable value."[28] The acreage



Modified from J. Harlan Bretz, Geology
based on U.S. Geological Survey, Geol
[No. 18], Fig. 13, 1902, 11.

The incessant accreti

became known as the "Sands" and began to add its own rich lore to Chicago.

"The area," according to historian Carl Smith, "had a notorious reputation since the 1850s as a morally as well as geographically marginal neighborhood congenial to the most suspect human impulses and activities, notably gambling and prostitution, which were unofficially tolerated by the authorities. In April of 1857, Mayor 'Long' John Wentworth . . . led thirty policemen in a raid in the area . . . [that] scattered the men and women of ill-repute all over the city." It was to the Sands, adjacent to the lake, that many fled to escape the flames of the great Chicago Fire of 1871, " 'only to find that the fire seemed to revive the old spirit of the Sands.' The fire created an instant democracy, uniting 'extremes of wealth and squalor' so that 'inequalities of societies were now leveled off as smooth as the beach itself.' "[29]

It is probable that Capt. George Wellington Streeter, a circus promoter from the Michigan Woods, ran his boat aground on this same un-platted asset in 1886, at what is today Superior Street. Sand accumulated around his boat just as it had around the piers, and he claimed 168 acres of land as his own, calling it a new district because it had not appeared on the original government survey. He replaced his ship with a shack and proceeded to sell off the land. Regardless of his influential and wealthy neighbors' opinion of him as a low-life, he was not evicted until after World War I, when he was caught violating the law that prohibited the sale of liquor on Sundays.[30] Even though he is gone, his name is memorialized in Chicago's Streeterville section, which encompasses glittering North Michigan Avenue, some of the world's most expensive real estate.

The Aftermath

The mouth of the river had changed. The sand accretions may have stopped and the harbor been made commodious, but the story continues. Wheeler had proposed building a pier to enclose the outer harbor, but because Houston felt the pier was unnecessary, as noted above, it was never built. Ships found the opening a convenient approach to the main harbor. This channel became a focal point for federal and city conflict. In 1875, Gillespie was pleased that ships were using this entrance to the outer harbor. But to his dismay, he soon discovered that the City of Chicago was using it as a dumpsite for dredgings from the Chicago River, thus building up a potentially dangerous shoal. Gillespie suspected that the dumping was taking place at night when his officers were off duty. Eventually the mayor promised to halt the practice, but it seems to have continued.[31]

Early Settlem
on the North

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As the federal governmer
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prairies and felling the woods
feel the impact.

The North Branch was
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rain line. It was the first ent
water. Although there is no p
is operations into the river
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personnel at Fort Dearborn,
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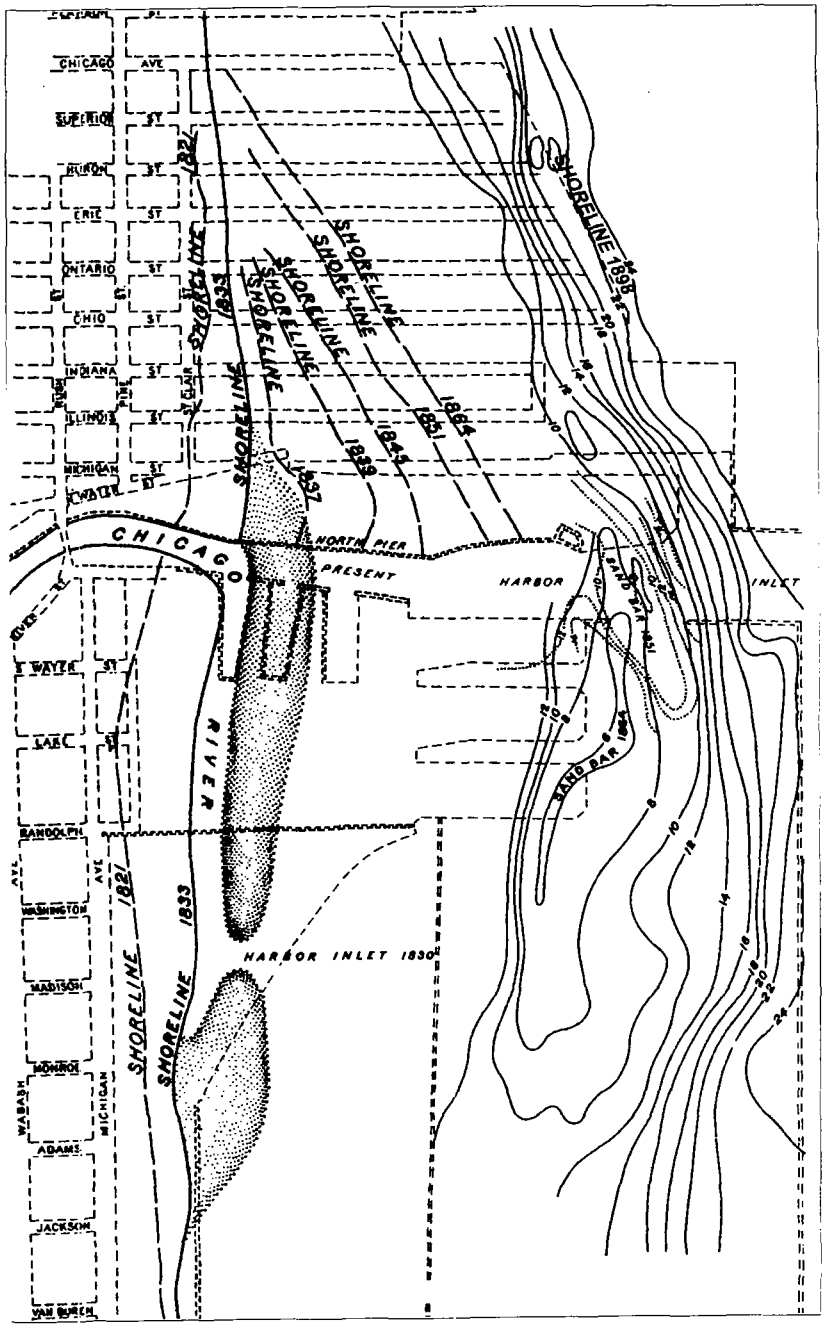

Modified from J. Harlan Bretz, Geology of the Chicago Region, Part I, General, *1939, based on U.S. Geological Survey, Geologic Atlas of the United States, Chicago Folio [No. 18], Fig. 13, 1902, 11.*

The incessant accretion of sand at Chicago's Harbor.

THE CHICAGO RIVER

AN ILLUSTRATED HISTORY AND GUIDE TO THE RIVER AND ITS WATERWAYS

DAVID M. SOLZMAN

Wild Onion Books
an imprint of
Loyola Press

Chicago

ATTACHMENT 3

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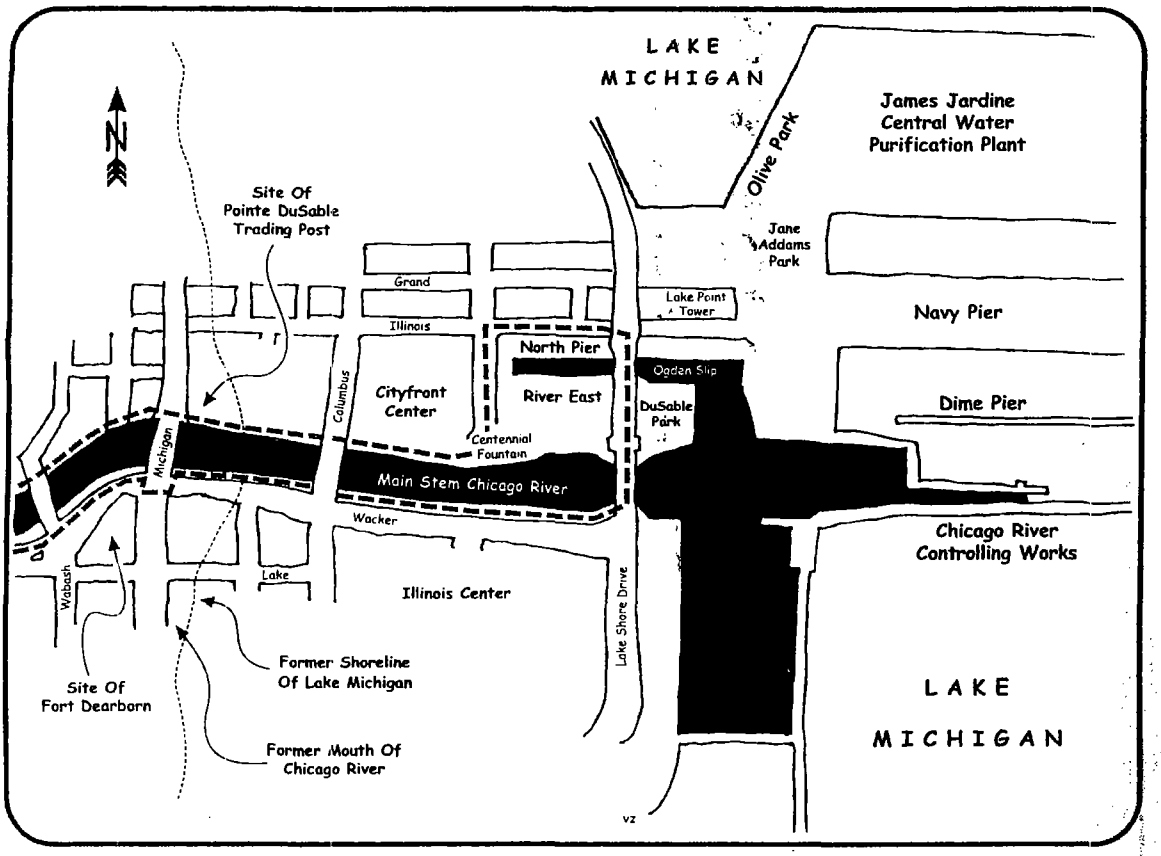


MAP 20. Chicago River Main Stem. Note the location of the original shoreline and the natural mouth of the Chicago River. Note also the Chicago Lock and the Ogden Slip. Jean Baptiste Pointe du Sable, Chicago's first permanent settler, lived just north of the river.

become the greatest primary grain market in the world (Cronon 1991, 97–147; also Miller 1996, 106).

Another huge development, **Cityfront Center,** hugs the north bank of the river opposite Illinois Center. Prior to this development, industry still held sway on the river's north bank. Candy manufacturing and the *Chicago Tribune*'s paper docks were located here until the 1980s; earlier, this area held grain elevators, a soap factory, and McCormick's reaper works.

Like Illinois Center, Cityfront Center is a mixed-use project. It is being built on forty acres at a cost of around $3 billion. The development combines 6,000 apartments with 2,200 hotel rooms and six million square feet of office and commercial space. Major buildings at Cityfront Center now include the **University of Chicago Downtown (Gleacher) Center,** the **Sheraton Hotel,** and the **NBC Tower.** A **park** honoring Jean Baptiste Pointe du Sable is planned for the eastern end of the complex. Recently the eastern portion of this development has been renamed River East.

A **riverwalk** designed by Lohan and Associates runs along the north bank of the river. The new **Columbus Drive Bridge** was specifically designed so that the riverwalk could pass under the span. **Centennial Fountain** (now named the **Melas Fountain**) marks the eastern

The alteration and virtual reconstruction of Chicago's waterways began almost immediately. More than 150 years of such pervasive and continuous change has produced a landscape that today bears little resemblance to that which nature presented to the first settlers.

Lake Michigan Shoreline

The twenty-nine-mile Lake Michigan shoreline in Illinois has undergone constant change throughout Chicago's history. The accompanying map on page 31 (Map 5) indicates the steady advance of "made land" into the lake. The shoreline has been pushed so far eastward that most of today's lakefront parks, Lake Shore Drive, and portions of the central city rest on filled sections of the lake.

Streeterville

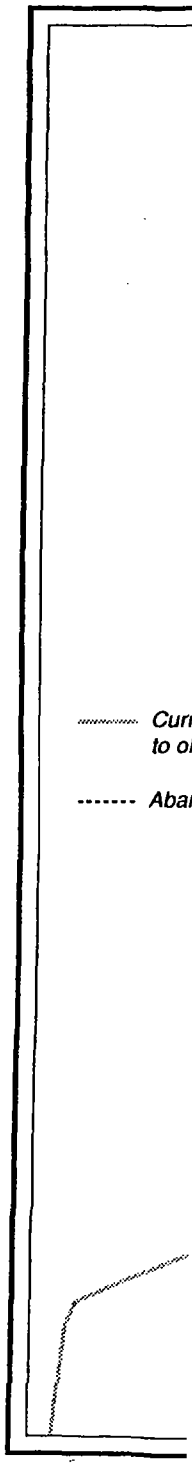
On the north side of the Chicago River, sand buildup and landfill angled outward and extended toward the pier, which by from 1834 bounded the river mouth on the north side. Eventually this fill engulfed a sizable sandbar that had built up around the grounded schooner of one of Chicago's most colorful characters, Captain John Wellington Streeter, in 1886:

> Streeter, a circus and show promoter, ran aground on a sandbar just east of the elegant mansions on North Michigan Avenue. (He). . . took up residence aboard his little ship, and when the lake currents and the garbage wagons had filled in the area around his sandbar, "the Barnum of Michigan Woods" laid claim to 168 acres. He based his right on an 1821 shoreline survey which indicated that his land was not part of the original Federal grant of land for settlement. Streeter soon established a "District" yielding allegiance to none but the Federal government . . . he built a shack . . . and began selling lots to gullible investors. . . . the owners of the mansions to the west of him, including Potter Palmer, considered him "a rude, blasphemous, drunken thief" (Mayer and Wade 1969, 305).

After years of struggle during which "events both spectacular and ludicrous" ensued, control of the land was wrested from Streeter in 1918 when he was sent packing for selling liquor on Sundays. Interestingly, Streeter's shipwreck occurred roughly at the spot now occupied by the northeast corner of the John Hancock Building.

Virtually all of the land between Michigan Avenue and the lakeshore north of the river is thus either artificially filled in or the result of sand deposited by the lake's southward-moving currents. We still call this huge area, now among the wealthiest in the city, Streeterville.

In fact, the method of making such filled-in land was developed in Chicago. A type of corrugated, interlocking sheet-steel piling was invented that could be driven into the lake or river bottom as required. The design of these pilings allows them to "lock" together to form a virtually impervious wall, behind which fill may be dumped. Successive lines of such pilings marked out the lakeward edge of the new land. In the early 1990s such a procedure created new land for rerouting the portion of Lake Shore Drive approaching the river from the south, allowing the removal of the drive's infamous S curve.



July 7, 1952

Lindsay Chemical Observes Fiftieth Year With Party

The Lindsay Chemical Co. observed its 50th year last Saturday with a full day of festivities, starting with a picnic at John's Grove, followed by dinner and dancing in the evening at the Glen Ellyn Legion clubhouse.

All the personnel of the company received invitations to the party, presided over by Chas. R. Lindsay III, son of the company's founder.

Bruce J. Bennett, superintendent of production for the company, had prepared a history of the company, which he read at the dinner. It is an unusually interesting story, and The Press has received permission to reproduce parts of it: it is too long to reproduce entirely.

LINDSAY CHEMICAL CO.
by Bruce J. Bennett

About 52 years ago, the Welsbach Corporation, a mantle manufacturer, had in its employ a young salesman Charles R. Lindsay, Jr. They had seen fit to give him a vacation, and he in turn was spending it in Florida in fact, one night he

Charles R. Lindsay, Jr.

was spending some of it in Palm Beach around a roulette wheel in Bradley's Casino, a concern run for solvent people who wished to become otherwise. In the course of the evening he made the acquaintance of another [illegible] named Collins. Some short while later the men discovered that Lindsay was from Philadelphia and Collins was from Chicago. Both had returned to their respective cities and the idea came up to swap so that each could see what the different cities had to offer. Collins even offered to give young Lindsay (he was [illegible] years old) a letter of introduction to his cousin George Gilman who would no doubt make him welcome to the windy city. The deal was closed with champagne, and a few days later Mr. Lindsay stepped off the train in Chicago.

He liked the surroundings so much that he decided to stay and wrire Welsbach to that effect. They immediately made him their western manager. Now all of this took place in 1902 and after two years in this invigorating atmosphere, he decided to go into business for himself. As he needed a partner and also financial assistance, George Gilman and Lindsay went into business on Lake street.

First Order

The company [illegible] start [illegible] weeks [illegible] room of [illegible] The mantle [illegible] active, [illegible] nothing [illegible] mantle [illegible] dollars worth [illegible] within the week [illegible] filled. An order for 500 dollars [illegible] which were [illegible] not only [illegible] dollars worth [illegible] within the week

Chas. R. Lindsay III

of imagination so necessary for chemical research, and a tribute to his excellent work is the fact that many of the processes still in use were worked out by Dr McCoy.

Color Chicago River

After the war was over, the Germans resumed shipments of thorium nitrate and Lindsay turned to other means to supplement the thorium and mantle making. They started manufacturing dyes and succeeded in dyeing the Chicago River various hues of red and blue. It was not uncommon for a white draft horse to change color to a beautiful blue while working at hauling away the refuse from the plant, and Michigan Ave. was more than somewhat disturbed when the safety release valve on a dye kettle sprayed the street occasionally with alizarin red.

The company also turned to the plating of electric light fixtures and this went to well and the chemical business so poorly that Lindsay almost dropped the manufacture of chemicals entirely.

On July 15, 1925 Mr. Lindsay's son, Charles R. III, started to work for the company. The most fitting tribute to him is evidenced in the exceptional growth of the corporation which he has headed since his father's death in 1936.

Come to West Chicago

Up to 1931 chemical manufacture had taken place in an old wooden building on Illinois street. This building had been an old police horse barn, and time was approaching to put it out to pasture with the horses. So, in spite of the help the chemical plant had been in dyeing the Chicago river, they decided to expand their production and seek a location in the western suburbs. On another hot muggy day in July, they bought the Union Tool building in West Chicago where the plant is now located. This plant was used only for the manufacture of chemicals, the mantle plant and office being retained in Chicago until 1936 when the remaining facilities were moved to the West Chicago Plant.

In 1935 the name of the company was again changed to keep up with its business to the Lindsay Light and Chemical Co. The company took up slack and weathered the depression and in the next few years came to acquire other properties in West Chicago. The old Opera house was purchased in 1941 for the [illegible] sum of $1700.00. It now houses our research laboratories.

Marion Buy Stock

Some of [illegible] he had worked for in 1900 — forty years before.

The advent of the Atomic energy era did much to help us and to hinder us. India, our main source of monazite sand supply was the first country to embargo its ore, because of the relatively small percentages of the fissionable material thorium. Then Brazil began to follow in India's footsteps, and it was necessary to go into the actual mining operations there to secure any sand at all. We had to operate our own mines there for almost three years from 1949 to 1952. Finally Brazil placed a 100 percent embargo on the sand, and we had to turn to little known domestic sources of ore. We are now receiving sand from Idaho and Florida, and recently while in Europe Mr. Lindsay managed to secure adequate supplies from South Africa, through British Mining interests.

A few years ago a small branch was opened in Morris, Illinois, where all of the mantles are now manufactured. In later years the chemical business has overshadowed the mantle business to such an extent that it was decided to again change the name of the company, so on July 1, of this year the word Light was removed from the name and we are now known as the Lindsay Chemical Co.

Thank You

We want to express our sincere thanks to the members of the board of education of school district 33, the past board presidents, the teachers and to our many friends for the testimonial dinner and open house, and for the cards, telephone calls and flowers which came to our home. We deeply appreciate it.

Mr. and Mrs. H. G. Booth.

TRY A CLASSIFIED

Many a lad
Attendin
Is glad of Da
Financial know

*Moral:

Insure your child's high
college fund. You can a
other educational expens
tematic savings program
penses.
Your deposits . . . Plus
. . . will cover those edu
they are incurred.
STOP IN AND TA

West Ch
Building & L
101 West Washin
Phone 40

Member Federal Home
Member Federal Saving

MALE HELP WA

Positions Open in the Following D

Assembly - Stock Room -

Permanent jobs. Experience helpful, but not
starting rates with overtime and benefits. Ch
tunities to work for a local established growin

Modern Water Equipm
Rt. 64, 1 mile West of Rt. 59
West Chicago

BUD'S MARK
208 Main Street

CHOICE MEATS

Fancy Trimmed
Rib Steaks, lb. 89c

Kocher's
Meatwurst, lb. 59c

Skinless

Fresh and Frozen Fr

Large Solid
Head Lettuce
ea. 15c

Fancy
Home Grown
Cucumbers
lb. 19c

2 for

ATTACHMENT 4

WORK PLAN FOR CHARACTERIZATION OF RADIOACTIVE CONTAMINATION 316 EAST ILLINOIS STREET, CHICAGO, ILLINOIS

Appendix E

Supplemental Information; Other Sampling

316 EAST ILLINOIS PROJECT
CHICAGO, ILLINOIS

Rogers & Associates Engineering Corporation
P.O. Box 330, Salt Lake City, Utah 84110-0330

September 1993

APPENDIX E

This appendix provides supplemental information related to the 316 East Illinois property.

Pages E-2 to E-16 are taken from the STS 1992 investigation report (STS92). Pages E-2 - E-8 provide a summary of the sample results from the subject investigation. Pages E-10 and E-11 are two of the boring logs and pages E-12 to E-15 are the logs for the monitoring wells. Page E-9 is a map based on the U.S.G.S. quadrangle map.

September 29, 1992

Mr. Pat Newman
POWER/CRSS
8700 W. Bryn Mawr
Chicago, IL 60631

RE: Report of Environmental Investigation of the Proposed Northwestern Memorial Hospital Facility Redevelopment Site, Located between Grand, Columbus, Illinois and McClurg Court, Chicago, IL -- STS Project No. 27313-XH

Dear Mr. Newman:

STS Consultants, Ltd. has completed the environmental investigation of the above referenced site. The investigation consisted of a series of tasks including a historical and site background review, subsurface explorations and chemical testing of selected soil samples. A discussion of the exploration methods, results, analysis and recommendations are presented in this report. The results of the concurrent geotechnical exploration program are described in a separate report.

STS has appreciated the opportunity to work with POWER/CRSS on this project. If you have any questions regarding the information contained in this draft report please do not hesitate to call.

Respectfully,

STS CONSULTANTS, LTD.

David L. Grumman, Jr.
Project Geologist

Steven A. Bucher, P.E.
Associate

Richard G. Berggreen
Principal Geologist

DLG/nt/AC1

STS Consultants Ltd.
Consulting Engineers

111 Pfingsten Road
Northbrook, Illinois 60062
708.272.6520/Fax 708.498.2721

4.0 ANALYSIS AND CONCLUSIONS

General Summary of Environmental Findings

The site investigation of the proposed Northwestern Memorial Hospital Facility Development project has been completed. The site consists of three Cityfront Center parcels bounded by Grand, Columbus and Illinois Streets and a Chicago Police building. The site investigation consisted of a review of available historical information, subsurface explorations, chemical testing, and a preliminary analysis of site remediation options. The results of the historical research reveal that the site was occupied by a variety of commercial and industrial occupants in the decades preceding and following the turn of the century. Among these occupants were a lubricating oil plant, carbonic acid manufacturer, and metal polish plant, none of which appear to have remained on site past the early 1900s. During the past 50 years, the site has reverted to mostly paved vacant land used for parking.

The subsurface exploration program discovered an area of subsurface petroleum concentrations in the vicinity of the former carbonic acid and lubricating oil plants.

Based on the chemical analyses, the source of these petroleum concentrations is a petroleum product, probably a diesel, heating or lubricating oil. The location at which these petroleum concentrations were identified corresponds to the approximate position of a former lubricating oil warehouse (1905) and three underground storage tanks used by a previous carbonic acid manufacturer (1886). The highest concentrations appear to be found near the estimated former UST area. It is not known whether the USTs remain on site.

The analytical testing results suggest that, whatever the source, the petroleum concentrations are the result of historical operations, perhaps dating back to the early 1900s. The analytical results show that many of the more volatile petroleum

indicator compounds (e.g. benzene, xylene, toluene, and ethylbenzene) are mostly gone. This has left the heavier, less volatile petroleum indicators, including many PNAs. The groundwater testing results showed trace to low level PNA and heavy metal detections. PNA detections can be expected from urban fill materials, as well as from petroleum product sources.

Over 20 borings, including four groundwater monitoring wells, and three test pits were performed to estimate the lateral and vertical dimensions of petroleum concentrations on site. The confines of these petroleum concentrations cover an area of approximately 24,000 square feet over a 6 to 8 foot thick area. Based on the existing testing results , the northern and southern confines of the petroleum concentrations may not be fully identified. The shallow groundwater flow direction appears to be to the south, toward the Chicago River and former Ogden Slip.

No indication of environmental impacts were observed during the subsurface exploration program from the other previously occupied areas on site or adjacent parcels. Although no indications of environmental problems in other areas on site were discovered, given the nature of the site's historical usage it is considered possible that small localized areas of contamination or sources of potential contamination such as underground storage tanks may be discovered on site during site development. It is also considered possible that the long term use of the site as a parking lot could have resulted in small and isolated areas of petroleum product contamination, none of which are likely to require remediation.

Table 2
Selected Chemical Testing Results
Results in mg/kg (parts per million)

	Sample Identification								
	TP1	TP2	TP3	TP4	TP6	B-108	B-109	B 115	B 118
Volatile Organic Compounds (VOC)									
Benzene	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	0.006	--	--	--
Ethylbenzene	--	--	--	--	--	0.086	--	0.014	--
Total Xylenes	--	--	--	--	--	0.240	0.089	0.180	0.010
Tetrachloroethene	0.044	0.036	--	--	--	--	--	--	--
Trichloroethene	0.023	--	--	--	--	--	--	--	--
Tetrachloromethane	--	--	--	0.014	--	--	--	--	--
Carbon Disulfide	--	--	--	0.014	--	--	--	--	--
Total Petroleum Hydrcarbons	NT	NT	NT	NT	NT	38	15000	37	22
Oil & Grease	NT	NT	NT	NT	NT	38	16000	43	34
Polynuclear Aromatic Hydrocarbons (PNA)									
Acenapthylene	NT	NT	NT	NT	NT	5.800	--	--	--
Acenapthene	NT	NT	NT	NT	NT	--	54.000	--	--
Fluorene	NT	NT	NT	NT	NT	18.000	--	--	--
Phenanthrene	NT	NT	NT	NT	NT	6.000	--	0.011	0.025
Anthracene	NT	NT	NT	NT	NT	21.000	7.500	0.004	0.0081
Fluoranthene	NT	NT	NT	NT	NT	38.000	25.000	--	--
Pyrene	NT	NT	NT	NT	NT	12.000	--	--	0.022
Benzo(a)anthracene	NT	NT	NT	NT	NT	1.300	0.950	--	0.0087
Chrysene	NT	NT	NT	NT	NT	1.500	0.770	--	0.021
Benzo(b)fluoranthene	NT	NT	NT	NT	NT	--	--	--	0.0066
Benzo(k)fluoranthene	NT	NT	NT	NT	NT	0.130	0.120	0.001	0.0058
Benzo(a)fluoranthene	NT	NT	NT	NT	NT	0.300	0.230	0.001	0.013
Benzo(g,h,i)perylene	NT	NT	NT	NT	NT	0.300	--	--	--

Legend:

NT: Not Tested
--: Result below laboratory practical quantitation level (PQL)

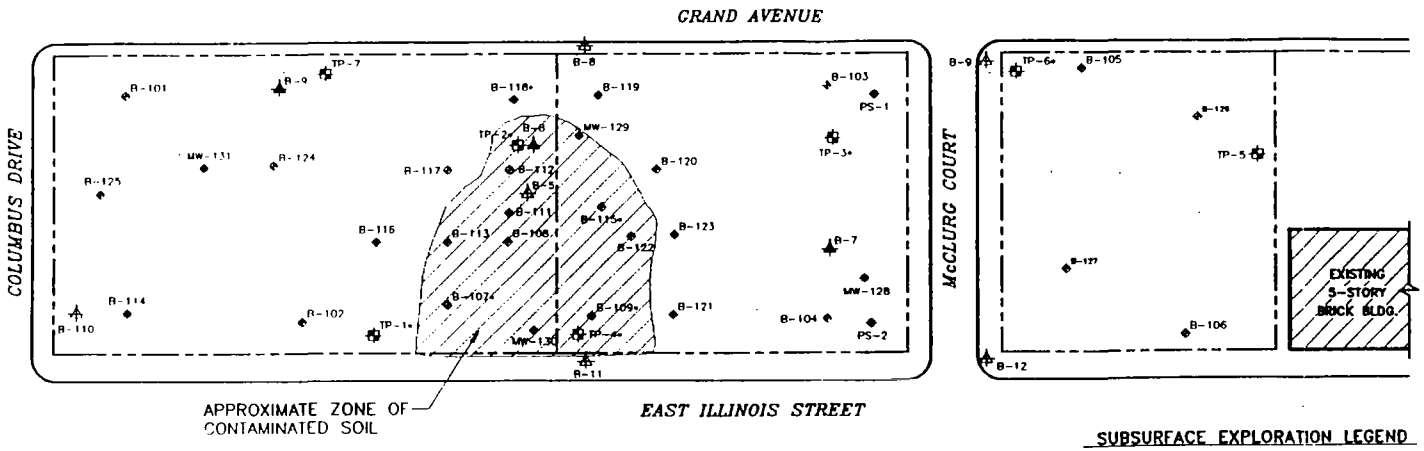
DLG/nt/AB1

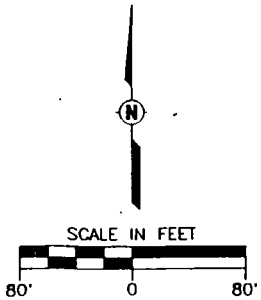
Table 3
Selected Chemical Testing Results
Results in mg/kg or mg/L [water samples]

	Soil Samples					Groundwater Samples			
	B-126	B-128	B-129	B-130	B-131	MW-128	MW-129	MW-130	MW-13
Volatile Organic Compounds (VOC)*									
Benzene	NT	NT	--	NT	--	--	--	--	
Toluene	NT	NT	--	NT	--	--	--	0.13	--
Ethylbenzene	NT	NT	--	NT	--	--	--	--	
Total Xylenes	NT	NT	--	NT	--	--	--	0.13	--
Tetrachloroethene	NT	NT	--	NT	--	--	--	--	--
Trichloroethene	NT	NT	--	NT	--	--	--	--	--
Tetrachloromethane	--	--	--	0.014	--	--	--	--	--
Carbon Disulfide	--	--	--	0.014	--	--	--	--	--
RCRA Heavy Metals*									
Barium	1.0	12.1	0.2	1.1	0.1	0.33	0.21	0.29	0.14
Lead	--	--	--	--	--	0.50	--	1.80	2.90
Chromium	--	--	--	--	--	--	--	0.06	--
Polynuclear Aromatic Hydrocarbons (PNA)									
Acenapthylene	NT	NT	NT	NT	NT	--	--	--	--
Acenapthene	NT	NT	NT	NT	NT	--	--	--	--
Fluorene	NT	NT	NT	NT	NT	--	--	--	--
Phenanthrene	NT	NT	NT	NT	NT	--	--	--	--
Anthracene	NT	NT	NT	NT	NT	--	--	0.087	--
Fluoranthene	NT	NT	NT	NT	NT	0.0021	--	--	--
Pyrene	NT	NT	NT	NT	NT	--	--	--	--
Benzo(a)anthracene	NT	NT	NT	NT	NT	0.00095	--	--	0.0001
Benzo(a)pyrene	NT	NT	NT	NT	NT	0.00097	--	--	0.0002
Chrysene	NT	NT	NT	NT	NT	--	--	--	--
Benzo(b)fluoranthene	NT	NT	NT	NT	NT	--	--	--	--
Benzo(k)fluoranthene	NT	NT	NT	NT	NT	--	--	--	--
Benzo(a)fluoranthene	NT	NT	NT	NT	NT	--	--	--	--
Benzo(g,h,i)perylene	NT	NT	NT	NT	NT	--	--	--	--
Napthalene	NT	NT	NT	NT	NT	--	--	0.37	--

Legend:
NT: Not Tested
--: Result below laboratory practical quantitation level (PQL)
* : Only compounds detected are listed

DLG/nt/AB1





SUBSURFACE EXPLORATION LEGEND

- BORINGS STS JOB #27313 (1992)
- BORINGS STS JOB #27313XH (1992) (MW PREFIX INDICATES MONITORING WELL INSTALLATION)
- TEST PITS STS JOB #27313XH (1992)
- BORINGS STS JOB #25400XF (1988)
- BORINGS STS JOB #24418-N (1987)
- BORINGS STS JOB #24418-C (1986)
- * SAMPLE RETAINED FOR CHEMICAL TESTING

DRAWN BY PCK	DATE 8/6/92	
CHECKED BY DLG	DATE 8/6/92	
APPROVED BY SAB	DATE 8/6/92	
CADFILE D:\PEOPLE\KRESKI\DWG\DEPT3\27313.dwg		

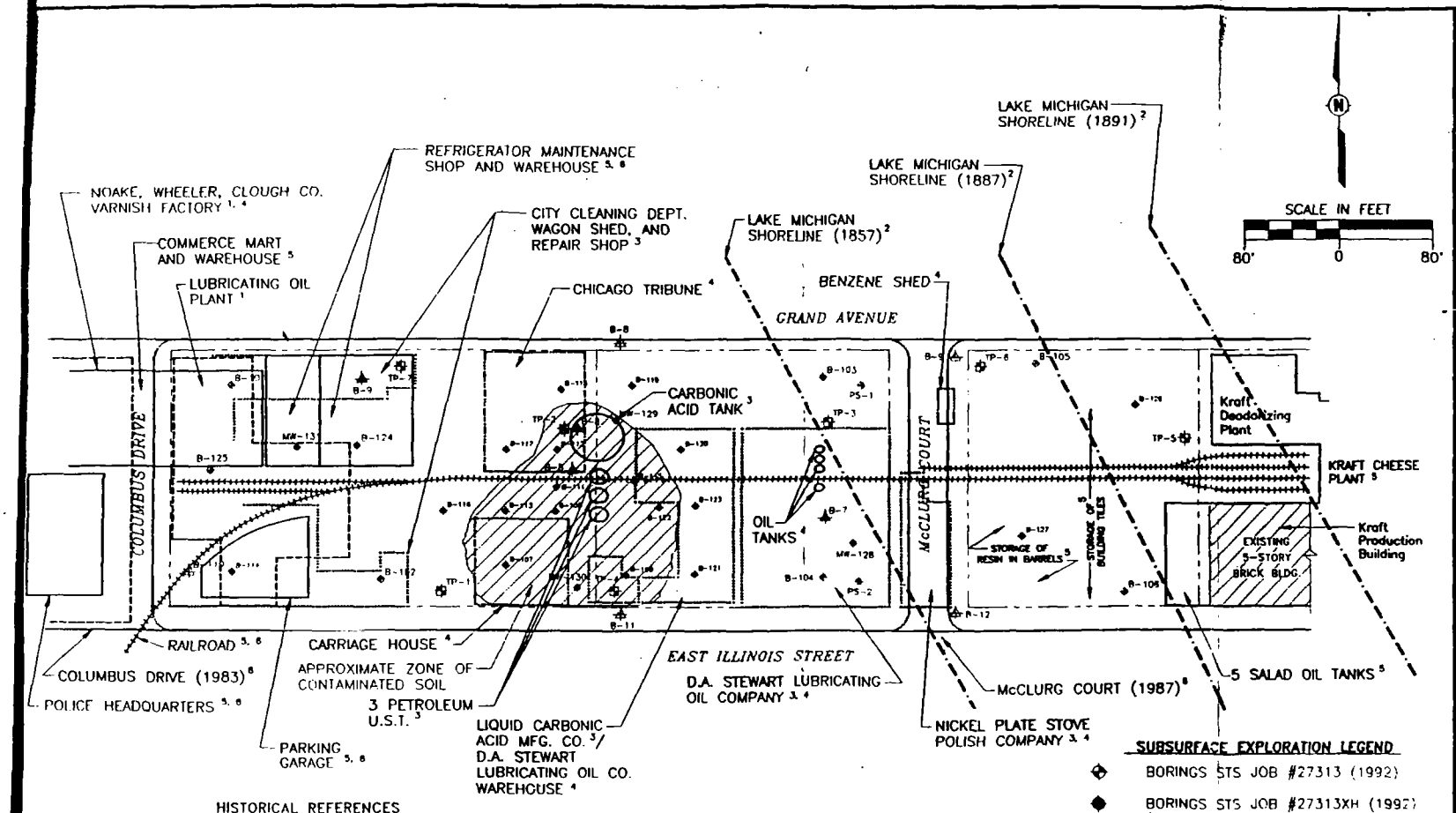
EXTENT OF CONTAMINATION DIAGRAM
PROPOSED NORTHWESTERN MEMORIAL HOSPITAL
GRAND/COLUMBUS/ILLINOIS/McCLURG COURT
CHICAGO, ILLINOIS

STS CONSULTANTS LTD.
CONSULTING ENGINEERS

STS PROJECT NO. 27313-XH
STS PROJECT FILE

SCALE 1" = 80'±

SHEET NO FIGURE 3



HISTORICAL REFERENCES

1. ROBINSONS ATLAS OF CHICAGO, FIRE INSURANCE MAP (1886) [----------]
2. GREELY CARLSON FIRE INSURANCE MAP (1891) [— — · — — · —]
3. RASCHER FIRE INSURANCE MAP (1891) [.....]
4. SANBORN FIRE INSURANCE MAP (1905) [- - - - - - -]
5. SANBORN FIRE INSURANCE MAP (1949) [————]
6. AERIAL PHOTOGRAPHY OF SITE, MISC. YEARS 1938-1988

THE LOCATIONS OF THE HISTORICAL STRUCTURES AS ILLUSTRATED ABOVE ARE CONSIDERED APPROXIMATE AND ARE BASED ON THE REFERENCES LISTED

SUBSURFACE EXPLORATION LEGEND

- BORINGS STS JOB #27313 (1992)
- BORINGS STS JOB #27313XH (1992) (MW PREFIX INDICATES MONITORING WELL INSTALLATION)
- TEST PITS STS JOB #27313XH (1992)
- BORINGS STS JOB #25400XF (1988)
- BORINGS STS JOB #24418-H (1987)
- BORINGS STS JOB #24418-[illegible] (1988)

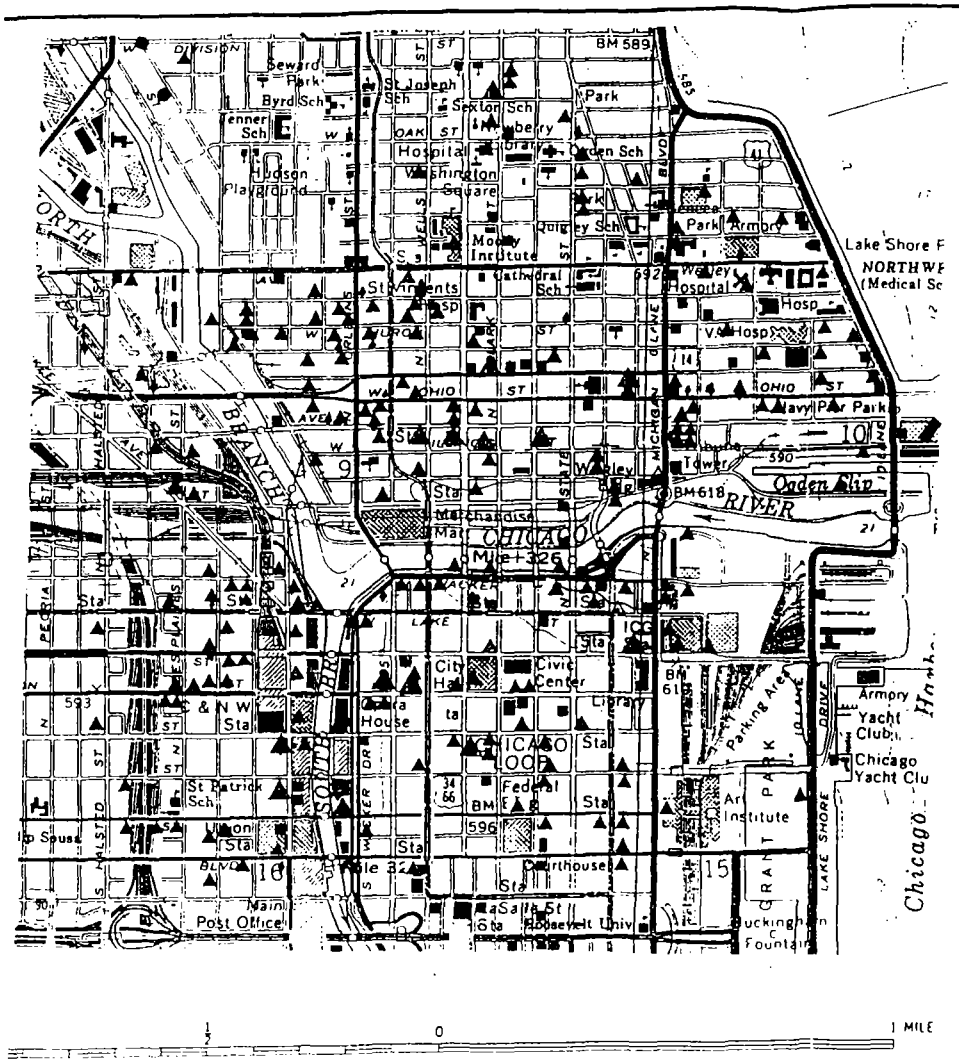
DRAWN BY	PCK	DATE	8/6/92
CHECKED BY	DLG	DATE	8/6/92
APPROVED BY	SAB	DATE	8/6/92
CADFILE:	D:\PEOPLE\KRESKI\DWG\DEPT3\27313.dwg		

HISTORICAL SITE USAGE DIAGRAM
PROPOSED NORTHWESTERN MEMORIAL HOSPITAL
GRAND/COLUMBUS/ILLINOIS/McCLURG COURT
CHICAGO, ILLINOIS

STS CONSULTANTS LTD. CONSULTING ENGINEERS

STS PROJECT NO. 27313-XH
STS PROJECT FILE
SCALE 1" = 80'±
SHEET NO. FIGURE 5

E-8



REF. BASE MAP: USGS QUADRANGLE MAP
7.5 MINUTE SERIES (TOPOGRAPHIC)
CHICAGO LOOP
PHOTOREVISED 1972

N

LEGEND

SITE

● CERCLIS SITES

▲ RCRA GENERATORS AND TSDS FACILITIES [1]

■ UST SITES [2]

♦ LUST SITES [3]

▰ SOLID WASTE DISPOSAL SITES [4]

LEGEND

1. USEPA COMPUTER DATA BASE SEARCH DATED 5-21-91.
2. ILLINOIS STATE FIRE MARSHALL UNDERGROUND STORAGE TANKS (UST) DATA BASE 6-2-90.
3. ILLINOIS STATE FIRE MARSHALL LIST OF LEAKING UNDERGROUND STORAGE TANKS (LUST) INCIDENTS REPORT 5-1-91
4. NORTHEASTERN ILLINOIS PLANNING COMMISSION HISTORICAL INVENTORY OF SOLID WASTE DISPOSAL SITES 1987.

STS Consultants Ltd.
Consulting Engineers

HAZARDOUS WASTE FACILITIES
LOCATED IN U.S. POSTAL ZIP CODE AREA
60601, 60602, 60603, 60604, 60606
60611 AND PORTIONS OF 60610

DRAWN BY	DATE	SCALE	STS PROJECT NO
KKB	7-15-92	SHOWN	27313-XH
CHECKED BY	DATE	SHEET NO	STS FILE NO
DLG	7-15-92		

FIGURE 6

ALL LOCATIONS ARE APPROXIMATE

CLIENT
Power/CRSS

LOG OF BORING NUMBER B-106

PROJECT NAME
Northwestern Memorial Hospital

ARCHITECT-ENGINEER
Ellerbe Beckett/HOK

STS Consultants Ltd

SITE LOCATION
Grand/Columbus/Illinois/McClurg Ct.: Chicago, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT 2 (1 2 3 4 5)

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT LBS/FT 3	PHOTO-IONIZATION DETECTOR READING (PPM)	PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10 20 30 40 50)	STANDARD PENETRATION BLOWS/FT (10 20 30 40 50)
						SURFACE ELEVATION				
						Continued from previous page				
40.0										
		10	ST			Silty clay, trace gravel, sand and shale - gray - medium (CL)	106			
			RB			Field vane at 42.5 ft. s_u = 1319 psf				
45.0										
		11	ST				108			
			RB			Field vane at 47.5 ft. s_u = 1066 psf				
50.0										
		12	ST				107			
			RB							
		13	ST				106			
			RB			Silty clay, trace gravel, sand and shale - gray - stiff (CL)				
60.0										
		14	ST							
			RB							
65.0										
		15	ST			Silty clay, trace gravel, sand and shale - gray - very stiff to hard (CL)				6.3
			RB							
70.0										
		16	ST							
			RB							
75.0										
		17	ST				123			
			RB							
		18	ST				112			
80.0			RB							

* Calibrated Penetrometer

continued

The stratification lines represent the approximate boundary lines between soil types in-situ, the transition may be gradual.

STS JOB NO. 2731 3 | SHEET NO. 2 OF 3

STS Consultants Ltd

CLIENT: Power/CRSS

LOG OF BORING NUMBER: B-106

PROJECT NAME: Northwestern Memorial Hospital

ARCHITECT-ENGINEER: Ellerbe Beckett/HOK

SITE LOCATION: Grand/Columbus/Illinois/McClurg Ct.: Chicago, Illinois

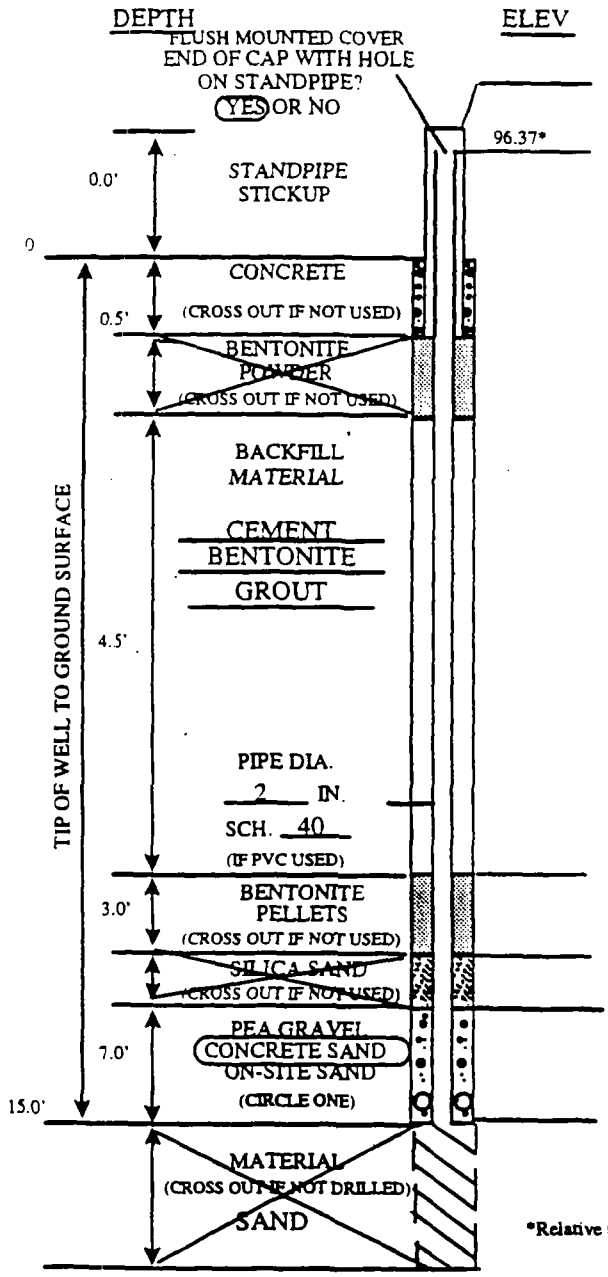
DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL / SURFACE ELEVATION	UNIT DRY WT LBS/FT 3	PHOTO-IONIZATION DETECTOR READING (PPM)	UNCONFINED COMPRESSIVE STRENGTH TONS/FT 2 (1 2 3 4 5)	PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10 20 30 40 50)	STANDARD PENETRATION BLOWS/FT (10 20 30 40 50)
						Continued from previous page					
80.0		19	ST			Silty clay, trace gravel, sand and shale - gray - very stiff to hard (CL)					5 8
		20	ST			Clayey silt, little sand, trace gravel - gray - moist (ML)					
			RB								
85.0		21	ST			Silty clay, little sand, trace gravel and shale - gray - hard (CL)	131				6 4 7+
			RB								
		22	ST				132				7+
			RB								
90.0		23	ST								1 6 7+
			RB								
		24	ST								
			RB								
95.0		25	SS								121 7+
			RB								
100.0		26	SS								109 7+
						End of Boring Borehole grouted upon completion Casing used 35 ft of 4 in					

* Calibrated Penetrometer

The stratification lines represent the approximate boundary lines between soil types: in-situ, the transition may be gradual.

WL / WS OR WD	BORING STARTED 07/17/92	STS OFFICE Northbrook-01	
WL / BCR / ACR	BORING COMPLETED 07/22/92	ENTERED BY KKB	SHEET NO 3 OF 3
WL	RIG/FOREMAN B-61/DT	APP'D BY MAK	STS JOB NO 27313

STS Field Well Installation Diagram



1) TYPE OF PIPE
(PVC), GALVANIZED, STAINLESS, OTHER _____

2) TYPE OF PIPE JOINTS
BELLED, COUPLINGS, (THREADED), OTHER _____

3) TYPE OF WELL SCREEN
PVC, GALVANIZED, (STAINLESS), OTHER _____

4) SCREEN SLOT SIZE 0.01 inches

5) SCREEN LENGTH 5 feet

6) INSTALLED PROCTECTOR PIPE W/LOCK? (YES) OR NO

7) DRILLING METHOD Solid Stem Augers
DRILLING FLUID Water
BOREHOLE DIAMETER 4 inches

8) BACKFILL MATERIAL INSTALATION FROM
SURFACE (TREMIE)

9) HOW WAS WELL DEVELOPED?
(BAILING), PUMPING, SURGING, COMPRESSED AIR

10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL, 10 GAL, 15 GAL, OTHER 4 gals

11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR, TURBID, (OPAQUE)

12) WATER CLARITY AFTER DEVELOPMENT
CLEAR, (TURBID), OPAQUE

13) DID THE WATER SMELL? YES OR (NO)

14) WATER LEVEL SUMMARY

1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
13 feet FT OR (DRY)

2) OTHER MEASUREMENTS: SEE OBSERVATION WELL SUMMARY
DATE 9/11/92, 11.09 FT FROM T. ST. PIPE
DATE _____, _____ FT FROM T. ST. PIPE
DATE _____, _____ FT FROM T. ST. PIPE
DATE _____, _____ FT FROM T. ST. PIPE

*Relative to benchmark elevation = 100.00 feet

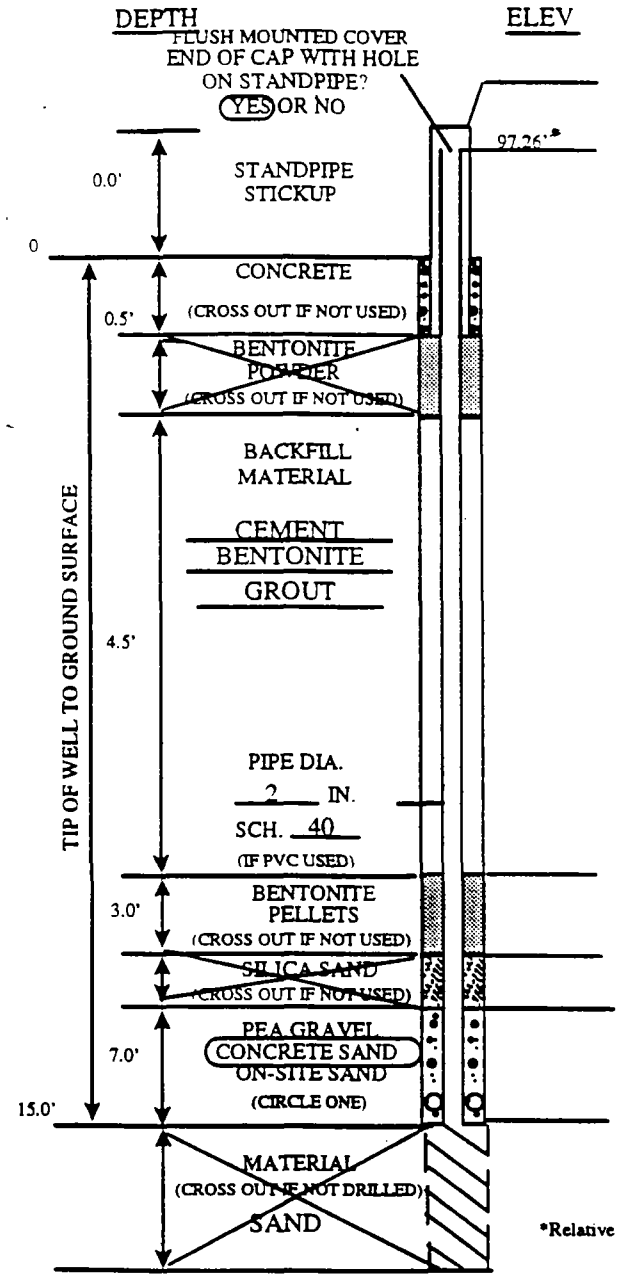
WELL NO. MW-128 DATE INSTALLED 9/5/92 DRILL RIG DR-9

DRILLER Dumas DRILL CREW Deon

JOB/CLIENT Proposed NWMH Facility Redevelopment Site/Power/CRSS STS PROJECT NO. 27313-XH

(Power/CRSS_mw-128/m11draw/nt) (VERSION 3: 08/91 - M11DRAW "FIELD_WELL_KAS")

STS Field Well Installation Diagram



1) TYPE OF PIPE
PVC, GALVANIZED, STAINLESS, OTHER _____

2) TYPE OF PIPE JOINTS
BELLED, COUPLINGS, THREADED, OTHER _____

3) TYPE OF WELL SCREEN
PVC, GALVANIZED, STAINLESS, OTHER _____

4) SCREEN SLOT SIZE 0.01 inches

5) SCREEN LENGTH 5 feet

6) INSTALLED PROCTECTOR PIPE W/LOCK? YES OR NO

7) DRILLING METHOD Solid Stem Augers
DRILLING FLUID Water
BOREHOLE DIAMETER 4 inches

8) BACKFILL MATERIAL INSTALATION FROM SURFACE TREMIE

9) HOW WAS WELL DEVELOPED?
BAILING, PUMPING, SURGING, COMPRESSED AIR

10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL, 10 GAL, 15 GAL, OTHER 4 gals

11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR, TURBID, OPAQUE

12) WATER CLARITY AFTER DEVELOPMENT
CLEAR, TURBID, OPAQUE

13) DID THE WATER SMELL? YES OR NO

14) WATER LEVEL SUMMARY

1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
13 feet FT OR DRY

2) OTHER MEASUREMENTS: SEE OBSERVATION WELL SUMMARY

DATE 9/11/92 , 12.85 FT FROM T. ST. PIPE
DATE _____ , _____ FT FROM T. ST. PIPE
DATE _____ , _____ FT FROM T. ST. PIPE
DATE _____ , _____ FT FROM T. ST. PIPE

*Relative to benchmark elevation = 100.00 feet

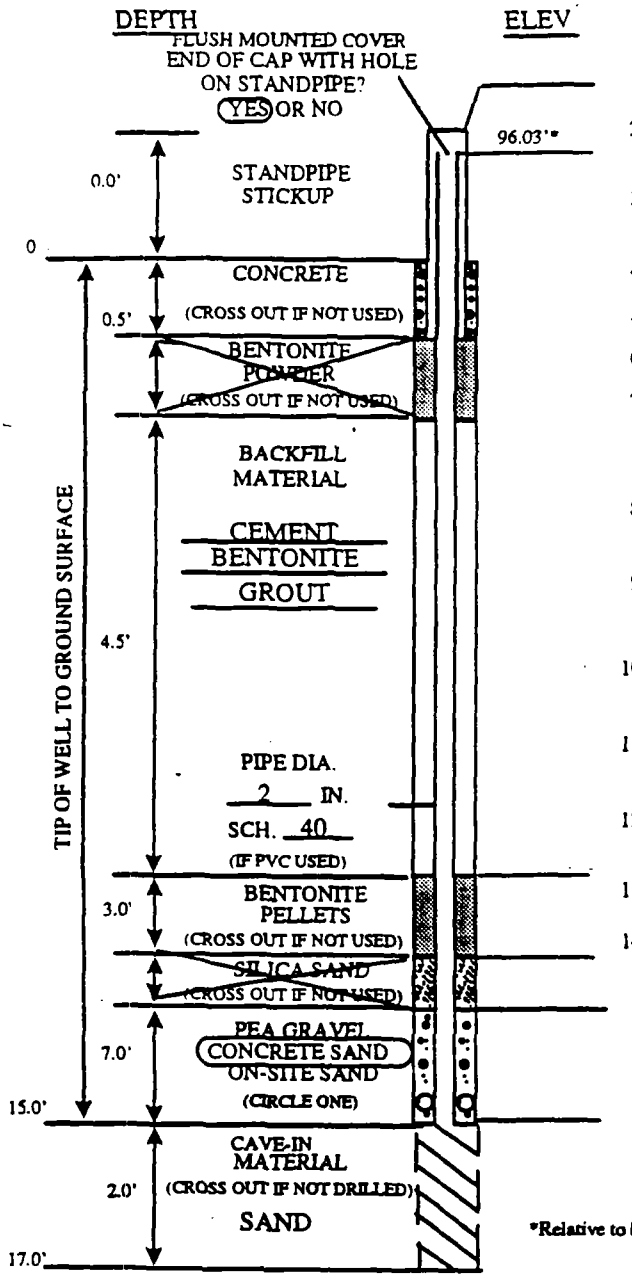
WELL NO. MW-129 DATE INSTALLED 9/5/92 DRILL RIG DR-9

DRILLER Dumas DRILL CREW Deon

JOB/CLIENT Proposed NWMH Facility Redevelopment Site/Power/CRSS STS PROJECT NO. 27313-XH

(Power/CRSS_mw-129/m11draw/nt) (VERSION 3: 08/91 - M11DRAW "FIELD_WELL_KAS")

STS Field Well Installation Diagram



1) TYPE OF PIPE
PVC, GALVANIZED, STAINLESS, OTHER _____

2) TYPE OF PIPE JOINTS
BELLED, COUPLINGS, THREADED, OTHER _____

3) TYPE OF WELL SCREEN
PVC, GALVANIZED, STAINLESS, OTHER _____

4) SCREEN SLOT SIZE 0.01 inches

5) SCREEN LENGTH 5 feet

6) INSTALLED PROCTECTOR PIPE W/LOCK? YES OR NO

7) DRILLING METHOD Solid Stem Augers
DRILLING FLUID None
BOREHOLE DIAMETER 4 inches

8) BACKFILL MATERIAL INSTALATION FROM
SURFACE, TREMIE

9) HOW WAS WELL DEVELOPED?
BAILING, PUMPING, SURGING, COMPRESSED AIR

10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL, 10 GAL, 15 GAL, OTHER 4 gals

11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR, TURBID, OPAQUE

12) WATER CLARITY AFTER DEVELOPMENT
CLEAR, TURBID, OPAQUE

13) DID THE WATER SMELL? YES OR NO

14) WATER LEVEL SUMMARY

1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
12.0 FT OR DRY

2) OTHER MEASUREMENTS: SEE OBSERVATION WELL SUMMARY

DATE 9/11/92, 11.87 FT FROM T. ST. PIPE
DATE _____, _____ FT FROM T. ST. PIPE
DATE _____, _____ FT FROM T. ST. PIPE
DATE _____, _____ FT FROM T. ST. PIPE

*Relative to benchmark elevation = 100.00 feet

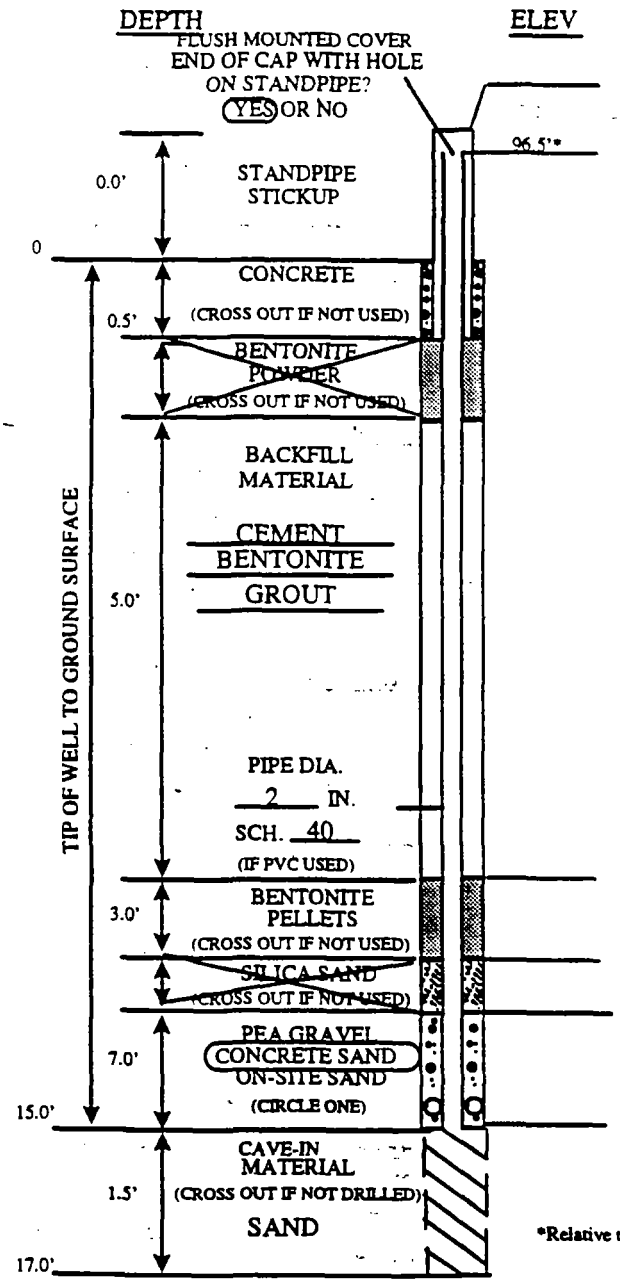
WELL NO. MW-130 DATE INSTALLED 9/5/92 DRILL RIG DR-9

DRILLER Dumas DRILL CREW Deon

JOB/CLIENT Proposed NWMH Facility Redevelopment Site/Power/CRSS STS PROJECT NO. 27313-XH

(POWER/CRSS_MW-130/M11DRAW/NT) (VERSION 3: 08/91 - M11DRAW "FIELD_WELL_KAS")

STS Field Well Installation Diagram



1) TYPE OF PIPE
PVC, GALVANIZED, STAINLESS, OTHER _____

2) TYPE OF PIPE JOINTS
BELLED, COUPLINGS, THREADED, OTHER _____

3) TYPE OF WELL SCREEN
PVC, GALVANIZED, STAINLESS, OTHER _____

4) SCREEN SLOT SIZE 0.01 inches

5) SCREEN LENGTH 5 feet

6) INSTALLED PROCTECTOR PIPE W/LOCK? YES OR NO

7) DRILLING METHOD Solid Stem Augers
DRILLING FLUID None
BOREHOLE DIAMETER 4 inches

8) BACKFILL MATERIAL INSTALATION FROM
SURFACE TREMIE

9) HOW WAS WELL DEVELOPED?
BAILING, PUMPING, SURGING, COMPRESSED AIR

10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL, 10 GAL, 15 GAL, OTHER 4 gals

11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR, TURBID, OPAQUE

12) WATER CLARITY AFTER DEVELOPMENT
CLEAR, TURBID, OPAQUE

13) DID THE WATER SMELL? YES OR NO

14) WATER LEVEL SUMMARY
1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
13 FT OR DRY
2) OTHER MEASUREMENTS: SEE OBSERVATION WELL SUMMARY
DATE 9/11/92, 12.22 FT FROM T. ST. PIPE
DATE _____, _____ FT FROM T. ST. PIPE
DATE _____, _____ FT FROM T. ST. PIPE
DATE _____, _____ FT FROM T. ST. PIPE

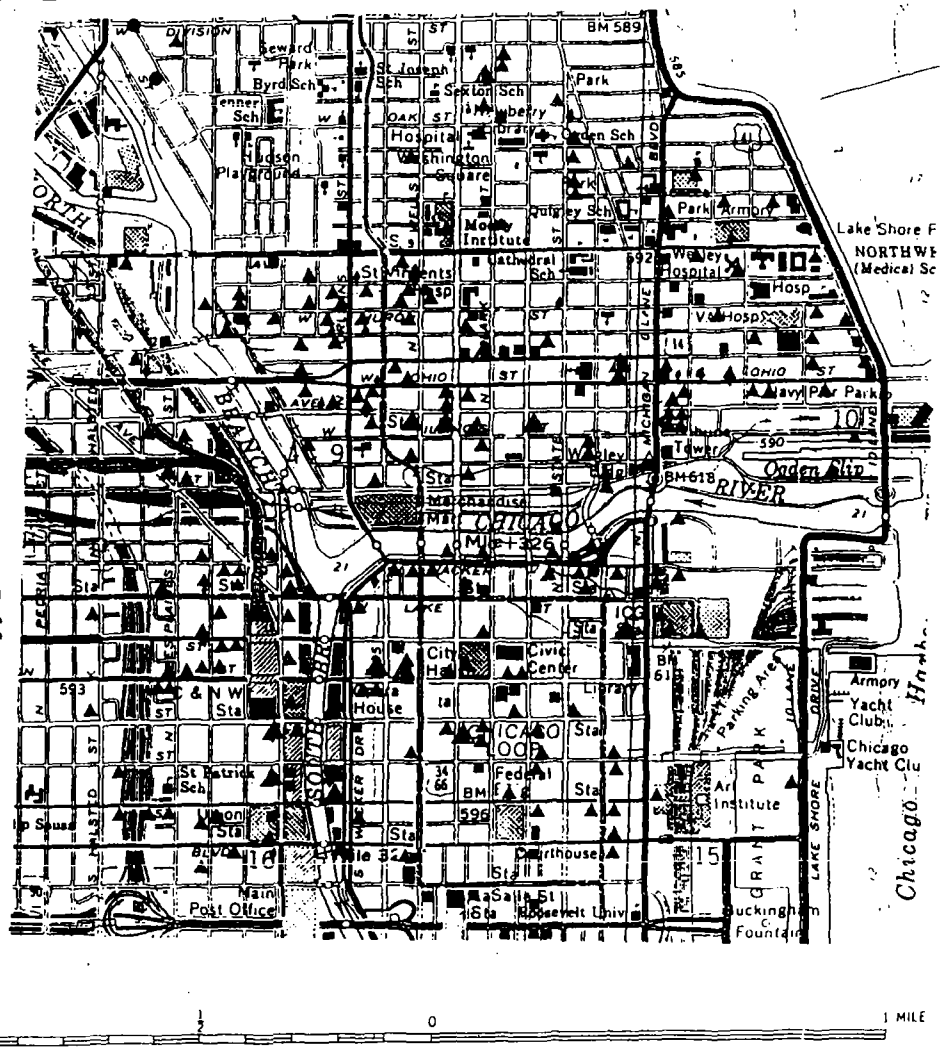
*Relative to benchmark elevation = 100.00 feet

WELL NO. MW_131 DATE INSTALLED 9/5/92 DRILL RIG DR-9

DRILLER Dumas DRILL CREW Deon

JOB/CLIENT Proposed NWMH Facility Redevelopment Site/Power/CRSS STS PROJECT NO. 27313-XH

(POWER/CRSS_MW-131/M11DRAW/NT) (VERSION 3: 08/91 - M11DRAW "FIELD_WELL_KAS")



REF. BASE MAP: USGS QUADRANGLE MAP
7.5 MINUTE SERIES (TOPOGRAPHIC)
CHICAGO LOOP
PHOTOREVISED 1972

N

LEGEND

SITE

● CERCLIS SITES

▲ RCRA GENERATORS AND [1] TSDS FACILITIES

■ UST SITES[2]

♦ LUST SITES[3]

▰ SOLID WASTE DISPOSAL SITES[4]

LEGEND

1. USEPA COMPUTER DATA BASE SEARCH DATED 5-21-91.
2. ILLINOIS STATE FIRE MARSHALL UNDERGROUND STORAGE TANKS (UST) DATA BASE 6-2-90.
3. ILLINOIS STATE FIRE MARSHALL LIST OF LEAKING UNDERGROUND STORAGE TANKS (LUST) INCIDENTS REPORT 5-1-91
4. NORTHEASTERN ILLINOIS PLANNING COMMISSION HISTORICAL INVENTORY OF SOLID WASTE DISPOSAL SITES 1987.

STS Consultants Ltd.
Consulting Engineers

HAZARDOUS WASTE FACILITIES
LOCATED IN U.S. POSTAL ZIP CODE AREA
60601, 60602, 60603, 60604, 60606
60611 AND PORTIONS OF 60610

DRAWN BY	DATE	SCALE	STS PROJECT NO
KKB	7-15-92	SHOWN	27313-XH
CHECKED BY	DATE	SHEET NO.	STS FILE NO.
DLG	7-15-92		27313-XH

FIGURE 6

ALL LOCATIONS ARE APPROXIMATE

PRELIMINARY DRAFT
FOR REVIEW AND DISCUSSION
7/30 SUBJECT TO CHANGE

July 30, 1993

Via Federal Express

Mr. Joseph Klinger
Head of Licensing
Division of Radioactive Materials
Illinois Department of Nuclear Safety
1035 Outer Park Drive
Springfield, Illinois 62704

Re: Classification of Radioactive Material Located at:
316 East Illinois Street
Chicago, Illinois
Chicago Dock and Canal Trust Property

Dear Mr. Klinger:

As we have discussed, we represent the Chicago Dock and Canal Trust ("Chicago Dock") which owns and manages the Cityfront Center Complex in downtown Chicago including the 316 East Illinois Street property ("the property") located within the Cityfront Center area. Since 1933, the property has been undeveloped and unoccupied, and for the last several years has been an asphalt paved parking lot operated by the General Parking Company.

As you know, the property has been the subject of a recent joint investigation by the United States Environmental Protection Agency ("USEPA") and your agency, the Illinois Department of Nuclear Safety ("IDNS"). That investigation, included measurements taken June 1, 1993, which apparently indicated the presence of

radioactivity at discrete locations on the property at levels above natural background. Subsequently, in a June 21, 1993 letter, USEPA requested IDNS to classify the radioactive material at the property to assist USEPA in developing appropriate removal and disposal options.

We have suggested, and you have agreed, that additional historic information about the property and an analysis of the applicable legal standards for waste classification, would aid your consideration of the classification issue. We have, reviewed Chicago Dock's historical records, as well as other available information, in an effort to reconstruct the Lindsay Light Company's ("Lindsay's") prior use of the property. Based on that review, when considered in light of the relevant regulations and case law, the radioactive material should be classified as either "source" or "NORM" as defined in the Illinois and Federal regulations. The following discussion sets forth our investigation and review of this issue, including the factual and legal justification for classification of the material as "Source" or "NORM".

I. BACKGROUND

Chicago Dock is a real estate investment trust formed in 1962. It is the direct successor to the Chicago Dock and Canal Company, which was founded in 1857 by Chicago's first Mayor, William Ogden, and was the original owner of a major portion of the Cityfront Center site. Cityfront Center consists of 60 acres in downtown Chicago. Chicago Dock is currently developing 40 acres

bounded by Columbus Drive on the West, Grand Avenue on the North, the Chicago River on the south and Lake Shore Drive on the east. The 316 Illinois Street property is located within this area. Our records indicate that the property has been vacant since 1933 when the building at 316 E. Illinois was demolished. Prior to the apparent discovery of the radioactive material at the property, Chicago Dock intended to develop the property as part of the master plan for Cityfront Center. Those plans are now on hold pending resolution of the apparent presence of radioactive materials.

A. USEPA Investigation and Testing

In early June, 1993, Chicago Dock was contacted by USEPA regarding suspected historical operations on the property by Lindsay. This investigation apparently arose from USEPA's ongoing involvement with Kerr-McGee Company's Rare Earth Facility in West Chicago, Illinois. Lindsay was a predecessor company to Kerr-McGee in West Chicago and left a well publicized and much litigated legacy of radioactive contamination from prior manufacturing and ore processing activities in West Chicago. USEPA believed that Lindsay had once occupied the property in the early 1900's in connection with Lindsay's manufacture of incandescent gas mantles. As will be discussed later in more detail, radioactive thorium nitrate was used as part of this manufacturing process.

USEPA requested access to the property for a site screening to detect potential gamma radiation from the suspected radioactive contamination below the asphalt paved surface. In that screening, USEPA found elevated gamma readings in a discrete area along the

south-central margin of the site fronting Illinois Street, measuring approximately 90 feet E-W by 100 feet N-S. The highest reading in one spot was 280 microroentgen per hour (280 micro R/hr), within an area where the readings ranged from background (15 to 30 microR/hr) to 150 microR/hr. Dosage measurements were also taken and maximum levels were measured at 0.27 millirem per hour (.27 mRem/hr.) at the point of the highest gamma readings. In that a dosage level of 2 mRem/hr is allowed for unrestricted access areas (which is a level ten times the levels measured by USEPA on the property) USEPA advised Chicago Dock that based on the current state and usage of the property, the parking lot could remain open as it did not pose an immediate threat to human health or the environment. USEPA has recently issued a draft Administrative Order by Consent ("AOC") to Chicago Dock, designed to address further investigation and sampling at the property. Discussions with USEPA regarding that order are ongoing. Chicago Dock intends to cooperate fully with USEPA to devise a plan for the appropriate investigation and potential remediation of the site.

B. Chicago Dock Investigation

Once Chicago Dock learned of Lindsay's potential prior occupancy of the property, and the elevated gamma readings, it took several steps. First, although USEPA assured the Company that there was no danger, nonetheless Chicago Dock chose to inform the public, nearby tenants and potential lot patrons and employees, of the existence of the elevated gamma readings. This notification occurred through a press release, a public meeting with nearby

apartment tenants, and posted written as well as verbal notification to parking lot attendants (who man booths on the lot) and parking lot patrons. Next, Chicago Dock investigated the nature and extent of Lindsay's operations in downtown Chicago in the early 1900's. USEPA advised Chicago Dock that elevated gamma readings have also been detected in the 161 East Grand building, in some cases 10 to 20 times higher than the readings found on the Chicago Dock property. Therefore, Chicago Dock researched not only Chicago Dock's property at 316 East Illinois, but also the ownership and use of Lindsay's prior corporate headquarters and manufacturing facility located at 161 East Grand Avenue, Chicago, Illinois.[1]

The investigation reviewed Chicago Dock's own records, as well as publicly available information. The investigation focused on Lindsay's historical operations and use of the property at 161 East Grand, and 316 East Illinois, in an attempt to determine the nature of the radioactivity and understand how the material was generated and apparently deposited on Chicago Dock's property.

II. HISTORICAL INVESTIGATION

A. Chicago Dock Records

Chicago Dock's books and ledgers date back to the late 1800's and consist of handwritten notations for rent receipts, taxes, improvements and other entries relating to Chicago Dock's

---

[1] Chicago Dock has never owned or occupied the 161 East Grand Building. The historical investigation did not track the occupancy at 161 East Grand after Lindsay vacated the building in 1936. However, an advertising agency apparently now occupies the 4-story building.

real estate. The ledger entries indicate that prior to 1913, 316-322 East Illinois Street was occupied by Cooper's Stable. The building was a 2-story brick structure used to keep horses and wagons, as well as a blacksmith shop.

The Chicago Dock ledgers show that in 1914 Coopers Stable was divided in half, at the middle from east to west. Therefore, after 1914, two buildings were on the parcel -- one to the south fronting East Illinois at 316-322 and the other to the north fronting East Indiana. The ledgers indicate that Cooper's Stable still paid rent and occupied the north building fronting Indiana. The south portion, consisting of a warehouse like building of approximately 50 x 90 feet, was leased by Lindsay. Chicago Dock's ledgers confirm this development, as Lindsay begins making semi-regular rent and tax payments as a tenant of Chicago Dock at this time. The ledgers also identify Lindsay as a tenant of 316 East Illinois through Lindsay's payment of taxes for the south parcel. Chicago Dock collected rent from Lindsay from 1915 to 1932 -- the time period which we believe Lindsay leased the 316 East Illinois building. Finally, the ledgers indicate that the 316 East Illinois building was demolished in approximately 1933, which is consistent with the cessation of rent payments by Lindsay to Chicago Dock.

B. <u>Publicly Available Records</u>

A review of the publicly available historical records confirms that Lindsay occupied Chicago Dock's 316 East Illinois property, and provides a better understanding of Lindsay's operations at 161 East Grand, as well as Lindsay's use of 316 East Illinois.

i. Location of Lindsay in Chicago

The Lindsay Light Company was incorporated in Illinois on May 31, 1904. The Lakeside Directory of Chicago lists Lindsay at 195-197 Michigan Street (now Hubbard Street) from 1904 to 1907. A 1906 Sanborn map also identifies Lindsay at that location and describes its operations as "Manufacturer of Gas Mantles". In 1908, Lindsay moved to the 161 East Grand building, which was built for and owned by Lindsay. Lindsay remained in that building until 1936 when Lindsay moved its operations to West Chicago. All historical or telephone and manufacturing directories between 1908 and 1936, list the 161 East Grand address as the corporate headquarters and manufacturing plant for Lindsay. In only one instance, the Directory of Illinois Manufacturers, 2nd edition 1924-25, is Lindsay listed as occupying the 316 East Illinois Street address, although there is no description of any operations at that site.

ii. Lindsay's manufacturing operations -- mantle production

In the years prior to World War I, Lindsay appears to have been engaged solely in the manufacture of incandescent gas mantles, in which Lindsay imported the thorium nitrate used in the process either from Germany or the Welsbach Company which manufactured thorium nitrate in Glouster, New Jersey. A 1906 Sanborn map, revised in 1911, details Lindsay's operations at 161 E. Grand as "Manufacturer of Gas Mantles" and describes the locations of those operations in that 4-story building as follows:

"Basement:	Collodium Mixing and Laundry B.
1st Floor:	Office and Shipping
2nd Floor:	Tube Factory
3rd Floor:	Knitting and Labelling
4th Floor:	Dipping and Shaping"

A United States Tariff Commission document on the Incandescent Gas-Mantle Industry, published in 1920, describes the manufacturing process in detail. The fabrics used in the manufacture of mantles were cotton, ramie and artificial silk (collodion). Artificial silk was used because its ash had greater elasticity and did not require washing before impregnation. The fiber was woven to form a hose or tube, was bleached in an acid bath and then thoroughly washed in distilled water. After drying with hot air, the fabric was dipped into a 25-50% solution of thorium and cerium nitrates, in a proportion of 99 parts thorium nitrate to 1 part cerium nitrate. The fabric was then cut into appropriate lengths and one end sewn closed with asbestos thread. The mantle was then "fixed" by treating those portions of the mantle subject to the greatest strain with a thorium solution, containing alumina and alkaline earths. The mantle was then labelled with the manufacturer's trade-mark, dried and shaped. The mantles were inspected and then dipped into a collodion solution for strength during shipping.[2]

iii. Thorium nitrate production

At the beginning of World War I, the German supply of thorium nitrate was cut-off to American, European and British manufacturers

---

[2] Collodion (also collodium) is defined as a highly flammable colorless or yellowish syrupy solution, usually a mixture of alcohol and ether or sometimes some other solvent, used chiefly as a coating for wounds and for photographic films and plates and as a membrane in various chemical separation processes.

of gas mantles that imported thorium nitrate for use in the manufacturing process. It was during this 1916-1919 time period that many U.S. Companies, including Lindsay, began manufacturing thorium nitrate from monazite sands for sale to U.S. mantle manufacturers as well as for export to Canadian, European and British gas mantle manufacturers. It was at this time, too, that Lindsay began importing monazite sands, mainly from Brazil and India, as the raw ore from which the thorium was extracted.

The historical documents support these conclusions. The previously noted 1920 U.S. Tariff document explains:

> "When the European war broke out, English and French mantle makers, who had largely relied on German and Austrian sources of thorium nitrate, were cut off from these sources of supply and immediately turned to the American producers. The companies in the United States expanded their productive capacity to meet this foreign demand and the shortage caused in this country by the decreased imports of thorium nitrate. The Lindsay Light Company of Chicago, took up the manufacture on a considerable scale in 1914. Other producers are the Maywood Chemical Works, of Maywood, N.J., the Block Light Company of Youngstown, Ohio; and the General Gas Mantle Company of Camden, N.J. The Standard Tungsten Corporation, of New York, and the New Process Gas Mantle Company of Philadelphia, formerly manufactured some thorium nitrate."

In addition, from 1917 to 1919, Lindsay filed four patents for procedures to recover thorium from monazite sands. Also, the 1919 Moody's Analysis of Investments for Industrials, as well as a certified copy of a change in Charter filed by Lindsay on February 13, 1919, show that Lindsay amended its charter to allow the company:

> "To make, sell and deal in or with chemicals, chemical compounds, and chemical products and by-products of all kinds, organic and inorganic; to recover, obtain treat and refine, and deal in or with all kinds of metals and minerals and the products and processes and methods for making and compounding chemicals and chemical products and by-products and to treat

all kinds of metals and minerals and their products and by-products, to own, lease and deal in or with patents and other exclusive rights and privileges pertaining to chemicals, minerals, metals and other products and articles of manufacture, and to do a general manufacturing business."

Moreover, Lindsay is listed in a number of Illinois Manufacturing Directories after 1920 as a manufacturer of "gas mantles, thorium nitrate, cerium and rare earth chemicals". Finally, in the 1931 Moody's Manual of Investments, Lindsay is listed as having "entered into an agreement with European refiners to sell rare earth chemicals only in the American and Canadian markets, leaving the Continental market to European refiners." In 1935, Lindsay changed its name to Lindsay Light and Chemical Company, and the 1936 Moody's Manual of Investments provides that "during 1936, manufacturing activities were moved to the West Chicago, Illinois plant and the old Chicago plant was discontinued."

iv. Operations at 161 E. Grand versus Occupancy of 316 E. Illinois

We believe that the thorium extraction process was performed at the 161 East Grand facility, with 316 East Illinois being used as a warehouse or stable for temporary storage or shipping of raw material (including monazite sands), finished products (including thorium nitrate and finished gas mantles), and horses and wagons for transportation. In addition, sometime between 1915 and 1927, a railroad spur was installed between the then divided 316 East Illinois building and the building to the north, which could have provided another means of transportation of finished product from Lindsay's leased warehouse at 316 East Illinois to the market.

RECEIVED
SEP 14 1995
U.S. EPA, Region 5
Office of Regional Counsel

SCIENTIFIC AMERICAN

[Entered at the Post Office of New York, N. Y., as Second Class Matter. Copyright, 1901, by Munn & Co.]

Vol. XCI.—No. 14. ESTABLISHED 1845. ★ NEW YORK, OCTOBER 1, 1904. ★ 8 CENTS A COPY $3.00 A YEAR.

Does This Fact Indicate Merit?

575,000 LINDSAY LIGHTS

Sold Since January 1, 1904

LINDSAY LIGHTS are intended for use on manufactured, natural or gasoline machine gas. They burn about four feet of gas per hour and deliver up to 300 candle power, equaling the candle power of three ordinary incandescent gas burners on one-third the consumption.

Fastest selling article now on the market. One Lindsay Light sells another.

Reliable representation wanted in all parts of the world where gas is used. Very special inducements for foreign representation.

Handsome complete illustrated book and full particulars for the asking.

Write **Now**. If you forget it you will regret it.

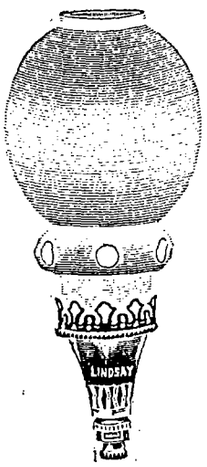
LINDSAY LIGHT COMPANY

DEPT. S

CHICAGO, U. S. A.

Cables—"LINSLITE," Lieber's Code

5/21/04



Special Notice

AGENTS WANTED

We have *completed* arrangements for several thousand dollars' worth of space in the leading popular magazines—advertising to start at once *and run until* 1905. The general public (about 20 million or more) will learn of the merits of the

No. 5 Lindsay High Candle Power Lamp

Reliable men wanted in every locality to take care of the resulting business.

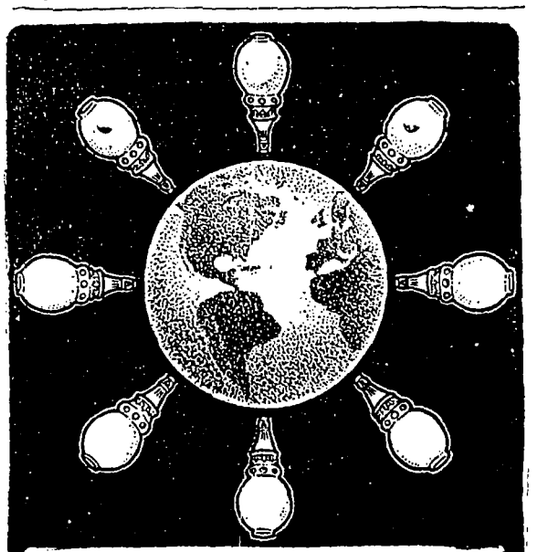
☞ Become recognized *now* as headquarters for this light in your locality.

Big money and Little work } For hustlers.

Write at once for particulars.

Lindsay & Co, Dept. S, Chicago

11/26/04



LINDSAY LIGHTS

ENCIRCLE THE GLOBE.

Good news travels fast and the merit of **LINDSAY LIGHTS** has won instant recognition wherever there is gas and civilization.

Instant adjustment to any pressure, economy in operation, appearance, are points that have put over *600,000* into *actual* use.

Free illustrated book and full particulars can be had on request.

LINDSAY LIGHT COMPANY, Dept. S

CHICAGO, U. S. A.

Cables "LINSLITE" Leiber's Code.

Note: ads enlarged 30-50%. Original ads were one column wide in style of the time.

ATTACHMENT 6

THE MANUFACTURE OF INCANDESCENT GAS MANTLES.

BY JACQUES BOYER.

The original Welsbach mantle was produced by incinerating a cotton or woolen fabric impregnated with solutions of the nitrates and acetates of lanthanum, yttrium, and zirconium. The inventor soon added to these salts the oxide of thorium, which enormously increases the luminosity. This invention marked a notable advance in the art of illumination, but the mantles, being mere gossamer tissues of ash, were exceedingly fragile. In recent years many attempts have been made to improve the texture and composition of incandescent mantles, in order to diminish their fragility. The latest improvements in the manufacture of these delicate contrivances are described and illustrated in this article.

The modifications adopted by the Hella Company, of Paris, are designed especially to increase the strength of the mantles. For this purpose the top of the mantle is surrounded by a metallic cap, which offers great resistance to fracture. The result is a great increase in the life of the mantle. Furthermore, as the photographs show, nearly all the operations of this new establishment, which controls the patents of M. Wasmuth, are performed by machinery. The tubular fabric of the Hella mantles is made from ramie fiber on knitting machines of the usual type. It comes to the Paris factory thoroughly washed, in lengths of 7 or 8 inches. These are first placed in perforated jars of coarse earthenware, which are plunged into vats containing a solution of the nitrates of thorium and cerium, and the vats are put into an oven in which, in the final stage of the process, a vacuum can be established, in order to force the solution into the fibers.

After impregnation the mantles are passed through a wringing machine composed, essentially, of two rollers covered with ebonite and soft rubber and adjusted to give any desired clearance by means of a system of screws and spiral springs. The solution which is pressed out of the mantles is caught in shallow earthen dishes placed under the rollers, which are turned either by a hand crank or by power transmitted by a belt and wheel. The wet mantles are carried to the rollers by an endless belt, on which they are laid, snugly, by the girl attending the machine. The pressing or wringing must be performed in a smooth and regular manner in order to prevent the formation of wrinkles, which would cause inequalities in strength and speedy fracture. As the mantles emerge from between the rollers, on the opposite side, they fall on an inclined plate of glass, from which a second operative takes them up and lays them in a porcelain dish.

On leaving the wringer each mantle still contains about 5 grammes (77 grains) of the impregnating solution. It goes next to an operative who reinforces the upper end by brushing it with a solution of nitrate of zirconium, aluminium, glucinium, or magnesium. The reinforced mantles are laid on wooden gratings to dry, and are finally stretched over conical glass forms mounted, in groups of 20, on boards, which are placed in large chambers heated to 122 deg. F., where they remain until the mantles are completely desiccated.

Fig. 4.—Capping machines.

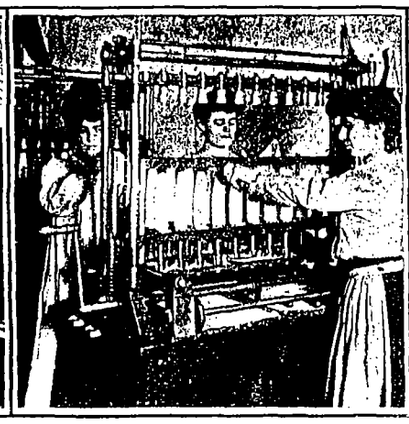


Fig. 5.—Shaping machines.

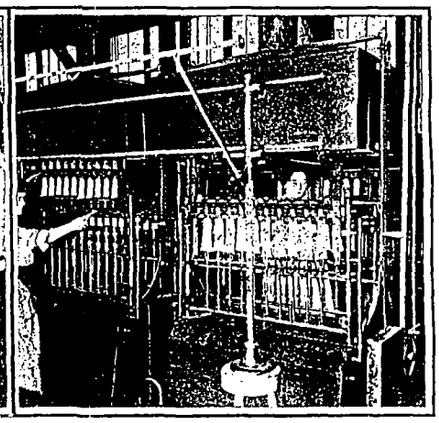


Fig. 6.—Incinerating machine.

Fig. 1.—Impregnating the mantles with collodion.

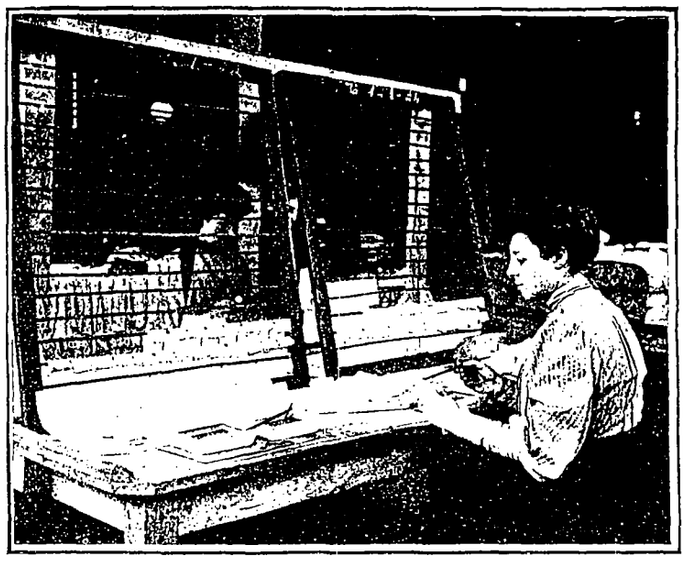


Fig. 3.—Reinforcing the mantles.

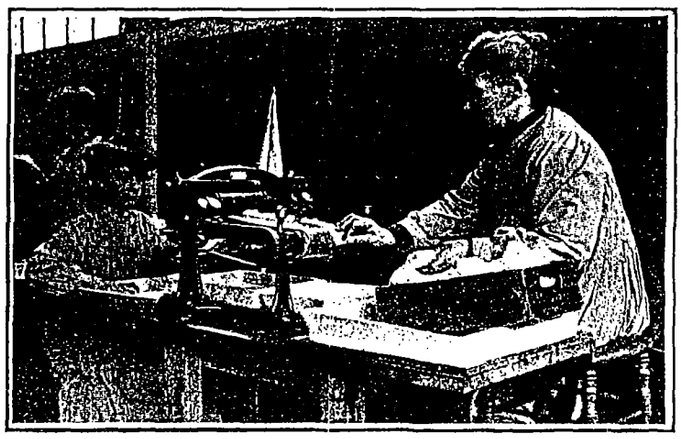


Fig. 2.—Wringing the mantles to remove the excess solution.

THE MANUFACTURE OF INCANDESCENT GAS MANTLES.

From this stage onward the manufacture of the Hella mantles differs radically from the ordinary process. Instead of sewing the top of the mantle to a fiber of asbestos, for the purpose of fixing it to the nickel support, it is attached to a metallic mounting consisting of two parts, the head and the netting, both of which are composed of an infusible alloy. The mounting is attached with the aid of the "capping machine" shown in one of the photographs. The operative places the netting, and then the mantle, on a mandrel, and raises the latter until the top of the mantle is at the level of a set of needles which, on being brought together, "gather" the fabric. The head

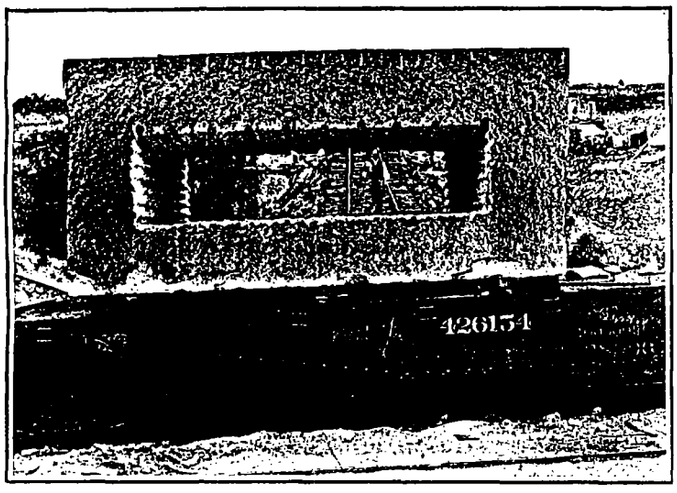
is then put on, and the mantle is clamped between two metal rings by pressing a lever. With this machine one woman can cap, or mount, 2,000 mantles in a day of nine hours.

The mounted mantles then go to the shaping machine, where they are put on forms and brushed by revolving brushes, which stretch them uniformly and press them closely to the forms, while their metallic heads are forced into hoods which compress and tighten them.

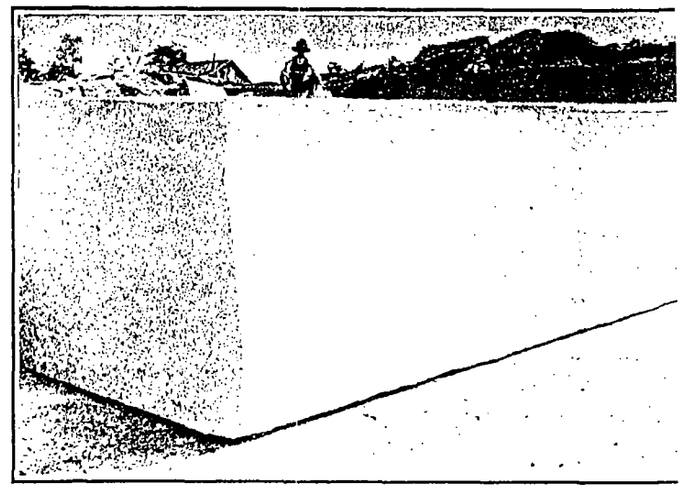
Ten mantles at a time are lifted from the ten forms of the shaping machine by a rod and conveyed to the incinerating room, which, from the technical point of view, is the most interesting and original part of the establishment. By the employment of cams the incinerating machine automatically performs several successive operations. After the fiber of the mantle has been consumed by the first ignition, the head of the mantle is decarbonized, and at the same time reinforced by the application of a flame of compressed gas, which reduces the nitrates of thorium and cerium to oxides. The burning of the interior follows. The burners ascend and descend five times inside the mantles, and give them their final form. The tops of the mantles, which were impregnated with an additional quantity of nitrates in the reinforcing process, are subjected to still another firing. The photograph shows, above the burners, a ventilator, which is lowered before the machine is started, so that it surrounds the burners and carries off all the products of combustion. The ventilator opens the gas cock as it descends and closes it as it rises. In the illustration the ventilators of the machines are raised, in order to show the interior. The entire process of incineration occupies about three minutes, and is applied to 20 mantles simultaneously.

The incinerated mantles are impregnated with collodion, in order to make them less liable to breakage in packing and transportation. This process, also, is effected by a machine, which executes all the necessary movements by means of cams, the mantles being supported by rods carried on endless chains and dipped in a trough of collodion about six feet long. The mantles then go to a drying room heated to about 110 deg. F., through which they are carried on endless chains in a circuitous path. The journey occupies half an hour, and terminates at a clipper which, operated by a woman by means of a crank and a lever, trims the mantles at the bottom to the desired length.

During the entire process of manufacture, the Hella mantles are never touched by the hands of the operatives. Even after they have been trimmed, they are lifted with rods for conveyance to the packing room, where a simple machine suspends each mantle in its carton in such a manner that it is perfectly protected from shocks, and can be shipped with safety to any distance. In use also these mantles appear to be stronger and more durable than those hitherto employed.

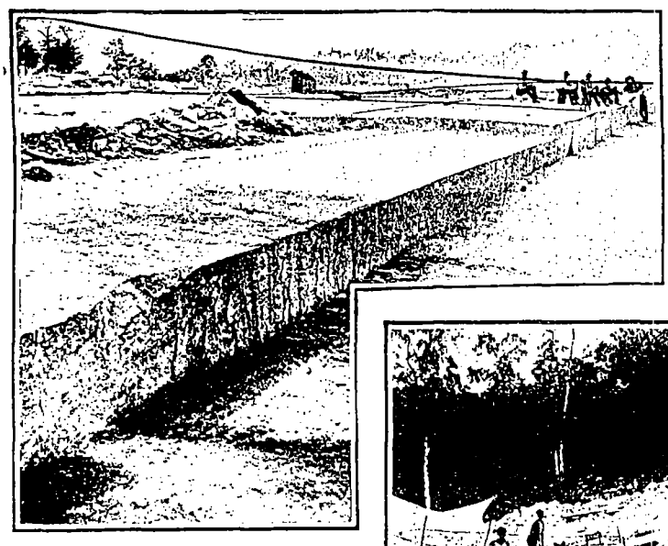


The die for the Washington monument, Brooklyn, in the rough. Weight over 60 tons. Cored out to reduce the weight.



View of an enormous ledge, showing the seam at the bottom made by the "lifting process."

Ordinary ledges of varying thickness.



A common form of ledge.

THE "LIFTING PROCESS" IN THE QUARRYING OF GRANITE

BY L. B. WARD.

Rocky masses in great abundance are to be found in North Carolina, some of its mountains being almost solid rock. The section of country at and around the vicinity of Mt. Airy is composed almost entirely of these rock masses. The Mt. Airy quarries are situated on a hill many acres in area, very gradual in slope and practically bare of vegetation, composed of a solid, homogeneous mass of moderately hard granite, which shows no ledges or bed planes whatever. Near these quarries is Stone Mountain, about 1,000 feet high and four or five mile in circumference, a huge mass of granite similar t the Mt. Airy quarry lands, with the same scant vegetation.

The fact that these masses of stone show no ledge or bed planes whatever, and split readily and i straight lines in any direction, is taken advantag of to create artificial beds to work on. Large lamina tions or sheets of granite are separated from th mass at a single "lifting" operation, by successive us of powder and compressed air.

The "lifting process" is causing much interest an attracting attention throughout the world.

This process is applicable to quarries of large hori zontal areas and in solid masses, and such condition being almost ideal at the Mt. Airy quarries, the "lift ing process" is altogether used. The tremendous ad vantage afforded by "lifting" can be readily under stood, as by means of a "lift" granite of any desire area and of definite thickness can be made availabl for surface work and drilling.

The largest stone required for any possible con struction could be produced thus; the weight of th larger stones now produced has to be reduced to th capacity of the largest equipment furnished by th railroads, by coring.

At the central power station in the quarries ar two huge water-tube boilers, each of 210 horse-power These supply steam to the air com pressor, which has a capacity of 2,00 cubic feet of free air per minute. Thi air is conducted by six-inch pipe line running the entire length of the quar ries. Lead lines distributing it to al parts of the quarries, make it avai able at all points for "lifting," as wel as for use with pneumatic tools.

In the center of the area to be lifte a drill hole two or three inches i diameter is sunk six or eight feet i depth (according to the required thick ness of the stone). The bottom of th drill hole is enlarged into a pocket b

A "lift" being split and drilled into required widths and lengths.

THE "LIFTING PROCESS" IN THE QUARRYING OF GRANITE.

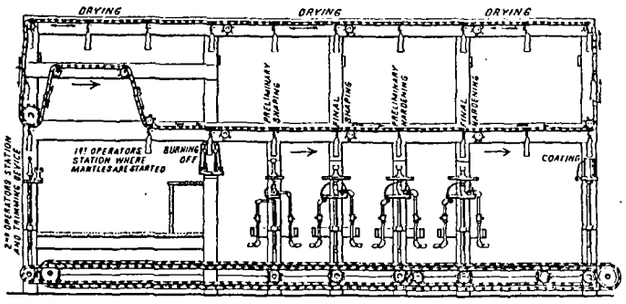
Thus impregnated, one of the stocking's ends is sewed up with asbestos thread, a loop being left by which the stocking is manipulated in the subsequent steps of the process. The sewed stocking is ignited at its top by a flame for the purpose of consuming the thread. After this treatment, all that is left is a reticulated structure consisting almost entirely of oxide of thorium. "Shaping and hardening" are the next stages through which the mantle must pass, both being effected by the Bunsen flame. Lastly, the mantle is dipped into a coating solution in order to protect it from breakage in transportation.

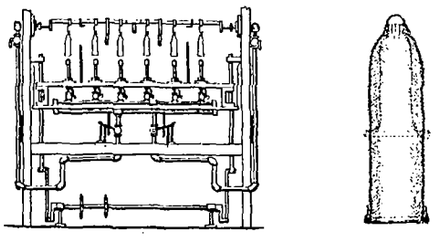
All these processes have hitherto been carried out by hand. The asbestos loop to which we have referred constitutes a means whereby a workman can pick up the mantle with a hooked rod and hold it over the Bunsen flame in shaping it. The percentage of losses incurred through imperfect shaping and breakage is high. The shaping and hardening of the mantle is accompanied by an unequal shrinkage which often renders the mantle unfit for use. Even if this did not occur, irregularities in the wall of the stocking may be formed, the result of imperfections in the thread, which cause unequal absorption of the impregnating thorium. In addition to these objections, expense naturally plays its part. The number of mantles which a single workman is able to burn off and shape in a day is necessarily limited. The number of imperfect mantles is large; consequently, the cost of the hand-made mantle is relatively high.

For the purpose of overcoming these objections, Mr. Joseph T. Robin, 258 Canal Street, New York city, has invented and patented what is probably the first machine for automatically making incandescent mantles. So successful has his apparatus been in actual operation, that it is fast taking the place of handwork in America and in Europe. A single machine is able to produce as many as four hundred and fifty perfect mantles per hour, and does the work of eight shapers, besides that of the dippers and others. Only two operators are required to serve the machine, one to place the stockings in position, the other to remove them after they are finished. An indicating device shows the exact number of mantles treated by means of the apparatus.

Naturally, the first improvement introduced by Mr. Robin in the process of making mantles was the prevention of irregularities caused by imperfections in the thread of the fabric. This difficulty Mr. Robin succeeds in overcoming by employing a metal ring, secured to the bottom of the stocking, which ring is of sufficient weight to lessen the contraction of the stocking during the operation of burning out. Furthermore, the ring prevents the formation of folds. In the accompanying diagram we illustrate a mantle, or rather an impregnated stocking, in which the full lines indicate the fabric before it is burnt off, and the dotted lines the form of the structure after the fabric has been destroyed. The ring clearly appears at the bottom of the mantle pictured in the diagram. Besides answering the purpose specified, the ring also serves to hold open the lower end of the stocking, so that the flames of the shaping and hardening burners can easily enter the interior, and to avoid the collapsing of the stocking during the dipping or coating process.

As shown in the accompanying photographic reproduction of an actual machine in operation, only two operators are needed. These operators are placed one in front and the other at one end of the machine. The operator seated within the machine has simply to hang the impregnated stockings by their asbestos loops upon the hooks of a series of carrier bars that intermittently move before her during the regular operation of the machine. Each carrier bar, by an ingenious arrangement of sprocket wheels and chains, is caused to move first over a set of burners by which the fabric of the stockings is burnt off; then to a set of burners by which the lower part of the mantle is shaped;





SIDE AND END ELEVATIONS OF THE AUTOMATIC INCANDESCENT MANTLE-MAKING MACHINE, AND A MANTLE WITH A RING, THE DOTTED LINES SHOWING THE AMOUNT OF SHRINKAGE.

after this, to another set of burners by which the upper portions are shaped; next, to a set of burners by which the mantles are hardened, and finally to a series of cups containing a coating solution, into which the mantles are dipped. Now practically complete, the mantles are elevated to the top of the framework of the machine, travel slowly toward the second operator, drying as they travel, and finally reach her, completely finished. Here the machine automatically removes the mantles from the hooks of the carrier-bars, each mantle falling on a trimming device. By a single movement of a lever, the operator causes a series of rotary knives to sever the bottoms of a series of mantles, thereby removing the rings (too cheap to save). Thus it will be seen that after the first operator has hung up the mantles on the carrier-bars, the machine passes them through the various processes. The gearing of the apparatus is so timed that the mantles are suspended over the burners and dipped just for the proper interval of time, the mantles traveling in an approximately oblong path from the starting point to the finishing point.

Limitations of space prevent our giving a detailed description of the machine. Broadly speaking, however, it may be said to consist of endless chains, connected with and extending between which are the carrier-bars from which the stockings are suspended. The chains are intermittently moved to bring the mantles over the various burners and the dipping cups. The accompanying diagram clearly indicates the general plan of the machine's construction and operation. Loss is entirely prevented; whatever breakage does occur is due to the carelessness of the operator. Rarely is a mantle lost. The uniform excellence of the machine-made mantles, moreover, cannot be attained even by the most skillful operator.

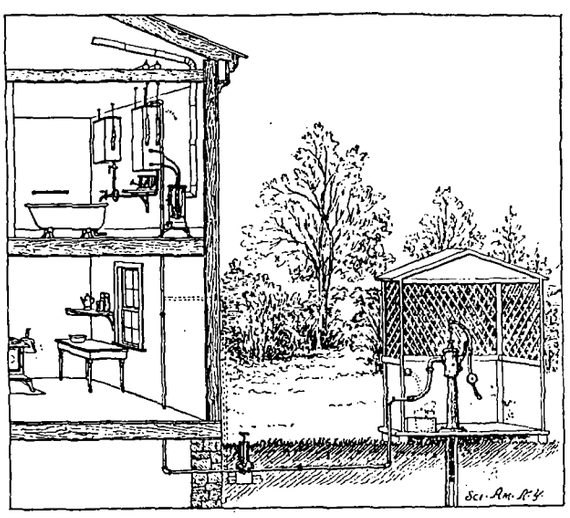
DOMESTIC BATH PLUMBING.

Throughout the country districts, one of the great needs of the residences—a convenient bath-tub—is seriously felt. The absence of this adjunct is felt in every household; for there are no water mains in the roadways, no sewers to carry away the waste, no gas to heat the water. As for heating the water by the tea-kettleful on the kitchen stove, and carrying it to the tub, that is too tiresome, and destroys the anticipated pleasure.

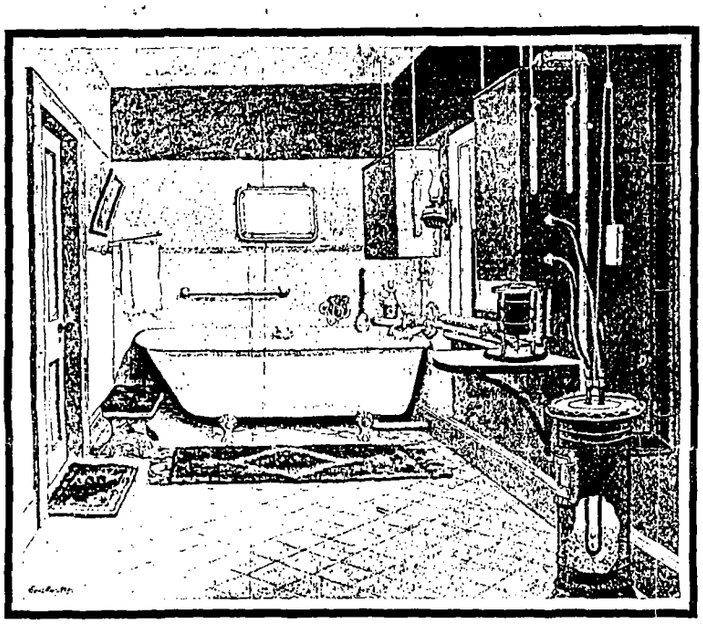
In the accompanying illustration it is shown how up-to-date facilities for a bath may be secured at a reasonable cost; given, first, a good soft water supply from well or cistern near the house, and secondly, deftness of the householder's hands to screw the pipes together, from the water supply to the tub. All of these conditions fell to the lot of the writer in his country house, within twenty miles of New York city; and the illustrations show how the idea may be realized without the aid of a plumber.

The cost (completed as shown) to the writer, was a trifle less than $75. This outlay, for a permanent luxury, seems easily within reach of many on farm or roadside.

Having decided upon the location of the tub, in the interior of the house, measure accurately the distance from the water supply, where a 1¼-inch water pipe can be laid, under the ground, through the side of the house or cellar, up to the floor on which the tub is to be located, and thence to an outlet into a suspended metal tank holding 30 gallons of water, and an additional pipe reaching from the bottom of the first tank to an auxiliary tank, as shown, having a capacity of about 20 gallons. The necessary elbows, stop cocks and waste cock for emptying the pipe of water during the winter's cold must also be allowed for. Send these measurements, with a rough diagram of the different courses and turns of the pipe, giving the lengths of each course in feet and inches, to some large plumbers' supply dealer for estimate of cost, including a porcelain-lined tub and copper-bottom, galvanized tank, the estimate to include threaded ends of pipe, threaded elbows, and cocks, all ready to screw together. The tanks for water should be for the larger 14 x 16 x 31 inches, the other 14 x 16 x 20 inches, cross-braced on the inside both ways to prevent bulging, a "tell-tale" ½-inch lead pipe soldered into a hole 1 inch from the top and long enough to pass through the side of the house, to overflow



METHOD OF OBTAINING HOT WATER IN A COUNTRY BATH-ROOM.

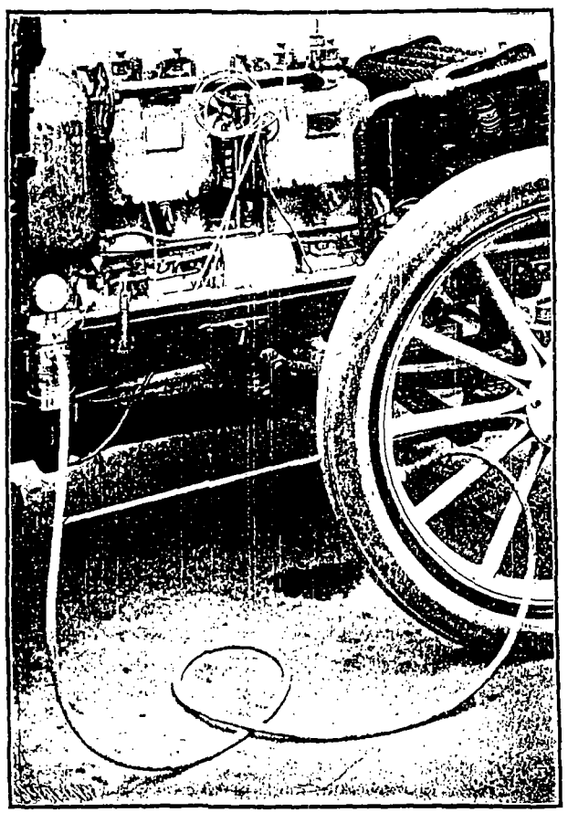


THE BATH-ROOM AND THE WATER HEATER.

A NOVEL AUTOMATIC PUMP FOR INFLATING AUTOMOBILE TIRES.

BY THE ENGLISH CORRESPONDENT OF THE SCIENTIFIC AMERICAN.

Every automobilist is painfully aware of the arduousness, time, and manual labor involved in the inflation of pneumatic tires. With a view to overcoming this exhausting, and, to say the least, primitive system for the inflation of tires, a novel and convenient apparatus, called the "Pompeesi," has been placed on the market by Messrs. Jarrott & Letts, Ltd., of London, who handle the American Oldsmobile runabout in Great Britain.



AUTOMATIC AUTOMOBILE TIRE INFLATER.

In this device manual labor is entirely dispensed with, for the process is accomplished entirely by the engine. Inflation is achieved by utilizing the force generated by the explosion of the gaseous vapor in the cylinder of the motor, in a simple and efficient manner. Furthermore, owing to the ingenious system adopted, it can be utilized with an engine comprising any number of cylinders, the work being as efficient with one cylinder as a multiple-cylinder engine. As will be recognized from the accompanying illustration, the device is small and compact, and constitutes a permanent fixture of the vehicle, being attached to the frame, dashboard, or any other convenient spot.

The apparatus consists primarily of a special plug-fitting. One of the ignition plugs is unscrewed and withdrawn from its place in the cylinder wall, and this special fitting is inserted. This special fitting, although it allows the ignition plug perfect and free communication with the combustion chamber, at the same time does not permit of its being screwed close against the cylinder wall. The fitting is a small metal box provided with a valve, which admits the consumed gaseous vapor from the cylinder after the explosion.

From this valve box extends a length of coiled steel tubing to the main part of the apparatus. A long section of pipe is provided, so that the hot gases may be sufficiently cooled before they enter the chamber of the apparatus. This cylindrical chamber, which is made of nickel, is for the purpose of purifying the exploded gases. Within are placed a series of circular baffle plates with a narrow opening at one point of their peripheries, to admit of the gases traveling from one concentric passage to the other. The gas enters the purifying box in the center, and is forced around the circular baffle plates into the outside passage. This chamber serves a useful object in arresting all oil or other impurities that may be admitted from the combustion chamber of the motor, and which would prove deleterious to the fabric of the tire.

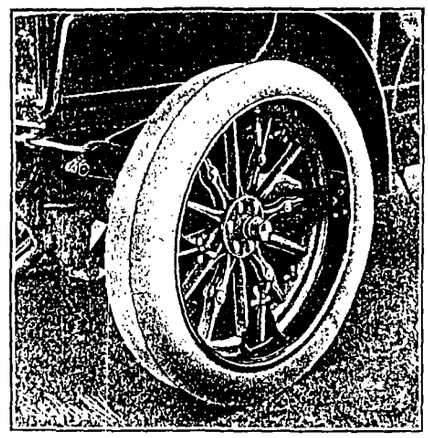
To the upper part of the cylindrical box is attached the flexible rubber hose leading to the valve of the tire.

Owing to the fact that no interference is afforded to the combustion of the gases in the explosion chamber by the insertion of the ignition plug into the special fitting or valve box, this section of the apparatus can always be left in connection. When the operation of tire inflation is not in progress, the flexible India-rubber hose is disconnected from the cylindrical purifying chamber, and a cap screwed on to render it a perfectly tight joint.

To operate the apparatus, the engine is first stopped. The valve of the deflated tire is then connected to the fixed cylindrical purifying box by the flexible rubber tubing. The motor is started again. The greater part of the exploded gases in the cylinder to which the special plug is screwed pass through the inlet valve of the valve box at the plug. The valve then closes, and as the gases cannot escape back again, they pass through the coiled steel hose, cooling in transit, pass through the purifying chamber, and thence pass into the tire. When the desired pressure in the tire is attained, as indicated by the gage attached to the purifying chamber, the engine is stopped, and the flexible rubber tubing is disconnected.

When the engine is running, the exploded gases still escape for a time into the valve box; but as their passage is stopped when they reach the purifying chamber, the pressure behind the valve in the valve box soon becomes sufficient to prevent the valve opening and the gases escaping in that direction, and they therefore pass into the muffler or exhaust box in the usual manner. At the bottom of the purifying chamber is a small drain cock, through which any oil that may have collected in the purifying chamber may be withdrawn.

The "Pompeesi" has proved highly efficient in actual operation. It can be connected and set to work in ten seconds. The saving of time occupied in the inflation of the tires, too, is considerably reduced, varying from two to three minutes according to the size of the tire. Experience has shown that the consumed gases of the explosive mixture exercise no deleterious effect upon the fabric of the tires. In fact, the reverse has proved to be the case, as they act more as a preservative. The tires furthermore stand inflated appreciably longer by this means, for the temperature of the gases is reduced to that of the outer atmosphere, which fact was proved in a special test, no fall in the pressure being observed on the gage after the tires had stood inflated for twenty-four hours. Owing to the simplicity of the device, there is nothing to get out of order. It can be as easily adapted to all engines, whether the plugs be fitted horizontally or vertically, or whether magneto ignition is employed. The device, which is of French origin, has been awarded the gold medal by the Automobile Club of France.

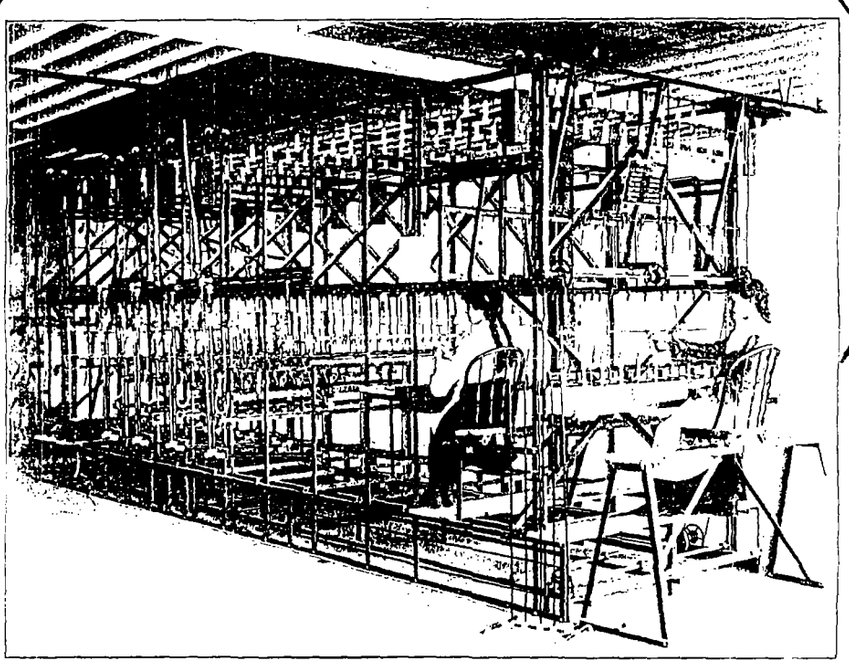


NOVEL SPARE WHEEL AND TIRE DEVICE FOR AUTOMOBILES.

NOVEL SPARE WHEEL AND TIRE DEVICE FOR AUTOMOBILES.

An interesting reserve-tire device has been placed upon the English market. By this contrivance, instead of carrying a spare tire or tube ready for replacing a tire that fails through puncture or any other defect on the road, a complete rim and tire fully inflated ready for use is carried on the car. The device comprises a special rim carrying the tire, which is fully inflated. To this rim are fixed three clips. When a puncture occurs, instead of stripping the defective tire from the wheel, and substituting a new tire or repairing the defective one, this reserve wheel and tire is firmly clipped by thumb screws to the rim of the defective wheel. This wheel lifts the punctured tire off the ground and carries all the friction, so that the punctured tire is as safe as if it were withdrawn from the wheel.

The advantage of this invention is that delay on the road through a failing tire is reduced to the minimum. The spare tire and wheel only occupies one minute to attach in position and even tire inflation is dispensed with, as the tire is carried already fully inflated. The accompanying illustration shows the principle of the invention, and how it is attached. When carried, a hoop or ring is made the same size as the tire in order to clip it thereto. This appliance is the invention of Messrs. Davies Brothers, of Llanelly, Wales.



THE ROBIN AUTOMATIC INCANDESCENT MANTLE-MAKING MACHINE; CAPACITY, 4,500 MANTLES PER WORKING DAY OF TEN HOURS.

A MACHINE FOR AUTOMATICALLY MAKING INCANDESCENT GAS MANTLES.

In this country, at the present time, about forty million incandescent gas mantles are used annually. Vast as this quantity is, the industry in America is still in its infancy; and widely as the mantle itself has been introduced, the average user knows little of the composition of the mantle.

Briefly stated, a mantle is made as follows: A "stocking" is first knitted of cotton thread and then saturated with a solution of thorium.

Information Home

Frequent Questions

Publications

Related Links

Glossary

Acronyms

Radionuclide Facts

Laws & Regulations

About EPA's Radiation Protection Program

Thorium

The Basics

What is thorium?

Thorium (chemical symbol Th) is a naturally-occurring radioactive metal found at very low levels in soil, rocks, and water. It has several different isotopes, both natural and man-made, all of which are radioactive. The most common form of thorium is thorium-232, found naturally.

Who discovered thorium?

Thorium was discovered in 1828 by the Swedish chemist Jons Jakob Berzelius. After determining that it was a new element, Berzelius named his discovery after the Norse god of thunder and weather, Thor. Thorium was discovered to be radioactive independently in 1898 by Gerhard Carl Schmidt and by Marie Curie.

Where does thorium come from?

Almost all thorium is natural, but, thorium isotopes can be artificially produced. Thorium occurs at very low levels in virtually all rock, soil, and water, and therefore is found in plants and animals as well. Minerals such as monazite, thorite and thorianite are rich in thorium and may be mined for the metal. Generally, artificial isotopes come from decay of other man-made radionuclides, or absorption in nuclear reactions.

What are the properties of thorium?

Thorium is a soft, silvery white metal. Pure thorium will remain shiny for months in air, but if it contains impurities it tarnishes to black when exposed to air. When heated, thorium oxide glows bright white, a property that makes it useful in lantern mantles. It dissolves slowly in water. Thorium-232 has a half-life of 14 billion (14x109)

Information

Frequent Questions

Publications - How to Order

Related Links

Glossary - Acronyms

Radionuclide Facts

Laws & Regulations

About EPA's Radiation Protection Program

ATTACHMENT 7

years, and decays by alpha emission, with accompanying gamma radiation. Thorium-232 is the top of a long decay series that contains key radionuclides such as radium-228, its direct decay product, and radon-220. Two other isotopes of thorium, which can be significant in the environment, are thorium-230 and thorium-228. Both belong to other decay series. They also decay by alpha emission, with accompanying gamma radiation, and have half-lives of 75,400 years and 1.9 years, respectively.

What is thorium used for?

Thorium has coloring properties that has made it useful in ceramic glazes. But, it has been most widely used in lantern mantles for the brightness it imparts (though alternatives are replacing it), and in welding rods, which burn better with small amounts of added thorium. Thorium improves the properties of ophthalmic lenses, and is an alloying agent in certain metals used in the aerospace industry. More than 30 years ago, thorium oxides were used in hospitals to make certain kinds of diagnostic X-ray photographs. But, this practice has been discontinued.

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Exposure to Thorium

How does thorium get into the environment?

Natural thorium is present in very small quantities in virtually all rock, soil, water, plants and animals. Where high concentrations occur in rock, thorium may be mined and refined, producing waste products such as mill tailings. If not properly controlled, wind and water can introduce the tailings into the wider environment. Commercial and federal facilities that have processed thorium may also have released thorium to the air, water, or soil. Man-made thorium isotopes are rare, and almost never enter the environment.

How does thorium change in the environment?

As thorium-232 undergoes radioactive decay, it emits an alpha particle, with accompanying gamma radiation, and forms radium-228. This process of releasing radiation and forming a new radionuclide continues until stable lead-208 is formed. The half-life of thorium-232 is about 14 billion years. Two other isotopes of thorium, which can be significant in the environment, are thorium-230 and thorium-228. Both decay by alpha emission, with accompanying gamma

radiation, in 75,400 years and 1.9 years, respectively.

How do people come in contact with thorium?

Since thorium is naturally present in the environment, people are exposed to tiny amounts in air, food and water. The amounts are usually very small and pose little health hazard. Thorium is also present in many consumer products such as ceramic glazes, lantern mantles, and welding rods.

People who live near a facility that mines or mills thorium, or manufactures products with thorium, may receive higher exposures. Also, people who work with thorium in various industries may receive higher exposures.

How does thorium get into the body?

People may inhale contaminated dust, or swallow thorium with food or water. Living near a thorium contaminated site, or working in an industry where thorium is used, increases your chance of exposure to thorium.

What does thorium do once it gets into the body?

If inhaled as dust, some thorium may remain in the lungs for long periods of time, depending on the chemical form. If ingested, thorium typically leaves the body through feces and urine within several days. The small amount of thorium left in the body will enter the bloodstream and be deposited in the bones where it may remain for many years. There is some evidence that the body may absorb thorium through the skin, but that would not likely be the primary means of entry.

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Health Effects of Thorium

How can thorium affect people's health?

The principal concern from low to moderate level exposure to ionizing radiation is increased risk of cancer. Studies have shown that inhaling thorium dust causes an increased risk of developing lung cancer, and cancer of the pancreas. Bone cancer risk is also increased because thorium may be stored in bone.

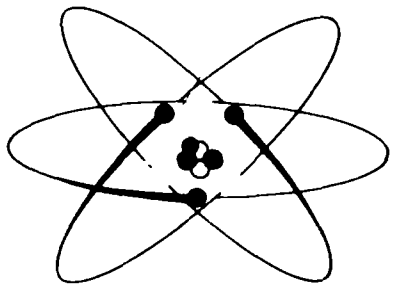
Is there a medical test to determine exposure to thorium?

Last updated on Tuesday, November 30th, 2004
URL: http://www.epa.gov/radiation/radionuclides/thorium.htm

Larry Jensen

RADIOLOGICAL HEALTH HANDBOOK

Compiled and edited
by the
Bureau of Radiological Health



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Rockville, Maryland 20852

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ATTACHMENT 8

Thorium Series (4n)*

Nuclide	Historical name	Half-life	Major radiation energies (MeV) and intensities†		
			α	β	γ
$^{232}_{90}Th$	Thorium	1.41×10^{10}y	3.95 (24%) 4.01 (76%)	---	---
$^{228}_{88}Ra$	Mesothorium I	~~6.7y~~ 5.75y	---	0.055 (100%)	---
$^{228}_{89}Ac$	Mesothorium II	6.13h	---	1.18 (35%) 1.75 (12%) 2.09 (12%)	0.34c‡ (15%) 0.908 (25%) 0.96c (20%)
$^{228}_{90}Th$	Radiothorium	1.910y	5.34 (28%) 5.43 (71%)	---	0.084 (1.6%) 0.214 (0.3%)
$^{224}_{88}Ra$	Thorium X	3.64d	5.45 (6%) 5.68 (94%)	---	0.241 (3.7%)
$^{220}_{86}Rn$	Emanation Thoron (Tn)	55s	6.29 (100%)	---	0.55 (0.07%)
$^{216}_{84}Po$	Thorium A	0.15s	6.78 (100%)	---	---
$^{212}_{82}Pb$	Thorium B	10.64h	---	0.346 (81%) 0.586 (14%)	0.239 (47%) 0.300 (3.2%)
$^{212}_{83}Bi$	Thorium C	60.6m	6.05 (25%) 6.09 (10%)	1.55 (5%) 2.26 (55%)	0.040 (2%) 0.727 (7%) 1.620 (1.8%)
64.0% $^{212}_{84}Po$	Thorium C'	304ns	8.78 (100%)	---	---
36.0% $^{208}_{81}Tl$	Thorium C"	3.10m	---	1.28 (25%) 1.52 (21%) 1.80 (50%)	0.511 (23%) 0.583 (86%) 0.860 (12%) 2.614 (100%)
$^{208}_{82}Pb$	Thorium D	Stable	---	---	---

*This expression describes the mass number of any member in this series, where *n* is an integer.
Example: $^{232}_{90}Th$ (4n).....4(58) = 232

†Intensities refer to percentage of disintegrations of the nuclide itself, not to original parent of series.

‡Complex energy peak which would be incompletely resolved by instruments of moderately low resolving power such as scintillators.

Data taken from: Lederer, C. M., Hollander, J. M., and Perlman, I., Table of Isotopes (6th ed.; New York: John Wiley & Sons, Inc., 1967) and Hogan, O. H., Zigman, P. E., and Mackin, J. L., Beta Spectra (USNRDL-TR-802 [Washington, D.C.: U.S. Atomic Energy Commission, 1964]).

POWER/CRSS

Report of Environmental Investigation

Proposed Northwestern Memorial Hospital
Facility Redevelopment Site
Chicago, Illinois

ATTACHMENT 9

September 11, 1992

Mr. Pat Newman
POWER/CRSS
8700 W. Bryn Mawr
Chicago, IL 60631

RE: Report of Environmental Investigation of the Proposed Northwestern Memorial Hospital Facility Redevelopment Site, Located between Grand, Columbus, Illinois and McClurg Court, Chicago, IL -- STS Project No. 27313-XH

Dear Mr. Newman:

STS Consultants, Ltd. has completed the environmental investigation of the above referenced site. The investigation consisted of a series of tasks including a historical and site background review, subsurface explorations and chemical testing of selected soil samples. A discussion of the exploration methods, results, analysis and recommendations are presented in this report. The results of the concurrent geotechnical exploration program are described in a separate report.

STS has appreciated the opportunity to work with POWER/CRSS on this project. If you have any questions regarding the information contained in this draft report please do not hesitate to call.

Respectfully,

STS CONSULTANTS, LTD.

David L. Grumman, Jr.
Project Geologist

Steven A. Bucher, P.E.
Associate

Richard G. Berggreen
Principal Geologist

DLG/nt/AC1

TABLE OF CONTENTS

1.0 PROJECT OVERVIEW 1

Summary of Findings 1
Introduction 2
Project Objectives 2
Scope of Work 2

2.0 EXPLORATION PROCEDURES 4

Historical and Site Background Review 4
Site Walkover 5
Geophysical Survey 5
Subsurface Exploration and Sample Collection 6

3.0 EXPLORATION RESULTS 11

Historical and Site Background Review 11
Site Walkover 14
Geophysical Survey 14
Subsurface Exploration 15
Chemical Testing 16

4.0 ANALYSIS AND CONCLUSIONS 18

General Summary of Environmental Findings 18

APPENDIX

1.0 PROJECT OVERVIEW

Summary of Findings

The three Cityfront center parcels bounded by Grand, Columbus Illinois and McClurg Court Streets are being considered for the development of a new hospital facility as part of the Northwestern Memorial Hospital. An environmental investigation conducted during July 1992 revealed that the property had extensive turn-of-the-century industrial and manufacturing usage occupants with tenants including a metal polish plant, a carbonic acid manufacturer and a lubricating oil plant with three underground storage tanks. During the 1920s and 1930s, most of the site reverted to undeveloped, vacant land used principally for parking, a usage which persists through the present.

Drilling and test pit explorations revealed the presence of petroleum spread over an approximate 24.000 square foot area in the south-central region of the larger western parcel. Soil and possibly shallow groundwater may require special handling prior to site development. Based on the chemical testing results, soil constituents appear to be limited to petroleum products which, if removed, would need to be managed as a non-hazardous special waste.

Planning for the removal of these soils should be initiated in the near future to help minimize interference with the proposed site construction schedule. The environmental site investigation results are reviewed in more detail later in this report.

Introduction

The study site comprises three parcels in the Cityfront Center properties located east of downtown Chicago. The three parcels are bounded by Grand Avenue, Columbus Drive, East Illinois Street and a Police Station building on the north, west, south and east side respectively. All three parcels are active parking lots operated by the General Parking Corporation. The proposed site development plans involve building a new hospital complex associated with Northwestern Memorial Hospital, which currently is located several blocks north of the study site. The initial site development program includes investigating and responding to environmental concerns which may be present on site. Based on the data gathered, our opinion regarding actual or potential environmental conditions of the study parcels and our recommendations for further work are presented herein.

The following paragraphs summarize the project objectives and scope of work for this project. Subsequent report sections describe our exploration procedures, results, and analysis including recommendations regarding the site remediation.

Project Objectives

In accordance with the proposed scope of work, the objective of the work performed was to identify past and present site conditions indicating impairment or having the potential for contributing to environmental impairment of the site.

Scope of Work

The scope of work for the environmental assessment of the three Cityfront Center parcels consisted of a series of tasks designed to broadly characterize environmental conditions. The scope of work was developed in response to the site investigation specification stipulated in the CRSS/Power proposal solicitation received by STS. Specifically the project tasks included:

- Site information and historical review, focussing on past site usages and their associated environmental concerns using available informational resources.

- Site walkover to observe present site conditions and possible sources of environmental impairment.

- A geophysical survey of the site using a magnetic gradiometer to observe anomalies potentially indicative of buried objects such as metal or underground storage tanks.

- Subsurface explorations using test pits and soil borings to document subsurface environmental conditions including mapping the lateral and vertical extent of petroleum concentrations on site.

- Chemical testing of selected soil samples to quantify the presence of materials in the subsurface.

The purpose of this report is to describe the data reviewed, exploration and testing procedures used and summarize these site conditions with respect to current environmental considerations and standards.

2.0 EXPLORATION PROCEDURES

Historical and Site Background Review

The site history and background review for this environmental investigation is based on available information. A chronological listing of specific references used is included at the end of this report. This research included consulting the following general reference categories:

- Aerial and historical photographs,
- Fire insurance maps,
- United States Geological Survey maps,
- Chicago history and land use documentation,
- Regulatory agency records,
- Previous site explorations on site by STS and other information available in STS's files.

These reference materials provide a general history of the site. It must be emphasized that significant gaps in the historical record and understanding of the site's usage are unavoidable. By consulting several informational sources, a general site usage was developed such that potential environmental impacts could be assessed. An exhaustive review of historical information was not performed and it is likely that additional information may be available through other, less accessible sources such as the Chicago Dock and Canal Trust files or the Chicago Historical Society archives. The historical documents consulted for this project are generally considered effective and economical informational resources for use on similar environmental assessment projects. Several other unpublished maps and public record information regarding Chicago history in STS's files were also reviewed. Regulatory agency records were also consulted to review documented environmental conditions on site, if present.

Site Walkover

A walk-through reconnaissance of the site was performed to visually observe environmental conditions on site and assist with the planning of the geophysical, test-pit and drilling explorations. Among the specific objectives of the walkover was to search for evidence of past historical usage and sources of environmental impairment, if present, such as chemical spillage, unusual fill materials, monitoring wells, and indications of underground storage tanks. Since all three parcels were completely paved, active parking lots, the site walkover observations provided little useful information.

Geophysical Survey

Because of the historical industrial usage at the site, a detailed geophysical survey using a magnetometer was conducted to identify location(s) of buried steel objects such as underground storage tanks. The locations of the magnetic anomalies could subsequently be targeted for test pit or drilling explorations.

The magnetic survey method provides a measure of the intensity of the earth's magnetic field at the earth's surface. Buried ferromagnetic objects (iron, steel) and other remnants of human activity will often distort the earth's field in the vicinity of these objects. Through measuring the ambient magnetic field intensity over a gridded survey area, local magnetic perturbations (anomalies), perhaps caused by buried metallic objects such as underground storage tanks (UST), can be located and mapped. The magnetic method has been shown to be a useful reconnaissance level tool on environmental assessments, particularly for the location of buried barrels, UST, and steel debris.

To overcome complications arising from man-made and naturally occurring variations in the earth's magnetic field, the common practice is to use two magnetic sensors and thereby measure the vertical gradient of the ambient field across the survey area. The two sensors (magnetic gradiometer) minimize the effect of natural ambient field

variations and allow magnetic surveys to be performed in the presence of strong magnetic gradients or interference.

The field survey consisted of establishing a 10 ft by 10 ft survey grid across each parking area. Each lot was surveyed early in the morning when few cars were present in the lots. The data were recorded within the magnetometer and later downloaded onto a personal computer. The field data were edited, processed and contoured in STS's Northbrook, IL office. Contour diagrams were superimposed on site diagrams and interpreted. Magnetic anomalies and known sources of interference are noted on contour diagrams presented on Figure 4. Particularly strong sources of magnetic interference included parked cars, light poles, and guard rails on site. Several of the magnetic anomaly locations were used to select test pit locations.

Subsurface Exploration and Sample Collection

A series of test pits and borings were performed across the three parcels. The objectives of the subsurface explorations were two-fold: visually observing and documenting subsurface and environmental conditions on site, and mapping the approximate dimensions of petroleum impacted materials discovered on site. The following paragraphs describe the test pit and boring procedures.

Test Pit Explorations

A total of seven test-pit locations were selected based on the results of the historical review and magnetic survey findings. Figure 2 illustrates the test pit locations. A subcontract excavator excavated at the designated locations under the observation of an STS field engineer. Each test pit created a hole approximately 4 feet by 10 feet with a maximum depth of approximately 9 to 10 feet. The presence of parked cars and parking lot traffic restricted digging in several of the desired locations. Soil samples were observed for visual and olfactory indications of impairment. Soil samples from selected test pits were retained for subsequent analytical testing.

Copies of the Test Pit logs are included in Appendix B. Each excavation was backfilled and later asphalt patched.

Drilling Explorations

Drilling locations were selected in consultation with CRSS based on geotechnical and environmental engineering considerations. A total of six deep geotechnical borings were performed across the site. These borings were followed by a series of 25 shallow borings. The locations of the shallow borings were selected to obtain balanced site coverage and facilitate mapping the extent of petroleum impacted materials identified on site. The results of the historical review, site walkover, and magnetometer survey were also used to select appropriate boring locations. Figure 2 illustrates the boring locations.

The soil borings were performed using a truck mounted auger drilling rig. The borings were advanced with the use of continuous flight solid stem augers. An STS field engineer or geologist was present during the drilling to observe and document the soil samples. Representative soil samples were obtained in the borings utilizing the split barrel sampling procedures and were performed in accordance with ASTM Specification D-1856. Soil samples were collected every 2.5 feet to a depth of 15 feet and every five feet thereafter. The shallow environmental borings extended to a depth of 20 feet below ground surface while the deeper geotechnical borings were extended to between 40 and 100 feet deep.

Samples were screened by the field engineer either in the field or in STS's Northbrook laboratory using an HNu Systems Model PI-101 photoionization detector (PID). The PID is a useful non-diagnostic field screening tool sensitive to many volatile organic compounds, including several petroleum product constituents and solvent compounds. The PID levels are noted on boring logs in Appendix B.

The soil sampling device was washed and rinsed between soil samples using potable water and Alconox soap. The augers were cleaned between borings to minimize

the potential for cross contamination. All boreholes were subsequently backfilled using a grout and cuttings mixture. All samples were returned to the STS Northbrook office for further observation and testing.

Shallow groundwater monitoring wells were installed in Borings B-128 through B-131. The well screens were positioned to intersect the shallow water table, located approximately 11 feet to 12 feet below ground surface. The monitoring well installation diagrams included in Appendix B summarize the well construction details.

Chemical Testing

Test pit and boring samples were retained and submitted to an analytical laboratory for chemical testing. The historical site usage, STS's prior testing experience in this area, and the test pit and soil boring observations were used to tailor the testing program to those chemical panels with the highest expectation of detecting the presence of chemicals on site.

The two principal testing panels selected included volatile organic compounds (VOC) and poly-nuclear aromatic hydrocarbons (PNA). VOCs consist of several common constituents of petroleum products (benzene, toluene, ethylbenzene, xylene [BTEX]) as well as common solvent and degreasing compounds. The PNAs are often an indicator of the presence of heavier fraction petroleum products (heating oil, diesel fuel, tars). PNAs are also found as the product of incomplete combustion (cinders, coal ash, wood). Based on STS's downtown Chicago environmental testing experience, VOCs and PNAs are more consistently detected in shallow urban fill materials in cases where there is no information indicating other contaminant sources. Other testing panels included heavy metals and polychlorinated biphenyls (PCB) (one sample only). Additionally, several samples were tested for total petroleum hydrocarbons (TPH) and oil and grease (OG).

Figure 3 indicates test pit and boring locations where samples were collected and submitted for chemical testing. The following table summarizes the sampling locations and their associated chemical testing panels:

Table 1
Sample Testing Summary

Location	Sample	Testing Panels
TP-1		VOC
TP-2		VOC
TP-3		VOC, Heavy metals (8 RCRA-TCLP), PCB
TP-4		VOC
TP-6		VOC
B-108	S-6	VOC, PNA, TPH, OG
B-109	S-5 & S-6	VOC, PNA, TPH, OG
B-115	S-4 & S-5	VOC, PNA, TPH, OG
B-118	S-5 & S-5A	VOC, PNA, TPH, OG

All samples were collected in the field in cleaned bottles provided by the subcontract testing laboratories. The samples were stored in iced coolers and were delivered to the testing laboratory under chain-of-custody control. Copies of the testing results and chain-of-custody records are included in Appendix C.

3.0 EXPLORATION RESULTS

Historical and Site Background Review

Site History, Development, and Usage

Figure 5 illustrates the general locations of significant historical structures and other features throughout the approximate 150 year existence of the site. The site was once a part of Lake Michigan until the 1830's or early 1840's. The construction of a large municipal pier from the mouth of the Chicago River out into Lake Michigan was largely responsible for the eastward progradation of the shoreline. Natural longshore sedimentation processes and frequent use of the area to dump river dredging spoils probably account for the area's rapid emergence from Lake Michigan during this period. According to some accounts, the debris from the Great Chicago Fire of 1871 was landfilled in this area and the charred remains can be observed within the fill today. For most of this century the study site was part of a very long east-west city block without cross streets. The Columbus Drive and McClurg Court extensions were only extended across the site during the last decade.

By the late nineteenth century, the area had become a hub for commerce and manufacturing. The earliest identified structure on site (1886) was a lubricating oil plant located near the western end of the study property. This plant likely was the precursor to the D.A. Stewart Lubricating oil plant which appears on 1891 and 1905 fire insurance maps. Throughout the decades preceding and following the turn of the century, much of the site appears to have been occupied by a variety of commercial operations. These businesses included the lubrication oil plant, a carbonic acid manufacturing facility, a nickel plate polish plant, a city cleaning department shop, a Chicago Tribune office and several other miscellaneous unidentified structures (See Figure 5). The 1886 fire insurance map shows three underground petroleum tanks (UST) within the carbonic acid facility and a large above ground carbonic acid tank. By 1905 the carbonic acid plant was gone and replaced by an apparent expansion of

the lubricating oil plant. The 1905 map does not mention the USTs although an oil storage warehouse is shown above the three former USTs and four above ground storage tanks are present further to the east. It should be noted that many of more commonplace hazardous organic compounds, such as PCB and chlorinated solvents (with the the exception of petroleum products), did not come into popular usage until sometime after the 1930s or 1940s.

According to the information reviewed, much of the site reverted to vacant, undeveloped land sometime during the 1930s or 1940s. The Blue Book of Chicago Commerce for 1930 indicates that the D.A. Stewart Company had moved to a new location on the southside of Chicago sometime before 1930. By 1950 the only remaining structures on site were three buildings near the west end. These consisted of a one story parking garage to the southwest and two multi-story buildings which housed a refrigerator repair shop and commercial warehouse for a time. None of the information reviewed indicates the storage or use of hazardous materials in these buildings. These structures remained on site until their eventual demolition during the 1980s. The southwest corner building remained a parking garage until it was razed, while the two other buildings probably contained a variety of commercial tenants over the last several decades.

During the 1950s through early 1970s the site was bisected by a rail spur which served the Kraft Cheese plant to the east of the site. During this time. the easternmost portions of the site were used for the storage of raw materials such as resin and tile and also contained five salad oil tanks. The central areas of the site remained vacant and were used mostly for parking. Kraft Foods moved out during the 1980s and the Chicago Police Department occupied the former Kraft building. Although the site had a history of vehicle parking use, it was not until the last few years that the site was regraded, paved and operated as three concession parking lots.

Adjacent Property Usage

The surrounding properties experienced a similar development history as the study site. Most of the properties south of the site were used for commercial warehousing, trade and the manufacture of candy and commodity food products. In 1886, a large varnish factory occupied the parcels west of the study property including part of what is now Columbus Drive. The varnish factory moved or ceased operation sometime after 1905. There exists a strong potential for environmental contamination legacies from the varnish factory. The American Box Company occupied the Kraft Foods site for several decades around the turn of the century.

Regulatory Agency Records

U.S. Environmental Protection Agency (USEPA), Illinois EPA and Illinois State Fire Marshal Records were reviewed although none listed the study site as the subject of any past or present environmental action. Figure 6 illustrates the location of vicinity facilities registered under different environmental programs. The closest CERCLIS sites are over one mile west northwest of the site. Several Resource Conservation and Recovery Act (RCRA) facilities are located across the street north of the site; however, these facilities are likely to be small quantity users of hazardous compounds (dry cleaners, photo labs, graphic design houses, etc.).

Hydrogeology

The subsurface of the site consists of a layered sequence of fill over lake bottom sediments and glacial till. The 6 to 10 foot thick fill layer consists of rubble debris comprised by cinders, bricks, stone fragments, wood (Chicago Fire debris), and sand and gravel. The rubble fill is underlain by what is likely sand fill (dredge spoil) which grades into the natural fine to medium lake bottom sand. At about 30 feet below ground is the top of a thick sequence of silty clay glacial till with occasional sand lenses which extends down to the underlying dolomite bedrock at approximately 120 feet.

The shallow water table was observed within the sand fill at about 12 feet below ground surface on site. Based on the shallow monitoring well water level measurements, the water table appears to be relatively flat in this area. The low gradient is most likely due to the high permeability sand. The water table elevation is probably controlled by the Chicago River or Lake Michigan water level, both of which have fluctuated several feet over the last century. Based on the water level measurements, the shallow groundwater flow direction is generally to the south, toward the former Ogden slip and more distant Chicago River. The highest water level was observed in MW-128, located near the southeast corner of the superlot. This high water level measurement appears to be anomalous and could be caused by localized mounding around a sewer or watermain or by recent heavy precipitation.

The porous rubble fill and fine sand do not offer much resistance to the migration of contaminants. The thick layer of till has a very low hydraulic conductivity and in general, contaminants are unlikely to migrate through these materials. Lake Michigan is the municipal drinking water source for Chicago, and the underlying dolomite bedrock is not used locally within Chicago as a potable water source.

Site Walkover

The site is entirely paved and in daily use as three parking lots. The site is relatively level with a slight slope to the south and localized depressions around storm drains. Indications of former structures or soil conditions on site could not be observed and no unusual deflections in the pavement surface were noted. No indications of underground storage tanks such as fill or vent pipes were observed. No utility vaults were evident on site.

Geophysical Survey

Several magnetic anomalies are noted on the magnetic gradiometer contour diagrams (Figure 4). The anomalies were identified as regions exhibiting high or low magnetic gradient which cannot be attributed to nearby sources of magnetic

interference (parked cars, light poles, etc.). The most significant of these anomalies is located near the east central margin of the westernmost parcel. The approximate linearity of this feature may indicate that this may be a buried sewer, conduit or portion of a former rail line. However, this anomaly is also positioned near the approximate location of several underground storage tanks indicated in the historical data review. Other anomalies noted were in areas on site with less association with potential environmental impairment sources.

The interfering effect of surface objects. such as parked cars, is apparent on the contour diagrams. The magnetic field disturbances created by these objects tended to preclude interpreting the magnetic data in their vicinity.

Subsurface Exploration

The test pits and boring results reconfirmed the anticipated make-up and configuration of the subsurface. Test pit and boring logs are included in Appendix B. The uppermost rubble fill consisted of a chaotic mix of bricks, cinders, wood, miscellaneous glass and refuse, and sand and gravel. Numerous gray cylindrical objects, which may have been metal castings, were noted at a depth of 6 feet in TP-3. Several of these anomalies were subsequently targeted in the test pit explorations (TP-1. TP-2. TP-5). None of the test pits encountered underground storage tanks, although, the test pits performed in magnetic anomaly areas did observe large concentrations of steel objects which are the probable cause of the anomalies. These possible castings may be remnants of the former nickel polish plant operation. Other observations within the fill included possible steel sheet pilings, large concentrations of scrap metal and charred wood fragments.

The rubble fill thickness is 7 to 10 feet and is underlain by a fine to medium grained sand. which may be dredge spoil and/or the product longshore sedimentation. Occasionally, bricks and wood fragments were observed within the sand. The sand graded indistinguishably into the underlying natural lake bottom sand. A description of the site geology and hydrogeology is provided in the preceding hydrogeology

paragraph and a review of the geotechnical engineering properties of the subsurface on site is discussed in a separate report.

Concentrations of petroleum were discovered in the sand fill near the south-central region of the large western parcel. Figure 4 illustrates the approximate lateral extent of these identified concentrations. The source of these concentrations may be a petroleum product such as diesel or heating oil. These petroleum concentrations are centered on the water table at 13 feet deep and extended up to 4 feet above and below the water table. A total of 16 borings were performed to map the lateral extent of this material, as shown on Figure 3. The concentrations were higher near the north central area of the identified material. Photoionization detector (PID) monitoring of the soil samples showed PID levels ranging between 2 and 130 PID measurement units. No measurable thickness of petroleum floating on the water table was observed in the monitoring wells.

Visual, olfactory or PID indications of impairment were not observed in borings or test pits near the west and west central area of the site, near the former buildings and old varnish factory west of the site. Similarly, no observations of impairment were noted in the explorations near the former Kraft plant.

Chemical Testing

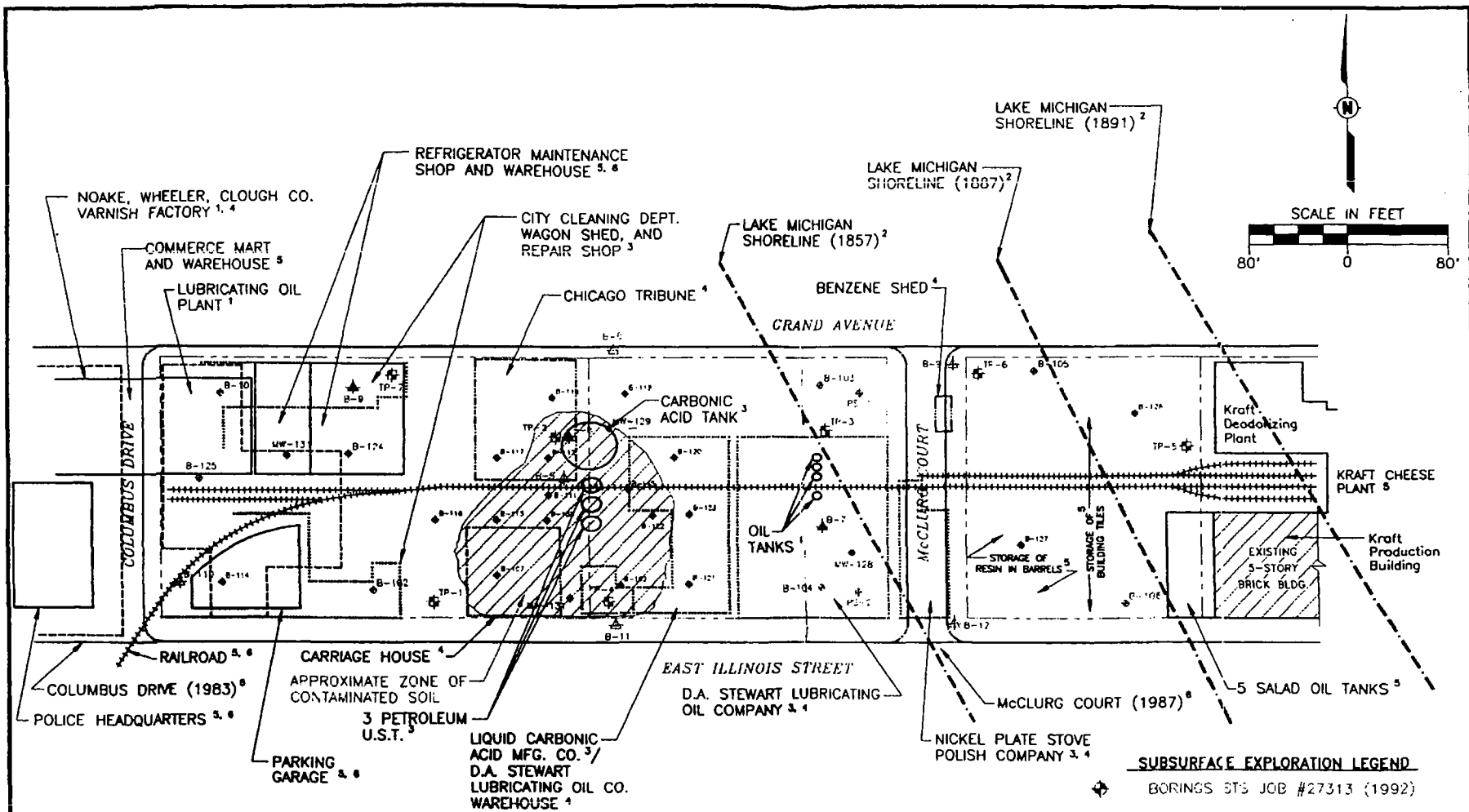
The results of the chemical testing are included in Appendix C. The results of the chemical testing showed significant detections of volatile organic compounds (VOC), total petroleum hydrocarbons (TPH), and polynuclear aromatic hydrocarbons (PNA) many for samples collected near the southcentral region of the large western parcel. Table 2 summarizes the chemical testing results. The testing results for the soil and water samples from MW-128 through MW-131 were not available at the issuance of this report.

The consistent detection of the VOCs xylene and/or ethylbenzene and the presence of high levels of several PNA compounds in samples from this western parcel generally

confirm that the source of the petroleum concentrations may be a petroleum product, probably a diesel, heating, or heavy lubricating oil.

Trace levels of several chlorinated solvent compounds (tetrachloroethene, trichloroethene, and tetrachloromethane) were detected in three test pit samples (TP-1, TP-2, and TP-4). The levels are generally considered trace to low level and no solvent detections were noted in the boring samples.

No detectable levels of PCB or heavy metals were observed in the sample from TP-3, which was located approximately between the former lubricating oil plant and metal polish factory.



HISTORICAL REFERENCES

1. ROBINSONS ATLAS OF CHICAGO, FIRE INSURANCE MAP (1886) [----------]
2. GREELY CARLSON FIRE INSURANCE MAP (1891) [— · — · — · —]
3. RASCHER FIRE INSURANCE MAP (1891) [.....]
4. SANBORN FIRE INSURANCE MAP (1905) [— · — · — · —]
5. SANBORN FIRE INSURANCE MAP (1949) [————]
6. AERIAL PHOTOGRAPHY OF SITE, MISC. YEARS 1938–1988

THE LOCATIONS OF THE HISTORICAL STRUCTURES AS ILLUSTRATED ABOVE ARE CONSIDERED APPROXIMATE AND ARE BASED ON THE REFERENCES LISTED.

SUBSURFACE EXPLORATION LEGEND

- BORINGS STS JOB #27313 (1992)
- BORINGS STS JOB #27313XH (1992) (MW PREFIX INDICATES MONITORING WELL INSTALLATION)
- TEST PITS STS JOB #27313XH (1992)
- BORINGS STS JOB #25400XF (1988)
- BORINGS STS JOB #24418-N (1987)
- BORINGS STS JOB #24418-C (1986)

DRAWN BY PCK	DATE 8/6/92	
CHECKED BY DLG	DATE 8/6/92	
APPROVED BY SAB	DATE 8/6/92	
CADFILE: D:\PEOPLE\KRESKI\DWG\DEPTS\27313.dwg		

HISTORICAL SITE USAGE DIAGRAM
PROPOSED NORTHWESTERN MEMORIAL HOSPITAL
GRAND/COLUMBUS/ILLINOIS/McCLURG COURT
CHICAGO, ILLINOIS

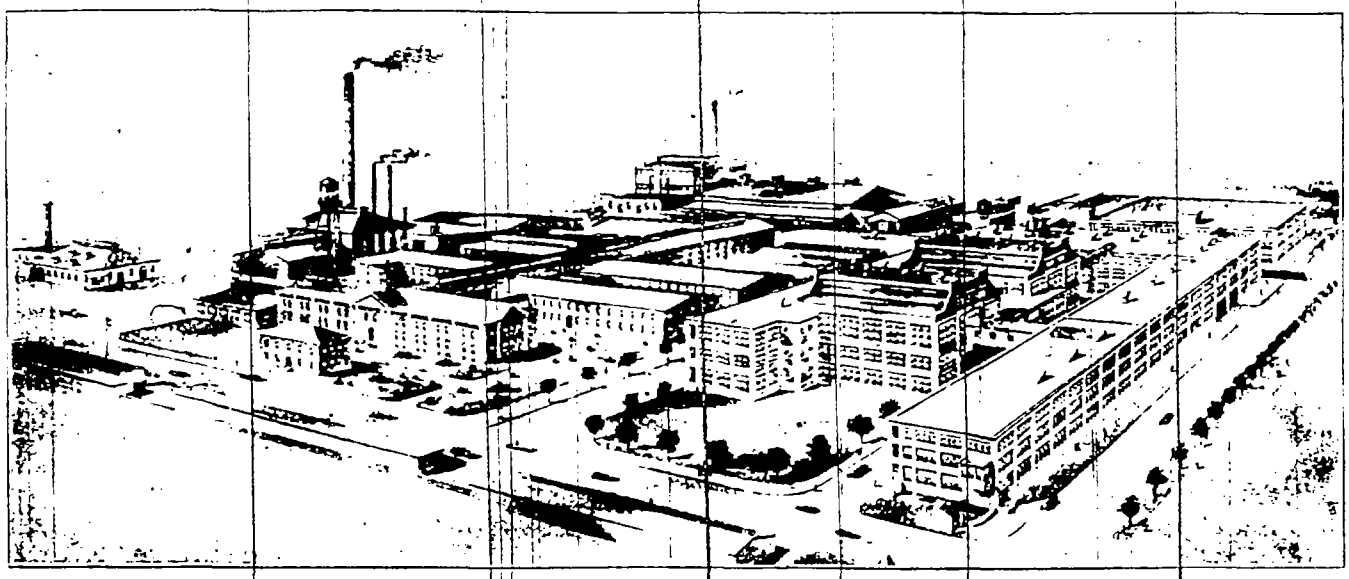
STS CONSULTANTS LTD. CONSULTING ENGINEERS

STS PROJECT NO 27313-XH
STS PROJECT FILE
SCALE 1" = 80'±
SHEET NO FIGURE 5

"Chemical and Metallurgical Engineering" (October 15, 1919)

"The Welsbach Co. Plant"

ATTACHMENT 10



BIRDSEYE VIEW OF WELSBACH CO. PLANT

The Welsbach Co. Plant

The manufacturing plant of the Welsbach Co., located at Gloucester, N. J., just across the Delaware River from Philadelphia, Pa., is a development of many years of commercial operation and chemical research in the incandescent gas mantle industry, and the processes now employed therein are representative of the present state of the art. The manufacturing operations are resolved into three main departments, namely, mantle manufacture, fixture manufacture and chemical production. Each of these departments is subdivided into units, and a thorough inspection of the workings as a whole reveals an enormous amount of detail. The diversity of this detail at once seizes and holds the interest of the visitor.

Mantle Manufacture

The first step in making the gas mantle is the knitting of the cloth tubing or webbing to form a base for the physical shape of the mantle on which the thoriaceria mixture is to be constructed. This tubing is woven from ramie fiber thread, produced from the ramie plant, similar to linen and a native of India; cotton thread and silk thread. Ramie thread is used for inverted mantles, cotton for upright mantles and silk for the highest grades of either type. Silk is by far the best fabric, leaving the smallest amount of foreign ash in the finished product. Automatic knitting machines, employing both the chain and the rib stitch, weave the tubing into long lengths, made endless by hand sewing, and the diameter of which is considerably greater than the ultimate diameter of mantle desired. This is to allow for shrinking of the structure during subsequent process of hardening. The machines are manufactured by the Wildman Mfg. Co. and the knitting department has a capacity of 20 miles of tubing per day, consuming 1500 to 2000 lb. of thread, or, in other words, enough fabric is manufactured for the production of 1,000,000 mantles per week.

The washing room adjoins the knitting department and the air for both is so thoroughly purified by a Carrier Engineering Corporation washer that it is impossible to detect any particles of solid matter floating in the sunlight as under ordinary circumstances.

The water used in washing the tubing and for dilution of the chemicals so employed is of extreme purity, being continually tested, and if over 5 parts of solid matter in one million parts of water is in evidence, the whole is discarded. This is an important detail, since any appreciable amount of foreign matter entering the flow weakens the finished mantle and causes its rejection by the inspectors. The water is therefore distilled in a J. P. Devine Co. multiple effect apparatus located in the power house and conducted to the various departments through tin lined lead pipe. About 20,000 gal. is consumed daily in the washing process.

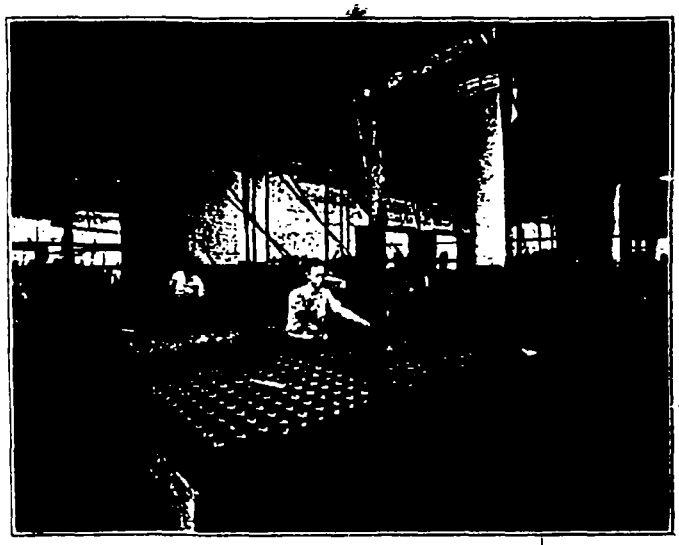
The washing room operation requires four days' time to thoroughly cleanse the fabric. The equipment consists of six large circular tanks with smaller auxiliary vats and Troy Laundry Machinery Co. centrifugal wringers. Overhead revolving spools are used to convey the webbing through the process.

After a final neutralization and drying in the centrifugals the material is conveyed to a large Proctor drier, manufactured by the Philadelphia Textile Machinery Co., and remains therein about 25 min. at a temperature of 130 deg. The drying process is continuous, with the material moving along through the dry box on revolving spools.

DEVINE WATER DISTILLING APPARATUS

The saturating department receives the webbing and soaks in a solution of approximately 99 per cent thorium nitrate and 1 per cent cerium nitrate, the time in the bath being from 15 to 30 min. Between 30 and 40 different solutions are used for various mantles and selection depends on the type of product and raw material involved. A colored dye is added for tracing various lots through the factory. The work is carried on in small rubber boxes to the end of which are attached hand wringers, for partially drying.

The wet material from the wringers is cut into 90-in. lengths and slipped over wooden poles by hand. Care must be taken to stretch the mesh of the fabric evenly along the pole. The poles are then hung in a large drying room for a 30-min. period, and where the wet bulb temperature 110 deg. F. and the dry bulb temperature 80 deg. F. is maintained by thermostatic regulation. Curve drawing recording meters are installed at all such locations throughout the factory. The recorders and thermostats are furnished by the Tycos Co. Bristol recorders are also extensively used.

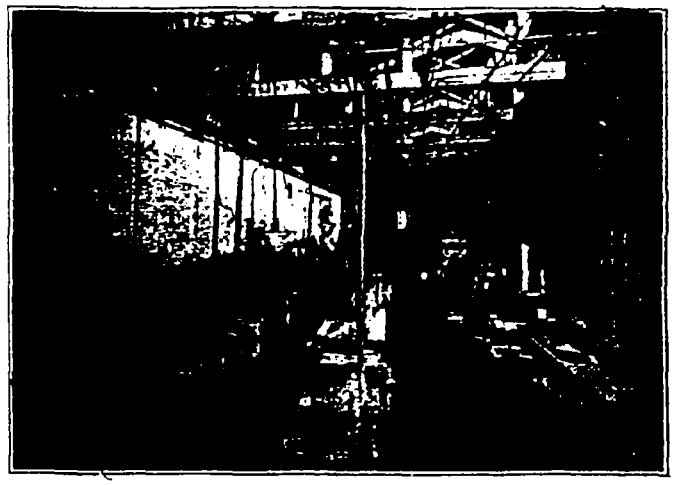


FEEDING TRAYS OF MANTLES TO AUTOMATIC DIPPING MACHINES

The dried lengths are placed flat in bundles and cut to mantle length by rotating knives. The open end of a mantle is dipped in fixing solution by machinery, the drawstrings of asbestos or treated thread are put in by hand and the finished structure is sent to the hardening rooms.

There are two divisions of the hardening department, one for the upright and one for the inverted mantles. Hardening is accomplished by placing over gas flames where a mixture of gas and air is carefully regulated. In the case of upright mantles the regulation is accomplished by hand work of skilled operators over multiple bunsen burners. The burning of inverted mantles is automatically regulated in multiple crucibles. The shrinkage occurs during this process and a 3 per cent loss of product is incurred in the upright mantles, with a 30 per cent loss in the inverted type. This department consumes 160,000 cu.ft. of gas daily.

The mantles, now consisting of an ash of thorium and cerium oxides, are carefully conveyed in trays, 100 per tray, to the dipping and packing room. These trays enter the automatic dipping and drying machines, manufactured by the Welsbach Co., where the collodion coating is put on and dried. Time required for this operation is 15 to 20 min. at a temperature of 80 deg. C. This coating protects the ash against breakage until it is burned off in the lamp of the consumer. The department operates four banks of three machines each, and delivers the trays of mantles ready for packing. The collodion fumes from the drying boxes are recovered by small exhausters, shown located over the boxes, and returned to the collodion plant for absorption. An annual saving of about $10,000 is effected through this feature.



ELECTROPLATING DEPARTMENT

The packing and assembling of the finished product embraces a complete system of belt conveyors and elevators for delivering the numerous types of boxes to overhead bins and for placing the finished package in the shipping department. The best grades of upright mantles are placed in nichrome wire supports before packing.

As the packing is in progress the preliminary inspection is carried on and rejects are sent to the final inspector, who destroys all imperfect ones by crushing in the hand. No secondary products are marketed. This rejection of defective mantles is an indication of the high quality of the article sold to the consumer. The majority of defects is due to the unavoidable entering of impurities into the early stages of the process.

A complete paper box factory makes all forms of packing containers, including the printing of labels. The paper tubing is produced from strawboard 0.017 in. thick in 10 to 15 ft. lengths and of all diameters. The company has experimented long to arrive at the proper glue for this tubing and has finally obtained a

CHEMICAL PLANT

COTTON NITRATING PLANT

satisfactory article in a cold glue, made from potato and tapioca dextrines. (Arabol Co. glue No. 4604c.)

The paper caps for the circular boxes are drawn from circular stamped blanks, the cutting and drawing operation being accomplished on the same punch press. In order to draw these caps successfully it is necessary first to soften the rolls of strawboard by moistening with a mixture of equal parts of tallow and soft soap. This mixture is made in a small tank overhead and applied by passing the strawboard ribbon over a roller which dips in a small vat of the solution, before being fed to the presses.

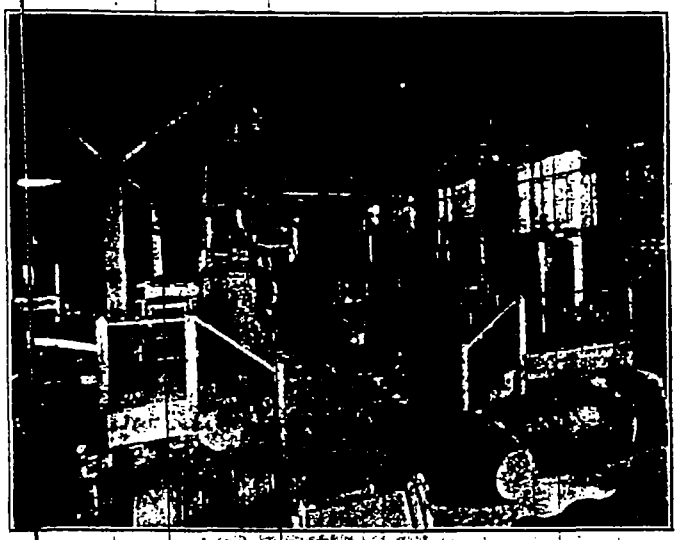
The rectangular paper boxes are produced on both automatic and hand-fed machines. The smaller sizes are carried to their respective wire mesh bins by air suction, or by belt conveyors to the packing department. Fifty to 60 tons of paper scrap is recovered and baled each week. The printing department is completely equipped with cylinder and platen presses.

This factory employs the Brightwood box machine, the Inman box machine, the Knowlton stay machine and metal edge machines made by the National Metal Edge Box Co. The Welsbach Co. has also manufactured a number of the automatic box machines in operation.

ALCOHOL STILL

Fixture Manufacture

An extensive fixture factory produces all types of fixtures and fixture parts required by the gas illuminating trade, from the smallest mantle supports to the latest type of indirect lighting bowl. The pattern shop and foundry makes malleable iron, brass, aluminum and composition castings. One section of the machine shops contains automatic screw machines and multiple spindle drill presses; another contains batteries of punch presses, and the third a number of lathes. A complete tool-making department is operated in con-



COLLODION PLANT

junction with these shops. A sheet metal department manufactures the necessary fixture parts.

The electroplating department is capable of producing any desired finish on the fixtures and protecting with suitable lacquer. One of the most recent developments in this work consists of a tumbling barrel, equipped with electrodes for plating while the polishing operation is in progress. The wooden barrel revolves with the axis supported at an angle of about 45 deg. One electrode is attached to the revolving mechanism while the other is suspended vertically in the solution through the open end of the barrel. This is shown in the background of the picture.

The fixture assembling rooms occupy a large floor space and it is here that minor machine operations are carried on and the manufactured parts are assembled to produce the completed fixture.

The machine shop employs Brown & Sharpe hand and automatic screw machines, Warner & Swazey hand screw machines, and Avery drill presses. The power punch presses are of three makes, namely, Ferracute, Bliss, and Henderson. Foot presses are made by Waterbury and Farrel companies.

The section of the works which is perhaps of greatest interest to CHEMICAL & METALLURGICAL ENGINEERING readers is that in which collodion is made and where

the rare earths in the form of monazite sands are reduced to secure thorium, cerium, mesothorium and radium compounds.

Collodion, as used to hold the physical structure of the thoria-ceria mantle intact during commercial handling, must have special characteristics to serve this purpose. It must be non-shrinkable when drying, otherwise the oxide structure would be destroyed and the mantle would crumble when collodion is burned off by the ultimate consumer. It is further necessary that collodion be pure and a reliable source of supply be at hand.

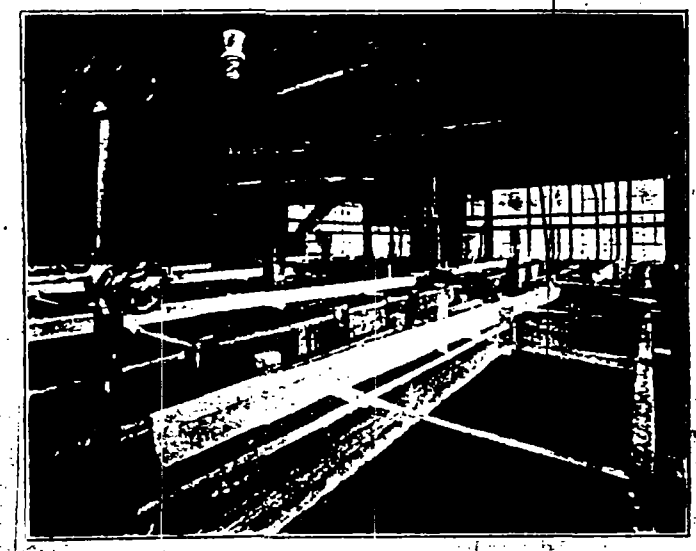
The plant produces from 10,000 to 15,000 kilos per month, the entire amount being used in the mantle factory. The cotton is nitrated under cleanest possible conditions, dried in a centrifugal wringer and the process carried to final conclusion in an apparatus of collodion plant, as shown.

The feature most worthy of note is the method employed in conducting the collodion to the dipping machines. The piping system is made up of double pipe and fittings throughout. The inner pipe carries the collodion, while the annular space between the inner and outer metal is filled with inert gas (CO_2) under higher pressure than that required to force the liquid through the inner pipe. In case of leak in the inner wall the gas will enter the central conductor and force the collodion back to the tanks. While this system is expensive to install, it is considered invaluable as an insurance against accident where explosive or inflammable liquids are transported. It is said to be required by law in Berlin where gasoline is stored in excess of 5 gallons.

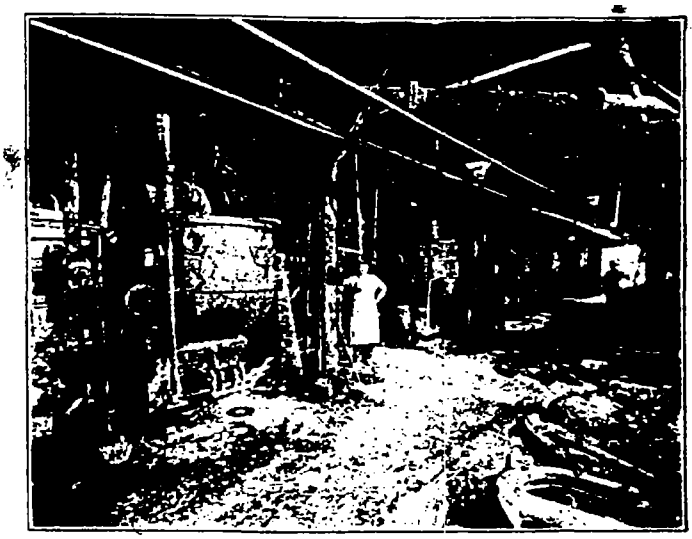
An alcohol still is operated in connection with this plant, while ammonia is also distilled in an adjoining room. The product of the latter is used in the fabric washing process.

Rare Earth Reduction

The monazite sands consumed at the present time are purchased in Brazil, where they can be obtained more cheaply than the Welsbach Co. can mine them from its Carolina properties. This is due to the fact that the latter deposits are in widely scattered pockets and economical mining operations therefore do not obtain. The ore, or beach sands, occurring in placer deposits near the coast of Brazil is subjected to wet



PRECIPITATING TANKS



MONAZITE SAND DIGESTORS

concentration over jig tables, where the monazite, being the heavier, is separated out from the gangue or silicas. The concentrate, however, still contains the garnet, and after being dried a further separation is made by electromagnetic means in a manner similar to that employed in the zinc industry.

The final product shipped contains about 90 per cent of the monazite crystals which were present in the crude ore, and is in the form of a rather uniformly grained, fine, yellow sand. A typical analysis of this product shows the following content:

	Per Cent		Per Cent
Phosphoric anhydride	28	Thorium oxide	5
Cerium oxide	30	Yttrium oxide	2
Lanthanum oxide	14	Iron oxide } Calcium oxide }	5
Neodymium oxide } Praseodymium oxide }	16		
			100

The sand is received at the Welsbach works in 100-lb. bags containing 5 to 6 per cent of thoria, the substance most desired in the separation. Definite quantities are mixed with the proper amount of sulphuric acid, with sp.gr. above 66 deg. Baumé, in the digestors, where the mass is agitated under heat for a period of 6 to 8 hours.

The heat is applied below and retained close to the kettle by a sheet steel jacket as shown. The kettle is cast from a special grade of acid-resisting iron. During the heating period, heavy SO_2 fumes are driven off through the cast pipe as shown on the left of the kettle and are conducted to a 16-tube, 85,000-volt Cottrell precipitator. This latter may be seen outside the chemical plant buildings. Its use is necessary to the protection of the surrounding community from the fumes, and a considerable quantity of acid is also recovered.

When the operation is completed, the heat is shut off, but the agitator is kept running, and the tee in the SO_2 line is disconnected from the kettle. The top cover is also removed for the pouring. The removal of the tee permits the apparatus to be turned on its trunnions, in a manner similar to the operation of a bessemer converter, and the pasty mass, consisting of phosphates and the sulphates which have formed, is dumped into a lead-lined receiving vat. This vat, located on the side opposite that shown in the picture, with its top about 1 in. from the floor level, is filled with water at the time of pouring.

The solution is pumped from these vats, one for

CAUSTICIZING TANKS AND SPERRY FILTER PRESS

each digestor, to the second floor tanks, where it is further diluted. This dilution precipitates the rare earths (about 70 per cent of the sulphates and 3 per cent of the phosphates), which are separated from the liquor in Sperry filter presses on the floor below. The sludge then enters a long series of operations, requiring several weeks, carried on in circular tanks with mechanical agitators. Part of this work involves boiling with caustic to produce hydrates, the object of the whole performance being to remove the residual phosphates. These hydrates are eventually dissolved in hydrochloric acid to form chlorides.

It is about this point that the separation of the thorium and cerium compounds is made, and the large part of the work from here on consists of refining the thorium and such quantity of the cerium as is required. The equipment embraces several batteries of glazed earthenware bowls, made by General Ceramics Co., placed under mechanical stirrers as shown in the picture. Practically all the moving parts of this apparatus were made in the company's shops. A new caustic recovery evaporator made by the F. D. Stokes Machine Co. has just been installed.

When the thorium group is split off from the cerium, about 95 per cent separation of thorium present is recovered. The radium and mesothorium comes down with the thorium. The cerium residue is about 50 per cent pure and is known to the trade as commercial cerium. It is sold to the carbon manufacturers for use in flaming arc lamp carbons. Its presence in minute quantities greatly adds to the incandescent light in both mantles and carbons. It is also purified and used in medicines such as cerium oxalate. The Welsbach Co. prepares these compounds for the market. The cerium nitrate used in the mantle fluid is necessarily refined to a purity equaling that of the thorium nitrate.

The complete process from the time the sand is placed in the digestors until the pure $Th(NO_3)_4$ is extracted consumes a period of from 2 to 3 months. The plant produces 10,000 to 15,000 kilos per month. Quantities are shipped to Great Britain at the market price of about $10 per kilo. This trade was built up when the supply from Germany was cut off at the beginning of the war.

The supply of radium from Colorado ores is limited and practically the entire output is required for medical purposes. The manufacturers of articles like radiolite watches are therefore forced to search elsewhere for the raw luminous material. The Welsbach Co. has successfully undertaken the manufacture of a mixture of radium and mesothorium to supply this need.

An examination of the chemistry of these two substances reveals parallel characteristics and compounds. The principal difference in the two lies in the fact that the activity of mesothorium continues about seven years, while radio-activity is constant over several hundred years.

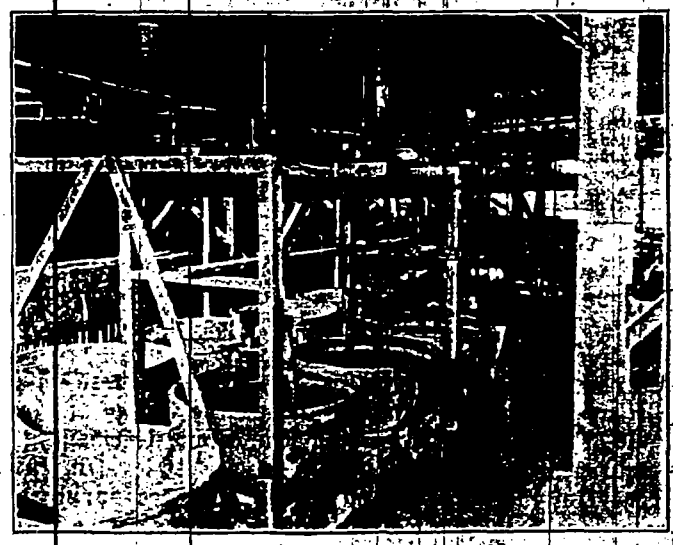
The extraction from the rare earths begins in the thorium plant and a residue of approximately 20 lb. per day is obtained from the thorium purification process. This residue is taken to the radium laboratory, where it is dissolved as a chloride in the so-called zero kettle. From this it is taken through a series of 5 pairs of steam-jacketed kettles, Elyria Enamel Products Co. make, then through a similar set of evaporating dishes. The work consists of a series of precipitations and crystallizations.

The final residue from the chloride solutions is then redissolved as a bromide and the process continues as before, but on the laboratory bench. The solutions pass through about 30 operations in all. For each ton of monazite sand originally treated there is produced one milligram of the rare element mixture.

Other Departments

The company generates power from coal delivered to the bunkers by barge on the Delaware River. Bucket elevators and belts carry to the overhead bins, from which it is automatically weighed to the bank of three Babcock & Wilcox boilers, fired by Riley-Sanford plunger type stokers. Boiler draft is supplied by two Sturtevant fans, direct-driven by steam turbines. The plant is so equipped with measuring and recording devices as to furnish complete data on daily performance. This apparatus includes Hays CO_2 recorders, Venturi boiler feed water meters, and General Electric steam flow meters.

The engine room contains one 400-k.v.a. 2300-volt 3-phase 60-cycle Crocker-Wheeler Co. generator direct-connected to tandem Corliss engines and with belt-driven exciter; one 150-k.v.a. 2300-volt 3-phase 60-cycle General Electric Co. generator direct-connected to vertical type American Ball engine; one 7-panel switchboard equipped with General Electric instruments, ITE



MIXING BOWLS

circuit breaker and switches, including control for operating the two generators in synchronism during peak load periods.

The laboratory and testing department embraces complete research and control chemical laboratories, and physical laboratories equipped with mechanical devices for shock and tensile tests of mantle materials together with apparatus for candle power and life tests on finished mantles.

The plant buildings are of fireproof construction, with Grinnell sprinkler systems. Distilled drinking water is supplied throughout. A complete hospital is equipped for emergency treatment.

The system of conveying materials requires little hand trucking within the works. The storehouse operates Elwell-Parker electric trucks, equipped with Edison storage batteries, for conveying crates within the building. For heavy outside work Pierce-Arrow 2- and 5-ton trucks are employed. The coal loader shown in foreground of "Chemical Plant" picture is made by the Link Belt Co.

The business of making incandescent gas mantles is said to be continually on the increase in this country. Ten per cent of the Welsbach Co.'s output is consumed abroad. The marked growth of the industry is attributed to the fact that an excellent light is secured at a reasonable rate, wherever gas is available. It is probable that the development of the by-product coke oven is giving an impetus to the business.

The writer desires to acknowledge the courtesy of the Welsbach Co. as extended by Dr. H. S. Miner and Mr. C. E. Bliss during preparation of this article.

World Iron and Steel Output

The National Federation of Iron and Steel Manufacturers of Great Britain has issued a memorandum on the world's output of iron and steel, which contains a statistical survey for several years past. Below are given those figures which have not hitherto been published with those of previous years for purposes of comparison. The production of pig iron and steel in the leading countries was as follows:

PIG IRON PRODUCTION

	1918	1917	1916
United Kingdom, gross tons	9,066,000	9,420,000	9,048,000
United States, gross tons	39,052,000	38,621,000	39,435,000
Germany, metric tons	11,590,000	13,142,000	13,285,000
France, metric tons	1,297,000	1,684,000	1,447,000
Total	61,005,000	62,867,000	63,215,000

STEEL PRODUCTION

	1918	1917	1916
United Kingdom, gross tons	9,591,000	9,840,000	9,196,000
United States, gross tons	45,073,000	45,061,000	42,774,000
Germany, metric tons	14,874,000	16,587,000	16,183,000
France, metric tons	1,912,000	2,232,000	1,952,000
Total	71,450,000	73,684,000	70,105,000

The German production for 1918 does not include the output of Luxemberg, the Saar District, and the disannexed Lorraine Province during November and December of that year. The British steel figures include steel castings.

The first and most significant feature of these tables, it is pointed out, is the fall during the war of the output of iron and steel in both France and Germany, the figures in both cases reaching the lowest level in 1918. The United States shows a great increase during the war, while in Great Britain the figures show a fairly constant output of pig iron and an increased output of steel.

In the case of pig iron the production of these four countries in 1900 amounted to 34,000,000 tons, of which Great Britain produced 9,000,000 tons. In 1913 the total output had risen to 66,000,000 tons, of which Great Britain produced 10,000,000 tons, while in 1918 the total had fallen to 61,000,000 tons, of which Great Britain produced 9,000,000 tons.

The production of iron and steel in countries of the second rank in 1916 and 1917 is given as follows:

	Pig Iron		Steel	
	1917	1916	1917	1916
Austria-Hungary	.....	2,418,000	2,921,000	3,330,000
Canada	1,046,000	1,070,000	1,550,000	1,287,000
Italy	475,400	467,000	1,304,000	1,269,000
Russia	.....	3,738,000	.....	.....
Sweden	829,000	733,000	581,000	614,000
Belgium	.....	127,825	.....	95,830

These countries contributed at the outbreak of war about 9,000,000 tons of pig iron and 12,000,000 tons of steel to the world's production. The figures for Italy are significant of the extent to which that country has relied on scrap steel and imported pig iron to obtain steel output.—*Fortnightly Information Review, Aug. 1, 1919.*

How to Relieve "Brass Itch"

The symptoms of brass poisoning and the treatment which should be given are described in the current issue of *Modern Medicine*, Chicago, Illinois, by Dr. R. P. Albaugh, formerly director of the Division of Industrial Hygiene, Ohio State Department of Health.

The symptoms are evident for several hours after exposure to the fumes which are contained in the whitish smoke and sublimation products from molten brass and zinc. The symptoms start with a dry, parched throat, an irritating and unproductive cough, a feeling of constriction in the chest, lassitude, and anorexia, often followed by nausea and vomiting; a headache sometimes develops and chilly sensations are noticeable within one to four hours.

The chills rapidly verge into a distinct rigor which lasts from one and one-half to two or three hours. The application of warm clothing or external heat seems not to diminish the rigor of a chill. Muscular cramps and sharp pains in the joints usually accompany the chill.

The symptoms end rather abruptly, almost by crisis, and are followed at once by a profuse perspiration. The patient will probably fall into a deep sleep following the stage of relaxation and without any apparent ill effects.

Brass poisoning does not occur from handling of the metal or the zinc alloys which go into its composition, but is limited to those exposed to the inhalation of the whitish smoke and sublimation products from the molten metal.

There is no specific treatment for brass poisoning, "brass itch" and "brass chills." Zinc is supposed to be responsible for the bad effects. The affection was formerly confused with malaria.

Some workmen find relief in drinking hot milk to which pepper is added. A good purge also seems beneficial. Dr. Albaugh advises the prevention of brass poisoning by better hygienic arrangements in foundries and smelters, elimination of careless habits of workmen, and large, roomy quarters.

STS Consultants Ltd.

C O N S U L T I N G E N G I N E E R S

Work Plan for Site Radiation Survey and Excavation Soil Management

Grand Pier Center
Chicago, Illinois

3/20/00

ATTACHMENT II

R E P O R T

Grand Pier L.L.C.
401 North Michigan Avenue
Chicago, Illinois 60611

Work Plan for Site Radiation Survey and Excavation Soil Management

Grand Pier Center
Chicago, Illinois

3/20/00

STS Project No. 24418-XK

March 20, 2000

STS Consultants, Ltd.
Solutions through Science & Engineering

March 20, 2000

Mr. Michael Witte
Grand Pier L.L.C.
401 North Michigan Avenue
Chicago, Illinois 60611

RE: Work Plan for Site Radiation Survey and Excavation Soil Management, Grand Pier Center, Chicago, Illinois - STS Project No. 24418-XK

Dear Mr. Witte:

Attached please find our Work Plan for the above referenced project. This Work Plan reflects changes requested by USEPA following their review of an initial draft (March 6, 2000) and Revision 1 (March 16, 2000)

Please contact us with any questions you may have regarding this project.

Regards,

STS CONSULTANTS, LTD.

Richard G Berggreen, C.P.G.
Principal Geologist

Attachment

K:\24418\XK\C118K004.doc

750 Corporate Woods Parkway • Vernon Hills, IL 60061-3153 • (847) 279-2500 • (847) 279-2510 Fax

GRAND PIER CENTER L.L.C.
401 NORTH MICHIGAN AVENUE
CHICAGO, ILLINOIS 60611

TABLE OF CONTENTS

		Page No.
1.0	**Introduction**	1
2.0	**Proposed Development, Excavations, Schedule, Sequencing**	4
2.1	Strip Asphalt, Remove Subgrade	5
2.2	Remove Piers and Footings for Overhead Roadway	5
2.3	Test Pit Caisson Locations	5
2.4	Excavate Basement Area (Area B)	6
2.5	Drill and Install Caissons	6
2.6	Excavate for Grade Beams and Caisson Caps	6
2.7	Construction and Backfilling	7
2.8	Illinois Street Viaduct Caissons	7
3.0	**Proposed Contamination Screening**	9
3.1	Surface Grid Survey	9
3.2	Construction Excavation Screening	10
4.0	**Air Monitoring, Health and Safety**	14
4.1	Air Monitoring	14
4.2	Health and Safety	14
5.0	**Closure Documentation**	15
5.1	Verification Sampling	15
5.2	Closure Report	15
5.3	Material Disposal	16

FIGURES

Figure 1	Site Plan Area Designations
Figure 2A	Caisson Plan - Area B
Figure 2B	Caisson Plan - Area C
Figure 3	Grade Beam Plan
Figure 4	Illinois Street Viaduct Piers
Figure 5	Illinois Street Viaduct Caissons
Figure 6	Subsurface Utility Plan

ATTACHMENTS

Attachment 1	Health and Safety Plan
Attachment 2	Geotechnical Boring Logs
Attachment 3	Highway Authority Agreement

Property Owner: Grand Pier Center, LLC

Property Location: Parcel Bounded by Illinois (south), St. Clair Street (west), Columbus Drive (east), and Grand Avenue (north), excepting the northwest corner of this block.

Parcel ID Number: 17-10-212-019

WORK PLAN FOR SITE RADIATION SURVEY AND EXCAVATION SOIL MANAGEMENT GRAND PIER CENTER CHICAGO, ILLINOIS

1.0 INTRODUCTION

The subject property for this Work Plan is bounded by Illinois Street on the south, Columbus Drive on the east, Grand Avenue on the north, and St. Clair Street on the west, with the exception of the northwest corner of this block which is not included in the development (Figure 1). Note that the currently proposed development consists of the eastern approximately 428 feet of this parcel (Areas B and C). The southwest corner is proposed for future development (Area A).

Proposed development includes a slab-on-grade retail facility occupying the eastern part of Phase 1, (Area C) and other retail occupying the western part of Phase 1 which would include a basement (Area B). The high-rise tower proposed for the Phase II parcel (Area A) is proposed as slab-on-grade. All structures will be supported on a caisson foundation system. Grade beams will be incorporated in the foundations for the eastern slab-on-grade construction (Area C).

Development of the site began December 27, 1999 and was halted February 29, 2000. When construction activities start again, work hours will be from 7:00 a.m. to 7:00 p.m. It is proposed to work 6 days a week.

The site is owned by Grand Pier Center LLC, who are responsible for implementing this Work Plan. Grand Pier is contracting with Morse Diesel, Inc. as Construction Manager and STS Consultants, Ltd. (STS) as Environmental Consultant to complete a multi-use commercial development on this property.

The subject property has had a variety of land uses. Two underground storage tanks, apparently for heating oil, were removed from near the northeast corner of the site as construction began. Building foundations and floor slabs indicating the former presence of a basement at the east end of the site were encountered in geotechnical borings and caisson test pit exploration. The 1950 Sanborn Fire Insurance map shows a Chicago Police Traffic Division Headquarters at the southeast corner of the site. Other features evident on plans, historic aerial photos and fire insurance maps of the site include:

- A freight tunnel extending approximately 70 ft onto the site from the east, near the northeast corner, as shown on Figure 6.
- Noake, Wheeler, Clough Co. varnish factory at the east end of the site on 1906 Sanborn Fire Insurance maps.
- The Lake Shore Foundry on the south central portion of the site on 1891 Rascher Fire Insurance maps.
- A Commonwealth Edison substation near the northcentral part of the site on the 1950 Sanborn Fire Insurance maps.

The adjacent property to the east (Lindsay Light II site) was found in previous investigations to contain thorium-impacted soil. The property to the west (161 East Grand) was formerly occupied by the company involved in the manufacturing which used the thorium material. The USEPA requested permission to screen the subject site to see if there were any indicators of thorium contamination on the subject property. An initial screening on February 29, 2000 identified several areas which exhibited gamma radiation levels above background levels. Samples were obtained March 1, 2000 for gamma spec analysis to characterize the radioactive material.

This Work Plan describes the survey methods which are proposed for identifying the thorium impacted materials. Additionally, this Work Plan describes the survey methods proposed to monitor the excavation phases of the construction in order to identify and appropriately manage any thorium impacted soil encountered. Efforts to screen soils removed from the site to six disposal sites are also described herein.

Mr. Richard G. Berggreen, Principal Geologist with STS will be Project Coordinator . Mr. Dumas Guerrier, Senior Environmental Technician with STS, will be Field Team Leader. Stan A. Huber Consultants, Inc. will be the Health Physics Subcontractor. Radiation laboratory services will be provided through Radiation Safety Services, Inc.

Construction for this project began with the stripping of the asphalt parking lot. Several pier foundations for an overhead roadway were removed from the southwest corner of the site. Several caisson test pit probes have been excavated to investigate for obstructions. Excavation spoil soil piles are present on site as well as staged caisson casings. Construction activities were temporarily halted upon the discovery of the elevated radiation on February 29, 2000.

It is the intention of this Work Plan, upon approval by USEPA, to proceed with the site survey, identify and remove the thorium contaminated soil, resume the construction excavation operations and provide concurrent monitoring, with any additional contamination removed to clean limits when it is identified. Upon completion of all required excavation and removal of all identified thorium impacted soils above the proposed clean-up threshold of 7.1 pCi/g, the owner will request a closure document from USEPA representing the clean-up meets appropriate levels to be protective of public health and the environment.

Section 2.0 of this Work Plan describes the proposed development and excavation. The anticipated schedule and sequencing is also described.

Section 3.0 presents the proposed monitoring to be conducted. This monitoring includes the initial site survey and screening in the course of removal of identified contamination, and the monitoring to be conducted as construction excavation proceeds.

Section 4.0 summarizes the air monitoring, personnel monitoring, health and safety training, and required equipment screening before leaving the site.

Section 5.0 describes the closure documentation which will be prepared upon removal of all identified thorium impacted soil from the site.

2.0 PROPOSED DEVELOPMENT, EXCAVATIONS, SCHEDULE, SEQUENCING

The Grand Pier Center site consists of three areas which will have separate and distinct development and excavation activities. Area A, farthest west (Figure 1), will be developed as a high-rise in a future development phase. Area B, at the center of the site, will have a one-story deep basement, excavated 15 feet below street grade. Area C, at the east end of the site, is proposed to be slab-on-grade. Caissons will be drilled throughout the site (Figure 2). Area C will also have grade beams between caisson caps (Figure 3). Additionally, an upper level roadway supported on piers and caissons will be constructed over Illinois Street along the south side of a portion of the site (Figure 4, 5).

Site development is anticipated to proceed through the following tasks:

- Strip asphalt and sub-grade gravel (completed Areas B, C; pending Area A)
- Remove piers and footings for overhead roadway (begun)
- Test pit probe caisson locations for obstructions (begun)
- Excavate site in basement for caisson drilling (begun)
- Drill caissons
- Excavate for grade beams, caisson cap construction
- Construction of grade beams, caisson caps, basement walls and backfilling
- Installation of subgrade utility corridors
- Illinois Street viaduct caissons

As contamination is detected, either in the initial surface survey or in the course of monitoring the excavations, the areas will be designated with a magenta and yellow rope and stakes or fence posts. These areas will be designated exclusion zones, and will require appropriate personal protective equipment (PPE) and personal air monitoring to enter. All equipment and personnel which enter an exclusion zone will need to be frisked clean upon leaving the exclusion zone. Personnel entering exclusion zones must be 40-hour health and safety trained.

Restarting the construction activities at the site in coordination with the contamination removal efforts will involve close coordination so as to minimize interference and unnecessary delay. It is anticipated the activities will proceed as follows. Specific details on each activity are presented in Sections 2.1 through 2.8.

The first effort will be to clear all identified contamination locations in Areas B and C, based on the surface survey data. This removal effort will not include the locations currently obstructed by material and equipment, for example under the caisson casings at the southeast corner of the site. Those areas will be monitored and soil removed as equipment and material can be moved in the normal course of construction. Where contamination is identified but removal is delayed due to obstructions or sequencing of excavation activities, there is concern for equipment and personnel coming into contact with that soil and possibly spreading or increasing exposure potential. To minimize that potential, those areas which will not be isolated as exclusion zones and which may remain unexcavated for

some time will be marked by spray paint and covered with plywood so as to prevent contact with equipment and/or construction personnel. Those areas shall be excavated to clean limits as soon as practical.

After all identified contamination in Areas B and C has been removed, caissons will be installed in Area C, while test pits are excavated in Area B. Caissons will be installed in Area B as grade beams and caisson cap excavations are completed in Area C.

The basement excavation will be completed in Area B. Area A will be stripped of asphalt, the soil screened and any identified contamination removed, and caissons will be probed and drilled. Caisson cap excavations will be completed for Area A and along Illinois Street. Note that the Illinois Street viaduct caissons, in that they are off-site, may be installed concurrently with one or more of the on-site activities.

2.1 Strip Asphalt, Remove Subgrade

The site paving and subgrade have been removed. This facilitates surveying of the soil to more effectively identify elevated gamma radiation (Section 3.0 describes the proposed screening methods). This removal has already been completed on Areas B and C. Area A will not be stripped until Phase II is scheduled to begin construction.

2.2 Remove Piers and Footings for Overhead Roadway

The overhead roadway above Illinois Street at the southwest corner of the site extended into the airspace above the site. This roadway was supported on three piers on the site. The site airspace portion of the road has been removed and the piers taken down. The footings for the piers are in the process of being demolished in excavations on the order of 6 feet deep. Excavated soil and debris from those demolished footings remains adjacent to the excavations. The excavation, excavated soil, and debris will be scanned for contamination (Section 3.0).

2.3 Test Pit Caisson Locations

In order to locate and remove potential obstructions from caisson locations, each location will be explored by excavating a test pit to the natural soils. Any former structure or demolition debris obstruction will be removed and the location backfilled before the caisson is drilled. These test pits provide an opportunity to screen the fill soils for evidence of contamination (Section 3.0). Any contamination encountered will be removed to clean limits before backfilling.

Several locations have been excavated and remain as depressions on-site. Other locations remain to be excavated. Any that have been excavated and backfilled will be screened for potential contamination as the caissons are drilled.

2.4 Excavate Basement Area (Area B)

The area comprising the middle of the site, Area B, will be excavated for a one level basement. It is understood that the north wall will likely be sheeted to provide for complete excavation, while the remaining sides will be sloped soil. This area is to be partially excavated prior to installation of caissons in this area. This excavation will extend part way through the urban fill soils to a depth of approximately 5 feet, whereas the fill ranges from 7 to 9 feet deep below original site grade. That fill is underlain by fine to medium sand, with a trace of silt and gravel. Groundwater is typically 13 feet deep.

This excavation can be screened for contamination as it is extended (Section 3.0).

2.5 Drill and Install Caissons

Current site development plans show 117 caissons will be installed in development of Areas B and C. Each caisson location will have been screened for contamination as the obstruction test pit exploration was conducted, or if excavated and backfilled before screening began, those caissons will be surveyed by screening the cuttings as the upper portion of the caisson is drilled (Section 3.0). As a result, the caissons can be drilled without constraint, on the condition that the remediation of any contamination encountered in the test pits proceeded to clean limits. If contamination extends below the fill soil and sufficiently far into the natural sand soil so as to preclude removal before the caissons are installed, caissons at those locations will require screening of the cuttings through any soils continuing to exhibit contamination (Section 3.0). This limit of practical excavation prior to caisson installation is anticipated to be at the groundwater table, estimated at approximately 13 ft below grade.

2.6 Excavate for Grade Beams and Caisson Caps

In Area C, the foundation system includes a network of grade beams spanning between caisson caps (Figure 3). These grade beams are constructed in trenches excavated an estimated 5 to 7 feet deep. These trenches offer an opportunity to explore along those alignments for contaminated soil. Note that given the spacing of the grade beams and excavations for caisson caps, the majority of Area C will be excavated to 5 feet at a minimum and to 7 feet along the grade beam and caisson cap locations.

Excavations will also be required at the top of each caisson for construction of a cap. The location may have been previously screened in the course of test pit exploration and would therefore not require additional monitoring. Where test pits for obstructions were conducted before monitoring began and as a result screening at those locations was not previously conducted, the soil will be screened as the caisson cap excavation proceeds (Section 3.0).

2.7 Construction and Backfilling

After the grade beams and caisson caps are constructed, the lower level slab and street level floor slabs can be poured and basement walls constructed.

The excavations exterior to the basement walls will be backfilled. The excavated trenches in which the grade beams were constructed will be backfilled. Any subsurface corridors which will be excavated for underground utilities can be screened for potential contamination at this time, when the site is returned to a uniform grade. No further excavation or monitoring is anticipated to be necessary after this point in the construction schedule.

All backfill for this site must meet one of two criteria. If the backfill is "clean" fill from on-site, it must be below 7.1 pCi/g total radium. If the fill is from off-site, it must be 3.7 pCi/g or less total radium.

2.8 Illinois Street Viaduct Caissons

An upper level roadway will be constructed over a portion of Illinois Street (Figure 4). This roadway will be supported on piers whose foundations are caissons drilled and constructed through the sidewalk adjacent to the right-of-way of Illinois Street (Figure 5). A total of 13 caissons are proposed to be installed, 7 on the south side of Illinois Street and 6 on the north side.

This work will involve drilling a 36 inch diameter caisson. The caisson will be drilled to a depth of 80 feet, will penetrate the urban fill which underlies this area of Chicago to a depth of approximately 8 - 10 feet, the natural sand present to a depth of 20 to 28 feet, generally getting deeper to the east, and into the glacial hard pan clays which extend to bedrock at greater than 100 feet deep. A boring plan and boring logs for geotechnical borings in Illinois Street and adjacent Grand Pier Center are included as Attachment 2.

The caissons will be drilled directly from the street level. The sidewalk will be cut and removed at each caisson location. The soil beneath the sidewalk will be surveyed and any contaminated material removed to the limits of the removed sidewalk opening. Any remaining contamination not removed in the course of excavation and construction will be identified to USEPA for an ongoing record. No other excavation, other than removal of existing sidewalk and identified contamination, will precede drilling. Subsequent construction of the caisson cap will entail excavation of a temporary opening 8 feet square and approximately 5 feet below street grade. That work will also require monitoring, as described in Section 3.0.

Cuttings from the caisson drilling will be brought up on the caisson auger flights, screened for radiation while on the augers as specified in Section 3.0, and spun off for loading and transport Soil exhibiting evidence of contamination be spun off in a separate area from apparently clean material.

Upon completion of the drilling, the reinforcing steel will be placed in the drilled hole and concrete placed to complete the caisson. There will be no contact with soil except that which is brought up on the auger flights, until the area around each caisson top is excavated for construction of the caisson cap.

At that time an 8 foot square area will be saw cut around each caisson. Sidewalk, curb, gutter and street pavement will be removed and the soil screened for contamination. After removal of any contaminated soil, the remaining clean soil will be excavated to a depth of 4.5 to 5 feet deep, using a small hydraulic excavator and hand digging. Forms will be constructed for the caisson cap. Reinforcing steel will be placed and the concrete poured. The forms will be removed and granular material, CA-6 or equivalent, will be used to fill the excavation, and the area will be re-paved.

3.0 PROPOSED CONTAMINATION SCREENING

Contamination screening for thorium-impacted soil will occur in two stages. The current site grade will be surveyed for evidence of elevated gamma radiation. Certain materials present on the site will need to be relocated to allow surveying, for example, the caisson casing stored near the southeast corner of the site. Also, some of the soils stockpiled will need to be screened, as described in Section 3.1.

The second stage of screening will be done in the course of site excavations. These excavations are anticipated to include:

- Overhead street pier excavations
- Test pits for caisson obstructions
- Caisson drilling
- Basement excavation, Area B
- Grade beam trenches
- Utility corridors
- Illinois street viaduct caissons
- Off-site soil screening

The monitoring of these excavations is described in Section 3.2.

3.1 Surface Grid Survey

The currently exposed soil surface will be surveyed for elevated gamma readings. The survey will proceed to cover the exposed soil on survey lines spaced 5 meters. Gamma count values shall be taken at intervals spaced 5 meters (5 x 5 meter grid). The site grid will be marked by stakes and flagging at the edges of the property and by paint on the ground surface on the interior of the site. The areas between the grid points will be scanned following Lindsey Light II Scoping and Planning (S&P) Documents SOP 210-1 so as to cover the intra-grid areas.

The excavated soil which is present on-site in stockpiles will be screened for elevated radiation before it is removed from the site. Screening will be done by surveying the exterior of the pile and removing the soil in maximum 2 ft lifts. Efforts will be made to avoid mixing and homogenizing the soil as it is excavated. All soil exceeding the apparent 7.1 pCi/g clean-up threshold will be managed as thorium contaminated soil.

The surveys will be conducted using a 2 x 2 NaI gamma detector (Ludlum 2221 or the equivalent alarm feature Ludlum instrument). The detector will be unshielded to provide for broader area screening in assessing the surface survey. Values will be recorded in counts per minute (cpm). Screening records will include recording the instrument serial number, calibration date, operator, and site grid coordinates surveyed.

The maximum value will be recorded for each grid cell and all anomalously high areas (2 times background) will have the approximate limits designated on the survey data sheets.

Locations with elevated gamma counts will be marked and the vicinity surveyed at a 1 meter grid spacing to identify the limits of the elevated readings. Those areas will be designated as contaminated zones and soil removed. Verification sampling and analyses will be conducted as specified in this Work Order (Section 5.0).

3.2 Construction Excavation Screening

Soil screening in the course of construction is intended to identify contamination which may otherwise by masked by overlying soil, but would be exposed and transported off site in the course of construction excavation. As with the Surface Grid Survey, when survey results find evidence of thorium contamination, the area will be determined and the contaminated soils removed to the limits of the cleanup criteria of 7.1 pCi/g.

All verification of clean closure will be based on gamma spec analysis of samples run at an on-site laboratory. Analysis will be conducted using detectors and NUTRANL software capable of meeting the detection limits to support the 7.1 pCi/g clean-up determination. Replicate split samples will be run by USEPA as a confirmation. However, upon demonstration of the on-site laboratory capability, field screening results will be checked by analysis at the field laboratory as excavation proceeds, and the field laboratory results will be used to request closure from USEPA representatives.

A cross check series of 10 samples collected from the site will be split and analyzed at the on-site laboratory and through USEPA at Argonne National Laboratory. These samples will provide a comparison of results to allow the on-site laboratory to be used as the closure verification analysis.

The following provides a description of the screening conducted for each of the anticipated excavation types.

– *Overhead Street Pier Excavation*

These excavations already exist at the site. The excavations are approximately 12 x 12 feet in horizontal dimension and 7 feet deep. Minor additional excavation may be necessary to remove foundation remnants. However, these excavations are near their final size and can be screened. The walls and floor will be screened in accordance with Section 5 of this Work Plan and any materials exceeding the clean up criteria of 7.1 pCi/g will be removed. Removal will extend to clean limits or the property boundary and be subject to verification screening by the USEPA and confirmation samples to be laboratory analyzed. Excavated soil and debris will require screening prior to removal off site. Screening will require the excavated material which is present on-site be less than two feet thick to be covered by a walk-over survey. Piles greater than two feet will be excavated in lifts of a maximum of two feet and screened after each lift. Efforts will be made to minimize mixing and homogenization during excavation.

– *Test Pits for Caisson Obstructions*

Test pits to remove potential obstructions have been or will be excavated with hydraulic excavator at each caisson location. However, in Area B, if no obstructions are apparent, based on field observations and boring logs, test pits may be omitted. The test pits will extend through the fill soils and basement floors which may be present based on boring logs from Area C at this site. Depth to natural soils varies from 7 to 9 feet. Test pits will be monitored by screening the soils as they are excavated, and by screening the in-place soils in the walls and floor of the test pits. All soils exceeding clean up criteria will be removed from the site.

All of the caisson locations in Area C were previously excavated for obstructions. Approximately one quarter (17 of 65) of the locations in Area B have been test pitted. (See the following section and Figure 2A).Rather than re-excavating those locations, the caisson cuttings will be screened as the caisson is drilled.

When test pit monitoring identifies contamination which exceeds the cleanup threshold of 7.1 pCi/g, the contamination will be removed to clean limits before the test pit is backfilled and the caisson is drilled. The only exception would be if the contamination extended below the groundwater table or beyond the limits of the site.

– *Caisson Drilling*

At those locations where the test pits were excavated prior to initiation of screening (all caissons in Area C, and the following caissons in Area B: 6.5A through 14A, 6.5B through 8B, 12B, 6.5C, 7D, 11D and 12D, Figures 2A, 2B) the caisson drill cuttings will be screened. Screening will be conducted while the material remains on the auger. Material exhibiting readings 2 times background or higher will be spun off and surveyed on the ground. All material exceeding 7.1 pCi/g will be containerized and removed from the site.

Note that caissons at Column Station C-25 (Column No. 60) and Station C-22 (Column No. 57) have already been installed.

– *Basement Excavation - Area B*

The basement excavation in Area B has a design depth of 15 feet. Borings indicate fill extends to an estimated 7 to 9 feet below original site grade. This portion of the site will be monitored as the excavation proceeds, with excavation lifts limited to not more than 2 feet. Monitoring will continue to the base of the fill soils, or to a clean (less than 7.1 pCi/g) base, whichever is deeper. However, it is not proposed to extend the excavation below the design depth of the proposed basement excavation. This excavation limit is expected to be constrained by groundwater elevations at the site.

Should dewatering of the basement excavation in Area B be required, to either manage precipitation accumulation or groundwater infiltration, a permit will be obtained from the Metropolitan Water Reclamation District, and any required sampling and monitoring will be conducted and provided. Additionally, any permits required by the Chicago Sewer

Department will be obtained and any required sampling and monitoring will be conducted and provided.

– *Grade Beam Trenches*

In Area C of the site, which will be built slab-on-grade, the structure has a foundation consisting of caissons and a network of grade beams. These grade beams are constructed between caissons, in forms inside trenches excavated between the caissons. The trenches are approximately 5 to 7 feet below grade. This excavation will likely lower all of Area C to at least 5 feet deep.

As these trenches are excavated, the excavated soil will be screened and the walls and floor of the trench will be screened in lifts of not more than 2 feet between screening surveys. All soil which exceeds the clean-up criteria of 7.1 pCi/g will be removed from the site and clean closure documented in accordance with procedures in Section 5.0 of this Work Plan.

Area A will also be generally excavated to approximately 5 feet for construction of caisson caps. This will allow for screening and survey in maximum 2 feet lifts as this excavation proceeds.

– *Utility Trench Corridors*

Following the completion of the foundation elements, including the caissons, caisson caps and grade beams, it is anticipated that the basement walls will be formed and poured and the site will be backfilled around the grade beams and exterior to the basement walls. The final excavation before placing the floor slab at site grade will be excavating the underground utility corridors. Where those excavations pass through soil not previously screened clean, the excavation spoil and walls and floor of the trenches will be surveyed. Material exceeding the cleanup criteria will be removed to clean limits. Figure 6 identifies the utility tie-in locations proposed for the current development. Specifically, this figure shows where excavations at the margins of the site property will occur within the city right-of-way.

– *Illinois Street Viaduct*

All pavement removed, including sidewalk, curb and gutter, and street pavement will be screened for radiation in accordance with the methods proposed in the Highway Authority Agreement, to the same extent as if the Agreement applied to this location. (The Highway Authority agreement is provided on a separate document referenced herein.) Materials exhibiting readings indicative of levels exceeding 7.1 pCi/g will be handled as contaminated.

Soil will be screened on all augers returning cuttings from the urban fill and sand soils from the caissons. Material will be screened on the augers before it is spun off. If there are indications of elevated radiation, the material will be spun off onto an area underlain with plastic sheeting. The soil will be screened on the ground, and material exhibiting readings above the 7.1 pCi/g clean-up threshold will be loaded into Supersacks for disposal. All Supersacks will be either loaded directly into shipping containers or will be placed in a

secure location inside the locked perimeter fence of the Grand Pier site, pending off-site shipping.

Monitoring will be done with NaI detectors which have been calibrated to the 7.1 pCi/g standards at the Kerr-McGee West Chicago facility.

Documentation will include recording the apparent depth of any cuttings which exhibit anomalous results, that is greater than 2 times background. Records will also document the instrument and technician conducting the monitoring. Separate records will be made for each caisson boring.

– Off-Site Soil Screening

Initial construction activities resulted in asphalt, concrete and soil being removed from the site. That soil and material was not screened for potential contamination. In order to assess whether thorium contamination is present in that soil, the disposal sites were screened with a walkover survey.

Contact persons at the disposal sites (waste disposal landfills, asphalt recycling, concrete crushing facilities) were notified, requests made to identify where the material was placed, and an opportunity provided to conduct a walkover survey of the material. Representatives of USEPA and Health Physics contractors conducted the walkover. The surveys utilized calibrated gamma detection instruments. Samples for laboratory analysis were collected as necessary from areas exhibiting anomalous radioactivity. The results of those sample analyses will be provided to USEPA, and included in the final closure report.

4.0 AIR MONITORING, HEALTH AND SAFETY

4.1 Air Monitoring

Air monitoring will be conducted at two levels. Site monitoring will be conducted at the four sides of the site (north, south, east, and west). This air monitoring is for the purpose of documenting, and if detected, initiating measures to control off-site airborne contamination.

The procedures for site air monitoring are presented in attached SOP 212, Section 5.1.

Personnel air monitoring will be required for workers in an exclusion zone. Procedures for personnel air monitoring are presented in attached SOP 212, Section 5.2.

4.2 Health and Safety

The site survey and remediation oversight will be conducted in accordance with the attached Health and Safety Plan. This plan includes required training, personnel protection equipment, general work precautions, and medical monitoring among other issues. The Health and Safety Plan is included as Attachment 1.

All accidents or injury "near misses" will be communicated to USEPA representatives in a timely manner. Project safety briefings will be a regular part of project communication between the Field Team Leader and project contractors and subcontractors.

5.0 CLOSURE DOCUMENTATION

It is the objective of this Work Plan to provide for the removal of thorium contaminated soil from the Grand Pier Center site. Additionally, it is the objective to obtain from the USEPA agreement with the documentation that there is no evidence of residual contamination and that the site does not represent a risk to public health or the environment. It is the intention that this agreement be made with no deed restriction or constraint on future uses of the property.

5.1 Verification Sampling

Soil exhibiting contamination above the clean-up threshold of 7.1 pCi/g total Radium (Ra-226 + Ra-228) will be removed, placed on transport boxes as specified in the S & P documents, and shipped to a facility licensed to accept this waste. Initial field demonstration that the location has been excavated to clean limits will be made with a 2 x 2 NaI detector which has been calibrated against the calibration plates at the Kerr-McGee West Chicago facility. Samples will then be collected and analyzed at an on-site laboratory using NUTRANL software and gamma spec analyses.

Upon documenting clean closure, the USEPA representatives will be notified and provided results of the laboratory analysis. Release of remediated areas will require signed documentation by USEPA of their review and concurrence of the laboratory results for that area. It is understood that USEPA will obtain a sample for analysis at their contract laboratory. However, closure will not be required to wait for USEPA laboratory results, but will be based on the field laboratory results. It is noted that the use of the field laboratory for closure verification will be contingent on demonstrating agreement between the field laboratory results and results from USEPA's contract laboratory at Argonne National Laboratory.

Upon receipt of laboratory results documenting the verification soil samples are below the 7.1 pCi/g total Radium threshold, the location will be cleared for backfilling or continued construction activities as may be necessary.

5.2 Closure Report

The closure documentation report will provide a summary of the locations remediated, the volumes of all materials removed and their disposal locations, resources allocated and costs for the removal, analytical results, field data documenting the clean closure, and an affidavit in accordance with the requirements of the UAO for the adjacent Lindsay Light II site, Section 24, Termination and Satisfaction. This closure documentation report will be provided within 60 days of the completion of the removal of all identified thorium impacted soil.

5.3 Material Disposal

Material which exceeds the clean-up criteria of 7.1 pCi/g will be managed for off-site disposal. Material including soil, asphalt, concrete, and urban debris fill which exceeds the clean-up criteria will either be loaded into Supersacks, if a sufficiently small volume is encountered at any particular location, or will be loaded directly into the shipping containers. Supersacks will be loaded into shipping containers before removal from the site.

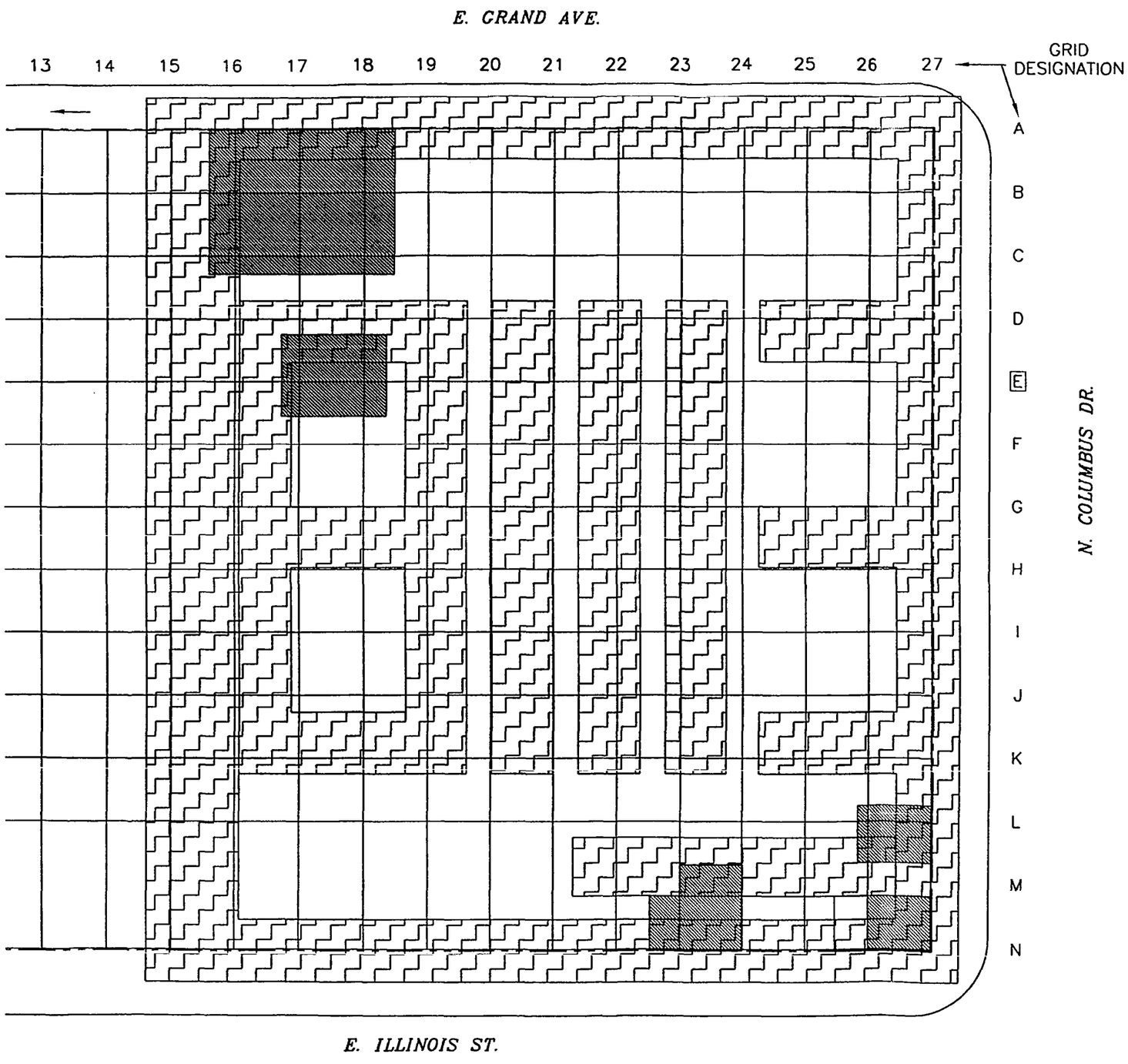
The exterior of all containers will be surveyed clean before they leave the site.

Material will be disposed of at Envirocare in Clive, Utah. Kerr-McGee, LLC is responsible for arranging transportation and disposal. Shipping and placarding will be in accordance with all Department of Transportation regulations for shipping contaminated material.

STS CONSULTANTS, LTD.

FIGURES

FIGURES



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LEGEND

EXCAVATION FOR GRADE BEAM

ESCALATOR/ELEVATOR PIT EXCAVATIONS

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CHECKED BY RGB	DATE 8/15/00	
APPROVED BY RGB	DATE 8/15/00	
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GRADE BEAM EXCAVATIONS
ELEVATOR AND ESCALATOR PITS
GRAND PIER CENTER
CHICAGO, ILLINOIS

STS Consultants Ltd.
Consulting Engineers

STS PROJECT NO.
24418-XK

STS PROJECT FILE
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SCALE
1"=30'

FIGURE NO.
2.3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

In the Matter of:	)	
	)	
	)	**CERCLA 106(b) Petition No. 04-01**
Grand Pier Center, LLC	)	
	)	

DECLARATION OF REGINALD ARKELL

State of Illinois
County of Cook

I, Reginald Arkell, declare and state as follows:

1. The statements made in this declaration are based on my personal knowledge.

2. Since January 1995, I have been employed as a Civil Investigator for the United States Environmental Protection Agency in Chicago, Illinois.

3. As a Civil Investigator, my duties include various investigatory and enforcement activities concerning gathering information pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9604(e).

4. From about April 1995 until at least November 1997, I was involved in investigative activities relating to the Rare Earths Facility (REF) in West Chicago, Illinois, which was operated by the Kerr-McGee Chemical Corporation and predecessor companies including the Lindsay Light Company beginning in about 1932. I conducted interviews or initiated contact with more than 200 potential witnesses concerning the movement of radioactive thorium mill tailings from the REF to locations outside of the plant site. Many of these witnesses recalled that various materials, including radioactive thorium mill tailings, were available to the public from

the REF for use as fill. Further, many of these individuals provided eyewitness accounts of dump trucks transporting debris from the REF through the City of West Chicago to residential properties and other locations.

4. The assertions I make in this declaration are truthful, and, if called to testify as a witness, I am prepared to testify under oath to the accuracy of the observations and statements contained in this declaration, based on my personal knowledge.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: February 14, 2005

By: Reginald Arkell
Civil Investigator
U.S. EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

In the Matter of:	)	
	)	
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Executed on: February 14, 2005

By: Reginald Arkell
Civil Investigator
U.S. EPA

NUREG/CR-0413

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NUREG/CR-0413

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THORIUM RESIDUALS IN WEST CHICAGO, ILLINOIS

by

N. A. Figueroa, T. J. La[illegible]

ARGONNE NATIONAL LABORATORY, ARGONNE, IL[illegible]

Prepared for the U.S. NUCLEAR REGULATORY COMMISSION
under Interagency Agreement DOE 40-550-75

ATTACHMENT 13

The facilities of Argonne National Laboratory are owned by the United States Government. Under the terms of a contract (W-31-109-Eng-38) between the U. S. Department of Energy, Argonne Universities Association and The University of Chicago, the University employs the staff and operates the Laboratory in accordance with policies and programs formulated, approved and reviewed by the Association.

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THORIUM RESIDUALS IN WEST CHICAGO, ILLINOIS

by

N. A. Frigerio, T. J. Larson, and R. S. Stowe

Division of Environmental Impact Studies

September 1978

Prepared for the Office of Inspection and Enforcement
Region III
U. S. Nuclear Regulatory Commission
Glen Ellyn, Illinois 60137
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CONTENTS

	Page
ABSTRACT	1
INTRODUCTION	1
General	1
The External Natural-Radiation Background in the West Chicago Area	2
Natural Radioactivity in the West Chicago Area	2
The Factory and Waste Area	3
Reed-Keppler Park and the West Chicago Sanitary Treatment Plant	3
West Chicago and Environs	4
METHODS AND OBSERVATIONS	4
Study Area	4
The ARMS Flyover	6
Survey Methods	8
Observations	8
RESULTS	9
Kress Creek and the DuPage River	16
Reed-Keppler Park	18
Sanitary Treatment Plant	22
Skyshine and Population Dose	24
CONCLUSIONS	25
REFERENCES	27
APPENDIX	28

FIGURES

No.		Page
1	The Study Area	5
2	Thorium-Residual Area Map	11
3	Thorium-Residual Area Map	12
4	Thorium-Residual Area Map	13
5	Thorium-Residual Area Map	14
6	Thorium-Residual Area Map	15
7	Dose Rates Along the Banks of Kress Creek and the DuPage River	17
8	Land-Surveyor's Grid and Plot Plan of Reed-Keppler Park	19
9	Topography of Reed-Keppler Park	20
10	Reed-Keppler Park Topography and Surveyor's Grid	21
11	Isopleths of Relative Radioactivity in Reed-Keppler Park	22
12	Isopleths of Relative Radioactivity and Surveyor's Grid in Reed-Keppler Park	23
13	Dose-Rate Contour Around the Factory Site and Waste Area	26

TABLES

1	Thorium-Residual Areas in West Chicago, and Characteristics	10
2	Volume of Radioactive Material for Consideration in Reed-Keppler Park	24

THORIUM RESIDUALS IN WEST CHICAGO, ILLINOIS

by

N. A. Frigerio, T. J. Larson, and R. S. Stowe

Abstract

Lindsay and Company began operation of its West Chicago, Illinois, plant in 1931, processing thorium ores for thorium and rare earths. From that time until normal operations ceased in 1973, thorium residuals from the operation found their way offsite to Reed-Keppler City Park, the West Chicago Sewage Treatment Plant, and numerous other locations about the city and its environs. The present study located and identified such thorium residuals in the West Chicago area, a total of 75 epicenters having been found in addition to deposits at Reed-Keppler Park, the sewage-treatment plant, and down Kress Creek and the DuPage River. Deposits proved to be almost exclusively the dense, gray, insoluble particles of thorium-ore tailings from the process, which have been historically stored in two large piles in the site waste area. Epicenter locations and associated radiological parameters are given for the 75 locations, along with quantitative descriptions of the larger collections of material at the park, at the sewage-treatment plant, and on the banks of Kress Creek and the DuPage River. Not one of the areas of thorium residuals located outside security fences was found to violate the requirements of 10 CFR 20.

INTRODUCTION

GENERAL

In 1931 Lindsay and Company (which became Lindsay Light and Chemical Company in 1935) commenced operation of its West Chicago, Illinois, plant. This plant processed thorium ores, chiefly monazite, originally to extract thorium for gas mantles. In later years the rare-earth elements contained became of more value, and operation shifted so that the thorium component of the ore became more of a waste and less of a product. In the 1930s and 1940s some of these waste tailings were used in a landfill operation in an unimproved area of what is now Reed-Keppler Park, a public park in northern West Chicago. During that time waste material found its way out of the factory site and into various public and private areas around West Chicago. These included the watershed down Kress Creek into the DuPage River, the present West Chicago

Sewage Treatment Plant, and numerous other places about the city. The waste material so transported was almost exclusively thorium-ore residue from the chemical-extraction processes, a very dense, usually gray to white material, containing about 2%-6% thorium, along with its radioactive-decay products, but only relatively small amounts of uranium and associated uranium daughters. In 1973 all normal operations at the site had ceased, and the current owner, Kerr-McGee Corporation, applied to delicense and decommission the factory and its waste site. This activity began in 1974. The overwhelming bulk of radioactive material was contained in two large open piles in the waste area to the south of the factory, and it became a matter of concern to locate thorium residuals offsite, to control them as needed, and to plan for their eventual removal. The first phase was to secure the relatively large amount of material present in the unimproved area of the park (the "spoil area") and the much smaller amount on the east side of the tennis courts nearby. The latter was exhumed to the spoil area in July 1976, and the entire area was enclosed with a security fence in the spring of 1977. Once that was done, it became our task to locate and quantify the remaining thorium residuals in the West Chicago area.

THE EXTERNAL NATURAL-RADIATION BACKGROUND IN THE WEST CHICAGO AREA

The external natural-radiation background in this area varies from 12 to 36 μR/hr, with about 95% of the values ranging between 14 and 25 μR/hr. This includes both cosmic and terrestrial components. The lower values are generally found over roadways, where shielding is effected by the roadbed. The higher values are generally found over open grassy fields, especially if they have been fertilized with phosphate fertilizers, as is often the case in this area. The highest values are obtained over these same fields in the early morning, whenever meteorological inversion occurs in such a way as to trap natural-soil radon close to the earth surface. The distribution of values was such that values in excess of 20 μR/hr near roadways, or in excess of 25 μR/hr on open fields, were taken as presumptive evidence of the presence of thorium residuals. Such areas were further investigated by spectrometry to determine the presence of excess thorium, if any.

NATURAL RADIOACTIVITY IN THE WEST CHICAGO AREA

These values are relatively high for Illinois as a consequence of several factors. The soil in the West Chicago area is considerably higher in uranium, thorium, and their daughters than many other soils in Illinois. Phosphate fertilization has been common in the past and both the originally fertilized fields, and adjacent fields subject to runoff, have had their uranium-daughter content increased as a consequence. In addition, the city wells of West Chicago, and a number of other wells in the area, tap water from deep sandstone aquifers notable for their high natural radioactivity. As these waters were brought to the surface over the years, and evaporated, they left behind them a notable residue of radioactivity.

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THE FACTORY AND WASTE AREA

The primary source of excess thorium is the pair of large tailings piles in the waste area to the south of the factory. This material is so dense, and so thoroughly concreted by weathering, that we were unable to find any evidence of it having been transported offsite by atmospheric dispersion. However, a good deal of the material in waste pond No. 1 had been of a much more easily airborne nature, and some of this was detected in areas immediately adjacent to the site. In the process of transporting material about the city, between the factory and the waste area, and to such sites as Reed-Keppler Park, other thorium-bearing material found its way from the site into various parts of the city. In such cases the transport was purely mechanical. Additionally, the open nature of the piles of thorium-bearing waste made them particularly subject to runoff, especially during heavy rains. Such material, along with factory waste, found its way into the storm sewer along one edge of the property, across the fields, and down into the Kress Creek watershed. The material is so dense, and so insoluble, that it was transported purely as grains of sand-like material, and these grains were found and identified down along the watershed. These grains move by placer action, and their deposition is characteristic of placer movement, as has been noted in similar situations.[1] We were able to map material transported in this way all down the creek, and then, sparingly, along the DuPage River as far south as Warrenville. However, movement by this method is very slow, and in the 47 years since the beginning of plant operation the overwhelming bulk of material carried by this process had moved only about a third of the way down the creek to the river. A foot-by-foot survey was made of both banks of the creek from above the storm-sewer entrance to the junction with the DuPage River. Below that point, material was so sparsely deposited that only a general survey was made, and only outstanding deposits were identified and confirmed.

REED-KEPPLER PARK AND THE WEST CHICAGO SANITARY TREATMENT PLANT

During the first two decades of plant operation the excellent mechanical properties of the thorium-bearing residue commended its use as landfill in the area. There was no recognition of any potential hazard associated with it, and it was used as landfill at the edge of what was to become Reed-Keppler Park and, to a lesser extent, at the present waste-treatment plant. A minor deposit at the park, east of and adjacent to the present tennis courts, was exhumed in July 1976 and consolidated with the larger amount in the spoil area, next to which a sanitary landfill is in operation. In early 1977 a security fence was installed around the spoil area. The fence was placed at the 0.2-mrad/hr isodose line.

Because of uncertainty as to just what parts of the park had been filled, and at what time, we performed a foot-by-foot survey of the entire park. To date no thorium residuals have been found outside of what little remains below the present tennis courts, the spoil area behind the fence, and some minor areas in the sanitary landfill.

At the waste-treatment plant the bulk of the material is contained in two relatively circumscribed regions. The possibility existed that thorium residuals had found their way into the sewage system by way of the combined sewer

system of West Chicago. However, to date we have been unable to identify any thorium exiting from the treatment plant, either in its effluent or in its sludge. A report that its sludge was contaminated by thorium from the site proved to be untrue. The sludge was, in fact, somewhat abnormally radioactive. However, quantitative spectrometry showed that this was simply the result of concentration of the naturally quite radioactive West Chicago well water in the sludge-drying ponds.

WEST CHICAGO AND ENVIRONS

Partly through the normal traffic associated with plant operations, but more notably through the traffic associated with use of thorium residue as landfill, small deposits can be found in many parts of the city and its environs. Overwhelmingly, these lie in an area connecting the factory and waste area on the south with Reed-Keppler Park on the north. In order to identify and quantify these, we performed a street-by-street survey with instrumented vehicles and, where appropriate, on foot. In addition, clues were obtained by extensive conversations with residents, with employees of the City of West Chicago and of the Lindsay Chemical Company, and with contractors and landfill operators in the area. Some residual deposits were also discovered by deduction, e.g. if small spills seemed to constitute a probable truck route, it could be deduced that a final deposit could probably be found at the end of the route so defined.

This process was also greatly aided by an Aerial Radiological Monitoring Survey (ARMS) flyover that was completed in September 1977. Although the flyover could not identify with certainty small local deposits of thorium residuals, it clearly outlined areas of suspicion, and aided greatly in reducing the area requiring intensive scanning by vehicle or on foot. It also provided an excellent basis for determining the contours and levels of X and gamma radiation emanating from the three major sources: the factory and waste site, Reed-Keppler Park, and the sanitary treatment plant. This radiation is referred to as "skyshine" because it contains both direct and scattered components.

METHODS AND OBSERVATIONS

STUDY AREA

The study area chosen was defined on the DuPage County grid system. It extended from 4S000 on the south to 4N000 on the north, a distance of eight miles, and from 28W000 on the east to 32W000 on the west, a distance of four miles, for a total area of 32 mi^2. The study period began in March 1976 and extended through May 1978. Places are identified by street name and address, using the West Chicago numbering system within the city limits and the county numbering system outside. Addresses do not necessarily correspond to a residence, because in many cases locations were in unused fields, alleys, and the like. But they do represent an absolute location on either the West Chicago or county grid system. The study area, and its numbering, is shown in Figure 1. Because they are subjects of a separate action, the factory, the

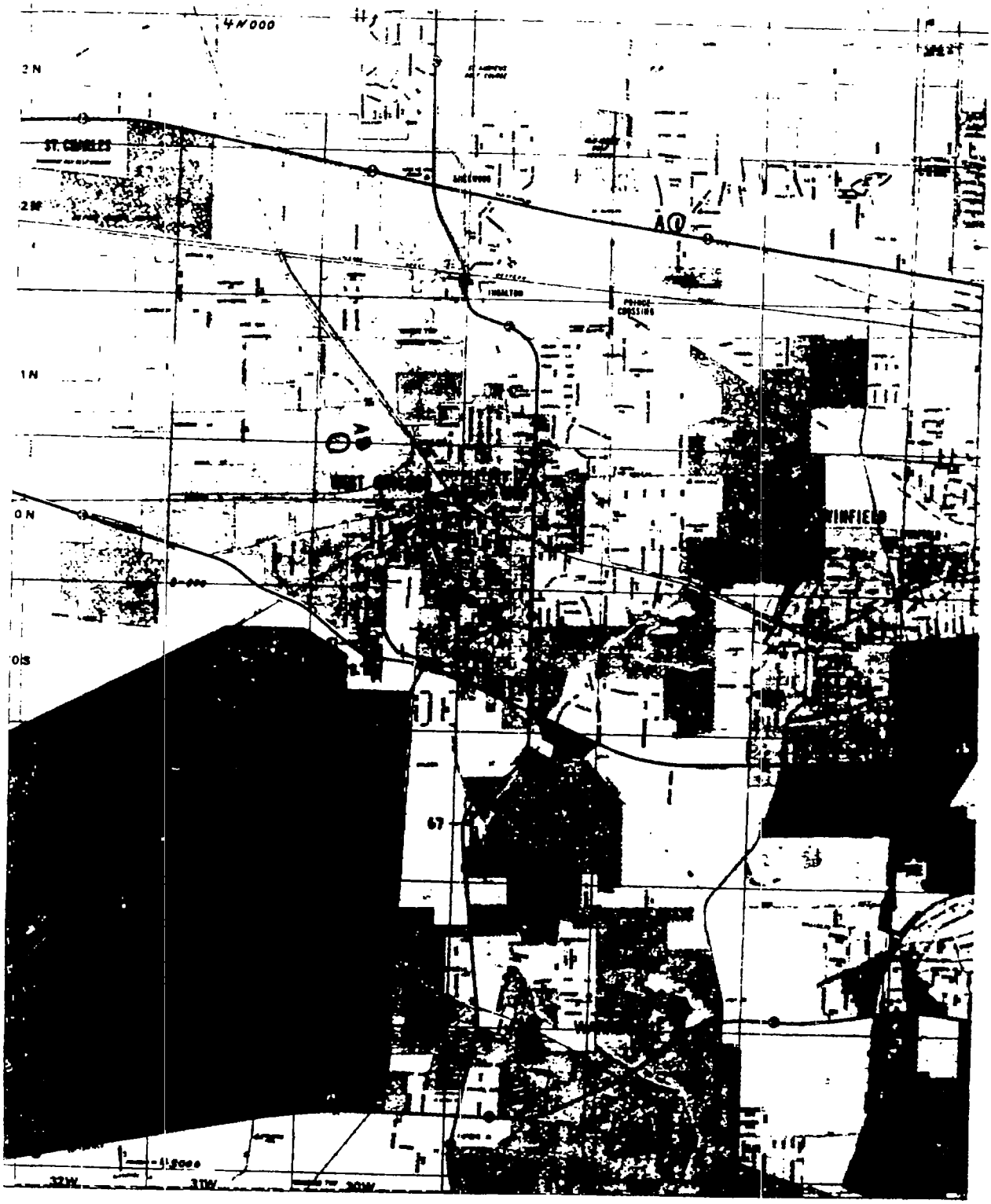


Fig. 1. The Study Area.

waste area, and the right-of-way connecting them have been excluded from this study.

THE ARMS FLYOVER

This survey was completed by October 1977, and the results are being issued as a separate report.[2] Thus, only salient features are covered here. Two radiation-field maps were produced. The first was a map of the total terrestrial fields in the area. This showed that the natural background in this area contributed by the terrestrial component varied by a factor of about six, i.e. about 2-13 μR/hr. The second was a map intended to delineate areas of excess thorium. This was produced by extracting the ratio of counts observed from the thorium daughter ^{208}Tl at 2614 keV to those from natural-soil ^{40}K at 1462 keV. Areas with ratios higher than those found in areas known to be free of excess thorium were presented in the form of excess-exposure-rate contours.

On the latter map the factory and waste areas, the fenced area at Reed-Keppler Park, and the sewage-treatment plant were clearly delineated. Their epicenters were clearly and accurately located, and successive exposure contours were clearly evident out to the point where exposure contours matched those of the surrounding natural terrestrial background. But, in addition, some 17 additional areas were noted that were otherwise not detectable, or at least not clearly so, on the general-exposure presentation. Also in evidence was a collection of fields associated with deposits along Kress Creek and into the DuPage River. The detached areas did not necessarily represent thorium residuals from the plant site, because they were simply areas where the ratio was higher than statistical expectation. However, they certainly represented areas of suspicion, and each of these was investigated further on the ground. In addition to these separated and delineated areas, an additional group of areas was identified from distortions in the contours associated with Kress Creek, the plant site, and Reed-Keppler Park. Thus, if there had been no thorium-bearing areas beyond a single epicenter in each of these areas, the surrounding field-gradient contours would have been perfectly symmetrical. This was the case around the sewage-treatment plant, for example. On the other hand, at Reed-Keppler Park a distortion was observed in the outermost contour, and this later proved to be due to thorium-residual area No. 49. Similar distorted contours along Kress Creek were identified with thorium-residual area Nos. 15 through 22 in the Joy Street subdivision, through which Kress Creek flows. These detached contours, and contour distortions, served to focus the efforts of the ground survey, and at least one thorium-residual epicenter was located to correspond to each of these flyover field indications with the exception of three. These three are indicated as A1, A8, and A12 on Figure 1. In spite of repeated, and intensive, ground surveys these three areas have failed to indicate any evidence of thorium residual.

In spite of its extraordinary utility, the aerial survey proved to have several limitations for this study. For example, the airborne instruments are at an altitude of 500 feet. Thus, the softer X-ray and gamma-ray components are filtered out by the air intervening between the ground and the instruments This shielding is equivalent to about 18 cm of water and, although corrections

can be made, the corrections themselves depend on a knowledge of the spectrum at the surface. As a consequence we have found that the total exposure rate determined by flyover is generally less than that determined for the same point on the ground. At the same time, a relatively small source on the ground creates a three-dimensional dose contour that produces the effect of viewing an inverted cone. In consequence, exposure-rate contours determined from the air are noticeably broader than the same contours observed on the ground. This results from essentially a cylindrical projection, from 500 feet, of exposure contours that have a more conical relationship. In addition, exposure contours determined on the ground include side-scatter from buildings, trees, and the like, whereas the sources themselves are shielded from direct aerial observation by these very same obstructions.

The wide field of view from the air, although permitting the extraordinary utility inherent in this method, also occasions some further limitations. The exposure rate determined by aerial survey is generally based on the source size being of the order of a thousand feet in diameter or more. To the extent that the source is smaller than that, the exposure rate will be higher. For this particular study, aerial-survey exposure rates were calculated for various hypothetical diameters down to 200 feet.[2] Although this was of some help in reconciling ground and air results, the fact was that many of the sources were very much smaller than 200 feet in diameter, and some of the most notable epicenters were only of the order of a few inches on a side. As a consequence the exposure rate measured on the ground was very much higher than what might have been deduced from the aerial results. Also, the aerial detectors report a kind of vector summation of photons arriving from various directions. In the case of relatively uniform fields, or of very intense single-point sources, this does not effect the reported location of the field or source. This was notably the case for the large natural-background fields delineated on the total-exposure-rate map, and for the relatively intense point sources represented by the sewage-treatment plant, the pile at Reed-Keppler Park, and the two piles in the factory waste area. However, between this vectorial effect and the side shielding provided by local ground contour and buildings, the location of multiple point sources was almost necessarily subject to considerable distortion. The peculiar mixture of small thorium-residual sources in all sorts of locations, and grouped in what must be called bizarre patterns at best, produced considerable displacement between the finally determined location of the epicenter on the ground and the apparent location as shown on the excess-thorium map. This displacement was often of the order of several hundred feet, and in at least one case three separate point sources on the ground gave rise to a single detached contour about midway between them. Finally, the use of ^{40}K as a reference for the determination of excess thorium meant that this method was necessarily subject to local soil-potassium content. The three detached contours for which we were unable to find corresponding thorium epicenters were all located in the center of broad fields whose potassium content, on spectrometric examination, proved to be relatively low. Thus it is quite possible that these three areas actually represent areas of potassium depletion rather than of excess thorium.

SURVEY METHODS

A battery of sodium-iodide crystals made up the primary instrumentation for detection of thorium-residual areas. Two-by-two-, three-by-three-, and four-by-four-inch high-resolution crystals were used in conjunction with a portable six-channel analyzer for onfoot surveys. A large eight-by-eight scintillator and a pair of high-resolution four-by-four scintillators, arranged in coincidence, tandem, or anticoincidence, were employed with multichannel analyzers for vehicular surveys. For the majority of vehicular surveys a large van was used that permitted the location of these scintillators at heights of 0.5, 1.0, and 3.0 m above the ground. For many off-the-road areas where it was difficult or impossible to manage this larger vehicle, especially in mud or snow, a small personal automobile was utilized instead. These scintillators served both to detect thorium-residual areas at a distance and to determine their spectrum once found. In addition, samples were taken with coring instruments and returned to Argonne National Laboratory for quantitative spectrometry using high-resolution GeLi detectors. Exposure rates and dose rates were both determined with ion chambers calibrated against NBS and New Brunswick Laboratory (NBL) standards. Exposure rates were taken in free air, whereas dose rates were taken at the standard one-meter gonadal position in a human phantom carried along in the van for that purpose. All instruments were periodically calibrated against NBS or NBL standards.

OBSERVATIONS

Thorium-residual areas proved to be of several types. In all cases but one, however, the material bearing the thorium proved to be the dense, granular material characteristic of the tailings piles in the factory waste area. Although this was by no means always evident on gross examination, it always proved to be the case on subsequent microscopic and radioautographic examination of samples. The sole exception was the material at the rear of 189 Washington Street, a one-time thorium laboratory. Much of this material appeared to be attached firmly to grains of the local soil, and probably represented material that had once been soluble, but had been precipitated by soil action.

The material along Kress Creek and the DuPage River was almost a classic example of placer deposition. No excess soluble thorium was ever detected in the waters of either the creek or the river. But thorium deposits were found on the bottom and along the banks in what appeared, at first, to be a most erratic manner. In fact, the heavier deposits proved to be associated with rapid changes of stream velocity or direction, in the manner characteristic of placer deposition. Considering the high density and extremely insoluble nature of the material, this was precisely what might have been expected.

The most common areas found on land were very clearly the result of material bouncing or jiggling from trucks in the process of transport. There would be a small intense epicenter, almost invariably at the side of a road, and quite commonly at a corner. Surrounding this would be a larger area of much-reduced activity which was clearly the result of weathering and of disturbance of the original epicenter by subsequent traffic. This was, by all odds, the most common type of area found on land.

Another fairly common type of area was characterized by a relatively uniform distribution of thorium in fertile black soil, generally forming part of a lawn or garden, and quite sharply delineated. In this case there might be one or several epicenters, but the difference in activity between epicenter and surrounding soil was only of the order of a factor of three or four. Our best guess for this type of area was that it was formed when soil was delivered by a truck that had previously been used to carry thorium-bearing material. Trucks are seldom scrubbed out between loads of fill, and the residuum from one load would tend to mix into the next one. This was consistent with the fact that the material found in these locations contained the invariant thorium-waste particles, but at an overall concentration of the order of 1%. Thus, this relatively constant dilution by a factor of the order of 100 suggested some such mechanism as that described above.

A few areas were found in which thorium waste had obviously been used as fill. These were generally beneath driveways, sidewalks, and garage foundations or floors. Although epicenters existed, probably as a result of the way in which the fill had been loaded, the distribution of material was relatively uniform and relatively sharply demarcated. However, these very same areas were often accompanied by truck-spill areas of the sort described above. In fact, we came to associate truck-spill areas along roadways with a path of delivery, and continued to search that path until we almost invariably found the fill area at its terminus. Some other types of areas were also noted, but these will be discussed below along with the special considerations that they raised.

RESULTS

To date, 75 thorium-residual areas have been identified and quantified, and these are described in Table 1. The table gives the area by number, the map figure on which it may be located, its address locator, and a short description of its type and setting (see Figs. 2 through 6). Also given is the maximum exposure rate determined on the surface at the epicenter. This is given for reasons of convenience in later relocating the epicenter, and bears only an indirect relationship to the dose rate. The dose rate at one meter above the epicenter is given in the next column. The total surface area covered by detectable residual is given in the following column. In general this is much larger than the area of the epicenter itself; the majority of epicenters were typically of the order of 1-2 ft^2.

Occupancy factors were determined by observation of these areas over a period of two years and by conversations with local residents, officials, and police. Without exception, epicenters were outdoors, so that prolonged occupancy was inhibited simply by the relatively high fraction of inclement weather in this area. In addition, epicenters where maximum dose rate occurred were generally quite small, of the order of one or two feet square. Thus, in order to remain within that field it would be necessary to remain fixed, and that required a situation where sitting was possible. For most of these epicenters not only was sitting impossible, but essentially standing as well. Many of them were at the edge or near the center of active roadways, and represented quite hazardous locations from the standpoint of traffic. Many others were clearly inhospitable, and anyone attempting to stand there any

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

REPLY TO THE ATTENTION OF:

HSE-5J

JUN 21 1993

Mr. Ron Steele
Building Manager
205 East Grand Avenue
Chicago, Illinois 60611

Dear Mr. Steele:

On June 2, 1993, USEPA and the Illinois Department of Nuclear Safety verified the presence of radioactivity at levels clearly above natural background at 161 East Grand, Chicago. The results are still being evaluated. We would like to collect additional data on dose levels in work spaces before making a determination about this building. We propose placing for one month, twenty-four radiation dosimeters called thermoluminescent dosimeter (TLD) badges in various rooms in your building. These dosimeters will be placed by USEPA staff at no cost to you. By the month's end, we should also have the results of the wipe samples collected on June 2, 1993. Tentatively, we plan to contact you sometime during the week of June 21, 1993, to arrange a mutually convenient time to place the TLD badges.

We also would like to remind you to move the janitor's supplies in the basement away from the chimney. If you need additional information or want to discuss this matter further, please contact me at (312) 886-3601.

Sincerely,

Verneta Simon

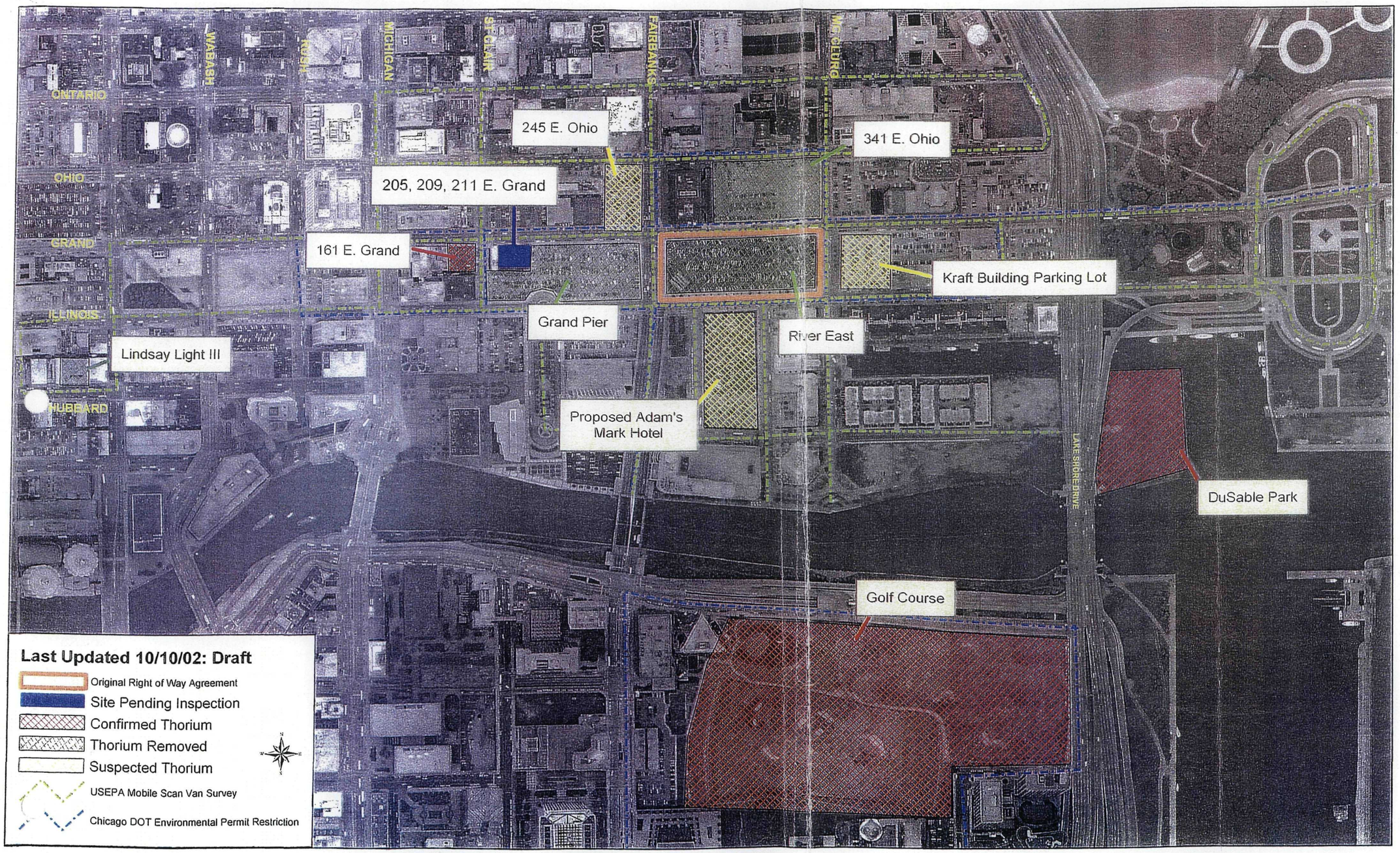
Verneta Simon
On-Scene Coordinator

cc: Tim Runyon, Illinois Department of Nuclear Safety

ATTACHMENT 14

Printed on Recycled Paper

Streeterville Thorium Investigation



City of Chicago
Richard M. Daley
Mayor

Department of
Environment
N. Marcia Jiménez
Commissioner

f:/solid_waste/projects/streeterville.mxd

Area Boundaries are approximate

ATTACHMENT 15

ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

August 18, 1993

Ms. Jan Pfundheller
Emergency Response Section (HSE-5J)
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, Illinois 60604

Re: Lindsay Light II
TDD # T05-9306-003
PAN # EIL0797SAA

Dear Ms. Pfundheller

The Ecology and Environment, Inc. (E & E) Technical Assistance Team (TAT) was tasked by the United States Environmental Protection Agency (U.S. EPA) under TDD # T05-9306-003 to assist the On-Scene Coordinator (OSC), Verneta Simon, along with Betsy Karr of the U.S. EPA Air and Radiation Division (ARD), and Vince Muzzalupo of the Illinois Department of Nuclear Safety (IDNS) in performing a site survey of a parking lot owned by Chicago Dock and Canal Trust (CDCT) in Downtown Chicago, Cook County, Illinois on June 3, 1993.

The property was once occupied by Lindsay Light Company. The building at 316 East Illinois, which was demolished in 1934, was leased by Lindsay Light Company from 1915 to 1933 from CDCT. Presently, the 3-acre site is bounded by Grand Avenue, Illinois Street, McClurg Court, and Columbus Drive (See Figure 1).

Due to the ludlum 19 crystal over response to thorium, the levels were compensated by dividing the readings by a factor of 2. The correction factor was determined by comparing the results to other comparable instruments. All readings are gross exposure, no background subtraction, and are measured at contact.

On June 3, 1993 the survey group along with Jim Stoller, a representative from DCCT, began to survey the site with a radiation survey meter using a sodium iodide probe and two micro-R meters. The survey meter read in count per minute (cpm) and the micro-R meter read in micro-R per hour (uR/hr). The survey meter indicated the approximate location of radioactive material and the micro-R meter indicated the levels of radiation at that location. The micro-R meter readings ranged from background to as high as 190 uR/hr (See Figure 2 for results).

recycled paper

Further investigation of the site concerning the potential risk to human health was performed by using two thermoluminescent dosimeter (TLD) badges. On June 30, 1993, the TLD badges were placed near and inside the parking attendants building so a dose assessment could be conducted on the employees working in that area. The badges will be left on site for approximately one month and then sent to TMA Eberline for analysis.

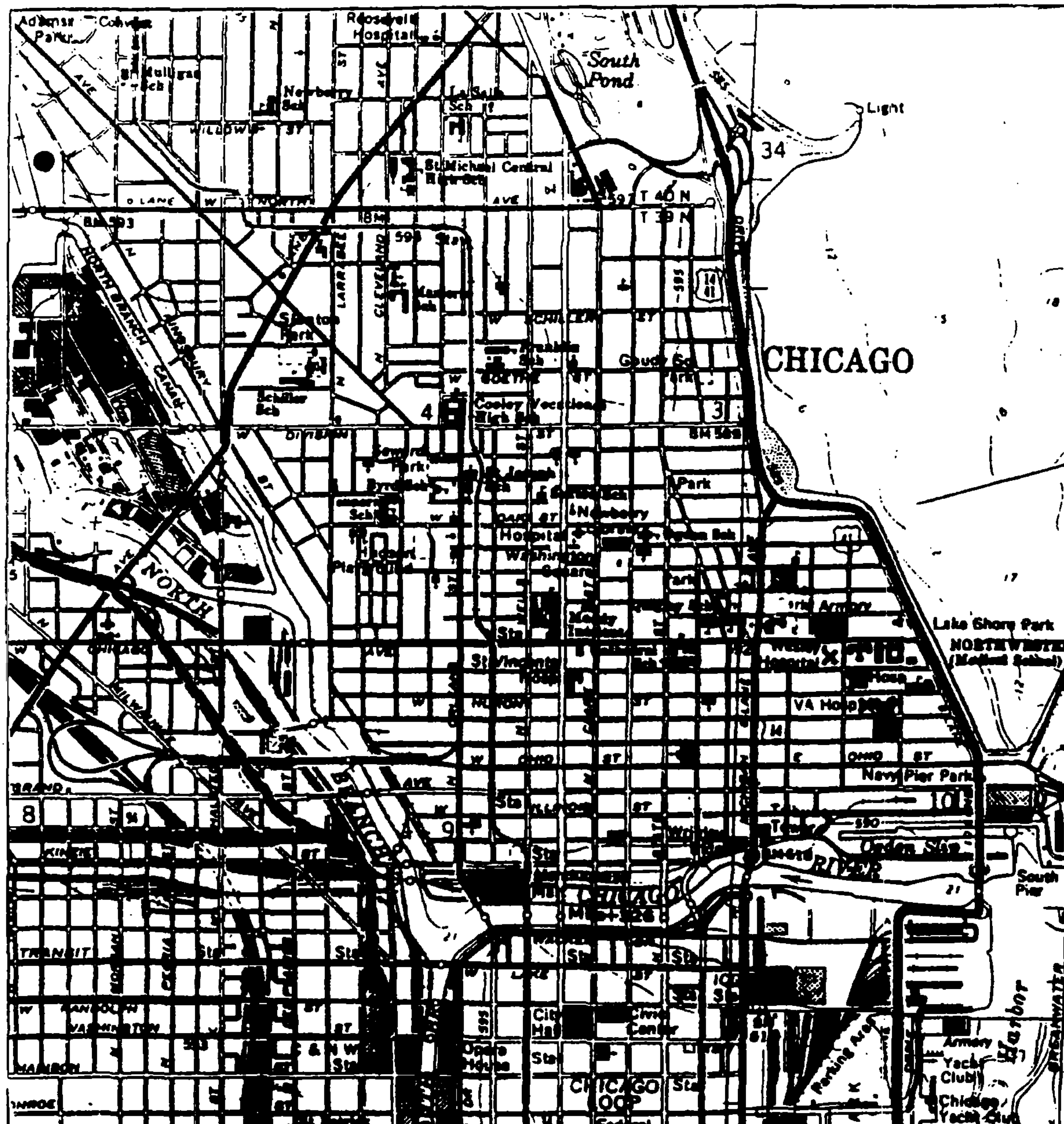
Should you have any questions, please feel free to contact this office.

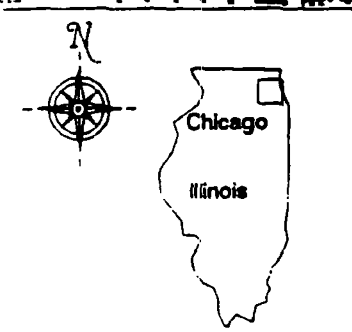
Sincerely,

Ronald W. Bugg, TAT Member

for Thomas Kouris, TAT Leader

cc: Verneta Simon, U.S. EPA, OSC

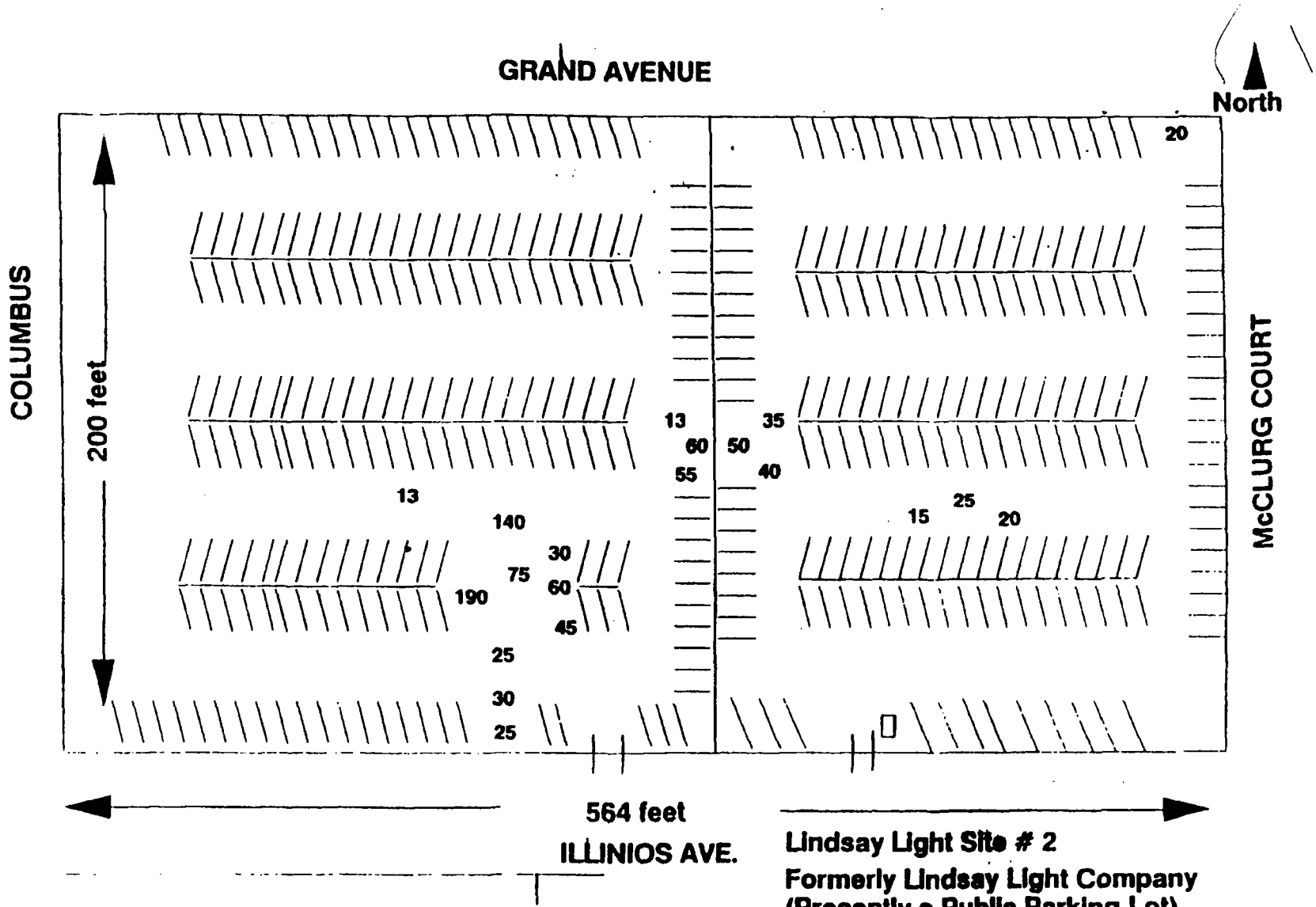




ecology and environment, inc.

Technical Assistance Team
Region V

TITLE	FIGURE #
Site Location Map	Figure 1
SITE	SCALE
Lindsay Light Co. 2	1 : 24,000
CITY	PAN
Chicago IL	EILO797SAA



Lindsay Light Site # 2
Formerly Lindsay Light Company
(Presently a Public Parking Lot)
Readings: MicroR/Hr
Instuments: Ludlum Model 19

(Readings include the correction factor
Ludlum 19 react higher by a factor of 2)

FIGURE 2

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

JAN 27 1994

REPLY TO THE ATTENTION OF

HSE-5J

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Chicago Dock & Canal Trust
c/o Vincent S. Oleskiewicz, Esq.
Baker & McKenzie
One Prudential Plaza
130 East Randolph Street, Suite 3200
Chicago, Illinois 60601

Re: Lindsay Light II Site
316 East Illinois Street
Chicago, Illinois

Dear Mr. Oleskiewicz:

Enclosed please find an executed copy of the Administrative Order by Consent issued for this Site pursuant to Sections 106 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9606 and 9622. Thank you for your cooperation in this matter.

Per your letter to Verneta Simon dated January 11, 1994, please be advised that the U.S. Environmental Protection Agency ("U.S. EPA") approves STS Consultants, Ltd., MJW Corporation, and IT Corporation Laboratory as the contractors your client has chosen to undertake and complete the requirements of the Order. In addition, U.S. EPA acknowledges your client's designation of Richard Berggreen of STS Consultants, Ltd. as their Project Coordinator.

If you have any questions regarding this Order, please contact Marc Radell, Assistant Regional Counsel, at (312) 886-7948 or Verneta Simon, On-Scene Coordinator, at (312) 886-3601.

Sincerely yours,

for William E. Muno, Director
Waste Management Division

Enclosure

cc: Gary King, IEPA Superfund Coordinator

ATTACHMENT 17

Printed on Recycled Paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

IN THE MATTER OF:	)	Docket No. V-W-'94-C-223
	)	
Lindsay Light II Site	)	ADMINISTRATIVE ORDER BY
316 East Illinois Street	)	CONSENT PURSUANT TO
Chicago, Illinois	)	SECTION 106 OF THE
	)	COMPREHENSIVE
	)	ENVIRONMENTAL RESPONSE,
Respondent:	)	COMPENSATION AND
	)	LIABILITY ACT OF 1980,
The Chicago Dock & Canal Trust	)	as amended, 42 U.S.C.
	)	Section 9606(a)

PREAMBLE

The United States Environmental Protection Agency (U.S. EPA) and the Respondent have each agreed to the making and entry of this Order by Consent.

It is issued pursuant to the authority vested in the President of the United States by Sections 106(a) and 122 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. Section 9606(a), as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99-499 (CERCLA), and delegated to the Administrator of the U.S. EPA by Executive Order No. 12580, January 23, 1987, 52 Federal Register 2923, and further delegated to the Assistant Administrator for Solid Waste and Emergency Response and the Regional Administrators by U.S. EPA Delegation Nos. 14-14, 14-14-C and 14-14-D, and to the Director, Waste Management Division, Region V, by Regional Delegation Nos. 14-14-A, 14-14-C and 14-14-D.

A copy of this Order will also be provided to the State of Illinois, which has been notified of the issuance of this Order as required by Section 106(a) of CERCLA, 42 U.S.C. Section 9606(a).

This Order requires the Respondent to undertake and complete emergency investigation and sampling activities to abate conditions which may present an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of hazardous substances at the Site.

FINDINGS

Based on available information, including the Administrative Record in this matter, U.S. EPA hereby finds:

1. The Lindsay Light II Site ("the Site" or "the Facility") is located at 316 East Illinois Street, Chicago, Cook County, Illinois. The Site is situated in a urban area called the Gold Coast, and is surrounded by commercial and residential buildings. A shopping mall is located approximately 200 feet to the southeast. The Chicago River is located 1 mile south of the Site and Lake Michigan is about 1.5 miles east of the Site.

2. The Site is currently a parking lot operated by General Parking and owned by The Chicago Dock and Canal Trust.

3. Until 1936, Lindsay Light manufactured incandescent gas mantels at 161 East Grand, which is .25 miles from the Site. It is unknown if they worked elsewhere; however, Sanborn maps from 1906 do show Lindsay Light being at other Chicago locations. During 1931-1936, the company moved its operations to West Chicago, Illinois.

4. The principle ingredient in gas mantle manufacture is thorium as a nitrate. Small amounts of cerium, beryllium and magnesium nitrates are also used. Thorium occurs principally as the parent radionuclide thorium-232 in association with its daughter products in a decay sequence known as the Thorium Decay Series. Thorium radionuclides are also found in the Uranium Decay Series and the Actinium Decay Series. It is believed that the principal source of contamination at this Site is the Thorium Decay Series.

5. It is unclear what Lindsay Light actually did at 316 East Illinois; however, records from The Chicago Dock and Canal Trust indicate this Site was a stable, and that Lindsay Light leased portions of the building from The Chicago Dock and Canal Trust from 1915-1933.

6. On June 3, 1993, U.S. EPA and the Illinois Department of Nuclear Safety conducted a joint investigation at the Site. This investigation verified the presence of radioactivity at levels clearly above natural background. Gamma readings were found as high as 280 uR/hr on a Ludlum Model 19 Micro-R meter. Background measured at the Site had gamma readings of 20 uR/hr.

DETERMINATIONS

Based on the foregoing Findings, U.S. EPA has determined that:

1. The Lindsay Light II Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. Section 9601(9).

2. The Chicago Dock & Canal Trust is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. Section 9601(21).

4. Radionuclides are "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. Section 9601(14).

5. The detection of gamma rays as high as 280 uR/hr constitutes an actual or threatened "release" as that term is defined in Section 101(22) of CERCLA, 42 U.S.C. Section 9601(22).

6. The actual or threatened release of hazardous substances from the Facility may present an imminent and substantial endangerment to the public health, welfare, or the environment.

7. The actions required by this Order, if properly performed, are consistent with the National Contingency Plan (NCP), 40 CFR Part 300, as amended, and CERCLA; and are reasonable and necessary to protect the public health, welfare and the environment because of the following factors:

a. **actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants;**

This factor is present at the Facility due to the existence of a public parking lot on property found to have gamma readings measured as high as 280 microroentgen per hour (uR/hr) on a Ludlum Model 19 Micro-R meter. Gamma rays are penetrating radiations indistinguishable from X-rays which can be absorbed by tissue in the human body. Furthermore, there are two parking attendants stationed at this parking lot on a 24-hour basis to collect fees, although initial readings taken on June 3, 1993, indicate that there were no levels above background where the attendants are stationed. U.S. EPA is monitoring the area to determine the potential dose. The Site is also surrounded by commercial and residential buildings, whose occupants use this parking lot and adjacent sidewalks. Situated 200 feet southeast of the Site is the North Pier shopping mall.

b. **high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;**

This factor is present at the Facility due to the existence of elevated gamma levels as high as 280 uR/hr on a Ludlum Model 19 Micro-R meter, as compared to 20 uR/hr for background as measured at the Site. These gamma levels may indicate higher levels in the soils because the parking lot is covered with asphalt and/or concrete, which attenuates radiation.

c. other situations or factors which may pose threats to public health or welfare or the environment.

This factor is present at the Facility due to the property's potential for future development. Such construction might entail excavating into potentially contaminated soils for placement of building footings and cause increased releases into the environment and human exposure to contaminants.

ORDER

Based upon the foregoing Findings and Determinations, and pursuant to Section 106(a) of CERCLA, 42 U.S.C. Section 9606(a), it is hereby ordered and agreed that Respondent will undertake the following actions at the Facility:

1. Within sixty (60) calendar days after the effective date of this Order, the Respondent shall submit to U.S. EPA for approval, a Work Plan for the investigation and sampling activities ordered as set forth in Paragraph 4 below. The Work Plan shall provide a concise description of the activities to be conducted to comply with the requirements of this Order. The Work Plan shall be reviewed by U.S. EPA, which may approve, disapprove, require revisions, or modify the Work Plan. Respondent shall implement the Work Plan as finally approved by U.S. EPA, including any modifications. Once approved, the Work Plan shall be deemed to be incorporated into and made a fully enforceable part of this Order.

2. The Work Plan shall contain a site safety and health plan, a sampling and analysis plan, and a schedule of the work to be performed. The site safety and health plan shall be prepared in accordance with the Occupational Safety and Health Administration (OSHA) regulations applicable to Hazardous Waste Operations and Emergency Response, 29 CFR Part 1910, and with Illinois Department of Nuclear Safety (IDNS) regulations pertaining to radiation workers, non-radiation workers, and the general public, 32 Illinois Administrative Code Part 340. The Work Plan and other submitted documents shall demonstrate that the Respondent can properly conduct the actions required by this Order.

3. Respondent shall retain a contractor qualified to undertake and complete the requirements of this Order, and shall notify U.S. EPA of the name of such contractor within five (5) business days of the effective date of this Order. U.S. EPA retains the right to disapprove of any, or all, of the contractors and/or subcontractors retained by the Respondent. In the event U.S. EPA disapproves of a selected contractor, Respondent shall retain a different contractor to perform the work, and such selection shall be made within two (2) business days following U.S. EPA's disapproval.

4. Within thirty (30) calendar days after U.S. EPA approval of the Work Plan, Respondent shall commence implementation of the Work Plan as approved or modified by U.S. EPA. Failure of the Respondent to properly implement all aspects of the Work Plan shall be deemed to be a violation of the terms of this Order. The Work Plan shall require the Respondent to perform, and complete within one hundred fifty (150) calendar days after approval, the following investigation and sampling activities:

a. Develop and implement a Site Health and Safety Plan.

b. Conduct land surveying to the extent necessary to locate all property boundaries and features, sample locations and areas having elevated radiation levels.

c. Place borings in several locations for the purpose of measuring subsurface radiation levels. Measurements shall be recorded until the natural soils are reached or radiation levels reach background, whichever is the greatest depth.

d. Collect soil samples from the borings and analyze for radionuclide content and RCRA characteristics. These results will then be used by the Respondent to correlate subsurface radiation levels and radionuclide content.

5. All materials removed from the Site shall be disposed of or treated at a facility approved by the On-Scene Coordinator and in accordance with the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. Section 6901, et seq., as amended, the U.S. EPA Revised Off-Site Policy, and all other applicable Federal, State, and local requirements.

6. On or before the effective date of this Order, the Respondent shall designate a Project Coordinator. The U.S. EPA has designated Verneta Simon, of the Emergency and Enforcement Response Branch, Response Section III, as its On-Scene Coordinator. The On-Scene Coordinator and the Project Coordinator shall be responsible for overseeing the implementation of this Order. To the maximum extent possible, communication between the Respondent and the U.S. EPA, and all documents, reports and approvals, and all other correspondence concerning the activities relevant to this Order, shall be directed through the On-Scene Coordinator and the Project Coordinator. During implementation of the Work Plan, the OSC and the Project Coordinator shall, whenever possible, operate by consensus, and shall attempt in good faith to resolve disputes informally through discussion of the issues.

7. The U.S. EPA and the Respondent shall each have the right to change their respective designated On-Scene Coordinator or Project Coordinator. U.S. EPA shall notify the Respondent, and

Respondent shall notify U.S. EPA, as early as possible before such a change is made. Notification may initially be verbal, but shall promptly be reduced to writing.

8. The U.S. EPA On-Scene Coordinator shall have the authority vested in an On-Scene Coordinator by the NCP, 40 CFR Part 300, as amended, including the authority to halt, conduct, or direct any work required by this Order, or to direct any other response action undertaken by U.S. EPA or the Respondent at the facility.

9. No extensions to the time frames in this Order shall be granted without sufficient cause. All extensions must be requested, in writing, and shall not be deemed accepted unless approved, in writing, by U.S. EPA.

10. This Order and all instructions by the U.S. EPA On-Scene Coordinator or designated alternate that are consistent with the National Contingency Plan and this Order shall be binding upon the Respondent, and the employees, agents, contractors, successors and assigns of the Respondent.

11. To the extent that the Facility or other areas where work under this Order is to be performed is owned by, or in possession of, someone other than the Respondent, Respondent shall attempt to obtain all necessary access agreements. In the event that after using it's best efforts the Respondent is unable to obtain such agreements, Respondent shall immediately notify U.S. EPA and U.S. EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response activities described herein, using such means as it deems appropriate.

12. Respondent shall provide access to the Facility to U.S. EPA employees, and U.S. EPA-authorized contractors, agents, and consultants at any time, and shall permit such persons to be present and move freely in the area in order to conduct inspections, including taking photographs and videotapes of the Facility, to do cleanup/stabilization work, to take samples, to monitor the work under this Order, and to conduct other activities which the U.S. EPA determines to be necessary.

13. This Order shall be effective on the date of signature by the Director, Waste Management Division.

14. Respondent shall provide a written monthly progress report to the On-Scene Coordinator regarding the actions and activities undertaken under this Order. At a minimum, these progress reports shall describe the actions that have been taken to comply with this Order, including all results of sampling and tests received or prepared by the Respondent and shall describe all significant work items planned for the next month.

15. Respondent agrees to retain for six years following completion of the activities required by this Order copies of all records, files and data relating to hazardous substances found on the Site, or related to the activities undertaken pursuant to this Order, whether or not those documents were created pursuant to this Order. Respondent shall acquire and retain copies of all documents relating to the Site that are in the possession of its contractors, agents and employees. Respondent shall notify U.S. EPA at least sixty (60) calendar days before any documents retained under this paragraph are to be destroyed. The documents retained under this paragraph shall be made available to the U.S. EPA upon request.

16. The United States reserves its right to seek reimbursement from the Respondent of all past costs and oversight costs it incurs with regards to the Lindsay Light II Site that are not inconsistent with the National Contingency Plan. Nothing in this Order shall be construed as a waiver of that right.

17. A notice, document, information, report, plan, approval, disapproval or other correspondence required to be submitted from one party to another under the Order shall be deemed submitted either when hand delivered or as of the date of receipt by certified mail, return receipt requested.

Submissions to the Respondent shall be submitted to:

The Chicago Dock & Canal Trust
c/o Mr. Charles Gardner, President
455 East Illinois Street
Suite 565
Chicago, Illinois 60611

Submissions to the U.S. EPA shall be submitted to:

Verneta Simon
On-Scene Coordinator
U.S. Environmental Protection Agency
77 West Jackson Boulevard, HSE-5J
Chicago, Illinois 60604

18. If any provision of this Order is deemed invalid or unenforceable, the remainder of this Order shall remain in full force and effect.

STIPULATED PENALTIES

19. For each day the Respondent fails to meet the deadlines set forth in the Consent Order and Work Plan, Respondent shall be liable as follows:

	Penalty For: First Week or Part Thereof	Each Following Week or Part Thereof
Failure to Submit the Work Plan, Site Safety and Health Plan, Sampling and Analysis Plan or the Schedule of Work to be Performed	$1,000	$1,750
Failure to Commence Implementation of the Work Plan	$1,000	$1,750
Failure to Meet any Scheduled Deadline in the Work Plan	$1,000	$1,750
Failure to Submit Monthly Reports	$ 250	$ 400

20. All penalties which accrue pursuant to the requirements of this Order shall be paid within fifteen (15) business days of written demand by U.S. EPA. Payment shall be made to the EPA Hazardous Substances Superfund delivered to the U.S. EPA, Attn: Superfund Accounting, P.O. Box 70753, Chicago, Illinois 60673, in the form of a certified or cashier's check payable to "EPA Hazardous Substances Superfund." The face of the check should note that the payment is for the Lindsay Light II Site.

21. Pursuant to 31 U.S.C. Section 3717, interest shall accrue on any amount of overdue stipulated penalties at a rate established by the United States Treasury. Stipulated penalties shall accrue, but need not be paid, during any dispute resolution period concerning the particular penalties at issue. If Respondent prevails upon resolution, Respondent shall pay only such penalties as the resolution requires.

22. Payment of Stipulated Penalties will not relieve Respondent from complying with the terms of this Consent Order. U.S. EPA retains the right to seek any remedies or sanctions available to U.S. EPA by reason of Respondent's noncompliance with the provisions of this Consent Order that are not otherwise expressly limited by these Stipulated Penalty provisions.

PENALTIES FOR NONCOMPLIANCE

23. Respondent is advised pursuant to Section 106(b) of CERCLA, 42 U.S.C. Section 9606(b), that violation or subsequent failure or refusal to comply with this Order and any Work Plan approved under this Order, or any portion thereof, may subject the Respondent to a civil penalty of no more than $25,000 per day for each day in which such violation occurs, or such failure to comply continues. In addition, failure to properly provide investigation and sampling actions upon the terms of this order, or other subsequent orders issued by U.S. EPA, may result in liability for punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C Section 9607(c)(3).

TERMINATION AND SATISFACTION

24. The Respondent shall submit a final report summarizing the actions taken to comply with this Order. The report shall contain, at a minimum: identification of the facility, a description of the locations and types of hazardous substances encountered at the facility upon the initiation of work performed under this Order, a chronology and description of the actions performed (including both the organization and implementation of response activities), a listing of the resources committed to perform the work under this Order (including financial, personnel, mechanical and technological resources), identification of all items that affected the actions performed under the Order and discussion of how all problems were resolved, a listing of quantities and types of materials removed, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination of those materials, and a presentation of the analytical results of all sampling and analyses performed and accompanying appendices containing all relevant paperwork accrued during the action (e.g., manifests, invoices, bills, contracts, permits). The final report shall also include an affidavit from a person who supervised or directed the preparation of that report. The affidavit shall certify under penalty of law that based on personal knowledge and appropriate inquiries of all other persons involved in preparation of the report, the information submitted is true, accurate and complete to the best of the affiant's knowledge and belief. The report shall be submitted within sixty (60) calendar days of completion of the work required by the U.S. EPA.

25. The provisions of this Order shall be deemed satisfied upon payment by Respondent of all sums due under the terms of this Order and upon the Respondent's receipt of written notice from U.S. EPA that the Respondent has demonstrated, to the satisfaction of U.S. EPA, that all of the terms of this Order,

including any additional tasks consistent with this Consent Order which U.S. EPA has determined to be necessary, have been completed.

INDEMNIFICATION

26. The Respondent agrees to indemnify and save and hold harmless the United States Government, its agencies, departments, agents, and employees, from any and all claims or causes of action arising from, or on account of, acts or omissions of the Respondent, its officers, employees, receivers, trustees, agents, successors or assigns, in carrying out the activities pursuant to this Order. The United States Government shall not be held as a party to any contract entered into by the Respondent in carrying out activities under this Order.

RESERVATION OF RIGHTS

27. This Order is not intended for the benefit of any third party and may not be enforced by any third party.

28. The U.S. EPA and the Respondent reserve all rights, claims, demands, and defenses, including defenses and denials of and to all determinations and findings, that they may have as to each other except as otherwise provided in this Order pursuant to any available legal authority. Nothing in this Order shall expand the Respondent's ability to obtain preenforcement review of U.S. EPA actions. Notwithstanding any reservation of rights, Respondent agrees to comply with the terms and conditions of this Order and consents to the jurisdiction of the U.S. EPA to enter into and enforce this Order.

29. Nothing herein is intended to release, discharge, limit or in any way affect any claim, causes of action or demands in law or equity which the parties may have against any persons, firm, trust, joint venture, partnership, corporation, or other entity not a party to this Order for any liability it may have arising out of, or relating in any way to, the generation, storage, treatment, handling, transportation, disposal, release or threat of release of any hazardous substance, hazardous waste, contaminant or pollutant at or from the Site. The parties to this Order hereby expressly reserve all rights, claims, demands and causes of action they may have against any and all other persons and entities who are not parties to this Order.

30. Nothing herein shall be construed: 1) to prevent U.S. EPA from exercising its right to disapprove of work performed by the Respondent; 2) to prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this order; 3) to prevent U.S. EPA from taking other legal or equitable action not

inconsistent with the Covenant Not To Sue in Paragraphs 41 through 43 of this Order; 4) to prevent U.S. EPA from requiring the Respondent in the future to perform additional activities pursuant to CERCLA, 42 U.S.C. Section 9601 et seq., or any other applicable law; or 5) to prevent U.S. EPA from undertaking response actions at the Site.

FORCE MAJEURE

31. The Respondent shall cause all work to be performed within the time limits set forth herein and in the approved Work Plan, unless performance is delayed by "force majeure". For purposes of this Order, "force majeure" shall mean an event arising from causes entirely beyond the control of the Respondent and its contractors which delays or prevents the performance of any obligation required by this Order. Increases in costs, financial difficulty, and normal inclement weather are examples of events that are not considered to be beyond the control of the Respondent.

32. Respondent shall notify the OSC within 24 hours after Respondent becomes aware of any event which Respondent contends constitutes a force majeure, with subsequent written notice within seven (7) calendar days of the event. Such written notice shall describe: 1) the nature of the delay, 2) the cause of the delay, 3) the expected duration of the delay, including any demobilization and remobilization resulting from the delay, 4) the actions which will be taken to prevent or mitigate further delay, and 5) the timetable by which the actions to mitigate the delay will be taken. Respondent shall implement all reasonable measures to avoid and/or minimize such delays. Failure to comply with the notice provision of this paragraph shall be grounds for U.S. EPA to deny Respondent an extension of time for performance. The Respondent shall have the burden of demonstrating by a preponderance of the evidence that the event is a force majeure, that the delay is warranted under the circumstances, and that best efforts were exercised to avoid and mitigate the effects of the delay. If U.S. EPA determines a delay is or was attributable to a force majeure, the time period for performance under this Order shall be extended as deemed necessary by the OSC to allow performance.

DISPUTE RESOLUTION

33. The Parties to this Order on Consent shall attempt to resolve expeditiously and informally any disagreements concerning implementation of this Order on Consent or any work required hereunder.

34. In the event that any dispute arising under this Order on Consent is not resolved expeditiously through informal means, any party desiring dispute resolution under this Section shall give prompt written notice to the other parties to the Order.

35. Within ten (10) calendar days of the service of notice of dispute pursuant to Paragraph 34 above, the party who gave notice shall serve on the other parties to this Order a written statement of the issues in dispute, the relevant facts upon which the dispute is based, and factual data, analysis or opinion supporting its position, and all supporting documentation on which such party relies (hereinafter the "Statement of Position"). The opposing parties shall serve their Statement of Position, including supporting documentation, no later than ten (10) calendar days after receipt of the complaining party's Statement of Position. In the event that these 10-day time periods for exchange of Statements of Position may cause a delay in the work, they shall be shortened upon and in accordance with notice by U.S. EPA.

36. An administrative record of any dispute under this Section shall be maintained by U.S. EPA. The record shall include the written notification of such dispute, and the Statements of Position served pursuant to the preceding paragraphs.

37. Upon review of the administrative record, the Director of the Waste Management Division, U.S. EPA, Region V, shall resolve the dispute consistent with the NCP and the terms of this Order.

NON-ADMISSION

38. The consent of the Respondent to the terms of this Order shall not constitute or be construed as an admission of liability or of U.S. EPA's findings or determinations contained in this Order in any proceeding other than a proceeding to enforce the terms of this Order.

CERCLA FUNDING

39. The Respondent waives any claims or demands for compensation or payment under Sections 106(b), 111 and 112 of CERCLA against the United States or the Hazardous Substance Superfund established by 26 U.S.C. §9507 for, or arising out of, any activity performed or expenses incurred pursuant to this Consent Order.

40. This Consent Order does not constitute any decision on preauthorization of funds under Section 111(a)(2) of CERCLA.

COVENANT NOT TO SUE

41. Upon termination and satisfaction of this Administrative Order pursuant to its terms, for and in consideration of the complete and timely performance by Respondent of the obligations agreed to in this Order, U.S. EPA hereby covenants not to sue Respondent for judicial imposition of damages or civil penalties for any failure to perform obligations agreed to in this Order except as otherwise reserved herein.

42. Performance of the terms of this Order resolves and satisfies the liability of the Respondent to U.S. EPA for work satisfactorily performed under this Order. U.S. EPA recognizes that, pursuant to Section 113 of CERCLA, the Respondent, upon having resolved it's liability with the U.S. EPA for the matters expressly covered by this Order, shall not be liable for claims for contribution regarding matters addressed in this Order. Nothing in this Order precludes the Respondent from asserting any claims, causes of action or demands against potentially responsible parties (PRPs) who are not parties to this Order for indemnification, contribution, or cost recovery.

43. In consideration of the actions to be performed by the Respondent under this Order, the U.S. EPA covenants not to sue the Respondent, its successors or assigns for any and all claims which are available to the U.S. as against the Respondent under Sections 106 and 107 of CERCLA concerning all matters satisfactorily performed.

SUBSEQUENT AMENDMENT

44. This Consent Order may be amended by mutual agreement of U.S. EPA and the Respondent. Any amendment of this Consent Order shall be in writing, signed by U.S. EPA and the Respondent and shall have as the effective date, that date on which such amendment is signed by U.S. EPA.

LINDSAY LIGHT II SITE
CHICAGO, ILLINOIS

SIGNATORIES

Each undersigned representative of a signatory to this Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory, its directors, officers, employees, agents, successors and assigns, to this document.

Agreed this 10th day of January, 1994.

By Charles R. Gardner, President
The Chicago Dock & Canal Trust

The above being agreed and consented to, it is so ORDERED

this 27th day of January, 1994.

By Norman Nudingany
William E. Muno, Director
Waste Management Division
U.S. Environmental Protection Agency
Region V, Complainant

bcc: Docket Analyst, ORC (CS-3T)
Marc Radell, ORC (CS-3T)
Verneta Simon, OSC (HSE-5J)
Debbie Regel, ESS (HSE-5J)
Jose Cisneros, ESS (HSE-5J)
Mary Ellen Ryan, SFAS (MF-10J)
Oliver Warnsley, CRS (HSM-5J)
EERB Site File
EERB Read File
Toni Lesser, Public Affairs (P-19J) w/out attachments
Sheila Huff, Department of Interior
Larry Jensen, ARD (AT-18J)

STATE SUPERFUND COORDINATORS:

Illinois:

Gary King, Deputy Manager
Division of Land Pollution Control
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

Minnesota:

James L. Warner, Chief
Groundwater and Solid Waste Division
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, Minnesota 55155

Indiana:

Greta J. Hawvermale
Assistant Commissioner for Environmental Response
Indiana Department of Environmental Management
P.O. Box 6015, Room 1255N
Indianapolis, Indiana 46206-6015

Ohio:

Janice A. Carlson
Acting Chief
Division of Emergency & Remedial Response
Ohio Environmental Protection Agency
1800 WaterMark Drive
Columbus, Ohio 43266-0149

Michigan:

Alan Howard, Chief
Environmental Response Division
Michigan Department of Natural Resources
Stevens T. Mason Building
P.O. Box 30028
Lansing, Michigan 48909

Wisconsin:

Paul P. Didier, Director
Wisconsin Department of Natural Resources
P.O. Box 7921
101 South Webster Street
Madison, Wisconsin 53707

OFFICE OF U.S. ATTY.
CHICAGO
APPROVED FOR SIGNATURE
Not to be removed from files

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

UNITED STATES OF AMERICA, Plaintiff, v. KERR-MCGEE CHEMICAL LLC, (on behalf of itself and its predecessors Lindsay Light Company, Lindsay Light & Chemical Company, American Potash & Chemical Corporation, Kerr-McGee Chemical Corporation), Defendant.	CIVIL ACTION NO. 04 C 2001 JUDGE GETTLEMAN MAGISTRATE JUDGE LEVIN

RECEIVED
APR 5 - 2004
JUDGE GETTLEMAN
U. S. DISTRICT COURT

CONSENT DECREE

ATTACHMENT 18

TABLE OF CONTENTS

I.	BACKGROUND	3
II.	JURISDICTION	4
III.	PARTIES BOUND	4
IV.	DEFINITIONS	5
V.	PAYMENT OF RESPONSE COSTS	7
VI.	FAILURE TO COMPLY WITH CONSENT DECREE	8
VII.	COVENANT NOT TO SUE BY PLAINTIFF	10
VIII.	RESERVATIONS OF RIGHTS BY UNITED STATES	10
IX.	COVENANT NOT TO SUE BY SETTLING DEFENDANT	11
X.	EFFECT OF SETTLEMENT/CONTRIBUTION PROTECTION	13
XI.	ACCESS TO INFORMATION	14
XII.	RETENTION OF RECORDS	16
XIII.	NOTICES AND SUBMISSIONS	17
XIV.	RETENTION OF JURISDICTION	19
XV.	INTEGRATION	19
XVI.	LODGING AND OPPORTUNITY FOR PUBLIC COMMENT	19
XVII.	SIGNATORIES/SERVICE	19
XVIII.	FINAL JUDGMENT	20

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

UNITED STATES OF AMERICA, Plaintiff, v. KERR-MCGEE CHEMICAL LLC, (on behalf of itself and its predecessors Lindsay Light Company, Lindsay Light & Chemical Company, American Potash & Chemical Corporation, Kerr-McGee Chemical Corporation), Defendant.	CIVIL ACTION NO. 04 C 2001 JUDGE GETTLEMAN MAGISTRATE JUDGE LEVIN

CONSENT DECREE

I. BACKGROUND

A. The United States of America ("United States"), on behalf of the Administrator of the United States Environmental Protection Agency ("EPA"), filed a complaint and an amended complaint in this matter pursuant to Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9607, as amended ("CERCLA"), seeking reimbursement of response costs incurred or to be incurred for response actions taken at or in connection with the release or threatened release of hazardous substances at certain Operable Units ("OUs") associated with the Lindsay Light II Superfund Removal Site in Chicago, Cook County, Illinois ("the Site").

B. The defendant that has entered into this Consent Decree ("Settling Defendant") does not admit any liability to Plaintiff arising out of the transactions or occurrences alleged in the complaint and amended complaint.

C. The United States and Settling Defendant agree, and this Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith, that settlement of this matter will avoid prolonged and complicated litigation between the Parties, and that this Consent Decree is fair, reasonable, and in the public interest.

THEREFORE, with the consent of the Parties to this Decree, it is ORDERED, ADJUDGED, AND DECREED:

II. JURISDICTION

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1345 and 42 U.S.C. §§ 9607 and 9613(b) and also has personal jurisdiction over Settling Defendant. Solely for the purposes of this Consent Decree and the underlying complaint, Settling Defendant waives all objections and defenses that it may have to jurisdiction of the Court or to venue in this District. Settling Defendant shall not challenge the terms of this Consent Decree or this Court's jurisdiction to enter and enforce this Consent Decree.

III. PARTIES BOUND

2. This Consent Decree is binding upon the United States and upon Settling Defendant and its successors and assigns. Any change in ownership or corporate or other legal status, including but not limited to, any transfer of assets or real or personal property, shall in no way alter the status or responsibilities of Settling Defendant under this Consent Decree.

IV. DEFINITIONS

3. Unless otherwise expressly provided herein, terms used in this Consent Decree that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meanings assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Consent Decree, the following definitions shall apply:

a. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601, *et seq*.

b. "Consent Decree" shall mean this Consent Decree.

c. "Day" shall mean a calendar day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day.

d. "DOJ" shall mean the United States Department of Justice and any successor departments, agencies or instrumentalities of the United States.

e. "EPA" shall mean the United States Environmental Protection Agency and any successor departments, agencies or instrumentalities of the United States.

f. "EPA Hazardous Substance Superfund" shall mean the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

g. "Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

h. "Operable Unit 00" of the Lindsay Light II Superfund Removal Site or "OU 00" shall mean the property known as 316 E. Illinois St. and which is bounded by North McClurg Court, East Illinois Street, North Columbus Drive and East Grand Avenue in the City of Chicago, Cook County, Illinois.

i. "Operable Unit 01" of the Lindsay Light II Superfund Removal Site or "OU 01" shall mean property located at 200 East Illinois St. that bears the Cook County Assessor's Parcel Number 17-10212019 that is bounded by East Illinois Street, North Columbus Drive, East Grand Avenue, and St. Clair Street in the City of Chicago, Cook County, Illinois. The buildings located on the northwest corner of Grand Avenue are not a part of Parcel 17-10212019 and are not a part of OU 01.

j. "Operable Unit 02" associated with the Lindsay Light II Superfund Removal Site or "OU 02" shall mean a portion of the Beverly Sand and Gravel pit located in the southwest quarter of Section 30 and the northwest quarter of Section 31, T42N, R9E, Elgin, Cook County, Illinois.

k. "Operable Unit 03" associated with the Lindsay Light II Superfund Removal Site or "OU 03" shall mean property known as 341 E. Ohio St. that is bounded on three sides by Grand Avenue, McClurg Court and Ohio Street in the City of Chicago, Cook County, Illinois.

l. "Paragraph" shall mean a portion of this Consent Decree identified by an Arabic numeral or an upper or lower case letter.

m. "Parties" shall mean the United States and Settling Defendant.

n. "Past Response Costs" shall mean all costs, including but not limited to direct and indirect costs, that EPA has paid at or in connection with Operable Units 00, 01, 02, and 03

through December 31, 2003, and all costs, including but not limited to direct and indirect costs, that DOJ on behalf of EPA, has paid at or in connection with DJ Numbers 90-11-3-1313, 90-11-3-1313/1, and 90-11-3-1313/2 through May 29, 2004, plus accrued Interest on all such costs through those dates.

o. "Plaintiff" shall mean the United States.

p. "Section" shall mean a portion of this Consent Decree identified by a Roman numeral.

q. "Settling Defendant" shall mean Kerr-McGee Chemical LLC.

r. "Site" shall mean the Lindsay Light II Superfund Removal Site, located in the Streeterville neighborhood of downtown Chicago, Cook County, Illinois. The Site is comprised of the properties at OU 00 and OU 01.

s. "United States" shall mean the United States of America, including its departments, agencies and instrumentalities.

V. PAYMENT OF RESPONSE COSTS

4. Payment of Past Response Costs to EPA. Within 30 days of entry of this Consent Decree, Settling Defendant shall pay to EPA $640,000.

5. Payment shall be made by FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice account in accordance with EFT instructions provided to Settling Defendant by the Financial Litigation Unit of the U.S. Attorney's Office in the Northern District of Illinois following entry of the Consent Decree.

6. At the time of the payment, Settling Defendant shall also send notice that the payment has been made to EPA and DOJ in accordance with Section XIII (Notices and Submissions).

Such notices shall reference the EPA Region and Site/Spill Identification Number 05 YT, DOJ case numbers 90-11-3-1313, 90-11-3-1313/1, 90-11-3-1313/2, and the civil action number.

7. The total amount to be paid pursuant to Paragraph 4 shall be deposited in the Lindsay Light II Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

VI. FAILURE TO COMPLY WITH CONSENT DECREE

8. Interest on Late Payments. If Settling Defendant fails to make the payment under Paragraph 4 (Payment of Response Costs) by the required due date, Interest shall continue to accrue on the unpaid balance through the date of payment.

9. Stipulated Penalty.

a. If any amounts due under Paragraph 4 are not paid by the required date, Settling Defendant shall be in violation of this Consent Decree and shall pay to EPA, as a stipulated penalty, in addition to the Interest required by Paragraph 8, $1,000 per violation per day that such payment is late.

b. Stipulated penalties are due and payable within 30 days of the date of the demand for payment of the penalties by EPA. All payments to EPA under this Paragraph shall be identified as "stipulated penalties" and shall be made by certified or cashier's check made payable to "EPA Hazardous Substance Superfund." The check, or a letter accompanying the check, shall reference the name and address of the party making payment, the Site name, the EPA Region and

Site Spill ID Number 05YT, DOJ Case Numbers 90-11-3-1313, 90-11-3-1313/1, 90-11-3-1313/2, and the civil action number. Settling Defendant shall send the check (and any accompanying letter) to:

EPA Hazardous Substances Superfund
U.S EPA Superfund Accounting
P.O. Box 70753
Chicago, IL 60673

c. At the time of the payment, Settling Defendant shall also send notice that payment has been made to EPA and DOJ in accordance with Section XIII (Notices and Submissions). Such notice shall reference the EPA Region and Site/Spill ID Number 05YT, DOJ Case Numbers 90-11-3-1313, 90-11-3-1313/1, 90-11-3-1313/2, and the civil action number.

d. Penalties shall accrue as provided in this Paragraph regardless of whether EPA has notified Settling Defendant of the violation or made a demand for payment, but need only be paid upon demand. All penalties shall begin to accrue on the day after payment is due and shall continue to accrue through the date of payment. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Consent Decree.

10. If the United States brings an action to enforce this Consent Decree, Settling Defendant shall reimburse the United States for all costs of such action, including but not limited to costs of attorney time.

11. Payments made under this Section shall be in addition to any other remedies or sanctions available to Plaintiff by virtue of Settling Defendant's failure to comply with the requirements of this Consent Decree.

12. Notwithstanding any other provision of this Section, the United States may, in its unreviewable discretion, waive payment of any portion of the stipulated penalties that have accrued pursuant to this Consent Decree. Payment of stipulated penalties shall not excuse Settling Defendant from payment as required by Section V or from performance of any other requirements of this Consent Decree.

VII. COVENANT NOT TO SUE BY PLAINTIFF

13. Covenant Not to Sue by United States. Except as specifically provided in Section VIII (Reservations of Rights by United States), the United States covenants not to sue or to take administrative action against Settling Defendant pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), to recover Past Response Costs. This covenant not to sue shall take effect upon receipt by EPA of all payments required by Section V, Paragraph 4 (Payment of Response Costs) and any amount due under Section VI (Failure to Comply with Consent Decree). This covenant not to sue is conditioned upon the satisfactory performance by Settling Defendant of its obligations under this Consent Decree. This covenant not to sue extends only to Settling Defendant and does not extend to any other person.

VIII. RESERVATIONS OF RIGHTS BY UNITED STATES

14. The United States reserves, and this Consent Decree is without prejudice to, all rights against Settling Defendant with respect to all matters not expressly included within the Covenant Not to Sue by Plaintiff in Paragraph 13. Notwithstanding any other provision of this Consent Decree, the United States reserves all rights against Setting Defendant with respect to:

a. liability for failure of Settling Defendant to meet a requirement of this Consent Decree;

b. liability for costs incurred or to be incurred by the United States that are not within the definition of Past Response Costs;

c. liability for injunctive relief or administrative order enforcement under Section 106 of CERCLA, 42 U.S.C. § 9606;

d. criminal liability; and

e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments.

IX. COVENANT NOT TO SUE BY SETTLING DEFENDANT

15. Settling Defendant covenants not to sue and agrees not to assert any claims or causes of action against the United States or its contractors or employees, with respect to Past Response Costs or this Consent Decree, including but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of the response actions at OUs 00, 01, 02, or 03 for which the Past Response Costs were incurred, including any claim under the United States Constitution, the Constitution of the State of Illinois, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to Past Response Costs.

16. Nothing in this Consent Decree shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or

40 C.F.R. 300.700(d).

17. Settling Defendant agrees not to assert any claims and to waive all claims or causes of action that it may have for all matters relating to OUs 00, 01, 02, and/or 03, including for contribution, against any person where the person's liability to Settling Defendant with respect to OUs 00, 01, 02, and/or 03 is based solely on having arranged for disposal or treatment, or for transport for disposal or treatment, of hazardous substances at OUs 00, 01, 02, and/or 03, or having accepted for transport for disposal or treatment of hazardous substances at OUs 00, 01, 02, and/or 03, if all or part of the disposal, treatment, or transport at the OU in question occurred before April 1, 2001, and the total amount of material containing hazardous substances contributed by such person to the OU in question was less than 110 gallons of liquid materials or 200 pounds of solid materials.

18. The waiver in Paragraph 17 shall not apply with respect to any defense, claim, or cause of action that Settling Defendant may have against any person meeting the above criteria if such person asserts a claim or cause of action relating to OUs 00, 01, 02, and/or 03 against Settling Defendant. This waiver also shall not apply to any claim or cause of action against any person meeting the above criteria if EPA determines:

a. that such person has failed to comply with any EPA requests for information or administrative subpoenas issued pursuant to Section 104(e) or 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) or 9622(e), or Section 3007 of the Solid Waste Disposal Act (also known as the Resource Conservation and Recovery Act or "RCRA"), 42 U.S.C. § 6927, or has impeded or is impeding, through action or inaction, the performance of a response action or natural resource restoration with respect to OUs 00, 01, 02, and/or 03, or has been convicted of a criminal violation

for the conduct to which this waiver would apply and that conviction has not been vitiated on appeal or otherwise; or

b. that the materials containing hazardous substances contributed to the OU in question by such person have contributed significantly, or could contribute significantly, either individually or in the aggregate, to the cost of response action or natural resource restoration at the OU in question.

X. EFFECT OF SETTLEMENT/CONTRIBUTION PROTECTION

19. Except as provided in Paragraph 17 (Non-Exempt De Micromis Waiver), nothing in this Consent Decree shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Consent Decree. Except as provided in Paragraph 17 (Non-Exempt De Micromis Waiver), the Parties expressly reserve any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action that they may have with respect to any matter, transaction, or occurrence relating in any way to OUs 00, 01, 02, and/or 03 against any person not a Party hereto.

20. The Parties agree, and by entering this Consent Decree this Court finds, that Settling Defendant is entitled, as of the date of entry of this Consent Decree, to protection from contribution actions or claims as provided by Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), for "matters addressed" in this Consent Decree. The "matters addressed" in this Consent Decree are Past Response Costs.

21. Settling Defendant agrees that, with respect to any suit or claim for contribution brought by it for matters related to this Consent Decree, it will notify EPA and DOJ in writing no later than 60 days prior to the initiation of such suit or claim. Settling Defendant also agrees that,

with respect to any suit or claim for contribution brought against it for matters related to this Consent Decree, it will notify EPA and DOJ in writing within 10 days of service of the complaint or claim upon it. In addition, Settling Defendant shall notify EPA and DOJ within 10 days of service or receipt of any Motion for Summary Judgment, and within 10 days of receipt of any order from a court setting a case for trial, for matters related to this Consent Decree.

22. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, recovery of response costs, or other relief relating to the Site and/or any areas where hazardous substances from Lindsay Light's operations at 316 E. Illinois St. have come to be located, Settling Defendant shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, *res judicata*, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the Covenant Not to Sue by Plaintiff set forth in Section VII.

XI. ACCESS TO INFORMATION

23. Settling Defendant shall provide to EPA, upon request, copies of all records, reports, or information (hereinafter referred to as "records") within its possession or control or that of its contractors or agents relating to activities at OUs 00, 01, 02, and/or 03, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to OUs 00, 01, 02, and/or 03.

24. Confidential Business Information and Privileged Documents.

a. Settling Defendant may assert business confidentiality claims covering part or all of the records submitted to Plaintiff under this Consent Decree to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. 2.203(b). Records determined to be confidential by EPA will be accorded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies records when they are submitted to EPA or if EPA has notified Settling Defendant that the records are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2 Subpart B, the public may be given access to such records without further notice to Settling Defendant.

b. Settling Defendant may assert that certain records are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Settling Defendant asserts such a privilege in lieu of providing records, it shall provide Plaintiff with the following: 1) the title of the record; 2) the date of the record; 3) the name, title, affiliation (*e.g.*, company or firm), and address of the author of the record; 4) the name and title of each addressee and recipient; 5) a description of the subject of the record; and 6) the privilege asserted. If a claim of privilege applies only to a portion of a record, the record shall be provided to Plaintiff in redacted form to mask the privileged information only. Settling Defendant shall retain all records that it claims to be privileged until the United States has had a reasonable opportunity to dispute the privilege claim and any such dispute has been resolved in the Settling Defendant's favor. However, no records created or generated pursuant to the requirements of this or any other settlement with the EPA pertaining to the Site shall be withheld on the grounds that they are privileged.

25. No claim of confidentiality shall be made with respect to any data, including but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions relating to the Site.

XII. RETENTION OF RECORDS

26. Until 10 years after the entry of this Consent Decree, Settling Defendant shall preserve and retain all records now in its possession or control, or which come into its possession or control, that relate in any manner to response actions taken at OUs 00, 01, 02, and/or 03 or the liability of any person under CERCLA with respect to OUs 00, 01, 02, and/or 03, regardless of any corporate retention policy to the contrary.

27. After the conclusion of the 10-year document retention period in the preceding paragraph, Settling Defendant shall notify EPA and DOJ at least 90 days prior to the destruction of any such records, and, upon request by EPA or DOJ, Settling Defendant shall deliver any such records to EPA. Settling Defendant may assert that certain records are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Settling Defendant asserts such a privilege, they shall provide Plaintiff with the following: 1) the title of the record; 2) the date of the record; 3) the name, title, affiliation (*e.g.*, company or firm), and address of the author of the record; 4) the name and title of each addressee and recipient; 5) a description of the subject of the record; and 6) the privilege asserted. If a claim of privilege applies only to a portion of a record, the record shall be provided to Plaintiff in redacted form to mask the privileged information only. Settling Defendant shall retain all records that it claims to be privileged until the United States has had a reasonable opportunity to dispute the privilege claim and any such dispute has been resolved in the Settling Defendant's favor. However, no records created or generated

pursuant to the requirements of this or any other settlement with the EPA pertaining to the Site shall be withheld on the grounds that they are privileged.

28. Settling Defendant hereby certifies that, to the best of its knowledge and belief, after reasonable inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, reports, or information relating to its potential liability regarding the Site since notification of potential liability by the United States or the State or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6972.

XIII. NOTICES AND SUBMISSIONS

29. Whenever, under the terms of this Consent Decree, notice is required to be given or a document is required to be sent by one party to another, it shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other party in writing. Written notice as specified herein shall constitute complete satisfaction of any written notice requirement of the Consent Decree with respect to the United States, EPA, DOJ, and Settling Defendant, respectively.

As to the United States:

As to DOJ:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice (DJ # 90-11-3-1313/2)
P.O. Box 7611
Washington, D.C. 20044-7611

As to EPA:

Mary L. Fulghum
Associate Regional Counsel
U.S. Environmental Protection Agency
Region 5 C-14J
77 West Jackson Boulevard
Chicago, Illinois 60604

Verneta S. Simon
OnScene Coordinator
U.S. Environmental Protection Agency
Region 5 Mail Code SE-6J
77 West Jackson Boulevard
Chicago, Illinois 60604

Fredrick A. Micke
OnScene Coordinator
U.S. Environmental Protection Agency
Region 5 Mail Code SE-6J
77 West Jackson Boulevard
Chicago, Illinois 60604

Regional Financial Management Officer
U.S. Environmental Protection Agency
Region 5 Mail Code MF-10J
77 West Jackson Boulevard
Chicago, Illinois 60604

As to Settling Defendant:

T.L. Cubbage, Esq.
Kerr-McGee Corporation
123 Robert S. Kerr Ave.
Oklahoma City, OK 73102

XIV. RETENTION OF JURISDICTION

30. This Court shall retain jurisdiction over this matter for the purpose of interpreting and enforcing the terms of this Consent Decree.

XV. INTEGRATION

31. This Consent Decree constitutes the final, complete and exclusive agreement and understanding with respect to the settlement embodied in this Consent Decree. The Parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Consent Decree.

XVI. LODGING AND OPPORTUNITY FOR PUBLIC COMMENT

32. This Consent Decree shall be lodged with the Court for a period of not less than 30 days for public notice and comment. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations which indicate that this Consent Decree is inappropriate, improper, or inadequate. Settling Defendant consents to the entry of this Consent Decree without further notice.

33. If for any reason this Court should decline to approve this Consent Decree in the form presented, this agreement is voidable at the sole discretion of any party and the terms of the agreement may not be used as evidence in any litigation between the Parties.

XVII. SIGNATORIES/SERVICE

34. The undersigned representative of Settling Defendant to this Consent Decree and the Deputy Chief, Environmental Enforcement Section, Environment and Natural Resources Division, United States Department of Justice certify that they are authorized to enter into the terms and conditions of this Consent Decree and to execute and bind legally such Party to this document.

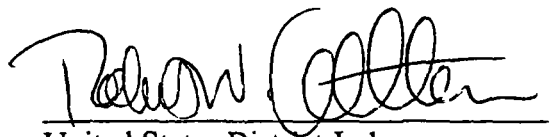
35. Settling Defendant hereby agrees not to oppose entry of this Consent Decree by this Court or to challenge any provision of this Consent Decree, unless the United States has notified Settling Defendant in writing that it no longer supports entry of the Consent Decree.

36. Settling Defendant shall identify, on the attached signature page, the name and address of an agent who is authorized to accept service of process by mail on behalf of Settling Defendant with respect to all matters arising under or relating to this Consent Decree. Settling Defendant hereby agrees to accept service in that manner and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court, including but not limited to, service of a summons. The Parties agree that Settling Defendant need not file an answer to the complaint or amended complaint in this action unless or until the Court expressly declines to enter this Consent Decree.

XVIII. FINAL JUDGMENT

37. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute the final judgment between the United States and Settling Defendant. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

SO ORDERED THIS 8TH DAY OF JUNE, 2004.



United States District Judge

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Kerr-McGee Chemical LLC, relating to OUs 00, 01, 02, and 03 associated with the Lindsay Light II Superfund Removal Site.

FOR THE UNITED STATES OF AMERICA

THOMAS L. SANSONETTI
Assistant Attorney General
Environment and Natural Resources
Division
United States Department of Justice

W. BENJAMIN FISHEROW
Deputy Section Chief
Environment Enforcement Section
Environment and Natural Resources
Division
United States Department of Justice

ANNETTE M. LANG
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P.O. Box 7611
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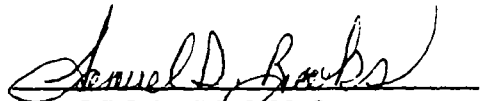
(202) 514-4213

PATRICK J. FITZGERALD
United States Attorney
Northern District of Illinois

By: 

SAMUEL D. BROOKS
Assistant United States Attorney
219 South Dearborn Street
Chicago, Illinois 60604
(312) 353-5342

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Kerr-McGee Chemical LLC, relating to OUs 00, 01, 02, and 03 associated with the Lindsay Light II Superfund Removal Site.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

RICHARD C. KARL
Acting Director, Superfund Division, Region 5
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, Illinois 60604

MARY L. FULGHUM
Associate Regional Counsel
U.S. Environmental Protection Agency
Region 5 C-14J
77 West Jackson Boulevard
Chicago, Illinois 60604

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Kerr-McGee Chemical LLC, relating to OUs 00, 01, 02, and 03 associated with the Lindsay Light II Superfund Removal Site.

FOR DEFENDANT KERR-MCGEE CHEMICAL LLC (on behalf of itself and its predecessors Lindsay Light Co., Lindsay Light & Chemical Co., American Potash & Chemical Corp., and Kerr-McGee Chemical Corp.)

Date: 3/29/04

GEORGE CHRISTIANSEN
Vice President
Kerr-McGee Chemical LLC
123 Robert S. Kerr Avenue
Oklahoma City, OK 73125

Approved by Law Dep't.

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Thomas L. Cubbage III

Title: Counsel

Address: Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City, OK 73125

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

MAY 19 2000

REPLY TO THE ATTENTION OF

SE-5J

VIA FACSIMILE AND U.S. MAIL

Mr. Richard Berggreen
STS Consultants, Ltd.
750 Corporate Woods Parkway
Vernon Hills, Illinois 60061-3153

Re: Completion of On-Site Work under Order No. V-W-96-C-353 for the Lindsay Light II Site, 316 East Illinois Street, Chicago, Cook County, Illinois As Issued June 6, 1996

Dear Mr. Berggreen:

The United States Environmental Protection Agency issued a Unilateral Administrative Order No. V-W-96-C-353(UAO) on June 6, 1996 to Kerr-McGee Chemical Corporation and The Chicago Dock & Canal Trust requiring removal of thorium contamination from the Lindsay Light II Site located at 316 East Illinois Street, Chicago, Cook County, Illinois. On March 29, 2000, U.S. EPA amended the UAO to also include property located across Columbus Drive bearing the Cook County's Assessor's Parcel Number 17 10 212 019. **This Completion Letter covers only the portion of the Site located at 316 East Illinois as described in the UAO issued June 6, 1996.**

The June 6, 1996 UAO required removal of thorium contamination from the 316 East Illinois Street site that The Chicago Dock & Canal Trust identified in an extent of contamination study Chicago Dock performed pursuant to an Administrative Order by Consent, No. V-W-94-C-22 dated January 27, 1994. The UAO also required Chicago Dock & Canal Trust to excavate and dispose of all characterized wastes identified and generated during removal activities.

Pursuant to the UAO, Kerr-McGee Chemical Corporation and The Chicago Dock & Canal Trust, through their consultant, STS Consultants, Ltd., submitted a work plan on July 25, 1996. U.S. EPA approved the work plan, as revised, on October 1, 1996. On October 26, 1996, site work was initiated. Work on this site was conducted under two phases. The first phase began in 1996 and stopped in 1997. During Phase I, 24,019 tons of thorium-impacted soil was shipped to Envirocare in Clive, Utah, and the depth of the site had reached the water table. Phase II was initiated and completed in 1999, and this phase encompassed the removal of all remaining thorium contamination below the water table. During Phase II, 4,809 tons was shipped to Envirocare.

ATTACHMENT 19

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In between Phase I and Phase II, River East, L.L.C. succeeded The Chicago Dock & Canal Trust and Kerr-McGee Chemical Corporation became Kerr-McGee Chemical, L.L.C.

During January 2000, STS Consultants, Ltd. and Bono Consulting, Inc., submitted final reports on their activities at the site, as required by the UAO. Reports from two consultants were submitted because the work was conducted in two phases. Phase I essentially went from 1996-1997 and Phase II was 4 months in the calendar year 1999.

The UAO required the following work:

1) Develop and implement site health, safety and security measures.

2) Develop and implement air monitoring program.

3) Remove contamination until the cleanup criterion of 5 picoCuries per gram total radium (radium-226 + radium-228) over background is achieved. This cleanup criterion will be met in each 15 centimeter layer below the surface. Averaging over areas up to 100 square meters will be allowed, but only after reasonable efforts have been made to achieve levels As Low As Reasonably Achievable (ALARA). It is not U.S. EPA's intent to leave any elevated areas of contamination if at all possible.

4) Establish local background for radium-226 and radium-228 from four soil samples taken on the property at points where the gamma exposure rates are lowest plus eight soil samples taken off-site, but in the immediate vicinity, of the parking lot.

5) Transport and dispose of all characterized or identified hazardous substances, pollutants, wastes or contaminants at a RCRA/CERCLA/IDNS approved disposal facility in accordance with the U.S. EPA off-site policy.

6) Conduct off-site surveying and sampling as necessary and, at a minimum, implement 40 CFR 192, if deemed necessary should contamination be discovered beyond current site boundaries.

7) Backfill all excavations with suitable material, and if soil, test borrow source for radioactivity and other pertinent characteristics in 40 CFR Part 261.

U.S. EPA's Air and Radiation Division and Superfund Division performed oversight of the PRP's activities at this site. Superfund Division reviewed the final reports due to the reassignment of staff from the Air and Radiation Division to the Superfund Division.

U.S. EPA concludes that River East, L.L.C. and Kerr-McGee Chemical, L.L.C. have completed the on-site work required by the Order.

This letter merely reflects U.S. EPA's determination that the on-site work required by the Order was completed with the following exceptions: two bound reports that incorporates all changes requested in a separate letter regarding editorial changes to the final reports submitted by STS Consultants, Ltd. and Bono Consulting, Inc. For the purposes of this Notice of Completion, "on-site" is defined as the real property known as 316 E. Illinois Street, Chicago, Cook County, Illinois that is bounded by, but does not include, the streets and sidewalks of North McClurg Court, East Illinois Street, North Columbus Drive, and East Grand Avenue.

This notice of completion in no way releases River East, L.L.C. and Kerr-McGee Chemical, L.L.C. from any potential future obligations to perform additional work to address the same or other conditions at the site, at the RV3 North Columbus Drive, or at off-site locations associated with the Lindsay Light II facility. Similarly, this notice of completion does not release River East, L.L.C. and Kerr-McGee Chemical, L.L.C. from any recordkeeping, payment, penalties for any violation of the Order or other obligations under the Order that extend beyond the date of this notice.

Please contact me at (312) 886-3601 or Mary Fulghum, Associate Regional Counsel, at (312) 886-4683, if you have any questions concerning this letter.

Sincerely,

Verneta Simon

Verneta Simon
On-Scene Coordinator

cc: Dan White, Kerr-McGee Chemical, L.L.C.
Kevin Augustyn, River East, L.L.C.
Bernie Bono, Bono Consulting, Inc.
J.T. Smith, Covington & Burling
Vincent S. Oleszkiewicz, Baker and McKenzie
Fredrick Moeller, Johnson & Bell

Chicago Tribune

BUSINESS

TUESDAY
SEPTEMBER 17, 200.

Tribune file photo by José More

Dan McLean faces pressure as deadline approaches for repayment of a giant loan on his downtown development.

McLean buying out his partners in River East

Developer tries to fix financing

By Thomas A. Corfman
Tribune staff reporter

Developer Dan McLean is buying out his high-profile investors in River East, including Aon Corp. Chairman Patrick Ryan, part of an 11th-hour financial restructuring of the $1.5 billion mixed-used development under construction in Streeterville.

The buyout agreement comes while McLean works on a deal to refinance River East Center, the $345 million hotel/condominium complex that is the centerpiece of the sprawling development, in order to stave off a possible default.

Refinancing River East Center must be completed this month, before the expiration of a grace period on a $300 million construction loan that was issued by Royal Bank of Scotland PLC and that came due Sept 1 according to loan documents.

Mixed-use project

When completed, the River East development will cover 62 acres and include hotels, stores and more than 2,000 condo units.

Source: McLean Cos. Chicago Tribune

McLean, who is also caught up in a multimillion-dollar dispute with his general contractor, has been under intense pressure from his prominent investment partners, which also include Blockbuster Video co-founder John Melk, Waste Management Inc. founder Dean Buntrock and influential attorney Peer Pedersen.

The partners had hired Chicago-based real estate firm Jones Lang LaSalle Inc. to explore their own options, such as finding another developer to take over future parts of the massive development.

But instead, McLean has turned the tables and has signed a contract to buy out the investors, said a spokesman for McLean, president of Chicago-based real estate firm MCL Cos.

Terms of the buyout could not be determined.

As a part of the refinancing of River East Center, the Royal Bank of Scotland is likely to replace its own giant construction loan with short-term financing, sources said.

"We are confident that this will be resolved in the very near future," said the McLean spokesman, who would not comment further.

River East Center, completed earlier this year, houses a 620-unit condominium tower, a 455-room Embassy Suites hotel, a 1,150-car garage and a 21-screen movie complex scheduled to open in November.

The highly leveraged project has felt the effects of the recession, which has slowed the pace of downtown condo sales, cut hotel revenue and generally made commercial real estate lenders wary.

Now, the giant loan comes due as financing for major development projects has become increasingly scarce.

To reduce their risk on any one project, lenders have increasingly divided up large commercial real estate loans into smaller pieces, with numerous financial institutions each taking a part.

However, the time-consuming process has delayed many projects.

"The dollars are there, but it has just become very hard to put together any deal over $100 million," said John Jaeger, vice president of consulting firm Appraisal Research Counselors Ltd.

The 2 million-square-foot River East Center is just one stage of the River East development, which is located on a 62-acre site bounded by the

PLEASE SEE MCLEAN, PAGE 5

ATTACHMENT 20

MCLEAN: Living units delayed by finance woes

CONTINUED FROM PAGE 1

Chicago River on the south, Grand Avenue on the north, Lake Shore Drive on the east and Columbus Drive on the west.

When completed, the development will include not only hotels and trendy stores but also 2,500 residential units.

The sprawling site includes the former Kraft building, 500 N. Peshtigo Court, which work crews are preparing to demolish to make way for eventual development.

The project also includes RiverView Condominiums, a twin-tower riverfront development whose second phase has been delayed since January, though McLean is vowing to resume construction this month.

Complicating the refinancing is a multimillion-dollar dispute with general contractor AMEC International over cost overruns on the project.

In July, the contractor claimed $48.4 million in additional charges on the $207 million job. By Aug. 19, the amount in dispute had been reduced to $8.4 million, according to a lien that the giant construction company has filed against the complex.

It could not be determined whether the amount claimed was reduced after negotiation, payment or both.

AMEC has had disputes with other developers over cost overruns on large downtown projects.

Earlier this year it filed a lien for $4.7 million worth of unpaid work on the Peninsula Hotel, a $101.8 million job.

The luxury hotel, located at 108 E. Superior St., is contesting the lien in a court case filed in the Circuit Court of Cook County.

Meanwhile, McLean has said difficulty finding financing has contributed to the prolonged delays in the second phase of the RiverView project, a 32-story, 134-unit tower.

An adjoining 27-story building with 99 units has been completed.

In a Sept. 10 letter to buyers, McLean said he hopes to obtain construction financing later this month.

"The difficulty has been with the banks trying to place construction financing while they have major economic and world events making them nervous," he said, citing financing delays experienced by other downtown projects.

LaSalle Bank has put together a group of six banks to finance the second RiverView tower, with the loan set to close this month, according to a copy of the letter that was obtained by the Tribune.

The financial challenges facing McLean are not due to slow sales as much as they are a result of the sheer scale of the project, some experts said.

In River East Center, for example, about 60 percent of the 620 units were sold through the second quarter, according to Chicago-based Appraisal Research.

"He has had good velocity of sales," Jaeger said. "He just has a lot of units to sell."

INSIDE COMMERCIAL REAL ESTATE THOMAS A. CORFMAN CHICAGO TRIBUNE 4/2/03

McLean completes River East restructuring

Developer Daniel McLean has completed the financial restructuring of the massive, mixed-use River East development in Streeterville, picking up the pieces after a costly default on a $300 million construction loan for the project's centerpiece.

"Nobody's walking away from this deal happy," said McLean, president of Chicago-based MCL Cos.

To avoid a likely foreclosure, McLean is handing over to Mitsui Sumitomo Insurance Co. Ltd. the title to River East Center I, the two-tower structure that includes a 455-room Embassy Suites Hotel and a 620-unit condo tower.

Tokyo-based Mitsui, which reinsured the loan against the default, is also taking title to three additional sites: the massive site to the east of River East Center I that includes the former Kraft Building on North Peshtigo Court and two sites along Lake Shore Drive south of Ogden Slip.

McLean will manage River East I and will hold on to the River View development, with plans to resume construction on a long-delayed second phase.

A dispute with Schaumburg-based general contractor Power Construction Co., which had put in a claim for $7 million, has been settled, he said.

McLean also retains River East Plaza, the loft office/retailing building at 401-465 E. Illinois St.

As a part of the complicated deal, McLean also said he has completed the buyout of his investment partners, though the financing for that transaction could not be determined.

Reporters' notebooks

SUNDAY
Inside Finance

TUESDAY
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WEDNESDAY
Inside Commercial Real Estate

THURSDAY
Inside Health Care

FRIDAY
Inside Travel

SATURDAY
Inside Technology

Prime Group bidder: Jackson, Miss.-based Parkway Properties Inc. is emerging as a strong bidder for troubled Prime Group Realty Trust, according to sources close to the matter.

In the fall of 2000, Parkway made a non-binding commitment to a major transaction involving some or all of the assets of the Chicago-based real estate investment trust, according to a document filed at the time with the Securities and Exchange Commission. But the deal collapsed as Prime's financial problems worsened.

In 2001, Parkway acquired 233 N. Michigan Ave., a skyscraper in the Illinois Center complex, but has continued to look to expand its holdings here.

Rounding out the field of bidders: a unit of Fairfield, Conn.-based General Electric Co., New York financier Leon Black's Apollo Real Estate Advisors and Atlanta-based Lend Lease Real Estate Investments Inc., sources said.

Representatives of Parkway and Prime Group could not be reached for comment.

Dearborn Place deal: Charles E. Smith Residential, the high-rise division of Englewood, Colo.-based apartment owner Archstone-Smith Trust, has a tentative deal to sell Dearborn Place, a 179-unit building at 875 N. Dearborn St., to American Invsco Corp., sources said.

As a part of the $38 million transaction, the Chicago-based real estate firm would get as much as six months to close, giving it time to gear up a marketing campaign, sources said.

A spokesman for Charles E. Smith could not be reached for comment. A spokeswoman for American Invsco, which is already marketing a condo conversion of Delaware Place, a 185-unit building at 33 W. Delaware Place, would not comment.

REIT resignation: David Helfand, chief investment officer and executive vice president at Equity Office Properties Trust, is resigning from the real estate investment trust, whose chairman is billionaire financier Sam Zell.

Helfand, 38, is making the move to concentrate on more entrepreneurial real estate opportunities, sources said. His resignation follows the November selection of Richard Kincaid as chief executive of the REIT, effective Tuesday.

At Equity Office, Helfand played a key role in acquisitions totaling nearly $12 billion, including the 2001 merger with California-based Spieker Properties Inc. Before joining Equity Office in 1998, Helfand was president and chief executive of another Zell company, Manufactured Home Communities Inc.

Building in Romeoville: In a sign that the industrial market may be picking up, Minneapolis-based developer Ryan Cos. U.S. is starting construction next month on a speculative 471,500-square-foot distribution facility in its Boldt Park business park in Romeoville.

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

09 FEB 2001

REPLY TO THE ATTENTION OF

C-14J

VIA FAX AND
FIRST CLASS MAIL

Frederick S. Mueller
Johnson & Bell
Attorneys At Law
Suite 4100
55 East Monroe
Chicago, Illinois 60603-5896

Re: Grand Pier Radioactive Contamination Beneath Columbus Drive Sidewalk

Dear Mr. Mueller:

It was disappointing to learn by your correspondence dated January 5, 2001, which was received by my office on January 10, 2001, that your client has reneged on a long-standing commitment to its obligation to remove highly radioactive contamination from an area beneath a sidewalk adjacent to the Grand Pier development. Your client initially exposed this radioactive contamination during the excavation activities at the Grand Pier site. This exposed radioactive material exhibited total radium (radium-226 + radium-228) concentrations up to 11,270 picocuries per gram (pCi/g) or 5400 times the area background level of 2.1 pCi/g. Workers had to be shielded from excess exposure by steel plates. As you are aware, the Lindsay Light II Unilateral Order V-W-96-C-353 as amended March 29, 2001, Section 3. g. requires implement[ation] of the standards of 40 Code of Federal Regulations (CFR) 192, if deemed necessary, should contamination be discovered beyond the current site boundaries. U.S. EPA believes that the material beneath the sidewalks in this area fall under this requirement. At the April 11, 2000 meeting with U.S. EPA, your client committed to remove the contamination from the Grand Pier property line to the curb line after the foundation was in place. U.S. EPA confirmed Grand Pier's agreement to remove this material after the foundation was installed in a letter dated April 18, 2000. This assent was later repeated by your client and most recently by you at the December 7, 2000 meeting at U.S. EPA's office in response to my direct question as to whether or not Grand Pier planned to honor its commitment to remove the radioactive contamination between the property line and the curb. I clearly stated that I did not believe the Right-of-Way Agreement or a separate enforcement action was appropriate to address this contamination.

The Lindsay Light team at Region 5 went to extraordinary efforts to accommodate the development activities at Grand Pier. Those efforts included cleanup verifications conducted

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within hours of contact, on days of very high temperatures, after regular business hours and weekends. The Agency expended considerable resources and Agency staff made frequent personal sacrifices to extend those efforts. It is particularly disappointing that, during the phase of the site activity when Grand Pier needed U.S. EPA's special assistance and cooperation to accommodate its development activities, the principal representatives of Grand Pier L.L.C. repeatedly assured U.S. EPA that this area of high level of radioactive materials would be removed after the grade beams were installed; but now that Grand Pier apparently has determined it no longer needs the Agency's assistance to meet its construction schedules, Grand Pier has no motivation to live up to its oft-repeated commitments.

U.S. EPA repeatedly has explained to Grand Pier that the radioactive materials identified under the Columbus Street sidewalk, exposed by the Grand Pier construction activities, exhibit a substantially higher exposure rate than did the River East materials. Specifically, U.S. EPA's gamma survey meter never "maxed out" at River East but did so twice on Grand Pier, once along Columbus Drive. These high readings are clearly indicative of substantial soil concentrations. This is the reason steel shields were erected along Columbus Drive to protect construction workers. At the River East development, U.S. EPA allowed the radioactive material to which your letter dated January 5, 2001 referred, to be left in place subject to the Right-of-Way Agreement. That Right-of-Way Agreement, entered among River East L.L.C., Kerr McGee L.L.C. and the City of Chicago, provided, among other things, for notice to U.S. EPA, radiation surveillance and implementation of a health and safety plan whenever intrusive work was conducted in the streets surrounding the River East property. Unfortunately, there have been several serious breaches of the Right-of-Way Agreement since it was signed, including breaches involving the Grand Pier project. Given this experience, it is now quite apparent that U.S. EPA cannot rely, in all instances, upon the Right-of-Way Agreement to prevent uncontrolled exposure to and dispersal of the residual thorium contamination. Recall that the consequences of mishandling these materials resulted in the Beverly Gravel fiasco where considerable public and private resources have been spent tracking down and excavating radioactive soils that Grand Pier removed from its property and improperly disposed of in Elgin, Illinois. U.S. EPA intends to minimize the potential of a repeat of that circumstance especially with respect to these highly elevated soil concentrations underneath Grand Pier's Columbus Drive sidewalk

Given the contamination's present accessibility, the relative lack of utilities, the high level of contamination, the Right-of-Way Agreement's ineffectiveness, and the planned installation of utilities between the property line and the curb, U.S. EPA's best professional judgment continues to dictate that the elevated radioactive contamination between the property line and sidewalk be removed now that the Grand Pier foundation has been installed. Further, until the radioactive contamination is removed, U.S. EPA requests that Grand Pier place along its building facing Columbus Drive sidewalk, at 10 foot intervals, appropriate signs warning of the buried radioactive contamination under the sidewalk and advising contacting Chicago DOT and

U.S. EPA before conducting work. We believe that this notice will effectively ensure that no intrusive work will take place at this location that would result in uncontrolled exposure or dispersal of radioactive contamination.

Please confirm immediately in writing, Grand Pier's intent to remove the radioactive contamination between its property line and curb along Columbus Drive and to place the appropriate signage along Columbus Drive until such removal can take place. Also, please provide a workplan for removal of the above-discussed material with 30 calendar days of receipt of this letter. Failure to comply with this request may constitute non-compliance with the UAO.

Sincerely,

Mary L. Fulghum
Associate Regional Counsel

cc: John T. Smith, Covington & Burling
Mort Ames, City of Chicago
Vincent Oleskiewicz, Baker & Mackenzie

PEDERSEN&HOUPT

RECEIVED
OCT 03 2003
EMERGENCY SUPPORT SECTION

October 1, 2003

Thomas J. Kelly
Attorney at Law
(312) 261-2103
Fax (312) 261-1103
tkelly@pedersenhoupt.com

United States Environmental Protection Agency
Emergency Enforcement and Support Section, SE-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Attn: Ms. Debbie Ragel, Enforcement Specialist

Re: Request for Information Pursuant to Section 104 of CERCLA for Lindsey Light II Site 0U4, DuSable Park, Chicago, Illinois

Dear Ms. Ragel:

I am in receipt of information requests for the following entities: Chicago Dock and Canal Trust Company; River East, Inc.; River East, L.L.C.; Center at River East, L.L.C.; ParkView at River East, L.L.C.; RiverView at River East, L.L.C.; Lakeview at River East, L.L.C.; and Cityfront Center, L.L.C. (such parties, plus ParkView at River East, L.L.C. and RiverView at River East II, L.L.C. are hereinafter referred to as the "Entities").

Pedersen & Houpt acted as attorneys representing the Entities in a deed-in-lieu of foreclosure transaction, under which all the real properties owned by the Entities (or, in some cases, the Entities owning the properties) were either: (a) transferred to entities owned by Mitsui Sumitomo Insurance Company (the "Mitsui Entities"); or (b) transferred to entities in which Daniel E. McLean ("Mr. McLean") was a principal (the "McLean Entities"). The transfer to the McLean Entities occurred on or about March 28, 2003, and the transfer to the Mitsui Entities occurred on or about March 28, 2003.

Pedersen & Houpt was also engaged by Center at River East, L.L.C. to be involved in the development of the property consisting of the city block bordered by Illinois Street, McClurg Court, Grand Avenue and Columbus Drive; and by RiverView at River East, L.L.C., to be involved in the development of the property located at 445 East North Water Street. Pedersen & Houpt also handled the conversion of the condominiums located at 440-480 North McClurg Court for River East, L.L.C.

Pedersen & Houpt was not engaged to handle environmental matters. Pedersen & Houpt has no knowledge of any of the matters being investigated.

ATTACHMENT 21

TJK 374831 v1 October 1, 2003

I was the principal attorney at Pedersen & Houpt working on the above matters. I am a non-owner officer of River East, Inc., which directly or indirectly manages the other Entities. Pedersen & Houpt has not been engaged to represent the Entities in the subject USEPA Request for Information. There are no resolutions or other Entity authority to authorize any answer on behalf of the Entities. However, since the Entities are out of business, have no assets, and have no directors, I thought it appropriate for me to respond on behalf of the Entities, even thought I am not duly authorized to so act on behalf of the Entities.

1. The direct or indirect members, beneficiaries and shareholders, as appropriate, of the Entities (other than Mr. McLean) were passive investors, and have no knowledge of the excavation, transportation, storage or disposal of any soil, debris or any other materials from the areas currently or formerly owned by Chicago Dock and Canal Trust, Chicago Dock and Canal Trust Company, River East, Inc., River East, L.L.C., MCL Companies of Chicago, Inc., Center at River East, L.L.C., ParkView at River East, L.L.C., RiverView at River East, L.L.C., Lakeview at River East, L.L.C., Cityfront Center, L.L.C., or any of their predecessors or affiliates, during the years 1980 through 2000.

2. The earliest formed Entities, Chicago Dock and Canal Trust Company, River East, Inc. and River East, L.L.C. (the "Initial Entities") were formed on the following dates, respectively: November 27, 1996, April 16, 1997 and October 29, 1996. The Investors initially acquired interests in the Initial Entities in early 1997, and such Initial Entities acquired property within the Lindsey Sites in early 1997. (Some of the Entities were formed later, and acquired land within the Lindsey Sites from the Initial Entities.) Prior to the acquisition described in the first sentence of this Section 2, none of the passive investors or, to my knowledge, Mr. McLean, had any interest in any of the Lindsey Sites.

3. The developer of the properties, syndicator of the investments, and person responsible for the day-to-day operation of the Entities, was Daniel E. McLean of MCL Companies. To the extent anyone now or formerly associated with the Entities has knowledge of the information requested, Mr. McLean or employees of MCL Companies would be most likely to have such information.

4. At the time of the deed in lieu of foreclosure transaction and related transactions, the Entities stopped operating. The Entities no longer have assets or personnel. It is anticipated that most of the Entities will soon be administratively dissolved as a result of failure to take the necessary actions to continue in business. Mr. McLean's authority to act on behalf of the

Entities was revoked in 2002. I believe Mr. McLean retains interests in the properties owned by RiverView at River East, L.L.C., RiverView at River East II, L.L.C., and ParkView at River East, L.L.C. (I do not know if these are within the Lindsey Site definition.)

Responding specifically to your Attachment V requests:

1. Thomas J. Kelly.

2. None.

3. Daniel E. McLean, and employees of the MCL Companies, 455 East Illinois Street, Suite 565, Chicago, Illinois 60611.

4. No knowledge.

5. No knowledge.

6. No knowledge.

I have not relied on any other persons or entities in answering the above questions. As stated above, to the extent there are any relative documents or persons with relevant knowledge who were associated with the Entities, they are most likely to be Mr. McLean, employees of the MCL Companies, and all records, if any, relating to the matters should be at the offices of the MCL Companies.

Very truly yours,

Thomas J. Kelly

Thomas J. Kelly

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

09 FEB 2001

REPLY TO THE ATTENTION OF

C-14J

VIA FAX AND
FIRST CLASS MAIL

Frederick S. Mueller
Johnson & Bell
Attorneys At Law
Suite 4100
55 East Monroe
Chicago, Illinois 60603-5896

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ATTACHMENT 22

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Sincerely,

Mary L. Fulghum
Associate Regional Counsel

cc: John T. Smith, Covington & Burling
Mort Ames, City of Chicago
Vincent Oleskiewicz, Baker & Mackenzie

Confirmation Report - Memory Send

Page : 001
Date & Time: 02-09-01 12:45pm
Line 1 : 312 886 7160
Machine ID : USEPA Region 5 ORC

Job number	:	936
Date	:	02-09 12:40pm
To	:	☎93729818
Number of pages	:	004
Start time	:	02-09 12:44pm
End time	:	02-09 12:45pm
Pages sent	:	004
Status	:	OK

Job number : 936 *** SEND SUCCESSFUL ***

FAX TRANSMISSION

MARY L. FULGHUM
OFFICE OF REGIONAL COUNSEL
U.S. EPA REGION 5 C-14J
77 W. Jackson Blvd.
Chicago, Illinois 60604
(312) 886-4683
Fax: (312) 886-0747

To: Mort Ames
Vince Oleskiewicz
J.T. Smith
Rick Mueller

Date: February 9, 2001

Fax #: 744-6798
861-2899
(202) 778-5555
(312)372-9818

Pages: 4 including this cover sheet.

From: Mary L. Fulghum

Subject:

COMMENTS: Grand Pier No. Columbus Sidewalk Contamination

Confirmation Report - Memory Send

Page : 001
Date & Time: 02-09-01 12:44pm
Line 1 : 312 886 7160
Machine ID : USEPA Region 5 ORC

Job number	:	935
Date	:	02-09 12:40pm
To	:	☎912027785555
Number of pages	:	004
Start time	:	02-09 12:42pm
End time	:	02-09 12:44pm
Pages sent	:	004
Status	:	OK

Job number : 935 *** SEND SUCCESSFUL ***

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Date: February 9, 2001

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Pages: 4 including this cover sheet.

From: Mary L. Fulghum

Subject:

COMMENTS: Grand Pier No. Columbus Sidewalk Contamination

Confirmation Report - Memory Send

Page : 001
Date & Time: 02-09-01 12:42pm
Line 1 : 312 886 7160
Machine ID : USEPA Region 5 ORC

Job number	:	934
Date	:	02-09 12:39pm
To	:	☎98612899
Number of pages	:	004
Start time	:	02-09 12:40pm
End time	:	02-09 12:42pm
Pages sent	:	004
Status	:	OK

Job number : 934 *** SEND SUCCESSFUL ***

FAX TRANSMISSION

MARY L. FULGHUM
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77 W. Jackson Blvd.
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To: Mort Ames
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Rick Mueller

Date: February 9, 2001

Fax #: 744-6798
861-2899
(202) 778-5555
(312)372-9818

Pages: 4 including this cover sheet.

From: Mary L. Fulghum

Subject:

COMMENTS: Grand Pier No. Columbus Sidewalk Contamination

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

09 FEB 2001

REPLY TO THE ATTENTION OF:

C-14J

VIA FAX AND
FIRST CLASS MAIL

Frederick S. Mueller
Johnson & Bell
Attorneys At Law
Suite 4100
55 East Monroe
Chicago, Illinois 60603-5896

Re: Grand Pier Radioactive Contamination Beneath Columbus Drive Sidewalk

Dear Mr. Mueller:

It was disappointing to learn by your correspondence dated January 5, 2001, which was received by my office on January 10, 2001, that your client has reneged on a long-standing commitment to its obligation to remove highly radioactive contamination from an area beneath a sidewalk adjacent to the Grand Pier development. Your client initially exposed this radioactive contamination during the excavation activities at the Grand Pier site. This exposed radioactive material exhibited total radium (radium-226 + radium-228) concentrations up to 11,270 picocuries per gram (pCi/g) or 5400 times the area background level of 2.1 pCi/g. Workers had to be shielded from excess exposure by steel plates. As you are aware, the Lindsay Light II Unilateral Order V-W-96-C-353 as amended March 29, 2001, Section 3. g. requires implement[ation] of the standards of 40 Code of Federal Regulations (CFR) 192, if deemed necessary, should contamination be discovered beyond the current site boundaries. U.S. EPA believes that the material beneath the sidewalks in this area fall under this requirement. At the April 11, 2000 meeting with U.S. EPA, your client committed to remove the contamination from the Grand Pier property line to the curb line after the foundation was in place. U.S. EPA confirmed Grand Pier's agreement to remove this material after the foundation was installed in a letter dated April 18, 2000. This assent was later repeated by your client and most recently by you at the December 7, 2000 meeting at U.S. EPA's office in response to my direct question as to whether or not Grand Pier planned to honor its commitment to remove the radioactive contamination between the property line and the curb. I clearly stated that I did not believe the Right-of-Way Agreement or a separate enforcement action was appropriate to address this contamination.

The Lindsay Light team at Region 5 went to extraordinary efforts to accommodate the development activities at Grand Pier. Those efforts included cleanup verifications conducted

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within hours of contact, on days of very high temperatures, after regular business hours and weekends. The Agency expended considerable resources and Agency staff made frequent personal sacrifices to extend those efforts. It is particularly disappointing that, during the phase of the site activity when Grand Pier needed U.S. EPA's special assistance and cooperation to accommodate its development activities, the principal representatives of Grand Pier L.L.C. repeatedly assured U.S. EPA that this area of high level of radioactive materials would be removed after the grade beams were installed; but now that Grand Pier apparently has determined it no longer needs the Agency's assistance to meet its construction schedules, Grand Pier has no motivation to live up to its oft-repeated commitments.

U.S. EPA repeatedly has explained to Grand Pier that the radioactive materials identified under the Columbus Street sidewalk, exposed by the Grand Pier construction activities, exhibit a substantially higher exposure rate than did the River East materials. Specifically, U.S. EPA's gamma survey meter never "maxed out" at River East but did so twice on Grand Pier, once along Columbus Drive. These high readings are clearly indicative of substantial soil concentrations. This is the reason steel shields were erected along Columbus Drive to protect construction workers. At the River East development, U.S. EPA allowed the radioactive material to which your letter dated January 5, 2001 referred, to be left in place subject to the Right-of-Way Agreement. That Right-of-Way Agreement, entered among River East L.L.C., Kerr McGee L.L.C. and the City of Chicago, provided, among other things, for notice to U.S. EPA, radiation surveillance and implementation of a health and safety plan whenever intrusive work was conducted in the streets surrounding the River East property. Unfortunately, there have been several serious breaches of the Right-of-Way Agreement since it was signed, including breaches involving the Grand Pier project. Given this experience, it is now quite apparent that U.S. EPA cannot rely, in all instances, upon the Right-of-Way Agreement to prevent uncontrolled exposure to and dispersal of the residual thorium contamination. Recall that the consequences of mishandling these materials resulted in the Beverly Gravel fiasco where considerable public and private resources have been spent tracking down and excavating radioactive soils that Grand Pier removed from its property and improperly disposed of in Elgin, Illinois. U.S. EPA intends to minimize the potential of a repeat of that circumstance especially with respect to these highly elevated soil concentrations underneath Grand Pier's Columbus Drive sidewalk

Given the contamination's present accessibility, the relative lack of utilities, the high level of contamination, the Right-of-Way Agreement's ineffectiveness, and the planned installation of utilities between the property line and the curb, U.S. EPA's best professional judgment continues to dictate that the elevated radioactive contamination between the property line and sidewalk be removed now that the Grand Pier foundation has been installed. Further, until the radioactive contamination is removed, U.S. EPA requests that Grand Pier place along its building facing Columbus Drive sidewalk, at 10 foot intervals, appropriate signs warning of the buried radioactive contamination under the sidewalk and advising contacting Chicago DOT and

U.S. EPA before conducting work. We believe that this notice will effectively ensure that no intrusive work will take place at this location that would result in uncontrolled exposure or dispersal of radioactive contamination.

Please confirm immediately in writing, Grand Pier's intent to remove the radioactive contamination between its property line and curb along Columbus Drive and to place the appropriate signage along Columbus Drive until such removal can take place. Also, please provide a workplan for removal of the above-discussed material with 30 calendar days of receipt of this letter. Failure to comply with this request may constitute non-compliance with the UAO.

Sincerely,

Mary L. Fulghum
Associate Regional Counsel

cc: John T. Smith, Covington & Burling
Mort Ames, City of Chicago
Vincent Oleskiewicz, Baker & Mackenzie

R E P O R T

R. M. Chin & Associates, Inc.

401 North Michigan Avenue

Chicago, Illinois 60611

RECEIVED
FEB 23 1999
R.M. CHIN & ASSOCIATES

Geotechnical Engineering Report

R. M. Chin & Associates, Inc.

Proposed Grand Pier Center
Chicago, Illinois

STS Project No. 24418-SS

February 22, 1999

ATTACHMENT 24

3.0 EXPLORATION RESULTS

3.1 Subsurface Conditions

Based on results of the soil borings completed for this project, the following subsurface profile has been identified.

Pavement Section - Borings encountered a layer of surface pavement with bituminous concrete ranging from 2 to 3 inches in thickness. The crushed limestone fill immediately below the bituminous concrete extended to a depth of approximately 0.75 feet. No core sampling was performed in the pavement section. Borings B-100 and B-101 were performed in the sidewalk and encountered 4 inches of Portland cement concrete at the ground surface.

Urban Fill - Below the pavement section, urban fill was encountered at all the boring locations to depths extending from 7 to 9 feet below the ground surface. The urban fill consisted of sand, gravel, cinders, brick, concrete and miscellaneous debris. The relative density of the fill ranged from loose to very dense. In borings B-5 and B-8 at the north east portion of the site, concrete and cobbles were encountered below the pavement section. In borings B-1 and B-2, at the south west end of the site, the driller noted a 6-inch concrete slab at a depth of 7.5 feet below the ground surface. In borings B-100 and B-101, the urban fill extended to depths of 10 and 10.5 feet.

Medium to Extremely Dense Natural Sand - Below the urban fill, poorly graded, brown, natural sand with variable amounts of silt and fine gravel was encountered in the borings. The natural sand extended to depths of 20 feet below the ground surface at the west end of the site, near boring B-1, and to a depth of 28 feet at the east end of the site, near boring B-10. The relative density of the saturated sand increased with depth in the borings, with very dense to extremely dense sands in six of the 10 borings.

Soft to Stiff Silty Clay - Immediately below the sand to depths ranging from 46 to 56 feet, gray silty clay with trace amounts of shale was encountered in the borings. The consistency of the

silty clay was from soft to stiff. The undrained shear strength of this stratum ranged from 475 to 1,725 psf based on the in situ vane shear test results.

Stiff to Very Stiff Silty Clay - Underlying the soft to medium silty clay, to depths ranging from 80 to 87 feet below the ground surface, gray silty clay with trace amounts of shale was encountered in the borings. The consistency of the silty clay was from stiff to very stiff.

Hardpan Silty Clay - The deep borings encountered the hard to very hard, gray silty clay at depths ranging from 80 to 87 feet below the ground surface. Experience in the downtown area and the measured water contents (e.g., 9 to 12%) indicate the soil stratum typically considered "hardpan" in the downtown Chicago area. Occasional, non-saturated, granular seams of silt were observed below a depth of 85 feet. However, boring B-5 terminated in 1.5 feet of extremely dense, wet silt, at a depth of 105.5 feet. Seven of the ten borings terminated in the silty clay hardpan at depths varying from 90.5 to 101.5 feet.

Pressuremeter tests were performed in the silty clay hardpan at depths ranging from 82.5 to 102.5 feet. The limit pressures, P_l, ranged from 35.9 to 85.9 tons per square foot (tsf) and the elastic modulus, E_d, ranged from 200 to 731 tsf. The results show a significant increase in the bearing capacity of the silty clay hardpan at depths greater than 100 feet below the ground surface. A summary of the pressuremeter tests are presented in the Appendix.

Limestone Bedrock - Borings B-3 and B-8 terminated in fractured limestone bedrock underlying extremely dense gray silt deposits at depths ranging from 123 to 127.5 feet.

The soil profile described above generally represents the conditions encountered in the soil borings. Some variations in the descriptions should be expected. A geotechnical engineer grouped the various soil types in the major zones noted on the boring logs. The stratification lines designating the interfaces between earth materials shown on the boring logs and profiles are approximate; in-situ, the transition may be gradual.

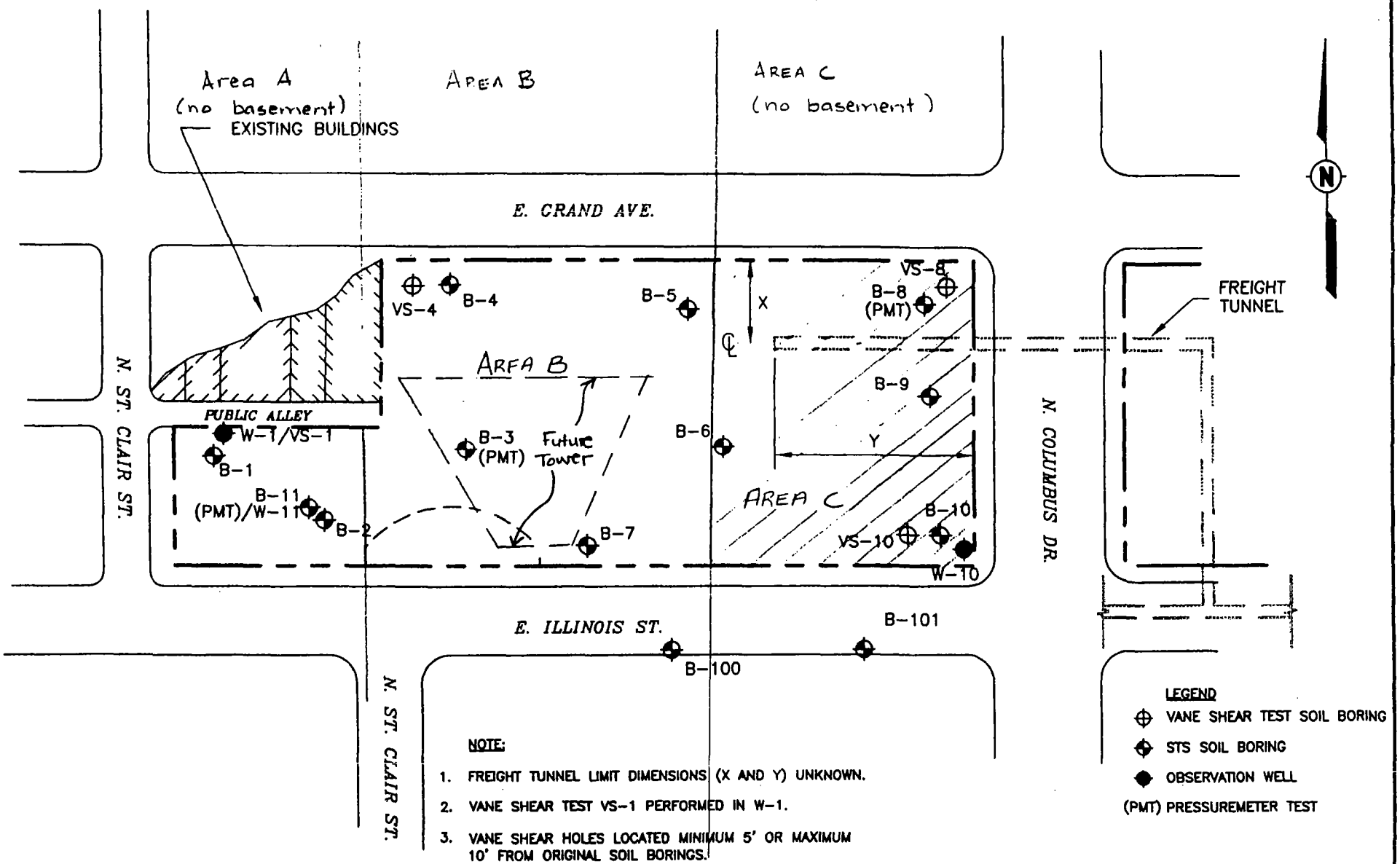
3.2 Groundwater Conditions

Water level readings, obtained in the borings during drilling and sampling operations, ranged from 7 to 13.5 feet below the ground surface. An existing observation well in good condition was discovered southeast of boring B-10 and had a measured water level depth of approximately 13.2 feet below the ground surface at the time of drilling operations. We have used the existing well to obtain subsequent groundwater readings. The measured ground water level was 13.25 feet below grade in the observation well located near boring B-10 on February 5, 1998. This is the approximate level of the nearby Ogden Slip and the Chicago River.

Borings B-100 and B-101 were dry to a depth of 10 feet. Below this depth water level readings were not possible since drilling methods changed to rotary wash which introduces water into the borehole.

The measured ground water level was 13.4 feet below grade (± El. -1.4 feet, CCD) in well W-1 and 13.3 feet below grade (± El. -1.3 feet, CCD) in W-10, on February 13, 1998. Based on the water levels in the borings and observation well readings, we estimate the groundwater table in the granular soils was located approximately 12.5 feet (El. 0.0 CCD) below the ground surface at the time of field operations. This level is subject to change due to seasonal variations, weather, river level, lake level, leaky utilities and other factors not present at the time of the readings.

Upon installation of the piezometer at B-11, the pressure head was 119.5 feet (El. +15.5 CCD), indicative of the fluid grout pressure on the instrument. However, the readings have subsequently stabilized, as shown in the attached summary of piezometer data table and graph. The isolated vibrating wire piezometer shows a reading of El. -46.3 CCD, as of June 18, 1998. This reading may be influenced by the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) deep tunnel system (TARP) which acts as a drain and lowers the water level in the Silurian limestone aquifer.



NOTE:

1. FREIGHT TUNNEL LIMIT DIMENSIONS (X AND Y) UNKNOWN.
2. VANE SHEAR TEST VS-1 PERFORMED IN W-1.
3. VANE SHEAR HOLES LOCATED MINIMUM 5' OR MAXIMUM 10' FROM ORIGINAL SOIL BORINGS.

STS Consultants Ltd.
Consulting Engineers

STS PROJECT NO. 24418-SS
STS PROJECT FILE G1SS1.dwg
SCALE 1"=100'±
FIGURE NO. 1

SOIL BORING LOCATION DIAGRAM
PROPOSED GRAND PIER CENTER DEVELOPMENT
225 EAST ILLINOIS STREET
CHICAGO, ILLINOIS

DRAWN BY	KKB	DATE	6-12-98
CHECKED BY	DR	DATE	6-12-98
APPROVED BY	WHW	DATE	6-12-98

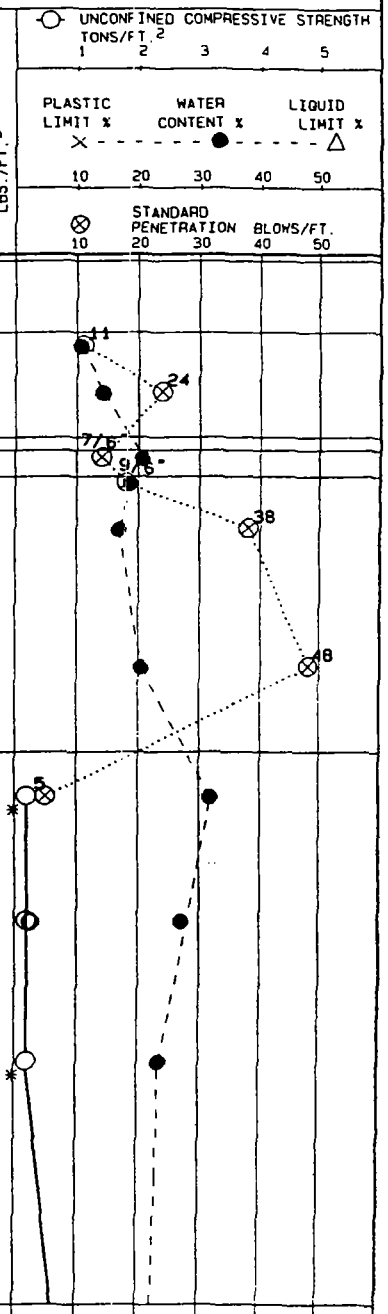
CADFILE X:\PROJECTS\24418\ss\G1SS1.dwg
06/15/1998 09:46

STS Consultants Ltd.

CLIENT R.M. Chin & Associates, Inc.	LOG OF BORING NUMBER B-1
PROJECT NAME *Grand Pier*	ARCHITECT-ENGINEER TT-CBM

SITE LOCATION
NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.^{3}
						SURFACE ELEVATION 12.0 CCD +/-	
			PA			Driller notes 3 in. asphalt *Driller notes miscellaneous fill*	
		1	SS			Fill Silty fine to coarse sand, little fine to coarse gravel, trace clay - brown to black - medium dense - moist to wet (SM)	
5.0		2	SS			Trace brick from 5-7 ft.	
			RB			*Fill: Driller notes concrete slab*	
		3	SS			Fill: Silty gravelly medium to coarse sand - brown to black - medium dense - moist to wet (SM)	
		3A	SS				
10.0			RB				
		4	SS			Fine to coarse sand, trace fine to coarse gravel and silt - brown - dense - moist to saturated (SM)	
			RB				
15.0		5	SS				
			RB				
20.0		6	SS			Silty clay, trace gravel, sand and shale - gray - soft to medium (CL)	
			RB				
25.0			ST				101
			RB				
30.0		8	ST				
35.0			RB				
40.0							



* Calibrated Penetrometer

... continued

The stratification lines represent the approximate boundary lines between soil types; in-situ, the transition may be gradual.

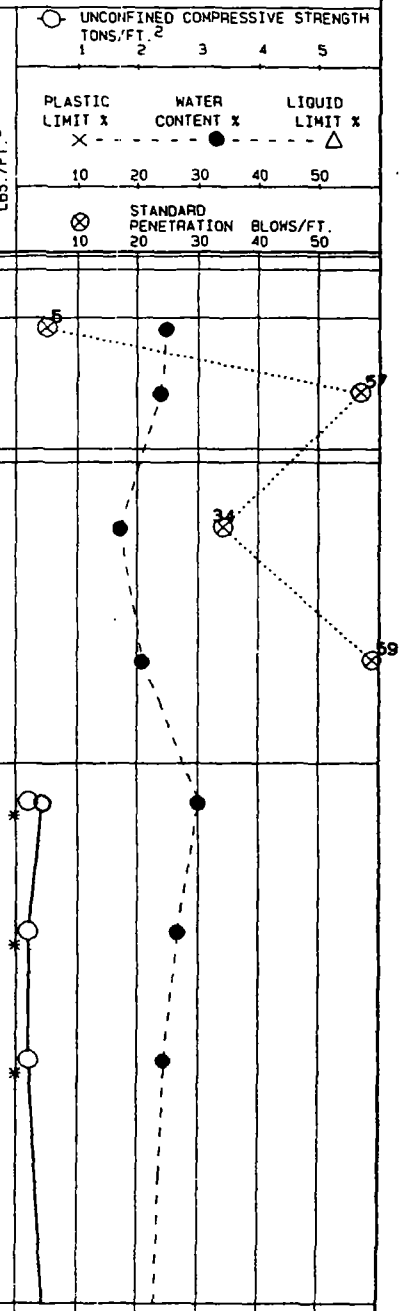
STS JOB NO. 24418-SS | SHEET NO. 1 OF 3

STS Consultants Ltd.

CLIENT	LOG OF BORING NUMBER B-2
R.M. Chin & Associates, Inc.	
PROJECT NAME	ARCHITECT-ENGINEER
Grand Pier	TT-CBM

SITE LOCATION
NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.3
						SURFACE ELEVATION 12.0 CCD +/-	
						Driller notes 2 in. of asphalt.	
			PA			Driller notes 6 in. of crushed stone base course.	
		1	SS			Driller notes miscellaneous fill.	
			PA			Fill: Silty sand and fractured bricks, trace fine to coarse gravel - dark brown to yellow brown - loose to very dense - moist (SM to GM)	
5.0		2	SS				
			PA				
						Driller notes 6 in. concrete slab	
			RB			Fine to medium sand, trace silt and fine gravel - brown - dense to very dense - moist to wet (SP)	
10.0		4	SS				
			RB				
15.0		5	SS				
			RB				
20.0		6	ST			Silty clay, trace sand and shale - soft to medium (CL)	96
			RB				
25.0		7	ST				
			RB				
30.0		8	ST				
35.0			RB				
40.0							



* Calibrated Penetrometer

... continued

The stratification lines represent the approximate boundary lines between soil types: in-situ, the transition may be gradual.

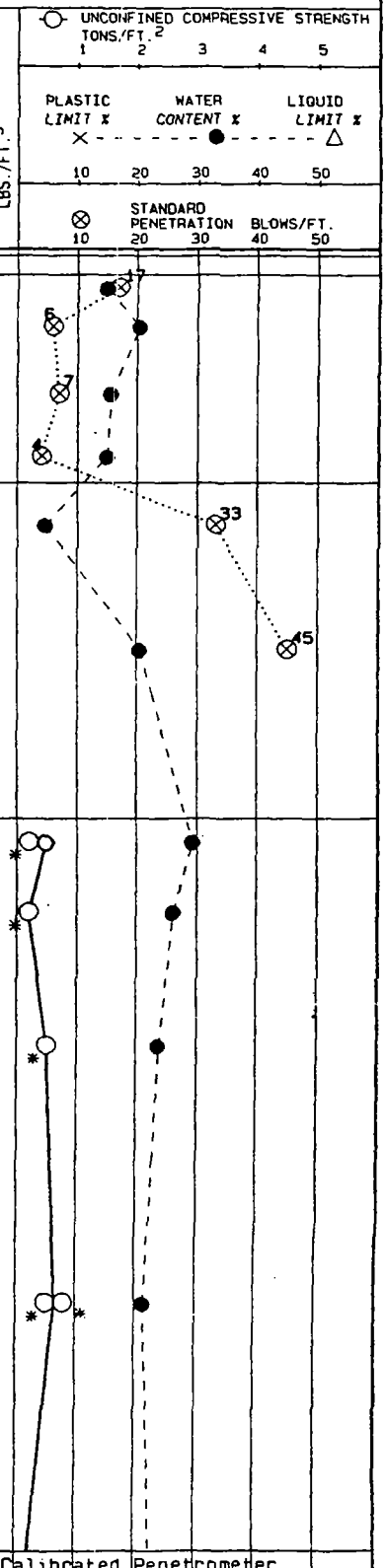
STS JOB NO. 2441 8-SS | SHEET NO. 1 OF 3

STS Consultants Ltd.

CLIENT	LOG OF BORING NUMBER B-3
R.M. Chin & Associates, Inc.	
PROJECT NAME	ARCHITECT-ENGINEER
Grand Pier	TT-CBM

SITE LOCATION
NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.3
						SURFACE ELEVATION 12.0 CCD +/-	
			PA			Driller notes 3 in. of asphalt.	
		1	SS			Driller notes crushed stone base course.	
		2	SS			Miscellaneous fill: Fine to coarse sand, some brick, wood, cinders, concrete and gravel, little silt, trace clay - brown and black - medium dense to loose	
			PA				
5.0		3	SS				
			PA				
		4	SS				
			PA			Fine to medium sand, trace silt - brown - dense - moist to saturated (SP)	
10.0		5	SS				
			PA				
15.0		6	SS			Little fine gravel in Sample 6.	
20.0			RB				
		7	ST			Silty clay, trace shale - gray - soft (CL)	97
25.0			RB				
		8	ST				
			RB				
30.0		9	ST				
35.0			RB				
40.0		10	ST			Trace sand in Sample 10. Consistency of Sample 10 medium.	
45.0			RB				
50.0						... continued	



* Calibrated Penetrometer

The stratification lines represent the approximate boundary lines between soil types: in-situ, the transition may be gradual.

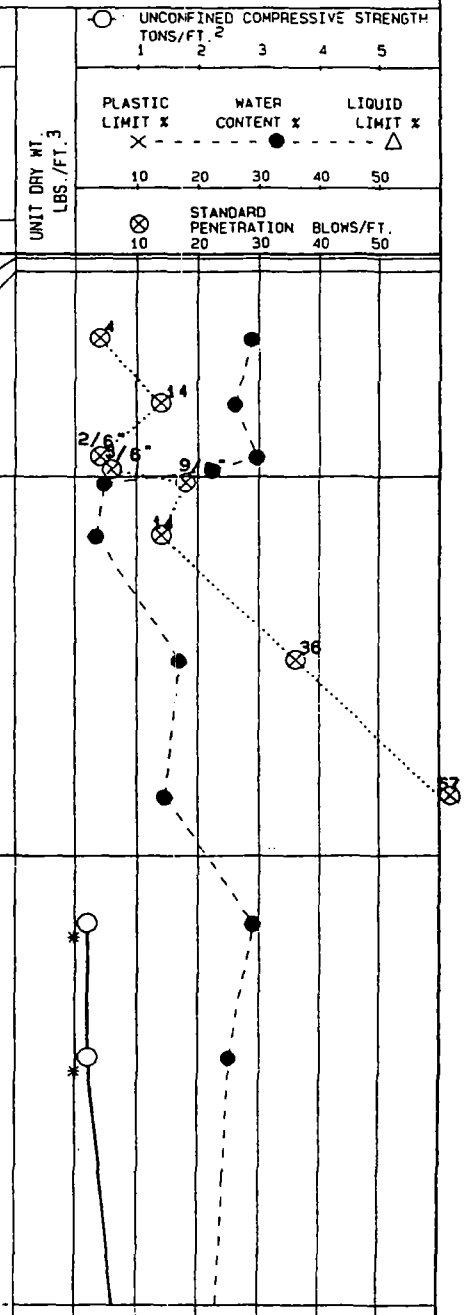
STS JOB NO. 24418-SS | SHEET NO. 1 OF 3

STS Consultants Ltd.

CLIENT	LOG OF BORING NUMBER B-4
R.M. Chin & Associates, Inc.	
PROJECT NAME	ARCHITECT-ENGINEER
Grand Pier	TT-CBM

SITE LOCATION
NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL
						SURFACE ELEVATION 13.0 CCD +/-
						Driller notes 2 in. of asphalt.
			PA			Driller notes crushed stone base course
		1	SS			Fill: Silty fine to coarse sand, some cinders, trace gravel and brick - black - loose to medium dense - moist (SM)
			PA			
5.0		2	SS			
			PA			
		3	SS*			
		3A	SS			
		3B	SS			
			PA			Fine to medium sand, trace silt and gravel - brown - medium dense to very dense - moist to saturated (SP)
10.0		4	SS			
			PA			
15.0		5	SS			
			RB			
20.0		6	SS			
			RB			Silty clay, trace sand, gravel and shale - gray - soft (CL)
25.0		7	ST			
			RB			
30.0		8	ST			
35.0			RB			
40.0						



* Calibrated Penetrometer

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The stratification lines represent the approximate boundary lines between soil types: in-situ, the transition may be gradual.

STS JOB NO. 24418-SS | SHEET NO. 1 OF 3

STS Consultants Ltd.

CLIENT R.M. Chin & Associates, Inc.	LOG OF BORING NUMBER B-5
PROJECT NAME Grand Pier	ARCHITECT-ENGINEER TT-CBM

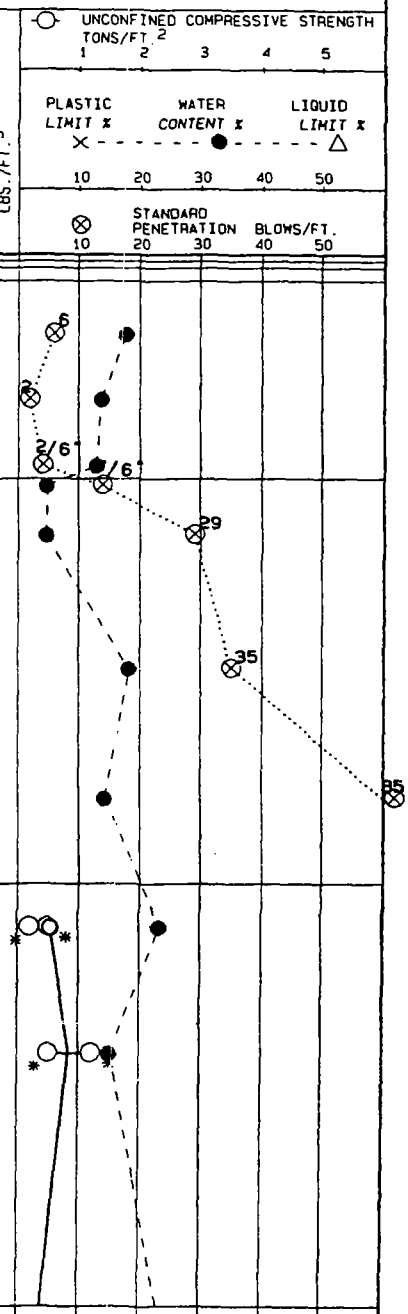
SITE LOCATION
NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.^{2} 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %
10 20 30 40 50

STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.^{3}
						SURFACE ELEVATION 13.0 CCD +/-	
						Driller notes 3 in. of asphalt.	
						Driller notes 3 in. of crushed stone base course.	
		1	SS			Driller notes 6 in. of concrete	
			PA			Fill: Silty fine to medium sand, little fine gravel, trace clay, cinders and bricks - black - loose (SM)	
5.0		2	SS				
			PA				
		3	SS				
		3A	SS				
			PA			Fine to coarse sand, trace silt and gravel - brown - medium dense to dense - moist to wet (SP)	
10.0		4	SS				
			PA				
15.0		5	SS				
			RB			Little fine to medium gravel in Samples 5 and 6.	
20.0		6	SS			Density of Sample 6 extremely dense.	
			RB				
25.0		7	ST			Silty clay, trace shale - gray - soft to medium (CL)	108
			RB				
30.0		8	ST			Consistency of Sample 8 medium to stiff.	
35.0			RB				
40.0							



* Calibrated Penetrometer

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The stratification lines represent the approximate boundary lines between soil types; in-situ, the transition may be gradual.

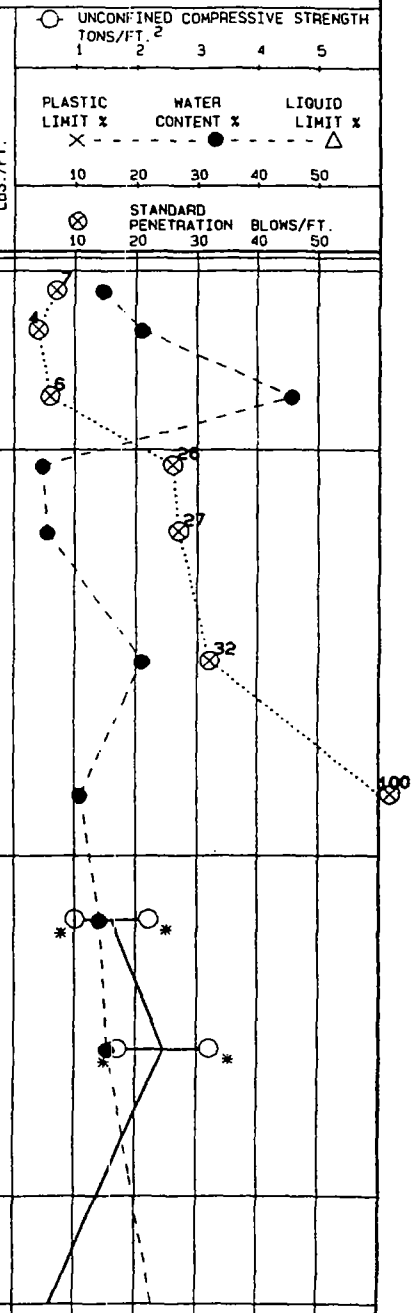
STS JOB NO. 24418-SS | SHEET NO. 1 OF 3

STS Consultants Ltd.

CLIENT	LOG OF BORING NUMBER B-6
R.M. Chin & Associates, Inc.	
PROJECT NAME	ARCHITECT-ENGINEER
Grand Pier	TT-CBM

SITE LOCATION
NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.3
						SURFACE ELEVATION 12.0 CCD+/-	
						Driller notes 3 in. of asphalt.	
		1	SS			Driller notes 6 in. of crushed stone base course.	
		2	SS			Fill: Silty fine to medium sand, little fine gravel, trace clay, cinders and bricks - black - loose (SM)	
5.0			PA				
		3	SS			Trace organics in Sample 3.	
			PA				
		4	SS			Fine to medium sand, trace silt and fine gravel - brown - medium dense to dense - moist to saturated (SP)	
10.0			PA				
		5	SS				
			PA				
15.0		6	SS				
			PA				
20.0		7	SS			Density in Sample 7 extremely dense.	
			RB			Silty clay, little sand and gravel, trace shale - gray - stiff to very stiff (CL)	
25.0		8	ST				
			RB				
30.0		9	ST				
35.0			RB			Silty clay, trace gravel and shale - gray - medium to stiff (CL)	
40.0							



* Calibrated Penetrometer

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The stratification lines represent the approximate boundary lines between soil types: in-situ, the transition may be gradual.

STS JOB NO. 24418-SS | SHEET NO. 1 OF 3

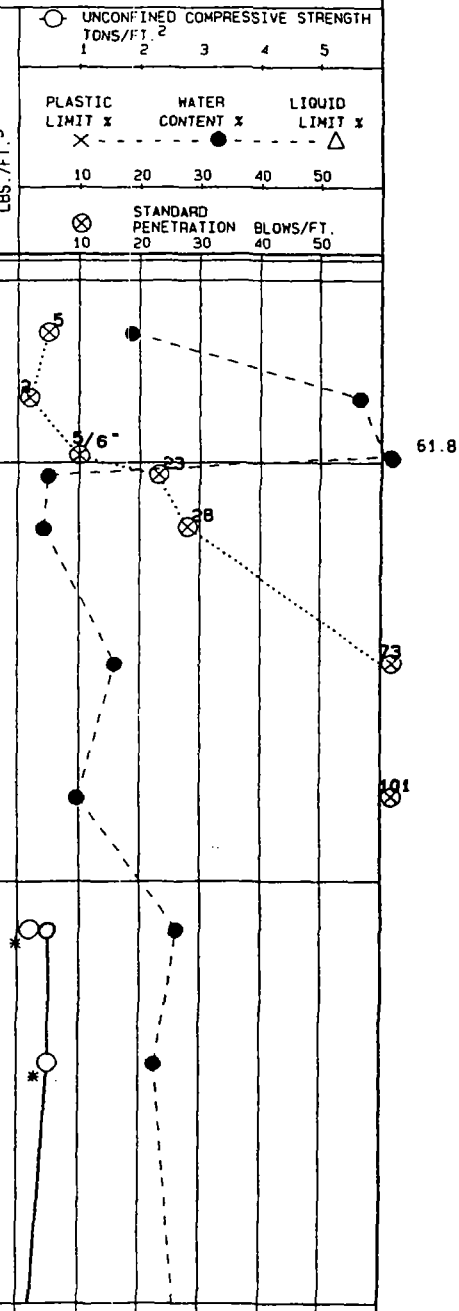
STS Consultants Ltd.

CLIENT R.M. Chin & Associates, Inc.	LOG OF BORING NUMBER B-7
PROJECT NAME Grand Pier	ARCHITECT-ENGINEER TT-CBM

SITE LOCATION
NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

SURFACE ELEVATION 12.0 CCD +/-

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT., LBS./FT.3
			PA			Driller notes 3 in. of asphalt.	
			PA			Driller notes 9 in. of concrete.	
		1	SS			Fill: Silty fine to coarse sand, little fine to medium gravel, trace topsoil, cinders and bricks - black (SM)	
5.0			PA				
		2	SS				
			PA				
		3	SS*				
		3A	SS			Fine to medium sand, trace silt and gravel - brown - medium dense to extremely dense - moist (SP)	
10.0			PA				
		4	SS				
			PA				
15.0							
		5	SS				
			RB				
20.0							
		6	SS				
			RB				
25.0						Silty clay, trace shale - gray - soft (CL)	
		7	ST				100
			RB				
30.0							
		8	ST				
35.0			RB				
40.0							



* Calibrated Penetrometer

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The stratification lines represent the approximate boundary lines between soil types; in-situ, the transition may be gradual.

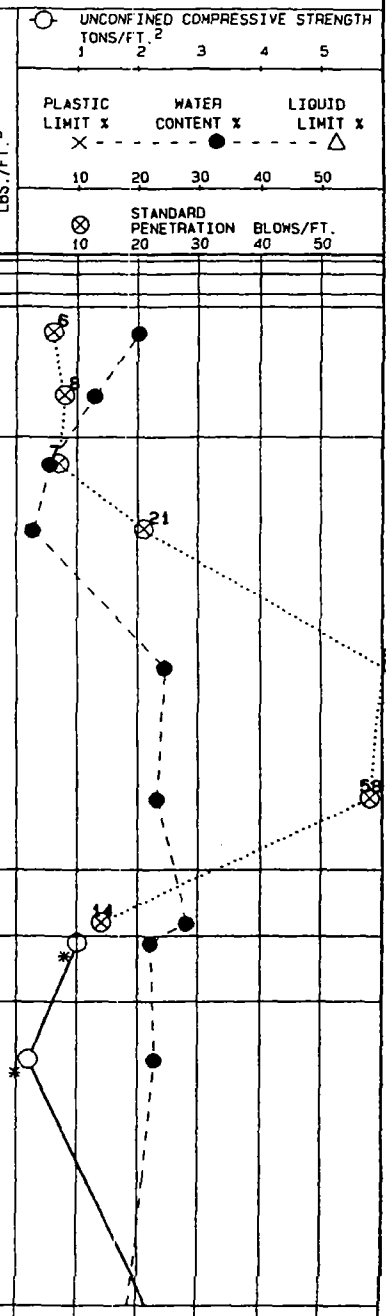
STS JOB NO. 2441E-SS | SHEET NO. 1 OF 3

STS Consultants Ltd.

CLIENT	LOG OF BORING NUMBER B-8
R.M. Chin & Associates, Inc.	
PROJECT NAME	ARCHITECT-ENGINEER
Grand Pier	TT-CBM

SITE LOCATION
NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.3
						SURFACE ELEVATION 13.0 CCD +/-	
			PA			Driller notes 3 in. of asphalt.	
			PA			Driller notes crushed stone base course.	
			PA			Driller notes brick cobblestone.	
			PA			Driller notes concrete.	
		1	SS				
5.0			PA			Fill: Silty fine to coarse sand, little gravel, trace clay, brick and cinders - black and brown - loose (SM)	
		2	SS				
			PA				
		3	SS			Fine to medium sand, trace silt and gravel - brown - medium dense to dense - moist to saturated (SP)	
10.0			PA				
		4	SS			Density of Sample 3 loose.	
			PA				
15.0		5	SS			Density of Sample 5 very dense.	
			RB				
20.0		6	SS				
			RB				
25.0						Silty fine to medium sand, trace gravel - gray - medium dense - saturated (SM)	
		7	SS				
		7A	SS			Silty clay, trace sand - gray - stiff (CL)	
			RB				
30.0						Silty clay, trace sand and shale - gray - soft (CL)	
		8	ST				
35.0			RB				
40.0							



* Calibrated Penetrometer

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The stratification lines represent the approximate boundary lines between soil types; in-situ, the transition may be gradual.

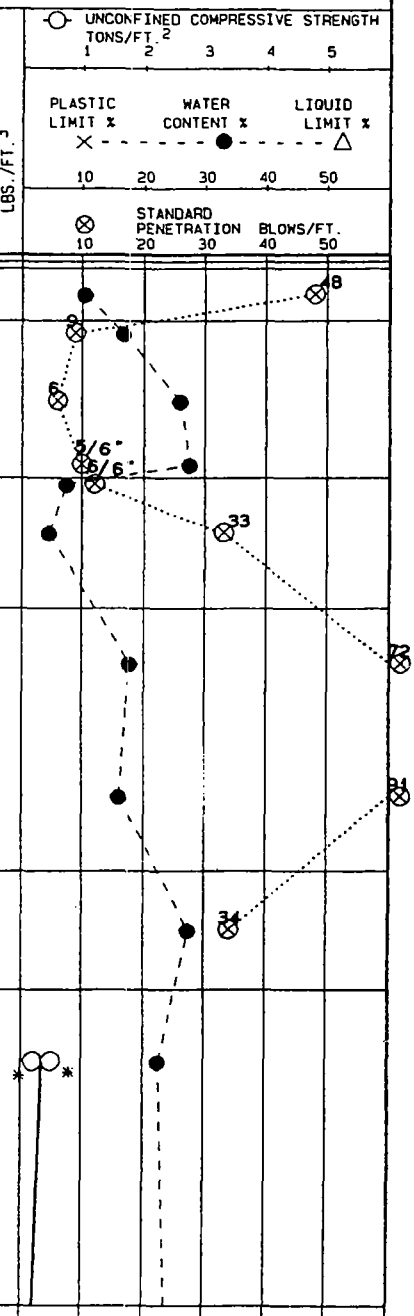
STS JOB NO. 24418-SS | SHEET NO. 1 OF 4

STS Consultants Ltd.

CLIENT R.M. Chin & Associates, Inc.	LOG OF BORING NUMBER B-9
PROJECT NAME Grand Pier	ARCHITECT-ENGINEER TT-CBM

SITE LOCATION
NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.^{3}
						SURFACE ELEVATION 13.0 CCD+/-	
			PA			Driller notes 3 in. of asphalt	
		1	SS			Driller notes crushed stone base course	
		2	SS			Fill: Fine to coarse sand, little fine gravel, trace silt, concrete, cinders and brick - black - dense (SP)	
5.0			PA				
		3	SS			Fill: Fine to coarse sand and cinders, little fine gravel, trace brick - black - loose (SP)	
			PA			Driller notes slight petroleum odor.	
		4	SS				
		4A	SS				
			PA			Fine to medium sand, trace silt and gravel - brown - dense (SP)	
10.0		5	SS			Driller notes slight petroleum odor.	
			PA				
15.0		6	SS			Fine to coarse sand, trace silt and gravel - gray - very dense to extremely dense - moist (SP)	
			RB				
20.0		7	SS				
			RB				
25.0		8	SS			Fine to medium sand, little silt - gray and brown - dense - saturated (SP)	
			RB			Silty clay, trace sand and shale - gray - soft (CL)	
30.0		9	ST				
35.0			RB				
40.0							



* Calibrated Penetrometer

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The stratification lines represent the approximate boundary lines between soil types; in-situ, the transition may be gradual.

STS JOB NO. 24418-SS | SHEET NO. 1 OF 3

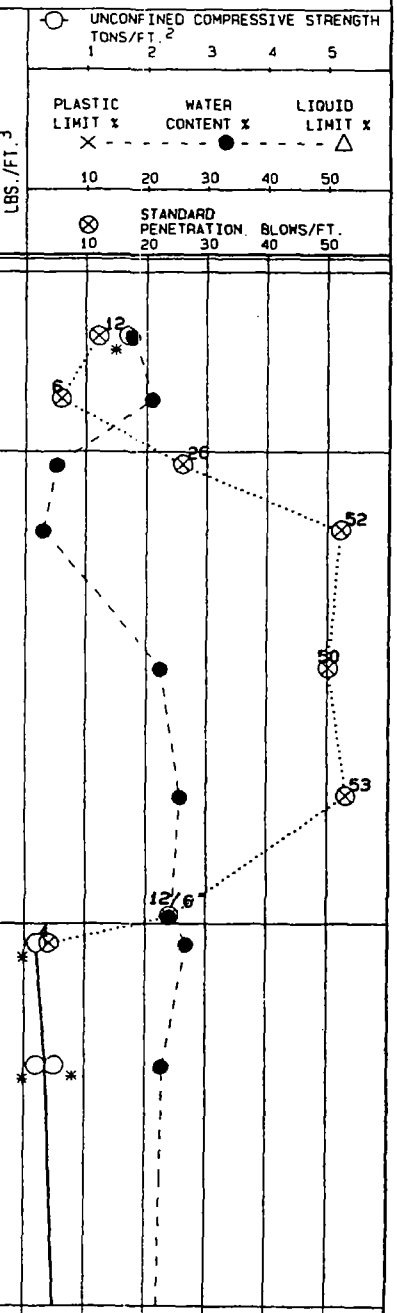
STS Consultants Ltd.

CLIENT R.M. Chin & Associates, Inc.	LOG OF BORING NUMBER B-10
PROJECT NAME Grand Pier	ARCHITECT-ENGINEER TT-CBM

SITE LOCATION
NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.^{2} (1, 2, 3, 4, 5)
PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % (10, 20, 30, 40, 50)
STANDARD PENETRATION, BLOWS/FT. (10, 20, 30, 40, 50)

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.^{3}
						SURFACE ELEVATION 12.0 CCD+/-	
						Driller notes 2 in. of asphalt	
						Driller notes crushed stone base course	
			PA				
		1	SS			Fill: Silty fine to coarse sand and cinders with trace brick and gravel - black - moist (SM)	
			PA				
5.0		2	SS				
			PA				
		3	SS			Fine to coarse sand, little gravel, trace silt - brown - medium dense to dense - moist to saturated (SP)	
			PA				
10.0		4	SS				
			PA				
15.0		5	SS				
			RB				
20.0		6	SS				
			RB				
25.0		7	SS*			Coloring of Sample 7 slightly gray.	
		7A	SS			Silty clay, trace sand, gravel and shale - gray - soft to medium (CL)	
			RB				
30.0		8	ST				
35.0			RB				
40.0							



* Calibrated Penetrometer

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The stratification lines represent the approximate boundary lines between soil types; in-situ, the transition may be gradual.

STS JOB NO. 24418-SS | SHEET NO. 1 OF 3

STS Consultants Ltd.

CLIENT: R.M. Chin & Associates, Inc.	LOG OF BORING NUMBER B-11
PROJECT NAME: Grand Pier	ARCHITECT-ENGINEER: TT-CBM

SITE LOCATION: NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.^{3}	UNCONFINED COMPRESSIVE STRENGTH TONS/FT.^{2} (1, 2, 3, 4, 5)	PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10, 20, 30, 40, 50)	STANDARD PENETRATION BLOWS/FT. (10, 20, 30, 40, 50)
						SURFACE ELEVATION 12.0 CCD				
			PA			Blank drill through urban fill and sand strata.				
5.0										
10.0										
15.0										
						Blank drill through gray silty clay.				
20.0			R8							
25.0										
30.0										
35.0										
40.0										

... continued

The stratification lines represent the approximate boundary lines between soil types; in-situ, the transition may be gradual.

STS JOB NO. 24418-SS | SHEET NO. 1 OF 3

STS Consultants Ltd.

CLIENT: R.M. Chin & Associates, Inc.

LOG OF BORING NUMBER: B-100

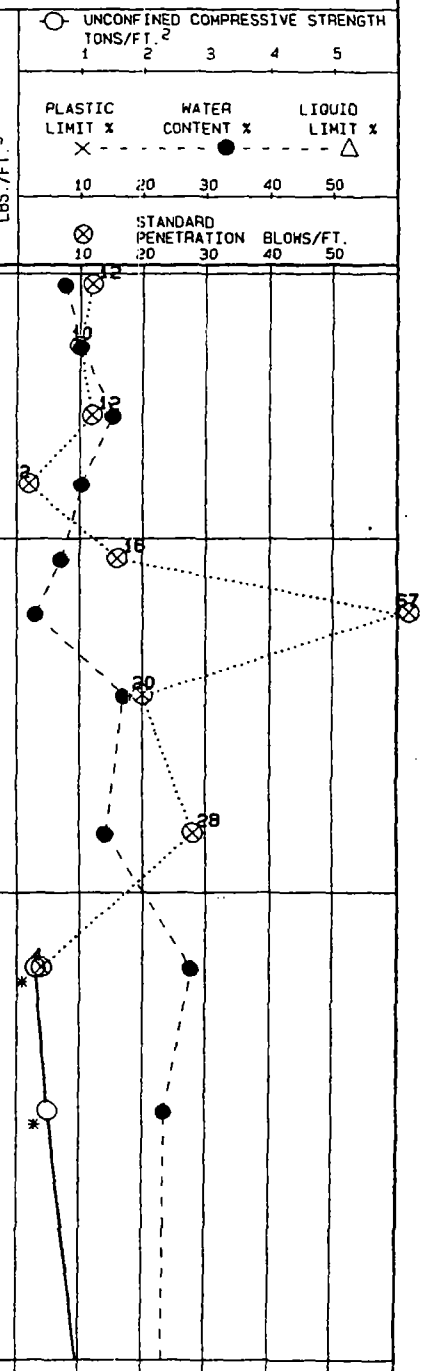
PROJECT NAME: Grand Pier Center

ARCHITECT-ENGINEER: TT-CBM

SITE LOCATION: NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

SURFACE ELEVATION ±+12.5 CCD

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.3
			PA			Driller's note: 4" of concrete sidewalk	
		1	SS			Fill: Fine to medium sand, little gravel, trace cinders, brick and concrete - brown and black - medium dense (SP)	
			PA				
		2	SS				
5.0			PA				
		3	SS				
			PA				
		4	SS			Relative density in S-4 loose.	
10.0			PA				
		5	SS			Fine to medium sand, trace fine gravel - brown - medium dense to very dense - moist to saturated (SP)	
			RB				
		6	SS				
			RB				
15.0		7	SS				
			RB				
20.0		8	SS				
			RB			Silty clay, trace shale - gray - soft (CL)	
25.0		9	SS				
			RB				
30.0		10	ST				
35.0			RB				
40.0							



* Calibrated Penetrometer

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The stratification lines represent the approximate boundary lines between soil types; in-situ, the transition may be gradual.

STS JOB NO. 24418-SS

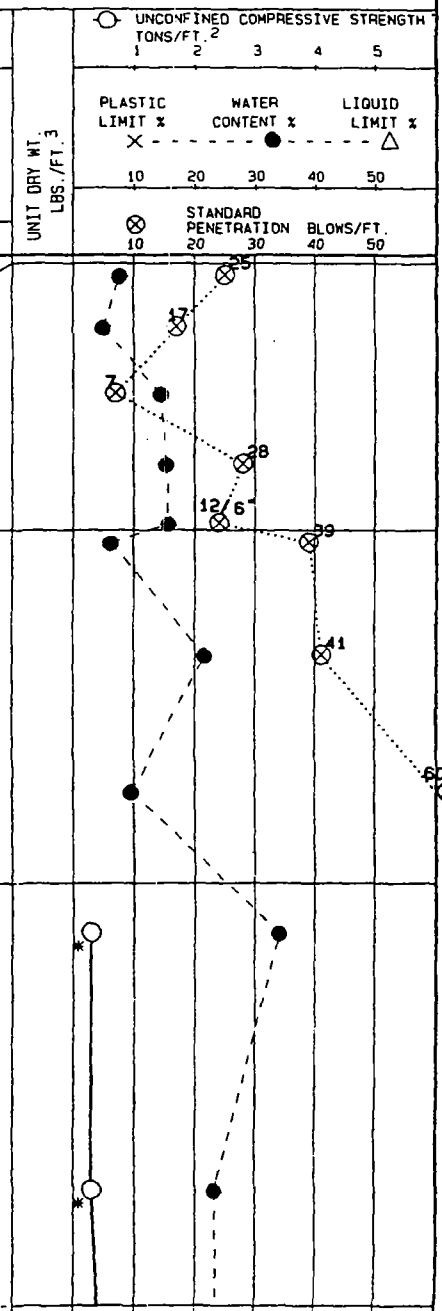
STS Consultants Ltd.

CLIENT: R.M. Chin & Associates, Inc.	LOG OF BORING NUMBER B-101
PROJECT NAME: Grand Pier Center	ARCHITECT-ENGINEER: TT-CBM

SITE LOCATION: NWC E. Illinois St. & N. Columbus Dr.; Chicago, IL

SURFACE ELEVATION 12.5 CCD

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL
			PA			Driller's note: 4" of concrete sidewalk
		1	SS			Fill: Fine to medium sand, little gravel, trace clay, cinders, brick and concrete - brown and black - medium dense to dense (SP)
			PA			
		2	SS			
5.0			PA			Some concrete in S-1 and S-2.
		3	SS			Relative density in S-3 loose.
			PA			
		4	SS			
10.0			PA			
		5	SS			
		5A	SS			Fine to medium sand, trace fine gravel and silt - brown - dense - moist (SP)
			RB			
15.0		6	SS			
			RB			
20.0		7	SS			
			RB			
25.0						Silty clay, trace shale - gray - soft (CL)
		8	ST			
30.0			RB			
35.0		9	ST			
40.0						



* Calibrated Penetrometer

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The stratification lines represent the approximate boundary lines between soil types: in-situ, the transition may be gradual.

STS JOB NO. 24418-SS | SHEET NO. 1 OF 3

MAYER, BROWN & PLATT

190 SOUTH LA SALLE STREET

CHICAGO, ILLINOIS 60603-3441

MICHAEL P. RISSMAN
DIRECT DIAL (312) 701-7834
DIRECT FAX (312) 706-9112
mrissman@mayerbrown.com

MAIN TELEPHONE
312-782-0600
MAIN FAX
312-701-7711

March 7, 2000

VIA MESSENGER

Mr. Fredrick A. Micke, P.E.
Ms. Verneta J. Simon, P.E.
U. S. Environmental Protection Agency
77 W. Jackson Blvd.
SE-5J
Chicago, IL 60604

Re: North Columbus Removal Action

Dear Fred and Verneta:

Per your request made at the March 3, 2000 meeting, enclosed are copies of the following:

1. Phase I Environmental Assessment Update report, Smith Technology (9/3/97)
2. Phase I Environmental Assessment Addendum Letter Update, ATC Associates (8/27/98)
3. Phase I Environmental Assessment Update report, ATC Associates (4/30/99)
4. Phase II Subsurface Investigation Report, ATC Associates (7/8/99)
5. Excerpts from the STS Geotechnical Engineering Report (including the upper portions of the soil borings logs) for the Grand Pier Center.

I am informed that the UST removal report is not complete. We will send it to you when it is available.

Sincerely yours,

Michael P. Rissman

Encl.

ATTACHMENT 25

ATC ASSOCIATES INC.

Chicago Area Offices
2777 Finley Road, Unit 4
Downers Grove, Illinois 60515
630.916.7272
Fax 630.916.7013

9839 Industrial Court, Suite B
Highland, Indiana 46322
219.922.7235
Fax 219.922.7243

July 8, 1999

Mr. Ray M. Chin
R. M. Chin & Associates, Inc.
401 North Michigan Avenue, Suite 525
Chicago, Illinois 60611

Re: Phase II Subsurface Investigation Report
Block 1 of City Front Center Plaza
Chicago, Illinois
ATC Project Number 62650.0001

Dear Mr. Chin:

ATC Associates Inc. (ATC) is pleased to submit to R.M. Chin &Associates, Inc. this letter-report documenting Phase II Subsurface Investigation activities at the above-referenced site. The purpose of this investigation was to evaluate the subsurface conditions for potential soil and groundwater impact from previous uses at the site. The site is currently owned by Equitable Real Estate.

The site had previously been occupied by stables, blacksmith shops, warehouses, foundries and manufacturing plants which may have potentially used hazardous materials, therefore, Smith Technology performed a Phase II Subsurface Investigation. The Phase II was performed in 1991 which included three soil borings of which one was converted to a monitoring well. Results indicated that some of the priority pollutant metals were found at levels above 1991 drinking water standards in the groundwater sample. Analyses of PCBs were below detection limits in the soil and groundwater samples, total organic carbons (TOCs) were elevated in the soil and groundwater samples and total organic halides (TOHs) were elevated only in the groundwater sample based on Illinois Environmental Protection Agency (IEPA) standards at that time. Therefore, upon receiving property access permission from Equitable Real Estate, a second Phase II Subsurface Investigation was conducted on September 15, 1997, to determine the current presence or absence of subsurface soil and groundwater contamination in light of current IEPA regulations.

SOIL SAMPLING PROCEDURE

ATC utilized a truck-mounted Geo-Probe® to advance three soil borings (GP-1, GP-2 and GP-4) down to 20 feet below grade level (BGL) and several additional borings (under the common grouping of GP-3)which were advanced between 2 and 8 feet BGL. Soil borings GP-1 and GP-2 were located along the northern and eastern sides of the property respectively. The location of boring GP-2 was chosen in an effort to evaluate conditions on site in proximity to the property to the east across Fairbanks, which has been listed as a CERCLIS, solid waste, and leaking underground storage tank (LUST) site. Several attempts were made to advance boring GP-3 in the center of the western panhandle section of the property, however, an impermeable subsurface

obstruction was encountered approximately 8 feet BGL which prohibited advancement beneath this depth. Soil boring GP-4 was therefore advanced further east from borings around GP-3, but was chosen to cover the southern boundary of the site. The locations of Soil Borings GP-1, GP-2 and GP-4 are depicted on the Site Map (Figure 1).

All soil borings were continuously sampled with a 4-foot long, 2-inch diameter stainless steel sampler. An acetate sleeve lined the sampler to aid in the recovery and removal of the core sample. Upon recovery, the sleeve was removed from the sample barrel and sliced open lengthwise to reveal the undisturbed core sample. Portions of the core sample were removed from the sample barrel and screened using a photoionization detector (PID), a device which measures the presence of organic vapors. Before and after boring, downhole equipment was decontaminated to minimize the potential for cross-contamination. Between successive sample intervals, the sampling equipment was cleaned in an aqueous solution of non-phosphate detergent and water, rinsed with tap water, and rinsed a second time with tap water.

One soil sample per boring was collected for subsequent laboratory analysis as determined by either the depth above the water table exhibiting the greatest level of organic vapors based on field screening results or immediately above the observed water table. The PID field screening results are included on the boring logs in Appendix A. The soil samples submitted for laboratory analysis were collected from the following depths BGL: GP-1 at 12 feet, GP-2 at 8 feet, and GP-4 at 16 feet. A soil sample was not submitted from any of the borings associated with GP-3. Each jar was filled completely to minimize headspace and potential loss of organic vapors. The sample jars were labeled and placed in an ice-filled cooler. Collected samples were analyzed for the presence of volatile organic compounds (VOCs) via EPA SW 846 Method 8260A, and semi-volatile organic compounds (SVOCs) via EPA SW 846 Method 8270B. Analytical services were provided by First Environmental Laboratories, Inc. in Naperville, Illinois.

The soil borings were logged in the field by an ATC engineer and the soils were classified according to the Unified Soil Classification System (ASTM D 2487-93). The soil boring logs are attached as Appendix A. The site was paved with asphalt, under which the site geology generally consisted of fill material (sand, clay, stones, black ash, cinders, glass, etc.) down to approximately 7 to 8 feet BGL. Clay drain tile was encountered in each of the borings between 7 and 8 feet BGL. A tan poorly sorted medium grained sand grading to a well graded fine to medium sand was encountered beneath the fill and extending to the maximum depth of the soil borings.

GROUNDWATER SAMPLING PROCEDURE

A groundwater sample was collected from the monitoring well (MW-1), which is located on the southeast corner of the property. Prior to collecting the groundwater sample, the depth to water was gauged at 15.33 feet below the top of the stick-up pro-cover casing (approximately 12 feet BGL). Approximately three well volumes of water was purged from the monitoring well and the groundwater sample was collected using a disposable Teflon bailer and nylon twine. There was no odor or sheen noticed in or on the water. After collection, the sample was labeled and placed in an ice-filled cooler where it was transported along with the soil samples referenced-above. The groundwater sample was analyzed for VOCs via EPA SW846 Method 8260A, SVOCs via EPA

SW846 Method 8270B, as well as Priority Pollutant metals via EPA SW846 Method 6010 in an effort to identify the presence or absence of contamination.

SOIL ANALYTICAL RESULTS

Soil analytical results are summarized below in Table 1 and are presented in full in Appendix B. Please note that only those compounds which returned measurable concentrations of a VOC or SVOC compounds are listed below.

TABLE 1 - SOIL ANALYTICAL RESULTS

Analyte	TACO Tier 1 Soil Remediation Objective	GP-1 16'	GP-2 8'	GP-4 16'
Acetone	7,800	<0.010	0.426	<0.010
2-Butanone	-	<0.010	0.027	<0.010
Acenaphthene	4,700	<0.330	1.620	<0.330
Anthracene	23,000	<0.330	1.580	<0.330
Benzo(a)anthracene	**0.900**	**0.927J**	**3.390J**	<0.330
Benzo(b)fluoranthene	**0.900**	**1.120J**	**3.380J**	<0.330
Benzo(k)fluoranthene	9.0	0.755J	3.700J	<0.330
Benzo(a)pyrene	**0.09**	**0.778J**	**3.240J**	<0.330
bis(2-Chlorethyl)ether	**0.2**	<0.330	**2.400**	<0.330
bis(2-Ethylhexyl)phthalate	46	0.781J	<2.000	0.422
Chrysene	88	0.920J	3.400J	<0.330
Dibenzofuran	-	<0.330	1.290	<0.330
Fluoranthene	3,100	1.660	6.100	<0.330
Fluorene	3,100	<0.330	1.260	<0.330
Naphthalene	3,100	<0.330	2.160	<0.330
Phenanthrene	-	1.290	7.280	<0.330
Pyrene	2,300	2.630J	15.000	<0.330

Notes:
1. All results reported in mg/kg (milligrams per kilogram).
2. Analytical Methods: SW846 Method 8260A.
3. Cleanup objectives expressed as TACO Tier 1 Soil Remediation Objectives for Residential Properties - Soil Component of the Groundwater Ingestion Route - Class I Groundwater.
4. "-" Cleanup objective not yet established.
5. <0.330 = Analytical detection limit in mg/kg.
6. "J" indicates the value given is estimated due to matrix interference.

Laboratory analysis of the soil samples detected concentrations of VOCs and SVOCs in the soil samples collected from borings GP-1 (16 feet) and GP-2 (8 feet) . The VOC concentrations detected in the soil samples are all below the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action Objectives (TACO) Tier 1 Soil Remediation Objectives for Residential Properties - Soil Component of the Groundwater Ingestion Exposure Route. A total of four SVOC compounds (listed in **BOLD** type in Table 1) returned concentrations above IEPA TACO Tier 1 Soil Remediation Objectives for Residential Properties- Soil Component of the Groundwater Ingestion Exposure Route.

The soil analytical results were influenced by matrix interference, which was most likely caused by the presence of heavy-end petroleum hydrocarbon compounds which were not included in the specified VOC and SVOC scans. This matrix interference caused some of the analytical detection limits (ADLs) to elevate above the TACO Tier 1 cleanup objective. Therefore, although analytical results for some compounds are listed as being below the detection limits, these ADL's are above the TACO Tier 1 cleanup objectives.

GROUNDWATER ANALYTICAL RESULTS

Groundwater analytical results are summarized below in Table 2 and are presented in full in Appendix B. Please not that only those analytes which returned measurable concentrations are listed below.

TABLE 2 - GROUNDWATER ANALYTICAL RESULTS

Analyte	TACO Tier 1 Groundwater Remediation Objective - Class I/II Groundwater	MW-1
Copper	0.65/0.65	0.002
Nickel	0.1/2.0	0.164
Zinc	5/10	0.008

Notes:
1. All results reported in mg/kg (milligrams per kilogram).
2. Analytical Methods: EPA SW846 Method 6010.
3. Cleanup objectives expressed as Tier 1 Groundwater Remediation Objective for Class I (potable) and Class II (non-potable) Groundwater

Laboratory results for the groundwater sample collected from monitoring well MW-1 indicated no detectable VOCs or SVOCs in the groundwater sample, however, there were three metal constituents detected. Without demonstrating that the groundwater meets the criteria for Class II, the groundwater encountered at the site would be expected to be Class I groundwater, for which the Nickel Tier I cleanup objective has been exceeded. However, the City of Chicago has a Memorandum of Understanding prohibiting the use of all groundwater within the City of Chicago for potable uses, therefore, the groundwater ingestion exposure route could be eliminated from consideration from a regulatory standpoint.

CONCLUSIONS

ATC completed a Phase II subsurface investigation at the site. A total of four soil borings (GP-1, GP-2, GP-3, and GP-4) and one monitoring well (MW-1) were completed. Soil samples were collected from soil borings GP-1, GP-2, and GP-4. A groundwater sample was collected from monitoring well MW-1.

Based on soil analytical results, the concentrations of the following compounds exceeded the Tier 1 soil remediation objectives established for residential properties (35 IAC 742, Appendix B, Table A, IPCB 1997): Benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, and bis(2-chlorethyl)ether. However, only the concentration of benzo(a)pyrene in the soil sample collected from soil boring GP-2 exceeded the SROs for the industrial/commercial properties (35 IAC 742, Appendix B, Table B, IPCB 1997).

Groundwater analytical results indicated that the concentrations of VOCs and SVOCs did not exceed the laboratory detection limits. In addition, the concentrations of detected metals were below Tier 1 groundwater remediation objectives for Class II groundwater (35 IAC 742 Appendix B, Table E, IPCB 1997).

During the Phase II drilling activities, approximately seven to ten feet of fill material was encountered at all soil boring locations. Therefore, the detected PNA compounds in the soil samples collected from soil borings GP-1 and GP-2 are attributed to the fill material that was most likely brought to the site from an unknown source. Please note that the PNA compounds detected on site are often found in the fill material generated during the Chicago fire. Therefore, ATC does not recommend completion of an additional subsurface investigation at this time.

Further characterization of the excavated soils is recommended by collecting a composite sample during the excavation activities. Based on the waste characterization results, the excavated soils should be handled appropriately. In addition, construction workers should be notified and protective health and safety measures consistent with good industrial hygiene practices should be followed during the construction activities.

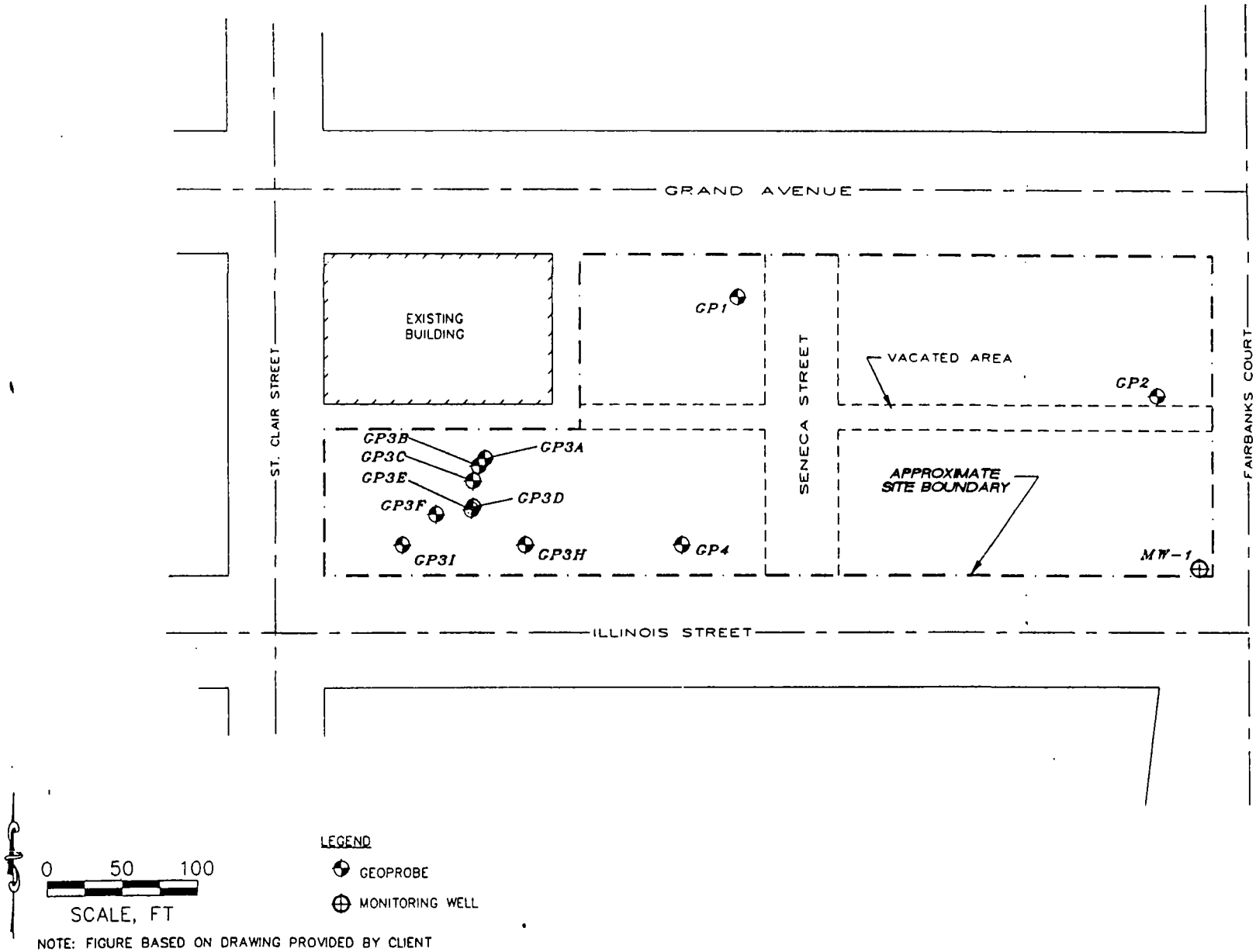
We appreciate the opportunity to be of service to you for this project and look forward to working with you on future assignments. In the meantime, if you have questions regarding information in this report or if we can be of further assistance, please do not hesitate to contact ATC at (630) 916-7272.

Sincerely,
ATC Associates Inc.

Chris Jaros
Project Engineer

Michael P. Hays
Environmental Services Manager

FIGURES



NOTE: FIGURE BASED ON DRAWING PROVIDED BY CLIENT

SITE / GEOPROBE BORING LOCATION MAP

PROPERTY LOCATED AT
BLOCK 1 OF CITY FRONT CENTER PLAZA
CHCIAGO, IL

DATE: 9/23/97	FILE: 62650.0001
DRAWN BY: BK	FIGURE NO.1
CAD FILE: SITEPLAN	

2777 Finley Road, Suite #4
Downers Grove, Illinois 60515
Ph: (630) 916-7272 * Fax: (630) 916-7013
ATC

APPENDIX A

FIELD BORING LOGS

LUST Incident Number:	LOG OF SOIL BORING NO.: GP-1 FILE # 62650.0001	PAGE 1 OF 1
SITE NAME: BLOCK 1 OF CITYFRONT CENTER PLAZA CHICAGO, IL	BORING LOCATION: CLIENT: R.M. CHIN & ASSOCIATES CHICAGO, IL	DATE: START 9/15/97 FINISH 9/15/97

GROUND ELEVATION: (EST.)

NUMBER	TYPE	RECOVERY	DEPTH (FT)	LITH.	Detailed Soil and Rock Description Note: Stratification lines are approximate and in-situ transition between soil types may be gradual	SAMPLE DATA PL % Water Content % LL % 10 20 30 40 50 Standard Penetration Test - 'N' Values 10 20 30 40 50	Qu or Qp*	OVA / PID / FID	REMARKS:
					0.25" of Asphalt over stone, ash, cinder FILL				
1			2.5		Brown silty CLAY little stone				
								3	
			5.0						
2					black glass, stone, ash, cinder fill				
			7.5		Black fine silty SAND (SM) clay tile at 7.5'				
								7	
3			10.0						
			12.5					6	
4			15.0 ▽						
					Tan medium to coarse well graded SAND (SW)			5	
5			17.5						
			20.0					7	
					BORING TERMINATED AT 20.0'				

Groundwater Data		LEGEND:	
15.0 FT. W.D.	AUGER DEPTH:	SPLIT-SPOON, AUGER, SHELBY TUBE	ATC Associates, Inc.
____ FT. AT COMPLETION	ROTARY DEPTH:	PISTON, ROCK CORE	2771 FINLEY ROAD, UNIT #4
____ FT. AT ____ HR. A.D.	RIG TYPE:	W.D. - WHILE DRILLING, A.D.- AFTER DRILLING	DOWNERS GROVE, IL * PH: (630) 916-7272
____ FT. AT ____ HR. A.D.	INSPECTOR: C. JAROS	THE 'N' VALUES IN THE STANDARD PENETRATION TEST ARE BLOWS PER FOOT REQUIRED TO DRIVE A 2-IN. O.D. SPLIT-SPOON SAMPLER USING A 140 LB. WEIGHT FALLING FREE FOR A DISTANCE OF 30 INCHES.	
	DRILLER: PARAMOUNT		
	HELPER:		

*Qu = Unconfined Compressive Strength (TSF) and Qp = Calibrated Penetrometer (TSF). An asterisk following a value in this column denotes a Qp reading, i.e., 1.6**

LUST Incident Number:	LOG OF SOIL BORING NO.: GP-2 FILE # 62650.0001	PAGE 1 OF 1
SITE NAME: BLOCK 1 OF CITYFRONT CENTER PLAZA CHICAGO, IL	BORING LOCATION: CLIENT: R.M. CHIN & ASSOCIATES CHICAGO, IL	DATE: START 9/15/97 FINISH 9/15/97

GROUND ELEVATION: (EST.)

NUMBER	TYPE	RECOVERY	DEPTH (FT)	LITH.	Detailed Soil and Rock Description Note: Stratification lines are approximate and in-situ transition between soil types may be gradual	SAMPLE DATA PL % Water Content % LL % 10 20 30 40 50 Standard Penetration Test - 'N' Values 10 20 30 40 50	Qu or Qp*	OVA / PID / FID	REMARKS:
					0.25" Asphalt over subgrade/stone				
1			2.5		Black, ash, stone, cinder FILL				
								13	
			5.0						
2									
			7.5		clay fragments at 7.0'			301	
3			10.0		Tan medium grain, poorly sorted SAND (SP)			10	
								29	
			12.5						
4									
			15.0 ▽		Gray fine to medium SAND, slight petroleum odor (SP)				
								118	
			17.5						
5									
			20.0					116	
					BORING TERMINATED AT 20.0'				

Groundwater Data		LEGEND:	
15.0 FT. W.D.	AUGER DEPTH:	SPLIT-SPOON, AUGER, SHELBY TUBE	ATC Associates, Inc.
____ FT. AT COMPLETION	ROTARY DEPTH:	PISTON, ROCK CORE	2777 FINLEY ROAD, UNIT #4
____ FT. AT ____ HR. A.D.	RIG TYPE:	W.D. - WHILE DRILLING, A.D.- AFTER DRILLING	DOWNERS GROVE, IL * PH: (630) 916-7272
____ FT. AT ____ HR. A.D.	INSPECTOR: C. JAROS	THE 'N' VALUES IN THE STANDARD PENETRATION TEST ARE BLOWS PER FOOT REQUIRED TO DRIVE A 2-IN. O.D. SPLIT-SPOON SAMPLER USING A 140 LB. WEIGHT FALLING FREE FOR A DISTANCE OF 30 INCHES.	
	DRILLER: PARAMOUNT		
	HELPER:		

Qu = Unconfined Compressive Strength (TSF) and Qp = Calibrated Penetrometer (TSF). An asterisk following a value in this column denotes a Qp reading, i.e., 1.6

LUST Incident Number:	LOG OF SOIL BORING NO.: GP-3 FILE # 62650.0001	PAGE 1 OF 1
SITE NAME: BLOCK 1 OF CITYFRONT CENTER PLAZA CHICAGO, IL	BORING LOCATION: CLIENT: R.M. CHIN & ASSOCIATES CHICAGO, IL	DATE: START 9/15/97 FINISH 9/15/97

GROUND ELEVATION: (EST.)

NUMBER	TYPE	RECOVERY	DEPTH (FT)	LITH.	Detailed Soil and Rock Description Note: Stratification lines are approximate and in-situ transition between soil types may be gradual	SAMPLE DATA PL % Water Content % LL % 10 20 30 40 50 Standard Penetration Test - 'N' Values 10 20 30 40 50	Qu or Qp*	OVA / PID / FID	REMARKS:
					0.25" of Asphalt over Stone, rubble, ash FILL				
			2.5						
			5.0						
			7.5		Stone, powder, concrete Fill AUGER REFUSAL A 8.0' BORING TERMINATED				

Groundwater Data		LEGEND:	
____FT. W.D.	AUGER DEPTH:	SPLIT-SPOON, AUGER, SHELBY TUBE	ATC Associates, Inc.
____FT. AT COMPLETION	ROTARY DEPTH:	PISTON, ROCK CORE	2777 FINLEY ROAD, UNIT #4
____FT. AT ____HR. A.D.	RIG TYPE:	W.D. - WHILE DRILLING, A.D.- AFTER DRILLING	DOWNERS GROVE, IL * PH: (630) 916-7272
____FT. AT ____HR. A.D.	INSPECTOR: C. JAROS	THE 'N' VALUES IN THE STANDARD PENETRATION TEST ARE BLOWS PER FOOT REQUIRED TO DRIVE A 2-IN. O.D. SPLIT-SPOON SAMPLER USING A 140 LB. WEIGHT FALLING FREE FOR A DISTANCE OF 30 INCHES.	
	DRILLER: PARAMOUNT		
	HELPER:		

Qu = Unconfined Compressive Strength (TSF) and Qp = Calibrated Penetrometer (TSF). An asterisk following a value in this column denotes a Qp reading, i.e., 1.6

LUST Incident Number:	LOG OF SOIL BORING NO.: GP-4 FILE # 62650.0001	PAGE 1 OF 1
SITE NAME: BLOCK 1 OF CITYFRONT CENTER PLAZA CHICAGO, IL	BORING LOCATION: CLIENT: R.M. CHIN & ASSOCIATES CHICAGO, IL	DATE: START 9/15/97 FINISH 9/15/97

GROUND ELEVATION: (EST.)

NUMBER	TYPE	RECOVERY	DEPTH (FT)	LITH.	Detailed Soil and Rock Description Note: Stratification lines are approximate and in-situ transition between soil types may be gradual	SAMPLE DATA PL % Water Content % LL % 10 20 30 40 50 Standard Penetration Test - 'N' Values 10 20 30 40 50	Qu or Qp*	OVA / PID / FID	REMARKS:
					0.25" of Asphalt over Stone, sand, clay, brick FILL				
1			2.5						
								7	
			5.0						
2									
			7.5		Clay tile/brick Tan, medium grain poorly graded beach SAND (SP)			11	
3			10.0						
			12.5		apparent stuff in sample #4 from 12.0' to 14.0' similar to fill in previous borings.			10	
4			15.0						
					similar in sample #5 from 16.0' to 18.0'			9	
5			17.5						
			20.0					10	
					BORING TERMINATED AT 20.0'				

Groundwater Data		LEGEND:	
16.0 FT. W.D.	AUGER DEPTH:	SPLIT-SPOON, AUGER, SHELBY TUBE	ATC Associates, Inc.
____ FT. AT COMPLETION	ROTARY DEPTH:	PISTON, ROCK CORE	2777 FINLEY ROAD, UNIT #4
____ FT. AT ____ HR. A.D.	RIG TYPE:	W.D. - WHILE DRILLING, A.D.- AFTER DRILLING	DOWNERS GROVE, IL * PH: (630) 916-7272
____ FT. AT ____ HR. A.D.	INSPECTOR: C. JAROS	THE 'N' VALUES IN THE STANDARD PENETRATION TEST ARE BLOWS PER FOOT REQUIRED TO DRIVE A 2-IN. O.D. SPLIT-SPOON SAMPLER USING A 140 LB. WEIGHT FALLING FREE FOR A DISTANCE OF 30 INCHES.	
	DRILLER: PARAMOUNT		
	HELPER:		

Qu = Unconfined Compressive Strength (TSF) and Qp = Calibrated Penetrometer (TSF). An asterisk following a value in this column denotes a Qp reading, i.e., 1.6

APPENDIX B

LABORATORY REPORTS

First Environmental Laboratories, Inc.
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233
IEPA Certification #100292

September 18, 1997

Mr. Mike Hays
ATC ASSOCIATES, INC.
2777 Finley Road, Unit 4
Downers Grove, IL 60515

Dear Mr. Hays:

Enclosed are the analytical results in for the samples received by First Environmental Laboratories, Inc. on September 15, 1997. These samples were analyzed for volatiles, semi-volatiles and metals

PROJECT SUMMARY

Sample analyses were performed in accordance with the methods found in the USEPA publication: Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition, July 1992. Specific method references are listed on the Analytical Report.

Samples GP-1 and GP-2 contained non-target analytes that interfered with the semi-volatile analyses. These interfering compounds adversely affected the chromatography and quantitation of some of the target analytes. In an effort to provide you with the lowest possible reporting limits, I have reported the results for these analyses, even though the sample matrix caused some quality control indicators to be out of control. Analytes affected by the sample matrix have been flagged with a "J", and should be considered estimated values.

Results for the soil samples have been expressed on a dry weight basis per method protocol.

All analyses were performed within established holding times, and, except as noted above, all Quality Control criteria as outlined in the methods have been met. QA/QC documentation will remain on file for future reference.

I thank you for the opportunity to be of service and look forward to working with you again in the future. Should you have any questions regarding the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

W. Mottashed

William H. Mottashed
Project Manager

First Environmental Laboratories, Inc.
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IEPA Certification #100292

Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43578	Date Taken:	09/15/97
Sample Description:	GP-4 (16)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
Solids, Total	93.49	%	

Volatile Organic Compounds Method 8260A
Analysis Date: 09/17/97

Acetone	< 10.0	ug/kg	
Benzene	< 5.0	ug/kg	
Bromodichloromethane	< 5.0	ug/kg	
Bromoform	< 5.0	ug/kg	
Bromomethane	< 10.0	ug/kg	
2-Butanone	< 10.0	ug/kg	
Carbon disulfide	< 5.0	ug/kg	
Carbon tetrachloride	< 5.0	ug/kg	
Chlorobenzene	< 5.0	ug/kg	
Chlorodibromomethane	< 5.0	ug/kg	
Chloroethane	< 10.0	ug/kg	
Chloroform	< 5.0	ug/kg	
Chloromethane	< 10.0	ug/kg	
1,1-Dichloroethane	< 5.0	ug/kg	
1,2-Dichloroethane	< 5.0	ug/kg	
1,1-Dichloroethene	< 5.0	ug/kg	
cis-1,2-Dichloroethene	< 5.0	ug/kg	
trans-1,2-Dichloroethene	< 5.0	ug/kg	
1,2-Dichloropropane	< 5.0	ug/kg	
cis-1,3-Dichloropropene	< 5.0	ug/kg	
trans-1,3-Dichloropropene	< 5.0	ug/kg	
Ethyl benzene	< 5.0	ug/kg	
2-Hexanone	< 10.0	ug/kg	
4-Methyl-2-pentanone	< 10.0	ug/kg	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43578	Date Taken:	09/15/97
Sample Description:	GP-4 (16)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
Methylene chloride	< 5.0	ug/kg	
Styrene	< 5.0	ug/kg	
1,1,2,2-Tetrachloroethane	< 5.0	ug/kg	
Tetrachloroethene	< 5.0	ug/kg	
Toluene	< 5.0	ug/kg	
1,1,1-Trichloroethane	< 5.0	ug/kg	
1,1,2-Trichloroethane	< 5.0	ug/kg	
Trichloroethene	< 5.0	ug/kg	
Vinyl Acetate	< 10.0	ug/kg	
Vinyl Chloride	< 10.0	ug/kg	
Xylenes (total)	< 5.0	ug/kg	

Base-Neutral/Acid Compounds Method 8270B

Preparation Date: 09/16/97
Analysis Date: 09/17/97

Acenaphthene	< 330	ug/kg
Acenaphthylene	< 330	ug/kg
Anthracene	< 330	ug/kg
Benzidine	< 330	ug/kg
Benzo[a]anthracene	< 330	ug/kg
Benzo[b]fluoranthene	< 330	ug/kg
Benzo[k]fluoranthene	< 330	ug/kg
Benzo[g,h,i]perylene	< 330	ug/kg
Benzo[a]pyrene	< 330	ug/kg
Benzoic Acid	< 330	ug/kg
Benzyl alcohol	< 330	ug/kg
bis(2-Chloroethoxy)methane	< 330	ug/kg
bis(2-Chloroethyl)ether	< 330	ug/kg

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43578	Date Taken:	09/15/97
Sample Description:	GP-4 (16)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
bis(2-chloroisopropyl)ether	< 330	ug/kg	
bis(2-Ethylhexyl)phthalate	422	ug/kg	
4-Bromophenyl-phenylether	< 330	ug/kg	
Butylbenzylphthalate	< 330	ug/kg	
4-Chloroaniline	< 330	ug/kg	
4-Chloro-3-methylphenol	< 330	ug/kg	
2-Chloronaphthalene	< 330	ug/kg	
2-Chlorophenol	< 330	ug/kg	
4-Chlorophenyl-phenylether	< 330	ug/kg	
Chrysene	< 330	ug/kg	
Dibenz[a,h]anthracene	< 330	ug/kg	
Dibenzofuran	< 330	ug/kg	
1,2-Dichlorobenzene	< 330	ug/kg	
1,3-Dichlorobenzene	< 330	ug/kg	
1,4-Dichlorobenzene	< 330	ug/kg	
3,3'-Dichlorobenzidine	< 660	ug/kg	
2,4-Dichlorophenol	< 330	ug/kg	
Diethylphthalate	< 330	ug/kg	
2,4-Dimethylphenol	< 330	ug/kg	
Dimethylphthalate	< 330	ug/kg	
Di-n-butylphthalate	< 330	ug/kg	
4,6-Dinitro-2-methylphenol	< 1,600	ug/kg	
2,4-Dinitrophenol	< 1,600	ug/kg	
2,4-Dinitrotoluene	< 330	ug/kg	
2,6-Dinitrotoluene	< 330	ug/kg	
Di-n-octylphthalate	< 330	ug/kg	
Fluoranthene	< 330	ug/kg	
Fluorene	< 330	ug/kg	
Hexachlorobenzene	< 330	ug/kg	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43578	Date Taken:	09/15/97
Sample Description:	GP-4 (16)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
Hexachlorobutadiene	< 330	ug/kg	
Hexachlorocyclopentadiene	< 330	ug/kg	
Hexachloroethane	< 330	ug/kg	
Indeno[1,2,3-cd]pyrene	< 330	ug/kg	
Isophorone	< 330	ug/kg	
2-Methylnaphthalene	< 330	ug/kg	
2-Methylphenol	< 330	ug/kg	
3&4-Methylphenol	< 330	ug/kg	
Naphthalene	< 330	ug/kg	
2-Nitroaniline	< 1,600	ug/kg	
3-Nitroaniline	< 1,600	ug/kg	
4-Nitroaniline	< 1,600	ug/kg	
Nitrobenzene	< 330	ug/kg	
2-Nitrophenol	< 1,600	ug/kg	
4-Nitrophenol	< 1,600	ug/kg	
N-Nitrosodimethylamine	< 330	ug/kg	
N-Nitroso-di-n-propylamine	< 330	ug/kg	
n-Nitrosodiphenylamine	< 330	ug/kg	
Pentachlorophenol	< 1,600	ug/kg	
Phenanthrene	< 330	ug/kg	
Phenol	< 330	ug/kg	
Pyrene	< 330	ug/kg	
1,2,4-Trichlorobenzene	< 330	ug/kg	
2,4,5-Trichlorophenol	< 660	ug/kg	
2,4,6-Trichlorophenol	< 330	ug/kg	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43579	Date Taken:	09/15/97
Sample Description:	GP-1 (12)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
Solids, Total	95.17	%	

Volatile Organic Compounds Method 8260A
Analysis Date: 09/17/97

Acetone	< 10.0	ug/kg	
Benzene	< 5.0	ug/kg	
Bromodichloromethane	< 5.0	ug/kg	
Bromoform	< 5.0	ug/kg	
Bromomethane	< 10.0	ug/kg	
2-Butanone	< 10.0	ug/kg	
Carbon disulfide	< 5.0	ug/kg	
Carbon tetrachloride	< 5.0	ug/kg	
Chlorobenzene	< 5.0	ug/kg	
Chlorodibromomethane	< 5.0	ug/kg	
Chloroethane	< 10.0	ug/kg	
Chloroform	< 5.0	ug/kg	
Chloromethane	< 10.0	ug/kg	
1,1-Dichloroethane	< 5.0	ug/kg	
1,2-Dichloroethane	< 5.0	ug/kg	
1,1-Dichloroethene	< 5.0	ug/kg	
cis-1,2-Dichloroethene	< 5.0	ug/kg	
trans-1,2-Dichloroethene	< 5.0	ug/kg	
1,2-Dichloropropane	< 5.0	ug/kg	
cis-1,3-Dichloropropene	< 5.0	ug/kg	
trans-1,3-Dichloropropene	< 5.0	ug/kg	
Ethyl benzene	< 5.0	ug/kg	
2-Hexanone	< 10.0	ug/kg	
4-Methyl-2-pentanone	< 10.0	ug/kg	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43579	Date Taken:	09/15/97
Sample Description:	GP-1 (12)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
Methylene chloride	< 5.0	ug/kg	
Styrene	< 5.0	ug/kg	
1,1,2,2-Tetrachloroethane	< 5.0	ug/kg	
Tetrachloroethene	< 5.0	ug/kg	
Toluene	< 5.0	ug/kg	
1,1,1-Trichloroethane	< 5.0	ug/kg	
1,1,2-Trichloroethane	< 5.0	ug/kg	
Trichloroethene	< 5.0	ug/kg	
Vinyl Acetate	< 10.0	ug/kg	
Vinyl Chloride	< 10.0	ug/kg	
Xylenes (total)	< 5.0	ug/kg	

Base-Neutral/Acid Compounds Method 8270B

Preparation Date: 09/16/97
Analysis Date: 09/17/97

Acenaphthene	< 330	ug/kg	
Acenaphthylene	< 330	ug/kg	
Anthracene	< 330	ug/kg	
Benzidine	< 330	ug/kg	
Benzo[a]anthracene	927	ug/kg	J
Benzo[b]fluoranthene	1,120	ug/kg	J
Benzo[k]fluoranthene	755	ug/kg	J
Benzo[g,h,i]perylene	< 330	ug/kg	
Benzo[a]pyrene	778	ug/kg	J
Benzoic Acid	< 330	ug/kg	
Benzyl alcohol	< 330	ug/kg	
bis(2-Chloroethoxy)methane	< 330	ug/kg	
bis(2-Chloroethyl)ether	< 330	ug/kg	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43579	Date Taken:	09/15/97
Sample Description:	GP-1 (12)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
bis(2-chloroisopropyl)ether	< 330	ug/kg	
bis(2-Ethylhexyl)phthalate	781	ug/kg	J
4-Bromophenyl-phenylether	< 330	ug/kg	
Butylbenzylphthalate	< 330	ug/kg	
4-Chloroaniline	< 330	ug/kg	
4-Chloro-3-methylphenol	< 330	ug/kg	
2-Chloronaphthalene	< 330	ug/kg	
2-Chlorophenol	< 330	ug/kg	
4-Chlorophenyl-phenylether	< 330	ug/kg	
Chrysene	920	ug/kg	J
Dibenz[a,h]anthracene	< 330	ug/kg	
Dibenzofuran	< 330	ug/kg	
1,2-Dichlorobenzene	< 330	ug/kg	
1,3-Dichlorobenzene	< 330	ug/kg	
1,4-Dichlorobenzene	< 330	ug/kg	
3,3'-Dichlorobenzidine	< 660	ug/kg	
2,4-Dichlorophenol	< 330	ug/kg	
Diethylphthalate	< 330	ug/kg	
2,4-Dimethylphenol	< 330	ug/kg	
Dimethylphthalate	< 330	ug/kg	
Di-n-butylphthalate	< 330	ug/kg	
4,6-Dinitro-2-methylphenol	< 1,600	ug/kg	
2,4-Dinitrophenol	< 1,600	ug/kg	
2,4-Dinitrotoluene	< 330	ug/kg	
2,6-Dinitrotoluene	< 330	ug/kg	
Di-n-octylphthalate	< 330	ug/kg	
Fluoranthene	1,660	ug/kg	
Fluorene	< 330	ug/kg	
Hexachlorobenzene	< 330	ug/kg	

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IEPA Certification #100292

Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43579	Date Taken:	09/15/97
Sample Description:	GP-1 (12)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
Hexachlorobutadiene	< 330	ug/kg	
Hexachlorocyclopentadiene	< 330	ug/kg	
Hexachloroethane	< 330	ug/kg	
Indeno[1,2,3-cd]pyrene	< 330	ug/kg	
Isophorone	< 330	ug/kg	
2-Methylnaphthalene	< 330	ug/kg	
2-Methylphenol	< 330	ug/kg	
3&4-Methylphenol	< 330	ug/kg	
Naphthalene	< 330	ug/kg	
2-Nitroaniline	< 1,600	ug/kg	
3-Nitroaniline	< 1,600	ug/kg	
4-Nitroaniline	< 1,600	ug/kg	
Nitrobenzene	< 330	ug/kg	
2-Nitrophenol	< 1,600	ug/kg	
4-Nitrophenol	< 1,600	ug/kg	
N-Nitrosodimethylamine	< 330	ug/kg	
N-Nitroso-di-n-propylamine	< 330	ug/kg	
n-Nitrosodiphenylamine	< 330	ug/kg	
Pentachlorophenol	< 1,600	ug/kg	
Phenanthrene	1,290	ug/kg	
Phenol	< 330	ug/kg	
Pyrene	2,630	ug/kg	J
1,2,4-Trichlorobenzene	< 330	ug/kg	
2,4,5-Trichlorophenol	< 660	ug/kg	
2,4,6-Trichlorophenol	< 330	ug/kg	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43580	Date Taken:	09/15/97
Sample Description:	GP-2 (8)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
Solids, Total	77.37	%	

Volatile Organic Compounds Method 8260A
Analysis Date: 09/17/97

Acetone	426	ug/kg	
Benzene	< 5.0	ug/kg	
Bromodichloromethane	< 5.0	ug/kg	
Bromoform	< 5.0	ug/kg	
Bromomethane	< 10.0	ug/kg	
2-Butanone	26.5	ug/kg	
Carbon disulfide	< 5.0	ug/kg	
Carbon tetrachloride	< 5.0	ug/kg	
Chlorobenzene	< 5.0	ug/kg	
Chlorodibromomethane	< 5.0	ug/kg	
Chloroethane	< 10.0	ug/kg	
Chloroform	< 5.0	ug/kg	
Chloromethane	< 10.0	ug/kg	
1,1-Dichloroethane	< 5.0	ug/kg	
1,2-Dichloroethane	< 5.0	ug/kg	
1,1-Dichloroethene	< 5.0	ug/kg	
cis-1,2-Dichloroethene	< 5.0	ug/kg	
trans-1,2-Dichloroethene	< 5.0	ug/kg	
1,2-Dichloropropane	< 5.0	ug/kg	
cis-1,3-Dichloropropene	< 5.0	ug/kg	
trans-1,3-Dichloropropene	< 5.0	ug/kg	
Ethyl benzene	< 5.0	ug/kg	
2-Hexanone	< 10.0	ug/kg	
4-Methyl-2-pentanone	< 10.0	ug/kg	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43580	Date Taken:	09/15/97
Sample Description:	GP-2 (8)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
Methylene chloride	< 5.0	ug/kg	
Styrene	< 5.0	ug/kg	
1,1,2,2-Tetrachloroethane	< 5.0	ug/kg	
Tetrachloroethene	< 5.0	ug/kg	
Toluene	< 5.0	ug/kg	
1,1,1-Trichloroethane	< 5.0	ug/kg	
1,1,2-Trichloroethane	< 5.0	ug/kg	
Trichloroethene	< 5.0	ug/kg	
Vinyl Acetate	< 10.0	ug/kg	
Vinyl Chloride	< 10.0	ug/kg	
Xylenes (total)	54.4	ug/kg	

Base-Neutral/Acid Compounds Method 8270B

Preparation Date: 09/16/97
Analysis Date: 09/17/97

Acenaphthene	1,620	ug/kg	
Acenaphthylene	< 2,000	ug/kg	
Anthracene	1,580	ug/kg	
Benzidine	< 2,000	ug/kg	
Benzo[a]anthracene	3,390	ug/kg	J
Benzo[b]fluoranthene	3,830	ug/kg	J
Benzo[k]fluoranthene	3,700	ug/kg	J
Benzo[g,h,i]perylene	< 2,000	ug/kg	
Benzo[a]pyrene	3,240	ug/kg	J
Benzoic Acid	< 2,000	ug/kg	
Benzyl alcohol	< 2,000	ug/kg	
bis(2-Chloroethoxy)methane	< 2,000	ug/kg	
bis(2-Chloroethyl)ether	2,400	ug/kg	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43580	Date Taken:	09/15/97
Sample Description:	GP-2 (8)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
bis(2-chloroisopropyl)ether	< 2,000	ug/kg	
bis(2-Ethylhexyl)phthalate	< 2,000	ug/kg	
4-Bromophenyl-phenylether	< 2,000	ug/kg	
Butylbenzylphthalate	< 2,000	ug/kg	
4-Chloroaniline	< 2,000	ug/kg	
4-Chloro-3-methylphenol	< 2,000	ug/kg	
2-Chloronaphthalene	< 2,000	ug/kg	
2-Chlorophenol	< 2,000	ug/kg	
4-Chlorophenyl-phenylether	< 2,000	ug/kg	
Chrysene	3,400	ug/kg	J
Dibenz[a,h]anthracene	< 2,000	ug/kg	
Dibenzofuran	1,290	ug/kg	
1,2-Dichlorobenzene	< 2,000	ug/kg	
1,3-Dichlorobenzene	< 2,000	ug/kg	
1,4-Dichlorobenzene	< 2,000	ug/kg	
3,3'-Dichlorobenzidine	< 4,000	ug/kg	
2,4-Dichlorophenol	< 2,000	ug/kg	
Diethylphthalate	< 2,000	ug/kg	
2,4-Dimethylphenol	< 2,000	ug/kg	
Dimethylphthalate	< 2,000	ug/kg	
Di-n-butylphthalate	< 2,000	ug/kg	
4,6-Dinitro-2-methylphenol	< 10,000	ug/kg	
2,4-Dinitrophenol	< 10,000	ug/kg	
2,4-Dinitrotoluene	< 2,000	ug/kg	
2,6-Dinitrotoluene	< 2,000	ug/kg	
Di-n-octylphthalate	< 2,000	ug/kg	
Fluoranthene	6,100	ug/kg	
Fluorene	1,260	ug/kg	
Hexachlorobenzene	< 2,000	ug/kg	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43580	Date Taken:	09/15/97
Sample Description:	GP-2 (8)	Date Reported:	09/17/97

Analyte	Result	Units	Flags
Hexachlorobutadiene	< 2,000	ug/kg	
Hexachlorocyclopentadiene	< 2,000	ug/kg	
Hexachloroethane	< 2,000	ug/kg	
Indeno[1,2,3-cd]pyrene	< 2,000	ug/kg	
Isophorone	< 2,000	ug/kg	
2-Methylnaphthalene	< 2,000	ug/kg	
2-Methylphenol	< 2,000	ug/kg	
3&4-Methylphenol	< 2,000	ug/kg	
Naphthalene	2,160	ug/kg	
2-Nitroaniline	< 10,000	ug/kg	
3-Nitroaniline	< 10,000	ug/kg	
4-Nitroaniline	< 10,000	ug/kg	
Nitrobenzene	< 2,000	ug/kg	
2-Nitrophenol	< 10,000	ug/kg	
4-Nitrophenol	< 10,000	ug/kg	
N-Nitrosodimethylamine	< 2,000	ug/kg	
N-Nitroso-di-n-propylamine	< 2,000	ug/kg	
n-Nitrosodiphenylamine	< 2,000	ug/kg	
Pentachlorophenol	< 10,000	ug/kg	
Phenanthrene	7,280	ug/kg	
Phenol	< 2,000	ug/kg	
Pyrene	15,000	ug/kg	
1,2,4-Trichlorobenzene	< 2,000	ug/kg	
2,4,5-Trichlorophenol	< 4,000	ug/kg	
2,4,6-Trichlorophenol	< 2,000	ug/kg	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43581	Date Taken:	09/15/97
Sample Description:	MW-1	Date Reported:	09/17/97

Analyte	Result	Units	Date Analyzed	Method
Dissolved Metals				
Antimony	<0.01	mg/L	09/17/97	6010A
Arsenic	<0.002	mg/L	09/17/97	6010A
Beryllium	<0.001	mg/L	09/17/97	6010A
Cadmium	<0.001	mg/L	09/17/97	6010A
Chromium	<0.001	mg/L	09/17/97	6010A
Copper	0.002	mg/L	09/17/97	6010A
Lead	<0.002	mg/L	09/17/97	6010A
Mercury	<0.0005	mg/L	09/17/97	7470A
Nickel	0.164	mg/L	09/17/97	6010A
Selenium	<0.002	mg/L	09/17/97	6010A
Silver	<0.001	mg/L	09/17/97	6010A
Thallium	<0.01	mg/L	09/17/97	6010A
Zinc	0.008	mg/L	09/17/97	6010A

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43581	Date Taken:	09/15/97
Sample Description:	MW-1	Date Reported:	09/17/97

Analyte	Result	Units	Flags
Volatile Organic Compounds Method 8260A			
Analysis Date: 09/16/97			
Acetone	< 10.0	ug/L	
Benzene	< 5.0	ug/L	
Bromodichloromethane	< 5.0	ug/L	
Bromoform	< 5.0	ug/L	
Bromomethane	< 10.0	ug/L	
2-Butanone	< 10.0	ug/L	
Carbon disulfide	< 5.0	ug/L	
Carbon tetrachloride	< 5.0	ug/L	
Chlorobenzene	< 5.0	ug/L	
Chlorodibromomethane	< 5.0	ug/L	
Chloroethane	< 10.0	ug/L	
Chloroform	< 5.0	ug/L	
Chloromethane	< 10.0	ug/L	
1,1-Dichloroethane	< 5.0	ug/L	
1,2-Dichloroethane	< 5.0	ug/L	
1,1-Dichloroethene	< 5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	ug/L	
1,2-Dichloropropane	< 5.0	ug/L	
cis-1,3-Dichloropropene	< 5.0	ug/L	
trans-1,3-Dichloropropene	< 5.0	ug/L	
Ethyl benzene	< 5.0	ug/L	
2-Hexanone	< 10.0	ug/L	
4-Methyl-2-pentanone	< 10.0	ug/L	
Methylene chloride	< 5.0	ug/L	
Styrene	< 5.0	ug/L	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43581	Date Taken:	09/15/97
Sample Description:	MW-1	Date Reported:	09/17/97

Analyte	Result	Units	Flags
1,1,2,2-Tetrachloroethane	< 5.0	ug/L	
Tetrachloroethene	< 5.0	ug/L	
Toluene	< 5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	ug/L	
Trichloroethene	< 5.0	ug/L	
Vinyl Acetate	< 10.0	ug/L	
Vinyl Chloride	< 10.0	ug/L	
Xylenes (total)	< 5.0	ug/L	

Base-Neutral/Acid Compounds Method 8270B

Preparation Date: 09/16/97
Analysis Date: 09/16/97

Acenaphthene	< 10	ug/L	
Acenaphthylene	< 10	ug/L	
Anthracene	< 10	ug/L	
Benzidine	< 10	ug/L	
Benzo[a]anthracene	< 10	ug/L	
Benzo[b]fluoranthene	< 10	ug/L	
Benzo[k]fluoranthene	< 10	ug/L	
Benzo[g,h,i]perylene	< 10	ug/L	
Benzo[a]pyrene	< 10	ug/L	
Benzoic Acid	< 50	ug/L	
Benzyl Alcohol	< 20	ug/L	
bis(2-chloroethoxy)methane	< 10	ug/L	
bis(2-chloroethyl)ether	< 10	ug/L	
bis(2-chloroisopropyl)ether	< 10	ug/L	
bis(2-ethylhexyl)phthalate	< 10	ug/L	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43581	Date Taken:	09/15/97
Sample Description:	MW-1	Date Reported:	09/17/97

Analyte	Result	Units	Flags
4-Bromophenyl-phenylether	< 10	ug/L	
Butylbenzylphthalate	< 10	ug/L	
4-Chloroaniline	< 10	ug/L	
4-Chloro-3-methylphenol	< 20	ug/L	
2-Chloronaphthalene	< 10	ug/L	
2-Chlorophenol	< 10	ug/L	
4-Chlorophenyl-phenylether	< 10	ug/L	
Chrysene	< 10	ug/L	
Dibenz[a,h]anthracene	< 10	ug/L	
Dibenzofuran	< 10	ug/L	
1,2-Dichlorobenzene	< 10	ug/L	
1,3-Dichlorobenzene	< 10	ug/L	
1,4-Dichlorobenzene	< 10	ug/L	
3,3-Dichorobenzidine	< 20	ug/L	
2,4-Dichlorophenol	< 10	ug/L	
Diethylphthalate	< 10	ug/L	
2,4-Dimethylphenol	< 10	ug/L	
Dimethylphthalate	< 10	ug/L	
Di-n-butylphthalate	< 10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	ug/L	
2,4-Dinitrophenol	< 50	ug/L	
2,4-Dinitrotoluene	< 10	ug/L	
2,6-Dinitrotoluene	< 10	ug/L	
Di-n-octylphthalate	< 10	ug/L	
Fluoranthene	< 10	ug/L	
Fluorene	< 10	ug/L	
Hexachlorobenzene	< 10	ug/L	
Hexachlorobutadiene	< 10	ug/L	
Hexachlorocyclopentadiene	< 10	ug/L	

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Analytical Report

Client:	ATC ASSOCIATES		
Project ID:	Not Provided	Date Received:	09/15/97
Sample Number:	43581	Date Taken:	09/15/97
Sample Description:	MW-1	Date Reported:	09/17/97

Analyte	Result	Units	Flags
Hexachloroethane	< 10	ug/L	
Indeno[1,2,3-cd]pyrene	< 10	ug/L	
Isophorone	< 10	ug/L	
2-Methylnaphthalene	< 10	ug/L	
2-Methylphenol	< 10	ug/L	
3&4-Methylphenol	< 10	ug/L	
Naphthalene	< 10	ug/L	
2-Nitroaniline	< 50	ug/L	
3-Nitroaniline	< 50	ug/L	
4-Nitroaniline	< 20	ug/L	
Nitrobenzene	< 10	ug/L	
2-Nitrophenol	< 10	ug/L	
4-Nitrophenol	< 50	ug/L	
N-Nitrosodimethylamine	< 10	ug/L	
N-Nitroso-di-n-propylamine	< 10	ug/L	
n-Nitrosodiphenylamine	< 10	ug/L	
Pentachlorophenol	< 50	ug/L	
Phenanthrene	< 10	ug/L	
Phenol	< 10	ug/L	
Pyrene	< 10	ug/L	
1,2,4-Trichlorobenzene	< 10	ug/L	
2,4,5-Trichlorophenol	< 10	ug/L	
2,4,6-Trichlorophenol	< 10	ug/L	

CHAIN OF CUSTODY RECORD

First Environmental Laboratories, Inc.
1600 Shore Road • Naperville, Illinois 60563
Phone (630) 778-1200 • Fax (630) 778-1233
24 Hr. Pager (708) 569-7507
E-mail: firstenv@mcs.com
IEPA Certification #100292

COMPANY NAME: ATC ASSOCIATES, INC.
ADDRESS: 2777 FINLEY RD. UNIT 4, DOWNERS GROVE, IL. 60202
PHONE: 630-916-7272 FAX: 630-916-7013
CONTACT NAME: MIKE HAYS
SAMPLED BY: CHRIS JAROS

ANALYSES

Project I.D.
Send Report To: MIKE HAYS / ATC

DATE/TIME TAKEN	SAMPLE DESCRIPTION	MATRIX	VOC 8260	SVOC 8270	METALS (PP) 6010				COMMENTS	LAB I.D.
9/15/97: 1:00pm	GP-4 (16)	S	✓	✓						43578
9/15/97: 9:30	GP-1 (12)	S	✓	✓						43579
9/15/97: 10:30	GP-2 (8')	S	✓	✓						43580
9/15/97: 10:45	GP-2 (20')	S							HOLD UNTIL VERBAL GIVEN	
9/15/97: 2:45pm	MW-1	W	✓	✓		✓				43581

Matrix Codes: S = Soil W = Water O = Other

Preserved in: Lab ☐ Field ☐ Cooler Temperature: _____ °C

Notes and Special Instructions: 48 HR TAT

Relinquished By: [signature] Date/Time 9/15/97 4:55pm Received By: [signature] Date/Time 9/15/97 4:55
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

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RECEIVED
SEP - 4 1997
R.M. CHIN & ASSOCIATES

Phase I Environmental Assessment Update

Block 1 of Cityfront Center Plaza Chicago, Illinois

Report Prepared For:

R.M. Chin and Associates, Inc.
Chicago, Illinois

Smith Technology Project No. 00-8345-01

Prepared:

September 3, 1997

By:

Engineering Services Division
Chicago District Office

ATTACHMENT 26

SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

September 3, 1997

Mr. Ray M. Chin
R.M. Chin and Associates, Inc.
401 North Michigan Avenue, Suite 525
Chicago, Illinois 60611

Subject: Phase I Environmental Assessment Report Update
Block 1 of Cityfront Center Plaza
Chicago, Illinois
Smith Technology Project No. 00-8345-01

Dear Mr. Chin:

Attached for your review, please find the original and one copy of the final update report for the above-referenced project.

Please contact us should you have any questions or comments.

Sincerely,

Julie Visser

Julie Visser
Project Scientist

JAV/jav
p:11\smith\00834501.doc

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PHASE I ENVIRONMENTAL SITE ASSESSMENT

AT

BLOCK 1 OF CITYFRONT CENTER PLAZA
CHICAGO, ILLINOIS

FOR

R.M. CHIN AND ASSOCIATES, INC.

SMITH TECHNOLOGY PROJECT NO. 00-8345-01

PREPARED BY:

JULIE A. VISSER
PROJECT SCIENTIST

APPROVED BY:

ERICH REDSCHLAG
PROJECT MANAGER

©SEPTEMBER 1997
SMITH TECHNOLOGY CORPORATION

SMITH

TABLE OF CONTENTS

		Page
1.0	EXECUTIVE SUMMARY	1
2.0	INTRODUCTION	4
2.1	Forward	4
2.2	Purpose	4
2.3	Special Terms and Conditions	4
2.4	Limitations	4
3.0	SITE DESCRIPTION	5
3.1	Site Location	5
3.2	Site and Vicinity Characteristics	5
3.3	Descriptions of Structures, Roads, and Other Improvements on the Site	6
3.4	Information Reported by User Regarding Environmental Liens or Specialized Knowledge or Experience	6
3.5	Current Uses of the Property	6
3.6	Past Uses of the Property	7
3.7	Current and Past Uses of Adjoining Properties	8
4.0	RECORDS REVIEW	10
4.1	Standard Environmental Record Sources	10
5.0	INFORMATION FROM SITE RECONNAISSANCE AND INTERVIEWS	13
5.1	Non-Hazardous Chemical Usage and Storage Identified at The Property	13
5.2	Hazardous Substance Containers and Unidentified Substance Containers	13
5.3	Storage Tanks	13
5.4	Potential PCB-Containing Equipment	13
5.5	Radon Potential	13
5.6	Solid Waste Disposal	14
5.7	Physical Setting	14
5.8	Subsurface Investigation	15

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TABLE OF CONTENTS
(Continued)

		Page
6.0	CONCLUSIONS	16
7.0	SIGNATURES OF ENVIRONMENTAL PROFESSIONALS	17

APPENDICES

Appendix A	Area Map and Site Diagram
Appendix B	Site Photographs
Appendix C	Qualifications of Environmental Professionals

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1.0 EXECUTIVE SUMMARY

R.M. Chin and Associates, Inc. retained Smith Technology Corporation (Smith Technology) to conduct a phase I environmental site assessment (ESA) update of the property known as Block 1 of Cityfront Center Plaza, Chicago, Illinois (The Property). The ESA focused on identifying hazardous or potentially hazardous materials, wastes, or activities at the subject site and nearby facilities. The original ESA report was prepared by Smith Technology Corporation (formerly BCM Engineers, Inc.) dated May 28, 1991, and a Phase II Subsurface Investigation report was prepared by BCM Engineers, Inc. dated November 20, 1991. Per our scope of work, this ESA contains information from previous reports which has not changed. Julie Visser of Smith Technology surveyed the subject property and surrounding area on August 18, 1997.

The phase I environmental assessment has been completed and with findings as follows:

Current and Past Uses of the Property

- According to the original Phase I Environmental Assessment report, a 1886 atlas indicated that The Property was occupied by a foundry and a facility that manufactured and stored varnish. A 1911 Sanborn map showed The Property with two stables, two blacksmith shops and Commonwealth Edison Company power substation. A 1951 Sanborn map showed The Property with a printing material warehouse, a Commonwealth Edison Power Substation, the Chen-Yu Building with its associated storage facilities, the J.O. Stol & Company grocery warehouse, police traffic headquarters and a parking lot.

  Smith Technology reviewed available aerial photographs from as early as 1968, 1978 and 1994. The 1968 aerial photograph shows a street (Seneca Street) as intersecting The Property. Additionally, several buildings were located on the east half of The Property and the southwest portion of The Property was parking areas. The 1978 aerial photograph is similar to the 1968 photograph with one less building on the east half of the property. The 1994 aerial photograph shows The Property essentially as it currently exists.

- Currently, The Property is an asphalt-paved daily/hourly parking lot which is approximately 108,000 square feet and contains approximately 400 spaces.

On Site Findings

- No chemicals are currently stored on site.

- No transformers were observed on The Property.

- No underground or above ground storage tanks were identified at The Property.

- No strong, pungent or noxious odors were identified on site. No standing water, pits, ponds, lagoons, stressed vegetation, stained soil or pavement (other than typical staining from automobiles), solid waste disposal, waste water discharge, on site drinking water wells or septic systems were observed.

- The original Phase I assessment discovered that The Property had previously been occupied by stables, blacksmith shops, warehouses foundries and manufacturing plants which may have potentially used hazardous materials, therefore, Smith Technology performed a Phase II Subsurface Investigation. The Phase II was performed in 1991 which included the three soil borings of which one was converted to a monitoring well. Results indicated that some of the priority pollutant metals were found at levels above 1991 drinking water standards in the groundwater sample. Analyses of PCBs were below detection limits in the soil and groundwater samples, total organic carbons (TOCs) were elevated in the soil and groundwater samples and total organic halides (TOHs) were elevated only in the groundwater sample based on Illinois Environmental Protection Agency (IEPA) standards at that time.

Off Site Findings

- There are no USEPA National Priorities List (NPL) (documented hazardous waste sites) sites or RCRA-TSD facilities located within a one mile radius of The Property.

- There are no registered underground storage tank (UST) facilities or hazardous material spill sites located adjacent to The Property.

- There are five RCRA hazardous waste generators located adjacent to The Property. No violations have been reported at these sites nor was evidence of chemical storage observed on the outside of these sites.

  ASTM Standard Section 7.1.2.1 states that approximate search distance for a particular record may be reduced due to factors such as a highly urbanized area and possible migration of hazardous substances. The Property is located in the central business district of Chicago. In addition, extensive excavation and land reclamation has altered the natural physical setting and therefore, groundwater flow direction is not known. For these reasons, the following databases have been reduced to less than 1/8 mile from The Property.

- One CERCLIS site is located less than 1/8 mile from The Property. This CERCLIS site is the Lindsay Light II site which is located adjacent to the east of The Property. Currently, this property is a parking lot. Information from the USEPA indicates that removal action was completed on March 13, 1996.

- There are no state superfund sites or landfills located less than 1/8 mile from The Property.

- There is one solid waste facility and one leaking underground storage tank (LUST) facility located less than 1/8 mile from The Property. Chicago Dock & Canal Trust is a solid waste facility and a LUST site which is located adjacent to the east of The Property. This facility has the same address as the above mentioned CERCLIS site which is currently a parking lot.

Summary And Conclusions

In summary, the ESA conducted at Block 1 of Cityfront Center Plaza was consistent with good commercial practice. As defined in ASTM Standard E 1527-97, no recognized environmental conditions were observed or discovered in connection with the subject property except for the following:

- During a Phase II subsurface investigation in 1991, BCM Engineers Inc. discovered soil and groundwater contamination. BCM concluded that although contamination appears to exist beneath The Property, clean-up requirements applied only to groundwater contamination relating to leaking underground storage tanks. Due to the fact that groundwater is not used for drinking water in the area, site contamination can not be attributable to an on site source and there were no state clean-up requirements for this type of situation, BCM concluded that remediation may not be required by the state.

In conclusion, based on our observation and the level of Smith Technology's investigation in the preparation of this report, there appears to be a recognized environmental condition at The Property. Since the initial Phase I Environmental Assessment, the IEPA has adopted new regulations and criteria for evaluating soil and groundwater conditions. For the most part, the analytical data generated during the initial Phase II Environmental Site Assessment is not comparable to current IEPA criteria. As such, Smith Technology recommends resampling soil and groundwater at the subject site and analyzing the samples for parameters outlined in the IEPA guidance document "Tiered Approach to Clean-Up Objectives" published June 1997.

2.0 PROJECT SCOPE AND LIMITATIONS

2.1 FOREWORD

Smith Technology Corporation (Smith Technology) was retained by Mr. Ray M. Chin of R.M. Chin and Associates, Inc. to conduct a Phase I Environmental Site Assessment update of the property identified as Block 1 of Cityfront Center Plaza located in Chicago, Illinois (The Property).

2.2 PURPOSE

The purpose of this assessment was to identify recognized environmental conditions, if any, at The Property by means of interviews, a review of readily available records, and site reconnaissance. An original ESA report was prepared by Smith Technology Corporation (dba BCM Engineers, Inc.) dated May 28, 1991, and a Phase II Subsurface Investigation was conducted by BCM Engineers, Inc. dated November 20, 1991. Per our scope of work, this ESA contains information from previous reports which has not changed. The site reconnaissance was conducted on August 18, 1997 by Julie Visser.

2.3 SPECIAL TERMS AND CONDITIONS

This phase I environmental assessment was performed in conformance with the scope and limitations of ASTM Practice E-1527-97.

2.4 LIMITATIONS

This assessment noted obvious sources of potential on-site contamination, but generally may exclude (a) materials which are identified as consumer products manufactured or handled for sale, resale or distributed by the current on-site operations and (b) materials present on the property which are used for routine custodial and maintenance activities.

This assessment was performed in accordance with generally accepted industry methods and practices. Our findings and conclusions are based on readily available and obtainable information and are not to be considered scientific certainties. The intent of our assessment was to identify environmental concerns which would be evident to an environmental professional and is not intended to represent an exhaustive research of all potential hazards which may exist at the site. This report does not purport to be representative of future site conditions or events. Situations or activities which transpire subsequent to this report and which result in adverse environmental impact on the site are not relevant to this study.

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3.0 SITE DESCRIPTION

3.1 SITE LOCATION

Street Address	217-229 E. Grand Avenue
County	Cook County / North Chicago neighborhood
City, State, Zip Code	Chicago, Illinois 60611
Legal Description - Section, Township, Range	Lot 1 in Block 1 of City Front Center being a resubdivision of Sundry lot in Chicago Deck and Canal Company's Subdivision, Section 10, Township 39 North, Range 14 East.

The Property is bounded by Grand Avenue on the north, Illinois Street and upper Illinois Street on the south, Columbus Drive on the east and St. Clair Street on the west. Additionally, Lake Michigan is located approximately one-quarter mile east of The Property.

3.2 SITE AND VICINITY CHARACTERISTICS

Description Of Site

The Property contains an asphalt paved parking area which is approximately 108,000 square feet and contains approximately 400 parking spaces. No vegetation was observed on site at the time of the assessment. Surface water runoff collects in storm sewers in various areas in the parking lot and along nearby streets.

In addition, no strong, pungent or noxious odors were identified. No standing water, pits, ponds, lagoons, stressed vegetation, stained soil or pavement (other than typical staining from automobiles), solid waste disposal, waste water discharge, on site drinking water wells or septic systems were observed.

Description Of General Area Use

The Property is located in the central business district and is surrounded by parking lots, restaurants and multiple-storied office buildings.

Description Of Area Landforms And Area Topography

The Property is situated at an elevation of approximately 595 feet above mean sea level. Local topography is relatively flat. There is no obvious gradient difference on adjoining properties.

3.3 DESCRIPTIONS OF STRUCTURES, ROADS, AND OTHER IMPROVEMENTS ON THE SITE

Description Of Structures

There are no structures on The Property.

Description Of Heating And Cooling Systems

Not applicable.

Source Of Potable Water

Potable water is supplied from the City of Chicago (Lake Michigan).

Method Of Sewage Disposal

Sanitary sewerage is disposed through the City of Chicago Metropolitan District.

Description Of Roads

ADJOINING ROADS, ALLEYWAYS, RAILROADS	ORIENTATION
Grand Avenue	North
Illinois Street	South
Columbus Drive	East
St. Clair Street	West

3.4 INFORMATION REPORTED BY USER REGARDING ENVIRONMENTAL LIENS OR SPECIALIZED KNOWLEDGE OR EXPERIENCE

None identified.

3.5 CURRENT USES OF THE PROPERTY

The Property is currently a daily/hourly parking lot.

3.6 PAST USES OF THE PROPERTY

Listing of Historical Sources Reviewed:

TYPE OF DOCUMENT	SOURCE/LOCATION	DATE(S)
Aerial photographs	City of Chicago Mapping Department	1968, 1978 and 1994
Environmental Phase I Assessment Report	Smith Technology (dba BCM Engineers, Inc.)	May 28, 1991
Building permits	City of Chicago Building Department	1920s to present
Sanborn Maps	ERIIS/Sanborn	1891, 1906, 1950, 1975 and 1988

Smith Technology reviewed available aerial photographs which showed the following:

1968: The photograph shows a street (Seneca Street) as intersecting The Property. Additionally, several buildings were located on the east half of The Property. Columbus Drive extended north of Grand Avenue and the southwest portion of The Property was parking.

1978: The photograph is similar to the 1968 photograph with one less building on the east half of the property.

1994: The photograph shows The Property essentially as it currently exists.

According to the original Phase I Environmental Assessment report, a 1886 atlas indicated that The Property was occupied by a foundry and a facility that manufactured and stored varnish. A 1911 Sanborn map showed The Property with two stables, two blacksmith shops and Commonwealth Edison Company power substation. A 1951 Sanborn map showed The Property with a printing material warehouse, a Commonwealth Edison Power Substation, the Chen-Yu Building with its associated storage facilities, the J.O. Stol & Company grocery warehouse, police traffic headquarters and a parking lot.

Sanborn maps confirmed information in the orginal Phase I Assessment with the following additional information: Grand Avenue was previously known as Indiana Street; the 1906 map shows single family homes as well as a blacksmith shop on site; the 1950 map shows the Chen-Yu cosmetic packing company, Com Ed substation, and an oil and chemical storage building; the 1975 and 1988 maps show The Property as a parking lot.

Previous Environmental/geotechnical Reports Reviewed

1. Phase I Environmental Assessment for Equitable Real Estate, prepared by BCM Engineers Inc., dated May 28, 1991.

2. Phase II Environmental Assessment Subsurface Investigation for Equitable Real Estate, prepared by BCM Engineers Inc., dated November 20, 1991.

3. Phase I Environmental Assessment for Equitable Real Estate, prepared by BCM Engineers Inc., dated February 19, 1992.

3.7 CURRENT AND PAST USES OF ADJOINING PROPERTIES

Current Uses Of Adjoining Properties

The adjoining properties currently consist of the following:

NAME	ADDRESS	OPERATIONS	ORIENTATION
Parking lot and parking garage	228-256 E. Grand Ave.	Public Parking	North
Northwestern Medical Facility Foundation (Chicago Time-Life Building)	541 N. Fairbanks 303 E. Ohio	Multiple-story office building	Northeast
Parking lot	Illinois St.	Public parking	South
Parking lot	301-349 E. Grand Ave.	Public parking	East
St. Clair Grill	201 E. Grand Ave.	Restaurant	West/northwest
CND Gyros Lounge	205 E. Grand Ave.	Restaurant and pub	West/northwest
Cinema Video Center	207-211 E. Grand Ave.	Video store	West/northwest
Jerry's Food & Liquor	215 E. Grand Ave.	Restaurant and pub	West/northwest
6 - story office building (Kieffer Building)	500 St. Clair St.	General office	West/southwest

Past Uses Of Adjoining Properties

The 1968 aerial photograph shows building and parking lots surrounding The Property. The only buildings which currently exist are those adjacent to the west, west/northwest and north of The Property. The 1978 aerial photograph is the same as the 1968 photograph with the exception of the adjacent property to the south was a parking lot and did not contain a building. The 1994 aerial photograph shows Columbus Drive as a wider road (six lanes), extending further south beyond Grand Avenue and upper Illinois Street had been constructed. Buildings and parking lots where essentially unchanged from 1978.

Sanborn maps do not show coverage of all the adjacent properties and therefore, are not all discussed. The Sanborn maps showed the following information: In 1891, Chicago Dock and Canal property was located adjacent to the east which was occupied by Norwood and Butterfield Lumber Company and the adjacent property to the north was vacant land. In 1906, the adjacent property to the south was James Rice Glass and Print warehouse, Manierre-Yoe Syprup Company, Wakem & McLaughlin Importers and Cobb Cocoa Company. In 1950, the same companies occupied the property to the south. In 1975 and 1988, the adjacent property to the south was a parking lot.

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4.0 RECORDS REVIEW

4.1 STANDARD ENVIRONMENTAL RECORD SOURCES

Federal and state databases were provided by Datasite, Inc. as follows:

STANDARD SOURCE	ORIGINAL SOURCE	DATE *
Federal NPL List	USEPA	6/12/97
Federal CERCLIS List	USEPA	6/12/97
State Superfund Database	IEPA	6/1/97
Federal (RCRA) TSD List	USEPA	4/9/97
Federal RCRA Generators List	USEPA	4/9/97
Federal ERNS List	USEPA	7/3/97
State Landfill/ Solid Waste Disposal Site List	IEPA	5/2/97
State Registered UST List	IEPA	5/30/97
State LUST List	IEPA	7/24/97

*Date of last list update by the database service.

LISTED SITES

Federal National Priorities List (NPL) sites identified within a one mile radius of The Property:

None identified.

Federal RCRA TSD sites identified within a one mile radius of The Property:

None identified.

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Federal RCRA generator sites identified adjacent to The Property:

The following site was identified:

SITE NAME/ID#	ADDRESS	GENERATOR STATUS	DIRECTION
Kieffer-Nolde Engraving Co. #ILD005061536	160 E. Illinois St.	N	West/southwest
Kieffer-Nolde Inc. #ILD045687308	160 E. Illinois St.	S	West/southwest
Andres Fotolab #ILR000021774	160 E. Illinois St.	S	West/southwest
Skyview Film & Video Inc. #ILD984784264	541 N. Fairbanks Crt. Fl. 22	S	Northeast
Optimus Inc. #ILD062478516	161 E. Grand Ave.	S	West/northwest

Key
N - Other state regulated waste to be defined locally to correspond to individual state needs.
S - Small quantity hazardous waste generator

Comments:

No violations were noted at the above sites. Additionally, no evidence of chemical storage was observed on the outside of this facility at the time of the assessment.

Federal ERNS listings identified adjacent to The Property:

None identified.

State registered UST sites identified adjacent to The Property:

None identified.

ASTM Standard Section 7.1.2.1 states that approximate search distance for a particular record may be reduced due to factors such as a highly urbanized area and possible migration of hazardous substances. The Property is located in the central business district of Chicago. In addition, extensive excavation and land reclamation has altered the natural physical setting and therefore, groundwater flow direction is not known. For these reasons, the following databases have been reduced to less than one-eighth mile from The Property.

State Superfund sites identified less than a one-eighth mile radius of The Property:

No sites were identified.

Federal CERCLIS sites identified less than a one-eighth mile radius of The Property:

The following sites were identified:

SITE NAME/ID#	ADDRESS	STATUS	DIRECTION
Lindsay Light II #IL0000002212	316 E. Illinois St.	Removal action completed 3/13/96	Adjacent east

Landfill and or solid waste disposal sites identified less than a one-eighth mile radius of The Property:

The following solid waste disposal facilities were identified:

SITE NAME/ID#	ADDRESS	DISTANCE/DIRECTION
Chicago Dock & Canal Trust #0316085272	316 E. Illinois St.	Adjacent east

State LUST sites identified within a one-eighth mile radius of The Property:

The following sites were identified:

SITE NAME/ID#	ADDRESS	DISTANCE/DIRECTION
The Chicago Dock & Canal Trust #970283	316 E. Illinois St.	Adjacent to the east

5.0 INFORMATION FROM SITE RECONNAISSANCE AND INTERVIEWS

5.1 NON-HAZARDOUS CHEMICAL USAGE AND STORAGE IDENTIFIED AT THE PROPERTY

The current property does not use or store hazardous materials or other chemicals on site.

5.2 HAZARDOUS SUBSTANCE CONTAINERS AND UNIDENTIFIED SUBSTANCE CONTAINERS

Hazardous Substance Containers

None identified.

Unidentified Substance Containers

None identified.

5.3 STORAGE TANKS

Existing and/or Historic Underground Storage Tanks (USTs)

There are currently no USTs located at The Property. Additionally, information from the City of Chicago Department of Environment is currently pending.

Existing and/or Aboveground Storage Tanks (ASTs)

There are currently no ASTs located at The Property.

5.4 POTENTIAL PCB-CONTAINING EQUIPMENT

Electrical Equipment

No transformers were observed on The Property.

Hydraulic Equipment

No hydraulic equipment was observed on The Property.

5.5 RADON POTENTIAL

Per the scope of work, radon testing was not conducted at the subject site. However, according to a 1993 EPA Map of Radon Zones in Illinois, 121 homes were tested for radon from the lowest level of each home in Cook County. The results indicated that 96 percent of the homes were below 4 pCi/L, the level at which the USEPA recommends further testing. Due to the nature of the property use, there does not appear to be a risk for environmental concern at the subject property due to radon.

5.6 SOLID WASTE DISPOSAL

There was no evidence of The Property currently or formerly being used as a solid waste disposal site and/or dump. General refuse is disposed in dumpster located on the north side of The Property. The dumpsters are regularly serviced by Illinois Recycling Service.

5.7 PHYSICAL SETTING

Mandatory Standard Physical Setting Source

TITLE	AUTHOR/ ORIGINAL SOURCE	SOURCE	DATE(S)
USGS 7.5-Minute Topographic Map, Chicago Loop Quad	USGS	Smith Technology	1993

Discretionary Ad Non-Standard Physical Setting Sources

TITLE	AUTHOR/ ORIGINAL SOURCE	SOURCE	DATE
Soil Survey of DuPage and part of Cook Counties, Illinois	USDA	Smith Technology	May 1979

Soil Information

The Property is located in the central business district of Chicago, Illinois. The Chicago area is in the central part of the Central Lowland physiographic province which is characterized as having little or no relief. More specifically, The Property is located in the Chicago Lake Plain of the Great Lakes Section of the Central Lowland Province, on the border of the Carmi Member of the Equality Formation and "Made Land".

The Chicago Lake Plain was the floor of glacial Lake Chicago. It is exceptionally flat with low gently-sloping ridges. The ridges are inconspicuous and many have been obliterated by urban development. Surficial deposits in the area of The Property consists largely of quiet lake water sediments characterized by well bedded silts. The depth to bedrock is approximately 100 feet which is known as the Silurian Dolomite bedrock. Most of the land east of Michigan Avenue in Chicago has undergone extensive fill and land reclamation conducted from the late 1800s to the early 1900s. This area is classified as "Made Land".

Due to the central business district location, the subject area is not included in the USDA Soil Survey of DuPage and Parts of Cook County, Illinois. The area has been extensively excavated and filled during development.

Groundwater Flow Direction

Groundwater in the subject area has been extensively diverted and drained. The natural physical setting has been greatly altered by the long period of urban development in the area. Groundwater flow patterns are uncertain over short distances due to interruption caused by subgrade features such as building foundations, multi-level basements, tunnels and subways. In such settings, the regulatory concern for impact to shallow groundwater is typically low due to degradation over time.

Depth to Groundwater

Smith Technology (dba BCM Engineers, Inc.) performed a Phase II Subsurface Investigation in 1991. According to information from this subsurface investigation, depth to groundwater varied from ten to sixteen feet below ground surface.

5.8 SUBSURFACE INVESTIGATION

The original Phase I assessment discovered that The Property had previously been occupied by stables, blacksmith shops, warehouses foundries and manufacturing plants which may have potentially used hazardous materials, therefore, Smith Technology performed a Phase II Subsurface Investigation. The Phase II was performed in 1991 which included the three soil borings of which one was converted to a monitoring well. Results indicated that some of the priority pollutant metals were found at levels above 1991 drinking water standards in the groundwater sample. Analyses of PCBs were below detection limits in the soil and groundwater samples; and total organic carbons (TOCs) were elevated in the soil and groundwater samples and total organic halide (TOH) were elevated only in the groundwater sample.

At the time of this assessment, a monitoring well was observed at the southeast corner of The Property. Smith Technology contacted Ms. Barbara Hippe from Equitable (the current owner) Engineering Group. Ms. Hippe indicated that there is no records in their files indicating the presence of this monitoring well. It is believed that the well may be located on a city easement.

6.0 CONCLUSIONS

Smith Technology has performed a Phase I Environmental Site Assessment update in conformance with the scope and limitations of ASTM Practice E 1527-97 of the property at Block 1 of Cityfront Center Plaza, Chicago, Illinois. In conclusion, based on our observation and the level of Smith Technology's investigation in the preparation of this report, there appears to be a recognized environmental condition at The Property. Since the initial Phase I Environmental Assessment, the IEPA has adopted new regulations and criteria for evaluating soil and groundwater conditions. For the most part, the analytical data generated during the initial Phase II Environmental Site Assessment is not comparable to current IEPA criteria. As such, Smith Technology recommends resampling soil and groundwater at the subject site and analyzing the samples for parameters outlined in the IEPA guidance document "Tiered Approach to Clean-Up Objectives" published June 1997.

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7.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

The following environmental professionals produced this Phase I Environmental Assessment:

Julie Visser

Julie A. Visser
Project Scientist

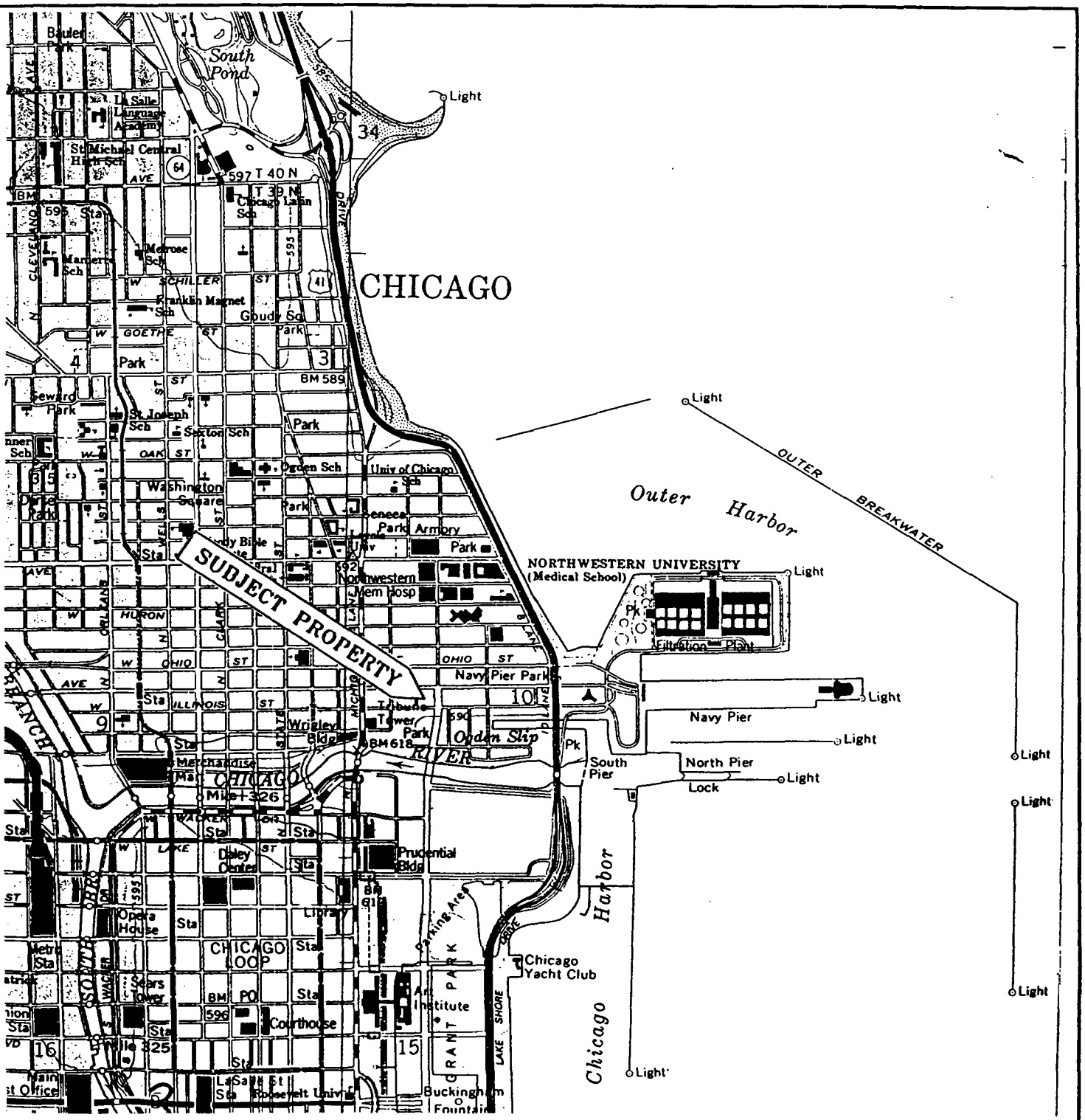
Erich Redschlag

Erich Redschlag
Project Manager

SMITH

APPENDIX A

AREA MAP AND SITE DIAGRAM



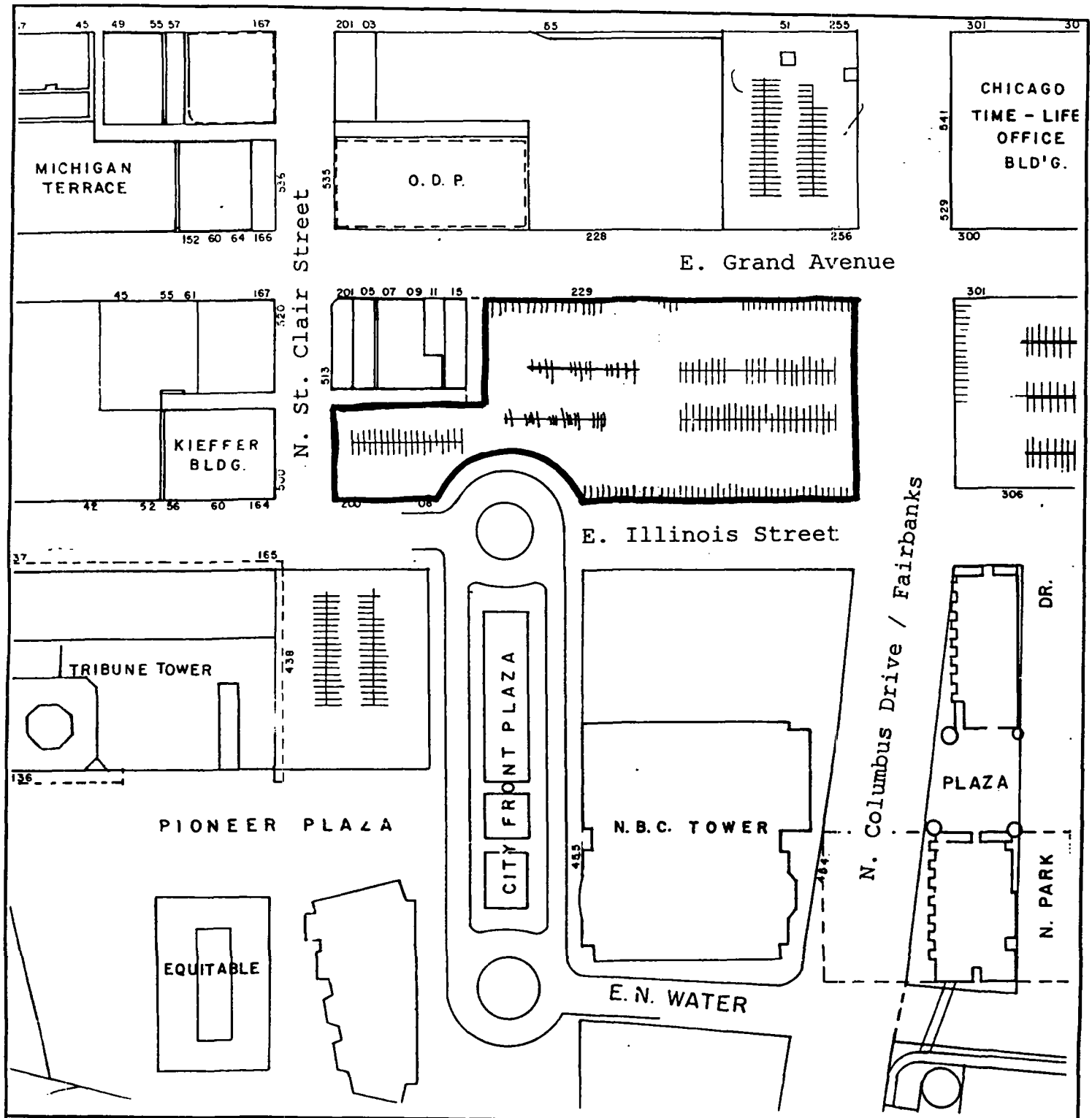
USGS 7.5 minute series topographic map, Chicago Loop Quadrangle, 1993.

AREA MAP

Cityfront Center Plaza
Chicago, Illinois

R.M. Chin & Assoc. Inc.
Smith Project #00-8345-01

SMITH
TECHNOLOGY CORPORATION



Scale unknown

SITE DIAGRAM

Cityfront Center Plaza
Chicago, Illinois

R.M. Chin & Assoc. Inc.
Smith Project #00-8345-01

SMITH
TECHNOLOGY CORPORATION

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APPENDIX B

SITE PHOTOGRAPHS

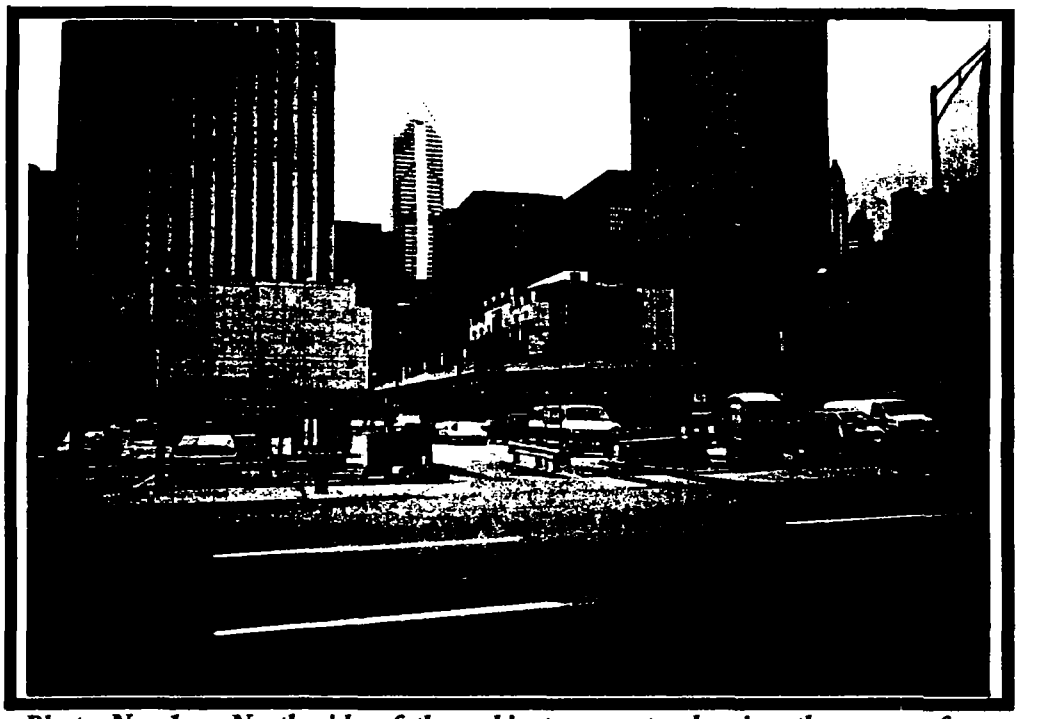

Photo No. 1 - North side of the subject property showing the access from Grand Avenue.

Photo No. 2 - Southern end of the subject property looking north.

Photo No. 3 - Southeast corner of the subject property showing a monitoring well.

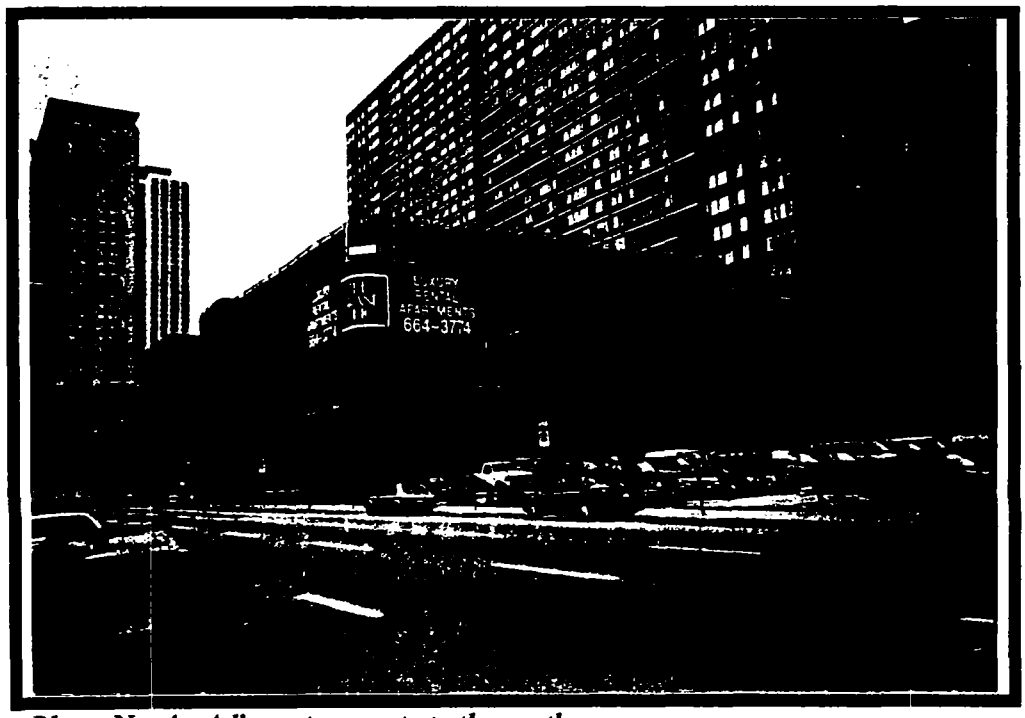

Photo No. 4 - Adjacent property to the north.

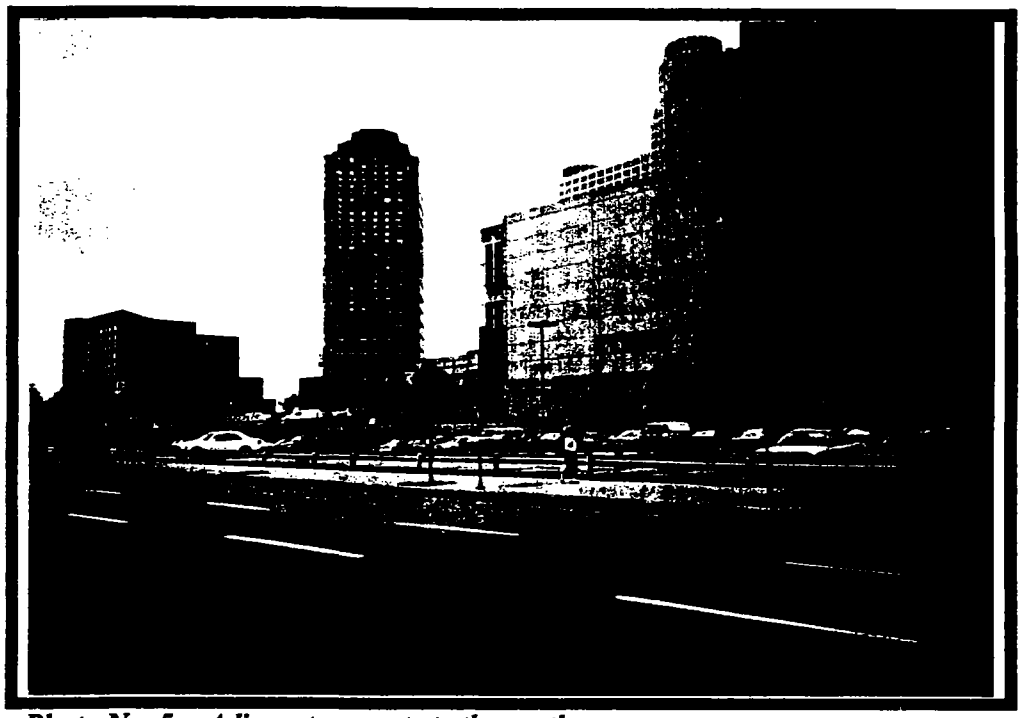

Photo No. 5 - Adjacent property to the south.

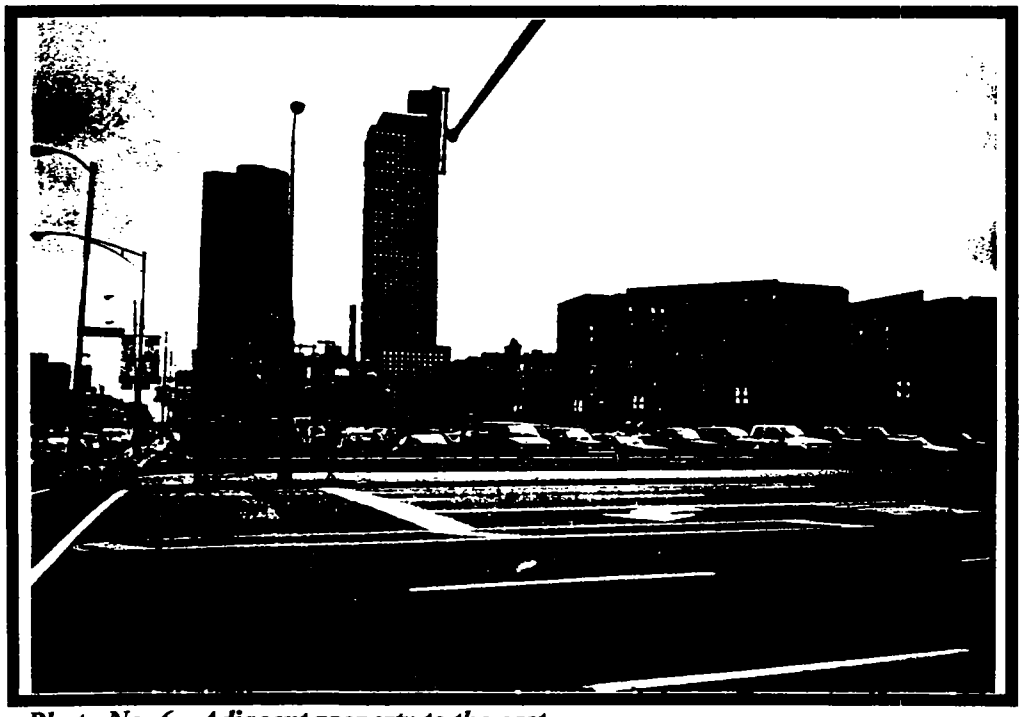

Photo No. 6 - Adjacent property to the east.

Photo No. 7 - Adjacent properties to the west/northwest.

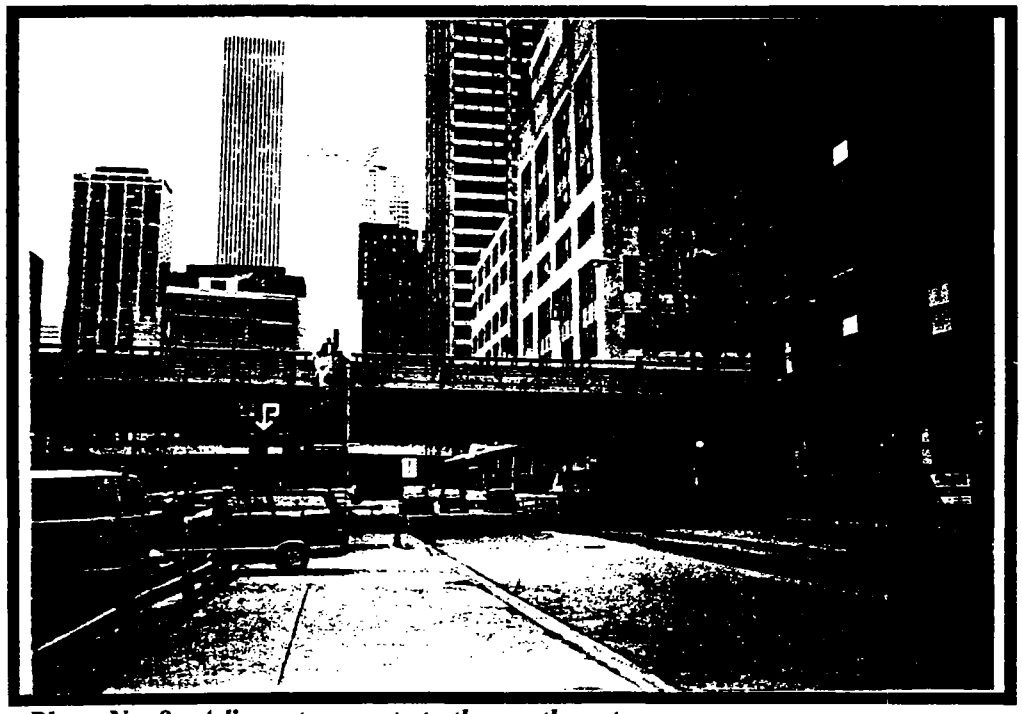

Photo No. 8 - Adjacent property to the southwest.

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APPENDIX C

QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

JULIE A. VISSER
SCIENTIST III

PROFESSIONAL SUMMARY

Approximately eight years experience conducting environmental inspections and assessing environmental hazards for more than nine hundred properties. Experience includes: Conducting Phase I Environmental Site Assessments (ESAs), Transaction Screen Assessments, Asbestos Building Surveys, Air Quality Surveys and county health inspections; Proficient in project management skills including proposal writing, scheduling, coordinating, QA/QC, and estimating time for budget constraints; Sampling of asbestos building materials, lead-based paint, radon, hydraulic fluids for PCB's, groundwater, sediment, surface waters, drinking water and soils; Prepared Health and Safety Plans, Work Plans, Hazardous Ranking System (HRS) scoring packages to determine priority clean-up of USEPA Superfund Sites; and Conducted pre-remedial site investigations for potential hazardous waste sites under the USEPA CERCLA and Superfund programs.

KEY PROJECT EXPERIENCE:

- Performed over 900 Phase I Environmental Assessments for industrial, commercial, residential and undeveloped properties for private institutions and lenders.

  -- Approximately 500 of these Phase I Environmental Assessments included a limited asbestos survey which includes: locating and identifying asbestos-containing materials (ACM) in the building, determine homogeneous areas, friability, potential for disturbance, condition of materials, and amount of ACM in the building.

  -- During asbestos building surveys, collected non-friable and friable materials for analysis using Polarized Light Microscopy (PLM). Based on the condition, location, and friability, an Operations and Maintenance (O&M) program was established.

- Managed and conducted ESAs for fourteen regional malls in the US.

- Prepared and coordinated Operation and Maintenance (O&M) Manuals for fourteen regional malls.

- Prepared, coordinated and managed ESAs for twenty bowling alleys in the US.

- Coordinated, conducted and developed report format for Transaction Screen Assessments of various properties for the Milwaukee General Mitchell Airport Expansion Project in Wisconsin.

- Conducted asbestos air monitoring for the abatement of asbestos in a vacant, 500,000-square foot industrial plant in Moline, Illinois.

- Conducted asbestos air monitoring (using NIOSH 7400 method) and medical surveillance of workers to abate asbestos-containing insulation on several 10,000-square foot boilers at the Zenith plant in Cook County, Illinois.

- Recorded monthly OSHA personal sampling results for an asbestos abatement project at Cook County Hospital in Chicago, Illinois.

- Conducted numerous environmental health inspections including food sanitation, potable water supplies, private sewage disposal, nuisance control, vector and rodent control, housing and day care centers for the DuPage County Health Department.

- Project Manager for pre-remediation investigations for hazardous waste sites under CERCLA and Superfund programs for the following sites:

  - Closed Sanitary Landfill, Newbury, Ohio
  - Residential Property, Rising Sun, Ohio
  - Colfor, Inc., Malvern, Ohio
  - Prestolite Electric, Mansfield, Ohio
  - Rockwell International - Highway Brake Division, Ashtabula, Ohio
  - Middletown Sanitary Landfill, Middletown, Ohio
  - Niles Works, Niles, Ohio
  - NuGlo Laboratories, Beavercreek, Ohio

EDUCATION:

Bachelor of Science, May 1989
Northern Illinois University
DeKalb, Illinois
Major: Community Health
Minor: Sociology

ADDITIONAL EDUCATION & PROFESSIONAL CERTIFICATIONS:

- Hydrogeology
- 40-Hour Basic Health and Safety Training Course
- Sampling and Evaluating Airborne Asbestos Dust (NIOSH 582)
- Building Inspectors Training (AHERA certified)
- State of Illinois Department of Public Health Asbestos Professional License (ID# 100-6034)
  Lead Inspectors Certificate

ERICH REDSCHLAG, CHMM
PROJECT MANAGER/SCIENTIST III

PROFESSIONAL SUMMARY

Mr. Redschlag has over ten years of experience relating to environmental services for government and private industry. Mr. Redschlag has experience in Phase I and II environmental site assessments, asbestos surveys and UST assessments.

Mr. Redschlag has specific expertise in the coordination and execution of phase I and II environmental site assessment projects, many phases of asbestos management projects, including surveys, hazard assessments, management plans and cost estimates and in the design and management of UST removal and LUST closure projects.

Mr. Redschlag's experience also includes management responsibilities such as preparation of proposals, client management, project administration and scheduling and general project supervision.

KEY PROJECT EXPERIENCE - ENVIRONMENTAL SITE ASSESSMENTS

Mr. Redschlag has been involved in over 400 Phase I and II Environmental Site Assessments. Details regarding some of these projects are provided below.

Phase I and II Environmental Assessment/Former Small Airport: Project manager and primary site investigator for an environmental site assessment of a closed airfield in metropolitan St. Louis. The project included review and evaluation of existing environmental reports with a focus on UST removals done at the site. In addition, a site inspection identified several other potential environmental concerns associated with the airfield operations. The potential concerns were addressed in the phase II subsurface investigation and the transaction was completed for redevelopment of a portion of this urban "brownfield".

·Phase I and II Environmental Assessment/Former Lawn Care Facility: Project scientist for phase I and II environmental assessment at a former lawn care facility in Indianapolis, Indiana. The property assessment included review and evaluation of existing reports which described conditions at the lawn care facility while it was in operation. Potential concerns identified at the site included the presence of an UST, evidence of significant areas of surface staining and use of potentially hazardous pesticides and herbicides. The phase II subsurface investigation included testing of soil and groundwater for pesticide, herbicide and petroleum compounds.

Phase I Environmental Assessments/ 14 Regional Shopping Malls: Project scientist and field investigator for several large regional shopping centers. The environmental site assessments included review of existing environmental reports and incorporation of available information into an updated environmental report.

- **Phase I and II Environmental Assessment/Commercial Properties:** Project scientist for over four hundred straight forward phase I environmental assessments at commercial office, retail and light industrial facilities throughout the country. Many of the projects included review and evaluation of existing reports or review of government agency files to assess the environmental quality of the sites. The diversity of site locations has provided a wide range of experience with various local and state regulatory environments.

·**Phase II Environmental Assessment/25 Industrial Sites:** Lead project scientist for subsurface investigations at 25 industrial sites in suburban Chicago and Detroit. Identified potential environmental concerns were addressed and transaction regarding the industrial properties was completed.

Phase I and II Environmental Assessments/18 Industrial Sites: Project scientist for phase I and II environmental assessments at 18 light industrial facilities in Pennsylvania.

Agency File Review/ Various Sites: Conducted review of files regarding potential on-site and off-site environmental issues to evaluate the environmental quality of the properties in question. The files have originated from numerous state and local agencies.

Phase I and II Environmental Assessment/Hotel Facility/Suburban Chicago: Project scientist for a phase I assessment which identified past use as a car rental facility. Subsequent investigation using ground penetrating radar and a magnetometer survey identified the presence of underground storage tanks. The tanks were removed and the sale of the hotel facility was completed.

Subsurface Investigation/Former Landfill: Project scientist for a subsurface investigation at a golf course which had been built over a landfill. Groundwater levels and quality were measured for the design of a leachate management system to prevent discharge to a surface waterway.

KEY PROJECT EXPERIENCE -ASBESTOS SURVEYS

Mr. Redschlag has been involved in over 200 asbestos surveys which included areas greater than 250,000 square feet. Details regarding some of these projects are provided below.

- **AHERA Reinspections and Management Plans/Chicago Public Schools:** Field inspector conducting surveys for asbestos-containing materials including a hazard assessment at over thirty schools. Assisted in preparation of report.

- **Comprehensive Asbestos Survey and Hazard Assessment/Shaw Air Force Base:** Field inspector for an AHERA level inspection with hazard assessment and sample collection at a large air force installation. Primary inspector for sensitive base housing surveys.

- **Comprehensive Asbestos Survey and Hazard Assessment/Pennsylvania Military Base:** Field inspector for an AHERA level inspection with hazard assessment and sample collection at 2.8 million square foot military base.

- **Comprehensive Asbestos Survey and Hazard Assessment/Great Lakes Naval Base:** Project coordinator and field inspector for an AHERA level asbestos survey including a hazard assessment and sample collection for buildings encompassing an area of over 1.5 million square feet

- **Comprehensive Asbestos Survey and Hazard Assessment/Hotel Complex in Boca Raton, Florida:** Field inspector for an AHERA level asbestos survey including a hazard assessment and sample collection at a 3 million square foot hotel complex.

ERICH REDSCHLAG, CHMM
PROJECT MANAGER/SCIENTIST III

EDUCATION AND PROFESSIONAL TRAINING

B.A. Chemistry
Knox College, Galesburg, Illinois 1981

Completion of the 40-hour Health and Safety Training for Superfund and RCRA Remediation Site Personnel (1990)

EPA-approved (AHERA) Asbestos Management Planner(1990) and Building Inspector (1989)

Accredited by the Illinois Department of Public Health as an Inspector/Management Planner (1991)

Accredited by the Ohio Department of Health as a Hazard Evaluation Specialist (1991)

Accredited by the Connecticut Department of Health as an Asbestos Inspector/Consultant (1994)

Risk-Based Corrective Action (RBCA) Training for Consultants

PROFESSIONAL REGISTRATION

Certified Hazardous Material Manager #2274 (1991)

STS Consultants, Ltd.
Solutions through Science & Engineering

July 3, 2001

Ms. Verneta Simon, On-Scene Coordinator
Mr. Fred Micke, On-Scene Coordinator
US Environmental Protection Agency
Region 5
77 W. Jackson Boulevard, Mailcode SE-5J
Chicago, Illinois 60604

RE: Draft Final Closure Report, North Columbus RV3 Site, Illinois Street and Columbus Drive, Chicago, Illinois - STS Project No. 1-24418-XK

Dear Ms. Simon and Mr. Micke:

For your review and comment enclosed is the draft Final Closure Report for the above-referenced site. Enclosed are three copies of the report and figures (Volume 1 of II) and one copy of the attachments (Volume II of II).

Please contact me with any questions or comments.

Is at my desk
Fred

Regards,

STS CONSULTANTS, LTD.

Richard G. Berggreen, C.P.G.
Principal Geologist

ATTACHMENT 27

750 Corporate Woods Parkway • Vernon Hills, IL 60061-3153 • (847) 279-2500 • (847) 279-2510 Fax

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

June 14, 2002

REPLY TO THE ATTENTION OF: SE-5J

Mr. Richard G. Berggreen, C.P.G.
STS Consultants, Ltd.
750 Corporate Woods Parkway
Vernon Hills, IL 60061-3153

RE: Lindsay Light II Site-North Columbus RV3 Site, Workplan (dated March 20, 2000), Draft Completion Report

Dear Mr. Berggreen:

The U.S. Environmental Protection Agency (USEPA) has reviewed the draft Completion (Closure) Report dated July 3, 2001 for the above mentioned project workplan and has the following comments:

1) Volume I, page 15, Section 3.2, para. 3–The vials for NUTRANL were 20 ml not 40 ml.

2) Volume I, page 17, Section 4.2–Include the air monitoring criteria used to judge the fence and PAM data for the general public and for workers, respectively. Explain that the thorium-232 concentration was not measured directly but by a gross alpha measurement and then adjusted.

The one daily exceedance should be explained, both as to cause and how this would not be termed a violation under a license. **See, Appendix J, page 2 of 18, Sample ID E1009 for 4/19/00 at 131.63% of 4.00E-15 uCi/ml.**

3) Volume I, page 18, Section 4.4–Include the criterion by which dosimeter doses were judged.

4) Volume I, General Comments–This document does not mention the cross-check samples done to establish the validity of the NUTRANL equipment versus Argonne National Laboratory results. The Argonne National Laboratory results must be added to the report.

There is no mention of water samples taken to establish that the groundwater was not contaminated. That issue must be discussed and data included.

There is no mention of testing offsite fill for radioactivity concentrations. This issue must be described and the criteria stated.

5) Volume II, Attachment K, Area C Surveys: Grade Beam Excavations–There is no data between this cover sheet and the next cover sheet, "Caisson Surveys Area C." It is unclear if data is missing.

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STS CONSULTANTS

CONSULTING ENGINEERS

Grand Pier Center LLC
Final Closure Report

Volume I of II
Report and Figures

1-24418-XK
July 2, 2001

LINDSAY LIGHT II
NORTH COLUMBUS DRIVE RV3 SITE

FINAL CLOSURE REPORT

Revision Number: 0

Approved By:

Date:

Replaces: New

AFFIDAVIT

Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.

_____

Richard G. Berggreen, C.P.G.
Principal Geologist

_____

Date

TABLE OF CONTENTS

1.0	**INTRODUCTION**	1
1.1	Identification of Facility	1
1.2	Hazardous Substances	2
1.3	Chronological Narrative	2
2.0	**REMOVAL ACTION**	5
2.1	Area A	5
2.2	Area B	6
2.3	Area C	7
2.4	Off-Site Thorium Impacts Beneath Columbus Drive Sidewalk	9
2.5	Soil Stockpile	10
2.6	Verification Sampling, USEPA Sign-Off	11
2.7	Quantities of Materials Removed and Disposal Sites	11
2.8	Underground Storage Tanks	11
2.9	Air Monitoring	12
3.0	**DIFFICULTIES ENCOUNTERED**	14
3.1	Off-Site Transport of Excavation Spoil Prior to Thorium-Impacted Soil Discovery	14
3.2	Replicate Sample Analysis, Sample Geometry	15
4.0	**ANALYTICAL RESULTS**	17
4.1	Soil Sample Analytical Results	17
4.2	Air Monitoring Sample Analytical Results	17
4.3	Field Survey Results	18
4.4	Personnel Monitoring	18
5.0	**CONCLUSION**	19

FIGURES

Figure 1.1	Location Map
Figure 1.2	Underground Storage Tank Plan
Figure 1.3	Areas of Elevated Gamma Radiation from Initial Site Grid Survey
Figure 2.1	Site Development Plan, Areas A, B, and C
Figure 2.2	Remediated Exclusion Zones
Figure 2.3	Grade Beam Excavations, Elevator, Escalator Pits
Figure 2.4	Locations of Known Remaining Off-site Impacted Soil
Figure 2.5	Air Sampling Locations
Figure 2.6	Columbus Drive Sidewalk R-Meter Survey Results

TABLE OF CONTENTS (cont.)

ATTACHMENTS

Attachment A	Unilateral Administrative Order, First Amendment
Attachment B	Work Plan
Attachment C	Area A Closure Report
Attachment D	Metropolitan Water Reclamation District of Greater Chicago Authorization to Discharge, Water Chemical Data
Attachment E	Stockpiled Soil Analyses
Attachment F	Exclusion Zone Verification Analyses and USEPA Sign-Off Forms
Attachment G	Laboratory Reports
Attachment H	Right-of-Way Agreement
Attachment I	Comprehensive NUTRANL Analysis Results
Attachment J	Air Monitoring Results
Attachment K	Field Survey Results
Attachment L	Landauer Exposure Reports (Personnel Radiation Exposure)
Attachment M	Excavation Spoil Disposal Sites

1.0 INTRODUCTION

This report describes the removal of thorium-impacted soil from the Lindsay Light II/North Columbus Drive RV3 site. This removal was conducted under the Unilateral Administrative Order (Order) Docket Number V-W-96-C-353 issued June 6, 1996, which covers the Lindsay Light II sites, and the First Amendment to that Order dated March 29, 2000, which applies to the subject site, Lindsay Light II/North Columbus Drive RV3, also identified as Grand Pier Center (Attachment A). Respondents to the Order are River East Chicago LLC/MCL Companies and Kerr-McGee Chemical LLC; Grand Pier Center LLC was added as a Respondent under the First Amendment.

This report was prepared by STS Consultants, Ltd. (STS), Project Coordinator, on behalf of Grand Pier Center LLC, owner and developer of the site. The work was conducted in accordance with the Work Plan for Site Radiation Survey and Excavation Soil Management dated March 20, 2000 (Attachment B) and approved by U.S. Environmental Protection Agency (USEPA) on March 23, 2000.

1.1 Identification of Facility

The subject site is referred to by USEPA as the Lindsay Light II/North Columbus Drive RV3 site. The property, with a street address of 200 East Illinois Street, Chicago, Illinois 60611, occupies the majority of the block bounded by East Grand Avenue on the north, East Illinois Street on the south, Columbus Drive on the east, and St. Clair Street on the west. A portion of the northwest corner of this block is excluded (Figure 1.1).

This closure report requests USEPA concurrence regarding closure of the entire subject site. The site consists of three areas, from west to east, designated Area A, Area B, and Area C. The closure report for Area A was previously submitted November 15, 2000 and approved by USEPA January 3, 2001. That report and approval letter are included as Attachment C.

1.2 Hazardous Substances

Thorium-impacted soil was present at the subject site at levels above background concentrations. The Order specified investigation, clean-up and removal of thorium-impacted soil to total radium (Ra226 plus Ra228) concentrations of background plus 5 picocuries/gram (pCi/g), which is 7.1 pCi/g or lower for the subject site.

Relatively small quantities (less than 150 cubic yards) of petroleum impacted soils were also encountered and removed in the vicinity of underground storage tanks (USTs) encountered during both the construction excavation and remediation excavation activities. Figure 1.2 shows the locations of the USTs encountered on-site in the course of this removal. Several tanks were removed during construction activities prior to the start of this removal. Those locations are also shown on Figure 1.2. The tanks were removed under permit from the Chicago Department of Environment and the State Fire Marshal.

1.3 Chronological Narrative

The thorium-impacted materials on this site and several vicinity properties have been attributed to historical operations by the Lindsay Light and Chemical Company, formerly located at 161 East Grand Avenue, Chicago, Illinois. Manufacturing operations for gas lantern mantles that involved the processing of thorium-bearing mineral sands and manufacturing of the mantles themselves occurred on properties immediately east and west of the subject site. Those operations occurred at the former Lindsay Light Company facilities during the interval 1916 to 1936, approximately. The activities which resulted in the thorium-impacted material on the subject site are uncertain. Portions of the subject site were also occupied in the past by a varnish factory, a foundry, an electrical substation, and a Chicago police traffic division headquarters. More recently the site was a paved at-grade parking lot.

The subject site is to be developed into a multi-use commercial and residential development. Construction began for the development December 27, 1999.

The proposed development includes a slab-on-grade retail facility occupying the eastern part of the subject site (Area C), one level of basement beneath retail space across the middle of the subject site (Area B), and a slab-on-grade (proposed) high-rise residential tower at the west end of the subject site (Area A). All structures are supported on a caisson foundation system incorporating grade beams beneath the slab-on-grade and around the subject site perimeter.

USEPA representatives conducted a walkover reconnaissance survey of the subject site on February 29, 2000. This survey discovered several areas with gamma readings above background. Construction was halted February 29, 2000, and a site-wide survey on a 5-meter grid was conducted by STS on behalf of the owner, Grand Pier Center LLC, at the request of USEPA (Figure 1.3). Portions of the subject site were obstructed by construction equipment and materials. Those areas were surveyed later by STS as equipment and material was moved in the course of construction. A Work Plan for managing the identified impacted soil was developed by STS on behalf of Grand Pier Center LLC. The Work Plan dated March 20, 2000 was approved by USEPA on March 23, 2000, and is included as Attachment B.

The removal activities began in accordance with the approved Work Plan on April 4, 2000. Construction activities resumed May 2, 2000, in concert with the removal activities. The removal and excavation monitoring was completed November 2, 2000. On May 4, 2001, USEPA advised STS as the Project Coordinator, that no additional removal activities are warranted for Areas B and C. This letter serves as authorization to prepare this final Closure Report, which in accordance with the Order is due 60 days following the date of that letter. This report is due on or before July 3, 2001.

Section 1.0 of this report presents the introduction and general site description including a brief site chronology and identification of the hazardous substances present.

Section 2.0 of this report describes the removal actions and those construction activities which were coordinated with the removal in accordance with the Work Plan.

Section 3.0 of this report describes difficulties encountered and actions taken in response to those difficulties. USEPA concurrence was sought and obtained in response to any changes from the Work Plan procedures

Section 4.0 presents the analytical results. These analyses include both clean soils and soils above the cleanup threshold. The samples from above the cleanup threshold represent analyses of impacted soils to document the level present in the removed soils, soils remaining off-site at the perimeter of the excavation, or samples taken as removal progressed to assess whether the cleanup criteria had been achieved.

Section 5.0 presents the conclusions for this report that the work has been completed in compliance with the Work Plan and Order, and requests USEPA's concurrence and issuance of the completion letter. It is also noted that the completion letter would not apply to the residual impacted areas located off-site in the adjacent right-of-ways, applying only to the subject site, including Areas A, B, and C.

2.0 REMOVAL ACTION

The subject site development consists of three areas, A, B, and C, each area having separate and distinct development activities (Figure 2.1). These distinct development activities in each area resulted in different removal activities due to differences in the construction excavation activities. Area A, farthest west, is proposed to be developed as a high-rise residential tower in a future development phase. No development work has begun on Area A as of the date of this closure report. As a result, Area A was excavated and impacted soil removed independently from construction excavation. Area B, at the center of the subject site, is a mid-rise commercial structure supported on caissons with a one story deep basement, excavated 15 to 17 feet below previous site grade. Area C, at the east end of the subject site, is a mid-rise commercial, parking and hotel structure supported on caissons above a first floor developed as slab-on-grade. An extensive network of trenches was excavated for construction of the grade beams that connect the caissons beneath Area C. A total of 115 caissons were installed across Areas B and C, 57 in Area B and 58 in Area C. An additional 13 caissons were installed along the north and south sides of Illinois Street along the south side of the site to support an elevated roadway viaduct. The following sections describe the activities associated with the removal action in each area.

2.1 Area A

The closure report for Area A was provided separately. The closure report concludes that no known thorium-impacted soil remains in Area A. Approval of the closure report for Area A, dated November 15, 2000 was received January 3, 2001. A copy of that report and the approval letter are included as Attachment C.

2.2 Area B

Development at Area B included a one story deep basement. Removal excavation of the thorium-impacted soil and construction excavation activities included the following:

- Asphalt and concrete pavement had been stripped from the subject site before the thorium impacts were discovered.
- Piers and footings for portions of the overhead Illinois Street viaduct along the south margin of the subject site were removed before the thorium impacts were discovered.
- Test pits were excavated to remove potential obstructions at the locations of the proposed caissons. The majority of the test pits were completed before thorium impacts were discovered on February 29, 2000. The remainder were screened for radiation as they were excavated following resumption of construction activities on May 2, 2000.
- The basement excavation had been initiated before the thorium impacts were discovered on February 29, 2000. That portion of the subject site had been lowered an estimated 3 to 5 feet in places.
- Upon discovery of the thorium impacts by USEPA on February 29, 2000, construction activities were temporarily halted and the site was surveyed by STS on behalf of the owner for elevated gamma radiation on a 5-meter grid. The results of that survey are presented on Figure 1.3.
- Those locations identified as exhibiting elevated gamma readings in the initial 5-meter grid survey were excavated to apparent clean limits. Excavation was conducted with an approximately 1 cubic yard bucket on a track backhoe. Impacted soil excavation in Area B began in the southwest corner and proceeded to the east and north. Other isolated areas were excavated as they were encountered in the course of construction excavation. Verification surveys and sampling were conducted by USEPA in accordance with the Work Plan. Figure 2.2 shows the limits of the remediated areas.
- A total of 57 caissons were drilled in Area B. The caissons ranged in diameter from 3 feet to 8 feet. The caissons were excavated by first driving an exterior temporary casing, and then excavating with a large diameter auger. The fill and uppermost sand underlying the fill were screened for evidence of thorium impacts. Three (3) caissons were identified as exhibiting thorium-impacted soil in Area B. These locations were at grid stations A-4, A-5, and N-5.

- The basement excavation proceeded through the fill soils which were monitored as that area was excavated. The underlying natural sand soil was found to exhibit no thorium-impacts and was not monitored after the survey of the uppermost sand showed no elevated gamma readings.

- The basement excavation required sheet pile excavation support around the perimeter of Area B. That area was monitored as excavation in preparation for sheet pile driving was conducted.

- The basement excavation extended several feet below the water table. This depth of excavation required dewatering of this portion of the site. One test well was installed and the water sampled to determine whether there were any contaminants which might constrain discharge to the Metropolitan Water Reclamation District of Great Chicago (MWRDGC) sewer system. No exceedances of the MWRDGC pollutant concentration limits (Appendix A to the Environmental Remediation Wastewater Ordinance) were found and a permit was issued by MWRDGC for discharge. A copy of the authorization to discharge is included as Attachment D. Chemical analytical results for the water sample are also included. A total of 9 wells were installed for dewatering. As of January 2, 2001, a total of 1,222,000 gallons were measured as having been discharged from the subject site.

- The perimeter of Area B consists of Grand Avenue sidewalk to the north, Illinois Street sidewalk to the south, Area C to the east, and Area A and off-site commercial properties to the west. Excavation and surveying extended to all of these margins. All on-site identified thorium-impacted soil was removed. No known thorium-impacted soil remains on Area B.

- Thorium-impacted soils were encountered on the right-of-ways adjacent to Area B at several locations. The majority of this material was removed. Locations where contamination was present and has been removed and locations with residual contamination remaining on surrounding right-of-way properties are shown on Figure 2.4.

2.3 Area C

Development of Area C includes an at-grade commercial facility, and a mid-rise parking and hotel facility. Removal excavation of the thorium-impacted soils and construction excavation activities included the following:

- Asphalt and concrete pavement had been stripped form Area C before the thorium impacts were discovered.

- Test pits to identify and remove potential subsurface obstructions at caisson locations had been excavated across Area C before thorium impacts were discovered February 29, 2000. Four caissons had also been drilled and poured before the thorium-impacted soils were discovered.

- Upon discovery of the thorium impacts by USEPA February 29, 2000, construction activities were temporarily halted and the site was surveyed for elevated gamma radiation on a 5-meter grid. The results of that survey are presented on Figure 1.3.

- Those locations identified as exhibiting elevated gamma readings in the initial 5-meter grid survey were excavated to apparent clean limits. Impacted soil removal in Area C generally progressed from east to west. However, areas obstructed by construction equipment or materials, or areas where excavation would have interfered with truck traffic for construction or soil removal were scheduled as soon as practical. Verification surveys and sampling were conducted by USEPA in accordance with the Work Plan. Figure 2.2 shows the limits of the remediated areas.

- A total of 58 caissons were drilled in Area C. The fill and uppermost sand underlying the fill were screened for evidence of thorium impacts. Two (2) caissons were identified as exhibiting thorium-impacted soil in Area C. These locations were at grid stations D.5-24 and G.5-27.

- A network of grade beams was excavated across Area C, connecting the caissons and caisson caps (Figure 2.3). The grade beam trenches varied in width from perhaps 8 feet at the bottom to perhaps 20 feet at the top and were on the order of 6 to 7 feet deep. The walls and floors of these trenches were monitored as they were excavated. Thorium-impacted soil encountered was excavated to clean limits. Associated with the grade beam trenching, several areas where elevators and escalators were to be installed had foundation excavations. Those locations were also surveyed as they were excavated, and are shown on Figure 2.3.

- In that Area C is constructed slab-on-grade, there is no basement excavation. Following completion of removal of all identified impacted soil from the 5-meter grid survey, construction of the caissons, and excavation of the grade beams and elevator and escalator pits, USEPA identified four (4) areas in Area C which remained unexcavated. In order to confirm that all thorium-impacted soils had been removed, USEPA requested excavation and surveying of those areas. Those four (4) locations are grids K to M and 19 to 26.5; H.5 to J and 24 to 26.5; A.5 to B.5 and 19 to 26.5; and E to F and 24 to 26 (USEPA correspondence dated September 18, 2000).

- The perimeter of Area C consists of Area B to the west, Grand Avenue sidewalk to the north, Columbus Drive sidewalk to the east, and Illinois Street sidewalk to the south. Excavation and surveying extended to all these margins. All thorium-impacted soil was removed from Area C.

- Thorium-impacted soils were encountered on the right-of-ways adjacent to Area C at several locations. With the exception of the locations noted below the identified impacted materials on the right-of-way were removed.

N15.5 to 18.5	Beneath Illinois Street sidewalk
G.5-27	Beneath Columbus Drive sidewalk

Locations where residual contamination remains below the right-of-way are noted on Figure 2.4.

2.4 Off-Site Thorium-Impacts Beneath Columbus Drive Sidewalk

Thorium-impacted soil was found to extend off-site to the east, beneath the sidewalk along the west side of Columbus Drive. The material, which remained, had a maximum measured value of 4,620 pCi/g, well above the 7.1 pCi/g clean-up criteria. As a result, USEPA requested efforts be made to reduce the potential exposure to tradespersons to levels as low as reasonably achievable (ALARA). Additionally, USEPA requested that a measurement be made of the possible dose to which the public might be exposed through traffic on the sidewalk at present (during construction and impacted soil removal) and in the future should the material remain in place beneath the sidewalk.

The following steps were taken to address this issue.

- A micro R-meter survey was conducted by STS of the length of the Columbus Drive sidewalk. Particular attention was given to the planter boxes where no concrete sidewalk slab was present to provide shielding. No values more than twice background were measured over the sidewalk. Figure 2.6 presents the results of the Columbus Drive sidewalk micro R-meter survey.

- In order to provide shielding for construction tradespersons working in the grade beam trench adjacent to the residual thorium-impacted soil and provide ALARA protection, several types of material were installed to isolate the impacted soil. Polyethylene sheeting was draped over the wall to minimize drying and soil sloughing from the wall to the trench floor. Plywood sheeting was placed over the plastic to hold the plastic in place and prevent soil which might drop from the wall from entering the trench work area. Steel plates, the type used to cover open street trenching, were placed over the plywood to provide shielding of the gamma radiation. Prior to and following placing the steel plates R-meter readings measured the following:

Table 2.4
R-Meter Readings
Grade Beam Trench Wall

	R-Meter Reading	Distance from Wall
Without plywood or steel plates	3,000 μR/hr	On contact with wall
With plywood	230 μR/hr	On contact with plywood
With plywood	80 μR/hr	1 foot from plywood
With Plywood	35 μR/hr	3 feet from plywood
With plywood and steel plates	35 μR/hr	On contact with steel plate
With plywood and steel plates	20 μR/hr	1 foot from steel plates

The shielding provided by the materials installed was judged sufficient by USEPA to allow the construction trades to operate in the grade beam trench.

- The residual off-site impacted soil will be addressed under the Right-of-Way Agreement. The Right-of-Way Agreement is included as Attachment H. A separate Work Plan was prepared and has been approved by USEPA for this off-site work.

2.5 Soil Stockpile

Several soil stockpiles were present on-site in Areas B and C when removal work began. Those stockpiles were surveyed and sampled to evaluate their potential thorium impacts.

Those soil piles were found to be not impacted and were subsequently used for backfill or were removed from the site as non-thorium-impacted soil. Analytical data are included in Attachment E.

2.6 Verification Sampling, USEPA Sign-off

At each location where thorium-impacted soil was encountered an exclusion zone was established. An exclusion zone was a location with demonstrated contamination requiring excavation and removal to below the 7.1 pCi/g cleanup criteria. USEPA signoff is required to document closure of a remediated exclusion zone. These remediated exclusion zones are shown on Figure 2.2.

At each location, verification sampling was performed in accordance with the Work Plan. After analysis at the site field laboratory, those samples were transferred to USEPA for analysis at Argonne National Laboratory. The results of the analysis of those samples at the field laboratory and the USEPA signoff for those exclusion zones are included in Attachment F.

2.7 Quantities of Materials Removed and Disposal Sites

2.7.1 Quantities of Thorium-Impacted Soil and Disposal Site

Containers Shipped	474
Tons Shipped	10,606.4
Material Disposed at	EnviroCare, Clive, Utah

2.7.2 Quantities of Petroleum-Impacted Soil and Disposal Site

Tons Shipped	129.38
Material Disposed at	CID Bio-pile Facility, Calumet City, Illinois

2.8 Underground Storage Tanks Removed

Underground storage tanks (USTs) were removed from six (6) locations at the subject site. These locations are shown on Figure 1.2. The initial construction activities prior to

discovery of thorium-impacted soil included the removal of two (2) tanks from near the northeast corner of the subject site. They were removed in February 2000.

Five (5) other tanks were encountered in the course of the thorium-removal excavation and were removed under permit during the weeks of May 1, May 8 (two tanks), June 5, October 9, 2000. One suspect tank encountered the week of July 17, 2000, was found to be an elevator hydraulic reservoir and mechanical equipment.

The representatives of the State Fire Marshal and the Chicago Department of Environment were present when the tanks were removed.

2.9 Air Monitoring

Air monitoring was conducted on a full time basis at the property boundaries. Air samplers were positioned in the middle of the subject site perimeter at the east, west, north, and south sides of the combined Areas B and C. During the initial two (2) months, until May 29, 2000, redundant sampling using both high volume and low volume samplers was conducted. When Area A was excavated beginning the week of May 29, 2000, the redundant air sampling was discontinued and the western sampler was moved to the west end of Area A and two additional sample points were added along the middle of the north and south margins of Area A. Figure 2.5 shows the approximate air sampling locations. Air sampling was discontinued with the concurrence of USEPA on November 1, 2000. Results of the air monitoring are presented in Section 4.2. Laboratory data re presented in Attachment J.

Personal air monitoring was conducted on all personnel working in exclusion zones. These data are presented in Section 4.4. Laboratory results are presented in Attachment L.

None of the analyses, either at the site perimeter or the personal air monitors, indicated air concentrations above the specified health risk criteria.

3.0 DIFFICULTIES ENCOUNTERED

3.1 Off-Site Transport of Excavation Spoil Prior to Thorium-Impacted Soil Discovery

Construction initially began at the subject site with the removal of site pavement, excavation of USTs, removal of overhead roadway piers, excavation of caisson test pits, installation of several caissons, and beginning to lower the subject site across Area B. This work was conducted before February 29, 2000, when evidence of thorium-impacted soil was documented at the subject site. In the course of these activities, soil, asphalt, concrete, and fill from around the USTs were removed from the subject site.

Upon documenting that thorium impacts were present, the possibility of off-site transport of impacted soil was recognized. The following steps were taken to address this issue.

- The transporter was requested to identify all locations which had received material from the subject site. A total of 257 loads were reported to have been delivered to five (5) locations. The majority of the soil material was delivered to one facility, Beverly Gravel in Elgin, Illinois. Additionally, the UST contractor who also shipped material from the subject site reported two (2) loads were transported to one site. The number of loads and disposal locations are indicated in Attachment M.

  This information was initially provided to USEPA who subsequently provided it to the Respondents and STS Consultants.

- All disposal sites were notified by USEPA of the potential for having received thorium-impacted soil. All sites were requested to refrain from any further disturbance, mixing, processing, or burial of the material from the subject site.

- STS and USEPA scheduled site visits to all identified locations. Representatives from each disposal site identified, to the extent possible, the locations where the material from the subject site was deposited. Those locations were field screened by USEPA and STS personnel and, where possible, samples were taken.

- Samples were split and analyzed by STS and USEPA.

- The results showed one site, Beverly Gravel, Elgin, Illinois, with measured values above the clean-up criteria for the subject site. The results of the analyses are included as Attachment G.

- A work plan for the investigation of the extent of impacts and the removal of impacted soil at the Beverly Gravel site was prepared by STS on behalf of Grand Pier Center LLC. A report of the implementation of that work plan is provided under separate cover.

3.2 Replicate Sample Analysis, Sample Geometry

The verification closure samples for the subject site were initially analyzed by STS at the field laboratory. That analytical result was used to facilitate prompt closure. The samples were subsequently provided under chain-of-custody documentation to USEPA who had the samples analyzed at Argonne National Laboratory (Argonne).

There is a recognized heterogeneity in the material being analyzed, with relatively small fractions of the sample having potential to result in an exceedance of the closure standard. As a result, there was a concern noted by USEPA that inconsistent results could be measured if samples were split and one portion was analyzed by one laboratory and a separate portion was analyzed at a different laboratory.

A second complication was the different sample geometries employed by the two laboratories. The STS field laboratory used a 40 ml polyethylene vial. Argonne used a larger, 250 ml container.

In order to resolve these issues, the following measures were taken.

- A single sample was collected to be analyzed at both laboratories. The sample was comprised of six sub-samples collected in 40 ml vials. Upon analysis by STS, if all six sub-samples were below the clean-up threshold, the USEPA signed off on the closure. The sample was then provided to USEPA who delivered the sample to Argonne where the six sub-samples were composited for analysis in the larger container as a single sample.

As of the date of this report, all samples which passed using the six sub-sample results were also found to pass the closure criteria reported by Argonne on the composited results.

4.0 ANALYTICAL RESULTS

4.1 Soil Sample Analytical Results

The analytical results are included as attachments to this report. The analyses of all soils sampled following mobilization for field work, March 27, 2000, are presented by sample location/site grid designation in Attachment I. These data are also presented by sequential sample number at the end of Attachment I. These results include samples from locations where field readings indicate material is present which may exceed the cleanup criteria (7.1 pCi/g total radium), in order to document the activity present in those soils. Data are also presented from samples taken to document that the soil from locations which have been remediated are below the cleanup criteria, and can be closed by USEPA (clean closure).

The analyses to document the clean closure of locations previously found to exhibit evidence of thorium-impacted soil are presented in Attachment F. USEPA signoff for those locations are also included in Attachment F. Therefore, these locations have been closed by USEPA, no further removal is anticipated, and these locations are eligible for a clean closure determination and issuance of a Certification of Completion regarding the subject site from USEPA.

4.2 Air Monitoring Sample Analytical Results

Analysis of the air monitoring samples are included as Attachment J. These data include the next day analysis and the four day analysis. None of the four day analysis showed an exceedance of the 30% of the Derived Air Concentration (DAC) as the exposure limit for the site perimeter.

Personal air monitoring (PAM) data for both one day and four day analyses are included. No PAM data indicate an exceedance of the allowable exposure limits for this project.

As a result of these analyses, there is no evidence of a release of contamination beyond the site perimeter and no evidence of an exposure exceedance to personnel working on the site.

4.3 Field Survey Results

Field survey results were obtained throughout the progress of the removal activities. These surveys ranged from the initial site walkover survey on the 5 meter grid shown on Figure 1.3, to the surveys of the basement excavations, grade beam trench excavations and caisson excavations as part of the construction. Additionally, locations exhibiting evidence of contamination were surveyed as removed progressed, prior to the USEPA verification surveys and sampling. These survey results are included as Attachment K to this report.

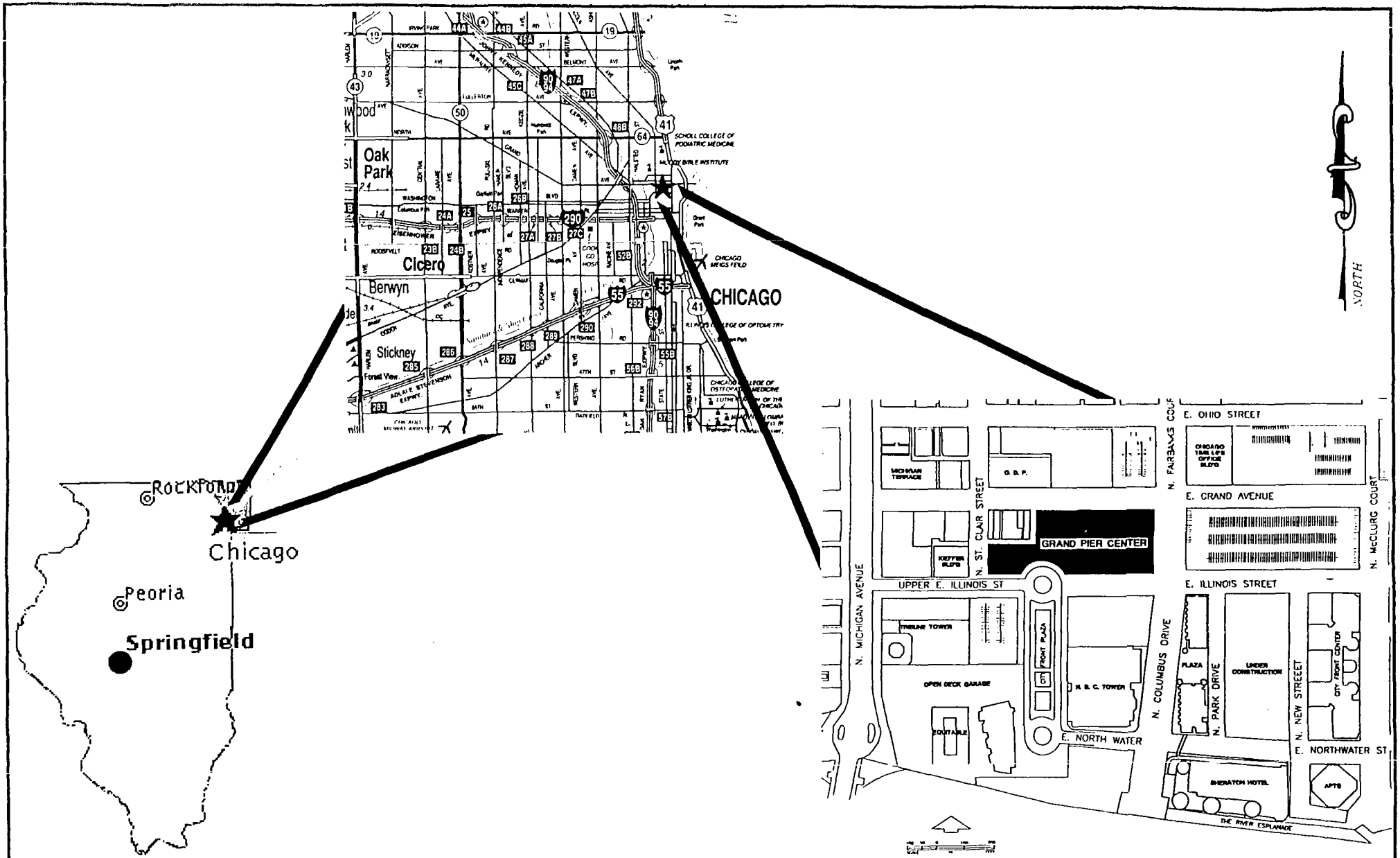
These field survey results, Attachment K, also include results not directly attributed to the site grid. Results from the off-site Illinois Street viaduct caissons screening are included. The survey and wipe data for cleaning equipment used in excavation of contaminated soil are included. The analyses of stockpiles of either overburden excavated from on-site or imported fill are also included in Attachment K.

4.4 Personnel Monitoring

All personnel operating in exclusion zones and other site personnel were monitored with field badges. Attachment L presents the results of the Landauer exposure monitoring reports. None of the personnel monitored under this project experienced a reportable exposure attributed to this project.

5.0 CONCLUSION

The removal of the thorium impacted soil has been completed at the subject site (Lindsay Light II/North Columbus Drive RV3 site, also known as Grand Pier Center). USEPA verification sign-off has been received for all identified locations which exhibited evidence of contamination. As a result, STS Consultants, Ltd., Project Coordinator for this removal action, on behalf of Grand Pier Center LLC, requests the issuance by USEPA of a clean closure determination and certification of completion in accordance with the Unilateral Administrative Order (Order) Docket Number V-W-96-C-353.



STS Consultants Ltd.
Consulting Engineers

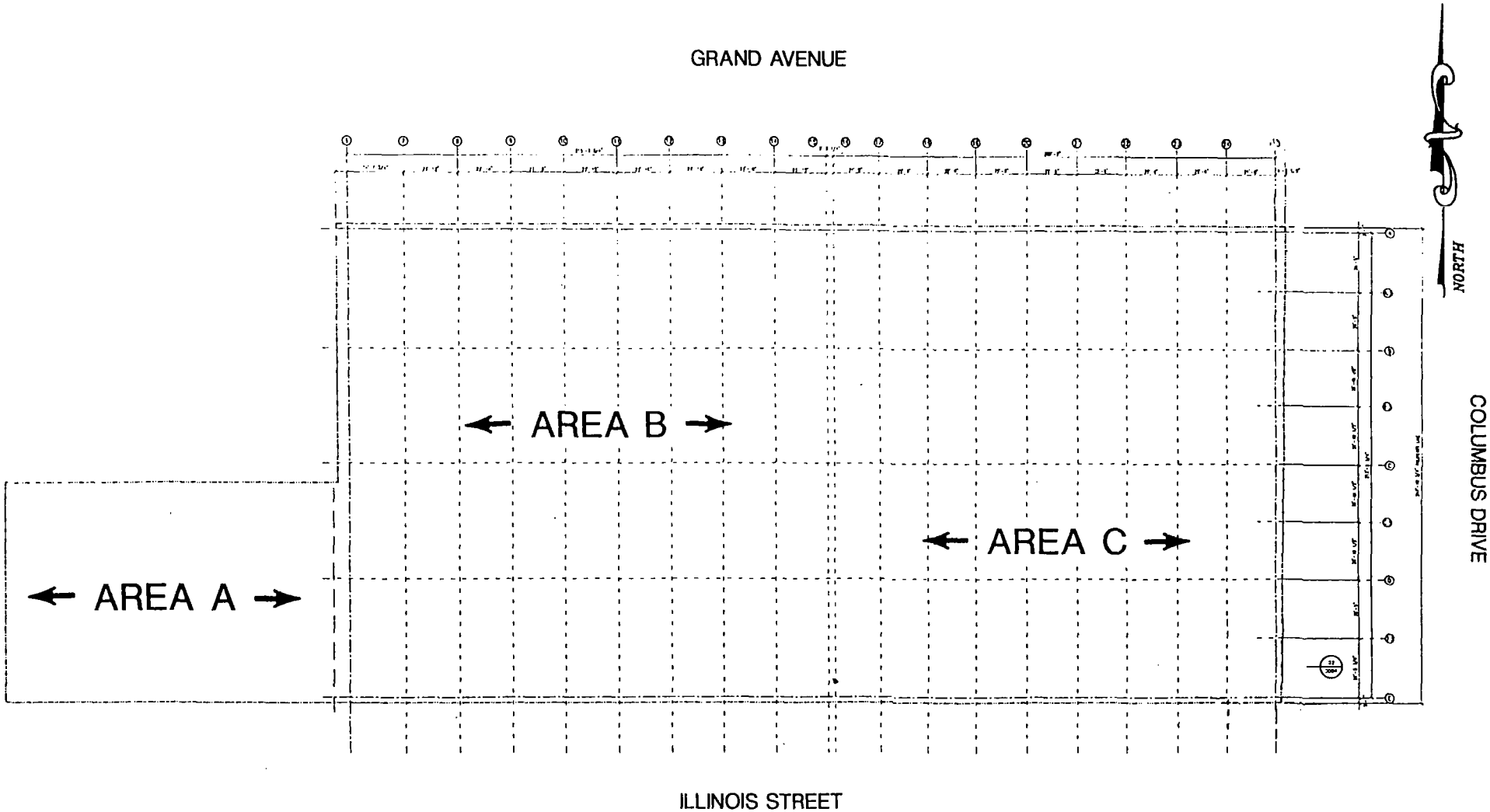
STS PROJECT NO. 24418-XK
STS PROJECT FILE

SCALE NTS

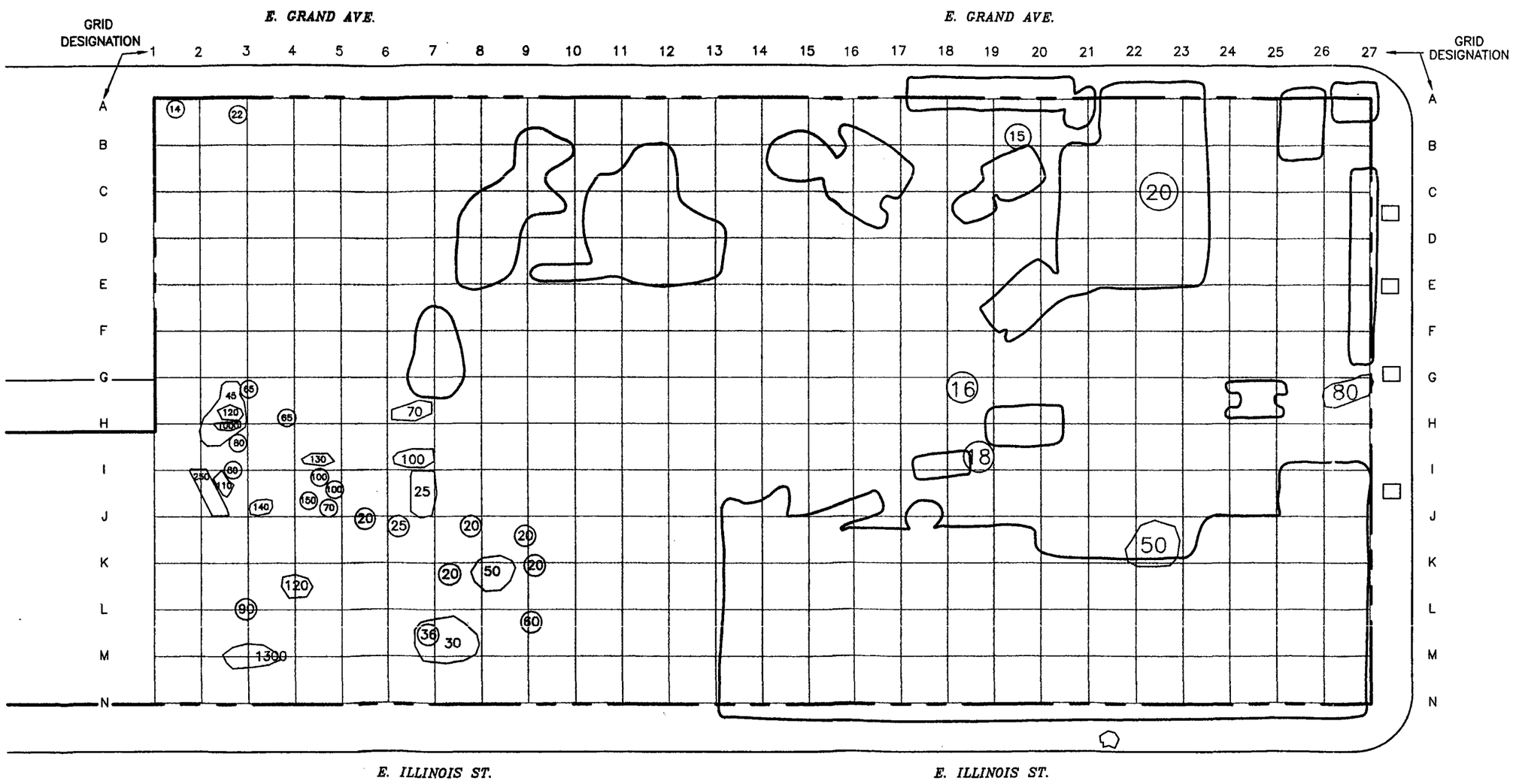
FIGURE NO. 1.1

SITE LOCATION MAP
GRAND PIER CENTER
MIXED USE DEVELOPMENT
200 EAST ILLINOIS STREET
CHICAGO, ILLINOIS

DRAWN BY KKB	DATE 2-12-01
CHECKED BY	DATE
APPROVED BY RGB	DATE 2-12-01
CADFILE	



STS Consultants Ltd. Consulting Engineers	SITE DEVELOPMENT PLAN, AREAS A, B, C GRAND PIER CENTER CHICAGO, ILLINOIS	DRAWN BY KKB	DATE 2-8-01
STS PROJECT NO. 24418-XK		CHECKED BY	DATE
STS PROJECT FILE		APPROVED BY RGB	DATE 2-8-01
SCALE NTS		CADFILE	
FIGURE NO. 2.1			



LEGEND:

– SAMPLES OF SOIL UNDERLYING SIDEWALK, TOTAL RADIATION pCi/g

DRAWN BY TJC	DATE 4/19/01	
CHECKED BY RGB	DATE 4/19/01	
APPROVED BY RGB	DATE 4/19/01	
CADFILE A:\FIG2.4B.dwg 04/19/2001 08:36		

AREAS OF ELEVATED GAMMA RADIATION (μR/hr) FROM INITIAL SITE GRID SURVEY
GRAND PIER CENTER
EAST ILLINOIS STREET
CHICAGO, IL

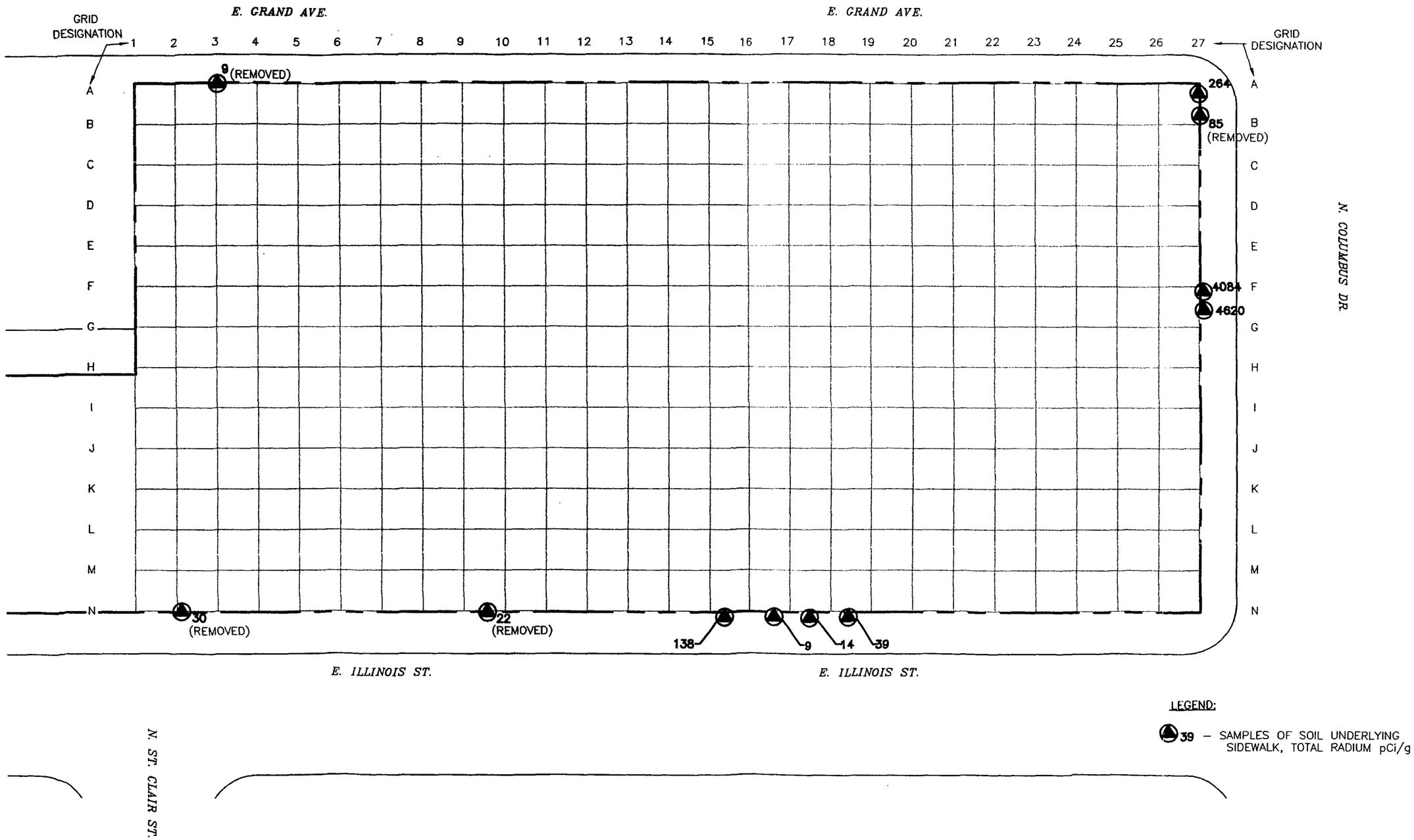
STS Consultants Ltd.
Consulting Engineers

STS PROJECT NO. 24418–XK

STS PROJECT FILE FIG2.4B.dwg

SCALE 1"=40'

FIGURE NO. 1.3



		DATE
DRAWN BY	TJC	4/19/01
CHECKED BY	RGB	4/19/01
APPROVED BY	RGB	4/19/01
CADFILE	A:\FIG2.4B.dwg 04/19/2001 08:36	

LOCATION OF KNOWN REMOVED & REMAINING OFF-SITE IMPACTED SOIL
GRAND PIER CENTER
EAST ILLINOIS STREET
CHICAGO, IL

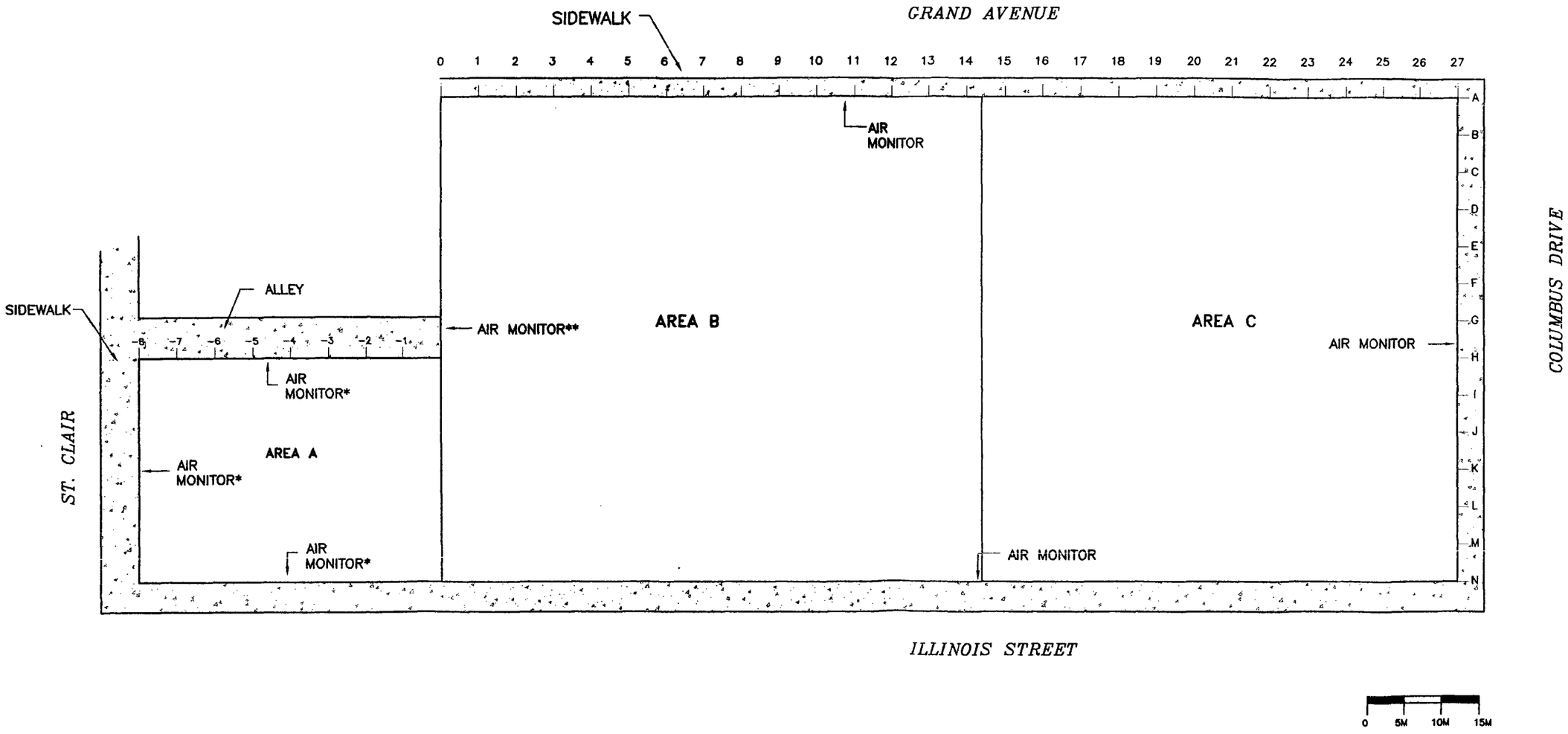
STS Consultants Ltd.
Consulting Engineers

STS PROJECT NO. 24418-XK

STS PROJECT FILE FIG2.4B.dwg

SCALE 1"=40'

FIGURE NO. 2.4



* AREA A AIR MONITORING
MAY 29 THRU NOVEMBER 2, 2000

** SUBSEQUENTLY MOVED TO WEST END OF
AREA A THE WEEK OF MAY 29, 2000

		DATE
DRAWN BY	KKB	2-8-01
CHECKED BY	DG	2-8-01
APPROVED BY	RGB	2-8-01
CADFILE	X:\PROJECTS\24418\xk\AIR-MONITORING.dwg 02/08/2001 15:	

AIR MONITOR LOCATIONS
GRAND PIER
CHICAGO, ILLINOIS

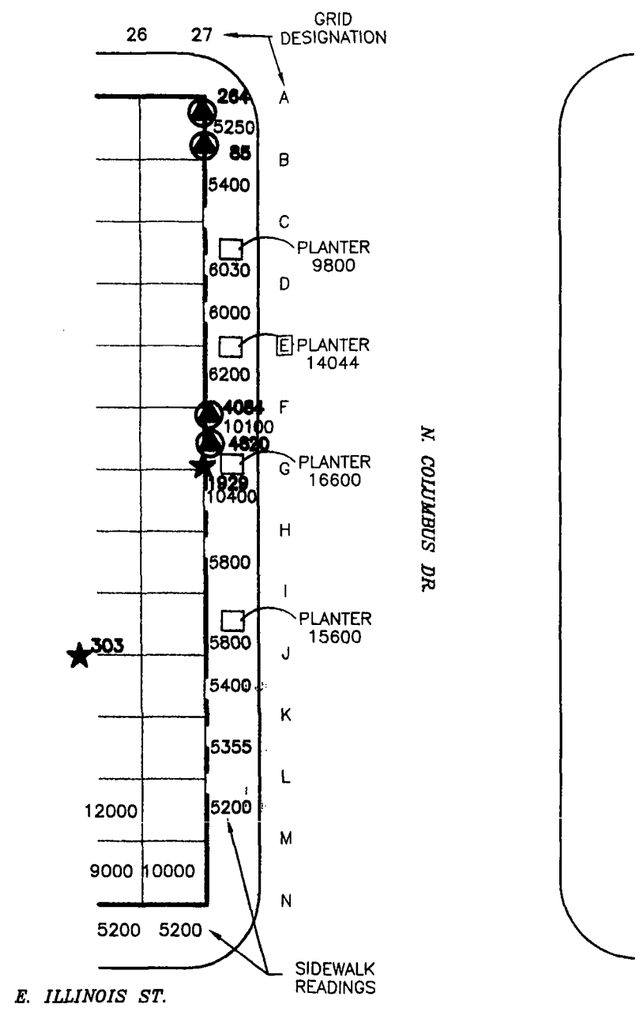
STS Consultants Ltd.
Consulting Engineers

STS PROJECT NO.
24418-XK

STS PROJECT FILE
AIR-MONITORING.dwg

SCALE
SHOWN

FIGURE NO.
2.5



LEGEND:

39 – SAMPLES OF SOIL UNDERLYING SIDEWALK, TOTAL RADIATION pCi/g

1929 – SELECTED SAMPLES TOTAL RADIUM >200 pCi/g

		DATE
DRAWN BY	TJC	4/19/01
CHECKED BY	RGB	4/19/01
APPROVED BY	RGB	4/19/01
CADFILE: A:\FIG2.4B.dwg 04/19/2001 08:36		

SIDEWALK RADIATION SURVEY – AREA C
GRAND PIER CENTER
EAST ILLINOIS STREET
CHICAGO, IL

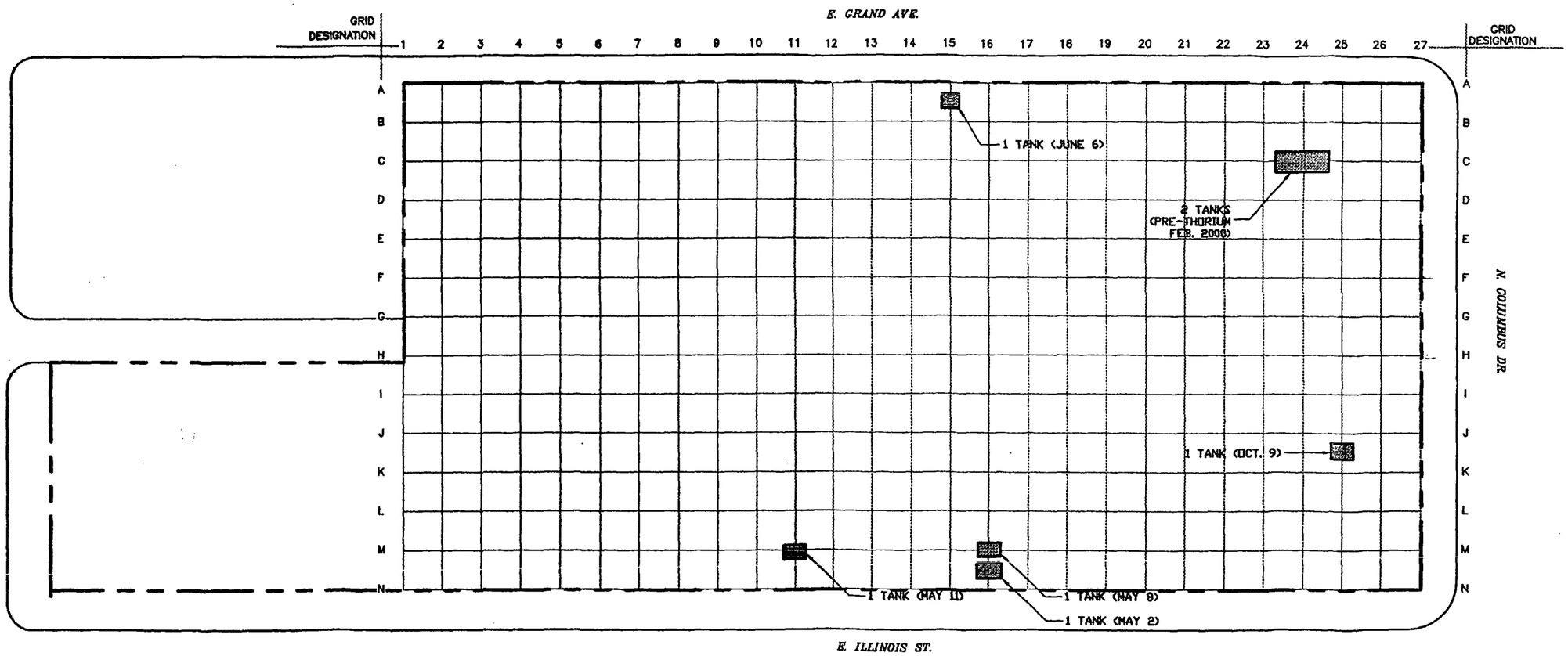
STS Consultants Ltd.
Consulting Engineers

STS PROJECT NO. 24418–XK

STS PROJECT FILE FIG2.4B.dwg

SCALE 1"=40'

FIGURE NO. 2.6



		DATE
DRAWN BY	TJC	2/9/01
CHECKED BY	RGB	2/9/01
APPROVED BY	RGB	2/9/01
CADFILE	X:\PROJECTS\24418\xk\1.2.dwg	

UNDERGROUND STORAGE TANKS REMOVED
GRAND PIER CENTER
CHICAGO, IL

STS Consultants Ltd.
Consulting Engineers

STS PROJECT NO.
24418-XK

STS PROJECT FILE
1.2.dwg

SCALE
1"=50'

FIGURE NO.
1.2

R.M. CHIN & ASSOCIATES, INC.
401 N. Michigan Avenue • Chicago, Illinois 60611

MEMORANDUM

to: Rich Berggreen - STS
Rick Mueller - Johnson & Bell

from: Michael Witte

subject: Additional Back-up for Beverly Gravel Report
(ECD GPC 2250.13)

date: September 13, 2002

Per your request, enclosed are black and white copies of photo's taken by AMEC prior to February 29, 2000. Should you need color copies you would need to obtain them directly from AMEC.

I also reviewed our file in regards to the missing AMEC's Daily Reports for January 24, 2000 and January 25, 2000. Our files do not include reports for those days. I did find AMEC's Daily Site Labor Force Summary that shows that there were no workers on site that day (copy enclosed). Therefore, it is a good bet that no work took place on the site during these days. Maybe one of you could find a way to pull up old weather reports and see what the weather was like.

The odd thing though is the trucking log included in STS's Summary Report shows 6 trucks on January 24, 2000 and 11 trucks on January 25, 2000. I reviewed AMEC Daily Reports dated January 20 2000 and January 21, 2000 and they show very little loads out. Thought that maybe they loaded up trucks but did not deliver until a later date (which is very unlikely). It makes me wonder if the trucks shown on Strom 's trucking log for January 24 and January 25, 2002 were indeed from the Grand Pier jobsite.

Should you require additional information or have any questions please contact me.

cc: Ray Chin
j:\mwitte\2250.13\091202.wpd

ATTACHMENT 28

Telephone 312-644-0125 • Fax 312-644-0999

Memorandum

To: Fred Micke, Verneta Simon, Mary Fulghum, USEPA

From: Rich Berggreen, STS Consultants

CC: Mike Witte, Grand Pier LLC (w/o attachments)
Rick Mueller, Johnson and Bell (w/o attachments)

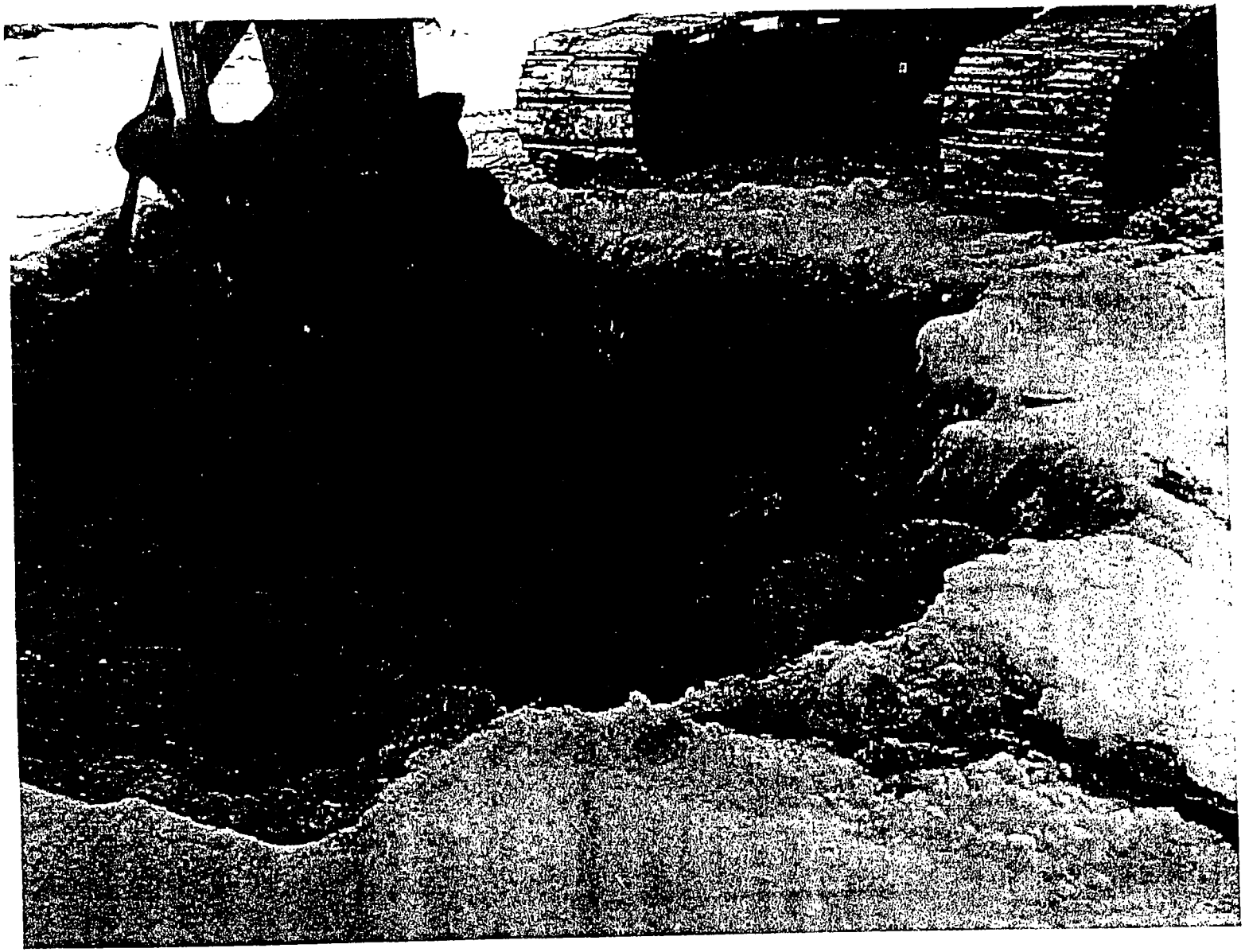
RE: Transmittal of Project Photographs and Overlay Transparencies for Grand Pier Site, Relating to Beverly Gravel Summary Report dated September 6, 2002

Enclosed please find a package of black and white copies of photographs provided to STS by Mike Witte of Grand Pier LLC. Additionally, Mike has provided the daily labor force log which indicates personnel were not on site for the two days when no Daily Report was prepared by Morse-Diesel, as noted by you in our recent meeting.

We have also included a transparent overlay showing the column location grid on Figure 3 from the Summary Report, and an overlay showing the approximate areas excavated during what periods of operation at Grand Pier from mid-January when work started through the end of February, 2000.

Please call with any questions regarding the enclosed information.

Grand Pier 1-21-00
Potholing - Fill Exposed



Grand Pier 1-21-00
Potholing - Hoe Ramming the Slab

AMEC
050340

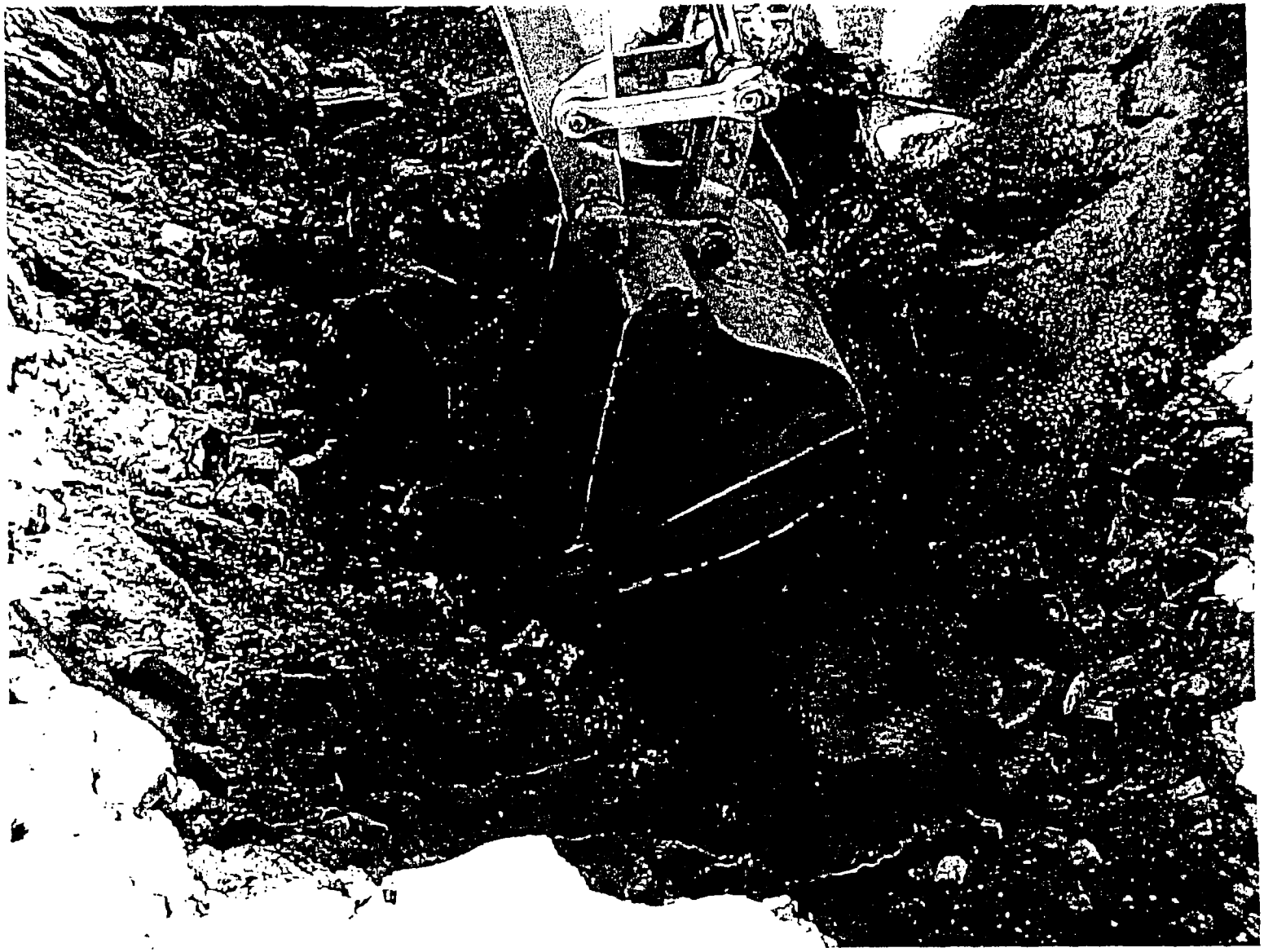
Grand Pier 1-21-00
Potholing - Overview

AMEC
050341

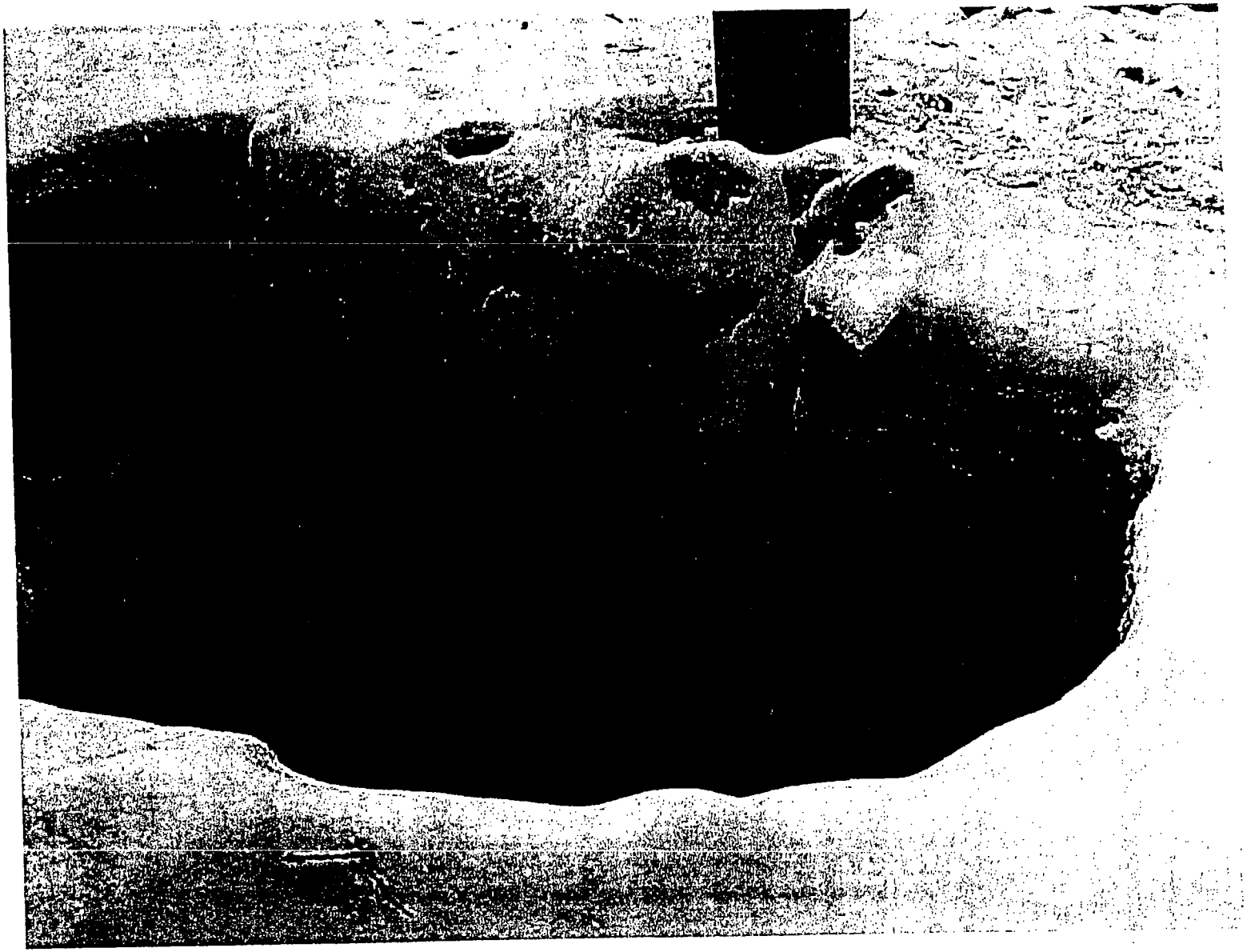
Grand Pier 1-21-00
Potholing - Potentially Contaminated Groundwater Infiltration

AMEC
050342

Grand Pier 1-21-00
Potholing - Urban Fill



Grand Pier 1-21-00
Potholing - Urban Fill and Twisted Sheet Metal

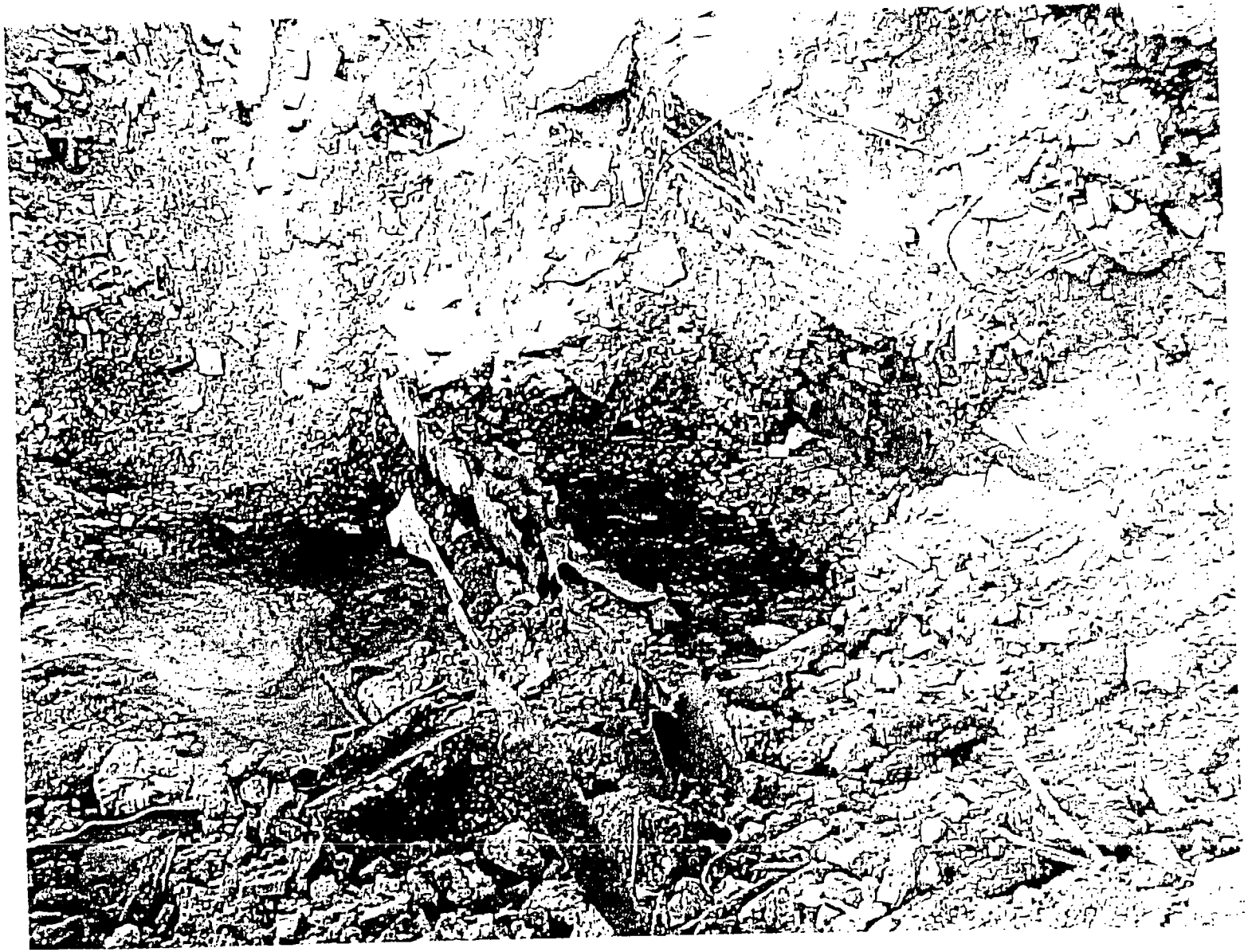


Grand Pier 1-21-00
Potholing - View of Concrete Slab

Grand Pier 1-20-00
View of Start of Excavation
Photo From South Side of Site Looking West

Grand Pier Center

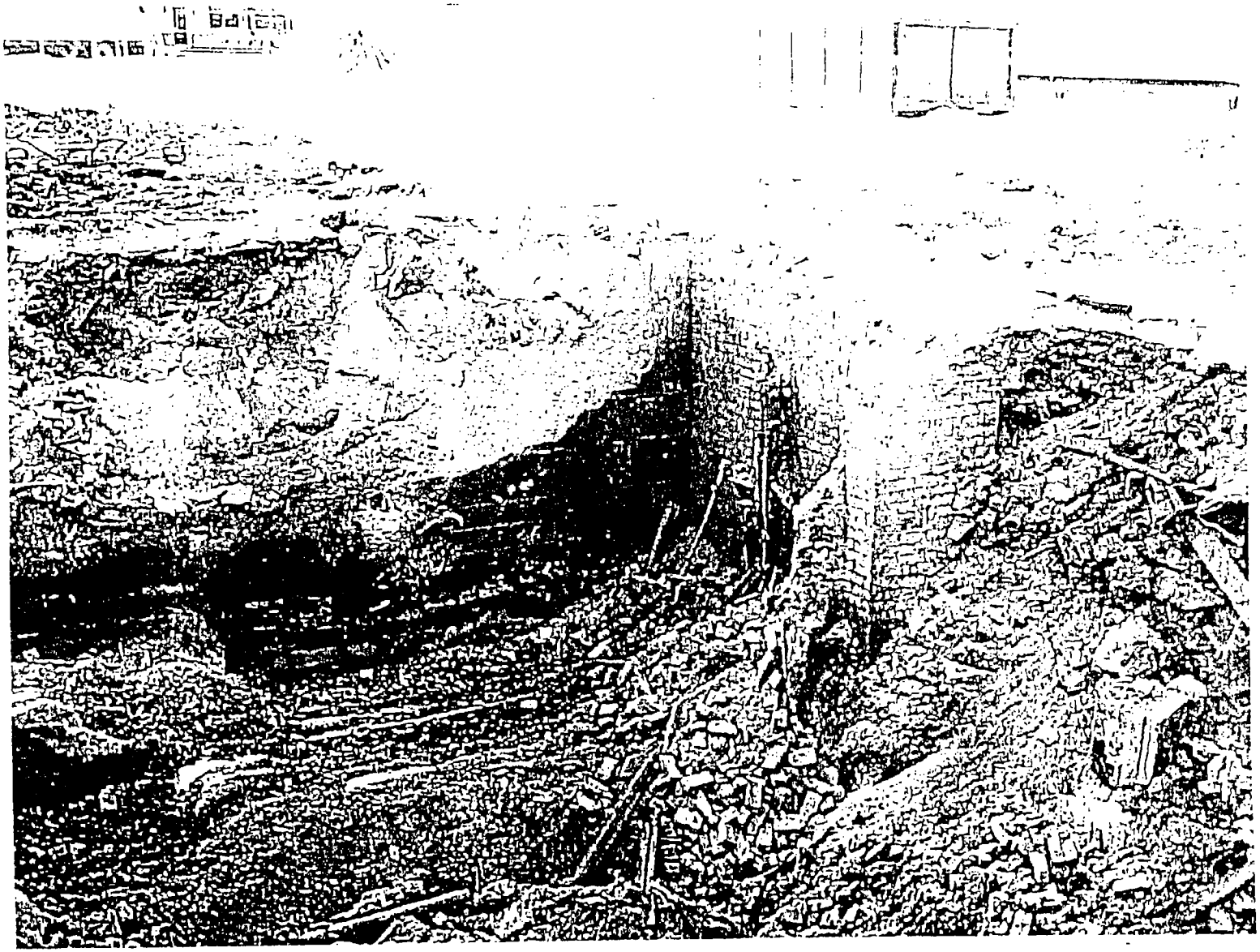
Grand Pier Center



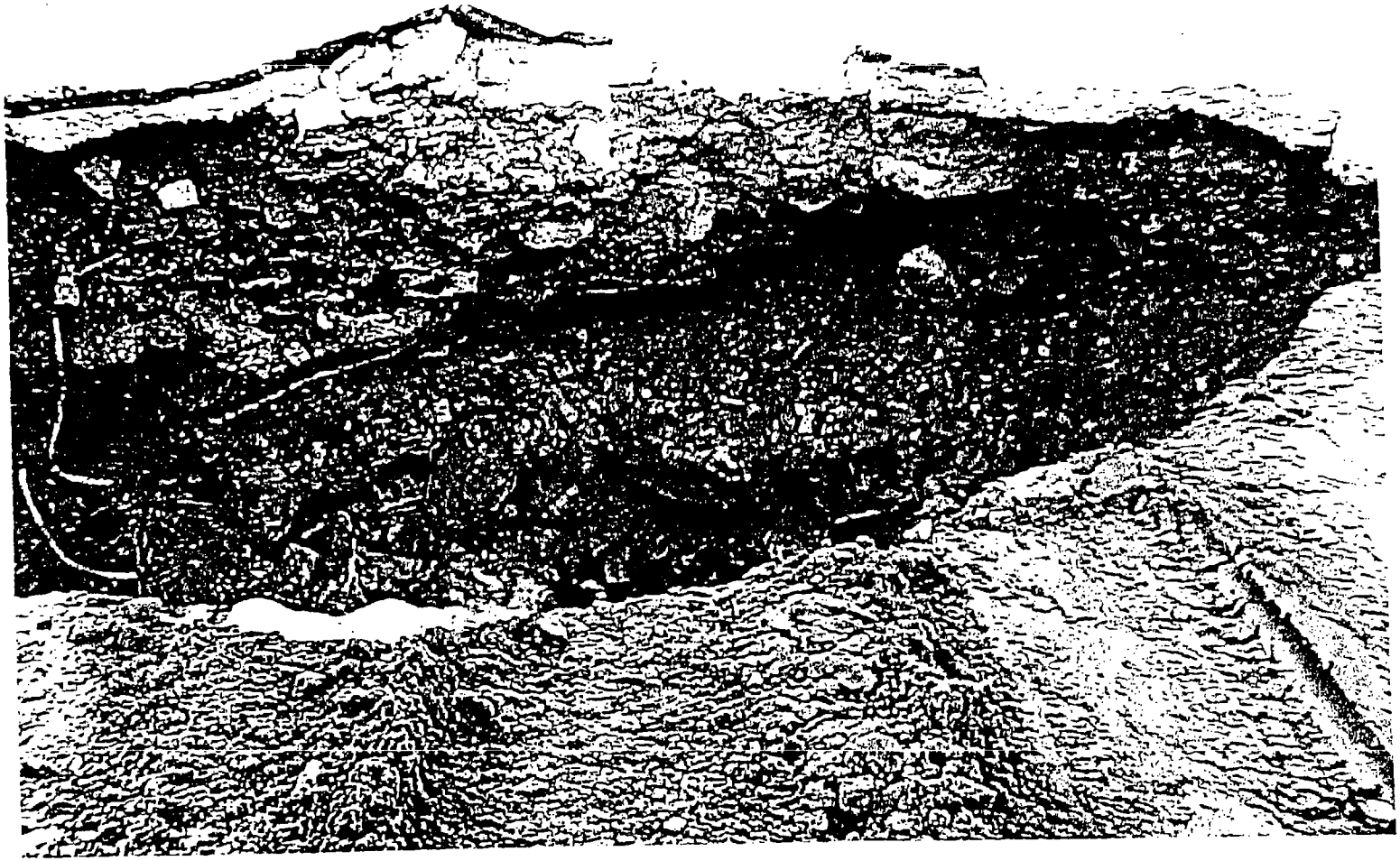
Grand Pier Center

AMEC
050349

Grand Pier Center

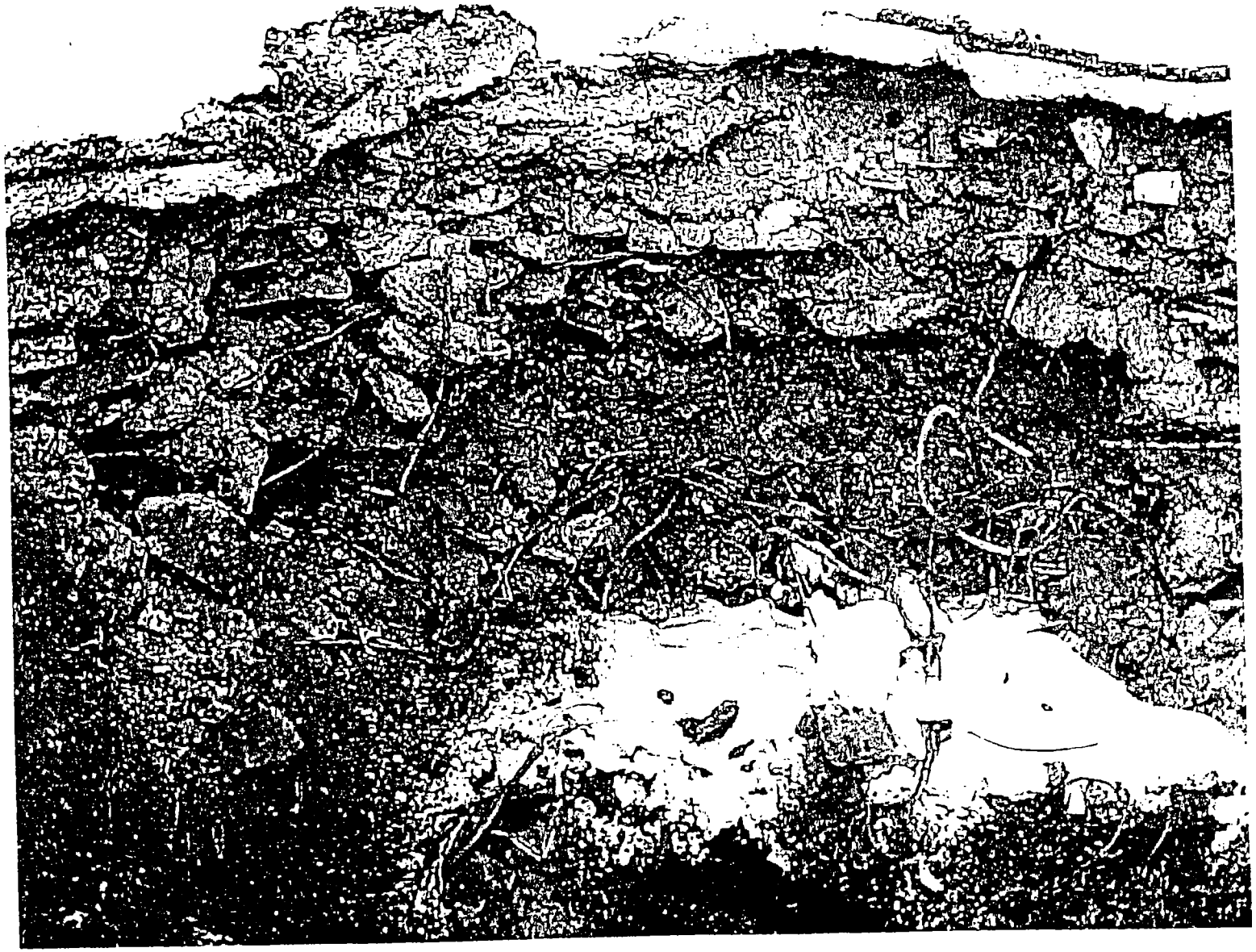


Grand Pier Center



Grand Pier Center

AMEC
050352



Grand Pier Center

AMEC
050353

Grand Pier Center

AMEC
050354

Grand Pier 1-21-00
Potholing - Brick Urban Fill

AMEC
050355

Grand Pier 1-21-00
Potholing - Concrete Rubble Fill

AMEC
050356

Grand Pier Center

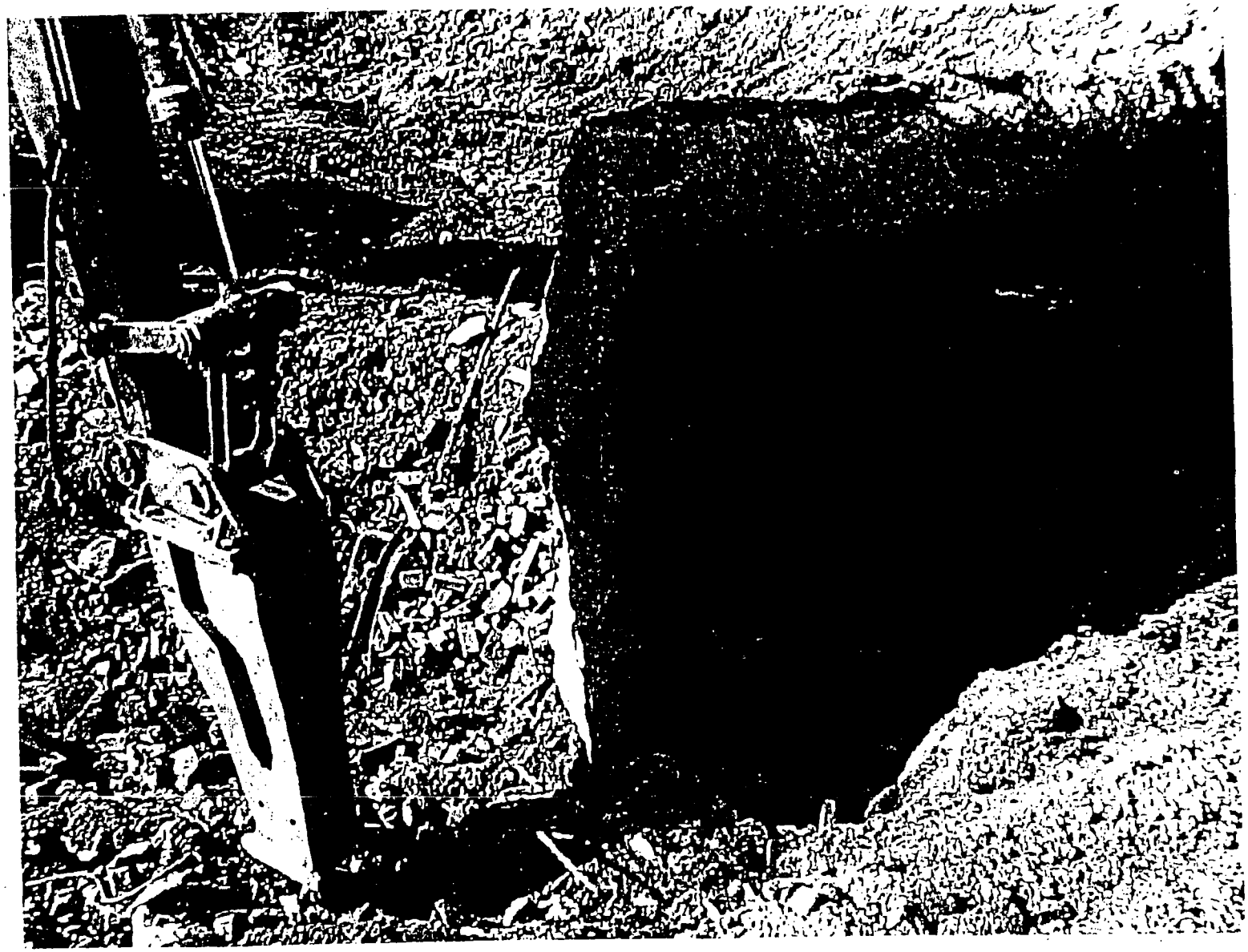
AME
0503

Grand Pier Center

Grand Pier Center - (2-16-00)
Concrete Wall Rubble from Foundation Wall Found Along 10 Line

Grand Pier Center - (2-16-00)
Demolition of Foundation Wall Found Along 10 Line

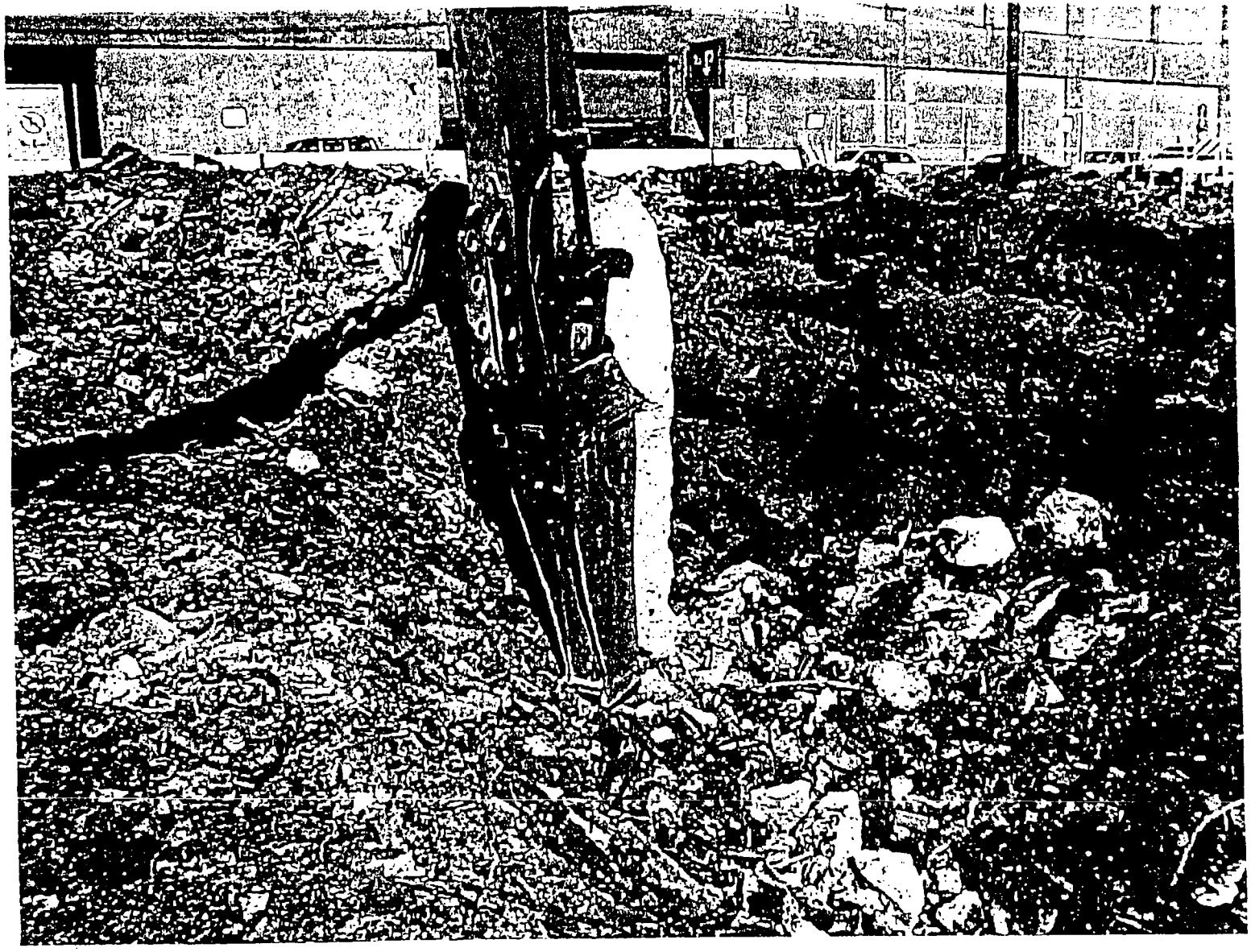
AMEC
050360



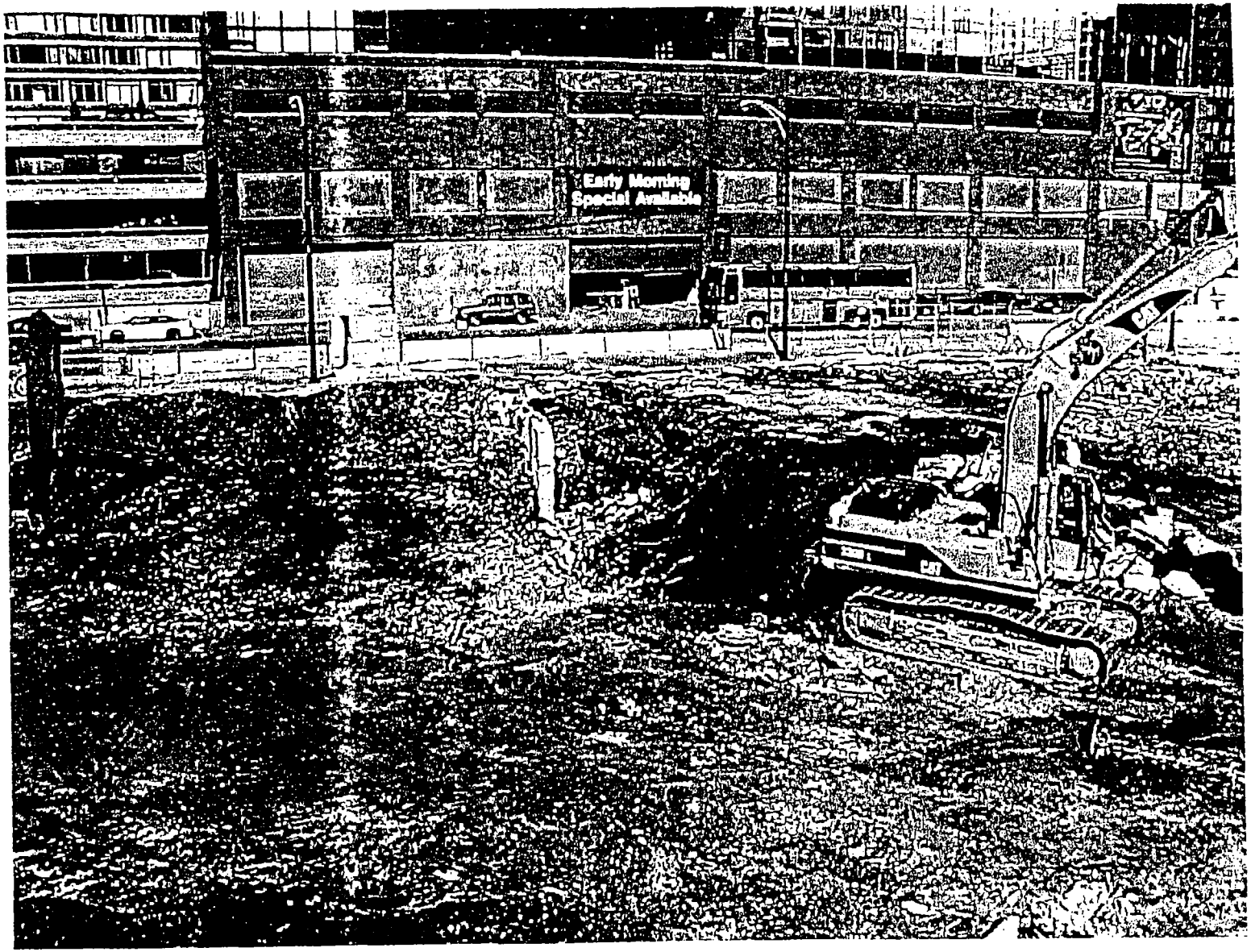
Grand Pier Center - (2-16-00)
Demolition of Foundation Wall Found Along 10 Line

Grand Pier Center - (2-16-00)
Demolition of Foundation Wall Found Along 10 Line (Looking South)

AMEC
050362



Grand Pier Center - (2-16-00)
Demolition of Foundation Wall Found Along 10 Line

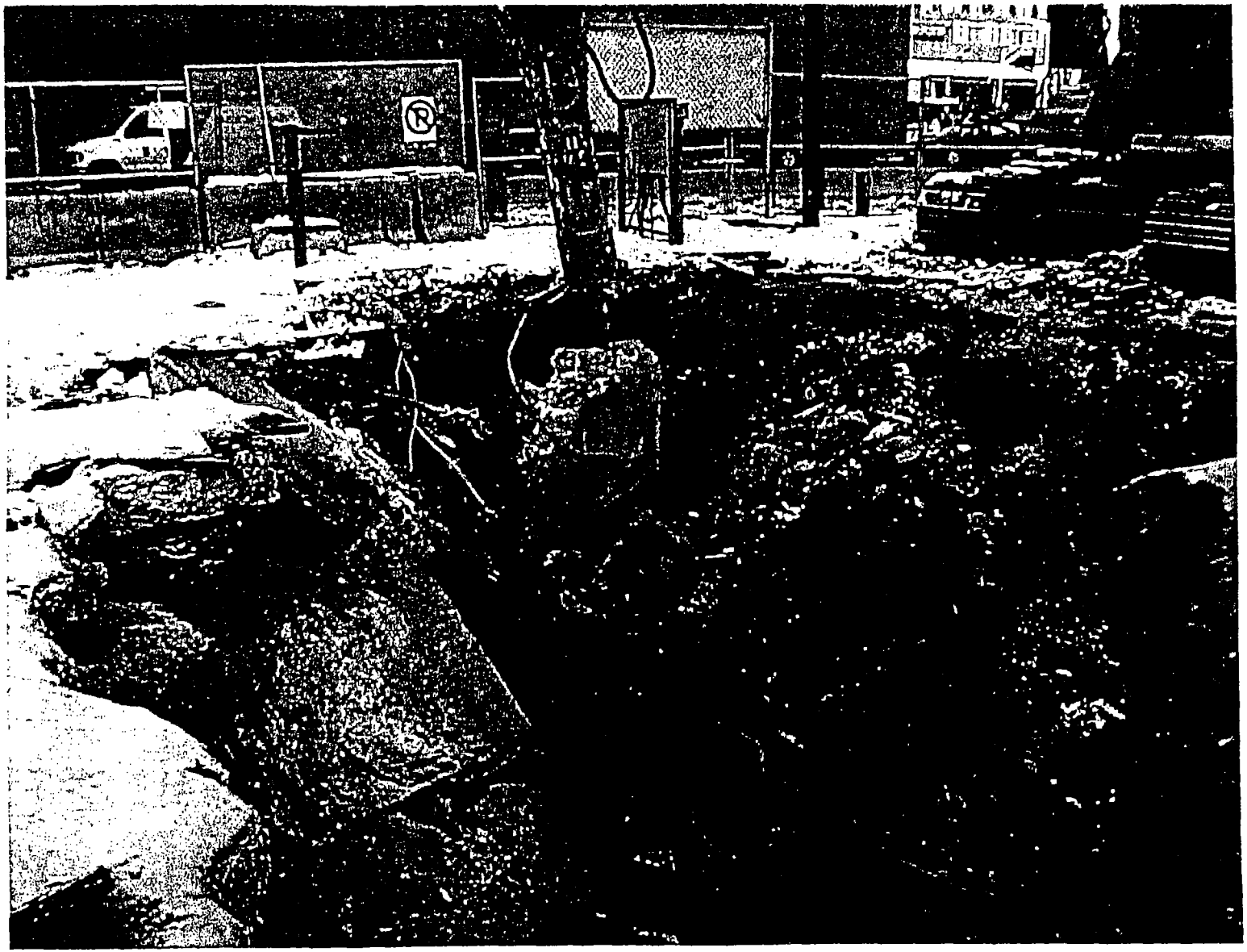


Grand Pier Center - (2-16-00)
Heavy Foundation Wall Found at Column Line 10-A to 10-B.5

AMEC
050364

Grand Pier Center
Looking North Along Columbus Prior to Potholing Along Column 25 - Note - B.O.E. Manhole

Grand Pier Center
Looking East Along Grand Avenue



Grand Pier Center
Demolition of Edison Vault at North Seneca

AMEC
050367

Grand Pier Center
Demolition of Edison Vault at North Seneca Looking Southeast

AMEC
050368

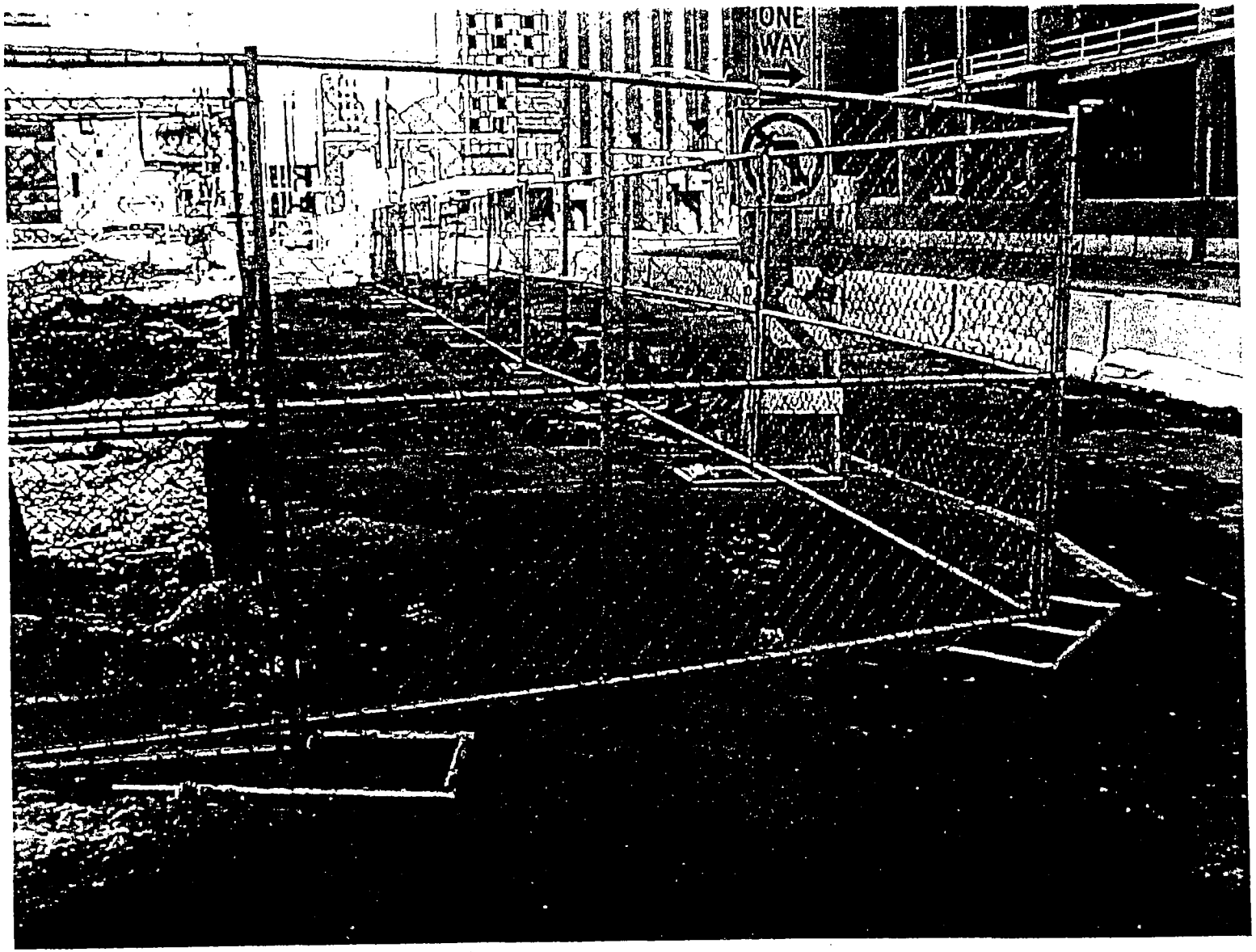
Grand Pier Center
Demolition of Edison Vault Cover at North Seneca

AMEC
050369

Grand Pier Center
Demolition of Edison Vault at North Seneca

AMEC
050370

Grand Pier Center - Potholing Along Column Line E



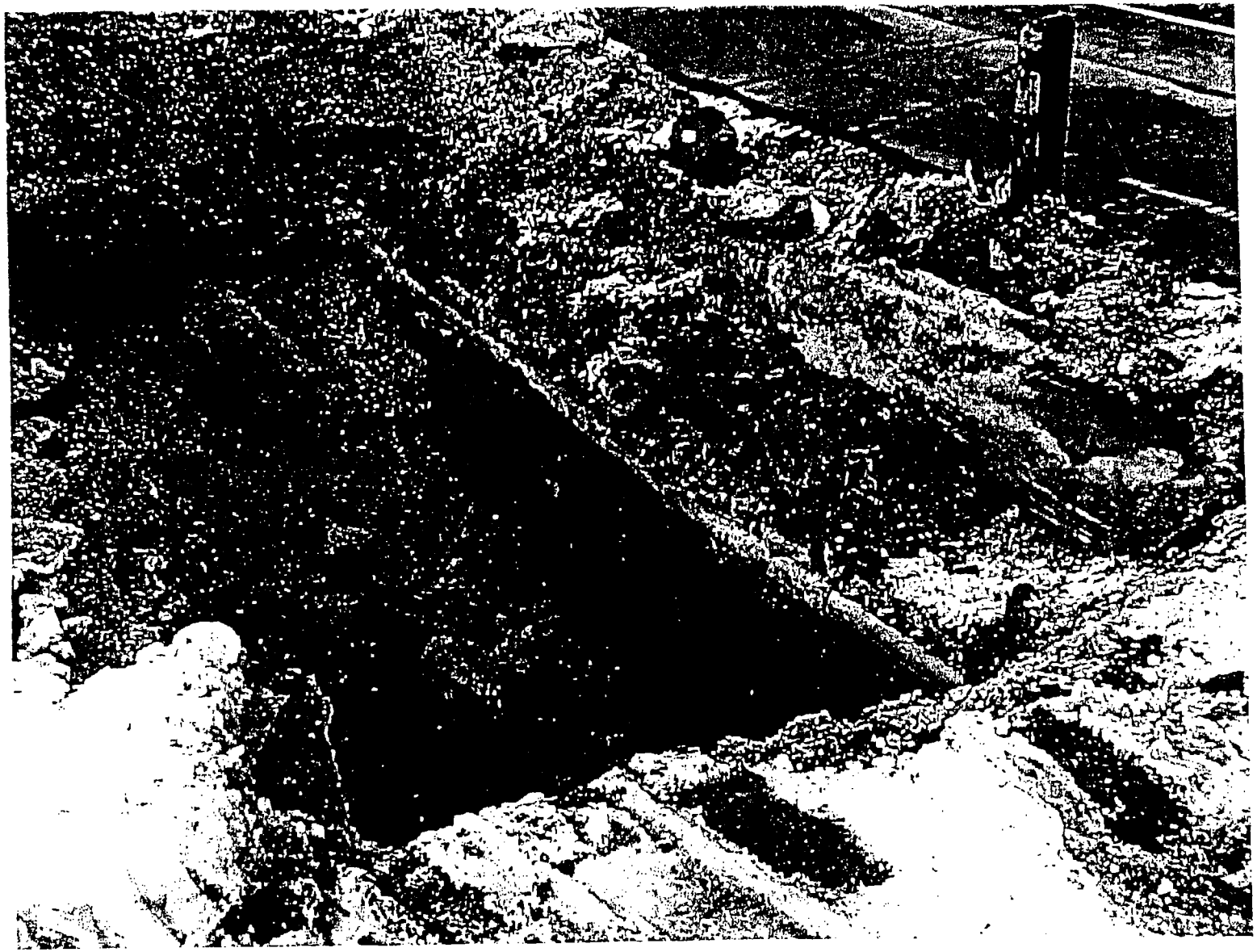
Grand Pier Center - Potholing Along Column Line 25 - Note Position of Fence and Barrier Wall

Grand Pier Center - Pavement Condition at Southeast Corner of Site

AMEC
050373

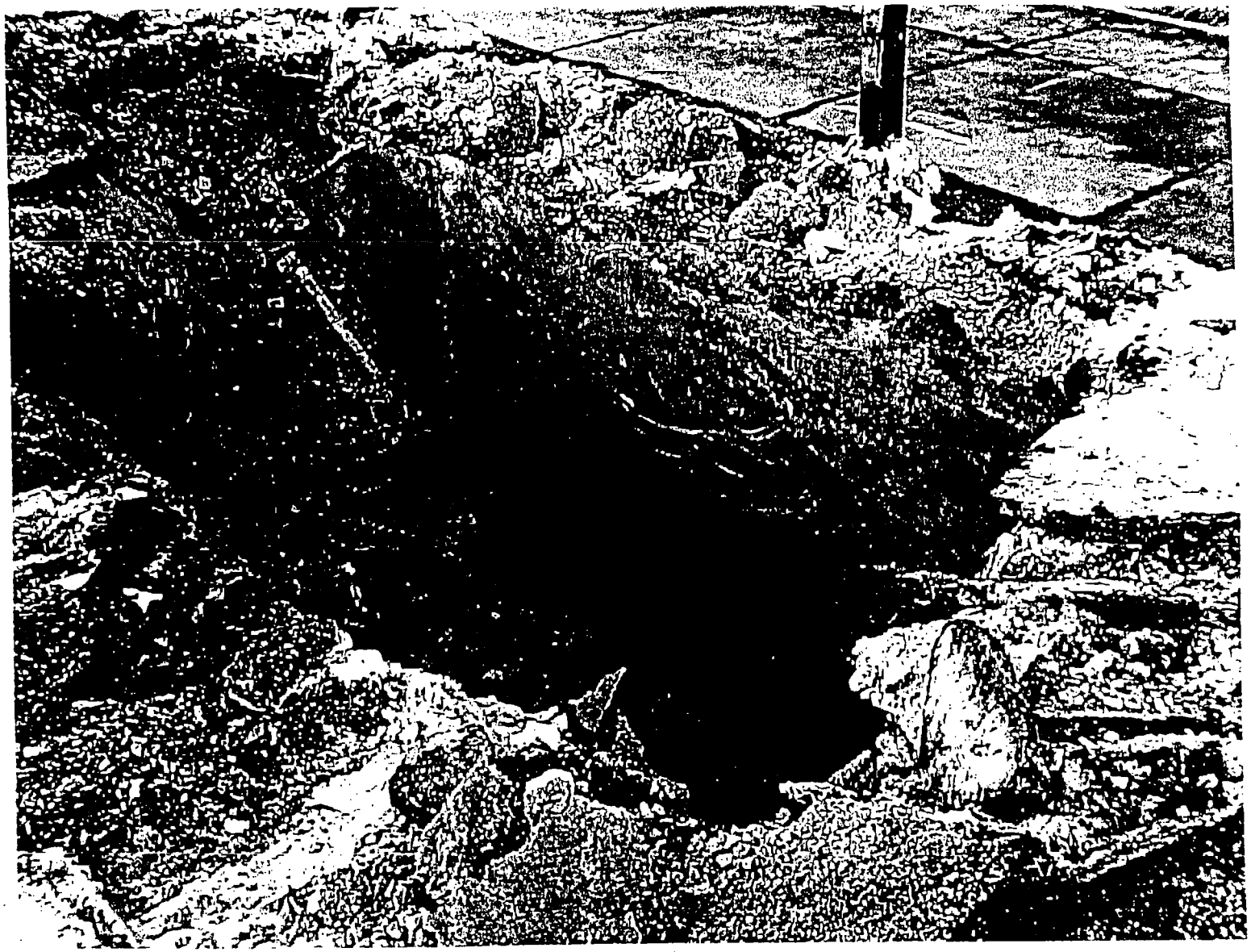
Grand Pier Center - Piles of Clean Material Roy Strom Brought in to Fill Potholes on Column 25

Grand Pier Center - Demolition of Edison Vault on North End of Seneca



Grand Pier Center - Conduit Found in Pothole Along Column 25

AMEC
050376



Grand Pier Center - Concrete Foundation Wall Found in Pothole 25-D.5

AMEC
050377

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

In the Matter of:	)
	)
Grand Pier Center, LLC	)

DECLARATION OF FREDRICK A. MICKE

I, Fredrick A. Micke declare and state as follows:

1. I am currently employed as an On-Scene Coordinator (OSC), Superfund Division, United States Environmental Protection Agency, Region 5 ("U.S. EPA"). I have been employed in this capacity for the past 8.5 years.

2. The statements made in this declaration are based on my personal knowledge and on knowledge I have gained from a review of files maintained by U.S. EPA.

3. As an OSC with U.S. EPA, my duties include: the performance of site investigations at potential hazardous waste and oil sites; the determination of the proper type and scope the response action; working with regional counsel to develop enforcement strategies; assisting in negotiations with potentially responsible parties (PRPs) and monitoring PRP cleanups; providing leadership for site cleanups and acting properly and decisively on field related sites; providing assistance, advice and support in the review of area wide and facility response plans; and maintaining a constant state of response readiness during both primary and standby periods.

4. Also as part of my duties as an OSC, I was involved in the oversight of removal activities conducted pursuant to Section 106 of CERCLA at the Grand Pier Site located at approximately the 500 block of North Columbus Drive, the 200 block of Illinois, a portion of the 200 block of Grand, and a portion of the 500 block of St. Clair, Chicago, Illinois.

5. I have reviewed the City of Chicago Department of Transportation (DOT) Permits that are associated with the construction activities at the Grand Pier Site and are maintained in U.S. EPA files.

6. Based on my review I have concluded that on at least fourteen (14) occasions work was conducted on or in the City of Chicago sidewalks and/or streets surrounding the Grand Pier Site to support the development of the Grand Pier Site. True, accurate and complete copies of each permit that supports my conclusion are attached.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: 2/15/05

By: Fredrick A. Micke

Fredrick A. Micke, P.E.
On-Scene Coordinator
Emergency Response Branch
Superfund Division
U.S. EPA, Region 5

ATTACHMENT 29

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

In the Matter of:	)
	)
Grand Pier Center, LLC	)

DECLARATION OF FREDRICK A. MICKE

I, Fredrick A. Micke declare and state as follows:

1. I am currently employed as an On-Scene Coordinator (OSC), Superfund Division, United States Environmental Protection Agency, Region 5 ("U.S. EPA"). I have been employed in this capacity for the past 8.5 years.

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5. I have reviewed the City of Chicago Department of Transportation (DOT) Permits that are associated with the construction activities at the Grand Pier Site and are maintained in U.S. EPA files.

6. Based on my review I have concluded that on at least fourteen (14) occasions work was conducted on or in the City of Chicago sidewalks and/or streets surrounding the Grand Pier Site to support the development of the Grand Pier Site. True, accurate and complete copies of each permit that supports my conclusion are attached.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: 2/15/05

By: Fredrick A. Micke

Fredrick A. Micke, P.E.
On-Scene Coordinator
Emergency Response Branch
Superfund Division
U.S. EPA, Region 5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

In the Matter of:	)	
	)	
	)	**CERCLA 106(b) Petition No. 04-01**
Grand Pier Center, LLC	)	
	)	

DECLARATION OF REGINALD ARKELL

State of Illinois
County of Cook

I, Reginald Arkell, declare and state as follows:

1. The statements made in this declaration are based on my personal knowledge.

2. Since January 1995, I have been employed as a Civil Investigator for the United States Environmental Protection Agency in Chicago, Illinois.

3. As a Civil Investigator, my duties include various investigatory and enforcement activities concerning gathering information pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9604(e).

4. In January 2005, I requested and obtained copies of permits from Mark Delin of the Chicago Department of Transportation (CDOT) for activities that impacted the right-of-way for the Grand Pier Development project. The project is bounded by Grand Avenue on the north, Illinois Street on the south, St. Clair Street on the west, and Fairbanks Street/Columbus Drive on the east. According to Mark Delin, for about the past four years, the CDOT computer system automatically generates the words "Void" and "Expired" that appear on the permits when they are no longer valid. Prior to about four years ago, the previous CDOT computer system

generated the word "Closed" that appear on the permits when they are no longer valid.

5. The assertions I make in this declaration are truthful, and, if called to testify as a witness, I am prepared to testify under oath to the accuracy of the observations and statements contained in this declaration, based on my personal knowledge.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: February 14, 2005

By: _____
Reginald Arkell
Civil Investigator
U.S. EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

In the Matter of:	)
	)
Grand Pier Center, LLC	)

DECLARATION OF FREDRICK A. MICKE

I, Fredrick A. Micke declare and state as follows:

1. I am currently employed as an On-Scene Coordinator (OSC), Superfund Division, United States Environmental Protection Agency, Region 5 ("U.S. EPA"). I have been employed in this capacity for the past 8.5 years.

2. The statements made in this declaration are based on my personal knowledge and on knowledge I have gained from a review of files maintained by U.S. EPA.

3. As an OSC with U.S. EPA, my duties include: the performance of site investigations at potential hazardous waste and oil sites; the determination of the proper type and scope the response action; working with regional counsel to develop enforcement strategies; assisting in negotiations with potentially responsible parties (PRPs) and monitoring PRP cleanups; providing leadership for site cleanups and acting properly and decisively on field related sites; providing assistance, advice and support in the review of area wide and facility response plans; and maintaining a constant state of response readiness during both primary and standby periods.

4. Also as part of my duties as an OSC, I was involved in the oversight of removal activities conducted pursuant to Section 106 of CERCLA at the Grand Pier Site located at approximately the 500 block of North Columbus Drive, the 200 block of Illinois, a portion of the 200 block of Grand, and a portion of the 500 block of St. Clair, Chicago, Illinois.

5. I have reviewed the City of Chicago Department of Transportation (DOT) Permits that are associated with the construction activities at the Grand Pier Site and are maintained in U.S. EPA files.

6. Based on my review I have concluded that on at least fourteen (14) occasions work was conducted on or in the City of Chicago sidewalks and/or streets surrounding the Grand Pier Site to support the development of the Grand Pier Site. True, accurate and complete copies of each permit that supports my conclusion are attached.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: 2/15/05

By: Fredrick A. Micke

Fredrick A. Micke, P.E.
On-Scene Coordinator
Emergency Response Branch
Superfund Division
U.S. EPA, Region 5

Permit # 127485147

EXPIRED

Received Date: Oct 1, 2001 2:37:33

GRAND PIER CENTER LLC.
401 NORTH MICHIGAN
SUITE 525
CHICAGO, IL 60611
JOSEPH CLEARY 312-595-2233

City of Chicago
Department of Transportation
(312) 744-4652

ACTIVITY HOURS

See RESTRICTIONS for permitted hours

DATES

Oct 1, 2001 through Jan 25, 2002

ACTIVITIES

Barricade/Walkway (Traffic Lane):

A 900 Foot Barricade will be at referenced location for 8 Month(s).

200 - 235 E ILLINOIS ST

236 - 250 E ILLINOIS ST

CLOSURE OF TWO TRAFFIC LANES AT 450 FT. EACH - 13.6 FT. FROM CURB FACE
PERMIT FEE CHARGED FROM MAY 25,2001 TO OCTOBER 31, 2001

OK MIKE SIMON

AMENDED PERMIT ON DECEMBER 13, 2001
UPDATED PERMIT ON ALL ACTIVITIES FROM NOVEMBER 30, 2001 TO DECEMBER 25, 2001
OK MIKE SIMON

0310898575

Barricade/Walkway (Traffic Lane):

AMENDED ALL ACTIVITIES ON NOVMEBER 28, 2001 UNTIL NOVEMBER 30, 2001 OK MIKE SIMON

AMENDED PERMIT ON JANUARY 15, 2002 TO UPDATE UNTIL JANUARY 25, 2002 -- CHARGED FROM DECEMBER 25, 2001 UNTIL JANUARY 25. 2002
OK MIKE SIMON

Barricade/Walkway (Sidewalk):

A 450 Foot Barricade will be at referenced location for 8 Month(s).

200 - 235 E ILLINOIS ST

236 - 250 E ILLINOIS ST

CLOSE SIDEWALK FOR 450 FT. -- CHARGED FROM MAY 25, 2001 TO OCTOBER 31, 2001

Temporary Driveway:

1 Driveway(s) with a total size of 50 Ft. will be open 8 Month(s).

200 - 235 E ILLINOIS ST

236 - 250 E ILLINOIS ST

CHARGED FROM MAY 25, TO OCTOBER 31, 2001
AT $200.00 PER MONTH

Barricade/Walkway (Sidewalk):

A 150 Foot Barricade will be at referenced location for 8 Month(s).

200 - 235 E ILLINOIS ST

236 - 250 E ILLINOIS ST

CHARGED FROM MAY 25, 2001 TO OCTOBER 31, 2001 -- BARRICADE UPPER ILLINOIS ST. FOR 150 FT.

Barricade/Walkway (Sidewalk):

A 270 Foot Barricade will be at referenced location for 8 Month(s).

500 - 530 N COLUMBUS DR

BARRICADE SIDEWALK FOR 270 FT. - CHARGED FROM MAY 25, 2001 TO OCTOBER 31, 2001

Canopy (Traffic Lane):

270 foot Canopy will be in place for 8 Months

500 - 530 N COLUMBUS DR

PLACE CANOPY IN TRAFFIC LANE FOR 270 FT. - CHARGED FROM MAY 25, 2001 TO OCTOBER 31, 2001

Barricade/Walkway (Sidewalk):

A 428 Foot Barricade will be at referenced location for 8 Month(s).

200 - 235 E GRAND AV

236 - 250 E GRAND AV

CLOSE SIDEWALK FOR 428 FT.
CHARGED FROM MAY 25, 2001 TO OCTOBER 31, 2001

Barricade/Walkway (Traffic Lane):

A 856 Foot Barricade will be at referenced location for 8 Month(s).

200 - 235 E GRAND AV

236 - 250 E GRAND AV

CLOSE TWO LANES OF TRAFFIC FOR 428 FT. EACH - 15.9 FT. FROM CURB FACE -
CHARGED FROM MAY 25, 2001 TO OCTOBER 31, 2001

Restrictions:

1. Maintain a minimum of 0 feet for pedestrian traffic.
2. A copy of the permit must remain on-site for inspector`s review.

Restrictions:

3. Pedestrian walkway must be kept free of all obstructions and debris.
4. Adequate provisions must be made to prohibit the falling of any debris or materials and to provide overhead cover.
5. Sight clearance of all traffic signals and regulatory signs must be maintained at all times.
6. Maintain fire hydrant and manhole access.
7. Crosswalk obstruction prohibited.
8. Barricades and detour signs provided by permittee.
9. Must remain free of advertisements and graffiti.
10. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.
11. For" NO PARKING PAPER SIGN PLACEMENT", call 312-747-5085 and fax the permit to 312-747-6731.
12. It is the permit holder's responsibility to restore to original condition any damage to any bikeway, including replacement pavement markings and signage. You must contact Ben Gomberg (312) 744-8093 48 hours in advance of any activity.
13. The installation or removal of construction canopies or scaffolding that take place Monday thru Friday shall be during the hours of 7PM to 6AM in the Central Business District. Restrictions will not be lifted for any non-emergency work without special permit exemption approval by the Department of Transportation, Bureau of Inspections.
14. Canopy placement will be 6 feet from face of curb.
15. Provide adequate lighting under canopy.
16. Protective decking must be provided to protect curb and sidewalk surface.
17. Temporary driveway must be planked with 2X10's and sheated with plywood.

ACTIVITY	TRANSACTION	AMOUNT	CAPS
Temporary Driveway	Fee for Activity	$ 500.00	100-84-2030-2519
Temporary Driveway	Fee Change for Activity	$ 500.00	100-84-2030-2519
Temporary Driveway	Fee Change for Activity	$ 200.00	100-84-2030-2519
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 900.00	100-84-2030-2590

ACTIVITY	TRANSACTION	AMOUNT	CAPS
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 900.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 900.00	100-84-2030-2590
Barricade/Walkway (Traffic Lane)	Fee for Activity	$ 90,000.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 856.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 856.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 856.00	100-84-2030-2590
Barricade/Walkway (Traffic Lane)	Fee for Activity	$ 85,600.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 540.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 540.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 540.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee for Activity	$ 4,500.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee for Activity	$ 4,280.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 300.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 300.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee Change for Activity	$ 300.00	100-84-2030-2590
Temporary Driveway	Fee Change for Activity	$ 200.00	100-84-2030-2590
Temporary Driveway	Fee Change for Activity	$ 200.00	100-84-2030-2590
Barricade/Walkway (Sidewalk)	Fee for Activity	$ 2,700.00	100-84-2030-2590
Barricade/Walkway (Traffic Lane)	Fee Change for Activity	$ 18,000.00	100-84-2030-2590
Barricade/Walkway (Traffic Lane)	Fee Change for Activity	$ 18,000.00	100-84-2030-2590
Barricade/Walkway (Traffic Lane)	Fee Change for Activity	$ 18,000.00	100-84-2030-2590
Barricade/Walkway (Traffic Lane)	Fee Change for Activity	$ 17,120.00	100-84-2030-2590
Barricade/Walkway (Traffic Lane)	Fee Change for Activity	$ 17,120.00	100-84-2030-2590
Barricade/Walkway (Traffic Lane)	Fee Change for	$ 17,120.00	100-84-2030-2590

ACTIVITY	TRANSACTION	AMOUNT	CAPS
	Activity		
Barricade/Walkway (Sidewalk)	Fee for Activity	$ 1,500.00	100-84-2030-2590
Canopy (Traffic Lane)	Fee Change for Activity	$ 5,400.00	100-84-2030-2910
Canopy (Traffic Lane)	Fee Change for Activity	$ 5,400.00	100-84-2030-2910
Canopy (Traffic Lane)	Fee Change for Activity	$ 5,400.00	100-84-2030-2910
Canopy (Traffic Lane)	Fee for Activity	$ 27,000.00	100-84-2030-2910
	Total Fees:	**$ 346,528.00**	
	Grand Total Fees:	**$ 346,528.00**	

EFFECTIVE DATES OF PERMIT

Current: Oct 01, 2001 through Jan 25, 2002 (Input date: Jan 26, 2002 12:00:00 a.m.)

END OF PERMIT

Permit # 428762618

EXPIRED

Received Date: Oct 13, 2004 3:12:42

SBC ILLINOIS
225 W RANDOLPH ST
FLOOR 11
CHICAGO, IL 60606
PAT 312-424-2198

City of Chicago
Department of Transportation
(312) 744-4652

ACTIVITY HOURS

Permitted activity hours begin at 9 AM. Permitted activity hours will end at 4 PM. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 200 - 235 E ILLINOIS ST Street Opening (Curb Lane &Traffic Lane)

Permitted activity hours begin at 9 AM . Permitted activity hours will end at 4 PM. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 200 - 235 E ILLINOIS ST Street Opening (Intersection)

Start no earlier than 9 AM. Stop no later than 4 PM. - Closures Street/Bridge

DATES

Oct 13, 2004 through Nov 19, 2004

ACTIVITIES

Street Opening (Curb Lane &Traffic Lane): **Dig #: 428729884**

There will be 1 opening(s) in the public way for the purpose: PLACE PC. 0 Feet x 0 Feet

200 - 235 E ILLINOIS ST

1-60 TRENCH FROM TRAFFIC LANE ON THE SOUTH SIDE OF ILLINOIS, EAST OF ST CLAIR HEADING NORTH TO INTERCEPT CUSTOMER CONDUIT AT NEW DEVELOPEMENT/ 250 E. ILLINOIS

PROVIDE & PLACE 2-4" PC ENCASED IN CONCRETE. ROD APPROX 45' FROM START OF TRENCH BACK TO MANHOLE AT ILLINOIS & ST CLAIR

5078434784

Street Opening (Curb Lane &Traffic Lane): **Dig #: 428729884**

PROVIDE & PLACE 2-4" PC ENCASED IN CONCRETE. ROD APPROX 45' FROM START OF TRENCH BACK TO MANHOLE AT ILLINOIS & ST CLAIR

WORK TO BE PERFORMED BY: RELIABLE
JOB NO# 5397085 / APPL NO# 2004-1276

** MUST CONTACT CHUCK FROM BOVIS 656-6501 BEFORE ISSUANCE **

OK M. SIMON

OK TO RELEASE, PER RHAMAT BEGUM ON 10/28/04 WAS WAITING ON ENVIRONMENTAL APPROVAL

236 - 260 E ILLINOIS ST

Street Opening (Intersection): **Dig #: 428729896**

There will be 1 opening(s) in the public way for the purpose: PLACE PC. 0 Feet x 0 Feet

200 - 260 E ILLINOIS ST

Closures Street/Bridge: **Dig #: TBD**

A SEE DETAILS Lane(s) Closure is required for the purpose of:

TRENCH.

CONTACT NAME: PATRICIA NEE
CONTACT PHONE: 312-424-2198

250 E ILLINOIS ST

ILLINOIS STREET BETWEEN ST. CLAIR STREET AND COLUMBUS DRIVE

TRENCH ACROSS ILLINOIS TO INSTALL CONDUIT FOR THE NEW DEVELOPMENT AT 250 E. ILLINOIS.

MAINTAIN TWO TRAFFIC LANES THRU THE WORK ZONE DURING WORKING HOURS. PUT ALL LANES BACK TO NORMAL OPERATION DURING NON-WORKING HOURS.

Closures Street/Bridge: **Dig #: TBD**

THIS WORK MUST BE COORDINATED WITH BOVIS WHO HAS A CURRENT PERMIT AT THIS LOCATION. THE CONTRACT PERSON AT BOVIS IS CHUCK AT 312-656-6501.

ALL TRAFFIC CONTROL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST COMPLY WITH ALL MUTCD STANDARDS.

THIS WORK WILL BE PERFORMED BY: RELIABLE UNDER JOB NO# 5397085.

RESTRICTIONS: DAILY BETWEEN THE HOURS OF 9:00 AM - 4:00 PM OCT 13TH THRU OCT 28, 2004

NOTE: SECURE PLATING OVER ALL OPENINGS IN THE ROADWAY DURING NON-WORKING HOURS AND UNTIL SUCH TIME WHEN THE ROAD SURFACE IS RESTORED

OK D. GRABOWSKI & M. SIMON

Restrictions:

1. Barricades and detour signs provided by permittee.
2. Maintain fire hydrant and manhole access.
3. Permittee to provide all barricades, signs and/or flagmen as necessary.
4. All traffic control will be the responsibility of the contractor, and must comply with all MUTCD standards.
5. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.
6. Permit fees must be paid within 24 hours of the date of issuance. Failure to pay will result in the immediate cancellation of the permit. Monthly billing accounts are not applicable.
7. WORK HOURS: 9 AM - 4 PM
8. All directional boring must be pre-approved by the Office of Underground Coordination.
9. Contractor must secure plating over all openings in the roadway during non-working hours until such time when the road surface is restored.
10. All traffic control will be the responsibility of the contractor and must comply with all MUTCD standards.
11. Restore all lanes to normal operation during non-working hours.
12. Must use flagmen and/or arrow boards to maintain traffic operations through the work zone.
13. Contractor must notify DIGGER at 312-744-7000 no less then 48 hours (exclusive of Saturdays, Sundays and Holidays) but no more then 14 calendar days in advance of the start of the

Restrictions:

excavation or demolition, unless the excavation date was provided with the application and remains unchanged. Prior to 26 calendar days the Contaractor must notify DIGGER to renewal the dig date!

14. It is the Excavator's responsibility to request refreshing of marks when needed, but no longer than 28 calendar days after the last requested date.
15. When applicable, all excavation areas are to be clearly marked in safety white paint prior to calling DIGGER. White paint is not required for joint meets or emergency work.
16. Excavators requesting dig tickets are responsible for the protection of utility markings at the job site. Any markings of underground utilities utilizing utility colors, must be done by facility owners or authorized agents only.
17. Use of pneumatic equipment must not begin before 8 A.M. or continue after 9 P.M.
18. A copy of the permit must remain on-site for inspector's review.
19. Permanent base pavement restoration to follow within 5 days after the completion of underground work.
20. All pavements are to be restored in accordance with CDOT Construction Standards.
21. Work to be performed as per plans and specifications.
22. Streets recently resurfaced must be restored to proper standards (resurface to nearest 1/4 pt, see CDOT Construction Standards for further details).
23. WARNING: THIS WORKSITE(S) CONTAINS NON-PETROLEUM MATERIAL. ANY QUESTIONS PERTAINING TO HANDLING OF MATERIALS, CONTACT THE DEPT. OF ENVIRONMENT AT 312-744-3152.
24. This worksite is a MORATORIUM STREET and must be restored to CDOT standards.
25. Maintain vehicular traffic at all times.
26. Work area to be backfilled to grade or plated when site is unattended.
27. Restoration to follow immediately upon completion of underground work. Weather permitting. (If excavating)

Affected CUAN Sites: 7, 15, 18, 21, 22, 24, 29, 31, 34, 38, 53, 83, 109, 111, 141, 147

EFFECTIVE DATES OF PERMIT

Current: Oct 13, 2004 through Nov 19, 2004 (Input date: Oct 28, 2004 4:02:43 p.m.)
Previous: Oct 13, 2004 through Oct 28, 2004 (Input date: Oct 13, 2004 3:12:43 p.m.)

END OF PERMIT

Permit # 434566177

EXPIRED

Received Date: Dec 10, 2004 10:23:19

RELIABLE CONTRACTING & EQUIPMENT
333 NORTH OGDEN AV.
CHICAGO, IL 60607

KEN CHIN 312-666-3626

City of Chicago
Department of Transportation
(312) 744-4652

ACTIVITY HOURS

Permitted activity hours begin at 9:00 A.M. Permitted activity hours will end at 4:00 P.M. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 250 - 250 E ILLINOIS ST Sidewalk Opening

Permitted activity hours begin at 9:00 A.M. Permitted activity hours will end at 4:00 P.M. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 250 - 250 E ILLINOIS ST Street Opening (Curb Lane)

DATES

Dec 13, 2004 through Dec 17, 2004

ACTIVITIES

Sidewalk Opening: **Dig #: 434535033**

A sidewalk opening is being made to INSTALL WATER METER. There are 1 location(s) that will affect 2 sidewalk slab(s).

The opening is 10 ft X 10 ft.

250 E ILLINOIS ST

IN CONJUNCTION WITH PERMIT # 400980113

OK JMAC.

5107426302

Sidewalk Opening: **Dig #: 434535033**

BUILDING PERMIT # 1033959

Street Opening (Curb Lane): **Dig #: 434535057**

There will be 1 opening(s) in the public way for the purpose: INSTALL WATER METERS. 10 Feet x 10 Feet

250 E ILLINOIS ST

PERMIT RELEASE OKJ'D PER R BEGUM,DECEMBER 10,2004.

Restrictions:

1. PERMITTED ACTIVITY HOURS: 9:00 A.M. TO 4:00 P.M.
2. All directional boring must be pre-approved by the Office of Underground Coordination.
3. Contractor must secure plating over all openings in the roadway during non-working hours until such time when the road surface is restored.
4. Use of pneumatic equipment must not begin before 8 A.M. or continue after 9 P.M.
5. Contractor must notify DIGGER at 312-744-7000 no less then 48 hours (exclusive of Saturdays, Sundays and Holidays) but no more then 14 calendar days in advance of the start of the excavation or demolition, unless the excavation date was provided with the application and remains unchanged. Prior to 26 calendar days the Contaractor must notify DIGGER to renewal the dig date!
6. It is the Excavator's responsibility to request refreshing of marks when needed, but no longer than 28 calendar days after the last requested date.
7. When applicable, all excavation areas are to be clearly marked in safety white paint prior to calling DIGGER. White paint is not required for joint meets or emergency work.
8. Excavators requesting dig tickets are responsible for the protection of utility markings at the job site. Any markings of underground utilities utilizing utility colors, must be done by facility owners or authorized agents only.
9. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.
10. Maintain pedestrian traffic at all times.
11. A copy of the permit must remain on-site for inspector`s review.
12. Restoration to follow immediately upon completion of underground work. Weather permitting. (If excavating)
13. All pavements are to be restored in accordance with CDOT Construction Standards.
14. Permit fees must be paid within 24 hours of the date of issuance. Failure to pay will result in the immediate cancellation of the permit. Monthly billing accounts are not applicable.
15. All traffic control will be the responsibility of the contractor and must comply with all MUTCD

Restrictions:

standards.

16. Restore all lanes to normal operation during non-working hours.
17. Must use flagmen and/or arrow boards to maintain traffic operations through the work zone.
18. Work to be performed as per plans and specifications.
19. Permanent base pavement restoration to follow within 5 days after the completion of underground work.
20. WARNING: THIS WORKSITE(S) CONTAINS RADIOACTIVE MATERIAL. ANY QUESTIONS PERTAINING TO HANDLING OF MATERIALS, CONTACT THE DEPT. OF ENVIRONMENT AT 312-744-3152.

ACTIVITY	TRANSACTION	AMOUNT	CAPS
Street Opening (Curb Lane)	Fee Pavement Opening	$ 186.00	300-84-2030-2561
Sidewalk Opening	Fee Pavement Opening	$ 186.00	300-84-2030-2562
	Total Fees:	**$ 372.00**	
	Grand Total Fees:	**$ 372.00**	

Affected CUAN Sites: 7, 15, 18, 21, 22, 24, 29, 31, 34, 38, 53, 83, 109, 111, 141, 147

EFFECTIVE DATES OF PERMIT

Current: Dec 13, 2004 through Dec 17, 2004 (Input date: Dec 10, 2004 10:23:20 a.m.)

END OF PERMIT

Permit # 810198843

EXPIRED

Received Date: Apr 10, 2000 11:15:17

DEPARTMENT OF STREETS AND SANITATION - BUREAU OF ELECTRICITY

2451 S ASHLAND AV

CHICAGO, IL 60601

L. HOLLOWAY 312-746-7936

City of Chicago
Department of Transportation
(312) 744-4652

ACTIVITY HOURS

Start no earlier than 7:00 AM. Stop no later than 3:30 PM. - Parking Work Veh/Monthly-Curb Lane

DATES

Apr 10, 2000 through Jun 10, 2000

ACTIVITIES

Parking Work Veh/Monthly-Curb Lane: **Dig #: TBD**

A TRUCKS vehicle will be using 20 feet for 2 Month(s). Vehicle License Number: NA and State Issued: NA.

200 E ILLINOIS ST

PARKING WORK VEHICLES AT VARIOUS LOCATIONS TO PERFORMED VARIOUS KINDS OF WORK TYPES

Operating Equip/PW (Curb Lane): **Dig #: TBD**

A CRANE AND TRACTOR BACKHOLE FRONT END LOADER will be using 40 feet of Curb Lane

200 - 200 E ILLINOIS ST

Dumpster Placement (Curb Lane) OLD: **Dig #: TBD**

A 20 Foot Dumpster will be at referenced location for 2 Month(s).

017647115б

Dumpster Placement (Curb Lane) OLD: **Dig #: TBD**

200 - 200 E ILLINOIS ST

Sidewalk Opening: **Dig #: TBD**

A sidewalk opening is being made to REMOVE AND REPLACE SIDEWALK. There are 1 location(s) that will affect $$SLABS$$ sidewalk slab(s).

The opening is 0 ft X 0 ft.

200 - 200 E ILLINOIS ST

Restrictions:

1. A copy of the permit must remain on-site for inspector's review.
2. Maintain vehicular traffic at all times.
3. Cranes must be operated by a licensed crane operator.
4. Permit copy must remain with vehicle at all times.
5. Parking of vehicles cannot interfere with bus stops, handicap ramps, fire hydrants or any other city facilities.
6. Vehicles are prohibited from driving over curbs or sidewalks.
7. Use of pneumatic equipment must not begin before 8 A.M. or continue after 10 P.M.
8. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.
9. Maintain pedestrian traffic at all times.
10. Restoration to follow immediately upon completion of underground work. Weather permitting. (If excavating)
11. All pavements are to be restored in accordance with CDOT Construction Standards.
12. Use of chute above pedestrian walkway prohibited.
13. Reflective material must be secured to all sides of dumptser.

Affected CUAN Sites: 1, 7, 15, 18, 21, 22, 23, 24, 29, 31, 34, 36, 37, 38, 39, 53, 80, 83, 109, 111, 126, 133, 141, 147

EFFECTIVE DATES OF PERMIT

Current: Apr 10, 2000 through Jun 10, 2000 (Input date: Jun 11, 2000 12:00:00 a.m.)

END OF PERMIT

Permit # 812250734

EXPIRED

Received Date: May 1, 2000 10:46:4

KENNY CONSTRUCTION COMPANY
250 NORTHGATE PARKWAY
WHEELING, IL 60090

City of Chicago
Department of Transportation
(312) 744-4652

T. JENSEN-312-907-4739-MOR.DSL 847-541-8200

ACTIVITY HOURS

Permitted activity hours begin at 7:00 A.M. Permitted activity hours will end at 4:00P.M. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 200 - 201 E ILLINOIS ST Sidewalk & Parkway Opening(s)

DATES

May 1, 2000 through Jun 27, 2000

ACTIVITIES

Sidewalk & Parkway Opening(s): **Dig #: TBD**

There will be 2 for the purpose of TO INSTALL CAISSONS. 4 Feet x 4 Feet.

200 - 201 E ILLINOIS ST

INSTALL CASISSONS ON THE NORTH AND SOUTH SIDE OF ILLINOIS ST. - MAKING 13 OPENINGS
OK K. GIBSON -

LOCATION: ILLINOIS STREET EAST OF MICHIGAN

PERMISSION TO: RENEW PERMIT # 812250734 TO CLOSE THE SOUTH CURB LANE AT THE 201 E. ILLINOIS CONSTRUCTION SITE FOR APPROXIMATELY 250 FEET. THE PURPOSE IS TO SINK CAISSONS FOR THE NEW CONSTRUCTION.

0182613825

Sidewalk & Parkway Opening(s): **Dig #: TBD**

MAINTAIN TRAFFIC IN THE REMAINING LANES OF ILLINOIS.

RESTRICTION: FROM THURSDAY, JUNE 8 THRU THURSDAY, JUNE 27TH, 2000

Restrictions:

1. Contractor must notify CUAN at 312-744-7000 a minimum of 48 hours prior to excavation unless the excavation date was provided with the application and remains unchanged.
2. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.
3. A copy of the permit must remain on-site for inspector's review.
4. Permanent base pavement restoration to follow within 5 days after the completion of underground work.
5. All pavements are to be restored in accordance with CDOT Construction Standards.
6. Work to be performed as per plans and specifications.
7. Maintain pedestrian traffic at all times.
8. Pavement opening to be backfilled to grade/or plated during off work hours.
9. Parkway excavation by hand, cut and replace sod wherever possible.
10. Permittee to provide all barricades, signs and/or flagmen as necessary.
11. Sidewalk pavement broken by hand or with pneumatic hammer only.
12. APPROVED: BYRD, JOHNSON, GIBSON

ACTIVITY	TRANSACTION	AMOUNT	CAPS
Sidewalk & Parkway Opening(s)	Fee Pavement Opening	$ 304.00	292-84-3034-2560
	Total Fees:	**$ 304.00**	

Grand Total Fees: $ 304.00

Affected CUAN Sites: 1, 2, 3, 4, 5, 6, 7, 9, 11, 12, 15, 16, 17, 18, 20, 21, 22, 23, 24, 27, 28, 29, 31, 34, 35, 36, 37, 38, 39, 40, 41, 44, 45, 46, 49, 53, 54, 55, 56, 80, 83, 84, 86, 109, 111, 126, 133, 141, 147

EFFECTIVE DATES OF PERMIT

Current: May 01, 2000 through Jun 27, 2000 (Input date: Jun 28, 2000 12:00:00 a.m.)

END OF PERMIT

PERMIT DETAIL

PERMIT OVERRIDE - PER K. GIBSON - DEPARTMENT OF ENVIRONMENT OKAY 5/1/00

Permit # 821696323

EXPIRED

Received Date: Aug 3, 2000 9:32:23

RELIABLE CONTRACTING & EQUIPMENT
333 NORTH OGDEN AV.
CHICAGO, IL 60607

KENNETH CHIN 312-666-3626

City of Chicago
Department of Transportation
(312) 744-4652

ACTIVITY HOURS

Permitted activity hours begin at 7:00 A.M. Permitted activity hours will end at 7:00P.M. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 245 - 245 E GRAND AV Street Opening (Curb Lane &Traffic Lane)

DATES

Aug 11, 2000 through Sep 11, 2000

ACTIVITIES

Street Opening (Curb Lane &Traffic Lane): **Dig #: 821618569**

There will be 1 opening(s) in the public way for the purpose: INSTALLATION OF NEW WATERMAIN. 400 Feet x 8 Feet

245 E GRAND AV

NON-FEE PERMIT - DEPT. OF WATER PROJECT

WORK BEHIND BARRACADES MUST STRIP METERS ON NORTH SIDE OF GRAND.

PERMIT OVERRIDE APPROVED BY DEPT. OF ENVIRONMENT AUGUST 3, 2000

O.K. PER CARMEN IACULLO

BEHIND THE BARRICADE WALL

0215873874

Street Opening (Curb Lane &Traffic Lane): **Dig #: 821618569**

AMENDED PERMIT TO CLOSE SIDEWALK AT S.W.X. -- DIRECT PEDESTRIANS TO EAST SIDE OF STREET -- FROM MONDAY AUGUST 28 AT 7 AM TO COMPLETION ON FRIDAY ON SEPTEMBER 1, 2000.

OK K. GIBSON

Restrictions:

1. Contractor must notify CUAN at 312-744-7000 a minimum of 48 hours prior to excavation unless the excavation date was provided with the application and remains unchanged.
2. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.
3. A copy of the permit must remain on-site for inspector's review.
4. Permanent base pavement restoration to follow within 5 days after the completion of underground work.
5. All pavements are to be restored in accordance with CDOT Construction Standards.
6. Work to be performed as per plans and specifications.
7. Streets recently resurfaced must be restored to proper standards (resurface to nearest 1/4 pt, see CDOT Construction Standards for further details).

Affected CUAN Sites: 1, 7, 15, 18, 21, 22, 23, 24, 29, 31, 34, 37, 38, 39, 53, 80, 83, 109, 111, 133, 141, 147

EFFECTIVE DATES OF PERMIT

Current: Aug 11, 2000 through Sep 11, 2000 (Input date: Sep 12, 2000 12:00:00 a.m.)

END OF PERMIT

PERMIT DETAIL

PERMIT OVERRIDE - APPROVED BY DEPT. OF ENVIRONMENT AUGUST 3, 2000

Permit # 823751739

EXPIRED

Received Date: Aug 24, 2000 10:19:17

DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER DISTRIBUTION

1000 E OHIO ST

CHICAGO, IL

City of Chicago
Department of Transportation
(312) 744-4652

JOHN BRIATTA 312-744-7025

ACTIVITY HOURS

Permitted activity hours begin at 7:00 P.M. Permitted activity hours will end at 7:00 A.M. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 200 - 200 E ILLINOIS ST Street Opening (Curb Lane, Parkway, Sidewalk)

DATES

Aug 24, 2000 through Sep 23, 2000

ACTIVITIES

Street Opening (Curb Lane, Parkway, Sidewalk): **Dig #: 823724605**

There will be 1 opening(s) in the public way for the purpose: CUAN DIG. 4 Feet x 6 Feet

200 E ILLINOIS ST

PKWY LK -1004998/ CENTRAL/ PM

Restrictions:

1. Contractor must notify CUAN at 312-744-7000 a minimum of 48 hours prior to excavation unless the excavation date was provided with the application and remains unchanged.
2. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.
3. A copy of the permit must remain on-site for inspector's review.
4. Permanent base pavement restoration to follow within 5 days after the completion of underground work.

0218634064

Restrictions:

5. All pavements are to be restored in accordance with CDOT Construction Standards.
6. Work to be performed as per plans and specifications.
7. Maintain pedestrian and vehicular traffic at all times.
8. Pavement opening to be backfilled to grade/or plated during off work hours.
9. Parkway excavation by hand, cut and replace sod wherever possible.
10. Permittee to provide all barricades, signs and/or flagmen as necessary.
11. Sidewalk pavement broken by hand or with pneumatic hammer only.
12. WARNING: THIS WORKSITE(S) CONTAINS RADIOACTIVE MATERIAL. ANY QUESTIONS PERTAINING TO HANDLING OF MATERIALS, CONTACT THE DEPT. OF ENVIRONMENT AT 312-744-3152.

Affected CUAN Sites: 1, 7, 15, 18, 21, 22, 23, 24, 29, 31, 34, 36, 37, 38, 39, 53, 80, 83, 109, 111, 126, 133, 141, 147

EFFECTIVE DATES OF PERMIT

Current: Aug 24, 2000 through Sep 23, 2000 (Input date: Sep 24, 2000 12:00:00 a.m.)

END OF PERMIT

Permit # 828571275

EXPIRED

Received Date: Oct 11, 2000 9:16:29

PEOPLES GAS LIGHT & COKE CO
130 EAST RANDOLPH DRIVE
CHICAGO, IL 60601

City of Chicago
Department of Transportation
(312) 744-4652

D. WRIGHT 773-542-7830

ACTIVITY HOURS

Permitted activity hours begin at 7:00 P.M. Permitted activity hours will end at 7:00 A.M. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 200 - 200 E ILLINOIS ST Street Opening (Curb Lane, Parkway, Sidewalk)

Start no earlier than 7:00 PM. Stop no later than 6:00 AM. - Street Opening (Curb Lane, Parkway, Sidewalk)

DATES

Oct 11, 2000 through Nov 11, 2000

ACTIVITIES

Street Opening (Curb Lane, Parkway, Sidewalk): **Dig #: 830546492**

There will be 1 opening(s) in the public way for the purpose: NEW SERVICE INSTALLATION. 3 Feet x 5 Feet

200 E ILLINOIS ST

OK'D PER RAHMAT ON 10/20/2000

Restrictions:

1. Contractor must notify CUAN at 312-744-7000 a minimum of 48 hours prior to excavation unless the excavation date was provided with the application and remains unchanged.
2. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.

0229985944

Restrictions:

3. A copy of the permit must remain on-site for inspector's review.
4. Permanent base pavement restoration to follow within 5 days after the completion of underground work.
5. All pavements are to be restored in accordance with CDOT Construction Standards.
6. Work to be performed as per plans and specifications.
7. Maintain pedestrian and vehicular traffic at all times.
8. Pavement opening to be backfilled to grade/or plated during off work hours.
9. Parkway excavation by hand, cut and replace sod wherever possible.
10. Permittee to provide all barricades, signs and/or flagmen as necessary.
11. Sidewalk pavement broken by hand or with pneumatic hammer only.
12. WARNING: THIS WORKSITE(S) CONTAINS PETROLEUM MATERIAL. ANY QUESTIONS PERTAINING TO HANDLING OF MATERIALS, CONTACT THE DEPT. OF ENVIRONMENT AT 312-744-3152.

ACTIVITY	TRANSACTION	AMOUNT	CAPS
Street Opening (Curb Lane, Parkway, Sidewalk)	Fee Pavement Opening	$ 152.00	292-84-3034-2560
	Total Fees:	**$ 152.00**	
	Grand Total Fees:	**$ 152.00**	

Affected CUAN Sites: 1, 7, 15, 18, 21, 22, 23, 24, 29, 31, 34, 36, 37, 38, 39, 53, 80, 83, 109, 111, 126, 133, 141, 147

EFFECTIVE DATES OF PERMIT

Current: Oct 11, 2000 through Nov 11, 2000 (Input date: Nov 12, 2000 12:00:00 a.m.)

END OF PERMIT

PERMIT DETAIL

OK'D PER RAHMAT BEGUM ON 10/20/00

Permit # 918794000

EXPIRED

Received Date: Jul 6, 1999 12:0:0

RELIABLE CONTRACTING & EQUIPMENT
333 NORTH OGDEN AV.
CHICAGO, IL 60607

VITO COMES 312-666-3626

City of Chicago
Department of Transportation
(312) 744-4652

ACTIVITY HOURS

Start no earlier than 9:30 AM. Stop no later than 3:30 PM. - Street Opening (Curb Lane, Parkway, Sidewalk)

DATES

Jul 6, 1999 through Oct 1, 1999

ACTIVITIES

Street Opening (Curb Lane, Parkway, Sidewalk): **Dig #: 918717755**

There will be 1 opening(s) in the public way for the purpose: INSTALL CONTROL FOUNDATION & SERVICE RUN. 62 Feet x 18 Feet

200 E ILLINOIS ST

62'X18" X 36"

OK K. GIBSON

Street Opening (Traffic Lane): **Dig #: 918717767**

There will be 1 opening(s) in the public way for the purpose: INSTALL CONTROL FOUNDATION & SERVICE RUN. 62 Feet x 18 Feet

200 - 200 E ILLINOIS ST

Restrictions:

1. Permittee must provide a sign which identifies the telephone number and company or person

0087895053

Restrictions:

performing the work. Signage may be affixed to barricades.

2. A copy of the permit must remain on-site for inspector's review.
3. Contractor must notify CUAN at 312-744-7000 a minimum of 48 hours prior to excavation unless the excavation date was provided with the application and remains unchanged.
4. Permanent base pavement restoration to follow within 5 days after the completion of underground work.
5. All pavements are to be restored in accordance with CDOT Construction Standards.
6. Work to be performed as per plans and specifications.
7. Maintain pedestrian and vehicular traffic at all times.
8. Pavement opening to be backfilled to grade/or plated during off work hours.
9. Parkway excavation by hand, cut and replace sod wherever possible.
10. Permittee to provide all barricades, signs and/or flagmen as necessary.
11. Sidewalk pavement broken by hand or with pneumatic hammer only.
12. Stop no later than 3:30 PM. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS.
13. Streets recently resurfaced must be restored to proper standards (resurface to nearest 1/4 pt, see CDOT Construction Standards for further details).
14. Maintain vehicular traffic at all times.
15. Work area to be backfilled to grade or plated when site is unattended.

Affected CUAN Sites: 1, 2, 3, 4, 5, 6, 9, 11, 12, 15, 16, 17, 18, 20, 21, 22, 23, 24, 27, 28, 29, 31, 34, 35, 36, 38, 40, 41, 44, 45, 46, 49, 53, 54, 55, 56, 80, 83, 84, 86

EFFECTIVE DATES OF PERMIT

Current: Jul 06, 1999 through Oct 01, 1999 (Input date: Oct 02, 1999 12:00:00 a.m.)

END OF PERMIT

Permit # 928655971

EXPIRED

Received Date: Oct 13, 1999 12:0:0

COMMONWEALTH EDISON CO
227 WEST MONROE
STREET-9TH FLOOR
CHICAGO, IL 60606

City of Chicago
Department of Transportation
(312) 744-4652

CRAIG DIXON 312-394-3260

ACTIVITY HOURS

Start no earlier than 9:30 AM. Stop no later than 3:30 PM. - Street Opening (Curb Lane)

DATES

Oct 13, 1999 through Dec 13, 1999

ACTIVITIES

Street Opening (Curb Lane): **Dig #: TBD**

There will be 1 opening(s) in the public way for the purpose: INSTALL CONDUIT. 15 Feet x 3 Feet

200 - 210 E ILLINOIS ST

WORK TO BE PERFORMED BY C & M / RELIABLE.

Sidewalk Opening: **Dig #: TBD**

A sidewalk opening is being made to INSTALL CONDUIT. There are 1 location(s) that will affect $$SLABS$$ sidewalk slab(s).

The opening is 15 ft X 3 ft.

200 - 210 E ILLINOIS ST

0120967705

Restrictions:

1. Use of pneumatic equipment must not begin before 8 A.M. or continue after 10 P.M.
2. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.
3. Maintain pedestrian traffic at all times.
4. A copy of the permit must remain on-site for inspector's review.
5. Restoration to follow immediately upon completion of underground work. Weather permitting. (If excavating)
6. All pavements are to be restored in accordance with CDOT Construction Standards.
7. Contractor must notify CUAN at 312-744-7000 a minimum of 48 hours prior to excavation unless the excavation date was provided with the application and remains unchanged.
8. Work to be performed as per plans and specifications.
9. Permanent base pavement restoration to follow within 5 days after the completion of underground work.

ACTIVITY	TRANSACTION	AMOUNT	CAPS
Street Opening (Curb Lane)	Fee Pavement Opening	$ 145.00	292-84-3034-2560
Sidewalk Opening	Fee Pavement Opening	$ 145.00	292-84-3034-2560
	Total Fees:	**$ 290.00**	
	Grand Total Fees:	**$ 290.00**	

Affected CUAN Sites: 1, 2, 3, 4, 5, 6, 9, 11, 12, 15, 16, 17, 18, 20, 21, 22, 23, 24, 27, 28, 29, 31, 34, 35, 36, 38, 40, 41, 44, 45, 46, 49, 53, 54, 55, 56, 80, 83, 84, 86

EFFECTIVE DATES OF PERMIT

Current: Oct 13, 1999 through Dec 13, 1999 (Input date: Dec 14, 1999 12:00:00 a.m.)

END OF PERMIT

Permit # 928760138

EXPIRED

Received Date: Oct 14, 1999 12:0:0

21ST CENTURY TELECOM GROUP INC
350 N. ORLEANS, STE. 600
CHICAGO, IL 60654

REECE CONRAD 312-907-8331

City of Chicago
Department of Transportation
(312) 744-4652

ACTIVITY HOURS

See RESTRICTIONS for permitted hours

DATES

Oct 14, 1999 through Dec 14, 1999

ACTIVITIES

Street Opening (Curb Lane, Parkway, Sidewalk): **Dig #: TBD**

There will be 1 opening(s) in the public way for the purpose: INSTALL 2 - 4" PVC CONDUIT & MANHOLES. 70 Feet x 2 Feet

200 E ILLINOIS ST

CONTRACTOR: RELIABLE

Street Opening (Traffic Lane): **Dig #: TBD**

There will be 1 opening(s) in the public way for the purpose: INSTALL 2 - 4" PVC CONDUIT & MANHOLES. 70 Feet x 2 Feet

200 - 200 E ILLINOIS ST

Restrictions:

1. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.
2. A copy of the permit must remain on-site for inspector's review.

0121120781

Restrictions:

3. Contractor must notify CUAN at 312-744-7000 a minimum of 48 hours prior to excavation unless the excavation date was provided with the application and remains unchanged.
4. Permanent base pavement restoration to follow within 5 days after the completion of underground work.
5. All pavements are to be restored in accordance with CDOT Construction Standards.
6. Work to be performed as per plans and specifications.
7. Maintain pedestrian and vehicular traffic at all times.
8. Pavement opening to be backfilled to grade/or plated during off work hours.
9. Parkway excavation by hand, cut and replace sod wherever possible.
10. Permittee to provide all barricades, signs and/or flagmen as necessary.
11. Sidewalk pavement broken by hand or with pneumatic hammer only.
12. Work permitted only between 9:00 AM and 4:00 PM.
13. Streets recently resurfaced must be restored to proper standards (resurface to nearest 1/4 pt, see CDOT Construction Standards for further details).
14. Maintain vehicular traffic at all times.
15. Work area to be backfilled to grade or plated when site is unattended.

Affected CUAN Sites: 1, 2, 3, 4, 5, 6, 9, 11, 12, 15, 16, 17, 18, 20, 21, 22, 23, 24, 27, 28, 29, 31, 34, 35, 36, 38, 40, 41, 44, 45, 46, 49, 53, 54, 55, 56, 80, 83, 84, 86

EFFECTIVE DATES OF PERMIT

Current: Oct 14, 1999 through Dec 14, 1999 (Input date: Dec 15, 1999 12:00:00 a.m.)

END OF PERMIT

Permit # 930255206

EXPIRED

Received Date: Oct 29, 1999 12:0:0

21ST CENTURY TELECOM GROUP INC
350 N. ORLEANS, STE. 600
CHICAGO, IL 60654

REECE CONRAD 312-907-8331

City of Chicago
Department of Transportation
(312) 744-4652

ACTIVITY HOURS

Permitted activity hours begin at 9:30 AM. Permitted activity hours will end at 3:30 PM. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 198-232 E ILLINOIS ST Street Opening (Curb Lane)

Permitted activity hours begin at 9:30 AM. Permitted activity hours will end at 3:30 PM. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 198 - 199 E ILLINOIS ST Street Opening (Intersection)

Permitted activity hours begin at 9:30 AM. Permitted activity hours will end at 3:30 PM. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 199 - 232 E ILLINOIS ST Street Opening (Intersection)

DATES

Oct 29, 1999 through Dec 29, 1999

ACTIVITIES

Street Opening (Curb Lane): **Dig #: 930721421**

There will be 1 opening(s) in the public way for the purpose: INSTALL TWO 4" PVC CONDUIT & MANHOLES. 150 Feet x 2 Feet

198 - 199 E ILLINOIS ST

0122920434

Street Opening (Curb Lane): **Dig #: 930721421**

215 - 232 E ILLINOIS ST

CONTRACTOR: BURNS
O.U.C NUMBER -- 16842
O.K.- KEVIN GIBSON

Street Opening (Intersection): **Dig #: 930721433**

There will be 1 opening(s) in the public way for the purpose: INSTALL TWO 4" PVC CONDUIT & MANHOLES. 150 Feet x 2 Feet

198 - 199 E ILLINOIS ST

199 - 232 E ILLINOIS ST

Restrictions:

1. Contractor must notify CUAN at 312-744-7000 a minimum of 48 hours prior to excavation unless the excavation date was provided with the application and remains unchanged.
2. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.
3. A copy of the permit must remain on-site for inspector's review.
4. Work to be performed as per plans and specifications.
5. All pavements are to be restored in accordance with CDOT Construction Standards.
6. Permanent base pavement restoration to follow within 5 days after the completion of underground work.
7. Maintain vehicular traffic at all times.
8. Work area to be backfilled to grade or plated when site is unattended.
9. Restoration to follow immediately upon completion of underground work. Weather permitting. (If excavating)
10. Streets recently resurfaced must be restored to proper standards (resurface to nearest 1/4 pt, see CDOT Construction Standards for further details).

Affected CUAN Sites: 1, 7, 15, 18, 21, 22, 23, 24, 29, 31, 34, 36, 37, 38, 39, 53, 80, 83, 109, 111, 126, 133, 141, 147

EFFECTIVE DATES OF PERMIT

Current: Oct 29, 1999 through Dec 29, 1999 (Input date: Dec 30, 1999 12:00:00 a.m.)

END OF PERMIT

Permit # 930870729

EXPIRED

Received Date: Nov 4, 1999 12:0:0

RELIABLE CONTRACTING & EQUIPMENT
333 NORTH OGDEN AV.
CHICAGO, IL 60607

KEN CHIN 312-666-3626

City of Chicago
Department of Transportation
(312) 744-4652

ACTIVITY HOURS

Start no earlier than 7:00 AM. Stop no later than 4:00 PM. - Closures Street/Bridge

DATES

Dec 11, 1999 through Dec 13, 1999

ACTIVITIES

Closures Street/Bridge:

A CURB AND TRAFFIC LANES Lane(s) Closure is required for the purpose of:

REROUTE 18" CITY SEDIMENT LINE.

CONTACT NAME: BRIAN D. LORENC
CONTACT PHONE: 312-644-0125

510 N COLUMBUS DR

INSTALL NEW SEDIMENT LINE FOR NEW RESIDENTIL & BUSINESS DEVELOPMENT. THE INSTALLATION OF SEDIMENT LINE FOR ILLINOIS WILL BE IN THE SOUTH SIDEWALK, AND CLOSING THE SIDEWALK. PEDESTRIANS WILL BE DIRECTED TO CROSS THE STREET.

THE INSTALLATION OF THE SEDIMENT LINE FOR COLUMBUS WILL BE IN THE WEST CURB LANE OF SOUTHBOUND TRAFFIC. OCCUPY THE WEST CURB LANE OF TRAFFIC FROM 7:00 AM TO 4:00 PM & 6:00 PM TO 10:00 PM. DURING NON-WORKING HOURS THE AREA SHOULD BE PLATED TO MAINTAIN TWO SOUTHBOUND LANES OF TRAFFIC ON COLUMBUS.

0129052081

Closures Street/Bridge:

*** OUC NUMBER: 18458 ***

OK KEVIN GIBSON

AMENDED PERMIT FROM DECEMBER 11, TO DECEMBER 13, 1999
OK C.IACULLO

Restrictions:

1. Barricades and detour signs provided by permittee.
2. Maintain fire hydrant and manhole access.
3. Permittee to provide all barricades, signs and/or flagmen as necessary.

Affected CUAN Sites: N/A

EFFECTIVE DATES OF PERMIT

Current: Dec 11, 1999 through Dec 13, 1999 (Input date: Dec 14, 1999 12:00:00 a.m.)

END OF PERMIT

Permit # 936395854

EXPIRED

Received Date: Dec 29, 1999 2:0:43

DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER DISTRIBUTION

1000 E OHIO ST

CHICAGO, IL

OWEN KEENAN 312-744-5070

City of Chicago
Department of Transportation
(312) 744-4652

ACTIVITY HOURS

Permitted activity hours begin at 7:00 A.M. Permitted activity hours will end at 7:00 P.M. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 240 - 240 E ILLINOIS ST Street Opening (Curb Lane)

Permitted activity hours begin at 7:00 A.M. Permitted activity hours will end at 7:00 P.M. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 301 - 301 E GRAND AV Street Opening (Traffic Lane)

Permitted activity hours begin at 7:00 A.M. Permitted activity hours will end at 7:00 P.M. ANY WORK ON ARTERIAL STREETS MUST ADHERE TO ALL RUSH HOUR RESTRICTIONS. 240 - 240 E ILLINOIS ST Street Opening (Traffic Lane)

Start no earlier than SEE RESTRICTIONS. Stop no later than SEE RESTRICTIONS. - Closures Street/Bridge

DATES

May 23, 2000 through Jun 23, 2000

ACTIVITIES

Closures Street/Bridge: **Dig #: TBD**

A CURB AND TRAFFIC LANE OF ONE WAY WEST BOUND GRAND WILL BE CLOSED Lane(s) Closure is required for the purpose of:

0140539262

Closures Street/Bridge: **Dig #: TBD**

PREPARATION AND REFAB OF STEEL THRUST RESTRAINT, DEWATERING, ETC..

CONTACT NAME: JERRY GIEBELHAUSEN
CONTACT PHONE: 312-666-3626

301 - 301 E GRAND AV

240 - 240 E ILLINOIS ST

520 N COLUMBUS DR

MAKE 5X6 OPENING IN CURB LANE ON GRAND AND ON ILLINOIS ST.
ISSUED IN CONJUNCTION WITH PERMIT 934098535
PERMIT VALID TO INSTALL 12 INCH WATER MAIN SEDIMENT LINE CONNECTION AT 200 FT.EAST OF COLUMBUS AND GRAND ON 7 AM TO 12 MIDNIGHT - LANE CLOSURES THE CURB AND TRAFFIC LANE OF ONE WAY WESTBOUND GRAND WILL BE CLOSED. ALSO CLOSED WILL BE THE CURB AND TRAFFIC LANE OF SOUTHBOUND COLUMBUS. TWO (2) LANES WILL BE LOST TO TRAFFIC - WORK TO BE PERFORMED BY RELIABLE CONTRACTING
OK K. GIBSON
AMENDED PERMIT HOURS FROM 7 AM TO 7 PM OK K. GIBSON

AMENDED PERMIT FOR STREET RESTORATION TO BRING OPENING TO GRADE WITH CONCRETE ONLY -- VALID FROM
MAY 23, TO JUNE 23, 2000 OK K. GIBSON

Street Opening (Curb Lane): **Dig #: 936442019**

There will be 1 opening(s) in the public way for the purpose: INSTALL. 5 Feet x 6 Feet

301 - 301 E GRAND AV

240 E ILLINOIS ST

MAKE 5X6 OPENING CURB LANE ON GRAND AND ON ILLINOIS ST.

AMENDED PERMIT FOR RESTORATION OF STREET TO BRING OPENING TO GRADE WITH CONCRETE ONLY --
PERMIT VALID FROM MAY 23, TO JUNE 23, 2000 -- OK K. GIBSON

Street Opening (Traffic Lane): **Dig #: TBD**

There will be 1 opening(s) in the public way for the purpose: INSTALL. 5 Feet x 6 Feet

301 - 301 E GRAND AV

240 E ILLINOIS ST

MAKE 5X6 OPENING ON GRAND AND ON ILLINOIS

AMENDED PERMIT FOR RESTORATION OF STREET TO BRING OPENING TO GRADE WITH CONCRETE ONLY -- VALID FROM MAY 23 TO JUNE 23, 2000 OK K. GIBSON

Restrictions:

1. Barricades and detour signs provided by permittee.
2. Maintain fire hydrant and manhole access.
3. Permittee to provide all barricades, signs and/or flagmen as necessary.
4. Contractor must notify CUAN at 312-744-7000 a minimum of 48 hours prior to excavation unless the excavation date was provided with the application and remains unchanged.
5. Permittee must provide a sign which identifies the telephone number and company or person performing the work. Signage may be affixed to barricades.
6. A copy of the permit must remain on-site for inspector's review.
7. Work to be performed as per plans and specifications.
8. All pavements are to be restored in accordance with CDOT Construction Standards.
9. Permanent base pavement restoration to follow within 5 days after the completion of underground work.
10. Streets recently resurfaced must be restored to proper standards (resurface to nearest 1/4 pt, see CDOT Construction Standards for further details).
11. Maintain vehicular traffic at all times.
12. Work area to be backfilled to grade or plated when site is unattended.

Affected CUAN Sites: 1, 2, 3, 4, 5, 6, 7, 9, 11, 12, 15, 16, 17, 18, 20, 21, 22, 23, 24, 27, 28, 29, 31, 34, 35, 36, 37, 38, 39, 40, 41, 44, 45, 46, 49, 53, 54, 55, 56, 80, 83, 84, 86, 109, 111, 133, 141, 147

EFFECTIVE DATES OF PERMIT

Current: May 23, 2000 through Jun 23, 2000 (Input date: Jun 24, 2000 12:00:00 a.m.)

END OF PERMIT

STS CONSULTANTS, LTD.

Beverly Gravel Summary Report
Elgin, Illinois

Grand Pier Center LLC
c/o R. M. Chin & Associates, Inc.
401 N. Michigan Ave., Suite 2900
Chicago, Illinois 60611

STS Project No. 1-24418-XL
September 6, 2002

ATTACHMENT 30

Record Center Copy

STS CONSULTANTS, LTD.

Beverly Gravel Summary Report
Elgin, Illinois

Grand Pier Center LLC
c/o R. M. Chin & Associates, Inc.
401 N. Michigan Ave., Suite 2900
Chicago, Illinois 60611

STS Project No. 1-24418-XL
September 6, 2002

STS CONSULTANTS

750 Corporate Woods Parkway
Vernon Hills, Illinois 60061
847-279-2500 Phone
847-279-2510 Fax

September 6, 2002

Mr. Michael J. Witte
Grand Pier Center LLC
c/o R. M. Chin & Associates, Inc.
401 N. Michigan Ave., Suite 2900
Chicago, Illinois 60611

RE: Beverly Gravel Summary Report – STS Project No. 1-24418-XL

Dear Mr. Witte:

Attached please find our summary report regarding Beverly Gravel and Grand Pier. This report summarizes the information discussed at the recent series of meetings between Grand Pier, Plote and U. S. Environmental Protection Agency (USEPA) regarding the Beverly Gravel Closure Report. This report is being provided to the USEPA as a follow-up to our meeting of August 21, 2002.

Regards,

STS CONSULTANTS, LTD.

Richard G. Berggreen, C.P.G.
Principal Geologist

cc: Fred Micke, Verneta Simon, USEPA
Rick Mueller, Johnson & Bell
John Frazier, Auxier & Associates
Mark Erzen, Karaganis, White & Magel
Mark Krippel, Kerr-McGee
J. T. Smith, Covington and Burling

Table of Contents

EXECUTIVE SUMMARY 1
INTRODUCTION 2
SUMMARY OF SUBSURFACE INVESTIGATION AT BEVERLY GRAVEL 2
SUMMARY OF REMOVAL ACTIVITIES AT BEVERLY GRAVEL 4
SUMMARY OF OPERATIONS AT GRAND PIER 5
PERCENTAGE OF RADIOLOGICALLY-IMPACTED MATERIAL 6
CONCLUSION 8

Figures

Figure 1a Probability Distribution Plot of Gamma Readings
Figure 1b Frequency Distribution Plot of Gamma Readings
Figure 2 Areas A, B, and C at Grand Pier
Figure 3 Exclusion Zones at Grand Pier
Figure 4 Walkover Survey Results

Attachments

Attachment 1 Morse-Diesel Daily Field Reports
Attachment 2 Landfill Load Summary
Attachment 3 Grand Pier Photographs
Attachment 4 Caisson Installation Records
Attachment 5 Impacted Fill Percentage Calculation

Grand Pier Center LLC
STS Proposal No. 1-24418-XL
September 6, 2002

BEVERLY GRAVEL
ELGIN, ILLINOIS
SUMMARY REPORT

EXECUTIVE SUMMARY

At the request of the U. S. Environmental Protection Agency, an investigation and removal was conducted by Grand Pier Center LLC related to the presence of radiologically-impacted soil at the Beverly Gravel site in Elgin, Illinois. The investigation conducted from October to November 2000 consisted of 146 borings and 5,839 gamma readings taken from these 146 borings. On the basis of the results of those subsurface investigations, two areas were identified as radiologically-impacted above the specified cleanup levels, and eleven containers estimated to total 240.6 tons of soil were removed from the site between January and February 2001.

A Closure Report of this investigation and removal, dated November 30, 2001, was prepared and submitted to the USEPA. In response to review comments from the USEPA on the Closure Report, STS Consultants, Ltd. (STS) on behalf of Grand Pier Center LLC conducted a review of the activities on the Grand Pier site in Chicago, Illinois, at the time the excavated soil was shipped from Grand Pier to Beverly Gravel between January 24 and February 28, 2000. That review found the areas excavated and the material likely to have been shipped was, for the most part, from areas or horizons not exhibiting elevated radioactivity.

This review indicated the following two conclusions:

1. The majority of the material from Grand Pier transported to Beverly Gravel between January 24 and February 28, 2000, was not radiologically-impacted.

2. The volume of radiologically-impacted material identified at Beverly Gravel and subsequently removed from Beverly Gravel comprises the majority, if not all, of the radiologically-impacted material transported from the Grand Pier site.

INTRODUCTION

This report presents a brief summary of the scope of the subsurface investigation and the results of that investigation at the Beverly Gravel site. A description of the sampling relative to the anticipated distribution of the soil materials of interest is discussed. Finally, a description of the findings of the survey is presented.

A summary of the material removed from the Beverly Gravel site is presented. The means and methods, and the data documenting the cleanup verification is not presented as that information is presented in the Closure Report regarding Beverly Gravel dated November 30, 2001. Of note is the quantity of impacted soil removed, and that information is presented herein.

Of particular interest, and not previously included in the Beverly Gravel Closure Report, is information on the apparent source of the excavated soil from the Grand Pier site that was transported and deposited at the Beverly Gravel site. To the extent possible using the available resources, a summary of the operations on the Grand Pier site at the time the soil was being shipped to Beverly Gravel is developed in this Summary Report for submittal to the USEPA.

This information will assist in the interpretation of the character of the material deposited at Beverly Gravel from the Grand Pier site.

SUMMARY OF SUBSURFACE INVESTIGATION AT BEVERLY GRAVEL

The Beverly Gravel site in Elgin, Illinois, was identified by the USEPA as having received excavated soil between January 24 and February 28, 2002 from the Grand Pier site in Chicago, Illinois. Several walkover gamma radiation surveys conducted by USEPA and STS between March and June 2000 found indications of elevated gamma radiation. On the basis of those indications of the presence of radiologically-impacted soil, a Work Plan for Investigation and Removal for the Beverly Gravel site was prepared for the exploration of the subsurface of the area suspected as having received the soil from the Grand Pier site. That Work Plan, dated August 18, 2000, was reviewed by USEPA and following revisions in response to USEPA comments, the Work Plan was approved October 4, 2000.

The subsurface investigation at Beverly Gravel consisted of installation of 146 borings at the site, installed on a 10-meter grid. The borings were installed by driving a three-inch diameter steel casing into the ground through the fill soil and into the natural soils. The borings covered an approximately 2.5 to 3 acre

parcel and extended out into a flooded gravel quarry adjacent to the filled area. The borings in the lake portion of the investigation were performed in winter, through the ice on the quarry lake.

Gamma measurements were taken in each boring at 6-inch increments from the bottom of the casing to the ground surface. A total of 5,839 gamma measurements were taken. These gamma measurements were taken with equipment calibrated specifically for this survey, incorporating the steel casing, the lead end cap to restrict shine from horizons beneath the gamma probe, and using the Ludlum Model 2221 rate meter-scaler and a 2 inch X 2 inch NaI detector requested by USEPA. The measurements were compared to the gamma count rate indicative of 7.1 picocuries per gram (pCi/g) total radium (Ra-226 + Ra-228) as measured at the calibration facility at Kerr-McGee's West Chicago site.

It should be noted that during the time material was being brought to the Beverly Gravel site from the Grand Pier site, January 24 to February 28, 2000, material from other sites was also being brought to the Beverly Gravel site. The Grand Pier material comprised a small percentage of the total volume of fill material deposited during this time. As each truck load of soil was dumped, it was spread and compacted by earthmoving equipment, in preparation for this area to be developed. The trucks carried 12 to 15 cubic yards of fill material, and the material was typically spread and compacted in 6-inch lifts. Therefore, it can reasonably be assumed that each truck covered an area of 650 to 800 square feet.

Of the more than 5,800 gamma measurements in boreholes, only four were found to exceed the cleanup threshold indicative of 7.1 pCi/g. This suggests that there was little material over the cleanup threshold that would require removal from Beverly Gravel. Additionally, a Probability Plot and a Frequency Distribution Plot of the Gamma Readings (Figures 1a and 1b) show three distinct populations among the values measured. The low end of the plot shows what is interpreted as background gamma readings below the water table, where the water acts as shielding, reducing the gamma counts from natural gamma emitters in the soil. The second population comprising the majority of the readings is the natural gamma levels from the background fill soil at the site. The third population shows up as a steeply sloping group of readings on the Probability Plot (Figure 1a) indicative of what is interpreted as radiologically-impacted soil. The readings within this group are, with one exception, all within the volume of soil removed as radiologically-impacted. This is significant, as these readings include the four readings that exceed the cleanup threshold, and a number of readings that are within the apparently impacted soil, but are below the cleanup threshold. The one reading that was in the third population that was not in the soil removed, in Boring E-5 toward the northwest corner of the area investigated, was far separated from the other readings, and was from a depth, approximately 10 feet, that suggests it was not related to the soil deposited from Grand Pier. That reading is interpreted as being due to other naturally occurring radioactive material.

The characteristics of the soil dumping and spreading, in association with the boring spacing and number of gamma readings suggest that the subsurface exploration methods used were a reasonable means to detect the impacted soil. Additionally, the limited detections of radiologically-impacted soil and the removal of that soil support the conclusion that there is little likelihood of significant quantities of impacted soil that were not identified through the exploration completed.

SUMMARY OF REMOVAL ACTIVITIES AT BEVERLY GRAVEL

The cleanup criteria established for the Beverly Gravel site was the same criteria used for the Grand Pier site from which the impacted soil was assumed to have originated. The cleanup level used was 7.1 pCi/g total radium, which is 5 pCi/g above assumed background.

Two methods were used to assess the radiological character of the soil, as against this cleanup level. The majority of the measurements were taken with a Ludlum Model 2221 rate meter-scaler and a 2 inch X 2 inch NaI detector. This instrument measures gamma counts and compares the counts against a calibrated source to develop a count-per-minute value indicative of 7.1 pCi/g. This instrument was used in the walkover surveys, the down-hole gamma logging, and in the monitoring of the excavations as the impacted soil was removed. The second measurement method was a gamma spectroscopy analysis using NUTRANL software and a NaI detector. This method measures the concentration of specific radionuclides in a soil sample, and a concentration or activity for the two radium isotopes can be calculated and compared to the 7.1 pCi/g threshold.

The use of the NUTRANL software has been accepted by USEPA on several remediation sites. The comparison of the results using NUTRANL with conventional laboratory analyses has shown the results using NUTRANL are slightly higher than the conventional laboratory results. This produces a level of conservatism in the interpretation, in that the results indicate a slightly higher level of contaminant than is actually present. Therefore, when the NUTRANL results show the cleanup level has been reached, there is increased confidence the levels are actually somewhat lower than the target levels.

In the course of the investigation of the Beverly Gravel site, data were collected for the walkover survey the down-hole exploration, and monitoring of the excavations. Those data are included in the Closure Report for Beverly Gravel, and due to their volume are not included herein.

A total of 11 containers were removed from the Beverly Gravel site. These containers were filled from two excavations on the site, referenced to the two borings where the impacted soil was first identified, O-

21 and M-27. A total of 240.6 tons of impacted soil was removed from the Beverly Gravel site based on quantities assigned to the shipping containers by Kerr-McGee.

SUMMARY OF OPERATIONS AT GRAND PIER

The information on activities at the Grand Pier site during the time when materials were being excavated and transported to Beverly Gravel was obtained primarily from daily field reports prepared by the Construction Superintendent for Morse-Diesel International, Inc. Copies of these daily reports were provided to STS by Grand Pier and are included as Attachment 1.

Additionally, the dates when materials were hauled from Grand Pier to the several landfills or concrete and asphalt disposal and processing sites was provided to STS through USEPA. This information is also attached, and is included as Attachment 2.

Finally, photographs taken of the initial stages in the excavation were provided to STS by Grand Pier. Those photographs are included as Attachment 3.

For ease of discussion, a site plan of the Grand Pier site showing Areas A, B, and C is included as Figure 2. Area A at the far west end of the site was not involved in any of the excavation of material deposited at Beverly Gravel. Area B is the central portion of the site, where a basement was to be excavated, and was the westernmost portion of the site excavated for the material transported to Beverly Gravel. Area C is the east end of the site, and was designed with no basement, but was a slab-on-grade structure supported on caissons and grade beams.

The impacted material removed from the Grand Pier site was present throughout the fill which extended from immediately beneath the pavement to the natural sand at a depth of approximately 8-10 feet. Figure 3 shows the locations of exclusion zones for the site, identifying those areas where radiologically-impacted soil was encountered and removed. In the course of the removal effort, however, it was apparent that some horizons were more likely to be impacted than others. In particular, the shallow soil immediately beneath the pavement was less likely to be impacted except where the soil had been disturbed by excavation such as removal of foundations or test pitting for caisson obstructions. Also, the deeper fill soils just above the native sand tended to be less impacted except where mixed during some excavation material handling. The most impacted zone site-wide was the interval from 2 or 3 feet deep to perhaps 5 or 6 feet deep. This horizon was noteworthy as the apparent former ground surface, as evidenced by the presence of railroad tracks and ties crossing the middle of the site in an east – west direction. This horizon was apparently the ground surface during the time Lindsay Light operated in the

vicinity, as these rails were present on maps and photographs from that time and immediately following. It is likely these same horizons of more or less impacted soil were characteristic of the site during the time the soil was first excavated from the Grand Pier site. Because the first soil removed from the Grand Pier site was from the surface soils which were less impacted, this suggests the first soil transported to Beverly Gravel was likely less radiologically-impacted.

The excavation operations at the Grand Pier site began on January 14, 2000. Some earlier construction demolition activities had included removal of guard rails and parking attendant booths, but had not included any excavation. The first work began in Area C at the east end of the site and included asphalt removal. Shortly thereafter, an underground storage tank (UST) was encountered and removed. From review of the field daily records, the work was apparently restricted to Area C until early February 2000. On February 7, 2000, work began in the northwest corner of Area B, near Mary's Café. Prior to February 7, 2002, 97 loads of material were removed to Beverly Gravel, all apparently from Area C. As part of the work in Area C, 20 loads of clean fill were brought to the Grand Pier site. This is the only description noted in the daily records of quantities of fill imported to the Grand Pier site.

In mid-February 2000, work was concentrated in the north half of Area B, removing a foundation wall in an area where little impacted soil was later encountered (see Figure 3). On February 17, 2000, the field daily reports note excavating approximately 3 feet from the southwest corner of Area B. This area was later found to be some of the most impacted material encountered on the Grand Pier site. However, the excavated material was not removed from the site, but was stockpiled on site. Records for material removed from the site, Attachment 2, indicate only four loads of soil were removed from the site between February 17 and February 28, 2000 when the last load was removed prior to identification of the radiological impacts.

This review suggests that the material removed in early February 2000, 15 loads from February 7 to 11, 2000, and four loads from February 17 to 28, 2000, were the materials most likely to have come from locations later found to be radiologically-impacted. Thirty-two loads hauled on February 15 and 16, 2000 appear to be from the excavation at the north end of Area B, where little impacted material was later encountered.

PERCENTAGE OF RADIOLOGICALLY-IMPACTED MATERIAL

In addition to general site excavations at Grand Pier, material was also generated from caisson construction. Records of the caisson installations were provided by Grand Pier and are included as Attachment 4. These records indicate only five caissons were constructed before construction was

temporarily halted, and two were constructed on February 29, 2000 when no further material was removed from the site. The locations for the three caissons installed February 25 and 28, 2000 are shown on Figure 3.

In addition to reviewing the work records to identify the specific areas where soil may have been excavated from Grand Pier during the time soil was transported to Beverly Gravel, a calculation was made of the overall percentage of impacted soil identified at the Grand Pier site. This calculation could place an average quantity of impacted material shipped, if no other information was available. (Note, however, this calculation applies to the entire Grand Pier site, Areas A, B and C, since the quantity of impacted soil from Grand Pier also included the material removed from Area A. Also note the calculation is limited to the fill as the radiological-impacts were restricted to the fill soils.)

For this calculation, the thickness of the fill soil was determined based on geotechnical soil borings from the site from 1998. The average depth to the native soil in 12 borings was 8.46 feet. The area of the entire Grand Pier site was calculated at 106,424 ft^2. This thickness and area calculate to a volume of fill at 33,346 yd^3. In that the material removed from the site was measured in tons, the volume was then converted to tons, assuming approximately 1.5 tons per cubic yard. This calculates to 50,020 tons of fill soil. A total of 10,606.4 tons of impacted soil was removed from the site, which calculates to 21.2 % of the volume of the fill soils at Grand Pier. Thus, if variations in the soil were not considered, the soil shipped from Grand Pier to Beverly Gravel would average about 21% impacted. A summary of this calculation is included as Attachment 5.

However, it is known that there were variations in the material shipped to Beverly Gravel. The material shipped from Area C comprised most of the volume, at least 97 of the 148 loads. At the time the initial walkover of the site was conducted to survey for elevated gamma radiation, the majority of Area C showed few areas that were impacted (Figure 4). Further, the material excavated from Area B was primarily from the north half, where little impacted material was encountered (Figure 3). When material was excavated from the south end of Area B and exposed some of the more impacted materials (Figures 3 and 4), this soil was not removed from the site, but was stockpiled and not removed until after the issue of radiologically-impacted soil had been identified, and soil was screened prior to off-site shipment. Finally, the material removed to Beverly Gravel was for the most part from the upper few feet, and was generally less impacted than material from greater depths in the soil profile.

CONCLUSION

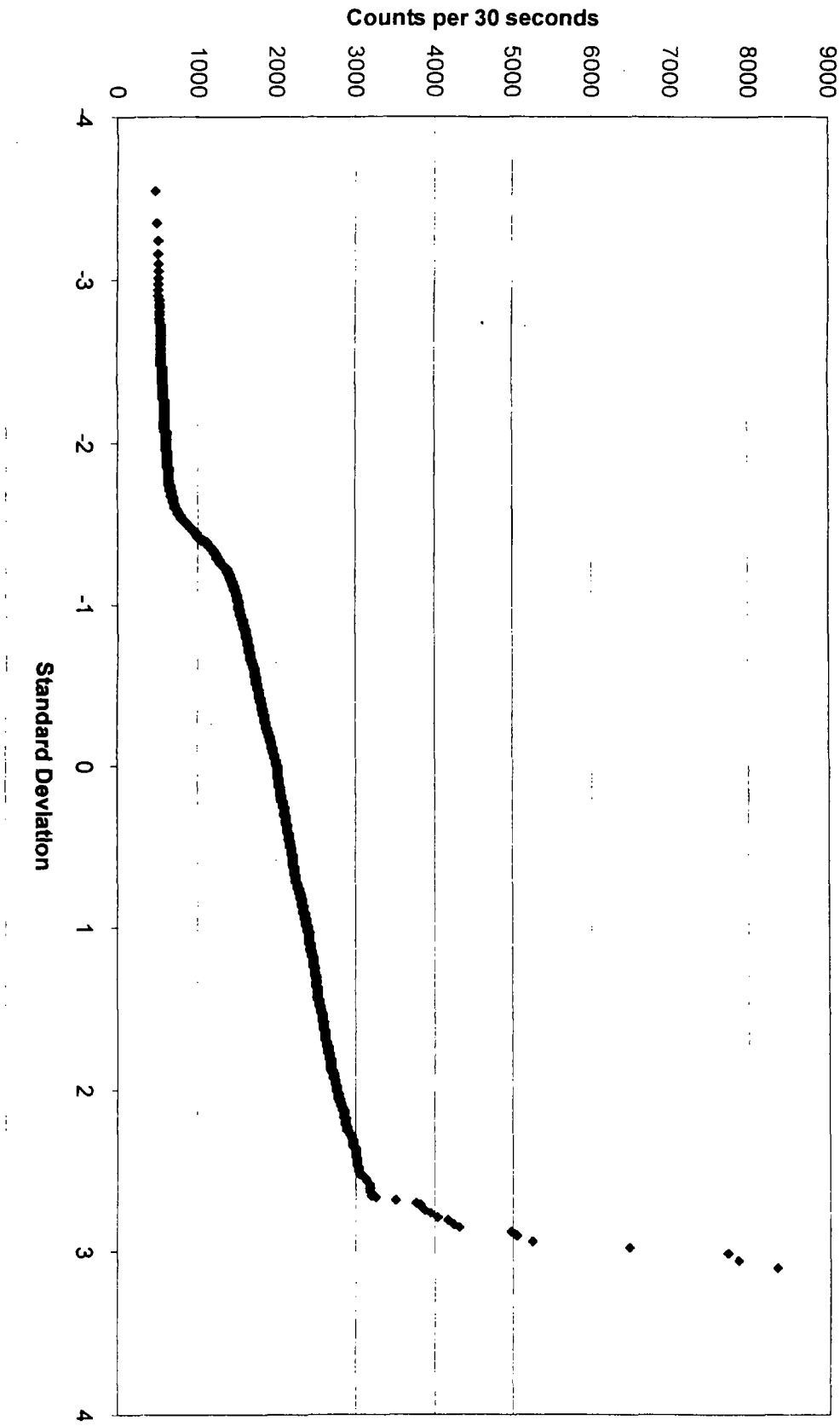
The materials excavated from the Grand Pier site and shipped to Beverly Gravel were more likely from areas or horizons with lower percentages of impacted materials, primarily from the upper several feet. If the material hauled to Beverly Gravel, 1,700 to 2,200 cubic yards (148 loads at 12 to 15 cubic yards per load), was 5 to 10% impacted rather than the average for the site of 21%, the quantity of impacted soil would be perhaps 100 to 200 cubic yards. This quantity matches very well with the 240 tons of material removed from the Beverly Gravel site (240 tons at 1.5 tons per cubic yard equals 160 cubic yards).

This review indicated the following two conclusions:

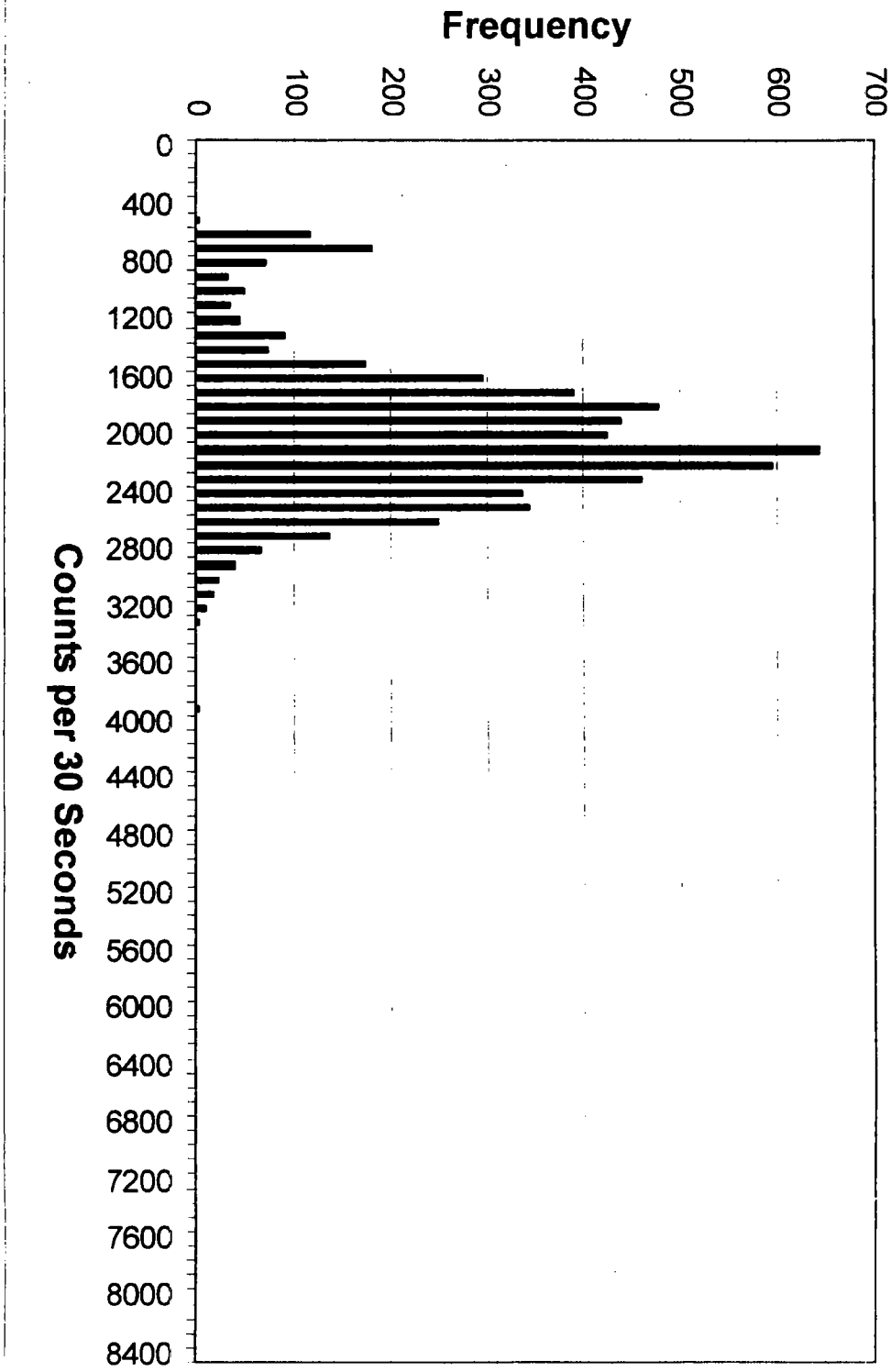
1. The majority of the material from Grand Pier transported to Beverly Gravel between January 24 and February 28, 2000, was not radiologically-impacted.

2. The volume of radiologically-impacted material identified at Beverly Gravel and subsequently removed from Beverly Gravel compresses the majority, if not all, of the radiologically-impacted material transported from the Grand Pier site.

On the basis of this Summary Report and the Closure Report for the Beverly Gravel site, a Closure Completion Letter is requested from the USEPA to the Respondents and Plote, the owners of Beverly Gravel, indicating that all on-site investigative and removal work required by the Work Plan has been completed, and no further on-site investigative and removal activities are necessary at the Beverly Gravel site.



STS Consultants Ltd. Consulting Engineers	PROBABILITY PLOT OF GAMMA READINGS BEVERLY GRAVEL ELGIN, IL	DRAWN BY PVP	DATE 9/06/02
STS PROJECT NO 24418-XL		CHECKED BY RGB	DATE 9/06/02
STS PROJECT FILE UTIL-AIR-MON dwg		APPROVED BY RGB	DATE 9/06/02
SCALE N.T.S.		CADFILE X:\PROJECTS\124418-XK\UTIL-AIR-MON.dwg	
FIGURE NO. 1a		09/06/2002 15.	



FREQUENCY DISTRIBUTION

FIGURE NO. 1b	SCALE N.T.S.	STS PROJECT FILE UTIL-AIR-MON.dwg	STS PROJECT NO. 24418-XL

STS Consultants Ltd. Consulting Engineers

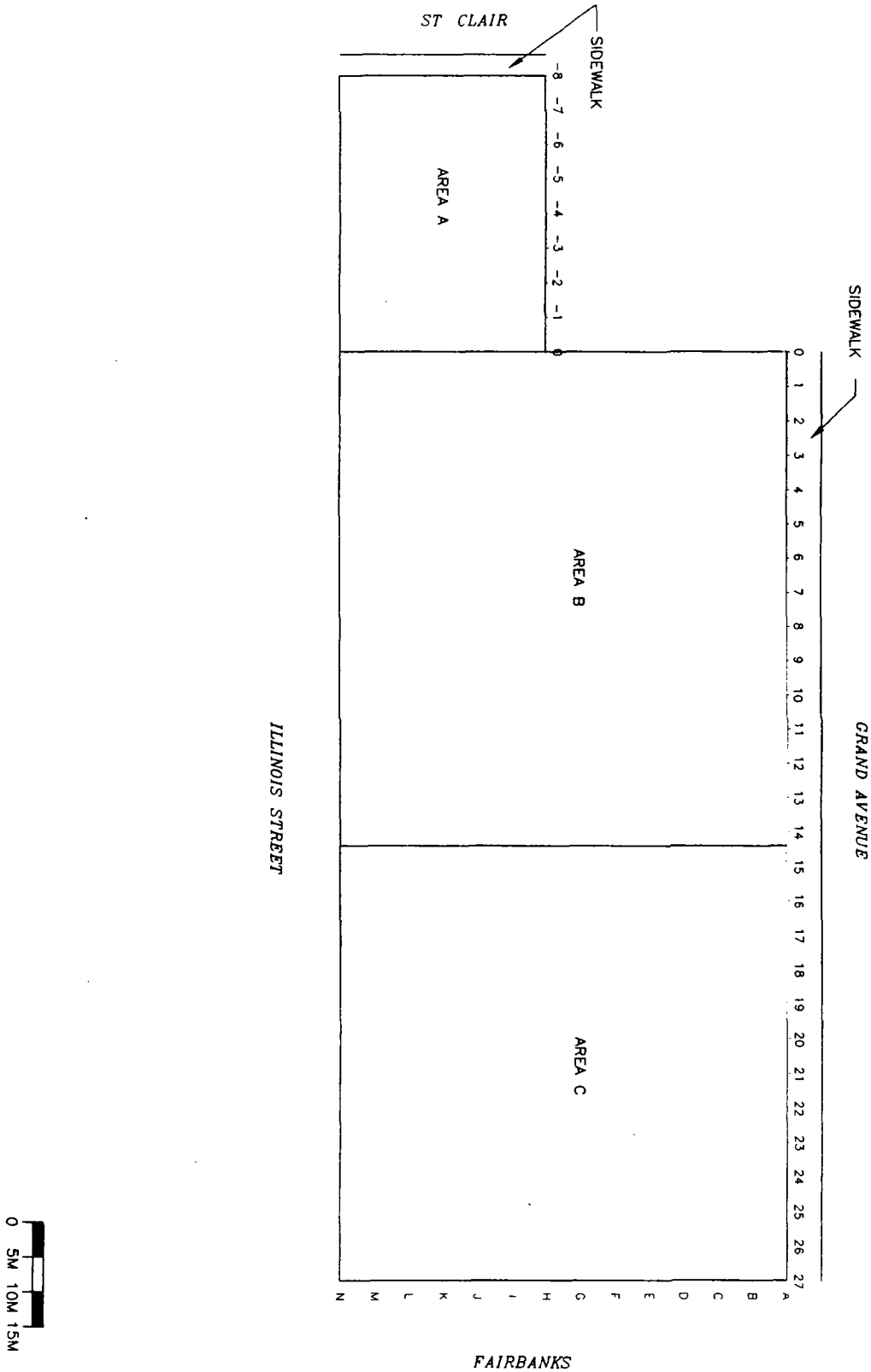
FREQUENCY DISTRIBUTION PLOT OF GAMMA READINGS

BEVERLY GRAVEL
ELGIN, IL

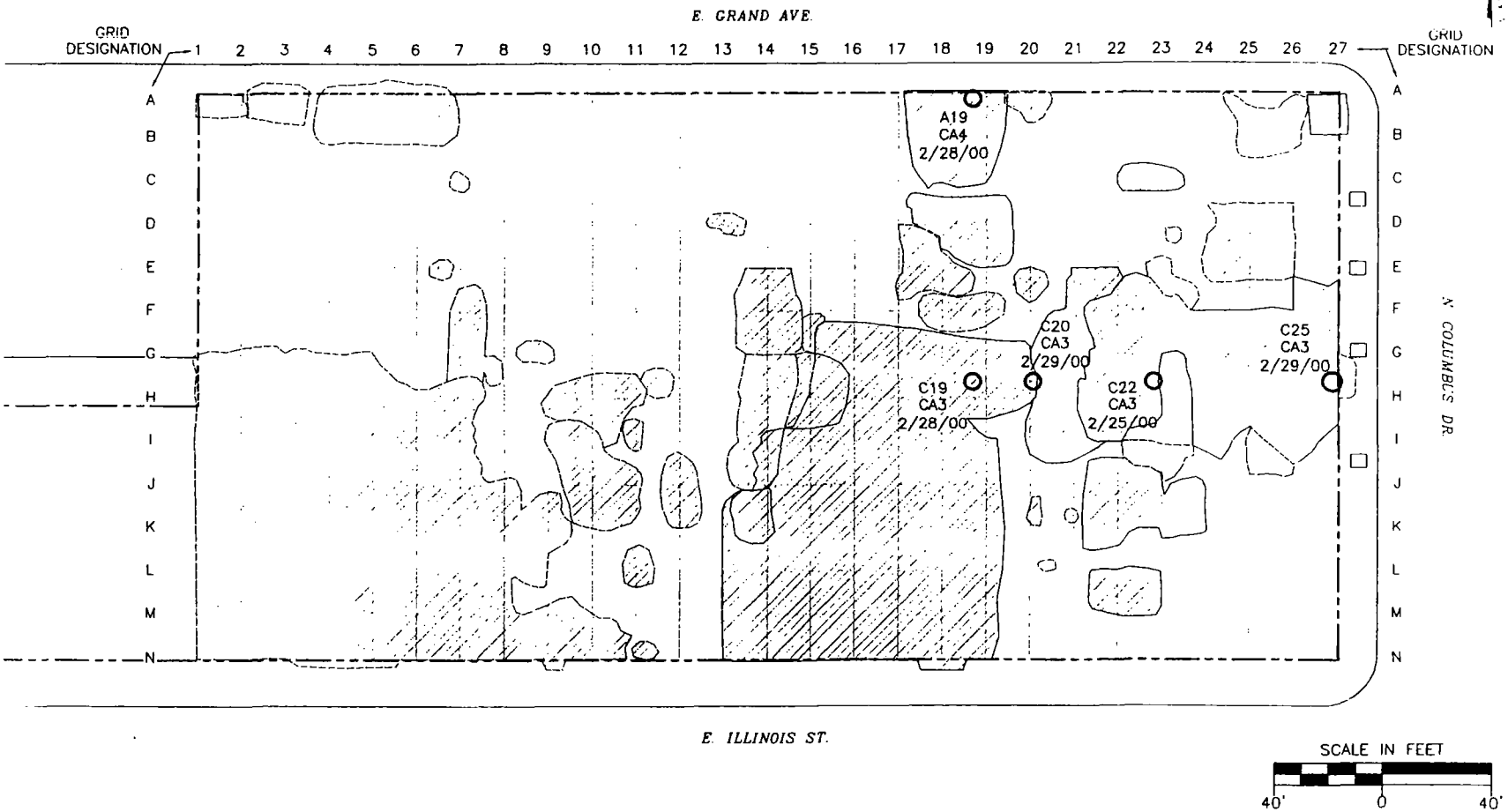
DRAWN BY	PVP	DATE	9/06/02
CHECKED BY	RGB	DATE	9/06/02
APPROVED BY	RGB	DATE	9/06/02
CADFILE	X:\PROJECTS\124418-XK\UTIL-AIR-MON.dwg		

09/06/2002 15:

X:\PROJECTS\124418-XK\UTIL-AIR-MON.dwg, 09/06/2002 02:41:41 PM, POUHALEVA,
STS Consultants, Ltd.



STS Consultants Ltd. Consulting Engineers	AREAS A, B AND C GRAND PIER CHICAGO, ILLINOIS	DRAWN BY KKB	DATE 9/06/02
STS PROJECT NO 24418-XK		CHECKED BY DG	DATE 9/06/02
STS PROJECT FILE UTIL-AIR-MON.dwg		APPROVED BY RGB	DATE 9/06/02
SCALE SHOWN		CADFILE X:\PROJECTS\24418\xk\UTIL-AIR-MON.dwg	
FIGURE NO 2			



RADIOLOGICAL EXCLUSION ZONES

C19 CA3 2/28/00 — CAISSON LOCATION/NUMBER, CAISSON SIZE, INSTALLATION DATE

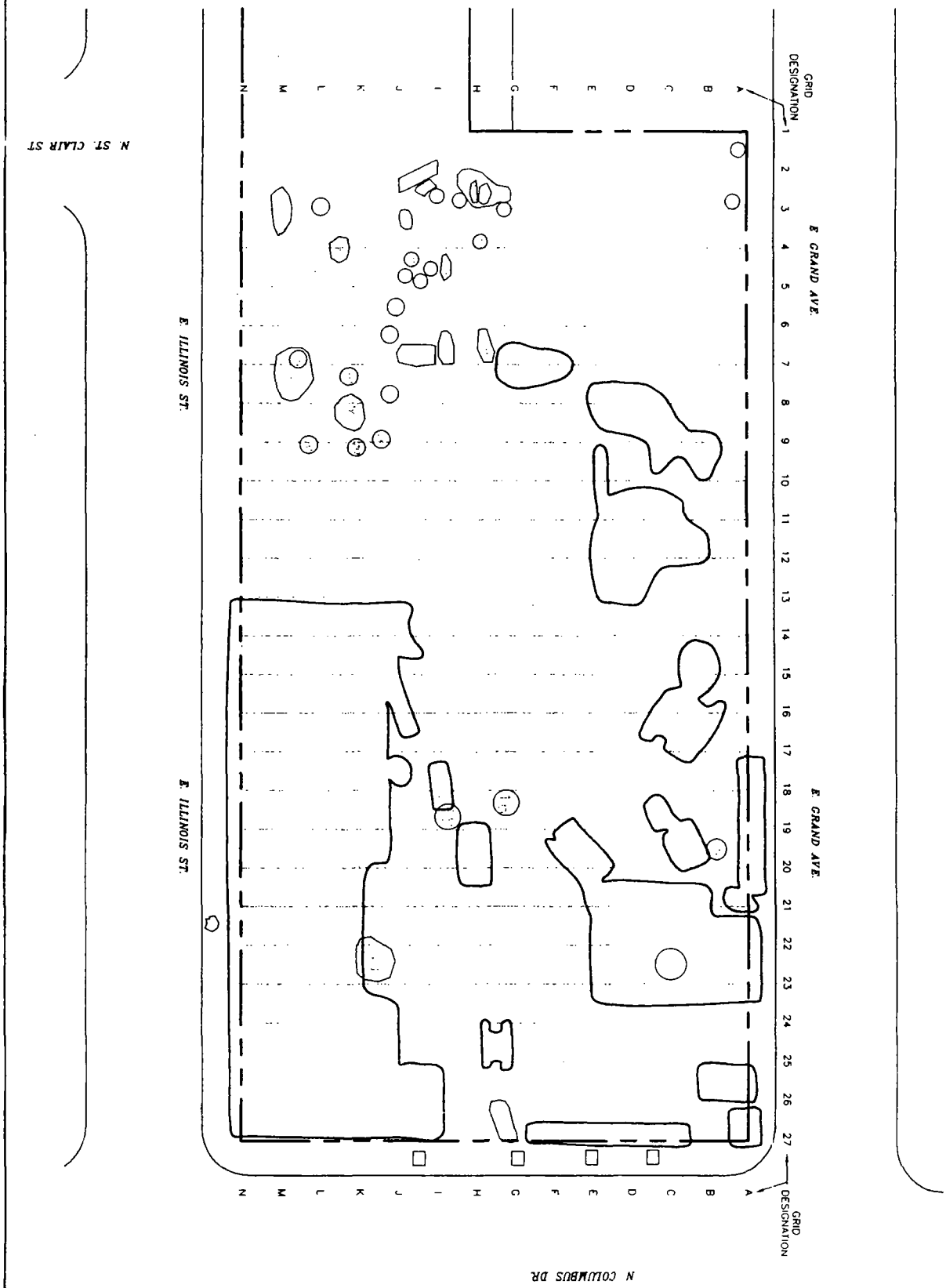
DRAWN BY	BWS	DATE	8/30/02
CHECKED BY		DATE	
APPROVED BY	RGB	DATE	8/30/02

RADIOLOGICAL EXCLUSION ZONES AND INSTALLED CAISSON LOCATIONS
GRAND PIER CENTER
EAST ILLINOIS STREET
CHICAGO, ILLINOIS

STS Consultants Ltd.
Consulting Engineers

STS PROJECT NO 24418-XK
STS PROJECT FILE
SCALE 1"=40'
FIGURE NO 3

X:\PROJECTS\12448-XL\FIG4.dwg, 09/06/2002 02:37:20 PM, POURALEVA,
STS Consultants, Ltd.



STS Consultants Ltd. Consulting Engineers	WALKOVER SURVEY RESULTS (μR/hr) FROM INITIAL SITE GRID SURVEY GRAND PIER CENTER EAST ILLINOIS STREET CHICAGO, IL	DRAWN BY TJC	DATE 9/06/02
STS PROJECT NO 24418-XL		CHECKED BY RGB	DATE 9/06/02
STS PROJECT FILE FIG4.dwg		APPROVED BY RGB	DATE 9/06/02
SCALE 1"=40'		CADFILE X:\PROJECTS\12448-XL\FIG4.dwg	
FIGURE NO 4			

ATTACHMENT 1

Morse-Diesel Daily Field Reports

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

1ST DAY DIGGING

Job #: GRAND PIER

Work and Materials to be pushed

Temperature _____ Weather _____ Day FRI Date 1-14 ~~FB~~ 2002

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT	1				SUPERVISION, LAYOUT, BEGIN POTHOLING OPERATION
STROM OPER	1				BEGIN POTHOLING OPERATION AT E. END OF SITE

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

_____ Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 20°-25°F Weather SNOW STARTS ~~@ 1:00PM~~ Day MON Date 1-17, ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT	1				SUPERVISION, EXTEND LAYOUT LINES B, C & D WEST TO 6 LINE. - GO TO MAIN OFFICE TO MEET W/ STEVE MORRIS [redacted].
STROM					
OPERATOR	1				- POTHOLE AT E. END OF SITE, LABORER
LABORER	1				SORTS THRU PILES TO SEPARATE WOOD, & REBAR, ETC.
GME					
photographer	1				- PRECONSTRUCTION SURVEY OF BRIDGE & BUILDINGS ADJACENT TO SITE

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed "

Temperature 20°-25°F Weather COLD/CLEAR 1" SNOW ON GROUND Day TUES Date 1-18 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT	1				- SUPERVISE POTHOLING WORK, ASSESS REMOVAL of OWNERS SIGN,
Laborer	1	≈2 hrs			- Move 1 PILE of FENCE PANELS, Move 3 JERSEY BARRIERS out of EXCAVATORS WAY. - LOOK AT SIGN REMOVAL.
STROM					
FOREMAN	1	½ DAY			- PEEL up ASPHALT AT E. END of SITE & LOAD OUT
LABORER	1	8			- DEMO CONCRETE IN OPEN HOLES w/ HOE RAM
O.E.	2	8			- SORT REBAR & WOOD
					- BRING A CAT 325B HOE RAM TO SITE
FENCE MASTER					
Laborers	2				- BRING ADDITIONAL FENCE PANELS TO SITE & SET up PANELS ON E. & SOUTH SIDE of SITE OUTSIDE of GUARD RAIL.

MET with a Rep FROM B.D.E REGARDING CONTROLLER ADJACENT TO BRIDGE CASSION. TURNS OUT THIS IS A STREET LIGHT CONTROLLER & NOT A TRAFFIC SIGNAL CONTROLLER, SINCE LIGHTS COME DOWN THIS MAY NOT BE AN ISSUE

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 20°F Weather SNOW STARTS AT ≈ 3:00pm! Day WED Date 1-19 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MOI					
SUPT	1	8			Job Supervision, planning, Relocate fence outside of Guard Rail. Extend fence west as far as we could ≈ 14 line. Position 3 Jersey Barriers at N. Gate. Fix swing Gate in Lot A. Set up access at West end of Lot A.
LABORER	1	5			
STROM					
Lab Force	1				- Load out asphalt & concrete rubble.
LABORER	1				- Patient equip service on site @ ≈ 10:30 to work on breaker. Removed breaker from machine & sent to shop. Apparently it needs to be recharged w/ nitrogen.
OPERATORS	2				

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 20°F Weather HEAVY SNOW LAST NIGHT Day THUR Date 1-20, 19 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT	1				Job PLANNING, ATTEND OWNERS MEETING 11:00 AM - NOON, VISIT TERBIN @ N.W. HOSPITAL (APENDICITES). - ~~Call [illegible] CTI & STS~~
STRAM					
OPERATOR	1				- MOVE SNOW OUT OF WAY, PEEL UP ASHPHALT & LOAD OUT, BEGIN GUARD RAIL REMOVAL.
LAB FORE	1				
LABORER	1				

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

[signature] Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 10-20 F Weather CLEAR Day FRI Date 1-21, ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT	1	8			- Job PLANNING, SALVAGE LIGHT FIXTURES FROM LOT POLES, Go TO CITY HALL & APPLY FOR SIDEWALK PERMITS, Go TO OFFICE TO HAND DELIVER PERMIT APPLICATIONS TO JASON
LABORER	1	1 hr			
STROM					
OPERATOR	2	8 ea			- HOE RAM IS REINSTALLED ON 2nd Backhoe CONTINUE TO CLEAR HOLES IN CENTER of AREA C - CASSION 18-B HAS A HUGE AMOUNT of CONCRETE IN IT.
Lab Fore	1	4			
Laborer	1	8			

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 5 → 15°F Weather CLEAR Day WED Date 1-26, ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT	1				- Job PLANNING & SUPERVISION, Go MEET w/ K. GIBSON RE. 1 LANE CLOSURE ON Columbus 1-27 → 1-31 ($500 FEE). - BACK TO SITE - WATER DEPT IS MAKING THE FINAL TAP AT S. END of NEW 12" LINE AT INTERSECTION. - NOW NEED RELIABLE TO PATCH DUCT BANK & BACKFILL HOLE IN STREET. - CONTACT OFFICE RE. HITTING OIL TANK IN HOLE 22-B. ALSO APPEARS TO HAVE HIT A PILE CAP. - CALLED TCP FOR SIGNS & FLASHERS
STROM OPER LABORERS	2 1				- BRING A CAT 325 HOE w/ BREAKER BACK TO SITE, ON SITE @ 9:30 AM. BREAK WALL & SLABS AT 18-B & 19-B, ALSO BREAK TOP of N-S WALL FOUND AT 22-B, THEN BEGIN ON FLOOR FOUND AT 22-B; FOUND WHAT APPEARS TO BE A PILE CAP UNDER FLOOR AS WELL. - ALSO WORK ON CUTTING DOWN PERIMETER GUARD RAIL
					MIKE WITTE HAD STS DOOMAS COME OVER & SEE WHAT WAS IN TANK. HE FEELS IT IS OIL ALTHO I SMELLED MURIATIC ACID & SAW A CLEAR LIQUID COMING OUT of TANK @ 500 GAL DOOMAS STUCK A STICK IN HOLE IN TANK & IT SHOWED A BLACK GOO WHICH IS PROBABLY OIL.

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

[signature] Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 15-20°F Weather CLEAR Day THUR Date 1-27 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT.	1				JOB PLANNING, HAD LABORER SHOVEL WALKS TO FIND CONTROL LINES, BARRICADE AREA FOR JERSEY BARRIERS, GO TO CITY HALL FOR PERMIT, ATTEND OWNERS MEETING, LUNCH w/ COM ED, RETURN TO SITE TO A CITY INSPECTOR. Phil McGrail who WAS PISSED AT "MASS EXCAVATION". I EXPLAINED THIS WAS POTHOLING. — REVIEW STRATEGY w/ TORBIN, JASON & S. WONG — CALLED RENCON TO VISIT SITE FRI A.M. —
LABORER	1				
T.C.P					DELIVER & SET up LANE CLOSED SIGNS & 6 FLASHERS (BUY)
UTILITY CONC					DELIVER & SET 28 JERSEY BARRIERS ON COLUMBUS DR & START DOWN GRAND AVE
STROM					
OPERATOR	2				WORK ON 22-B CASSION AREA MOST of DAY w/ HOE RAM, ALSO BREAK AT WALL AT 17-B & 18-B. BACK HOE LOADED OUT TRUCKS of RUBBLE, ALSO FILLED 24-C & 24-D HOLES w/ CLEAN FILL THAT BUD RON HAULED IN FROM RIVERFAST.
LABORER	1				
STS					
INSPECTOR	1				COORDINATION of PUMPING OUT OIL TANK.

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

emarks:

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed "

Temperature 25°F Weather CLEAR Day FRI Date 1-28 19 2000

MDI	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.
SUPT	1			
LABORER	1			
STROM				
OPERATOR	2			
LABORER	1			

PROGRESS OF THE WORK

- SUPERVISION & PLANNING, CALLED EDISON "LOCATOR JOE" TO COME BY & I.D. A LINE FROM VAULT AT S.E. CORNER OF SITE.
- MET W/ LEE RIVERIA & McGRAIL OF CITY OF CHICAGO, THEY STOPPED EXCAVATION (POTHOLING) ALONG COL #25 NEXT TO COLUMBUS OR & ALONG SITE PERIMETER. SET UP A MEETING AT CHAWLA'S OFFICE AT 3:00PM TODAY. HE WANTS PROFILES DRAWN TO SHOW DEPTH OF EXISTING UTILITIES AT PERIMETER OF SITE. OK'S US TO DIG AT COL LINE 25 IF B.O.E. HAS NO OBJECTIONS (LIGHT POLE ~~FELL~~ OUT OF 2 MAN HOLES. CALLED BRUCE BICHELLO @ B.O.E. WHO WAS OK WITH US DIGGING. GAVE US EMERGENCY # — LABOR SHOVELS SNOW, AIDS IN LAYOUT, TEARS DOWN SIGN @ CORNER, SETS UP MDI SIGN.
- DIG & PROBE AT CASSION 25-B, FOUND A SMALL PILE CAP, BUT WAS ABLE TO PULL IT OFF W/ BACK HOE, FOUND WOOD PILES, TOLD DOMINIC TO LEAVE THEM THERE & FILL HOLE, STROM BROUGHT IN ABOUT 20 LOADS OF FILL TO FILL UP HOLES W/ DRILLABLE MATERIAL, CITY COMES OUT @ 11:00 & STOPS PERIMETER DIGGING, STROM MOVES TO 16 LINE & POTHOLES, THEN WORK ON DEMO AT EDISON VAULT ON OLD SENECA. LABORER LOADS DUMPSTER W/ PLYWOOD & SIGN MATERIAL FROM DEMO'D GRAND PIER SIGN.
- WE WANTED TO WORK POTHOLING SAT BUT OPTED NOT TO DUE TO NO OPEN DUMP SITES, & ABOVE NOTED CONCERNS BY CITY

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

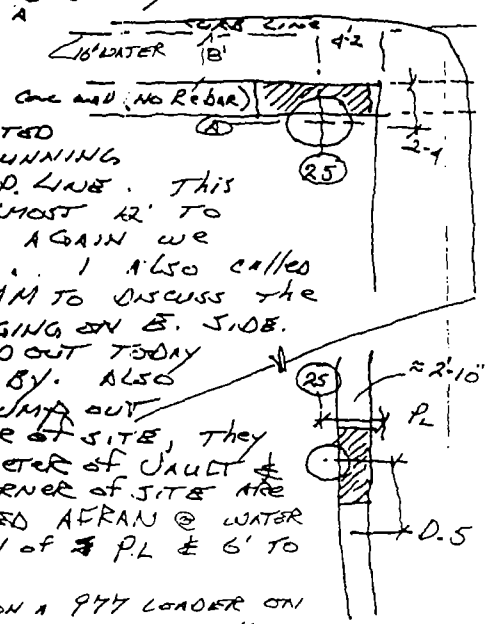
ABOUT 4"-6" OF NEW SNOW ON GROUND OVER WEEKEND

Job at GRAND PIER

Work and Materials to be pushed

Temperature 15-25 Weather CLEAR Day MONDAY Date 1-31, ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI Supt	1				Job Supervision, photograph obstructions at Cassions 25-A, 25-D.5, watch potholing at Corner 25-A where we encountered an approx 2' thick concrete foundation wall which runs E-W along the North Prop. Line. We had to dig down ≈ 12' at corner to chop a slot in this wall. Cassion is basically into edge of wall. We found a pile cap w/ wood piles at bottom. - Also at Cassion 25-D.5 we encountered a concrete wall running N-S along E Prop. Line. This also went down almost 12' to bottom of footing. Again we cut a slot in wall. I also called Tim Conway early in AM to discuss the Citys concerns re digging on E. side. He said he would stop out today however never came by. Also Com ED came by to pump out vault at S.E. corner of site, they marked walk w/ perimeter of vault & confirmed 4 pipe into corner of site are empty. Also spoke to ED Afran @ water dept 16"φ water is 8'N of ~~S~~ PL & 6' to bottom of pipe.
STROM Operators	4				Strom had an operator on a 977 loader on site today. He moved imported clay fill into pile & fill areas that were potholed along 25 line & at 22-B. — Strom had a 2nd Hoe-Ram on site today which worked on breaking out perimeter guard rail posts for half of day. - Strom had a back hoe 330B & a Hoe Ram 325B on potholing all day along 25 line. - Toby was on site in afternoon. Approx 1:30pm Phil McGrail from City of Chicago drove by & insisted I backfill
Laborer	1	P.T.			



SHIPPED BY	QUANTITY	MATERIALS RECEIVED
	Corner 25-A	Immediately. I tried to explain I had almost all concrete obstructions removed & needed 5 min to finish. No, backfill now! So we did. He & I called Les Rivera at CDOT & discussed req'd action. Chawla wants to see profiles of utilities at N & S sides of site. Also he wants B.O.E. to call him & discuss where we are digging.

Remarks:

Superintendent

Morse Diesel
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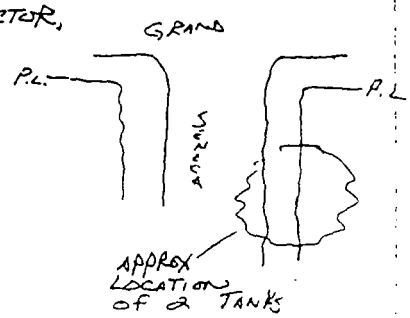
DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 25-30 Weather CLEAR Day TUES Date 2-1 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT	1				Job PLANNING CONT TO WATCH THE POTHOLING & OBSTRUCTION REMOVAL ON 25 LINE AT A.5, C, & D.5. - SEND A FAX TO CHAULA which SHOWS ANTICIPATED LOCATION & DEPTH of EDISON VAULT & DUCT BANK TO THE SOUTH
STROM					
OPERATOR	4				USE HOE-RAM TO DEMO OBSTRUCTIONS (WALLS, FOOTINGS, FLOORS & PILE CAPS) IN CASSION POT HOLES ALONG 25 LINE. - THE 977 LOADER CARRIED IMPORTED CLAY FILL TO HOLES & BACKFILLED POT HOLES. ALSO LOAD OUT RUBBLE REMOVED FROM GROUND - DISCOVER 2 ADDITIONAL OIL TANKS ADJACENT TO OLD SENECA ST. - Phil McGRAIL, CITY INSPECTOR, STOPPED BY SITE AGAIN & INSISTED ON HAVING SETTLEMENT POINTS READ TOMORROW. - 2ND HOE RAM FINISHES BREAKING UP EDISON VAULT.
LABORER	1				
EDISON					I SPOKE w/ PAUL SHELTON TO CONFIRM THAT VAULT AT SOUTH EAST CORNER of SITE IS ~~ABANDONED~~ EMPTY & DUCT BANK PARALLEL TO E LINE UNDER SIDEWALK IS ALSO EMPTY.
WATER DEPT					I SPOKE w/ E. AFRANO WATER DEPT who TOLD ME the 16"Φ WATER IS 8' North of N. PROPLINE & 6' TO TOP of PIPE



SHIPPED BY	QUANTITY	MATERIALS RECEIVED
		TRIED TO SET UP JERSEY BARRIER MOVE w/ UTILITY CONC PRODUCTS, NO LUCK
	RICHARD	EAST COAST SIGN 215-781 8500 X 126

Remarks:

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 25 - 35 Weather CLEAR Day WED Date 2-2 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT	1				PLANNING, OFFICER SERPIN COMES by SITE RE: STARTING PRIOR TO 8 AM. - ATTEND MEETING @ office w/ STEVE. - END of DAY WENT TO 30 N. LaSalle & GOT BRIDGE PERMIT - TOLD PRECAST Guys (MIKE DROP & 2 OTHERS) TRAILERS HAVE TO GO! CURRENTLY 19 TRAILERS ON SITE! SPOKE w/ LES RIVERA who SAID 8:30 TOMORROW TO MEET w/ CHAWLA RE: DIGGING ALONG N & S PROP LINES.
STROM					FINISH POTHOLING ON COL LINE 25 AT 25-E, THIS IS NEXT TO EDISON SIDEWALK VAULT. HAD STROM CUT off EMPTY CUSTOMER CONDUITS THAT COMING INTO OLD BUILDING - STROM BRINGS IN BRICK BATT MATERIAL (DARRYL SPOKE w/ REX AT REUCON who TOLD HIM THIS WAS OK). - TOLD DOMINIC TO DIG 1 PROBE HOLE AT South EDGE of SITE. FOUND A CONC WALL PARALLEL TO S. PROP LINE BUT INBOARD ≈ 5' & NOT AS DEEP AS THOUGHT ≈ 8' TO BOT of FOOTING. - HOE RAM BROKE DOWN ≈ 11:00 AM - TOLD STROM THEY ARE TO MOVE BARRIER WALL FROM Columbus TO GRAND. - STROM HAD TO STOP w/ BACKHOE FOR A PHOTO SHOOT w/ THE "Billionaire" who will DEVELOP RESIDENTIAL TOWER. They climbed up onto MACHINE FOR PICTURE.

-ALSO MET w/ Bill Kohn (foreman) FROM WATER DEPT RE: DIG ADJACENT TO 16" ϕ WATER. WALKED TO AFFECTED AREA & SHOWED THEM. APPARENTLY 1 ACTIVE FEED INTO BUILDING TO The North.

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

emarks:

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 20-30°F Weather CLEAR Day THUR Date 2-3 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT	1				Job Supervision. Met w/ Chawla, Les Rivera, Phil McGrail & Luis (from Chicago Water Dept) re: potholing at perimeter of site. Along N. edge of site I explained we need to pothole to 12' down from street, to get old pile caps out. All parties are concerned due to location of water main. Luis will go back to water dept & find out what is affected if this section of line is taken out of service.
STROM					
OPERATOR	2				Move barriers off Columbus Dr & carry over to Grand Ave. Also shovel sidewalk & move fence back to allow pedestrian traffic. Also work on filling in hole from demo of Edison vault. Load out concrete rubble.
LABORER	2				

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

emarks:

Superintendent

Morse Diesel
INTERNATIONAL
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DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 20-30°F Weather CLEAR Day FRI Date 2-4 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT	1				Job Supervision, Speak w/ CDOT Chawla & Les Rivera Re: Potholing along S. Side of Side. Com Ed Paul Shelton spoke w/ Them Re: Potholing adjacent to his ductbank. They OK'd this to proceed @ 9:30 AM. I sent a fax to Chawla that agreed to his 10' wide max pothole at perimeter & we are to stay 10' from Edison structures.
STROM oper	2	8hr en			8:00AM START - Run Hoeram & Backhoe. At 1st part of morning we could not pothole perimeter till I heard from CDOT. Till then I had breaker reach over fence to hammer out sidewalk next to light control. Also use machine to move toilet, break up slab at old S. Parking Gate, then begin obstruction potholing along S. Side of Side. Get 24-E, 23-E, 22-E, 21-E 20-E, 19-E, 18-E, 17-E potholed - 1 truck hauls in some clean fill at some of these holes - Also backhoe peeled up asphalt next to "Marys" along Grand Ave. - Post No Parking Notices on cars for moving barriers - PSI brought over a crane & piggybacked 2 loads of empty trailers 3 high, Also moved remaining trailers south to allow backhoe access to set barriers.
Laborer	1	8hr			

SHIPPED BY	QUANTITY	MATERIALS RECEIVED
		Call TCP for signage pickup

Remarks.

Superintendent

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CONSTRUCTION CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature _____ Weather _____ Day MON Date 2-7 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT.	1				JOB SUPERVISION, HAD STROM ADJUST EASTERN MOST BARRIER ON GRAND AVE TO ALLOW RIVER EAST JOB TO USE DRIVE LANE TO BACK IN CONCRETE TRUCKS. - ATTEND A MEETING AT MDI MAIN w/ REVCON, TT, LOABEL, JASON, BRIAN L., MIKE W, & I. - LATER IN DAY TORBEN & JASON MET w/ TODD of CONC. STRUCT. - I REARRANGED THE FENCE TO THE WEST APPROX 30 FEET.
STROM					
OPERATOR	3				- A SLOW START WITH TRAFFIC TODAY. 1ST DAY of KENNYS LANE CLOSURES ON COLUMBUS & ILL.
LABORER	2				
1 WASONLY HERE		4 HRS			- MOVED AN ADDITIONAL 6 JERSEY BARRIERS FROM INSIDE SITE ON TO GRAND AVE WEST END (STILL NEED ANOTHER 4 BARRIERS + -). - BREAKER BROKE UP CONCRETE SLAB UNDER ASPHALT NEXT TO "MARY'S" FROM COL 6-8 & A-B, IN ADDITION BROKE SLAB AT OLD SENECA ALLEY. - 330 HOE PEELED UP ASPHALT COL 8-12 & A-C - LOADER LOADED OUT TRUCKS
NATIONAL CONSTRUCTION & REMEDIATION & SUB D					GLENN BROOKS 312-226-1970
R.W. Collins		FOR OWNER			REMOVED 3 OIL TANKS TODAY, THEY BROUGHT IN 2 CAT 225 BACKHOES, (1 WAS EQUIPPED w/ A SHEAR CUTTING JAW), ALSO HAD A TANKER COME IN & FINISH SUCKING OUT OIL IN TANK NEAR 23-B.5, AT END OF DAY THEY HAD A CONTAMINATED PILE OF SOIL ON PLASTIC (APPROX 20 CUYDS), THEY NEED TO GET A SPECIAL PERMIT FOR REMOVAL.

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks _____

_____ Superintendent

Morse Diesel
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DAILY REPORT

Job at Grand Pier

Work and Materials to be pushed "

Temperature _____ Weather _____ Day Tues Date 2-8, ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT	1				Job Supervision, - Met w/ Brandenburg Re: Bridge Demo, Remaining issue is final cut off detail. - Frank Conti is getting trailers of precast hauled offsite - Met w/ City Water
STROM					
Operator	2				- Work on peeling up asphalt all day,
Laborer	1				- Cut off Rebar out of Rubble
					- Aid in layout of Potholes
					- No action on oil contaminated soil removal
FENCEMASTER					
Laborer	2		½ 6hrs ea		- Set up 4' chain link on Jersey Barriers
					- Take down 8' fence on Grand Ave
					- Set up fence between lot A & B
					- Extend fence along South P.L. West to N-S fence line

SHIPPED BY	QUANTITY	MATERIALS RECEIVED
		- Take back leftover 8' panels
City Water		Performs a sonar leak test on N water main

Remarks: _____

Superintendent

Field Reports

Morse Diesel
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DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature COLD 20-25 Weather CLEAR Day WED Date 2-9 00

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MOI					
SUPT	1				Job Supervision, Laborer ads in Layout for potholing, Also cut loose Guard Shack on N. side of site, set up chokers & put off to side (per K. Johnson, save for use as Guard Shack). Move fence out to South & weight down
LABORER	1				– Call Luis Ibanez re getting a letter sent to Chawla re pot holing along N. prop line
					– Call Les Rivera at CDOT who says I am to come to their office 8:30 AM tomorrow to meet w/ Chawla re: Digging by water line
STROM					
OPER	1				– Layout & potholes at area B
LABORER	1				– Move Guard Shack
					– peel up ~~Asha~~ Asphalt in area B

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

Job at Grand Pier

Work and Materials to be pushed

Temperature _____ Weather CLEAR Day THURS Date 2-10 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
Supt	1				- Job Supervision, Mount Signs on Fence Panels, Aid in Pot Hole Layout & Layout of Water Main, - J.T. Met w/ Chawla Re: Potholing Next To Water Main
Laborer	1				- Call Luis Ibanez Re: Hirise Hydrant.
Carp Bob	1 HR	EA			- All Precast Trailers are Gone as of Today. - Call Chris of Industrial Supply
Vinnie	1 HR	EA			Re: Light Pole Brackets - Call Bernie Powers Re: Existing Pole Problem at Alley Behind Marys. Residence Cassion is a Direct Hit on Pole! - I Met w/ Chicago Water Painters Inspector Tom Collins
					- Move 1 MDI Sign
STROM					
Oper	3				Tear off Concrete Vault Top on Alley Edison Vault at ≈ B-C in Area B. This is a Huge Slab ≈ 12'x30'x1'-0" Demo Brick Vault Walls, Find ≈ 50 4" Conduits Going North Underground (Empty). Pot Hole in Area B Near Vault Noted Above. Also Strom Demos Slab at N. Guard Shack.
Laborer	1				- Strom Has 3 Machines Working - The Loader is Filling The Large Hole at 22+23-B The Backhoe & Hoe Ram are on the Edison Vault Cover
					1 Backhoe 1 Hoe Ram 1 977 Loader

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 20° Weather CLEAR Day FRI Date 2-11 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT	1		*		Job Supervision, Advise K Johnson, S. Wong, T. Jensen & J. Hayhurst of MASSIVE FOUNDATION FOUND APPROX A-B.5 & 8→10, Called Brian Lauderer to Come & Look, Take photos w/ Digital Camera.
STROM OPER	3				- Dig & Quarry the Ground (Top 3') at N.W. Corner of site, Load a Truck & Haul to Loader who is Filling the Huge Hole at 22+23 -B. The Hoe Ram works on Breaking Pavement under Bridge & Sifting Boulders out of Piles till we found the above noted foundation & then began work on Demo of walls.
Laborer	1				
Truck	1				
Certified Surveyors	2				Shoot Settlements

CONTAMINATED SOIL IS STILL IN PILE AT E. END of SITE, WAITING ON A GENERATOR #.

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

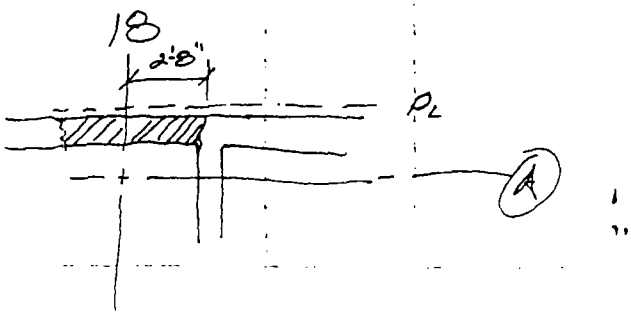
Job at Grand Pier

Work and Materials to be pushed

Temperature 20 Weather Cloudy Day Monday Date 2-14 ~~19~~ 00

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
Supt	1				Job Supervision, upon arrival @ 6:30AM I notice a fence panel bent over at S.E. corner of Marys Restaurant. I had closed this up on Friday night! - I called Bernie Powers re: phone pole at alley, he will come to look at site conditions
National Remediation					On site for removal of oil contaiminated piles of soil from area 23/B tanks
STROM					
Operators	2				They pulled the breaker off site Saturday to use on a Bovis Job. - The loader sits idle today - while bringing breaker back to site it was "stuck" at an underpass. Took till 4:15 to get breaker re-mounted & ready to work - once started the backhoe & hoe ram work on demo of big foundation N. of Edison vault in alley, dig on west side of west wall to aid in breaking wall. - Then move to "A" line to do 3 test holes per CDOT Chawla. 1st hole at 215' EEL of Seneca, chop wall down to ≈ -8', then backfill, then dig at 18-A found foundation wall, demo as shown & clear path for cassion, backfill, - then dig at 12" abandoned water in Seneca
Laborer	1				

SHIPPED BY QUANTITY MATERIALS RECEIVED



Remarks:

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

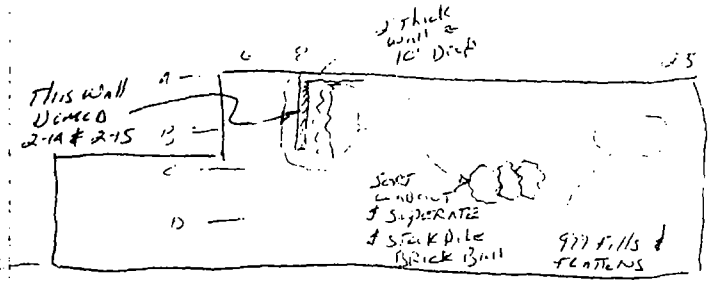
DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 25° - 40° Weather CLEAR Day TUES Date 2-15 ~~19~~

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT	1				Job Supervision, Develop a Map which Details where photos of obstructions were taken - send to Jason, Make sketch of existing foundation wall along Grand Ave. This wall may be able to stay in place! - write procedure for "A" Line potholing, per CDOT request. Go to City Hall to meet w/ Warshawsky to get a sidewalk permit, filled out permit & left w/ Ron (Warshawsky).
STROM					
OPERATOR	3				3 Machines running 330L Backhoe, Hoe Ram & 977 Loader. The 977 loaded approx 10 trucks of debris out of NE corner, also filled in more of the hole @ 22-23 - B (almost full now w/ semi clean brick batt). The 330L Backhoe pulled out, demoed conc rubble from foundation north of old Edison vault, loaded & 2½ trucks of concrete out, & exposed more foundation for Hoe Ram to break
Laborer	1				
Trucks &	30 loads out				
JS&S					
Surveyors	2				Continue work on Control Lines.



SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Late in day I received a visit from Verneta Simon of the EPA who asked who the owner was. I gave her Mike Wittes card & #. She is checking Kenny's work for Thorium contiminates & wants to do a Gamma Scan here.

Remarks:

Superintendent

FR file

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 25-35°F Weather CLEAR Day WED Date 2-16 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT	1				Job Supervision, Come into site @ 6:30 A. To find ≈ 60' fence knocked over along Columbus Dr. - This seltion was weighted down & appeared to be knocked over by kids - Brian & Tony stand up fence. - Called Kevin Gibson & confirmed we have a barricade permit for bridge demo for starting 2-17 - Met w/ Owen Keenan & Torbin Re: Having 16" water cut & capped along Grand Ave. He is concerned about having a hydrant at mid point of the block. We said put in a temp at west cap area. Also we discussed the hirise hydrant. Ultimately we need to move this. Owen will research it. - Met w/ Chris Holt & Jay Orlando Re: City bridge demo. They do not want to have the bridge deck cantilever N. of Girder, nor do they want it cut 2' south. Cut it at N. face of Girder. - Met w/ Tim Garvey Brandenburg will mobilize & start now.
STROM operator	3				The hoe ram spends ≈ 2 hrs picking concrete out of ~~E~~ East Rubble Pile. Then works on breaking on E foundation wall of structure @ ≈ 10 line. Backhoe dug to expose wall for breaking. Loader fills in bal 22-23 - B Hole. Seperates concrete & pick out steel. A truck hauls clean fill from side of E. foundation to E end of site
Laborer	1				
JS&S Surveyors	2				- Finish control line offsets, give 8½ x 11 that I rec'd from JS&S Tom to Rex of Revcon for his use

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Superintendent

Morse Diesel
INTERNATIONAL
CONSTRUCTION/CONSULTING

DAILY REPORT

* REUCON & BRANDENBURG

1ST DAY

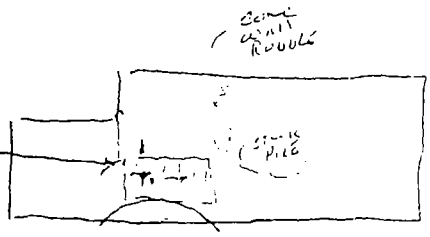
Job at GRAND PIER

Work and Materials to be pushed

Temperature 25 - 35 Weather CLOUDY Day THURS Date 2-17, ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT	1				Job SUPERVISION, ATTEND 8:30AM MEETING w/ TIM CONWAY & CHRIS HINES of B.O.E RE. UNDERGROUND DUCT BANKS BETWEEN CITY ELEC MANHOLES ON GRAND AVE. I TOLD & SHOWED HIM WHERE CASSIONS WILL BE DRILLED. They ARE TRYING TO DEAL w/ LIGHTING CONTROLLER! WE WILL CHOP OUT WALK & HAND DIG @ THESE LOCATIONS TO LOOK FOR OBSTRUCTIONS. - ATTEND OWNERS MEETING, - REVIEW LOCATION FOR GRANITE STORAGE PER BRIAN - SEND POTHOLING PROCEDURE TO CHAWLA - CALL INDUSTRIAL SUPPLY RE. BRACKETS FOR BARRIER WALL - TUES DELIVERY - TOLD B.O.E. NEXT WEEK MOVE POLES. - CALLED & MET w/ Chief WEIR of BATALIONS, RE: HIRISE HYDRANT THEN CALLED OWEN KEENAN TO SAY CHIEF WEIR IS OK with TAKING HYDRANT OUT SERVICE MOBILIZE & BEGIN BRIDGE DEMO & GRANITE SALVAGE - CIRCLE GONE AT END OF DAY - SET UP BARRIER WALL - GAVE MIKE COPY OF PERMITS FOR STREET & SIDEWALK
CARP FORE	1	≈ 1 hr			
LAB FORE	1	≈ 1 hr			
MOUNT 2 MDI SIGNS					
No where NEAR ENOUGH ROOM!					
OK TO PROCEED PER LES RIVERA of CDOT @ ≈4:30pM					
BRANDENBURG 7 MAN CREW					
MARON ELEC	2	≈2 hr EA			- DRIVE A LIFT OVER FROM RIVER EAST TO ACCESS J-BOXES TO CUT & DISCONNECT LIGHT STANTIONS.
REUCON					- DELIVER A LIEBHER SERVICE CRANE DURING DAY, & THEY PLAN TO SEND CASSION RIG TONIGHT @ 5:00AM
CERTIFIED SURVEYORS	2				- SHOT SETTLEMENTS AROUND SITE
STRAM OPER	2				- VIRTUALLY NO DEMO w/ HOE RAM TODAY, CUT DOWN SITE ≈ 3' @ W. END & STOCKPILE FILL, GROOM w/ 977, - DARRYL SAYS
LABORERS	1				

SHIPPED BY	QUANTITY	MATERIALS RECEIVED
		VULKUN WILL NOT TAKE MATERIAL FROM SITE WITHOUT ADDITIONAL ENVIRONMENTAL TESTING.



Remarks: PREDICTING HEAVY SNOW TONIGHT

Superintendent

Finish Report

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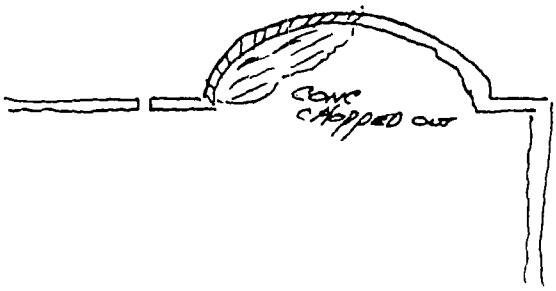
DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature _____ Weather SNOWING HARD AT 7:00 AM Day FRI Date 2-18 ~~19~~ 82

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT	1				JOB SUPERVISION, UPON ARRIVAL WE FIND THAT REV-CON HAS DELIVERED A CASSION RIG TO SITE.
REVICON					THEY HAD CHELLINO CRANE SERVICE WORK ON ASSEMBLY of SERVICE CRANE
STROM					NO ONE SHOWS TO WORK TODAY
BRANDENBURG CREW	7				THEY FINISH CHIPPING ON BRIDGE DECK AT CIRCLE & THEN BEGIN DEMO ON PARAPET WALL & DECK. - I TOOK 2 LIGHT FIXTURES & PUT THEM INTO NBC STORE ROOM PER BRIAN LORENC —



SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Superintendent

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DAILY REPORT

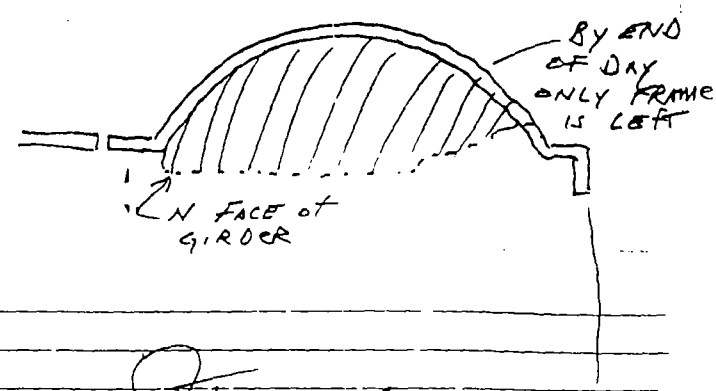
Job at GRAND PIER

Work and Materials to be pushed

Temperature 35°F+ Weather CLEAR Day MON Date 2-21 ~~10~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT	1				JOB PLANNING & SUPERVISION, MDI OFFICE CLOSED TODAY. ORDER 12 BARRIC & 2 SIGNS FROM T'CP
RAYCON					REEVE UP THE SERVICE CRANE. - OFFLOAD CASSION RIG CTW'S & DRILL PLATFORM, & RECEIVE 3 TRUCK LOADS OF REBAR (NO SPIRALS, COMING 2-23 PER REX), OFFLOAD SOME PERM CASING 54', DELIVER CAT 973 LOADER.
J.S. & S. SURVEYOR	2				-CORRECT THE LAYOUT BUST ON 9 & 13 LINES (I.E. 23'-10" PER G004 VS 23'-9⅞" PER T.T. & RMC) -SHOOT GRADE AT CIRCLE AT UPPER ILLINOIS. FIND ≈ 34.20' VS 33.82' (THINK WE CHANGE IT) - ALSO SHOT GRADES ALONG GIRDER ALONG PROP LINE.
STROM OPER	3				-BACKHOE & HOE RAM RE-DO POTHOLE #25-0.5 DUE TO OWNER CHANGE. ≈ 1 HR EA, MAYBE 1¼ HR EA. - THEN GO TO 24-B & POTHOLE. HUGE AMOUNT OF DEBRIS, PILE CAP ETC. BACKHOE & HOE RAM DONE by NOON. & BACKHOE IS BROKE REST OF DAY. 977 CARRIES CLEAN FILL & FILLS UP POTHOLE 24-B (MOST OF DAY FOR LOADER)
BRANDENBURG					-WORK ON PULVERIZING BRIDGE DECK, CHIP BACK DECK TO FACE OF GIRDER, TRIM RODS ≈ 2' N OF GIRDER, COLD PATCH AROUND CIRCLE ISLAND. PLAN TO GO AFTER E PARAPET TOMORROW

SHIPPED BY	QUANTITY	MATERIALS RECEIVED



Remarks.

Superintendent

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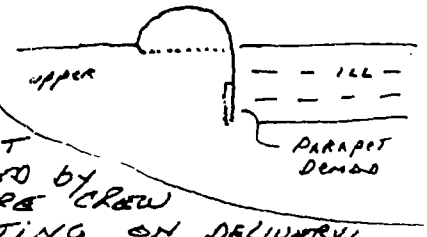
DAILY REPORT

Job at GRAND DIER

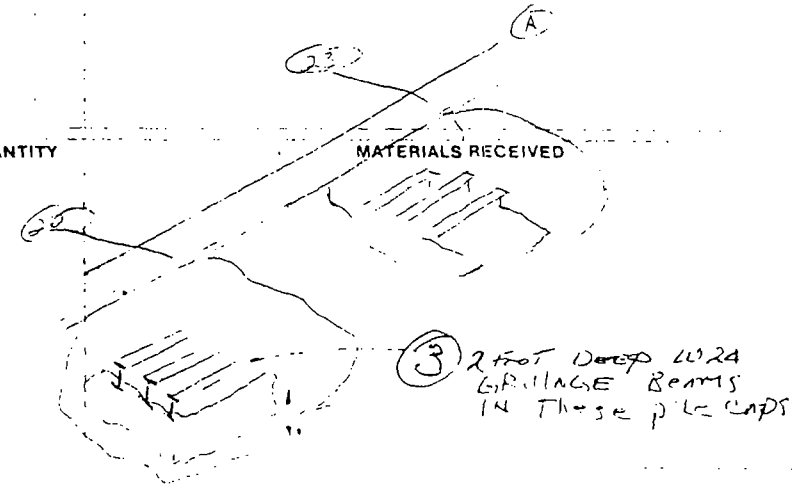
Work and Materials to be pushed

Temperature 50°F Weather CLEAR Day TUES Date 2-22 ~~+9~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI Supt	1				Job Supervision, Monitor Cassioni Mobilizat. Bridge Demo, Go to CDOT to Get Additional Lane Permit while Doing parapet Demo. I had Park Lot to South Close 3 Spaces adjacent to Demo area. Late Meeting @ River East.
Brandenburg					Cont work on Bridge Demo, Begin parapet wall Demo over ILL ST. CDOT inspector Juan Trevino reviewed permits w/ Cukes & They want additional lane closure permits. I went to City Hall & saw Vic → then Leon & talked w/ Warshawsky & permit is in progress - Cont to burn off rebar. At end of Day South 1½ lanes of parapet is gone
Rev Con.					- Cont to mobilize, Receive more rebar, Corrugated liners, Casing. - However have not got the Drill Rig assembled by end of Day? & entire crew spent 3-4 hrs waiting on delivery!!
Strom oper	3				Pot Hole along Grand; Re-do 25-A where CDOT made up prematurely Backfill Before. Also do 24-A, 21-A, 20-A ★ Major obstructions found in 22-A & 23-A — 3 W24 beams are cast into these pier caps & appear to run from cap-to-cap - had to backfill these holes.



SHIPPED BY	QUANTITY	MATERIALS RECEIVED



Remarks:

Superintendent

Daily Report File

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DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature 60°Ft Weather CLEAR Day WED Date 2-23 ~~19~~ 200.

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI Supt	1				Job Supervision, 2:00pm Meeting w/ S. Morris S. Tiberi, etc. –
Brandenburg					– Cont Bridge Demo on Parapet over Illinois St., This is Basically Done at end of day. – Also Trim Rebar at N. Edge of Girder. – Also Cut Down Steel Framing –
RevCon					– Cont. to Receive Rebar, Perm Liners, Casings, Assemble Vibratory Hammer & Hoses. – Build Rebar Cages. – Prof Assoc works on set up for Cassion Layout
Strom					– Cont to pot hole along Grand Ave – Problem @ Fire Hydrant pot Hole, Could Not Get to Bottom due to CA-16 chips Around Hydrant undermining walk. Did not want to undermine walk & Have Hydrant Break Loose. – Heavy Conc Wall Demo at B-A & 10-A – Could Not Finish to Bottom of G-A due to payphone Falling in Hole.

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Superintendent

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DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature _____ Weather HEAVY RAIN EARLY Day THUR Date 2-24 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI Supt	1				- MET w/ J. HAYHURST & J. W. of THATCHER AT MDI OFFICE TO REVIEW RETENTION DRAWING - GO TO CDOT TO MEET w/ CHAWLA - SEE HIS LIST of ISSUES ON RETENTION
- BRANDENBURG					- CONT TO CUT DOWN STEEL FRAMING. - BRING IN ELECTRO MAG RIG, SEPARATE STEEL & LOAD OUT RUBBLE.
REVCON					STILL WAITING ON CASING, HEAVY RAIN - OFFLOAD SPIRAL REBAR - BUILD CAGES - RIGS ARE ASSEMBLED - DRILL PLATFORM READY
STROM oper	1				LOAD OUT A few TRUCKS of RUBBLE

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks.

Superintendent

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DAILY REPORT

1ST CASSION

Job at GRAND PIER

Work and Materials to be pushed

Temperature 65-70°F Weather CLEAR Day FRI Date 2-25 ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI					
SUPT	1				Job Supervision, Layout Potholes for Strom, Layout BRIDGE CASSIONS FOR POTHOLING + Called MARK @ Warshausky for PERMIT FOR S. SIDE of ILL ST FOR NEXT week. - TOLD Jason, Wong & Jensen we DO NOT HAVE APPRO BRIDGE CASSION PRINT FROM BOWMAN BARRETT
BRANDENBURG					CONT CLEAN UP & LOAD OUT of BRIDGE DEMO MATERIAL. USE A LOADER TO DIG INTO PILE & CARRY TO ELECTRO MAG UNIT which SEPERATES CONC & REBAR. - AT END of DAY All FRAMING IS CUT DOWN, DEBRIS PILE IS 80% GONE, & MOST COLUMNS ARE KNOCKED DOWN.
RENCON					
SUPT					UNLOAD A CASING DELIVERY, THEN DRILL 1ST CASSION C-22 BELL & POUR. - TRIED TO BACK IN OFF COLUMBUS & WERE STOPPED by CDOT - IT MUST BE NOTED DOOMAS at STS HAD 2 piles SET ASIDE DUE TO FINDING OIL TAINTED SOIL IN EXCESS of 200ppm. - DRILL RIG IS BROK DOWN ALTHO WAS ABLE TO FINISH THE HOLE. PARTS BEING FLOWN IN, CLUTCH LININGS
OPER					
OILER					
LABORER					
I.W.					
SURVEYORS					
STS	2				DOOMAS WAS ON SITE WHILE DRILLING SHAFT, DOLAN ARRIVED DURING BELLING, I ASKED WHERE THE CAMERA WAS FOR INSPECTION & They DID NOT HAVE IT AVAILABLE, SO THIS HOLE WAS DONE IN A STANDARD METHOD. - ALSO DOOMAS INSISTED They DRILL TO DESIGN DEPTH RATHER THAN STOPPING AT TOP of HARDPAN (This WAS ≈ 6' DIFFERENCE 84' vs 91') I TOLD DOOMAS & DOLAN, THAT BILL WALTON @ STS WAS OK with STOPPING HOLE ONCE PROPER MATERIAL WAS COMING UP IN BUCKET

SHIPPED BY	QUANTITY	MATERIALS RECEIVED
STROM		
OPER	1	LOAD OUT A few LOADS of CONCRETE Rubble. - POTHOLE 6-B (2ND TIME) DUE TO MOVED on DRAWING, 9-B & LEFT it OPEN TO CHIP OUT FLOOR, 10-B (NEED CLEAN FILL TO DUMP INTO HOLE). - CONT TO TRY TO RESOLVE HOW SPOILS WILL BE HANDLED

Remarks:

Superintendent

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DAILY REPORT

Job at GRAND PIER

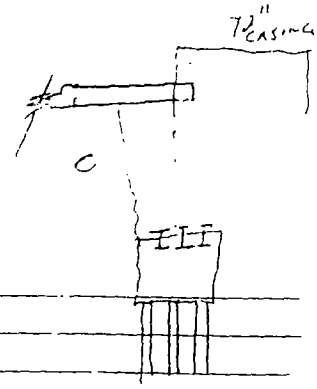
Work and Materials to be pushed

Temperature 60°F Weather CLEAR Day MON Date 2-26 19

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT					Job Supervision & Planning, Review the Sorting of Granite Done by Marty & NBC. 7 Skids of Garbage, 14 Skids Good Stone. Watch placement of Cassions, & pitholing, & Bridge Deck
Brandenburg					Cont to clean up & seperate Rebar, Begin work on Column Caps, All Framing & cols Have Been Cut Down. - Told Ron I Need M/ Saw Cutting Done.
Revcon					Cont to Mobilize more shells, liners, bits to Job site. Also bring in for 2nd Rig. They are very concerned about spoil pile in center of site. - Drill Cassion #54 & " along Grand Ave. Set Top on " along Columbus. - Jensen, Rex & I talk about S. Side Bridge Cassions, "why not vibrate shells into place"?
Strom					
Oper	2				Pot-hole Cassion 22-A, Big obstruction problem, work till 7pm & still did not get thru this completely, could not reach! used a combination backhoe & Cat 330 & a service truck w/ torch - when we could not reach any further we backfilled the hole. Expect to use a core barrel here
Mech	1				
Laborer	1	P.T.			

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

- At ≈ 3:30PM the EPA came by the site & said they have an agreement w/ RMC to check site & workers for exposure to Thorium. - Jensen & I talked to workers & we let the EPA scan them w/ a Gieger Counter. They will return tomorrow.
- Bowman & Barrett came to site to review work done by Brandenburg Co. Sander has an issue w/ location of cut of deck at girder. I explain we don't want to cut any more.



Remarks:

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DAILY REPORT

Job at Grand Pier

Work and Materials to be pushed

Temperature 60°F Weather Clear Day Tues Date 2-29, ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT	1				Job Supervision & Planning, Show Brandenburg where to put Granite salvaged from Bridge Deck. - Met w/ Vulkun & Strom (Mark Parus) Re Soil Testing, Also Present was Swong, Jensen, Hayhurst, C.R. & Tracy from Vulkun. Agree to have STS. do some additional testing to address Vulkun concern. - 2:30 meeting on site w/ EPA, they have owner permission to do a "walkthru" surface scan w/ Gieger counters. They find ≈ 10 hot spots in 1 hours time. By 4:30 PM Jensen tells me to have job start to shut down. I called Brandenburg & Strom to review wash down & move out plans.
Revcon					Drill 25-C & Begin 17-A & hit an obstruction @ 3' down (was this hole potholed?) Blew up transmission on Drill Rig. - Cont to build rebar cages w/ both Revcon & M&A ironworkers.
Brandenburg					Work on Demo of pier caps all day. Show JR where to put Granite - They position Jersey barriers into final curve on upper Illinois. - I called Tim Garvey @ ≈ 3:00 PM to advise him of issue w/ EPA noted above.
Strom O.E.	2				Pothole Cassion 23-A This is the 2nd hole to have the 3'-24" deep beams in the existing pier cap - 2 machines (Link Belt & Combination) work w/ trench box to dig, torch, demo & backfill this hole. We could not get all the concrete out of this hole! - Also small machine works on potholing & breaking sidewalk at South Bridge Cassion.

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Superintendent

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DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature WARM Weather CLEAR Day WED Date 3-1, ~~19~~ 2000

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT	1				Job Supervision, - EPA is back on site, with Gieger Counter They find about 10 Hot spots, 1 of which had a 1,000,000 Count which was 20 times Highest found at River East.
BRANDENBURG					- work on wash down of equipment & Demobilization. - Also move 14 skids & 2 light poles, to storage area. - Also 1 H. Them saw cut sidewalk for North Bridge Cassions.
REVCON					- work on Rebuilding transmission, & ~~[illegible]~~ Tieing Rebar cages. - Surveyors Layout Cassions for South Bridge Holes.
STROM					No work on site today

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks:

Gale

Superintendent

Morse Diesel
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DAILY REPORT

Job at GRAND PIER

Work and Materials to be pushed

Temperature WARM Weather CLEAR Day THUR. Date 3-2 ~~19~~ 200

	MECHANICS No. Men	MECHANICS No. Hrs.	HELPERS No. Men	HELPERS No. Hrs.	PROGRESS OF THE WORK
MDI SUPT	1				JOB PLANNING, RECEIVE A TRAILER.
STS					BEGIN TO LAYOUT GRID FOR A SURVE, FOR THORIUM HOTSPOTS
REVCON					CONTINUE BUILDING CAGES.

SHIPPED BY	QUANTITY	MATERIALS RECEIVED

Remarks.

Superintendent

ATTACHMENT 2

Landfill Load Summary

Grand Pier Center
Off Site Disposal All Quantities are Semi Loads Hauled Off Site

Dump Site	Haak	Beverly Gravel	Palumbo	Reliable	Vanek	[illegible]
Location	Munster	Elgin	Romeoville	Chicago	Chicago	
Phone	708-878-5192	847-695-9300	708-544-9440	773-254-1121	773-254-5099	CID
Material	Mixed Fill	Mixed Fill	Asphalt	Asphalt	Concrete	
1/14/00						
1/17/00						
1/18/00			5	4	1	
1/19/00	3					
1/24/00		6				
1/25/00	8	3				
1/26/00		18				
1/27/00	1	30				
1/28/00	2	22				
1/29/00						
1/31/00		1				
2/1/00		1				
2/2/00	4	10				
2/3/00		6			2	
2/4/00					2	
2/7/00		2		8		
2/8/00				22	4	
2/9/00		3			2	
2/10/00		6			2	
2/11/00		4			1	
2/14/00						2 (UST soil)
2/15/00		13			19	
2/16/00		19		3	2	
2/17/00	2	1				
2/18/00						
2/21/00						
2/22/00		2			12	
2/23/00						
2/24/00						
2/25/00						
2/28/00		1				
2/29/00						
Totals	20	148	5	37	47	2

FAX (708) 331-7147
Rodney Potts
Tom

Mark Tubay
(708) 939-7024
Pager

Doug Hopkins
773-646-3099

Bill Ryan
Safety Manager
x392

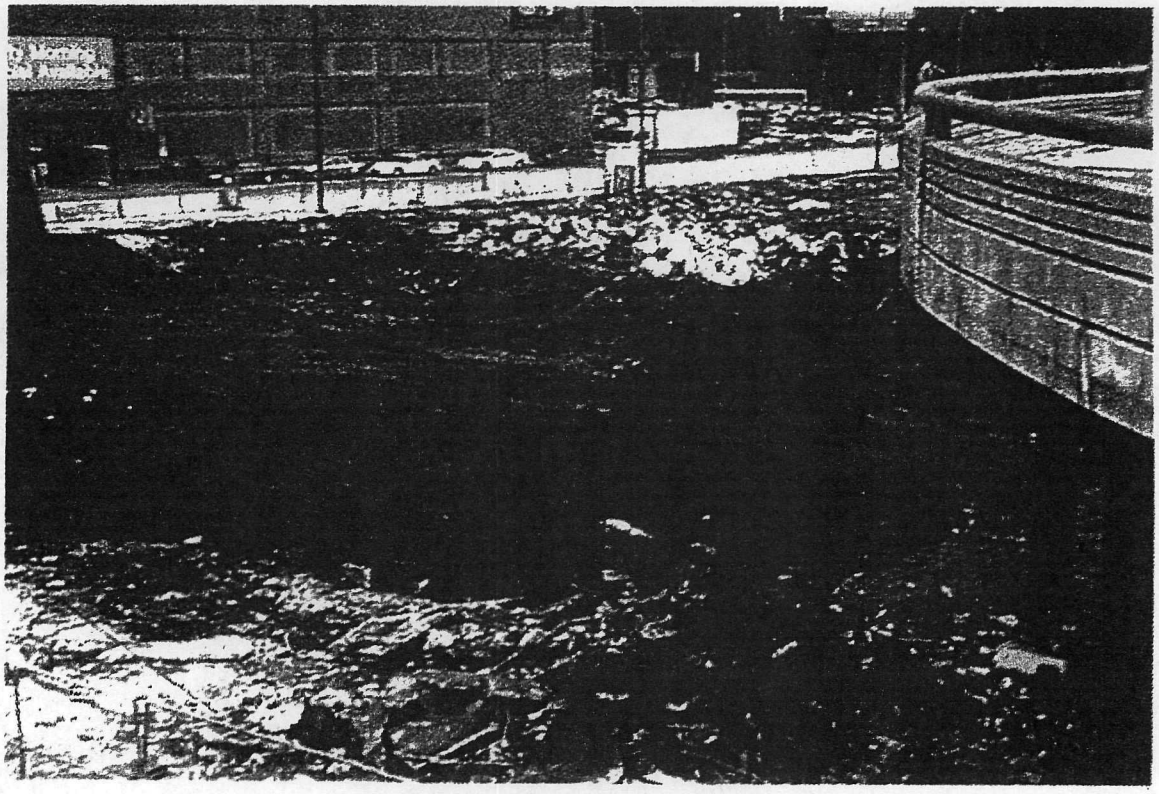
Chuck Tapia

Dan Plotte
(owner)

ATTACHMENT 3

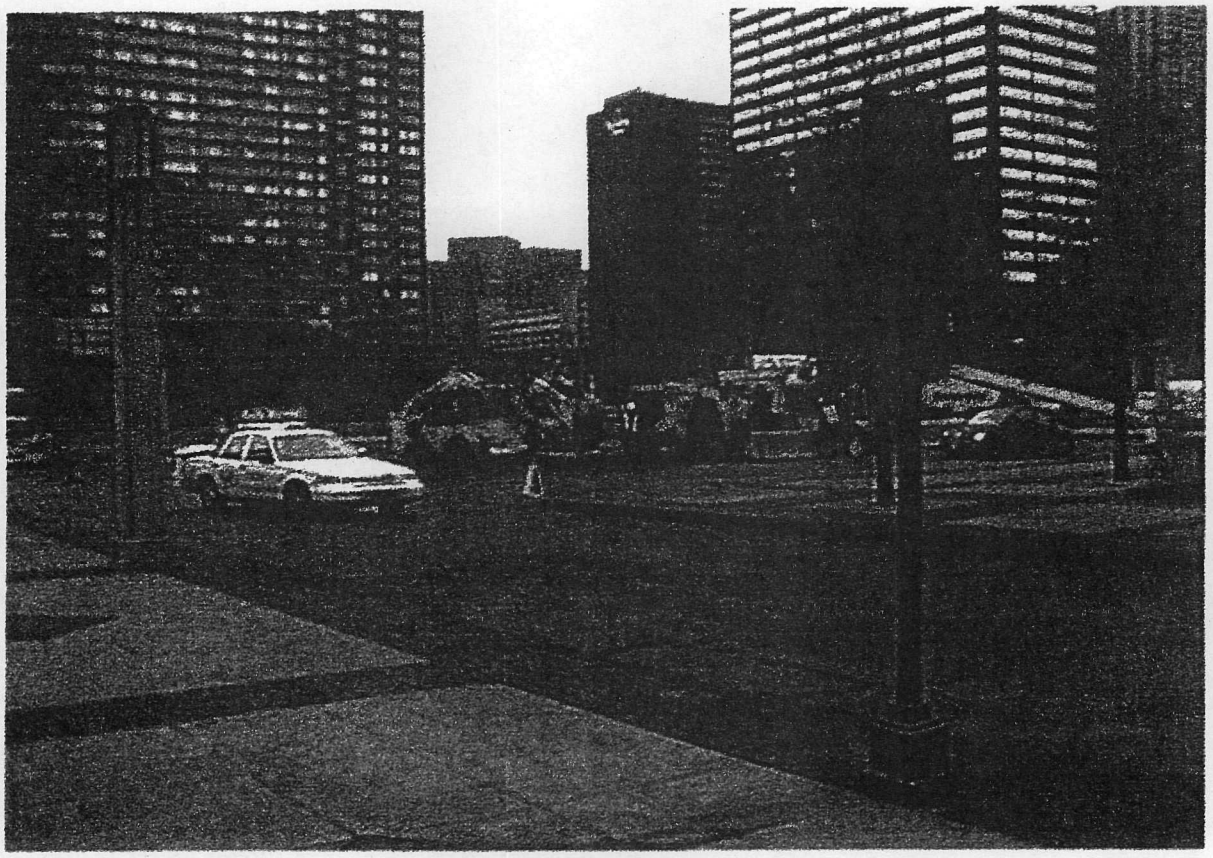
Grand Pier Photographs

1. *View of On-Going Demolition at Upper Illinois and City Front Drive Looking East*



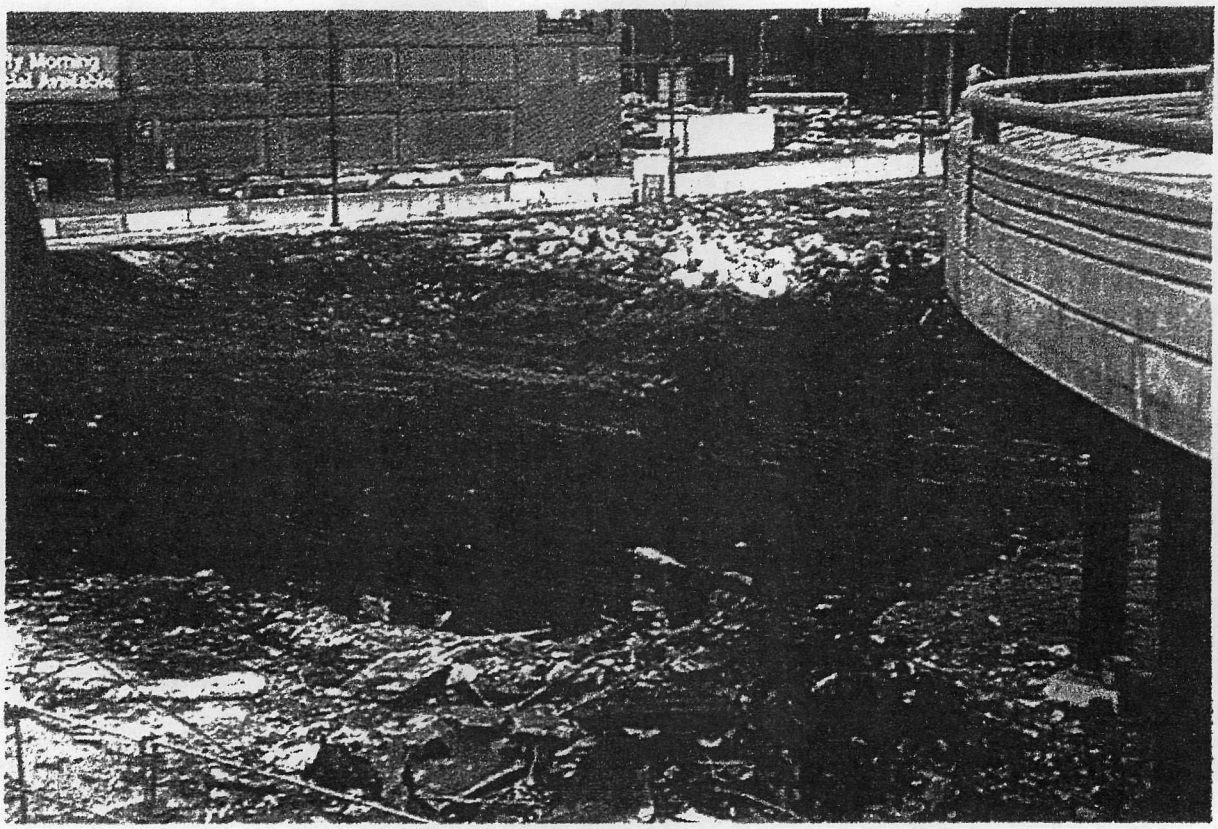
2. *View of Grand Pier Center Site from Upper Illinois*

3. View of Grand Pier Center Site Looking East

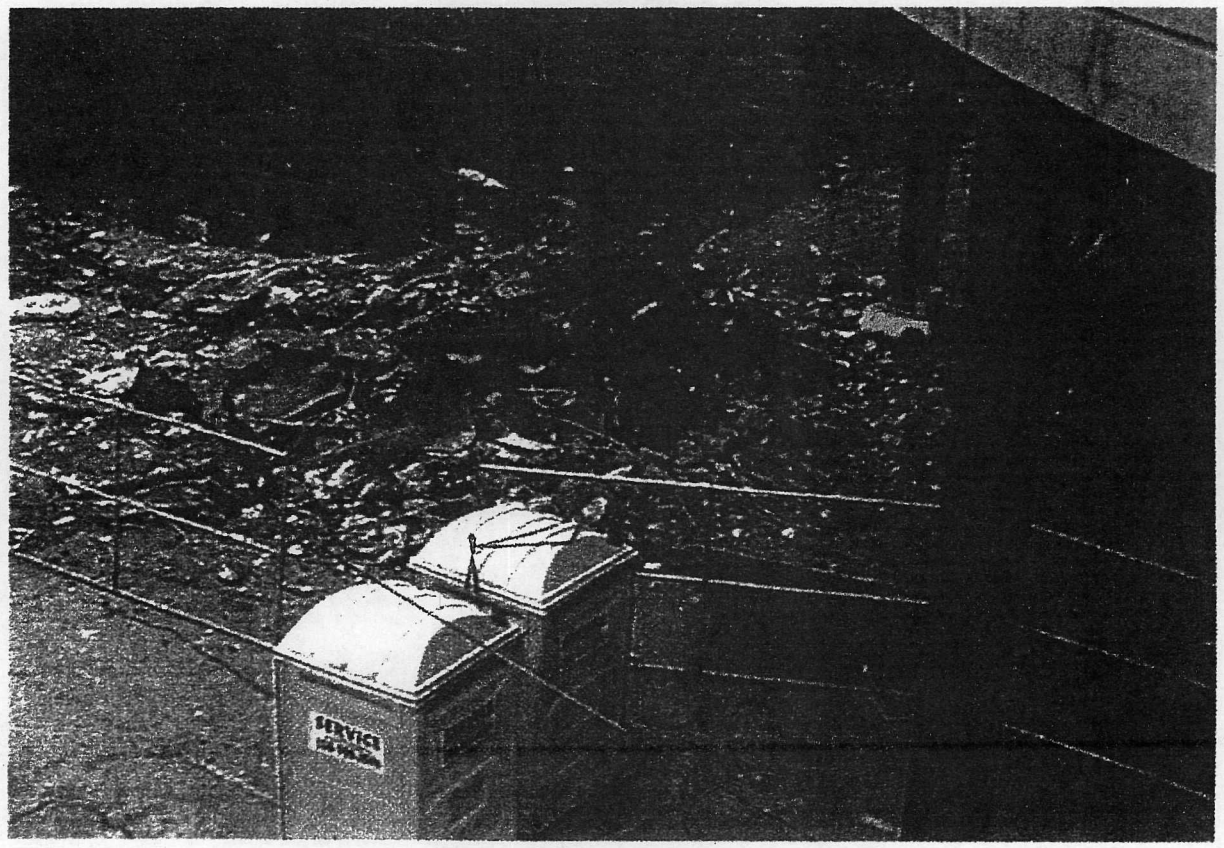


1. *View of On-Going Demolition at Upper Illinois and City Front Drive Looking Northeast*

2. *View of On-Going Demolition at Upper Illinois and City Front Drive Looking East*

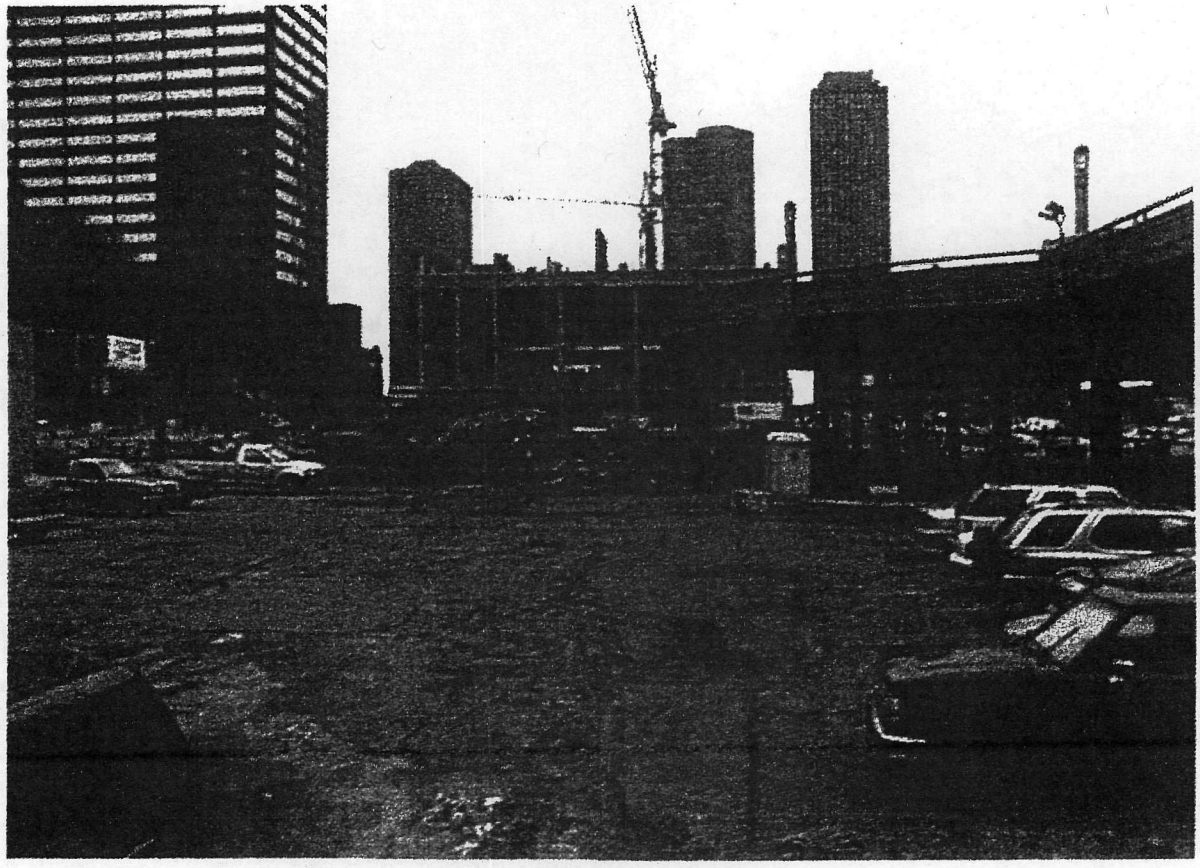


3. View of Grand Pier Center Site from Upper Illinois

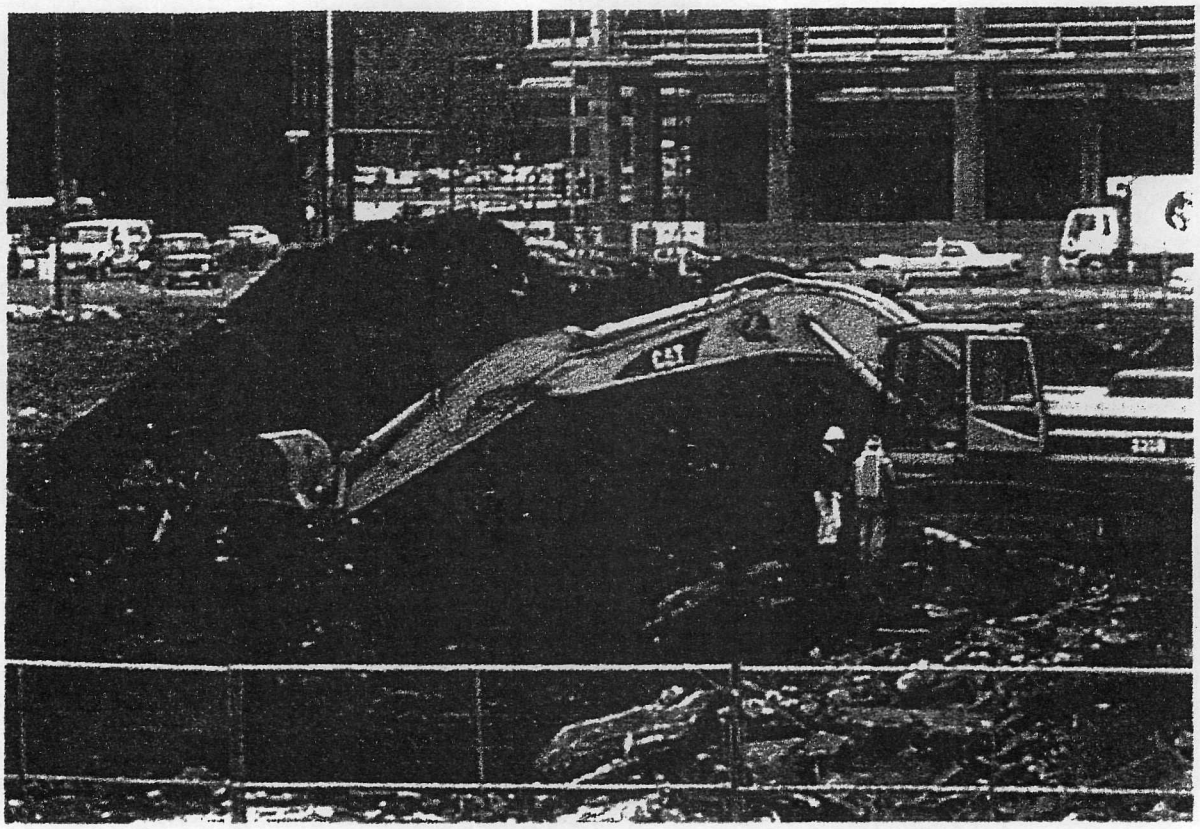


4. View of Miscellaneous Demolition Debris from Upper Illinois

5. View of Grand Pier Center Site Looking East

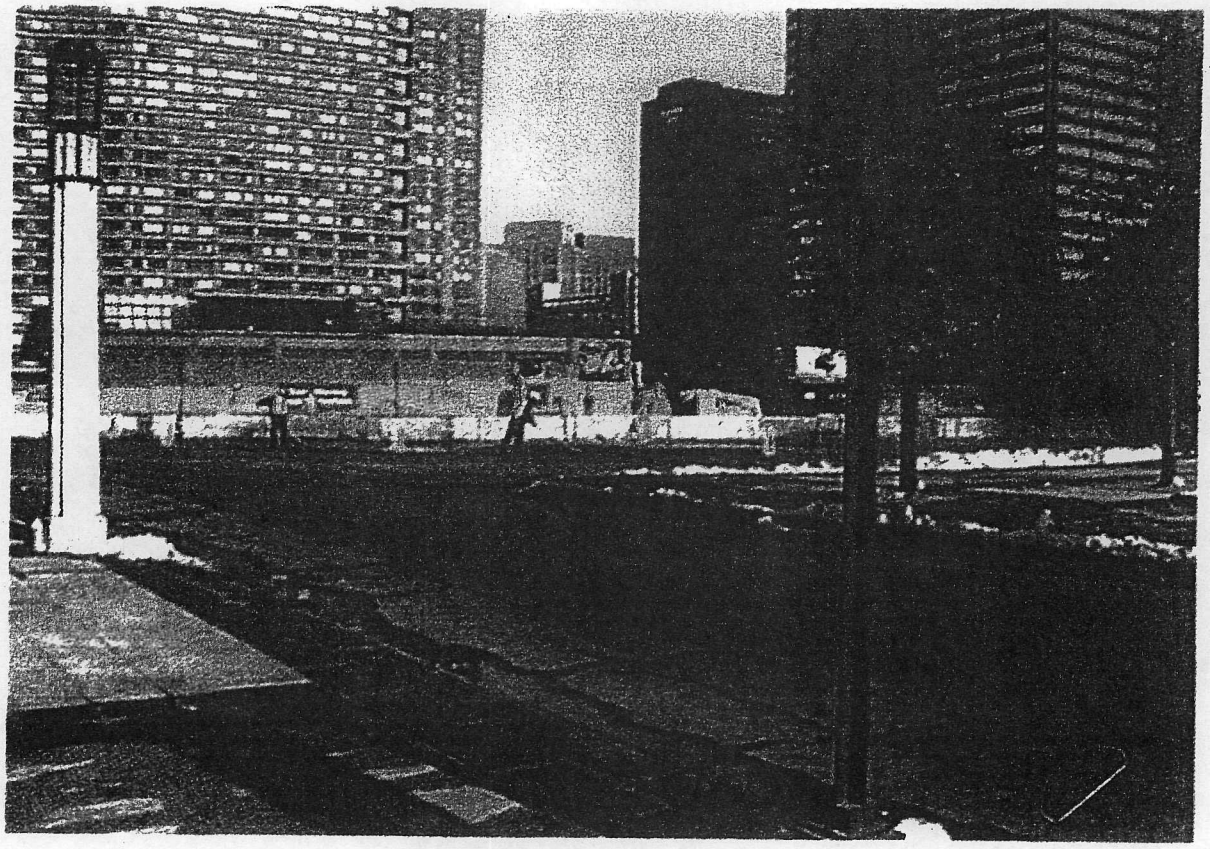


6. View of Grand Pier Center Site from St. Clair

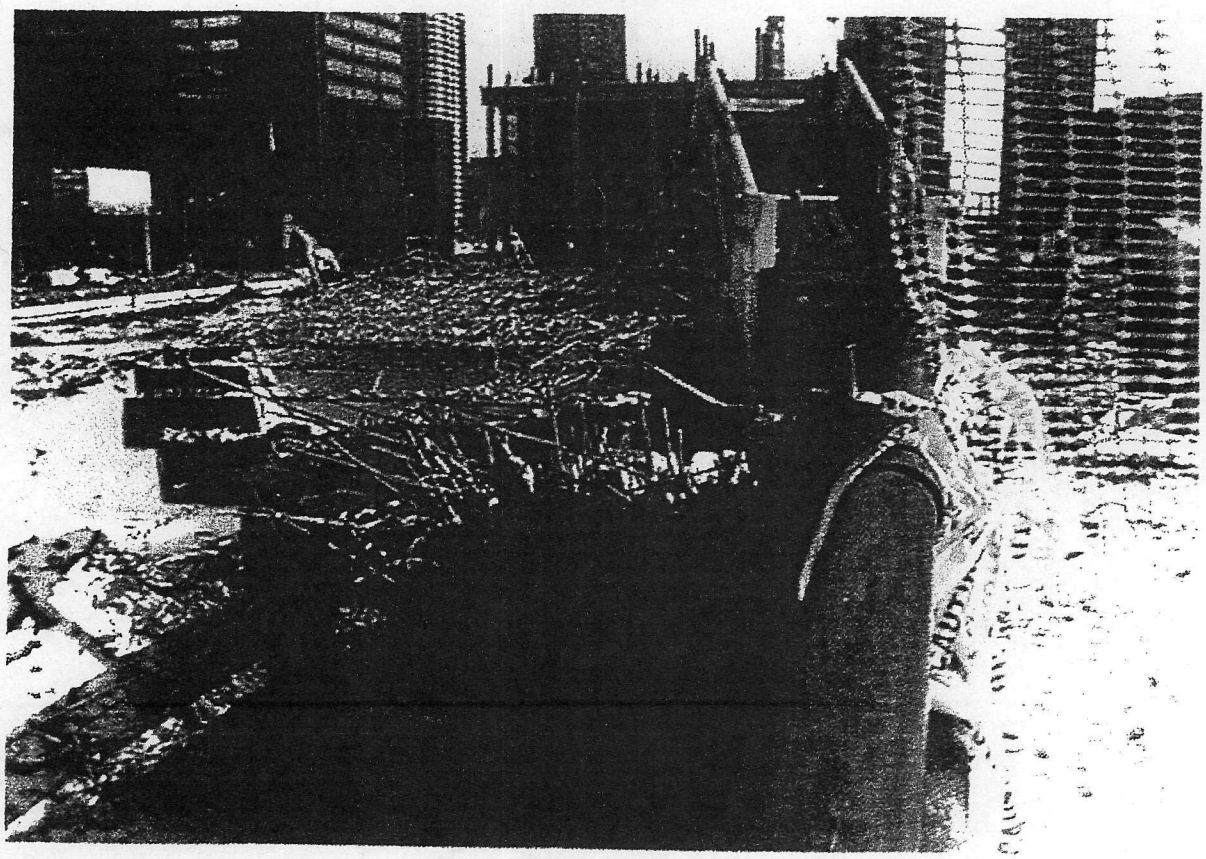


7. View of Excavated Dirt from Grand Pier Center Site

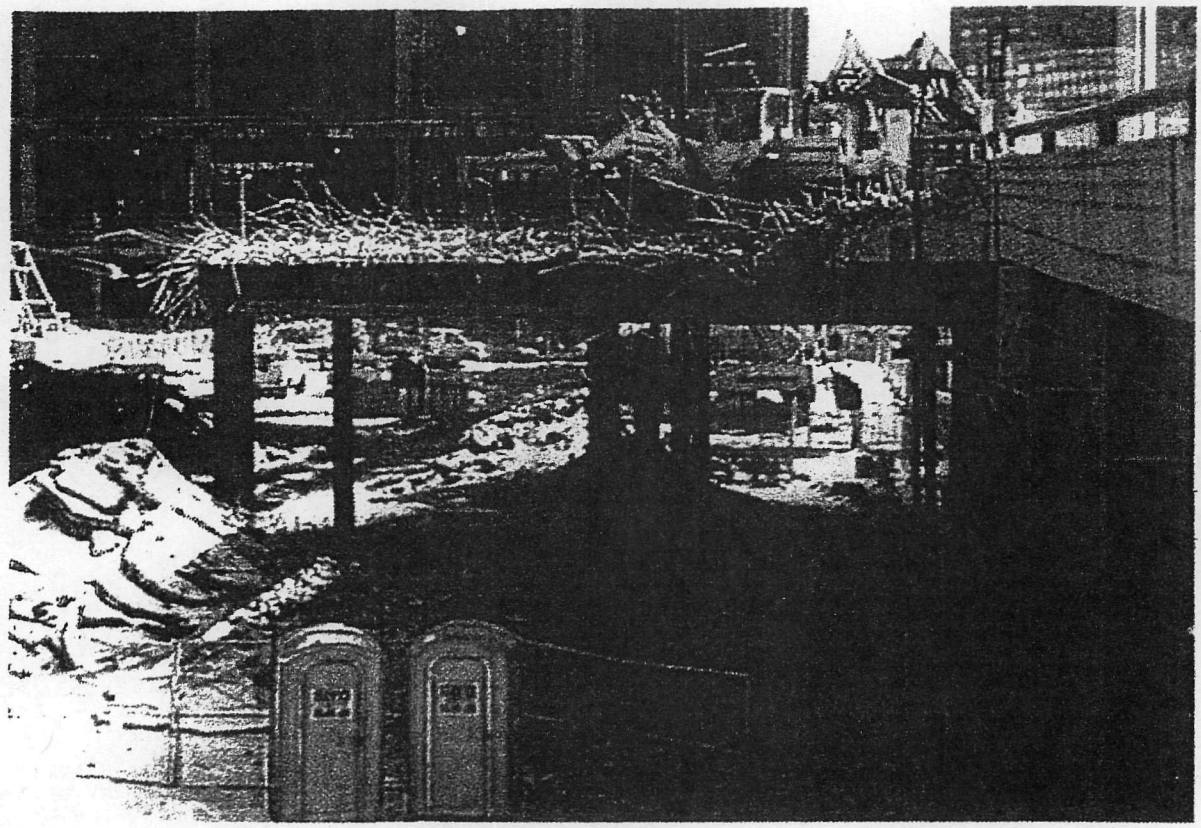
8. View of On-Going Excavation Looking East



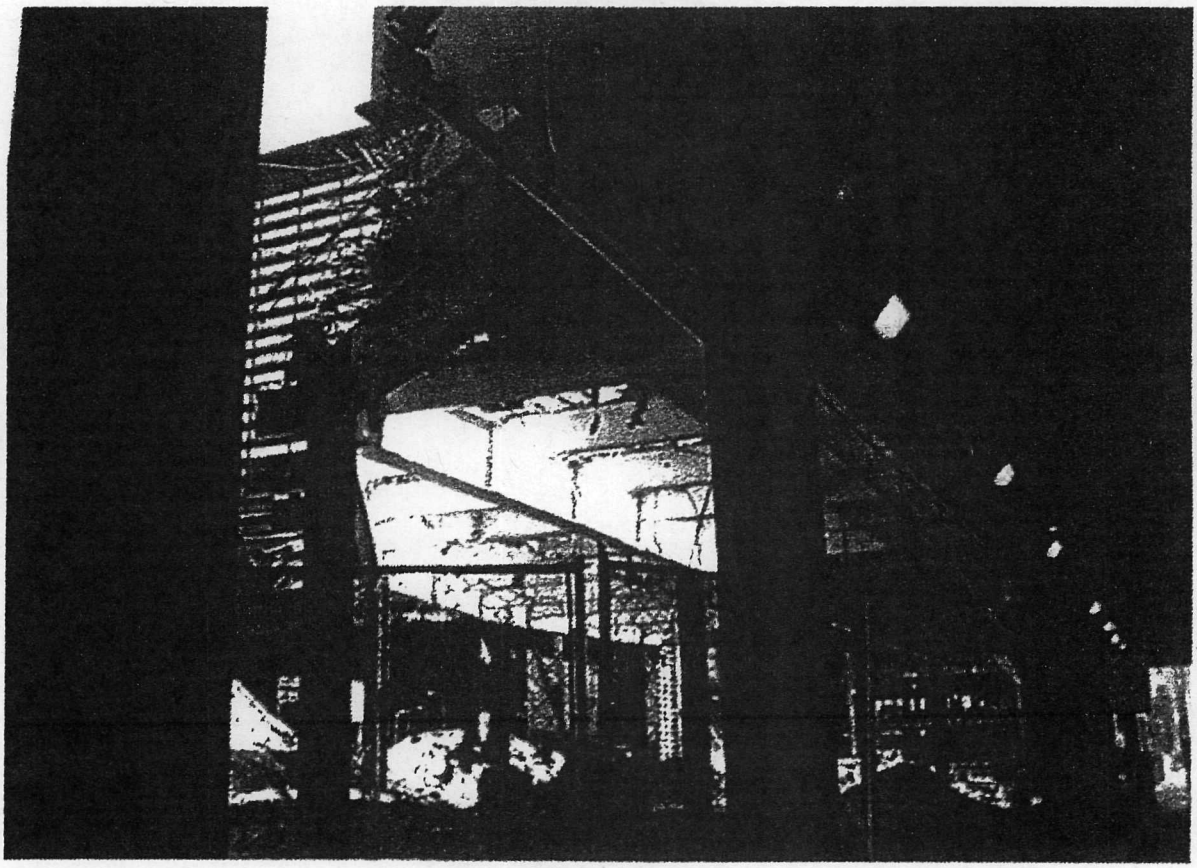
1. *View of On-Going Viaduct Demolition at Upper Illinois and City Front Drive Looking Northeast*



2. *View of On-Going Viaduct Demolition at Upper Illinois and City Front Drive Looking East*



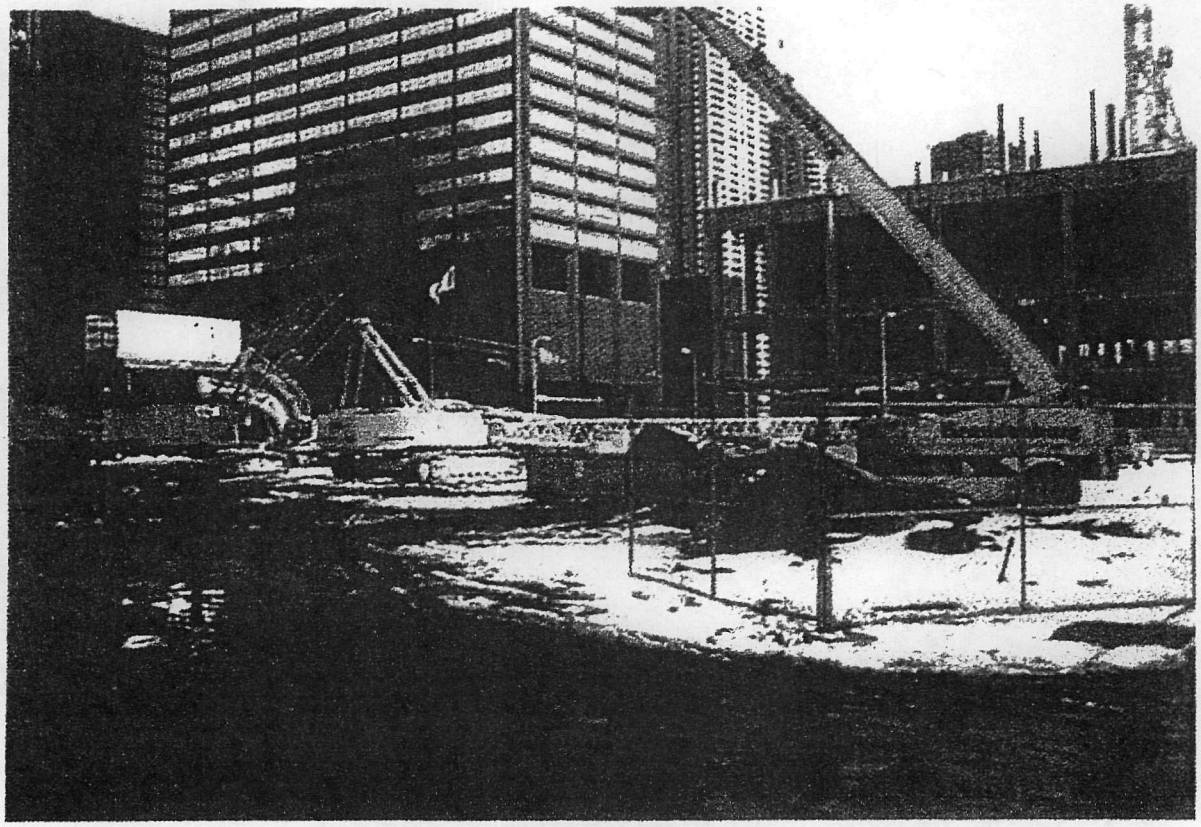
3. View of On-Going Viaduct Demolition at Upper Illinois and City Front Drive Looking East



4. View of On-Going Viaduct Demolition from Lower Illinois

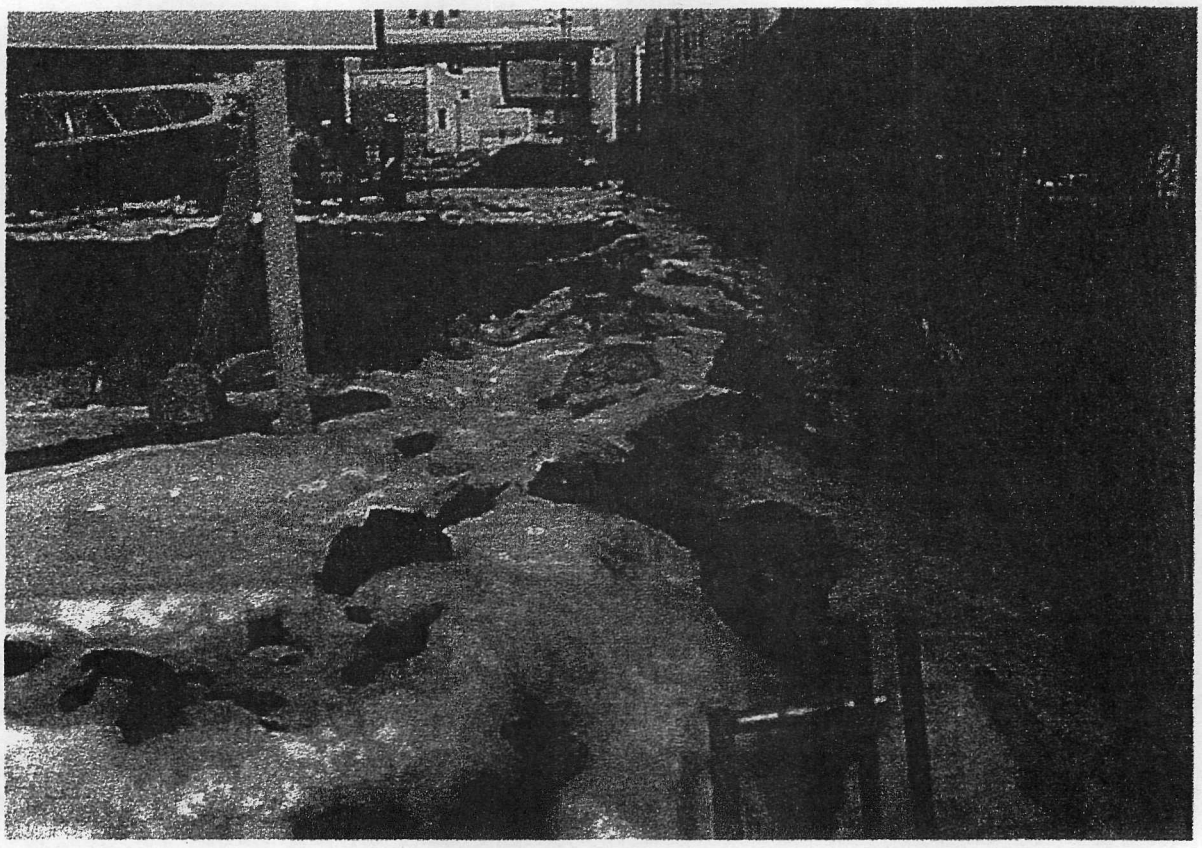
5. View of On-Going Viaduct Demolition Looking West

6. View of Excavated Dirt from Grand Pier Center



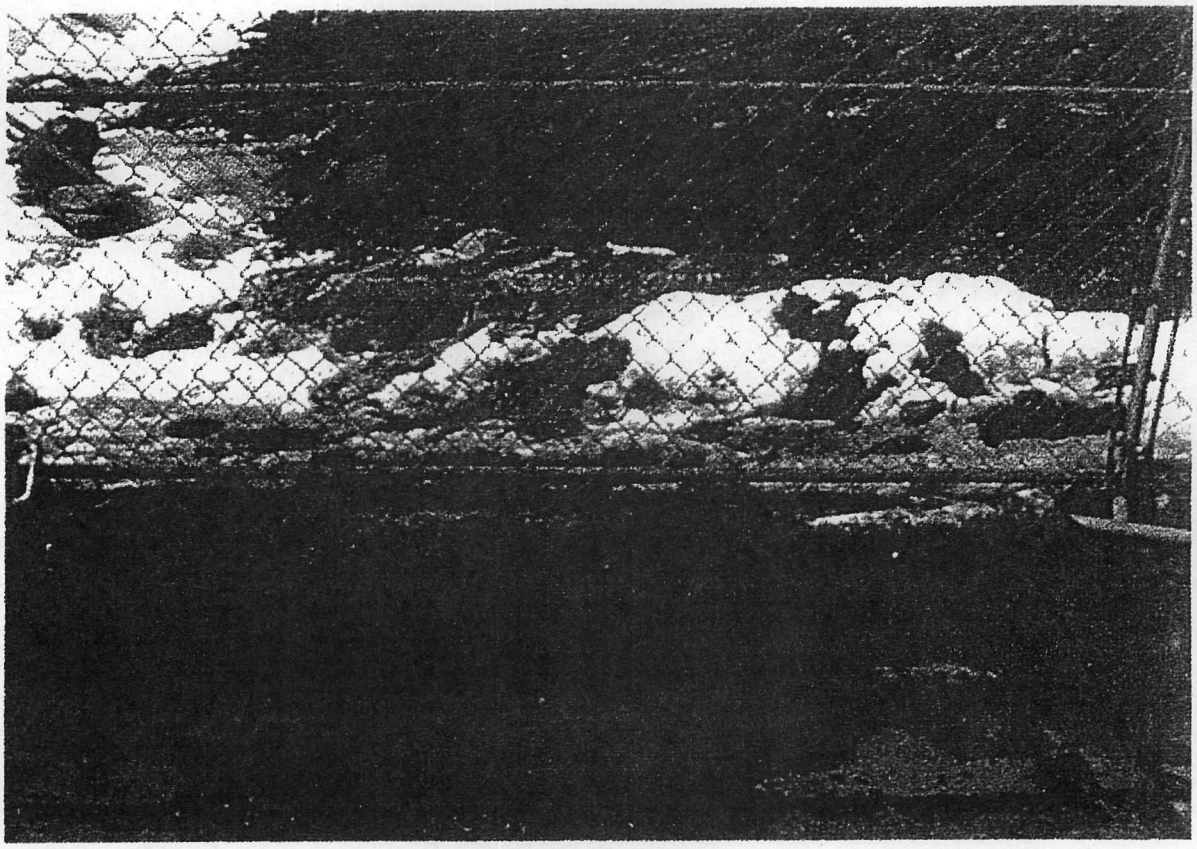
7. View of Grand Pier Center Site Looking Northeast

8. View of Existing Concrete Wall at Grand Pier Center Site Along Illinois Looking West

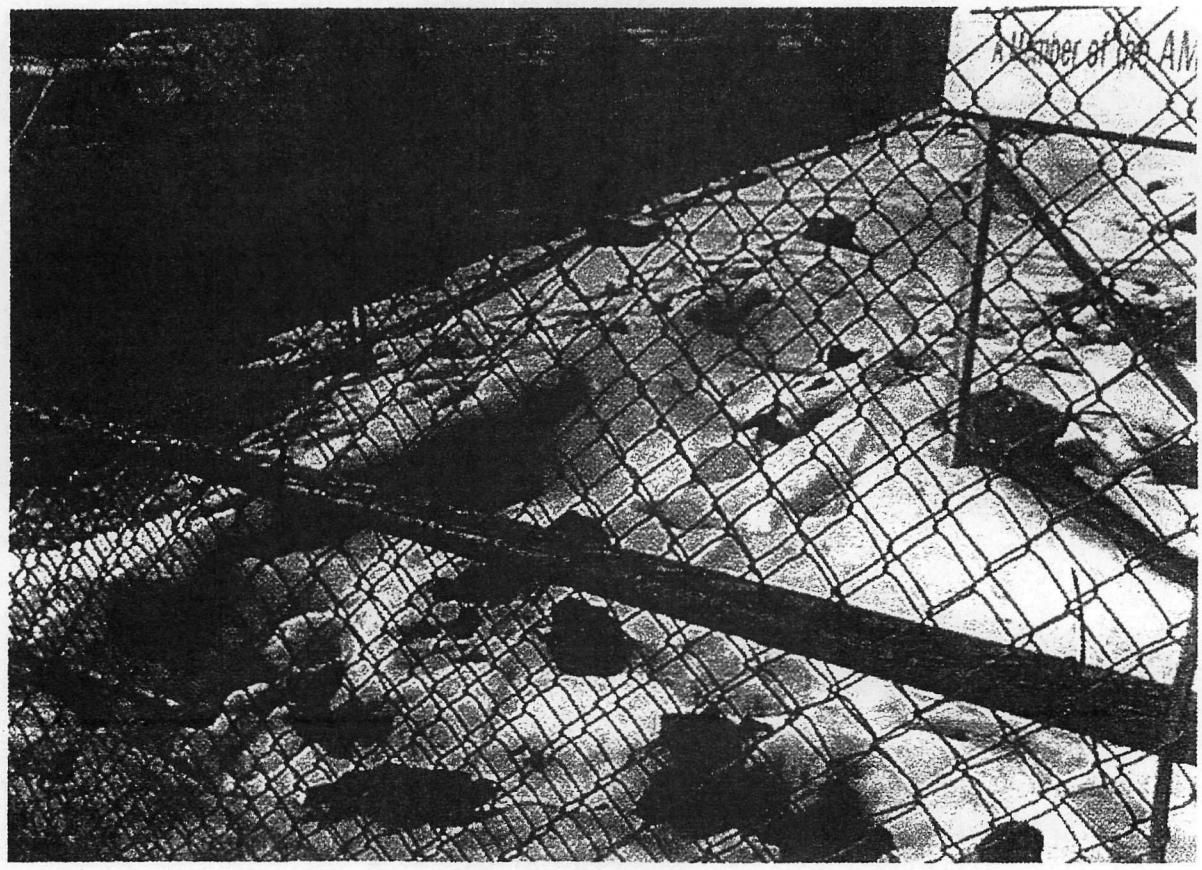


9. View of Existing Concrete Wall at Grand Pier Center Site Along Columbus Ave., Looking North

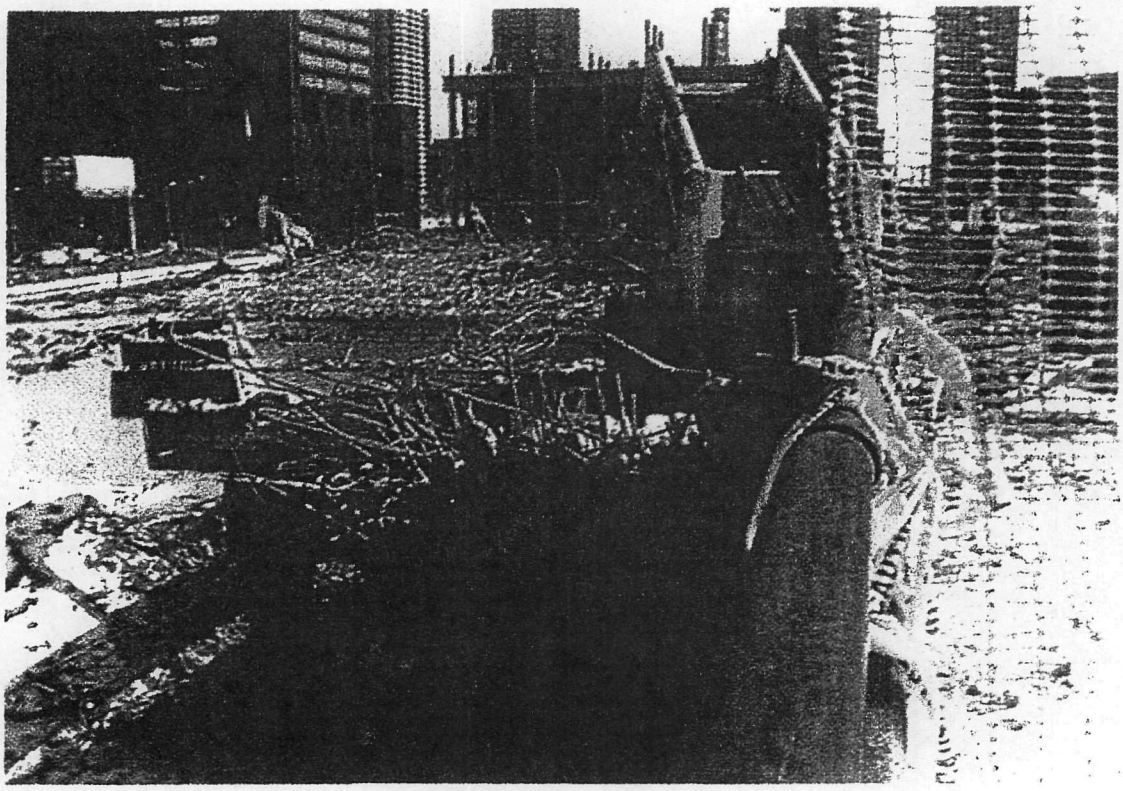
10. View of Existing Concrete Wall Along Illinois Looking East



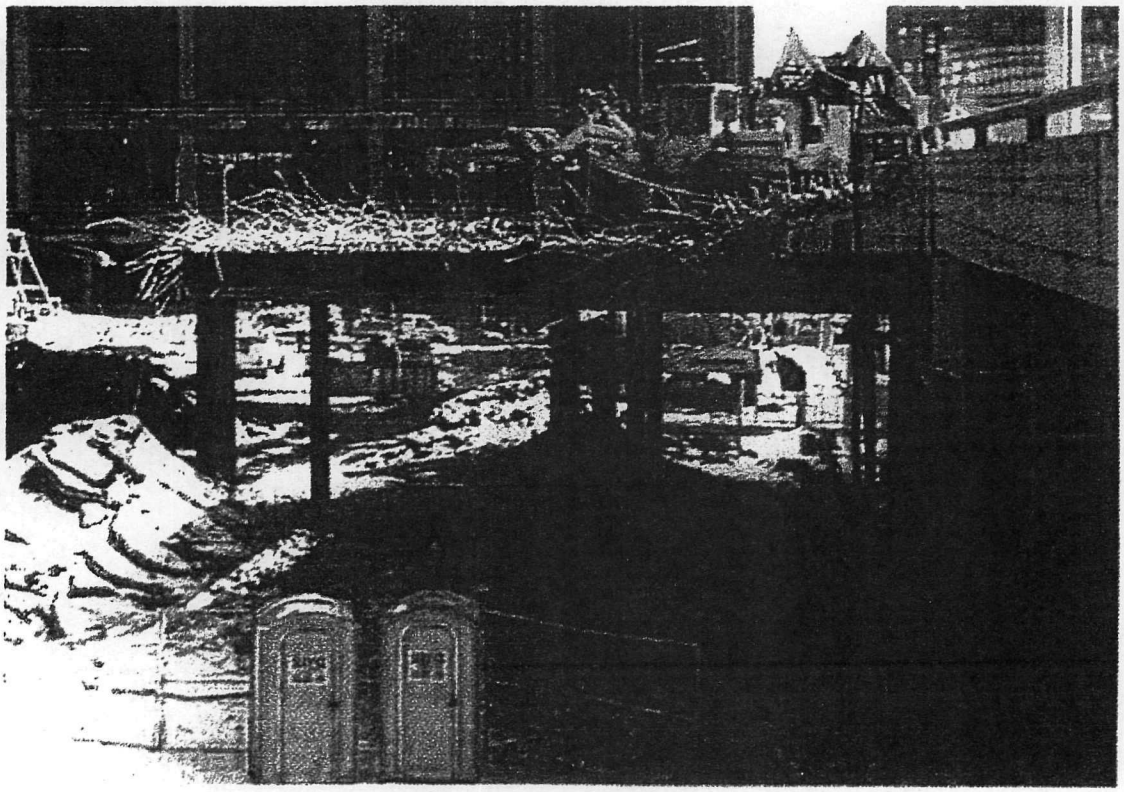
11. View of Existing Concrete Wall Along Columbus Ave., Looking West



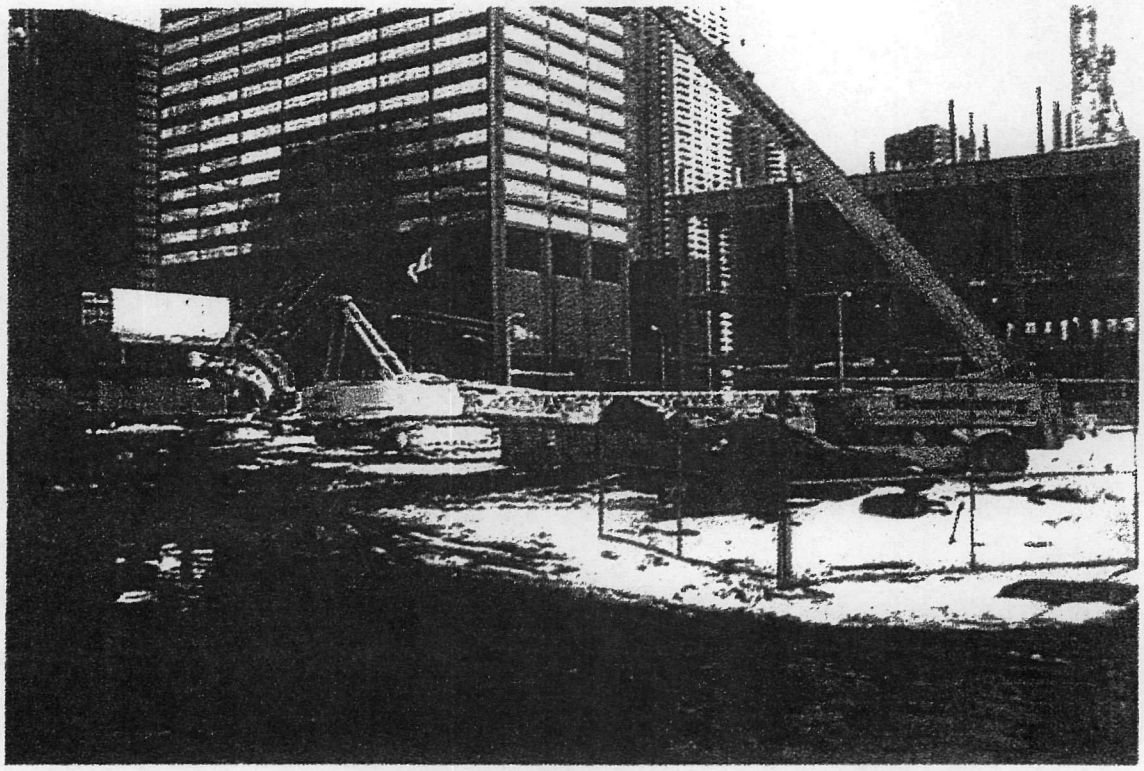
12. View of Existing Concrete Wall at Corner of Illinois and Columbus



1. View of On-Going Viaduct Demolition at Upper Illinois and City Front Drive Looking East (a)



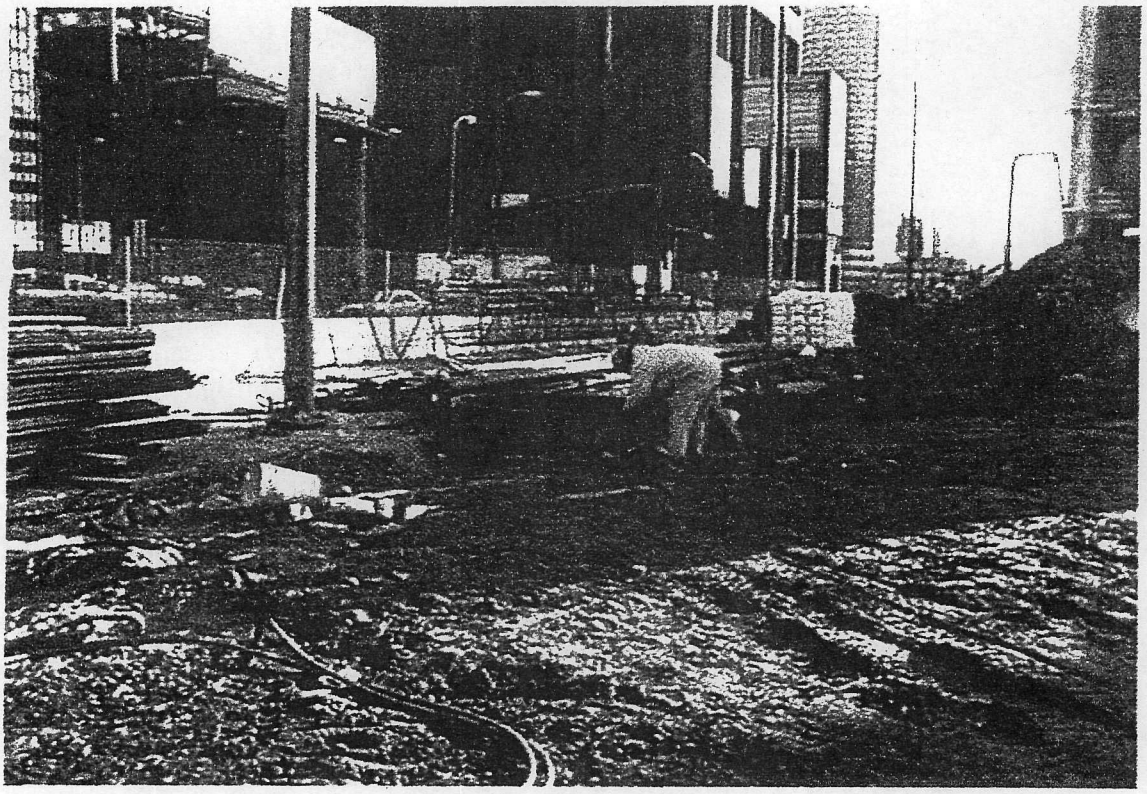
2. View of On-Going Viaduct Demolition at Upper Illinois and City Front Drive Looking East (b)



3. View of Grand Pier Center Site Looking East

1. Caisson Equipment and Materials

2. Demolition of Viaduct Substantially Completed



3. Caisson Installation Along Grand Avenue

4. Potholing for Caisson Installation

ATTACHMENT 4

Caisson Installation Records

CAISSON PROGRESS REPORT

PROJECT: GRAND PIER CENTER

PRE-THORLUM

CAISSON LOCATION	DATE START	DATE COMPLETE	TOP ELEVATION DESIGN	TOP ELEVATION FIELD	TOP ELEVATION DIF	BOTTOM ELEVATION DESIGN	BOTTOM ELEVATION FIELD	BOTTOM ELEVATION DIF	STRENGTH TEST (PSI) 7 DAYS	STRENGTH TEST (PSI) 28 DAY	STRENGTH TEST (PSI) 56 DAY	CONCRETE VOLS (CY) DESIGN	CONCRETE VOLS (CY) FIELD	CONCRETE VOLS (CY) DIF	OBSTRUCTION TIME (HRS)
C-22	02/25/00	02/25/00	-8.00	-8.08	-0.08	-95.50	-93.55	1.95	4980	8610	7910/7680 /7680	63.00	70.00	7.00	
C-19	02/28/00	02/28/00	-8.00	-8.12	-0.12	-95.50	-90.95	4.55	7270	8880/8580	9400/9650	63.00	60.00	-3.00	
A-19	02/28/00	02/28/00	-7.00	-7.04	-0.04	-95.50	-92.38	3.12	7270	8880/8580	9400/9650	79.00	77.00	-2.00	
C-20	02/29/00	02/29/00	-8.00	-8.00	0.00	-95.50	-91.08	4.42	7200	8920/9290	9510/9710	63.00	63.00	0.00	
C-25	02/29/00	02/29/00	-7.00	-7.00	0.00	-95.50	-92.00	3.50	6890	8340/8910	9230/9060	63.00	65.00	2.00	
A-20	05/02/00	05/02/00	-7.00	-6.85	0.15	-95.50	-94.85	0.65	6160	8330/8390	8560/8810	79.00	82.00	3.00	
A 15.5	05/04/00	05/04/00	-20.00	-19.90	0.10	-95.50	-90.56	4.94	6320	8230/8150	8810/8490	56.00	57.00	1.00	.75hr - Boulder In Bell
A-22	05/02/00	05/04/00	-7.00	-7.00	0.00	-95.50	-91.00	4.50	6310	8700/8450	8110/8080	79.00	82.00	3.00	
[illegible]	05/05/00	05/05/00	-20.00	-20.00	0.00	-95.00	-93.75	1.25	[illegible]	[illegible]	[illegible]	20.00	24.00	4.00	
A.4-17.4	05/05/00	05/05/00	-20.00	-20.00	0.00	-95.00	-92.15	2.85	5760	6750/6900	8130/8040	20.00	24.00	4.00	
B-17	05/08/00	05/08/00	-16.00	-16.00	0.00	-95.00	-92.00	3.00	7290	9040/8870	9580/9940	166.00	170.00	4.00	1.5hr - Boulder In Bell
A-5.25	05/08/00	05/08/00	-7.00	-7.00	0.00	-95.00	-90.92	4.08	6550	8040/8190	9050/7030	64.00	65.00	1.00	1.5hr - Wood Piling
G-12.2	05/10/00	05/10/00	-6.00	-6.00	0.00	-86.00	-86.60	-0.60	5210	6650	6380/9020	20.00	26.00	6.00	Sand Pocket/Steel Liner
G-17	05/10/00	05/10/00	-6.00	-6.00	0.00	-86.00	-82.20	3.80	6850	7120	6570/6690	21.00	23.00	2.00	
B-22	05/10/00	05/10/00	-8.00	-8.00	0.00	-95.00	-91.00	4.00	6590	8220/8260	6610/8680	99.00	105.00	6.00	Steel Liner/Tunnel
[illegible]	05/11/00	05/11/00	-6.00	-6.00	0.00	-86.00	-83.40	2.60	5850	7120	[illegible]	[illegible]	[illegible]	0.00	Sand Pocket/Steel Liner
B-18	05/11/00	05/11/00	-16.00	-16.00	0.00	-95.00	-91.00	4.00	5650	8010	6910/7410	109.00	110.00	1.00	
B-15.5	05/12/00	05/12/00	-20.00	-20.00	0.00	-95.00	-90.33	4.67	5090	6560/8400	7540/7790	88.00	86.00	-2.00	
G-14.1	05/12/00	05/12/00	-6.00	-6.00	0.00	-86.00	-91.70	-5.70	4780	6120	6570/6690	21.00	45.00	24.00	Sand Pocket/Steel Liner
G-19	05/12/00	05/12/00	-6.00	-6.00	0.00	-86.00	-85.50	0.50	7290	9080/9340	9710/10520	21.00	27.00	6.00	Sand Pocket/Steel Liner
B-13	05/15/00	05/15/00	-20.00	-20.00	0.00	-95.00	-91.25	3.75	6790	8220/8180	9110/8930	57.00	58.00	1.00	
B-20	05/15/00	05/15/00	-8.00	-8.00	0.00	-95.00	-90.70	4.30	7250	9060/8730	10150/9960	97.00	98.00	1.00	
[illegible]	05/15/00	05/15/00	-6.00	-6.00	0.00	-86.00	-83.83	2.17	[illegible]	[illegible]	[illegible]	21.00	22.00	1.00	
C-13	05/16/00	05/16/00	-20.00	-20.00	0.00	-95.00	-91.70	3.30	7280	8720/8560	9630/8930	56.00	63.00	7.00	
C-15.5	05/16/00	05/16/00	-25.83	-25.83	0.00	-95.00	-91.83	3.17	6350	8220/8110	8110/9000	82.00	90.00	8.00	
[illegible]	05/16/00	05/16/00	-9.67	-9.67	0.00	-95.00	-91.83	3.17	[illegible]	[illegible]	[illegible]	24.00	25.00	1.00	
C-14	05/17/00	05/17/00	-20.00	-20.00	0.00	-95.00	-91.80	3.20	7590	8640/8990	100400/10090	54.00	50.00	-4.00	
[illegible]	05/17/00	05/17/00	-7.00	-7.00	0.00	-95.00	-93.17	1.83	[illegible]	[illegible]	[illegible]	62.00	60.00	-2.00	
[illegible]	05/17/00	05/17/00	-8.00	-8.00	0.00	-95.00	-91.12	3.88	[illegible]	[illegible]	[illegible]	96.00	95.00	-1.00	
B-19	05/17/00	05/18/00	-8.00	-8.00	0.00	-95.00	-91.60	3.40	7390	9060/9290	10100/10200	96.00	96.00	0.00	
C-21	05/17/00	05/18/00	-8.00	-8.00	0.00	-95.00	-92.90	2.10	7200	8920/9290	9510/9710	61.00	64.00	3.00	
C-18	05/19/00	05/19/00	-8.00	-8.00	0.00	-95.00	-91.20	3.80	7370	8960/9090	10190/9560	76.00	90.00	14.00	
[illegible]	05/19/00	05/19/00	-7.00	-7.00	0.00	-95.00	-93.83	1.17	[illegible]	[illegible]	[illegible]	65.00	75.00	10.00	2.5hr-Wood Piling Steel Liner/Tunnel
[illegible]	05/22/00	05/22/00	-7.00	-7.00	0.00	-95.00	-93.50	1.50	[illegible]	[illegible]	[illegible]	65.00	65.00	0.00	.75hr - Boulder In Bell
E-5.15.5	05/22/00	05/22/00	-20.83	-20.83	0.00	-95.00	-91.92	3.08	7230	8440/8410	8930/8660	54.00	54.00	0.00	
[illegible]	[illegible]	[illegible]	[illegible]	TOTAL [illegible]	[illegible]	[illegible]	TOTAL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TOTAL [illegible]	[illegible]	[illegible]

TOTAL CAISSON BREAKDOWN:

111 Total Caissons in areas B & C

13 Caissons in Illinois Street

Prepared by R.M.Chin & Associates

CAISSON PROGRESS REPORT

PROJECT: GRAND PIER CENTER

CAISSON LOCATION	DATE START	DATE COMPLETE	TOP ELEVATION DESIGN	TOP ELEVATION FIELD	TOP ELEVATION DIF	BOTTOM ELEVATION DESIGN	BOTTOM ELEVATION FIELD	BOTTOM ELEVATION DIF	STRENGTH TEST (PSI) 7 DAY	STRENGTH TEST (PSI) 28 DAYS	STRENGTH TEST (PSI) 56 DAY	CONCRETE VOL (CY) DESIGN	CONCRETE VOL (CY) FIELD	CONCRETE VOL (CY) DIF	OBSTRUCTION TIME (CAUSE)
[illegible]	07/28/00	07/28/00	-26.67	-26.67	0.00	-95.50	-91.43	4.07	7740			43.00	42.00	-1.00	1hr. Boulder in Shaft
B-8	07/28/00	07/28/00	-20.00	-20.00	0.00	-95.50	-90.00	5.50	7540	9070/9050				0.00	
A.6-7	08/01/00	08/01/00	-20.00	-20.00	0.00	-95.50	-90.55	4.95	7740	9730/9520		21.00	24.00	3.00	
[illegible]	08/01/00	08/03/00	-20.00	-20.00	0.00	-95.50	-91.67	3.83				20.00	23.00	3.00	
E-6	08/03/00	08/03/00	-7.00	-7.00	0.00	-95.50	-93.73	1.77	7280	9220/8760		62.00	68.00	6.00	1 hr. Boulder in Shaft
[illegible]	08/03/00	08/04/00	-20.00	-20.00	0.00	-95.50	-91.20	4.30				42.00	42.00	0.00	
[illegible]	08/04/00	08/07/00	-20.00	-20.00	0.00	-95.50	-92.33	3.17				76.00	67.00	-9.00	
[illegible]	08/07/00	08/07/00	-20.00	-20.00	0.00	-95.50	-90.00	5.50				22.00	23.00	1.00	
B-9	08/07/00	08/08/00			0.00			0.00	7680						
[illegible]	08/08/00	08/08/00	-20.00	-20.00	0.00	-95.50	-92.42	3.08				67.00	64.00	-3.00	
C-2.6.4	08/09/00	08/09/00	-26.67	-26.67	0.00	-95.50	-93.75	1.75	6970			28.00	32.00	4.00	
A-8	08/09/00	08/09/00	-20.00	-20.00	0.00	-95.50	-91.25	4.25				42.00	42.00	0.00	1.5 hrs
E-10	08/09/00	08/10/00	-12.00	-12.00	0.00	-95.50	-91.50	4.00	6790			110.00	114.00	4.00	
[illegible]	08/10/00	08/10/00	-26.67	-26.67	0.00	-95.50	-91.00	4.50				64.00	64.00	0.00	
[illegible]	08/11/00	08/11/00	-20.00	-20.00	0.00	-95.50	-90.13	5.37				23.00	25.00	2.00	
[illegible]		08/14/00							6970						
[illegible]	08/14/00	08/15/00	-5.60	-5.60	0.00	-95.50	-89.95	5.55	8020						
[illegible]	08/15/00	08/15/00	-5.60	-8.60	-3.00	-95.50	-89.34	6.16							
TOTAL AS OF 9/12/00 = 121					0.00			0.00							39.5 HRS AS OF 8/14/00
[illegible]				TOTAL	[illegible]		TOTAL	[illegible]					TOTAL	[illegible]	

TOTAL CAISSON BREAKDOWN:

111 Total Caissons in areas B & C

13 Caissons in Illinois Street

Prepared by R.M.Chin & Associates

CAISSON PROGRESS REPORT

PROJECT: GRAND PIER CENTER

CAISSON LOCATION	DATE START	DATE COMPLETE	TOP ELEVATION DESIGN	TOP ELEVATION FIELD	TOP ELEVATION DIF	BOTTOM ELEVATION DESIGN	BOTTOM ELEVATION FIELD	BOTTOM ELEVATION DIF	STRENGTHS (PSI) 7 DAY	STRENGTHS (PSI) 28 DAY	STRENGTHS (PSI) 56 DAYS	CONCRETE VOLUME (CY) DESIGN	CONCRETE VOLUME (CY) FIELD	CONCRETE VOLUME (CY) DIF	OBSTRUCTION TIME (CAUSE)
D-23	06/27/00	06/28/00	-7.00	-7.00	0.00	-95.50	-93.05	2.45	6570	7930/7860	9160/9030	179.00	188.00	9.00	1.5hr - Boulder in Bell/ Steel Liner
[illegible]	06/28/00	06/28/00	-8.00	-8.00	0.00	-95.50	-91.50	4.00				94.00	104.00	10.00	Sand Pocket/Steel Liner
E-22	06/28/00	06/28/00	-7.00	-7.00	0.00	-95.50	-91.17	4.33	5530	6840/6600	7610/7600	89.00	90.00	1.00	Sand Pocket/Steel Liner
E-23	06/30/00	06/30/00	-9.67	-9.67	0.00	-95.50	-92.75	2.75	6570	7930/7860		95.00	106.00	11.00	Sand Pocket/Steel Liner
A-23	06/30/00	06/30/00	-7.00	-7.00	0.00	-95.50	-91.42	4.08	7010	7860/8040	8940/9150	97.00	98.00	1.00	1.5hr - Wood Piling
D.5-15.5	06/30/00	07/03/00	-20.83	-20.83	0.00	-95.50	-91.60	3.90	6340	7800/8190	8960/9110	21.00	24.00	3.00	
B-24	07/03/00	07/05/00	-7.00	-7.00	0.00	-95.00	-91.00	4.00	6420	8120/8080	8790/8980	192.00	190.00	-2.00	2.5 hr - Steel Liner/Tunnel Boulder in Bell
[illegible]	07/05/00	07/06/00	-20.00	-20.00	0.00	-95.50	-91.00	4.50	7290	[illegible]		54.00	[illegible]		
[illegible]	07/06/00	07/06/00	-7.00	-7.00	0.00	-95.50	-92.00	3.50	[illegible]	[illegible]		69.00	[illegible]		
[illegible]	07/11/00	07/11/00	-9.67	-9.67	0.00	-95.50	-92.00	3.50	[illegible]	[illegible]		76.00	85.00	9.00	1.25hr/Boulder Into Shaft
E-15.5	07/07/00	07/11/00	-7.00	-7.00	0.00	-95.50	-93.33	2.17	6370	7680/7640		74.00	75.00	1.00	3hr -Steel Liner Sand Pocket/ WaterNeeded to Grout Hole
D.6-11	07/11/00	07/12/00	-20.83	-20.83	0.00	-95.50	-92.75	2.75	5860	6910/6620		21.00	25.00	4.00	
[illegible]	07/12/00	07/12/00	-20.00	-20.00	0.00	-95.50	-91.00	4.50	40	[illegible]		83.00	84.00	1.00	Concrete is 40psi 7 day
[illegible]	07/13/00	07/13/00	-9.67	-9.67	0.00	-95.50	-91.42	4.08	[illegible]	[illegible]		62.00	63.00	1.00	1.5hr Boulder
[illegible]	07/12/00	07/13/00	-20.83	-20.83	0.00	-95.50	-91.00	4.50	7640	[illegible]		56.00	56.00	0.00	
[illegible]	07/13/00	07/14/00	-20.00	-20.00	0.00	-95.50	-91.75	3.75	[illegible]	[illegible]		57.00	55.00	-2.00	1hr - Foundation Wall
E-18	07/14/00	07/14/00	-7.00	-7.00	0.00	-95.50	-91.85	3.65	6890	8340/8180		100.00	99.00	-1.00	
E-12	07/17/00	07/17/00	-15.00	-15.00	0.00	-95.50	-94.33	1.17	7260	8730/8970		73.00	76.00	3.00	
[illegible]	07/17/00	07/17/00	-20.83	-20.83	0.00	-95.50	-91.50	4.00	[illegible]	[illegible]		56.00	56.00	0.00	
[illegible]	07/16/00	07/17/00	-20.83	-20.83	0.00	-96.50	-96.00	-0.50	[illegible]	[illegible]		21.00	23.00	2.00	
[illegible]	07/18/00	07/18/00	-12.83	-12.83	0.00	-96.50	-91.25	4.25	[illegible]	[illegible]		95.00	93.00	-2.00	
E-11.3	07/17/00	07/18/00	-12.00	-12.00	0.00	-96.50	-93.92	1.58	7560	8730/9320		68.00	68.00	0.00	
C-10	07/18/00	07/19/00	-20.00	-20.00	0.00	-95.50	-91.42	4.08	8820	10720/10680		56.00	58.00	2.00	1 hr-Old Electrical Cement Lines
[illegible]	07/19/00	07/19/00	-20.00	-20.00	0.00	-95.50	-90.00	5.50	[illegible]	[illegible]		24.00	26.00	2.00	
[illegible]	07/06/00	07/19/00	-20.83	-20.83	0.00	-95.50	-91.00	4.50	[illegible]	[illegible]		41.00	42.00	1.00	-80' Sandpeck/Permanent
[illegible]	07/20/00	07/20/00	-20.83	-20.83	0.00	-95.50	-91.33	4.17	[illegible]	[illegible]		42.00	[illegible]	-42.00	1hr - Wall
E-13	07/19/00	07/20/00	-15.00	-15.00	0.00	-95.50	-92.00	3.50	7240	9160/8920		71.00	71.00	0.00	
[illegible]	07/21/00	07/21/00	-20.00	-20.00	0.00	-95.60	-92.25	3.35	[illegible]	[illegible]		[illegible]	56.00	56.00	1.5 hrs - Boulder @ 80.
D.6-13	07/20/00	07/21/00	-20.10	-20.10	0.00	-95.50	-92.58	2.92	5650	4450/4450		[illegible]	22.00	22.00	
A-10	07/24/00	07/24/00	-20.00	-20.00	0.00	-95.50	-91.50	4.00	6480	7750/8250		[illegible]	23.00	23.00	
[illegible]	07/24/00	07/24/00	-20.10	-20.10	0.00	-95.50	-91.75	3.75	[illegible]	[illegible]		20.90	22.00	1.10	
B-10	07/24/00	07/24/00	-20.00	-20.00	0.00	-95.60	-91.00	4.50	7970	9860/10020		[illegible]	52.00	52.00	
C-8	07/24/00	07/25/00	-20.00	-20.00	0.00	-95.50	-91.00	4.50	7830	9780/9830		[illegible]	87.00	87.00	
[illegible]	07/25/00	07/25/00	-9.00	-9.00	0.00	-95.50	-94.40	1.10	[illegible]	[illegible]		[illegible]	62.00	62.00	1.5hrs-Water Boulder In Bell
[illegible]	07/25/00	07/26/00	-20.83	-20.83	0.00	-95.50	-91.00	4.50	[illegible]	[illegible]		86.00	88.00	0.00	
A-11	07/26/00	07/26/00	-29.83	-29.83	0.00	-95.50	-90.00	5.50	7280	8640/8550		24.00	24.00	0.00	
[illegible]	07/27/00	07/27/00	-7.00	-7.00	0.00	-95.50	-91.67	3.83	[illegible]	[illegible]		78.00	78.00	0.00	
C-9	07/01/00	07/28/00	-20.00	-20.00	0.00	-95.50	-90.00	5.50	8070	9280/8850		[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	TOTAL	0.51	[illegible]	TOTAL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TOTAL	[illegible]	[illegible]

TOTAL CAISSON BREAKDOWN:

111 Total Caissons in areas B & C

13 Caissons in Illinois Street

Prepared by R.M.Chin & Associates

CAISSON PROGRESS REPORT

PROJECT: GRAND PIER CENTER

CAISSON LOCATION	DATE START	DATE COMPLETE	TOP ELEVATION DESIGN	TOP ELEVATION FIELD	TOP ELEVATION DIFF	BOTTOM ELEVATION DESIGN	BOTTOM ELEVATION FIELD	BOTTOM ELEVATION DIFF	STRENGTH TEST (PSI) 7 DAY	STRENGTH TEST (PSI) 28 DAY	STRENGTH TEST (PSI) 56 DAY	CONCRETE VOL. (CY) DESIGN	CONCRETE VOL. (CY) FIELD	CONCRETE VOL. (CY) DIFF	OBSTRUCTION TIME/CAUSE
C-23	05/22/00	05/22/00	-7.00	-7.00	0.00	-95.00	-92.70	2.30	6950	8500/8210	8560/9100	97.00	100.00	3.00	
D-19	05/24/00	05/24/00	-8.00	-8.00	0.00	-95.50	-92.40	3.10	6000	8700/8150	9400/9340	76.50	106.00	29.50	
C-17	05/22/00	05/24/00	-8.00	-8.00	0.00	-95.50	-91.92	3.58	6300	8440/8400	8660/9530	172.00	173.00	1.00	
D-20	05/25/00	05/25/00	-8.00	-8.00	0.00	-95.50	-93.55	1.95	6450	8120/8230	7810/9360	100.00	100.00	0.00	
[illegible]	05/25/00	05/25/00	-7.00	-7.00	0.00	-95.50	-91.55	3.95				77.00	78.00	1.00	.75hr - Boulder in Bell
D-18	05/26/00	05/26/00	-8.00	-8.00	0.00	-95.50	-92.08	3.42	6250	7990/8200	9380/9290	178.00	180.00	2.00	
D-21	05/26/00	05/30/00	-8.00	-8.00	0.00	-95.50	-95.25	0.25	6300	8200/8130	8740/8820	99.00	100.00	1.00	
D-17	05/26/00	05/31/00	-8.00	-8.00	0.00	-95.50	-93.38	2.12	6600/6470	8520/8440	9140/9160	162.00	180.00	18.00	Sand Pocket/Steel Liner
D-4.16.4	05/31/00	06/01/00	-20.83	-20.83	0.00	-95.50	-93.35	2.15	6770	8190/8070	8420/8480	54.00	60.00	6.00	3.5hr-Boulder
B-23	06/01/00	06/02/00	-7.00	-7.00	0.00	-95.50	-91.83	3.67	6310	8370/8280	8310/8770	117.00	123.00	6.00	Sand Pocket/Steel Liner 3hr - Wood Piling Steel Liner/Tunnel
[illegible]	06/02/00	06/02/00	-20.00	-20.00	0.00	-95.50	-91.88	3.62				86.00	90.00	4.00	
C-24	06/02/00	06/06/00	-7.00	-7.00	0.00	-95.50	-91.24	4.26	5880	7940/9000	9120/9420	175.00	175.00	0.00	1hr - Boulder in Bell
A-25	06/06/00	06/06/00	-7.00	-7.00	0.00	-95.50	-94.80	0.70	7220	9480/9370	9860/9480	37.00	40.00	3.00	3.5hr - Wood Piling
A-18	06/06/00	06/07/00	-7.00	-7.00	0.00	-95.50	-90.33	5.17	7010	8810/8560	8860/9250	99.00	100.00	1.00	1hr - Boulder in Bell
[illegible]	06/08/00	06/08/00	-6.00	-6.00	0.00	-83.00	-83.10	-0.10	6680			20.00			Sand Pocket/Steel Liner
D-24	06/07/00	06/08/00	-7.00	-7.00	0.00	-95.50	-92.17	3.33	6680	8300/8410	8640/8450	175.00	180.00	5.00	Sand Pocket/Steel Liner
A-24	06/07/00	06/09/00	-7.00	-7.00	0.00	-95.50	-93.33	2.17	4560	7290/7500	7950/7830	77.00	83.00	6.00	5hr-Wood Piling/Boulder
[illegible]	06/09/00	06/09/00	-6.00	-6.00	0.00	-86.00	-88.35	-2.35				21.00	35.00	14.00	Sand Pocket/Steel Liner
A-14	06/09/00	06/12/00	-20.00	-19.50	0.50	-95.50	-90.91	4.59	6480	7750/8250	9150/8480	22.00	26.00	4.00	
H-14.1	06/09/00	06/12/00	-6.00	-6.00	0.00	-86.00	-86.37	-0.37	5560	7250/7260	7330/7730	21.00	28.00	7.00	Sand Pocket/Steel Liner
[illegible]	06/12/00	06/13/00	-6.00	-6.00	0.00	-86.00	-85.30	0.70				21.00	30.00	9.00	Sand Pocket/Steel Liner
[illegible]	06/13/00	06/13/00	-9.67	-9.67	0.00	-95.50	-91.68	3.82				44.00	89.00	45.00	Sand Pocket/Steel Liner
[illegible]	06/12/00	06/13/00							6800	9060/8120	8690/8980				
[illegible]	06/14/00	06/14/00	-6.00	-6.00	0.00	-86.00	-89.47	-3.47				21.00	40.00	19.00	Sand Pocket/Steel Liner
H-22	06/14/00	06/14/00	-6.00	-6.00	0.00	-86.00	-86.25	-0.25	5310	6380/6480		21.00	30.00	9.00	Sand Pocket/Steel Liner
[illegible]	05/16/00	06/14/00	-9.67	-9.67	0.00	-95.50	-91.05	4.45				23.00	30.00	7.00	Sand Pocket/Steel Liner
E-22	05/18/00	06/19/00	-7.00	-7.00	0.00	-95.50	-90.90	4.60	5530	6840/6600		77.00	78.00	1.00	1hr-Reset Caisson Ht. Sand Pocket/Steel Liner
[illegible]	06/15/00	06/26/00	-7.00	-7.00	0.00	-95.50	-91.60	3.90				78.00	80.00	2.00	
E-20	05/12/00	06/26/00	-7.00	-7.00	0.00	-95.50	-90.12	5.38	6560	7500/7460		78.00	78.00	0.00	Sand Pocket/Steel Liner
[illegible]	06/25/00	06/26/00	-7.00	-7.00	0.00	-95.50	-91.50	4.00				64.00	69.00	5.00	2.5hr - Wood Piling/
H-21	06/15/00	06/27/00	-6.00	-6.00	0.00	-86.00	-87.60	-1.60	5820	6970/7030	7950/7660	21.00	30.00	9.00	Sand Pocket/Steel Liner Boulder/Steel Liner
[illegible]				TOTAL	[illegible]		TOTAL	[illegible]					TOTAL	[illegible]	

TOTAL CAISSON BREAKDOWN:

111 Total Caissons in areas B & C
13 Caissons in Illinois Street

Prepared by R.M.Chin & Associates

ATTACHMENT 5

Impacted Fill Percentage Calculation

BEVERLY GRAVEL ACTION ITEM 3 - IMPACTED SOIL VOLUME CALCULATION

Grand Pier Site Area

(From Site Utility Plan, 12/01/00)

Area A	150 ft X 99 ft	= 14,850 ft^2
Areas B and C	217 ft X 422 ft	= 91,574 ft^2
		=106,424 ft^2

Fill Thickness

(From STS geotechnical borings, 1998, Per Grand Pier Work Plan)

Boring No.	Fill Thickness (Ft.)
B-1	8.5
B-2	8.0
B-3	9.0
B-4	8.5
B-5	8.5
B-6	7.5
B-7	8.0
B-8	7.0
B-9	8.5
B-10	7.5
B-100	10.0
B-101	10.5
	101.5/12 borings = Ave. 8.46 ft

Fill Volume

106,424 ft^2 X 8.46 ft = 900,347 ft^3 / 27 ft^3 / yd^3 = 33,346 yd^3

At 1.5 tons per yd^3, this calculates to 50,020 tons of fill soil that was surveyed

Total tons thorium-impacted soil shipped from Grand Pier Site = 10,606.4 tons

10,606.4 tons / 50,020 tons = **21.2 % impacted**

BELL, BOYD & LLOYD LLC

THREE FIRST NATIONAL PLAZA
70 WEST MADISON STREET, SUITE 3300
CHICAGO, ILLINOIS 60602-4207
312.372.1121 FAX 312.372.2098

THOMAS R. CAREY
312.807.4365
tcarey@bellboyd.com

OFFICES IN CHICAGO
AND WASHINGTON, D.C.

PRIVILEGED & CONFIDENTIAL
BY FAX & CERTIFIED MAIL

March 7, 2000

Tinka Hyde
Regional Team Manager
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency - Region 5 E-19J
77 West Jackson Boulevard
Chicago, Illinois 60604

RE: *Voluntary Self-Disclosure of Potential Violations of Thorium Transfer and Disposal Rules - Roy Strom Company*

Dear Ms. Hyde:

This potential violation disclosure is made on behalf of Roy Strom Excavating & Grading Company ("Roy Strom") pursuant to the U.S. Environmental Protection Agency's ("U.S. EPA") Voluntary Self-Disclosure Policy outlined in the December 22, 1995 edition of the Federal Register. 60 Fed. Reg. 66706 (Dec. 22, 1995). Roy Strom is located at 1201 Greenwood Avenue, Maywood, Illinois, 60153. Roy Strom's business activities include excavating, grading, road construction, aggregates crushing, recycling, and rubbish removal.

Background

In January of 2000, Roy Strom was hired as a subcontractor by Morse Diesel International, Inc. ("Morse Diesel") to perform excavation and earth work at a development known as the "Grand Pier Center" located near the intersection of Grand and Columbus Streets in downtown Chicago, Illinois. Morse Diesel is a contractor hired by the owner of the Grand Pier Center to perform site development activities at the Grand Pier Property. The owner of the Grand Pier Center property is *R.M. Chin & Associates, Inc.*

Pursuant to a change order initiated by Morse Diesel, Roy Strom was instructed to remove mixed fill, asphalt, and broken concrete from the Grand Pier Center Property. Prior to the commencement of this work, Roy Strom requested that it be provided with any environmental due diligence assessment reports prepared for the Grand Pier Center property. Pursuant to this request, Roy Strom was provided with copies of Phase I and II environmental site assessment reports prepared by the site owner's environmental consultant, ATC Associates,

Inc. These Phase I and II reports, dated April 30 and July 8, 1999, respectively, did not reflect that any radioactive substances, including thorium, were present at the Grand Pier Center property.

Beginning on or about January 18, 2000, Roy Strom began removing mixed fill, asphalt and broken-up concrete from the Grand Pier Center property. Approximately 20 truck loads of mixed fill was trucked to HAAK Trucking's landfill located in Munster, Illinois. Approximately 148 truck loads of mixed fill was trucked to the Beverly Landfill located in Elgin, Illinois. Approximately 5 truck loads of asphalt was trucked to the Palumbo facility located in Romeoville, Illinois. Approximately 37 truck loads of asphalt were trucked to the Reliable Asphalt facility located in Chicago, Illinois. Approximately 47 truck loads of broken concrete were trucked to the Vanek concrete recycling facility located in Chicago, Illinois. A chart describing the dates and amounts of individual shipments is attached hereto.

On the evening of Monday, February 28, 2000, Roy Strom was contacted by a representative of Morse Diesel concerning the Grand Pier Center project. According to the Morse Diesel representative, U.S. EPA – Region 5 representatives had discovered thorium contamination at an area of the Grand Pier Center property. The Morse Diesel representative stated that, according to U.S. EPA – Region 5, an adjacent property to the Grand Pier Center was contaminated with thorium.

The following day, on Tuesday, February 29, 2000, Morse Diesel again contacted Roy Strom concerning the Grand Pier Center property. According to the representative, the Grand Pier Center property was now closed pending U.S. EPA's thorium investigation. The Morse Diesel representative stated that other areas of the Grand Pier Center property also appeared to contain levels of thorium.

Until the above-referenced calls from Morse Diesel were received, Roy Strom had no knowledge that the materials it trucked off of the Grand Pier Center property were potentially contaminated with thorium. Beginning on Tuesday, February 29, 2000, Roy Strom began compiling information as to where, and on what dates the materials from the Grand Pier Center were sent.

On Thursday, March 2, 2000, Roy Strom representatives and legal counsel notified (by telephone) U.S. EPA representative Mary Fulghum about the materials that Roy Strom had trucked off the Grand Pier Center property. The attached shipment chart was provided to Ms. Fulghum by facsimile on that date as well. U.S. EPA health physicist Larry Jensen was added to the initial conference call between the parties to describe what was known by U.S. EPA about the nature and extent of the thorium contamination located at the Grand Pier Center property. According to Ms. Fulghum and Mr. Jensen, the Grand Pier Center property is located next to a Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") site called the Lindsay Light Site. The Lindsay Light Site was historically used as a gas lamp mantle manufacturing facility in the 1920s and 30s. The principal ingredient in gas lamp mantles was indicated as consisting of thorium. Mr. Jensen speculated that the thorium located at the Grand Pier Center is probably due to thorium-contaminated mill tailings

used as fill at the Lindsay Light Site. Ms. Fulghum stated that the Lindsay Light Site was currently being remediated by the Kerr-McGee Chemical Corporation pursuant to a CERCLA unilateral administrative order ("UAO").

It was agreed during the telephone conference between U.S. EPA and Roy Strom that Roy Strom should contact each of the five (5) facilities which had received materials from the Grand Pier Center property, inform them of the possibility of thorium contamination, and provide them with the names of the U.S. EPA contacts who could assist them. This was performed by Roy Strom's legal counsel on the afternoon of Thursday, March 2, 2000.

It is Roy Strom's understanding that the U.S. EPA representatives Fred Micke and Verneta Simon have contacted the facilities which have received materials from the Grand Pier Center property. It is also Roy Strom's understanding that U.S. EPA is in the process of further investigating the thorium contamination at the Grand Pier Center property, as well as the facilities to which Grand Pier Center materials were sent.

Potential Violations

Roy Strom has no direct information that any of the mixed fill, asphalt or concrete[1] it removed from the Grand Pier Center property was actually contaminated with thorium. Based upon representations from Morse Diesel that thorium was located on the property, the inference may be drawn that some of the materials may have been contaminated with unknown levels of thorium. While Roy Strom does not believe that thorium contamination necessarily triggers Resource Conservation and Recovery Act ("RCRA") disposal requirements, the UAO for the adjacent Lindsay Light Site states that thorium contaminants removed off-site must be treated, stored, or disposed of at a RCRA / CERCLA / Illinois Department of Nuclear Safety ("IDNS") approved disposal facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 CFR § 300.440.

Voluntary Self-Disclosure Conditions Met

The U.S. EPA's Voluntary Self-Disclosure Policy contains a list of nine (9) conditions necessary to obtain the benefits of self disclosure. *See* 60 Fed. Reg. at 66711. We believe that Roy Strom's response to being notified of thorium contamination at the Grand Pier Center property meet these nine (9) criteria in the following ways:

---

[1] During the Thursday, March 2, 2000 conference call, U.S. EPA representative, Larry Jensen stated that it is unlikely that either asphalt or concrete removed from the Grand Pier Center property was contaminated with thorium. He said U.S. EPA's main concern was with the mixed fill that was removed from the property.

Condition 1. Systematic Discovery:

While the discovery of thorium at the Grand Pier Center property was not the result of an environmental audit, Roy Strom's quick response to the information as outlined above demonstrates Roy Strom's due diligence is to prevent, detect, and correct violations. This is the first time that Roy Strom has been presented with such a situation.

Condition 2. Voluntary Discovery:

The potential violation was identified voluntarily. Despite no actual evidence of thorium contamination of the materials it handled, and despite the fact that U.S. EPA's investigation was in its early stages, Roy Strom took affirmative steps to evaluate the potential violations and to contact U.S. EPA – Region 5 directly. According to U.S. EPA representative Mary Fulghum, Roy Strom's actions have greatly aided U.S. EPA in its overall investigation.

Condition 3. Prompt Disclosure:

Roy Strom first learned of potential thorium contamination on Monday, February 28, 2000. Roy Strom first discovered that its activities may have violated laws reflected in the UAO on Thursday, March 2, 2000. This self-disclosure letter is made within ten (10) days of both these events.

Condition 4. Discovery and Disclosure:

The potential violation was discovered and disclosed to U.S. EPA – Region 5 prior to the commencement of an inspection, investigation, or information request to Roy Strom by U.S. EPA, IEPA, IDNS, or any other federal, state or local agencies. Roy Strom has not been subject to a citizen suit or a compliant by a third party concerning this matter. Roy Strom management reported the matter to U.S. EPA and is unaware of any imminent discovery of the off-site transfer of materials from the Grand Pier Center property by U.S. EPA.

Condition 5. Correction and Remediation:

Roy Strom has communicated information concerning the shipments of materials from the Grand Pier Center property to U.S. EPA and has answered U.S. EPA's questions concerning the shipments. Roy Strom will no longer ship materials off the Grand Pier Center property until the thorium contamination issue is resolved to U.S. EPA's satisfaction.

Condition 6. Prevent Recurrence:

Roy Strom is in the process of taking steps to improve its due diligence efforts to prevent recurrences of such potential violations in the future.

Condition 7. No Repeat Violations:

The specific potential violation referenced herein (or closely related violation) has not occurred previously by Roy Strom within the past three (3) years.

Condition 8. Other Violations Excluded:

Roy Strom has received no information to conclude that the potential violation is one which has resulted in serious actual harm, or may have presented an imminent and substantial endangerment to human health and the environment. Roy Strom is aware, however, that the adjacent Lindsay Light Site is currently being remediated by the Kerr-McGee Chemical Corporation pursuant to a CERCLA UAO.

Condition 9. Cooperation:

Roy Strom has communicated information concerning the shipments of materials from the Grand Pier Center property to U.S. EPA and has answered all U.S. EPA's questions concerning the shipments. To date, U.S. EPA has not requested additional information from Roy Strom.

Roy Strom's actions in regard to the potential thorium contamination at the Grand Pier Center property clearly demonstrates good corporate citizenship on its part. We believe that Roy Strom's actions to date should entitle it to all the protections and incentives contained in U.S. EPA's self-disclosure policy.

Please feel free to contact me if you have any questions concerning the above.

Very truly yours,

Thomas R. Carey

Thomas R. Carey

TRC:tyh
285599

Copies to: Mary Fulghum - U.S. EPA - Region 5
Neal H. Weinfield, Esq.
Roy Strom

Grand Pier Center
Off Site Disposal All Quantities are Semi Loads Hauled Off Site

Dump Site	Haak	Beverly Gravel	Palumbo	Reliable	Vanek
Location	Munster	Elgin	Romeoville	Chicago	Chicago
Phone	708-878-5192	847-695-9300	708-544-9440	773-254-1121	773-254-5099
Material	Mixed Fill	Mixed Fill	Asphalt	Asphalt	Concrete
1/14/00					
1/17/00					
1/18/00			5	4	1
1/19/00	3				
1/24/00		6			
1/25/00	8	3			
1/26/00		18			
1/27/00	1	30			
1/28/00	2	22			
1/29/00					
1/31/00		1			
2/1/00		1			
2/2/00	4	10			
2/3/00		6			2
2/4/00					2
2/7/00		2		8	
2/8/00				22	4
2/9/00		3			2
2/10/00		6			2
2/11/00		4			1
2/14/00					
2/15/00		13			19
2/16/00		19		3	2
2/17/00	2	1			
2/18/00					
2/21/00					
2/22/00		2			12
2/23/00					
2/24/00					
2/25/00					
2/28/00		1			
2/29/00					
Totals	20	148	5	37	47

STS Consultants, Ltd.
Solutions through Science & Engineering

May 26, 2000

Mr. Fred Micke, On-Scene Coordinator
Ms. Verneta Simon, On-Scene Coordinator
U.S. Environmental Protection Agency
Region 5
77 West Jackson Blvd., SE-5J
Chicago, IL 60604

RE: Grade Beam and Right-of-Way Excavations, North Columbus Drive RV3 Site – STS Project No. 24418-XK

Dear Mr. Micke and Ms. Simon:

This letter is to advise you of the proposed schedule and anticipated procedure for the grade beam excavations, with particular attention to the perimeter of the site where the excavation sideslopes will involve portions of the right-of-way. Current progress on the caisson installation indicates excavation for grade beams may begin around June 7, 2000. A sequence for the grade beam excavations is also attached.

Grade Beams

no Fig. 1

Attached please find a plan showing the areas which will be involved in the proposed excavations for the grade beams (Figure 1). This plan shows the minimum extent of the excavations given slopes of 1.5 horizontal to 1 vertical resulting from the excavation to the required depths for grade beam construction. Note that this extent involves the entire sidewalk to the curb, and much of Area C.

We have also attached a schedule which presents the proposed sequence for excavation of the grade beams. Note that the first three series of excavations include the perimeter of Area C (E line 18-25 along the south, E-25 to A-25 along the east, and A-25 to A-18 along the north). The next four series will move from east to west across the site (B, C and D 23 through 25; B-22 to D-22; B-21 to D21; B-20 to D-20). It is anticipated that these seven series of grade beam excavations will remain open before placement of concrete begins.

As these excavations are opened, the soil will be surveyed for gamma radiation in accordance with the Work Plan. Excavation lifts will be limited to two foot thicknesses or less. Excavations in areas which were previously excavated, remediated and backfilled with clean fill will not require monitoring.

Along the perimeter grade beams, the excavation slope will extend to the curb. Typical cross-sections are shown on Figure 2. Where thorium contamination may remain in the walls (sloped side

ATTACHMENT 32

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within the ROW), such as may be the case along Columbus Drive (see Detail Section 6/2 on Figure 2), the soil will be covered with plastic sheeting and plywood sheeting to isolate these soils from the construction activity. The presence of numerous utilities at depths below what is proposed to be excavated precludes further excavation. Section 6/2 shows the anticipated location of a ComEd line. If activities are sufficiently high that μR surveys on the plywood indicate further reduction is recommended, i.e., 200 μR or higher on contact, steel plates will be added over the plywood while work proceeds in the grade beam excavation. Backfill soil and the concrete sidewalk slab will provide shielding following construction.

The perimeter excavation in areas with contamination beneath the sidewalk will attempt to open a minimum section at one time before the contaminated material is covered. This minimum interval will be one column bay at a time.

Area B Basement Excavation

Area B is the portion of the site that will have a basement excavated. Along Grand Avenue on the north, near the alley along the west margin of Area B, steel sheeting will be installed to retain the soils outside of the excavation. The majority of the sides adjoining Area C to the east, Area B to the west, and Illinois Street to the south will be sloped to provide stable margins to the excavation.

Where contamination remains beneath the ROW outside the steel sheeting, there will be an excavated slope from the top of sheeting at approximately elevation minus five feet below street grade, extending out at 1.5 horizontal to 1 vertical. See Detail Section 10/3 on Figure 2, for the Grand Avenue section. See Detail Section 4/2 on Figure 2 for a section from Illinois Street. All contaminated soil within that wedge will be removed. Removal of the remaining soil is constrained by utilities under the ROW. Typical cross-sections are shown on Figure 2. Contaminated soil which remains in the slope will be covered with plastic sheeting and plywood sheeting to isolate the soil from construction activities.

Area A Removal

Area A will be starting removal in early June, following the removal of all material identified as contaminated in Area B. It should be noted that the alley, which is located along the back of the building that remain on the northwest corner of the block, is not part of Area A. It is not planned to remove contamination which may extend under the alley ROW. Steel sheeting may be installed to provide for retaining soil outside of the grade beam excavations. No detail sections are currently available illustrating the Area A earth retention details.

In order to discuss these several issues, we propose a meeting either on-site or at the Grand Pier offices. The tentative date we request is May 31, 2000. Please advise us if this date fits your schedule.

Regards,

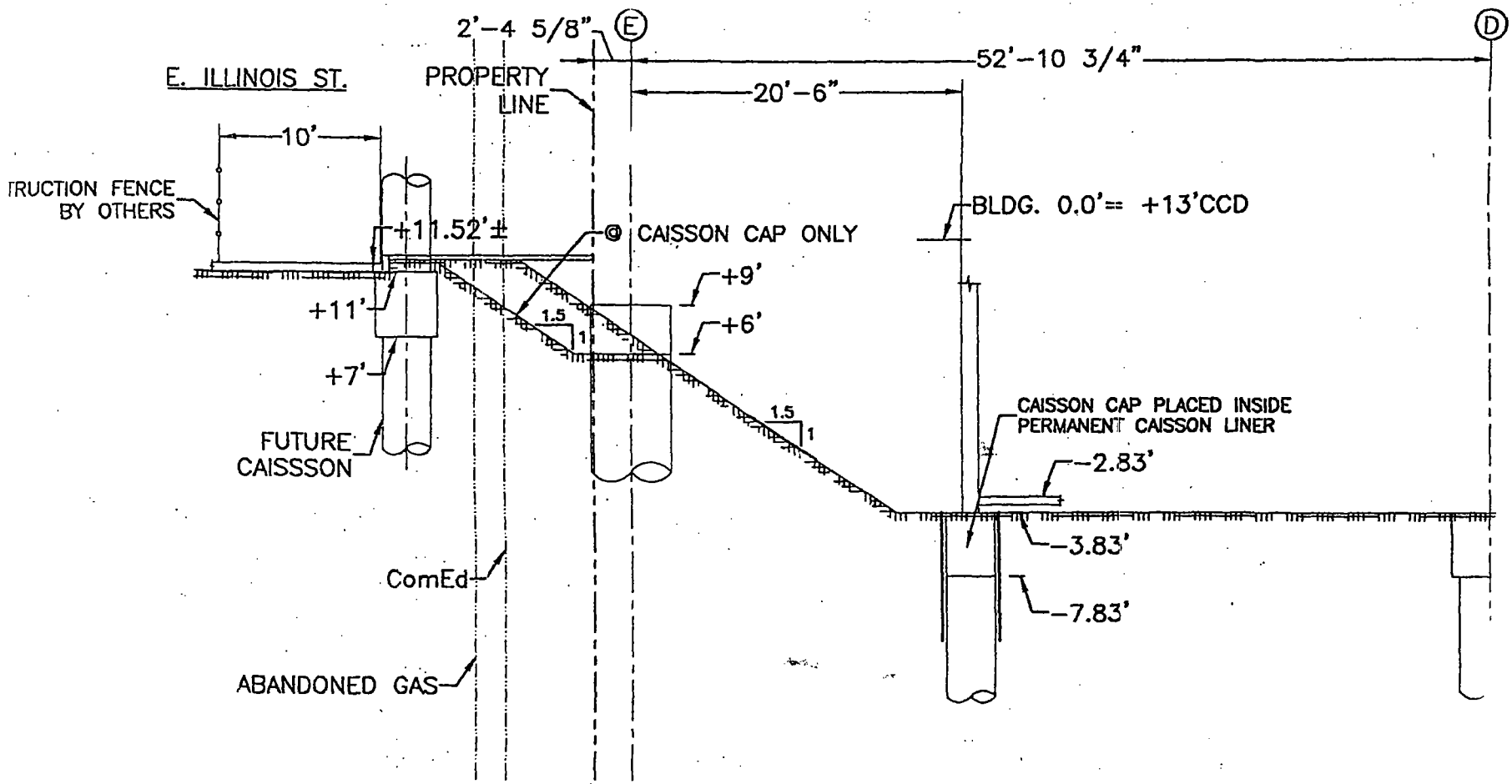
STS CONSULTANTS, LTD.

Richard G. Berggreen, C.P.G.
Principal Geologist

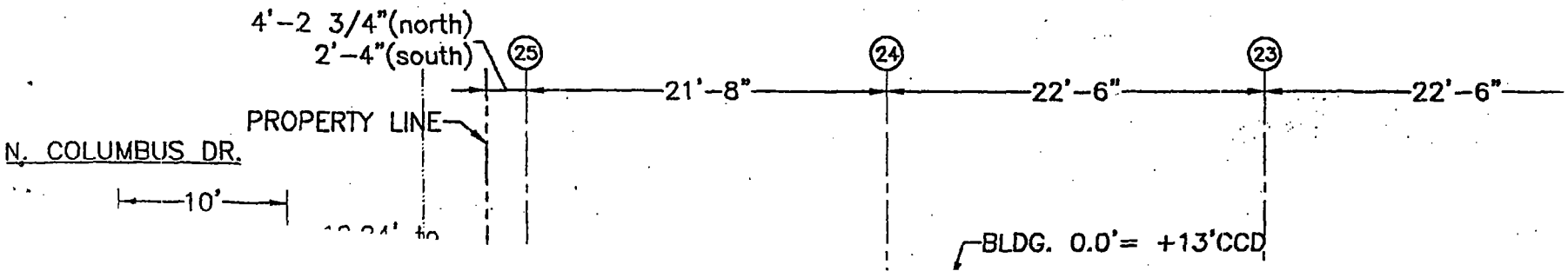
Enclosures

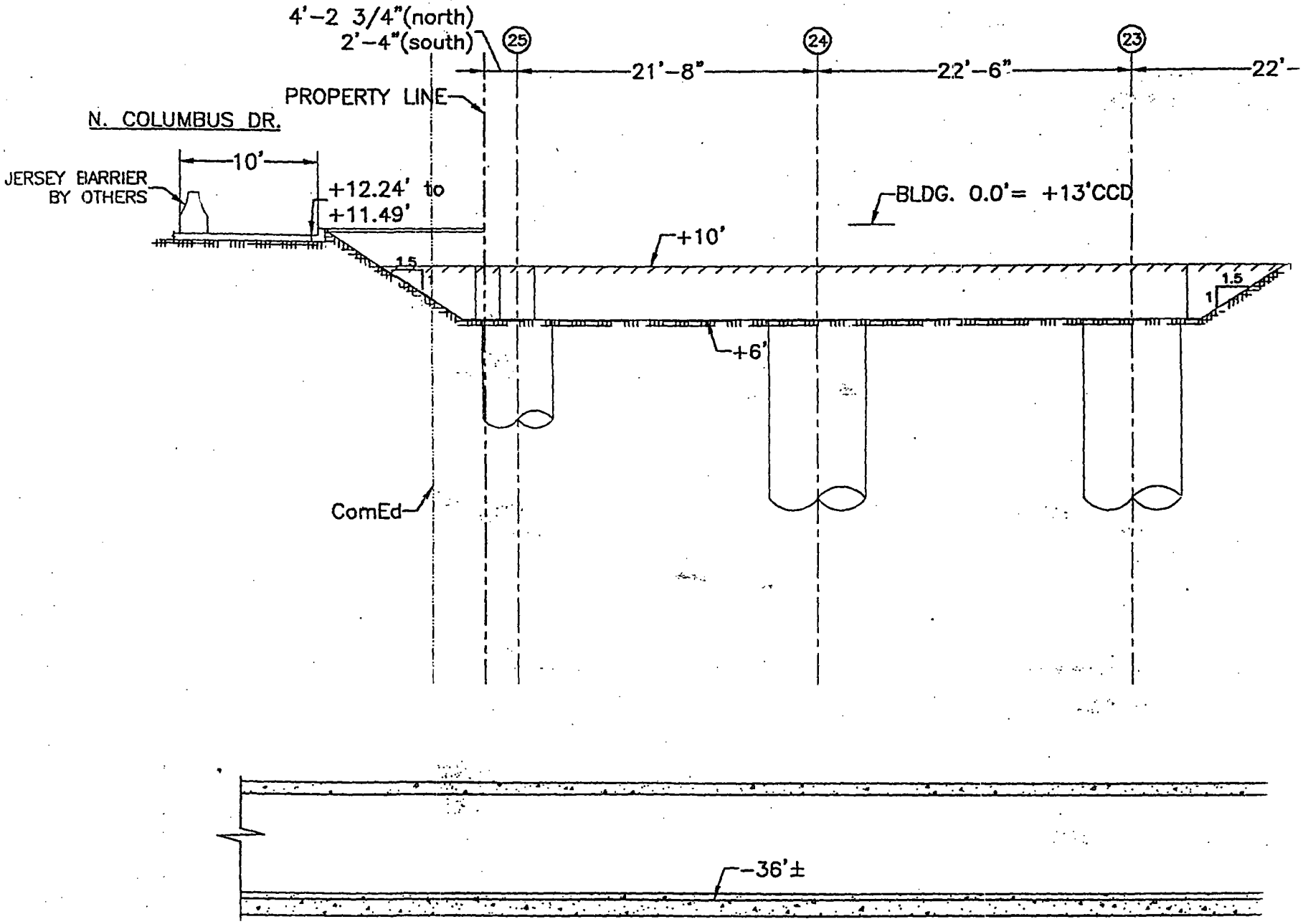
Cc: Mike Witte, Grand Pier
Rick Mueller, Bill Anaya, Johnson & Bell
Tom Dimond, Mayer, Brown & Platt
Dan White, Kerr McGee
Bernie Bono, Bono Consulting
Mark Placek, Morse-Diesel
J. T. Smith, Covington & Burling

Typical Detail Sections from Figure 2

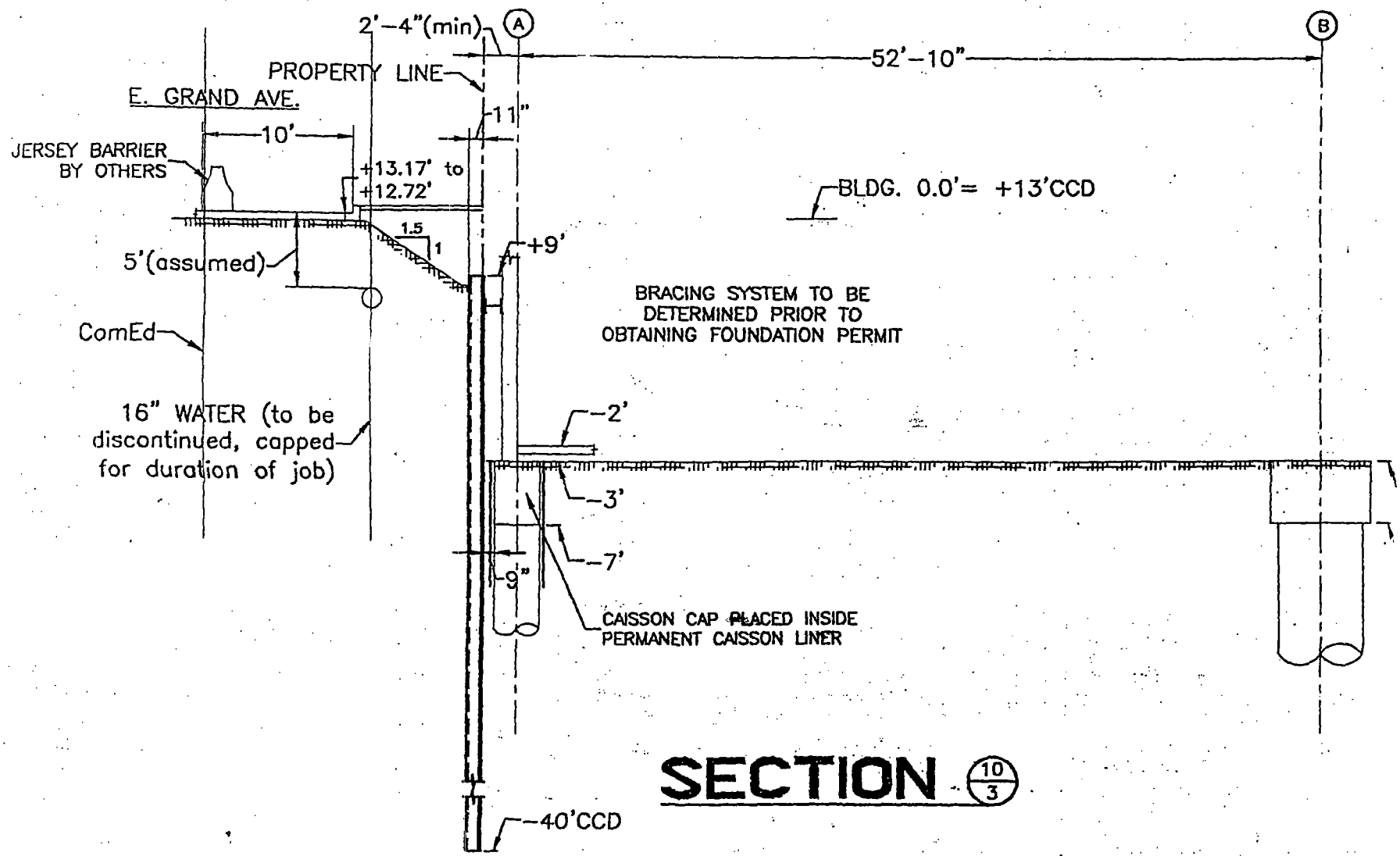

2'-4 5/8"
E
D
52'-10 3/4"
E. ILLINOIS ST.
PROPERTY LINE
20'-6"
10'
TRUCTION FENCE BY OTHERS
+11.52'±
@ CAISSON CAP ONLY
BLDG. 0.0'= +13'CCD
+9'
+11'
+6'
1.5
1
+7'
1.5
1
CAISSON CAP PLACED INSIDE PERMANENT CAISSON LINER
FUTURE CAISSSON
-2.83'
-3.83'
ComEd
-7.83'
ABANDONED GAS

SECTION 4/2

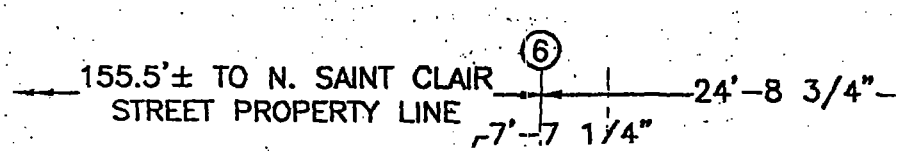

4'-2 3/4"(north)
2'-4"(south)
25
24
23
21'-8"
22'-6"
22'-6"
PROPERTY LINE
N. COLUMBUS DR.
10'
BLDG. 0.0'= +13'CCD


4'-2 3/4"(north)
2'-4"(south)
25
24
23
21'-8"
22'-6"
22'-
PROPERTY LINE
N. COLUMBUS DR.
10'
JERSEY BARRIER
BY OTHERS
+12.24' to
+11.49'
BLDG. 0.0'= +13'CCD
+10'
1.5
1
1.5
1
+6'
ComEd
-36'±

SECTION 6/2


2'-4"(min)
A
B
52'-10"
PROPERTY LINE
E. GRAND AVE.
11"
10'
JERSEY BARRIER
BY OTHERS
+13.17' to
+12.72'
BLDG. 0.0'= +13'CCD
1.5
1
+9'
5'(assumed)
BRACING SYSTEM TO BE
DETERMINED PRIOR TO
OBTAINING FOUNDATION PERMIT
ComEd
16" WATER (to be
discontinued, capped
for duration of job)
-2'
-3'
-7'
9"
CAISSON CAP PLACED INSIDE
PERMANENT CAISSON LINER
-40'CCD

SECTION 10/3


155.5'± TO N. SAINT CLAIR
STREET PROPERTY LINE
6
24'-8 3/4"
7'-7 1/4"

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

08 MAR 2000

REPLY TO THE ATTENTION OF SE-5J

VIA FAX AND
FIRST CLASS MAIL

Michael J. Witte
R.M. Chin & Associates (RMC)
401 N. Michigan Avenue
Chicago, Illinois 60611

Dear Mr. Witte:

The purpose of this letter is to recap and confirm the main points of our discussions held and decisions made during our meeting of March 3, 2000 at U.S. EPA Region 5 in Chicago, Illinois. As Mary Fulghum stated at the outset of the meeting, we have no doubt that the discovery of radioactive materials at the North Columbus Drive site presents enormous difficulties for everyone involved. The delay in the discovery of the radiation associated with Kerr-McGee Chemical L.L.C.'s decline of U.S. EPA's request to conduct surveillance of the Grand Pier property, as well as Grand Pier L.L.C.'s slow consent to U.S. EPA for access to the Grand Pier property, served only to exacerbate the site issues, especially health and safety and offsite transportation and disposal of soils and other materials taken from the Grand Pier property. Added to the delay was Grand Pier's contractor's initial refusal to allow U.S. EPA access after U.S. EPA personnel explained that the site owner had given consent. Later, the same conractor refused to follow heavy equipment decontamination protocal. These delays and lack of cooperation created an atmosphere that was not conducive to productive relations. To avoid future delays and misunderstandings and their attendant costs, it is imperative that Grand Pier L.L.C., Kerr-McGee Chemical L.L.C. and River East L.L.C. work closely and cooperatively to coordinate response activities with one another and with U.S. EPA.

Work To be Conducted Pursuant to June 1996 UAO

As we explained during the meeting and in Mary Fulghum's letter to Michael Rissman dated March 1, 2000, the U.S. EPA's June 1996 unilateral administrative order to Kerr McGee and River East requires them to conduct offsite radiation surveillance and implement 40 C.F.R. 192 as necessary. Unless and until the June 6, 1996 UAO is amended or a new order is issued, it remains the responsibility of Kerr-McGee and River East to comply with the requirements of the 1996 UAO. We learned in the March 3rd meeting that Grand Pier is using STS Consultants, which conducted radiation surveillance at the Lindsay Light II site for River East, to perform radiation surveillance and develop an assessment work plan. U.S. EPA explained that it was unnecessary to develop a new Health and Safety Plan for the Grand Pier property although

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different conditions or activities may be identified at the Grand Pier site that could require amendments to the existing Lindsay Light II Health and Safety Plan. We also explained that the procedures U.S. EPA approved for the Lindsay Light II site assessment and cleanup could also be transferred to the offsite contamination, with accomodations, for differing site conditions. U.S. EPA also noted that while presently Grand Pier was not subject to the June 1996 order, it could not interfere or undertake any cleanup action at the facility inconsistent with the June 1996 UAO per the provisions of the Section 122(e) (6) of the Comprehensive Envrionmental Response, Compensation and Liability Act ("CERCLA").

Site Status

Grand Pier stated that it had stopped ongoing development work at the property and implemented surveillance and decontamination procedures consistent with the site security measures per Mary Fulghum's letter dated March 1, 2000. The only exception was that Grand Pier would not maintain a security person after working hours as the Lindsay Light II site did not have an after-hours security guard.

Information Sharing

U.S. EPA also requested that Grand Pier provide, at a follow up coordination meeting on March 8, any available radiation sampling results, copies of construction plans, environmental assessments and underground storage tank removal information.

Disposal Site Surveillance

On Thursday March 2, 2000 Ray Strom Excavating gave U.S. EPA a list of the sites where his companies disposed of soils, concrete and asphalt from the site. Grand Pier indicated that STS Consultants would conduct surveillance of the materials at the landfills. U.S. EPA requested that STS give U.S. EPA 24 hours notice before conducting a survey so that it could also participate.

U.S. EPA Enforcement Options

We also explained that U.S. EPA was considering several enforcement options for the work at the North Columbus property including a participate and cooperate order, an amended order or an entirely new order. We stated that U.S. EPA wanted to take a measured enforcement response to the situation if the circumstances allowed. Although we want to avoid unnecessary hardship to any of the affected parties, if we are concerned that activities at the property do not comply with the June 1996 UAO and the work authorized under it, we will take immediate action to compel the necessary work and, if appropriate, to penalize any noncompliance or interference.

Conclusion

Throughout the meeting U.S. EPA reiterated that cooperation and coordination were absolutely essential to timely and successful resolution of the issues that we face at the site. We were

encouraged by Grand Pier's repeated statements of it's intent to work cooperatively with U.S. EPA and Kerr-McGee and River East.

I look forward to meeting with you this afternoon.

Sincerely,

Fredrick A. Micke

Fredrick A. Micke, P.E.
On-Scene Coordinator
ERB Section #3

cc: Michael Rissman - 312/701-7711
Steven Wong - 312/644-6693
Torben Jensen - 312/644-6693
Richard Berggreen - 847/279-2510
Bill Green - 405/270-2863
Dan White - 405/270-3787
Mark Krippel - 630/293-3990
John T. Smith, II - 202/778-5555
Mort Ames - 312/744-6798
Vince Oleszkiewicz - 312/861-2899
Raymond Chin - 312/644-0999

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

08 MAR 2000

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401 N. Michigan Avenue
Chicago, Illinois 60611

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Fredrick A. Micke

Fredrick A. Micke, P.E.
On-Scene Coordinator
ERB Section #3

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Mort Ames - 312/744-6798
Vince Oleszkiewicz - 312/861-2899
Raymond Chin - 312/644-0999

STS Consultants, Ltd.

750 Corporate Woods Parkway
Vernon Hills, IL 60061
Phone: (847) 279-2500
FAX: (847) 279-2510

FACSIMILE TRANSMISSION

Date: April 12, 2000

To: Verneta Simon/Fred Micke, USEPA Fax #: 312-886-0747

Pages being transmitted, incl. Cover: 14

From: Rich Berggreen **Phone:** 847-279-2472

Re:

☐ Urgent ☐ For Signature ☐ For Review ☐ Please Comment/Reply ☐ As Requested ☒ Original to Follow

Message:

ATTACHMENT 34

IMPORTANT: This facsimile is intended only for the of the individual or entity to which it is addressed and may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the reader of this facsimile is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return this facsimile to us at the above address via the United States Postal Service. Thank you.

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL (847) 279-2500 IMMEDIATELY

STS Consultants, Ltd.
Solutions through Science & Engineering

April 12, 2000

Ms. Verneta Simon, On-Scene Coordinator
Mr. Fred Micke, On-Scene Coordinator
US Environmental Protection Agency
Region 5
77 W. Jackson Boulevard, SE-5J
Chicago, Illinois 60604-3590

RE: Management of Caisson Spoil, North Columbus RV3 Site, Chicago, Illinois – STS Project No. 24418-XK

Dear Ms. Simon and Mr. Micke:

In response to the detection of elevated contamination levels in close proximity to an installed caisson, the USEPA has asked for information on the disposal of the cuttings from that caisson.

Attached please find the STS caisson field reports prepared for the installation of five (5) caissons. The caissons were installed before Grand Pier temporarily stopped construction on February 29, 2000, in response to USEPA's detection of thorium contamination on the site. The caisson which was installed close to the area of elevated contamination is caisson C-25. The field report indicates that the caisson was installed on February 29, 2000. A second caisson at C-20 was also completed on that day. The temporary casings for those two caissons are still in place. The other three caissons were installed February 25 (one) and February 28 (two). Copies of the caisson field reports are attached.

USEPA had previously provided us a list of the off-site disposal sites where excavation spoil, asphalt and concrete rubble was disposed. We understand the list of disposal sites, loads shipped, and dates shipped was provided by Strom, the excavation contractor. That list indicates the last material shipped from the site was shipped February 28, 2000, and consisted of one load of mixed fill to Beverly Gravel. A copy of that information is attached.

The fact that the caisson in question was not drilled until February 29, indicates the excavation spoil is still on-site and is likely in the fill pile recently screened to clear the traffic route to the north gate. Several cubic yards of contaminated soil were detected and segregated.

These records indicate the material of concern from the caisson along Columbus Drive remains on-site. Further, only one load of excavated material has been removed from the site since caisson installation started.

We appreciate being of service to you on this matter. Please contact us with any questions you may have.

Regards,

STS CONSULTANTS, LTD.

Richard G. Berggreen, C.P.G.
Principal Geologist

Attachments

cc: Thomas Dimond, Mayer, Brown & Platt
Mary Fulghum, USEPA
Michael Witte, Grand Pier
Bernard Bono, Bono Consulting

Grand Pier Center
Off Site Disposal All Quantities are Semi Loads Hauled Off Site

Dump Site	Haak	Beverly Gravel	Palumbo	Reliable	Vanek	Waste Management
Location	Munster	Elgin	Romeoville	Chicago	Chicago	
Phone	708-878-5192	847-695-9300	708-544-9440	773-254-1121	773-254-5099	
Material	Mixed Fill	Mixed Fill	Asphalt	Asphalt	Concrete	CID
1/14/00						
1/17/00						
1/18/00			5	4	1	
1/19/00	3					
1/24/00		6				
1/25/00	8	3				
1/26/00		18				
1/27/00	1	30				
1/28/00	2	22				
1/29/00						
1/31/00		1				
2/1/00		1				
2/2/00	4	10				
2/3/00		6			2	
2/4/00					2	
2/7/00		2		8		
2/8/00				22	4	
2/9/00		3			2	
2/10/00		6			2	
2/11/00		4			1	
2/14/00						2 (UST soil)
2/15/00		13			19	
2/16/00		19		3	2	
2/17/00	2	1				
2/18/00						
2/21/00						
2/22/00		2			12	
2/23/00						
2/24/00						
2/25/00						
2/28/00		1				
2/29/00						
Totals	20	148	5	37	47	

FAX (708) 331-7147
Rodney Potts
Tom

Mark Tubay
(708) 939-7024
Pager

Doug Hopkins
773-646-3099

Bill Ryan
Safety Manager
x 392

Chuck Tapia

Dan Plotte
(owner)

STS Consultants, Ltd.
750 Corporate Woods Parkway
Vernon Hills, IL 60061
Phone: (847) 279-2500
FAX: (847) 279-2510

STS LETTER OF TRANSMITTAL

TO: Mr. Michael J. Witte
R. M. Chin & Associates, Inc.
401 North Michigan Avenue, Suite 525
Chicago, Illinois 60611

DATE: March 15, 2000

STS PROJECT NO.: 24418-AB

FROM: Jerome Russell

PROJECT: Grand Pier Center Project

LOCATION: 200 East Illinois Street, Chicago, Illinois

We are sending our Caisson Field Reports and Records for the period February 25, 2000 through March 1, 2000 for your file.

STS Representative: Jerome Russell

Cc: Mr. Brian Lorenc; R. M. Chin & Associates, Inc.; 401 North Michigan Avenue, Suite 525; Chicago, Illinois 60611

Messrs. Jason Hayhurst and Joseph Trungale; Morse Diesel International; 125 South Wacker Drive, Suite 200, Chicago, Illinois 60606

Mr. David Marks; Loebel Schlossman & Hackel; 130 East Randolph Street, Suite 3400; Chicago, Illinois 60601-6313

Mr. Kurt Goodfriend; Thornton-Tomasetti; 14 East Jackson Boulevard, Suite 1100; Chicago, Illinois 60604

Mr. Lou Bowman; Bowman, Barrett and Associates, Inc.; 130 East Randolph Street, Suite 2650; Chicago, Illinois 60601

Mr. J. Luther; Revcon Construction Corporation; 500 Industrial Lane; Prairie View, Illinois 60063

CAISSON FIELD REPORT
Construction Technology Group

Page ____ of ____

Project GRAND PIER Center Phase I
Project No. 24418-AB
Location Chicago, Illinois
Contractor KIVOON

Report No.
Day/Date 2-25-00
Weather/Temp. 50°
Client

Equipment Rental ____ Mileage ____ Total Hours on Job 5
Tolls ____ Arrive Job 12:00 Travel Time 1 Trip
Parking ____ Depart Job 5:00 Project Preparation Time 1.0

TOTAL CHARGEABLE HOURS
4 hour minimum
6

CAISSON OBSERVATION: Design Soil Bearing Pressure 20 TSF. Design Bottom Elev. ~95'-6"

No	Caisson Location	Date Concrete	Actual* Bottom El.	SHAFT Ø DESIGN	SHAFT Ø ACTUAL	BELL Ø DESIGN	BELL Ø ACTUAL	Unconf.** Strength	Bottom Alignment
57	C-22	2-25-0	93.50	54"	54"	12'	12'	14.5	ON.EWS

Note: Elevations & Alignment By Others

DRY BOTTOM
Bottom Mechanical CLEANED
Steel MADE up/SET in according to Shop drawings
5 Test Cylinders WAS MADE

Contractor Rem
Fair and Data
Sheet

* Referenced to ____
** Indicates unconfined compressive strength in TSF.
Field Test Performed with:
☑ Pocket Penetrometer ☑ Portable Machine

Note: Concrete data shown on "Concrete Monitoring Report"

Field Representative [signature]
Position Supt
Company MDI

By [signature]
Title Sr. Engr. Tch. C.E.T.
STS Consultants Ltd.

White - Office White - Field Yellow - Time Card

7/98pp15k

STS Consultants Ltd.

STS Construction Services Group
Caisson Field Record No. _____

Project: Grand Pier Center Phase I — STS Project No. 24418-AB

Location: 200 East Illinois St., Chicago, Illinois — Date: 2-25-00

110
57

Caisson Location: C-22 — Caisson Mark: F

Date Excavation Start: 2-25-00 — Finish: 2-25-00

Date Bottom Observed: 2-25-00

Date Concrete Placed: 2-25-00

	Design Measurement	Field Measurement
Top Elev.*	-8.00	-8.08
Bottom Elev.*	-95.50	-93.53
Shaft Diameter	4'-6"	4'-6"
Bell Diameter	12'-0"	12'-0"
Bell Height	7.00	7.25
Caisson Length	87'.50	85'.47
No. & Size of Bars	16#9	16#9
Bar Length	34'-0"	34'-0"
Ties	#4@12"	#4@12"
Top Alignment*	1/24"	0" N.E.W.S
Bottom Alignment*	1%	0" N.E.W.S.
Concrete Volume	63 c.y.	70 c.y.**
Grout Volume	c.y.	c.y.**
Required Concrete Strength	8000 At 28 Days	
Test Probe Depth & Results	N/P	

Unconfined Compr. Strength: 14.5 tsf

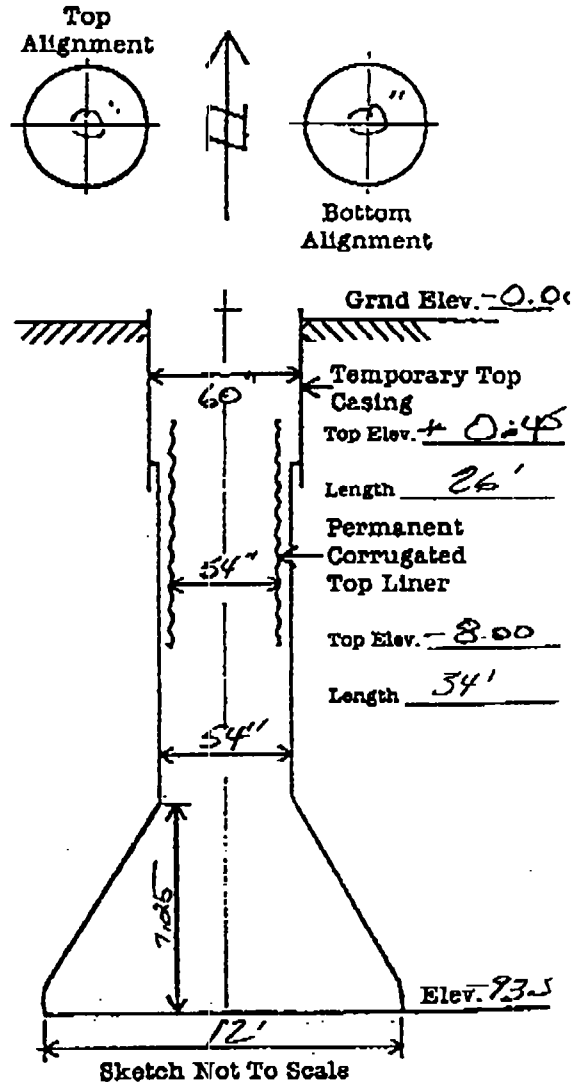
Soil Description: Gr. Silty Cl, Sh, Gr., Trace Sand

Design Bearing: 20 tsf

Elev. Reference: B/D = 0.00 / -13.0 C.C.D.

Bearing Capacity Meets Design Requirements, Yes ✓ No ____

Remarks: Dry Bottom
Bottom Mechanical Cleaned
5 1st call was made
Steel set, made up according to shop drawing



Sketch Not To Scale

*By Others **Based on Conc. Tickets

Structural Engineer: _____

Caisson Contractor: _____

Reg. Land Surveyor: _____

STS Field Representative: Dolan Washington

General Contractor: _____

CAISSON FIELD REPORT

Construction Technology Group

Page ____ of ____

Project: Grand Pier Center Phase I
Project No.: 24418AB
Location: Chicago, Illinois
Contractor: K.V.C.W.
Report No.:
Day/Date: 2-28-00
Weather/Temp: 50° Warm/Cool, Cloudy
Client:

Equipment Rental: ____ Mileage: ____ Total Hours on Job: 11
Tolls: ____ Arrive Job: 8:00 Travel Time: 1 Trip
Parking: ____ Depart Job: 7:00 Project Preparation Time: ____

TOTAL CHARGEABLE HOURS (4 hour minimum): 11

CAISSON OBSERVATION: Design Soil Bearing Pressure 20 TSF. Design Bottom Elev.* -95.50

Caisson Location	Date Concrete	Actual* Bottom El.	SHAFT Ø DESIGN	SHAFT Ø ACTUAL	BELL Ø DESIGN	BELL Ø ACTUAL	Unconf.** Strength	Bottom Alignment
A-19	2-28-00	-92.38	60"	60"	13'	13'	20	
C-19	2-28-00	-90.95	54"	54"	12'	12'	16	3"N - 2"W

Note: Elevations & Alignment By Others

DRY BOTTOMS
BOTTOMS MECHANICAL CLEANED
6 TEST CYLINDERS WAS MADE
BTM CAVO MADE UP / SET ACC to Dwg to Shop Drawing

* CORRECTION RETURNED to Copy on BOM Bucket 2/28/
LATE IN Belling out 13' BELL. CONC. WAS PLACED. NOTE * All BELL 60"Ø Bucket ON ONE W.'ll BE DOUBLE BELL FOOT + BELL HEIGHT

* Referenced to
** Indicates unconfined compressive strength in TSF.
Field Test Performed with: ☑ Pocket Penetrometer ☑ Portable Machine

Note: Concrete data shown on "Concrete Monitoring Report"

Field Representative: [signature]
Position: Supt.
Company: MDI

By: [signature]
Title: Sr. Sys. Tech, Cons. IT
STS Consultants Ltd.

White - Office White - Field Yellow - Time Card

7/08pp15k

STS Consultants Ltd.

STS Construction Services Group
Caisson Field Record No. _____

Project: Grand Pier Center Phase I — STS Project No. 24418-AB

Location: 200 East Illinois St., Chicago, Illinois — Date: 2-28-00

NO 14

Caisson Location: A-19 — Caisson Mark: H

Date Excavation Start: 2-28-00 — Finish: 2-28-00

Date Bottom Observed: 2-28-00

Date Concrete Placed: 2-28-00

	Design Measurement	Field Measurement
Top Elev.*	-7.00	7.04
Bottom Elev.*	-95.50	-92.38
Shaft Diameter	5'-0"	5'-0"
Bell Diameter	13'-0"	13'-0"
Bell Height	7.43	7.43
Caisson Length	88.50	85.42
No. & Size of Bars	18#11	18#11
Bar Length	34'-0"	34'-0"
Ties	#5 @ 12"	#5 @ 12"
Top Alignment*	1/24"	0" N.E. W.S.
Bottom Alignment*	1%	2"S - 3"W
Concrete Volume	79 c.y.	78 c.y.**
Grout Volume	____ c.y.	____ c.y.**

Required Concrete Strength: 8000 @ 28 Days

Test Probe Depth & Results: N/P

Unconfined Compr. Strength: 20 tsf

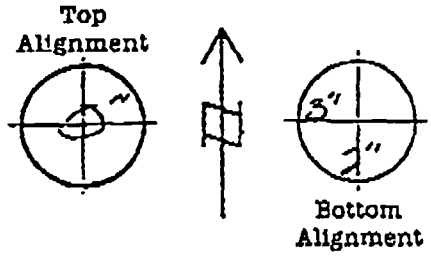
Soil Description: Gray Silty Shale, T. Sand

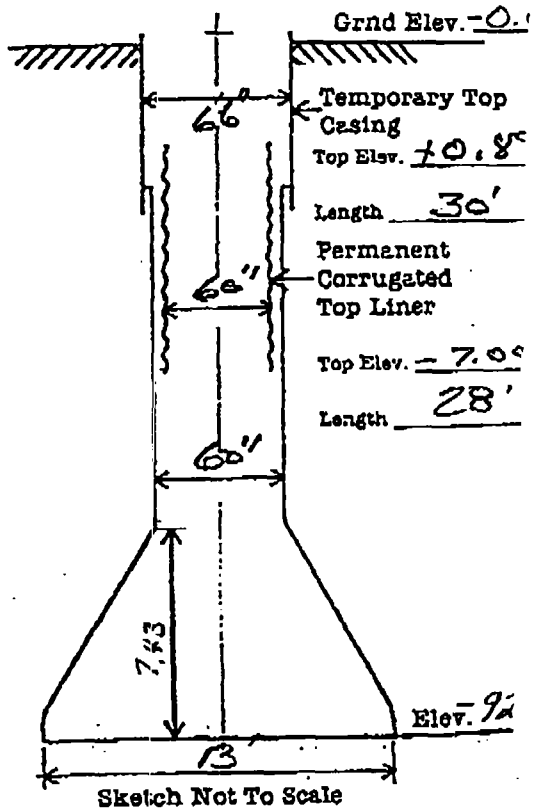
Design Bearing: 20 tsf

Elev. Reference: B/D = 0.00 / -13.0 C.C.D.

Bearing Capacity Meets Design Requirements. Yes ✓ No ____

Remarks: Dry Bottom
Bottom Mechanical Cleaned — Old Belling Bucket Bell Height & Shape of Bucket
Have Paper Work on Bell Bucket in Used, All Bells will have to be Double Bell.
Question. See Sheet.





Sketch Not To Scale

*By Others **Based on Conc. Tickets

Structural Engineer: _____

Caisson Contractor: _____

Reg. Land Surveyor: _____

STS Field Representative: Dolores Washington

General Contractor: _____

STS Construction Services Group
Caisson Field Record No. _____

Project: Grand Pier Center Phase I STS Project No. 24418-AB

Location: 200 East Illinois St., Chicago, Illinois Date: 2-28-0

NO 54

Caisson Location: C-19 Caisson Mark: F

Date Excavation Start: 2-28-00 Finish: 2-28-0

Date Bottom Observed: 2-28-00

Date Concrete Placed: 2-28-00

	Design Measurement	Field Measurement
Top Elev.*	-8.00	-8.12
Bottom Elev.*	-95.50	-90.95
Shaft Diameter	4'-6"	4'-6"
Bell Diameter	12'-0"	12'-0"
Bell Height	7.00	6.00
Caisson Length	87.50	82.83
No. & Size of Bars	16#9	16#7
Bar Length	34'-0"	34'-0"
Ties	#4@12"	#4@12"
Top Alignment*	1/24"	0 N.E.W.S.
Bottom Alignment*	1/8	3"N-2"W
Concrete Volume	63 c.y.	60 c.y.**
Grout Volume	____ c.y.	____ c.y.**

Required Concrete Strength: 8000 PSI 28 DAYS

Test Probe Depth & Results: N/P

Unconfined Compr. Strength: 18 tsf

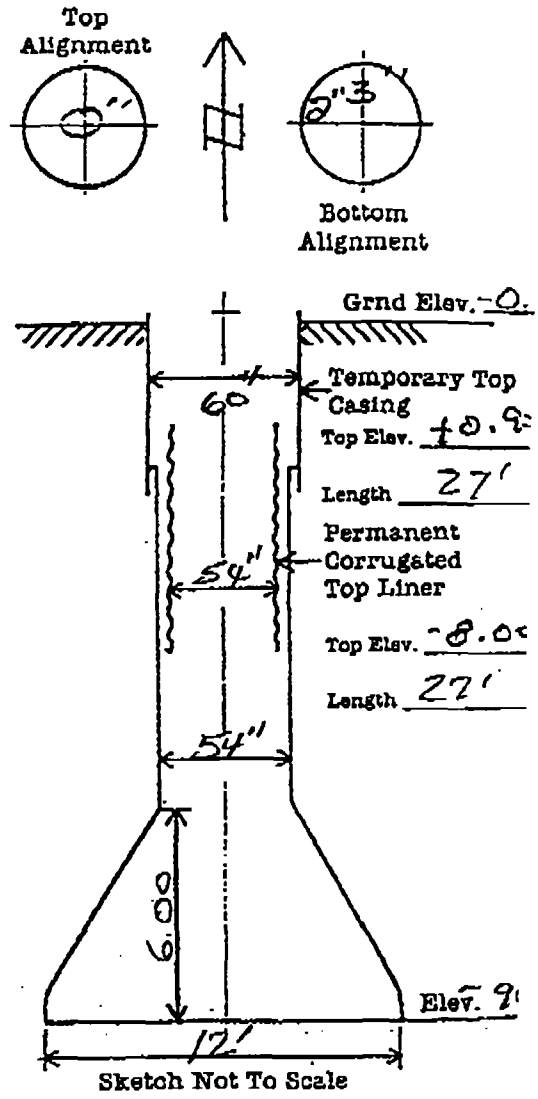
Soil Description: Silty Cl, Sh, Gr, Tr SAND

Design Bearing: 20 tsf

Elev. Reference: B/D = 0.00 / -13.0 C.C.D.

Bearing Capacity Meets Design Requirements, Yes ✓ No ____

Remarks: Dry Bottom
Rotten mechanical cleaned
Ech made fr per.
Steel set, made according to shop drawings



Sketch Not To Scale

*By Others **Based on Conc. Tickets

Structural Engineer: _____

Caisson Contractor: _____

Reg. Land Surveyor: _____

STS Field Representative: Dolores Washington

General Contractor: _____

CAISSON FIELD REPORT
Construction Technology Group

Page ____ of ____

Project Grand Pier Center
Project No. 24418 AB
Location Chicago, Illinois
Contractor Rivcon

Report No.
Day/Date 2-29-00
Weather/Temp. 50° partly cloudy, windy, cold to slightly warm
Client

Equipment Rental —
Tolls —
Parking —

Mileage
Arrive Job 8:00
Depart Job 5:00

Total Hours on Job 9.0
Travel Time 1 Trip
Project Preparation Time —

TOTAL CHARGEABLE HOURS
4 hour minimum
9

CAISSON OBSERVATION: Design Soil Bearing Pressure 20 TSF. Design Bottom Elev.* -95.50

No	Caisson Location	Date Concrete	Actual* Bottom El.	SHAFT Ø DESIGN	SHAFT Ø ACTUAL	BELL Ø DESIGN	BELL Ø ACTUAL	Unconf.** Strength	Bottom Alignment
50	C-25	2-29-0	-92.00	54"	54"	12'	12'	18.5	3N-2W
55	C-20	2-29-0	-91.08	54"	54"	12'	12'	15.5	2S-3E

Note: Elevations & Alignment By Others

Dry Bottom
Bottom Mechanical Cleaned
6 Test Cylinder was made
Steel set cage made in Accordin to Shop drawings

*
Drill Breakdown, All Repair Started

* Referenced to
** Indicates unconfined compressive strength in TSF.
Field Test Performed with:
☑ Pocket Penetrometer ☑ Portable Machine

Note: Concrete data shown on "Concrete Monitoring Report"

Field Representative
Position
Company

By Dolan Washington
Title Sr. Eng. Tech. Dept.
STS Consultants Ltd.

White - Office White - Field Yellow - Time Card

7/96pp15k

STS Consultants Ltd.

STS Construction Services Group
Caisson Field Record No. _____

Project Grand Pier Center Phase I STS Project No. 24418-AB

Location 200 East Illinois St., Chicago, Illinois Date 2-29-0

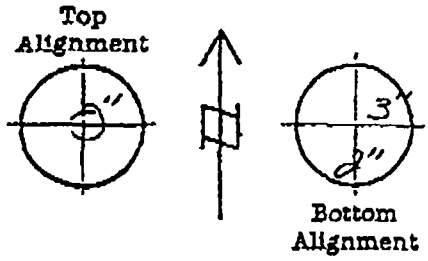
110
55

Caisson Location C-20 Caisson Mark F

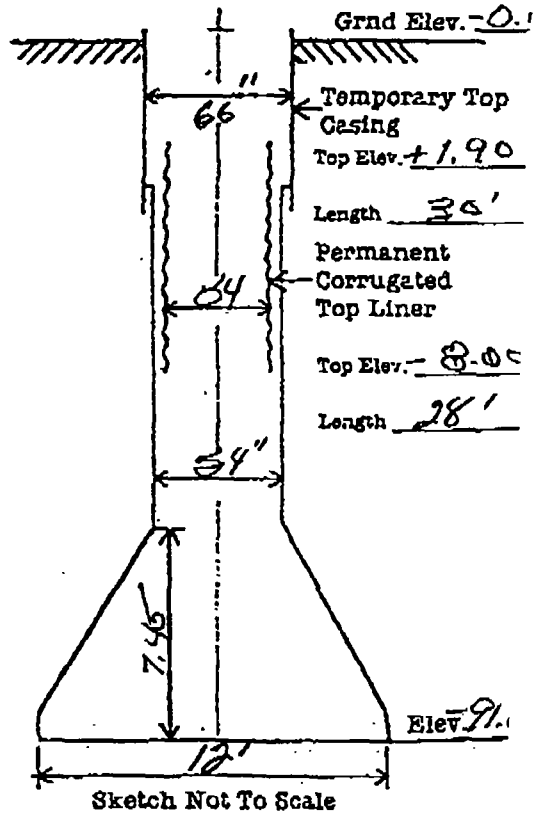
Date Excavation Start 2-29-00 Finish 2-29-00

Date Bottom Observed 2-29-00

Date Concrete Placed 2-29-00



	Design Measurement	Field Measurement
Top Elev.*	-8.00	-8.00
Bottom Elev.*	-95.50	-91.08
Shaft Diameter	4'-6"	4'-6"
Bell Diameter	12'-0"	12'-0"
Bell Height	7.00	7.46
Caisson Length	87.50	83.08
No. & Size of Bars	16#9	16#9
Bar Length	34'-0"	34'-0"
Ties	#4 @12"	#4 @12"
Top Alignment*	1/24"	0" N.E. W.S.
Bottom Alignment*	1%	2'S - 3"E
Concrete Volume	63 c.y.	63 c.y.**
Grout Volume	c.y.	c.y.**
Required Concrete Strength	8000 At 28 Days	



Sketch Not To Scale

Test Probe Depth & Results N/P

Unconfined Compr. Strength 165 tsf

Soil Description Gry Silty Cl. Sh. Tr SA, GR.

Design Bearing 20 tsf

Elev. Reference B/D = 0.00 / -13.0 C.C.D.

Bearing Capacity Meets Design Requirements. Yes ✓ No ____

Remarks: Dry Bottom
Bottom / Mechanical Cleaned
Tr the Bottom of Caisson Bell - (Cleaned) -
8

*By Others **Based on Conc. Tickets

Structural Engineer _____

Caisson Contractor _____

Reg. Land Surveyor _____

STS Field Representative Dolan Washington

General Contractor _____

STS Construction Services Group
Caisson Field Record No. _____

Project Grand Pier Center Phase I STS Project No. 24418-AB

Location 200 East Illinois St., Chicago, Illinois Date 2-29-00

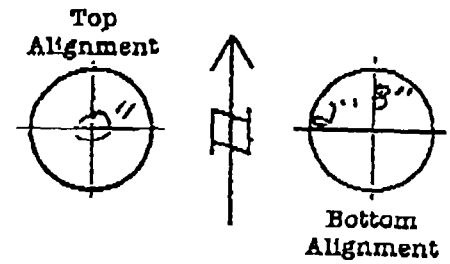
NO 60

Caisson Location C-25 Caisson Mark E

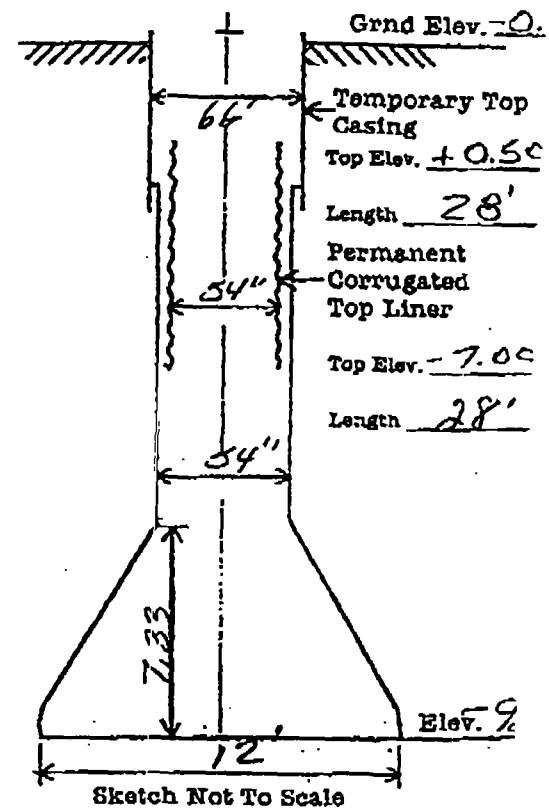
Date Excavation Start 2-29-00 Finish 2-29-00

Date Bottom Observed 2-29-00

Date Concrete Placed 2-29-00



	Design Measurement	Field Measurement
Top Elev.*	-7.00	-7.00
Bottom Elev.*	-95.50	-92.00
Shaft Diameter	4'-6"	4'-6"
Bell Diameter	12'-0"	12'-0"
Bell Height	7.00	7.33
Caisson Length	88.50	85.00
No. & Size of Bars	16#9	16#9
Bar Length	34'-0"	34'-0"
Ties	#4@12"	#4@12"
Top Alignment*	1/24"	0"N.E.W.S.
Bottom Alignment*	1%	3"N-8"W
Concrete Volume	63 c.y.	65 c.y.**
Grout Volume	c.y.	c.y.**
Required Concrete Strength	8000 At 28 Days	



Sketch Not To Scale

Test Probe Depth & Results N/P

Unconfined Compr. Strength 186 tsf

Soil Description Silty Cl. Sh. Gr. T. SAND

Design Bearing 20 tsf

Elev. Reference B/D = 0.00 / -13.0 C.C.D.

Bearing Capacity Meets Design Requirements, Yes ✓ No ___

Remarks Dry Bo Hum

Bo Hum / Mechanical Cleaned

*By Others **Based on Conc. Tickets

Structural Engineer _____

Caisson Contractor _____

Reg. Land Surveyor _____

STS Field Representative Dolan Washington

General Contractor _____

FIELD REPORT
Construction Technology Group

NOTE: The responsibilities and authority of STS and STS' Field Personnel include neither the responsibilities nor the authority of the "Competent Person" for the project site as defined by OSHA Regulations: 29 CFR 1926 Subpart P.

_____ of _____

Project Grand Pier Center
Project No. 34418 AB
Location Chicago, Ill.
Contractor Rivcon

Report No. _____
Day/Date 3-1-00
Weather/Temp. 50
Client _____

Project Competent Person per 29 CFR Part 1926 (Subpart P)
NAME: _____
FIRM: _____
ADDRESS: _____
PHONE: _____
Present on Site ☐YES ☐NO

Equipment Rental _____
Tolls $ _____
Parking $ _____
Mileage _____
Project Preparation Time _____

Arrive Job 7:00
Depart Job 12:00
Total Hours on Job 5:00
Travel Time 1 Trip

TOTAL CHARGEABLE HOURS
4 hour minimum
5

Summary of technical and/or engineering services performed, including field test data. Locations, elevations and depth are estimated.

Reported to Job site Early due to Equipment Break down and EPA to close the Job site.
After placing all my Equipment in one place and Loading out some others.
Job superintendent, Told me the Job was down 1-2 wks. As far as his information was in regard to the EPA & owners.

* ☐ Field Test Data is Estimated - Pending Final Laboratory Test Results

Site Sketch: Indicate North

Field Representative _____
Position _____
Company _____

By Dolan Warburton
Title Sr. Eng. Tech, C.E.T.
STS Consultants Ltd.

White - Office White - Field Yellow - Time Card

9/99pp20k

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

MAR 2 8 2000

REPLY TO THE ATTENTION OF

MEMORANDUM

DATE:

SUBJECT: ACTION MEMORANDUM - Determination of Threat to Public Health or the Environment at the Lindsay Light II Site/((RV3 North Columbus Drive), Chicago, Cook County, Illinois (Site Spill ID #YT)

FROM: Verneta Simon and Fred Micke, On-Scene Coordinators Verneta Simon
Emergency and Enforcement Response Branch - Section III

TO: William E. Muno, Director
Superfund Division

I. PURPOSE

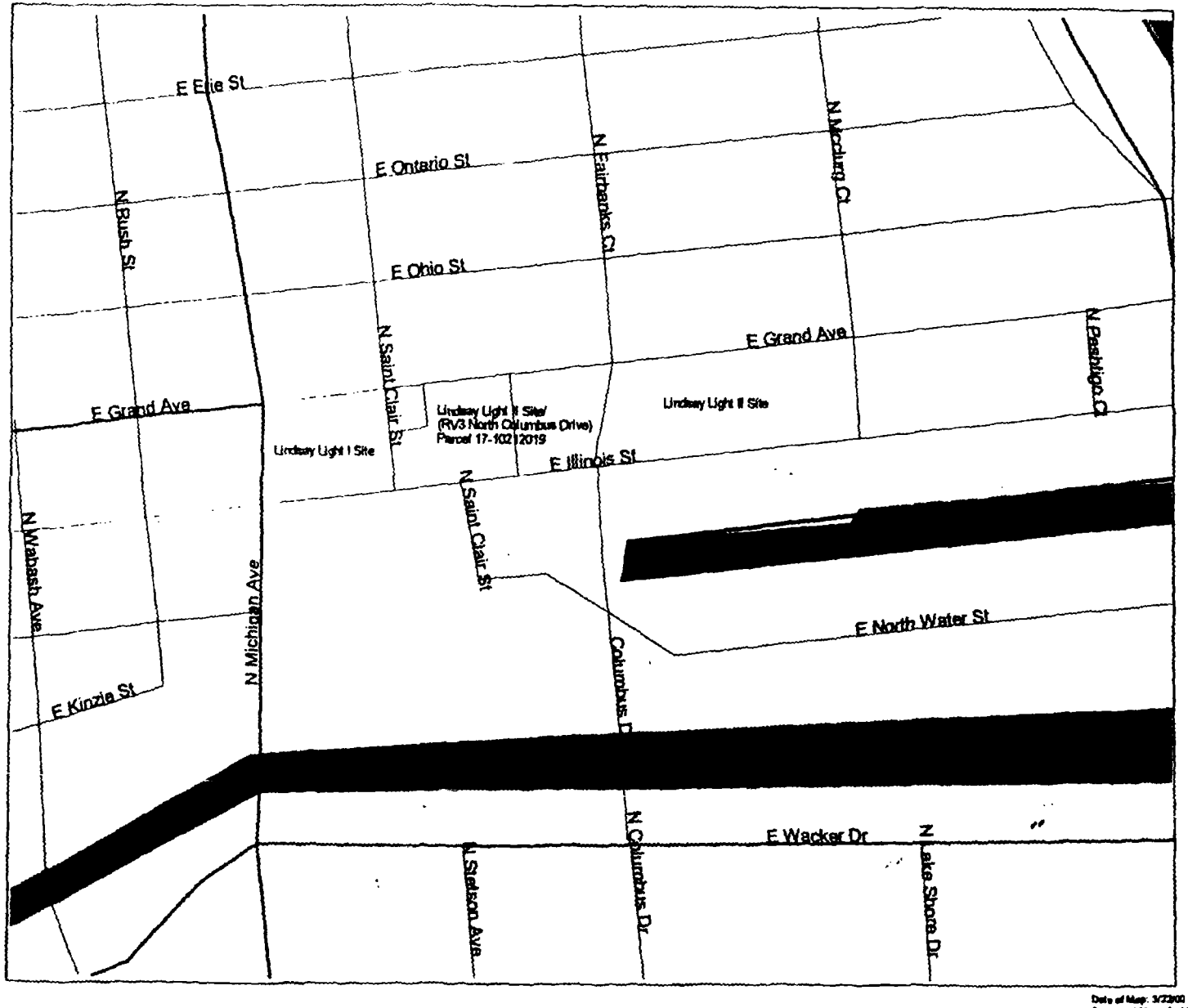
The purpose of this Memorandum is to document the determination of an imminent and substantial threat to public health and the environment posed by presence of radioactive thorium that was detected during a U.S. EPA walkover radiation survey of the property on North Columbus Drive directly across the street from the Lindsay Light II Removal Site. The owner and developer of the North Columbus Drive property, Grand Pier Center L.L.C. (Grand Pier), further documented the presence of thorium through sampling. These levels were cross-checked by Argonne National Laboratory, which found the total radium concentration to be as high as 244 times the clean-up criterion for the Lindsay Light II Site. As a result of the Grand Pier sample results, U.S. EPA expanded the Lindsay Light II Site to include Grand Pier's property. The Grand Pier development is a future mixed-use building located in the 200 East Block of Illinois Street in Chicago, Illinois and bears the Cook Count Assessor's parcel # 17-10212019. U.S. EPA designated the Grand Pier parcel as Lindsay Light II Site, RV3 North Columbus Drive. A map showing this parcel is available on the next page. These boundaries are North Columbus Drive, East Illinois Street, North St. Clair Street, and East Grand Avenue. Please note buildings on the Northwest corner of the Grand Avenue are not part of parcel #17-10212019.

The Chicago Dock and Canal Trust, the owner of the Lindsay Light II Site at 316 East Illinois Street, conducted an initial removal action at the Site pursuant to an Administrative Order by Consent (AOC) dated January 27, 1994, (please see confidential enforcement addendum).

ATTACHMENT 35

Printed on Recycled Paper

Lindsay Light Site Map



Date of Map: 3/23/00
Source of Map: ArcView GIS Version 3.0a

On June 6, 1996, U.S. EPA issued a Unilateral Administrative Order (UAO) to the Chicago Dock and Canal Trust and Kerr-McGee Chemical Corporation to conduct the removal of the radioactive soils identified by the 1994 AOC at 316 East Illinois. The UAO also required that the Respondents:

> "Conduct off-site surveying and sampling as necessary and, at a minimum, implement the standards of 40 Code of Federal Regulations ("CFR") 192, if deemed necessary should contamination be discovered beyond current site boundaries."

This site is not on the National Priorities List (NPL).

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILD 0000002212

Please refer to the previous Action Memoranda and Amendment dated July 11, 1994, October 5, 1995, April 22, 1996, and September 22, 1999, for a description of site conditions and background. *The September 22, 1999 Action Memorandum Amendment determined* that institutional controls were adequate to protect human health and the environment. The specific institutional control approved by the Action Memorandum Amendment was a Right-of-Way Agreement entered among Kerr-McGee Chemical L.L.C., River East L.L.C. (successor to Chicago Dock and Canal Trust), and the City of Chicago.

The Right-of-Way Agreement restricts access to subsurface soils below the streets and sidewalks surrounding the Lindsay Light II Site. The Right-of-Way Agreement requires the City to give U.S. EPA notice of any permit application to conduct work in the subsurface soils and requires all permit applicants to implement a health and safety plan that includes radiological surveillance. A copy of this agreement is provided in Attachment 1. On at least two occasions since the approval of the Right-of-Way Agreement, however, the parties utterly failed to comply with it.

The first reported breach of the Right-of-Way Agreement occurred in January or February 2000 and involved the City of Chicago's removal of two hydrants from the Illinois Street right-of-way without notifying U.S. EPA. The second incident occurred in late January and early February 2000 and involved the Lindsay Light II owner and developer, River East. River East apparently obtained City permits and began to install a block-long sewer along Illinois Street from Columbus Drive to McClurg Court. Neither the City nor River East notified U.S. EPA of any permit applications or excavation work in the Illinois Street Right-of-Way. Neither party implemented an approved health and safety plan nor conducted requisite radiological surveillance. After radiation surveillance was instituted at River East's Illinois Street sewer project, four areas of elevated levels of radiation were discovered. U.S. EPA also surveyed offsite landfills that received material from the sewer excavation. One landfill potentially received radioactive material.

On February 29, 2000, U.S. EPA discovered elevated levels of radioactive materials at the Grand Pier development directly across Columbus Drive from the existing Lindsay Light II site. Since the discovery of the new contamination, U.S. EPA has worked with Grand Pier, Kerr-McGee Chemical, and River East to implement the requirements of the existing Lindsay Light UAO at the Grand Pier property and at the six offsite landfills that accepted potentially radioactive materials from the Grand Pier property. Work will proceed under the existing UAO until U.S. EPA issues an Amended UAO.

U.S. EPA performed an environmental justice (EJ) analysis for this site that is contained in Attachment 6. In Illinois, the low-income percentage is 27% and the minority percentage is 25. To meet EJ concern criteria, the area within 1 mile of this property must have a population that's twice the state low income percentage or/and twice that state minority percentage. That is, the area must be at least 54% low-income and/or 50% minority. At this site, the low-income percentage is 10.05 % and minority percentage is 19.64%, as determined by Arcview. Therefore, this site does not meet the region's EJ criteria based on the demographics as identified in "Region 5 Interim Guidelines for Identifying and Addressing a Potential EJ Case, June 1998.

III. THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the RV3 North Columbus Drive portion of Lindsay Light II Site may pose an imminent and substantial endangerment to public health or welfare or the environment, based upon factors set forth in the National Contingency Plan (NCP), 40 CFR 300.415 (b)(2). These factors include:

a) actual or potential exposure to nearby populations, animals, or the food chain from hazardous substances or pollutants or contaminants:

This factor is present at the site due to the presence of elevated gamma ray readings that were documented on February 29, 2000 to be as high as 1,000,000 counts per minute (cpm). In an uncontaminated area of the site the count rate was about 7,000 cpm. The clean-up criterion for the Lindsay Light II Site is 7.1 picoCuries per gram (pCi/g) which equates to 19,726 cpm. The highest gamma exposure rate reading measured at the Lindsay Light II Site/RV3 North Columbus Drive was approximately 1,300 microRoentgen per hour (μR/hr). The background level for this site was approximately 8 μR/hr.

b) high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate:

On or about March 1, 2000, Grand Pier collected soil samples. The highest sample result from the Grand Pier samples, as of the preparation of this Action Memorandum, was 1,732 pCi/g

for total radium (Ra-226 +, Ra-228)[1]. The Lindsay Light II Site clean-up level is 7.1 pCi/g total radium, including total radium background of 2.1 pCi/g.

The sample analyses showed that the radioactive component was thorium. Thorium is a chain of 11 radionuclides beginning with thorium-232 and ending with non-radioactive lead 208. This chain emits gamma rays, X-rays, alpha particles and beta particles. Gamma rays and X-rays are penetrating photons that are an external exposure hazard. Photons can penetrate the skin and expose interior organs. Alpha particles are helium nuclei that are an ingestion and inhalation hazard. Beta particles are electrons that are principally an ingestion and inhalation hazard, but in high concentrations, might be a skin hazard.

c) other situations or factors which may pose threats to public health or welfare or the environment:

Given that U.S. EPA and the Respondents detected contamination at the RV 3 North Columbus portion of the Lindsay Light II Site, and in streets adjacent to the Lindsay Light II Site, there is reason to suspect additional contamination may exist on properties surrounding the site. The boundaries of the contamination will determined, so if necessary, additional institutional controls may be implemented. To determine the extent of contamination in this geographical area, U.S. EPA will perform the extent of contamination study.

In addition to the Lindsay Light II Site, the Lindsay Light Company occupied another building, one block West of Grand Pier, at 161 East Grand Avenue known as the Lindsay Light I site. On June 30, 1993, U.S. EPA placed twelve thermoluminescent dosimeter (TLD) badges in the building at 161 East Grand Avenue to monitor radiation levels in work spaces and removed them after a month. TLD results were as follows:

---

1 The cleanup criterion is keyed to total radium, the sum of radium-226 and radium-228, because, together, they are the dominant sources of health risk in the waste materials. Radium-226 is part of the Uranium Decay Series while Radium-228 is part of the Thorium Decay Series. Both series are sequences containing several radionuclides and both series are found in the ores used to obtain gas mantle materials. The ores used by Lindsay Light had a much higher thorium series content. The cleanup criterion is based upon the assumption that removing wastes to low levels for the radiums will assure that the risks from other radionuclides are even lower.

	TLD #	millirem per hour	millirem per year
	9021	4.29	8,579
	9022	0.27	535
	9023	0.028	56
	9024	0.033	67
	9025	0.037	75
	9026	0.26	514
	9027	0.63	1257
	9028	0.052	104
	9029	0.039	78
Background	**9031**	**0.0046**	**9**
	9032	0.0062	12
	9033	0.031	62

These work space results were compared to background and to the Nuclear Regulatory Commission (NRC) regulations in the new Title 10, Part 20.1301, Code of Federal Regulations of 100 millirem per year and 2 millirem per hour for individual members of the general public. These TLD results exceeded relevant NRC levels in five locations.

The above technical information was provided in writing to the Building Manager with the following text:

> In the opinion of U.S. EPA's Regional Radiation Expert and Superfund Toxicologist, there are at least five locations inside 161 East Grand that present a threat to persons working. Since this contamination is limited to the indoors, it can not be remediated under U.S. EPA's Superfund program. The Superfund law usually applies to releases of hazardous substances into the outdoors environment. We do think it would be prudent to decontaminate and whenever possible reduce exposure by limiting exposure times, increasing the distance between work sites and exposure points, and using furniture or other items as absorbers. Also, the Agency for Toxic Substances and Disease Registry (ATSDR) recommended vacating and sealing the President's office on the second floor or remediating it to a radiologically safe level. We would like to reiterate that the janitor's supplies should remain away from the chimney.
>
> U.S. EPA is still willing to advise, review any cleanup plans and survey remediated areas at no charge, if you decide it is prudent to take any action.

To date, U.S. EPA is not aware of any additional remediation performed since the above information was provided in 1993.

IV. ENDANGERMENT DETERMINATION

Given the nature of the Site, the nature of the contaminants - radioactive materials that cause external exposure, inhalation, ingestion, and direct contact hazards, as described in Sections II and III, the actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action described in this Action Memorandum, may pose an imminent and substantial endangerment to public health, or welfare, or the environment due to these radioactive materials.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

Pursuant to the UAO, the Potentially Responsible Party (PRP) will fully remediate the site until maximum protectiveness of the human health and the environment is achieved. This will involve at a minimum the following actions:

1) Develop a Work Plan for the radiological assessment of the site.

2) Develop and implement a site health and safety plan.

3) Develop and implement an air monitoring plan.

4) Develop and implement site security measures.

5) Conduct land surveying to the extent necessary to establish a grid system to locate all property boundaries, special features (pipes, storage tanks, etc.), and sample locations.

6) Place borings in critical locations (grid corners, high exposure rate areas, special features, etc.) for the purpose of measuring subsurface radiation levels. Measurements shall be recorded at each 6 inch depth until the natural soils are reached or radiation levels reach background, whichever is the greatest depth.

7) Collect soil samples from the borings and analyze for radionuclide content and RCRA characteristics. These results will then be used by the PRP to correlate subsurface radiation levels and radionuclide content, and to determine the disposal facility.

8) Conduct off-site radiological surveying and sampling as necessary and, at a minimum implement 40 CFR 192 if deemed necessary should contamination be discovered beyond current site boundaries.

9) Based upon soil results, remove, transport and dispose of all characterized or identified hazardous substances, pollutants, wastes or contaminants at a RCRA/CERCLA approved disposal facility in accordance with the U.S. EPA off-site rule.

10) The soil clean-up criterion is 7.1 picoCuries per gram(pCi/g) total radium (Ra-226 + Ra-228) including background, unless analyses indicate the existence of additional contaminants, hazardous substances, pollutants or waste.

The OSC has begun planning for the provision of post-removal site control, consistent with the provisions of Section 300.415(k) of the NCP. However, the nature of future response actions should eliminate all exposure threats, which should minimize the need for post-removal site control.

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants or contaminants at the facility which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements (ARARS)

All applicable or relevant and appropriate requirements (ARARS) of Federal law will be complied with to the extent practicable.

The primary federal ARAR for soil cleanup criteria is Title 40, Part 192 of the Code of Federal Regulations, "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings." Ancillary ARARs include the NRC's Title 10, Part 20, of the Code of Federal Regulations, "Standards for Protection Against Radiation," NRC Regulatory Guide 1.86, "Termination of Operating License for Nuclear Reactors," and the Department of Tranportation's Title 49 for shipping hazardous materials. Also many of the regulations carried out by the NRC have been delegated to the Illinois Department of Nuclear Safety (IDNS).

The IDNS has determined that the thorium is Section 11(e) (2) material, 42 U. C. 2014(e) from the thorium process carried out by Lindsay Light and Chemical Corporation. In accordance with the revised NCP, the IDNS has identified State ARARS which are listed in Document No. 3 in the Lindsay Light II Administrative Record update No. 4.

VI. CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED

Delayed or non-action may result in increased likelihood of external exposure, inhalation, ingestion or direct contact to human populations accessing and working on the site. Also, since there is no threshold for radiological risk, additional exposure to radiological materials will increase the cancer risk.

In addition, radiological surveys of the landfill where excavated excavated spoils were disposed of prior to February 29, 2000, appear to indicate that thorium residuals may have been taken from the Grand Pier property to at least one landfill.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

For administrative purposes, information concerning confidential enforcement strategy for this site is contained in the Enforcement Confidential Addendum.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Lindsay Light II Site/(RV3 North Columbus Drive), in Chicago, Illinois, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for this site. Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal action.

APPROVE: Wm. E. Muno 3/28/00
DIRECTOR, SUPERFUND DIVISION

DISAPPROVE: _____
DIRECTOR, SUPERFUND DIVISION

Attachments: Enforcement Confidential Addendum

1. Right-of-Way Agreement
2. Action Memorandum Amendment dated September 22, 1999
3. Action Memorandum dated April 22, 1996
4. Action Memorandum dated October 5, 1995
5. Action Memorandum dated July 11, 1994
6. Environmental Justice Analysis
7. Index to the Administrative Record

cc: Kevin Mould, U.S. EPA, OERR, 5202-G
Michael Chezik, U.S. Department of Interior
Tom Skinner, Director, Illinois Environmental Protection Agency, **w/o enforcement addendum**
Steve Davis, Illinois Department of Natural Resources, **w/o enforcement addendum**
Thomas W. Ortciger, Illinois Department of Nuclear Safety, **w/o enforcement addendum**
William F. Abolt, Commissoner Department of Environment City of Chicago, **w/o enforcement addendum**

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

BCC Page
1 - Page

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

ENFORCEMENT CONFIDENTIAL ADDENDUM
3 - Pages

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

ATTACHMENT – 1

No P.I.N. applicable
Document affects public way.

RIGHT-OF-WAY AGREEMENT

This Right-of-Way Agreement ("Agreement") is entered into this 27th day of Sept., 1999 by and among River East, L.L.C. ("River East") and Kerr-McGee Chemical L.L.C. ("Kerr-McGee"), together referred to herein as the Obligors ("Obligors"), and the City of Chicago ("City"), as follows:

1. This Agreement is not binding on the City until it is executed by a duly authorized representative of the City. Prior to execution, this Agreement constitutes an offer by the Obligors. The duly authorized representatives of the Obligors have signed this Agreement, and this Agreement is binding upon them and their successors by merger or reorganization, upon execution by the City.

2. The Obligors stipulate:

   a. The Site is located at 316 E. Illinois Street, Chicago, Illinois ("the Site"). The Site is and has been for multiple decades, used as an asphalt-paved parking lot. The Site is bounded by Grand Avenue, McClurg Court, Illinois Street and Columbus Drive.

   b. On June 3, 1993, the United States Environmental Protection Agency ("USEPA") and the Illinois Department of Nuclear Safety ("IDNS") conducted a joint investigation at the Site and verified the presence of radioactivity below the asphalt surface of the Site at levels above natural background. USEPA determined that the use of the Site as a parking lot posed a negligible risk to the public.

   c. A historical search determined that in the 1920s and 1930s a company known as the Lindsay Light Company leased the Site for the processing of thorium ores. Lindsay Light is a predecessor of Kerr-McGee. An ingredient in gas mantel manufacturing is thorium extracted from sand and formed into a solution into which mantels were dipped during the manufacturing process. It is believed that Section 11(e) (2) material, 42 U.S.C. §2014(e)(2) from this processing process is found at and around the Site ("Thorium Residuals").

   d. On January 27, 1994, the Chicago Dock & Canal Trust ("Chicago Dock") (a predecessor to River East), entered into an Administrative Order by Consent ("AOC") with USEPA to investigate and study the extent of Thorium Residuals at

the Site. The study was completed in May, 1994. A final report concerning the extent of contamination was delivered to USEPA on October 17, 1995, and the study was approved by USEPA on March 13, 1996. The final report concluded, inter alia, that there were twelve subsurface areas at the Site which exhibited elevated gamma radiation levels. The AOC is Attachment B.

e. On June 6, 1996, the USEPA issued a Unilateral Administrative Order ("UAO") to Chicago Dock and Kerr-McGee directing that a removal action be conducted at the Site pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §9606(a). The UAO established criteria (the "Cleanup Criteria") for Thorium Residuals of 7.1 picoCuries per gram total radium – 5 picoCuries per gram total radium above background. The UAO is attached as Attachment C.

f. Pursuant to the UAO and with approval of USEPA, Chicago Dock and Kerr-McGee conducted and completed a removal action at the Site. This remediation took several months during CY1996 and 1997 and involved the removal and disposal of soils from the Site.

g. During the removal action, testing along Illinois Street and Columbus Drive revealed deposits of Thorium Residuals which could not be readily excavated. Information regarding the known location of this contamination was provided to the City during a meeting on June 26, 1997, and in subsequent correspondence dated July 14, 1997. Attachment D depicts the portions of Grand Avenue, Illinois Street , McClurg Court and Columbus Drive rights-of-way adjacent to the Site that are the subject of this Agreement ("designated rights-of-way"). The impacted areas of the designated rights-of-way adjacent to the Site where Thorium Residuals are known to be located ("impacted rights-of-way") are described on Attachment E. If subsequent sampling and analysis indicates the presence of contaminants associated with Thorium Residuals beneath the designated rights-of-way, then those areas shall be subject to and covered by this Agreement.

h. Attached as Attachment E is a site map showing the known areas of Thorium Residuals in the impacted rights-of-way, and the relative concentration of the Thorium Residuals governed by the UAO.

3. The City stipulates that it holds the designated rights-of-way adjacent to the Site in trust for the public and has jurisdiction over the designated rights-of-way.

4. The parties stipulate that:

a. This Agreement is intended to meet the requirements of the United States Environmental Protection Agency regarding Thorium Residuals.

b. This Agreement shall run with the land constituting the designated rights-of-way and shall be recorded by the Obligors at their expense with the Cook County

Recorder of Deeds on the property described in Attachment D (the designated rights-of-way). Within thirty (30) days of such recording with the Cook County Recorder of Deeds, the Obligors shall provide the City a copy of the Agreement that has been stamped by the Cook County Recorder of Deeds to indicate that it has been recorded with that office. No filing or notice will be referenced against the Site.

c. This Agreement shall be null and void should the United States Environmental Protection Agency not approve it.

5. The City agrees that it will limit access to soil as described herein under portions of the impacted rights-of way described in Attachment E and in any supplemental exhibits as provided in ¶2(g) that exceed USEPA Cleanup Criteria, as provided in Code Section 10-20-100, et.seq. subject to the following conditions:

a. Where the pavement and sidewalk in the impacted rights-of-way are to be considered engineered barriers to gamma radiation emanating from Thorium Residuals, the Obligors agree to reimburse the City for maintenance activities requested by the Obligors. The City does not agree to maintain the designated rights-of-way, nor does it guarantee that the designated rights-of-way will continue as a roadway or sidewalk, or that the impacted rights-of-way will always be maintained as an engineered barrier.

b. This Agreement does not in any way limit the City's authority to construct, reconstruct, repair or maintain and operate the designated rights-of-way upon the property or other portions of the designated rights-of-way subsequently identified as containing contaminants associated with Thorium Residuals, or to allow others to use the designated rights-of-way. To that extent, the City reserves the right to identify, investigate, and remove soil contaminated with Thorium Residuals above the Cleanup Criteria from the impacted rights-of-way or from other portions of the designated rights-of-way adjacent to the Site subsequently identified as containing contaminants associated with Thorium Residuals and to dispose of them in accordance with applicable environmental regulations so as to avoid causing a further release of the contaminants and to protect human health and the environment. The Obligors shall reimburse the reasonable actual costs incurred by the City or its contractors or agents in so identifying, investigating, removing, storing, handling or disposing of soil contaminated with Thorium Residuals above the Cleanup Criteria, and it shall not be a defense for the Obligors that those costs were not consistent with or required by United States Environmental Protection Agency regulations, guidelines or policies. Prior to incurring any such costs, the City shall first give the Obligors thirty days notice, unless there is an urgent reason otherwise, to remove or dispose of soil contaminated with Thorium Residuals above the Cleanup Criteria to the extent necessary for the City's work. The City will cooperate with the Obligors in the conduct of the work including providing reasonable and appropriate access. USEPA shall also be forwarded a copy of this notice. Failure to give this

opportunity to the Obligors shall not be a defense to a claim for reimbursement or that the work should not have been done. If no such notice and opportunity are provided by the City to the Obligors and there was no urgent reason otherwise, the City's claim for reimbursement against the Obligors for such costs shall not exceed $10,000.00. For the purpose of this Agreement only, there is a rebuttable presumption that Thorium Residuals found in the portions of the impacted rights-of-way or in other portions of the designated rights-of-way subsequently identified as containing contaminants associated with Thorium Residuals arose from the release of Thorium Residuals from the Site. Should the Obligors not reimburse the costs identified here, this Agreement shall be null and void in addition to such other remedies as may be available to the City.

6. The Obligors agree to indemnify and hold harmless the City, its agents and employees, and contractors, for all obligations asserted against or costs incurred by them associated with the release of contaminants associated with Thorium Residuals in the impacted rights-of-way or in other portions of the designated rights-of-way subsequently identified as containing Thorium Residuals.

7. Violation of the terms of this Agreement by the Obligors, or their successor(s) in interest, may be grounds for voidance of this Agreement.

8. No violation of a permit by a third party shall constitute a breach of this Agreement by the City. The Obligors also agree that their personnel, if any, at the Site will exercise due diligence in notifying those accessing contaminated soil in the impacted rights-of-way of their rights and responsibilities under this Agreement.

9. Should the City breach this Agreement, the Obligors' sole remedy is for an action for damages in the Circuit Court of Cook County. Any and all claims for damages against the City, its agents, contractors, employees or its successors in interest arising at any time are limited to an aggregate maximum of $20,000.00. No other breach by the City, its agents, contractors, employees or its successors in interest of a provision of this Agreement is actionable in either law or equity by the Obligors against the City or them and the Obligors hereby release the City, its agents, contractors, employees and its successors in interest for any cause of action it may have against them, other than as allowed in this paragraph, arising under this Agreement or environmental laws, regulations or common law governing contaminated soil in the designated rights-of-way. Should the City convey, vacate or transfer jurisdiction of the designated rights-of-way, the Obligors may pursue an action under this Agreement, not limited in amount, against the successors in interest, other than the City, or any of its departments, or State agency, in a Court of Law.

10. The City will limit access to the rights-of-way as follows:

    a. Normal Access: The City will limit access to designated rights-of-way via the City Department of Transportation ("CDOT"), or its successor entity. Pursuant to §§10-20-100 and 10-20-150 of the Municipal Code of Chicago, a permit must be

issued by CDOT to any party, including the City, requesting to perform subsurface work in a City right-of-way. CDOT maintains and will maintain a permit database which, in conjunction with the City Department of Environment ("DOE"), tracks City rights-of-way with reported subsurface contamination. CDOT will consult the database whenever a party requests such a permit. The CDOT permit database will indicate the reported contamination under the impacted rights-of-way and it will indicate that radiation surveillance must be performed before and during excavations performed on other impacted rights-of-way subsequently identified as containing contaminants associated with Thorium Residuals through sampling and analysis. The permit database will also indicate that radiation surveillance must be performed during excavation or other work that disturbs or exposes the soil beneath the designated right-of-way. The CDOT database will direct the permit applicant to DOE to obtain detailed information on the nature and extent of the contamination and of the radiation surveillance requirements for any excavation near other impacted rights-of-way subsequently identified as containing contaminants associated with Thorium Residuals. After the permit applicant consults with DOE, the applicant must complete a form where the applicant acknowledges that it is aware of the contamination, will take appropriate steps to ensure the health and safety of people working in the impacted rights-of-way, and agrees to follow the health and safety plan for Thorium Residuals for these rights-of-way ("Health and Safety Plan"), attached as Attachment F, or other plan reviewed by USEPA that provides equal or greater health and safety protections, and to dispose of Thorium Residuals as required by law. DOE will provide written notice to River East, Kerr-McGee and USEPA at the time permit applicants contact DOE about the designated rights-of-ways and the radiation surveillance requirements.

b. Emergency Access: The City Board of Underground ("BOU"), the City Department of Buildings, and the Chicago Fire Department, or their successor entities, will be notified of the contamination at the impacted rights-of-way and will be forwarded copies of all available environmental data regarding the impacted rights-of-way, including the Health and Safety Plan. BOU will provide this information to all utilities in the area. In the event of an emergency that occurs outside of CDOT business hours, this will enable utilities to provide their personnel with the appropriate information to ensure that proper health and safety precautions are taken.

11. The City will place and maintain placards in any underground access in the rights-of-way that state "Before Work, Contact Chicago Department of Transportation."

12. Notice for purposes of this Agreement should go to the following:

City of Chicago:
Commissioner
Department of Environment
30 N. LaSalle Street
25th Floor
Chicago, IL 60602
312/744-7606

River East LLC
contact Kevin Augustyn
Randy Grueb
Charles Langenfeld
455 East Illinois
Suite 565
Chicago, IL 60611
Telephone: 312/321-8900
Facsimile: 312/755-2750

and:

Vincent S. Oleszkiewicz
counsel for River East LLC/MCL Companies
Baker & McKenzie
130 East Randolph Drive
Chicago, IL 60601
Telephone: 312/861-3737
Facsimile: 312/861-2899

Kerr-McGee
contact: Dan White
Kerr-McGee Center
Oklahoma City, OK 73125
Telephone: 405/270-3792
Facsimile: 405/270-3787

and:

Richard Meserve
counsel for Kerr-McGee
Covington & Burling
1201 Pennsylvania Ave., N.W.

Washington, D.C. 20044
Telephone: 202/662-5304
Facsimile: 202/662-6291

U.S. EPA Region 5
Lindsay Light II Site, Office of Regional Counsel
contact: Mary Fulghum
77 West Jackson Boulevard
Chicago, IL 60604-3590
Telephone: 312/886-4683
Facsimile: 312/886-0747

13. Obligors, and any of their successor(s) by merger or reorganization pursuant to paragraph 1 of this Agreement, shall, at least 15 days prior to such subsequent merger or reorganization, give written notice and a copy of this Agreement to subsequent successor entity(ies), and provide written notice thereof to the City. The notice to the City shall include the name and address of the successor entity(ies).

14. If any provision of this Agreement is determined to exceed the authority of the City, or if any provision of this Agreement is declared null and void or unenforceable by any court or tribunal having jurisdiction, then this Agreement shall be null and void. If this Agreement is declared null and void, the information about the contamination will remain in the CDOT database and all permit applicants will be required to consult with DOE as described above. Similarly, the Emergency Access procedures described above will remain in force if the Agreement is declared null and void.

15. This Agreement shall continue in effect from the date of the Agreement until the Thorium Residuals in the soil are subsequently reduced through active remediation to levels approved by USEPA, such that unrestricted access to the impacted rights-of-way or other portions of the designated rights-of-way subsequently identified as containing contaminants associated with Thorium Residuals is demonstrated to be appropriate and there is no longer a need for this Agreement, and USEPA has, upon written request to the USEPA and notice to the City, provided a written determination authorizing unencumbered access to the impacted rights-of way.

16. Nothing in this Agreement shall be deemed to create any right or obligation in any person not a party hereto and this Agreement shall not be construed in any respect to be a contract in whole or in part for the benefit of any third party nor an admission of any fact, condition or obligation by or for the benefit of any third party, nor shall any statement herein be considered an admission of fact for any purpose or use outside this Agreement. Nothing in this Agreement shall preclude the City, Kerr-McGee or River East from petitioning U.S. EPA for a relaxation of the Cleanup Criteria, if circumstances so warrant.

IN WITNESS WHEREOF, the City of Chicago caused this Agreement to be signed by its duly authorized representative:

BY:_____ Date:_____
Commissioner
Department of Environment
City of Chicago

IN WITNESS WHEREOF, River East, L.L.C. has caused this Agreement to be signed by its duly authorized representative:

River East, L.L.C.
By: River East, L.L.C.
Its: Sole Member
By: River East, L.L.C.
Its: Manager

By: _____
Its: _____

IN WITNESS WHEREOF, Kerr McGee Chemical L.L.C. has caused this Agreement to be signed by its duly authorized representative:

BY:_____ Date: 09/24/99
George D. Christiansen
Vice President

IN WITNESS WHEREOF, the City of Chicago caused this Agreement to be signed by its duly authorized representative:

BY:_____ Date:_____
Commissioner
Department of Environment
City of Chicago

IN WITNESS WHEREOF, River East, L.L.C. has caused this Agreement to be signed by its duly authorized representative:

River East, L.L.C.
By: River East, L.L.C.
Its: Sole Member
By: River East, L.L.C.
Its: Manager
By: _____ 9/27/99
Its: Manager

IN WITNESS WHEREOF, Kerr McGee Chemical L.L.C. has caused this Agreement to be signed by its duly authorized representative:

BY:_____ Date:_____

IN WITNESS WHEREOF, the City of Chicago caused this Agreement to be signed by its duly authorized representative:

BY: _____ Date: 9/24/99

Commissioner
Department of Environment
City of Chicago

IN WITNESS WHEREOF, River East, L.L.C. has caused this Agreement to be signed by its duly authorized representative:

River East, L.L.C.
By: River East, L.L.C.
Its: Sole Member
By: River East, L.L.C.
Its: Manager

By: _____
Its: _____

IN WITNESS WHEREOF, Kerr McGee Chemical L.L.C. has caused this Agreement to be signed by its duly authorized representative:

BY: _____ Date: _____

ATTACHMENT - 2

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

SEP 22 1999

REPLY TO THE ATTENTION OF

SE-5J

MEMORANDUM

DATE:

SUBJECT: ACTION MEMORANDUM AMENDMENT - DETERMINATION THAT SPECIFIC INSTITUTIONAL CONTROLS ARE ADEQUATE TO ABATE THE THREAT TO PUBLIC HEALTH AND THE ENVIRONMENT FROM THE THORIUM UNDER THE RIGHTS-OF-WAY ADJACENT TO THE LINDSAY LIGHT II SITE CHICAGO, COOK COUNTY, ILLINOIS (SITE SPILL ID #YT)

FROM: Verneta J. Simon, On-Scene Coordinator
Fredrick A. Micke, On-Scene Coordinator Fredrick A. Micke
Emergency Response Branch - Section III

TO: William E. Muno, Director
Superfund Division

THRU: Richard Karl, Chief
Emergency Response Branch

I. PURPOSE

The purpose of this Action Memorandum Amendment is to document the determination that specific institutional controls are adequate to protect human health and the environment with respect to thorium present under the public rights-of-way adjacent to the Lindsay Light II Site. In an Action Memorandum dated April 22, 1996, which determinations are fully incorporated into this Action Memorandum Amendment by reference, U.S. EPA documented its determination that an imminent and substantial threat to human health and the environment existed at the Lindsay Light II Site due to the presence of thorium and also proposed necessary actions to abate that threat. The April 1996 Action Memorandum proposed a necessary removal action in section V., paragraph 6 to:

> "[c]onduct off-site surveying and sampling as necessary and, at a minimum, implement 40 C.F.R. 192, if deemed necessary, should contamination be discovered beyond the site boundaries."

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This Amended Action Memorandum documents the conduct of surveying and sampling adjacent to the Site and proposes specific institutional controls that should abate any remaining exposure threat associated with the thorium located under the City of Chicago rights-of-way adjacent to the Site. These specific institutional controls will eliminate the need to implement 40 C.F.R. 192 (i.e. the removal of contaminated soil to a cleanup level of 5 picocuries per gram total radium (radium-226 + radium-228) over background) with respect to the off-site thorium located under the adjacent rights-of-way. The institutional controls restrict access to the thorium underlying the rights-of-way and provide for the protection of human health and the environment through proper management of the thorium consistent with applicable and relevant and appropriate environmental regulations, if any person operates under the affected rights-of-way.

This site is not on the National Priorities List (NPL), has not been ranked, does not set any precedents, and is not nationally significant.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILD0000002212

The Lindsay Light II Site is a three-acre site located at 316 East Illinois Street, Chicago, Cook County Illinois. The Site is bounded by Grand Avenue, Illinois Street, McClurg Court and Columbus Drive. At the time of the April 1996 Action Memorandum, the Site was a public parking lot. Since that time, pursuant to a Unilateral Administrative Order dated June 6, 1996, Kerr-McGee and the property owner conducted extensive removal activities at the Site. Presently, the Site owner, a successor to the owner-Respondent to the June 1996 UAO, is developing the property for residential and commercial building and uses.

As described more fully in the April 1996 Action Memorandum, the Site was once occupied by the Lindsay Light and Chemical Company which manufactured incandescent gas mantles for home and street lighting. Gas mantle manufacturing involves dipping gauze mantle bags into solutions containing thorium nitrate. The principal ingredient in thorium nitrate is radioactive thorium, specifically thorium -232 and thorium -228. Thorium 232, which is the parent of the Thorium Decay Series, has a half-life of 14 billion years. It is believed that the principal source of contamination at this Site and under the adjacent rights-of-way is the Thorium Decay Series (Thorium Residuals).

Current Site Conditions

Pursuant to the June 1996 UAO, the Respondents conducted extensive removal activities at the Site including the investigation and removal of on-site thorium and the surveying of off-site thorium under portions of the public rights-of-ways adjacent to the Site. The Site is no longer a paved public parking lot as described in the June 1996 Action Memorandum. The Site owner is developing the property for residential and commercial uses, including condominiums, theaters, hotels, and underground parking. The removal investigation and removal activities detected thorium under the rights-of-way beneath Illinois Street, Columbus Drive, and Grand Avenue in the concentrations and in the locations shown in Attachment A to this Amended Action Memorandum. The asphalt, concrete, and soils presently covering the thorium contamination effectively prevent the release of radiation from the materials into the environment, however, if those materials are exposed then the materials may pose a threat to human health and the environment.

The City of Chicago's Department of Environment, the Illinois Environmental Protection Agency, and the Illinois Department of Nuclear Safety (IDNS) are aware of site conditions, the removal actions and plans described in the Amended Action Memorandum.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the Lindsay Light II site present an imminent and substantial endangerment to public health or welfare or the environment based upon factors set forth in the National Contingency Plan (NCP), Section 300.415(b)(2), specifically:

a) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

This factor is present at the site due to the existence of Thorium Residuals under the adjacent rights-of-way found to have radioactive contamination as high as 600 picocuries per gram. This reading is nearly 300 times the background level measured for this site. Although presently shielded by asphalt, concrete, or soil the Thorium Residuals are located in the path of water, gas, sewer, electric and other utilities and radiation may be encountered by any person who excavates the shielding asphalt, concrete or soils or operates under the rights-of-way to conduct underground utility replacement or maintenance activities.

b) High levels of hazardous substances, pollutants or contaminants in soils largely at or near the surface, that may migrate;

As was noted in a) above, the Thorium Residuals are located under the right-of-way and in the path of various utilities. If the concrete, asphalt, or soils are excavated or if any person operates under the rights-of-way and disturbs the contaminants, the Thorium Residuals will contaminate the intruder and his or her equipment, and lead to dispersal of the thorium contaminants from its present locations.

U.S. EPA has evaluated the risk posed by the residual contamination and determined it does not pose a threat to human health and the environment as long as it is shielded by asphalt or concrete and left undisturbed. If exposed or disturbed, however, it must be properly managed to avoid any release to the environment or threat to human health.

IV. ENDANGERMENT DETERMINATION

Given the site conditions, the nature of the hazardous substances on the site, and the potential exposure pathways to nearby populations described in Sections II and III above, actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to human health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

To eliminate the need to implement 40 C.F.R. 192, which at this Site resulted in a cleanup criterion of 5 picocuries over background radiation for each 15 centimeter layer of soil, U.S. EPA requires assurance as the streets and underground utilities are installed, maintained or replaced, whether on a routine or emergency basis, that radiation surveillance will be conducted before and during excavation, that workers will be protected, and that all residual contamination will be managed and disposed of in accordance with state and federal requirements. Given the long-lived nature of thorium contamination (i.e. a half-life of 14 billion years) it is critical to the protection of human health and the environment, that these assurances will remain effective until the thorium contamination is removed. The OSCs propose to undertake the following actions to mitigate threats posed by the presence of Thorium Residuals under the rights-of-way adjacent to and surrounding the Site:

The City of Chicago, Kerr-McGee Chemical L.L.C., and River East L.L.C. enter into a binding Right-of-Way Agreement that runs with the land and that contains the following provisions:

1) the City will restrict routine and emergency access to the residual contamination; and

2) the City will notify all utilities and affected City departments of the presence of the contamination in the rights-of-way; and

3) the City will provide written notice to U.S. EPA whenever any permit to work in a right-of-way has been requested; and

4) the City will establish and maintain a database that will notify 1) any party seeking to install, repair or replace underground utilities or conduct street repairs that involve the removal of the surface materials; and 2) any party that otherwise seeks access to the soils beneath the rights-of-way, that it is required to conduct radiation surveillance, comply with an approved health and safety plan, and properly manage any exposed or disturbed Thorium Residuals, in accordance with state and federal requirements; and

5) the City Supervisor of Maps and Plats, shall indicate on the official City plat (Book __Page __) a notice that thorium contamination is present in the rights-of-way and that the rights-of-way must not be disturbed prior to consultation with the Chicago Department of Transportation and the Chicago Board of Underground or their successor agencies and notice to U.S. EPA or its successor agency in accordance with the Right-of-Way Agreement Numbered _____;" and/or

   the Right-of-Way Agreement shall be recorded with the Cook County Recorder of Deeds and shall run with the land of the rights-of-way; and

6) River East and Kerr McGee will place and maintain placards in any underground access in the rights-of-way that state "Before Work, Contact Chicago Department of Transportation."

This post-removal site control is recommended at this site, consistent with the provisions of Section 300.415(k) of the NCP. The solution should incur no operation and maintenance costs.

The response actions described in this memorandum directly address actual and threatened releases of hazardous substances, pollutants or contaminants at the facility which may pose an imminent and substantial endangerment to human health and safety and to the environment. These response actions do not impose a burden on affected property disproportionate to the extent to

which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements (ARARS)

All applicable or relevant and appropriate requirements (ARARs) of Federal and State law will be complied with to the extent practicable.

The primary federal ARAR for soil cleanup criteria is Title 40, Part 192 of the Code of Federal Regulations, "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings." Ancillary ARARs include the NRC's Title 10, Part 20, of the Code of Federal Regulations, "Standards for Protection Against Radiation," NRC Regulatory Guide 1.86, "Termination of Operating License for Nuclear Reactors," and the Department of Transportation's Title 49 for shipping hazardous materials. Also, many of the regulations carried out by NRC have been delegated to IDNS.

The IDNS has determined that the thorium is Section 11(e)(2) material, 42 U.S.C. 2014(e)(2) from the thorium processing carried out by Lindsay Light and Chemical Corporation.

In accordance with the revised NCP, Section 300.825(a)(1), a list of State ARARs will added to the administrative record.

The actions proposed for this site will attempt to mitigate an adverse effect to the environment that has already occurred.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN.

Delayed action increases the potential for disturbance or exposure of the thorium contamination, the improper management of the contaminated material, and exposure to utility and road workers.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this site is contained in an Enforcement Confidential addendum.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Lindsay Light Site underground Thorium Residuals contamination present in the rights-of-way adjacent to the Lindsay Light II Site in Chicago, Illinois. This removal action was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the site. Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal and we recommend your approval of the proposed removal action.

APPROVED: W. E. Muno DATE: 9/22/99
Director, Superfund Division

DISAPPROVED: _____ DATE: _____
Director, Superfund Division

Confidential Enforcement Addendum

Attachment 1: April 22, 1996 Action Memorandum
Attachment 2: Rights of Way and Location of Thorium Residuals
Attachment 3: Index to Administrative Record

cc: Kevin Mould, U.S. EPA, OERR, 5202-G
Michael Chezik, U.S. Department of Interior
Tom Skinner, Director, Illinois Environmental Protection Agency
Steve Davis, Illinois Department of Natural Resources
Thomas W. Ortciger, Director, Illinois Department of Nuclear Safety

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

BCC Page
1 - Page

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

ENFORCEMENT ADDENDUM - April 1994
2 - Pages

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

ENFORCEMENT ADDENDUM - Sept. 1995
2 - Pages

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

ENFORCEMENT ADDENDUM - April 1996
2 - Pages

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

ENFORCEMENT ADDENDUM - Sept. 1999
2 - Pages

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

Three Attachments

1. Action Memorandum dated July 11, 1994
2. Action Memorandum dated October 5, 1995
3. Index to the Administrative Record

cc: E. Watkins, U.S. EPA HQ, 5202G
D. Henne, U.S. Department of Interior
G. King, IEPA Superfund Coordinator
J. Klinger/T.Runyon, Illinois Department of Nuclear Safety
L. Robinson, City of Chicago

bcc:

HM-7J

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

BCC Page
1 - Page

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

ATTACHMENT - 2

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

SEP 22 1999

REPLY TO THE ATTENTION OF

SE-5J

MEMORANDUM

DATE:

SUBJECT: ACTION MEMORANDUM AMENDMENT - DETERMINATION THAT SPECIFIC INSTITUTIONAL CONTROLS ARE ADEQUATE TO ABATE THE THREAT TO PUBLIC HEALTH AND THE ENVIRONMENT FROM THE THORIUM UNDER THE RIGHTS-OF-WAY ADJACENT TO THE LINDSAY LIGHT II SITE CHICAGO, COOK COUNTY, ILLINOIS (SITE SPILL ID #YT)

FROM: Verneta J. Simon, On-Scene Coordinator
Fredrick A. Micke, On-Scene Coordinator Fredrick A. Micke
Emergency Response Branch - Section III

TO: William E. Muno, Director
Superfund Division

THRU: Richard Karl, Chief
Emergency Response Branch

I. PURPOSE

The purpose of this Action Memorandum Amendment is to document the determination that specific institutional controls are adequate to protect human health and the environment with respect to thorium present under the public rights-of-way adjacent to the Lindsay Light II Site. In an Action Memorandum dated April 22, 1996, which determinations are fully incorporated into this Action Memorandum Amendment by reference, U.S. EPA documented its determination that an imminent and substantial threat to human health and the environment existed at the Lindsay Light II Site due to the presence of thorium and also proposed necessary actions to abate that threat. The April 1996 Action Memorandum proposed a necessary removal action in section V., paragraph 6 to:

> "[c]onduct off-site surveying and sampling as necessary and, at a minimum, implement 40 C.F.R. 192, if deemed necessary, should contamination be discovered beyond the site boundaries."

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This Amended Action Memorandum documents the conduct of surveying and sampling adjacent to the Site and proposes specific institutional controls that should abate any remaining exposure threat associated with the thorium located under the City of Chicago rights-of-way adjacent to the Site. These specific institutional controls will eliminate the need to implement 40 C.F.R. 192 (i.e. the removal of contaminated soil to a cleanup level of 5 picocuries per gram total radium (radium-226 + radium-228) over background) with respect to the off-site thorium located under the adjacent rights-of-way. The institutional controls restrict access to the thorium underlying the rights-of-way and provide for the protection of human health and the environment through proper management of the thorium consistent with applicable and relevant and appropriate environmental regulations, if any person operates under the affected rights-of-way.

This site is not on the National Priorities List (NPL), has not been ranked, does not set any precedents, and is not nationally significant.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILD0000002212

The Lindsay Light II Site is a three-acre site located at 316 East Illinois Street, Chicago, Cook County Illinois. The Site is bounded by Grand Avenue, Illinois Street, McClurg Court and Columbus Drive. At the time of the April 1996 Action Memorandum, the Site was a public parking lot. Since that time, pursuant to a Unilateral Administrative Order dated June 6, 1996, Kerr-McGee and the property owner conducted extensive removal activities at the Site. Presently, the Site owner, a successor to the owner-Respondent to the June 1996 UAO, is developing the property for residential and commercial building and uses.

As described more fully in the April 1996 Action Memorandum, the Site was once occupied by the Lindsay Light and Chemical Company which manufactured incandescent gas mantles for home and street lighting. Gas mantle manufacturing involves dipping gauze mantle bags into solutions containing thorium nitrate. The principal ingredient in thorium nitrate is radioactive thorium, specifically thorium -232 and thorium -228. Thorium 232, which is the parent of the Thorium Decay Series, has a half-life of 14 billion years. It is believed that the principal source of contamination at this Site and under the adjacent rights-of-way is the Thorium Decay Series (Thorium Residuals).

Current Site Conditions

Pursuant to the June 1996 UAO, the Respondents conducted extensive removal activities at the Site including the investigation and removal of on-site thorium and the surveying of off-site thorium under portions of the public rights-of-ways adjacent to the Site. The Site is no longer a paved public parking lot as described in the June 1996 Action Memorandum. The Site owner is developing the property for residential and commercial uses, including condominiums, theaters, hotels, and underground parking. The removal investigation and removal activities detected thorium under the rights-of-way beneath Illinois Street, Columbus Drive, and Grand Avenue in the concentrations and in the locations shown in Attachment A to this Amended Action Memorandum. The asphalt, concrete, and soils presently covering the thorium contamination effectively prevent the release of radiation from the materials into the environment, however, if those materials are exposed then the materials may pose a threat to human health and the environment.

The City of Chicago's Department of Environment, the Illinois Environmental Protection Agency, and the Illinois Department of Nuclear Safety (IDNS) are aware of site conditions, the removal actions and plans described in the Amended Action Memorandum.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the Lindsay Light II site present an imminent and substantial endangerment to public health or welfare or the environment based upon factors set forth in the National Contingency Plan (NCP), Section 300.415(b)(2), specifically:

a) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

This factor is present at the site due to the existence of Thorium Residuals under the adjacent rights-of-way found to have radioactive contamination as high as 600 picocuries per gram. This reading is nearly 300 times the background level measured for this site. Although presently shielded by asphalt, concrete, or soil the Thorium Residuals are located in the path of water, gas, sewer, electric and other utilities and radiation may be encountered by any person who excavates the shielding asphalt, concrete or soils or operates under the rights-of-way to conduct underground utility replacement or maintenance activities.

b) High levels of hazardous substances, pollutants or contaminants in soils largely at or near the surface, that may migrate;

As was noted in a) above, the Thorium Residuals are located under the right-of-way and in the path of various utilities. If the concrete, asphalt, or soils are excavated or if any person operates under the rights-of-way and disturbs the contaminants, the Thorium Residuals will contaminate the intruder and his or her equipment, and lead to dispersal of the thorium contaminants from its present locations.

U.S. EPA has evaluated the risk posed by the residual contamination and determined it does not pose a threat to human health and the environment as long as it is shielded by asphalt or concrete and left undisturbed. If exposed or disturbed, however, it must be properly managed to avoid any release to the environment or threat to human health.

IV. ENDANGERMENT DETERMINATION

Given the site conditions, the nature of the hazardous substances on the site, and the potential exposure pathways to nearby populations described in Sections II and III above, actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to human health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

To eliminate the need to implement 40 C.F.R. 192, which at this Site resulted in a cleanup criterion of 5 picocuries over background radiation for each 15 centimeter layer of soil, U.S. EPA requires assurance as the streets and underground utilities are installed, maintained or replaced, whether on a routine or emergency basis, that radiation surveillance will be conducted before and during excavation, that workers will be protected, and that all residual contamination will be managed and disposed of in accordance with state and federal requirements. Given the long-lived nature of thorium contamination (i.e. a half-life of 14 billion years) it is critical to the protection of human health and the environment, that these assurances will remain effective until the thorium contamination is removed. The OSCs propose to undertake the following actions to mitigate threats posed by the presence of Thorium Residuals under the rights-of-way adjacent to and surrounding the Site:

The City of Chicago, Kerr-McGee Chemical L.L.C., and River East L.L.C. enter into a binding Right-of-Way Agreement that runs with the land and that contains the following provisions:

1) the City will restrict routine and emergency access to the residual contamination; and

2) the City will notify all utilities and affected City departments of the presence of the contamination in the rights-of-way; and

3) the City will provide written notice to U.S. EPA whenever any permit to work in a right-of-way has been requested; and

4) the City will establish and maintain a database that will notify 1) any party seeking to install, repair or replace underground utilities or conduct street repairs that involve the removal of the surface materials; and 2) any party that otherwise seeks access to the soils beneath the rights-of-way, that it is required to conduct radiation surveillance, comply with an approved health and safety plan, and properly manage any exposed or disturbed Thorium Residuals, in accordance with state and federal requirements; and

5) the City Supervisor of Maps and Plats, shall indicate on the official City plat (Book __Page __) a notice that thorium contamination is present in the rights-of-way and that the rights-of-way must not be disturbed prior to consultation with the Chicago Department of Transportation and the Chicago Board of Underground or their successor agencies and notice to U.S. EPA or its successor agency in accordance with the Right-of-Way Agreement Numbered _____;" and/or

   the Right-of-Way Agreement shall be recorded with the Cook County Recorder of Deeds and shall run with the land of the rights-of-way; and

6) River East and Kerr McGee will place and maintain placards in any underground access in the rights-of-way that state "Before Work, Contact Chicago Department of Transportation."

This post-removal site control is recommended at this site, consistent with the provisions of Section 300.415(k) of the NCP. The solution should incur no operation and maintenance costs.

The response actions described in this memorandum directly address actual and threatened releases of hazardous substances, pollutants or contaminants at the facility which may pose an imminent and substantial endangerment to human health and safety and to the environment. These response actions do not impose a burden on affected property disproportionate to the extent to

which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements (ARARS)

All applicable or relevant and appropriate requirements (ARARs) of Federal and State law will be complied with to the extent practicable.

The primary federal ARAR for soil cleanup criteria is Title 40, Part 192 of the Code of Federal Regulations, "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings." Ancillary ARARs include the NRC's Title 10, Part 20, of the Code of Federal Regulations, "Standards for Protection Against Radiation," NRC Regulatory Guide 1.86, "Termination of Operating License for Nuclear Reactors," and the Department of Transportation's Title 49 for shipping hazardous materials. Also, many of the regulations carried out by NRC have been delegated to IDNS.

The IDNS has determined that the thorium is Section 11(e)(2) material, 42 U.S.C. 2014(e)(2) from the thorium processing carried out by Lindsay Light and Chemical Corporation.

In accordance with the revised NCP, Section 300.825(a)(1), a list of State ARARs will added to the administrative record.

The actions proposed for this site will attempt to mitigate an adverse effect to the environment that has already occurred.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN.

Delayed action increases the potential for disturbance or exposure of the thorium contamination, the improper management of the contaminated material, and exposure to utility and road workers.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this site is contained in an Enforcement Confidential addendum.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Lindsay Light Site underground Thorium Residuals contamination present in the rights-of-way adjacent to the Lindsay Light II Site in Chicago, Illinois. This removal action was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the site. Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal and we recommend your approval of the proposed removal action.

APPROVED: W. E. Muno DATE: 9/22/99
Director, Superfund Division

DISAPPROVED: _____ DATE: _____
Director, Superfund Division

Confidential Enforcement Addendum

Attachment 1: April 22, 1996 Action Memorandum
Attachment 2: Rights of Way and Location of Thorium Residuals
Attachment 3: Index to Administrative Record

cc: Kevin Mould, U.S. EPA, OERR, 5202-G
Michael Chezik, U.S. Department of Interior
Tom Skinner, Director, Illinois Environmental Protection Agency
Steve Davis, Illinois Department of Natural Resources
Thomas W. Ortciger, Director, Illinois Department of Nuclear Safety

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

BCC Page
1 - Page

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

ENFORCEMENT ADDENDUM - April 1994
2 - Pages

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NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

ENFORCEMENT ADDENDUM - Sept. 1995
2 - Pages

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LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

ENFORCEMENT ADDENDUM - April 1996
2 - Pages

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LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

ENFORCEMENT ADDENDUM - Sept. 1999
2 - Pages

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

Three Attachments
1. Action Memorandum dated July 11, 1994
2. Action Memorandum dated October 5, 1995
3. Index to the Administrative Record

cc: E. Watkins, U.S. EPA HQ, 5202G
D. Henne, U.S. Department of Interior
G. King, IEPA Superfund Coordinator
J. Klinger/T.Runyon, Illinois Department of Nuclear Safety
L. Robinson, City of Chicago

bcc:

HM-7J

LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

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1 - Page

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

ATTACHMENT - 3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SE-5J

MEMORANDUM

DATE:

SUBJECT: **ACTION MEMORANDUM** - Determination of Threat to Public Health and the Environment at the Lindsay Light II Site Chicago, Cook County, Illinois (Site Spill ID # YT)

FROM: V.J. Simon, On-Scene Coordinator
Emergency and Enforcement Response Branch

TO: William E. Muno, Director
Superfund Division

I. PURPOSE

The purpose of this Memorandum is to document the determination of an imminent and substantial threat to public health and the environment posed by the presence of thorium at the Lindsay Light II site. Currently, Lindsay Light II is a public parking lot, which is paved with asphalt, that has gamma levels as high as 252 times background or 1.1 milliRoentgen per hour[1]. A person using the parking lot could receive a 10^{-4} risk with as little as 29 minutes exposure per day for a 250 day work year at the point of peak exposure.

Uranium and thorium soil concentrations have been measured to a limited extent and exceed background soil levels up to 43 and 812 times, respectively. From this data, radium levels can be projected. Assuming cleanup to the radium levels of Title 40, Part 192, of the Code of Federal Regulations (CFR), uranium and thorium mill tailings standards, present peak values would exceed cleanup levels by 222 times. The radium cleanup level in 40 CFR 192 is 5 picoCuries per gram.

In May 1994, an extent of contamination study was conducted by the property owner, The Chicago Dock & Canal Trust, as required by an Administrative Order by Consent (AOC) dated January 27, 1994. A major result from this study was that there were areas exhibiting elevated gamma levels as high or higher than U.S. EPA

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[1] For gamma radiation, milliRoentgen and millirem are numerically equal.

had previously detected which could be abated by removing thorium. It is anticipated that removal of the thorium will be undertaken pursuant to a Unilateral Administrative Order (UAO) by the potentially responsible parties (please see confidential enforcement addendum). The response activities will require approximately 60 on-site days to complete.

This site is not on the National Priorities List (NPL).

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILD 0000002212

A. Physical Location

The Lindsay Light II Site, a public parking lot, is located at 316 East Illinois Street, Chicago, Cook County, Illinois. This 3-acre Site is bounded by Grand Avenue, Illinois Street, McClurg Court and Columbus Drive and is situated in an urban area called the Gold Coast. This property is surrounded by commercial and residential buildings with a shopping mall located approximately 200 feet to the southeast. The Chicago River is located 1 mile south of the Site and Lake Michigan is about 1.5 miles east of the Site. This Site is surrounded by two-foot high steel guardrails; however, it does not totally restrict access. It is possible to step over the guardrails if you want to gain entry to the parking lot or use it as a short-cut. Also, there are two automated ticket entrances and two manned cash booths.

B. Site description and background

The Lindsay Light II Site was once occupied by the Lindsay Light and Chemical Company, which made incandescent gas mantles for home and street lighting. Earlier reports show this company first imported and then manufactured mantles. These activities occurred from at least 1910 until 1936 at 161 East Grand, which is .25 miles west of the Site. It is unclear what Lindsay Light actually did at 316 East Illinois; however, records from the Dock and Canal Trust indicate this site was a stable, and that Lindsay Light leased portions of the building from Chicago Dock and Canal Trust from 1915-1933. Sometime after 1933, Lindsay Light moved to West Chicago, Illinois and was later purchased by American Potash, who in turn was purchased by Kerr-McGee Chemical Company.

Gas mantle manufacturing involves dipping gauze mantle bags into solutions containing thorium nitrate and small amounts of cerium, beryllium and magnesium nitrates. The principal ingredient in thorium nitrate is radioactive thorium, specifically, thorium-232 and thorium-228. Thorium-232, which is the parent of the Thorium Decay Series, has a half-life of 14 billion years. Thorium-228 has a 2 year half-life. It is believed that the principal source of contamination at this Site is the Thorium Decay Series.

C. Current site conditions

Conditions have not changed since the site assessment on June 3, 1993. This property is still operated as a public parking lot.

D. Other actions to date

From June 30, 1993 to July 30, 1993, each manned cash booth was monitored by a thermoluminescent dosimeter (TLD) badge. TLD results for these booths were as follows:

TLD #	
9035	0.00058 millirem per hour or about 1.2 millirem per year
9036	-0.00184 millirem per hour or -3.7 millirem per year (which means all values are effectively zero)

These results were compared to NRC regulations in the new Title 10, Part 20.1301, Code of Federal Regulations of 100 millirem per year and 2 millirem per hour for individual members of the general public. The above results did not exceed either of these relevant levels indicating that the attendants are not in any present danger.

During May 1994, field work necessary for the AOC-required extent of contamination study was conducted. This study was later submitted in a final report which was approved by U.S.EPA on March 13, 1996. A brief summary of the report would be as follows: 12 areas exhibiting elevated gamma levels, maximum contamination depth extends to 2.5 meters (8 feet) below the ground surface, and Resource Conservation and Recovery Act (RCRA) characteristic waste is not present on-site. The map included in this report has been reproduced in Figure 1 to show the 12 contaminated areas. Also during this two year period, The Chicago Dock & Canal Trust voluntarily placed notices at the entrances to the parking lot informing patrons of the risks associated with the lot.

The City of Chicago, the Illinois Environmental Protection Agency, and the Illinois Department of Nuclear Safety (IDNS) are aware of site conditions and plans described in this Action Memorandum.

III. THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Lindsay Light II site present an imminent and substantial endangerment to public health or welfare or the environment, based upon factors set forth in the National Contingency Plan (NCP), 40 CFR 300.415 (b)(2). These factors include:

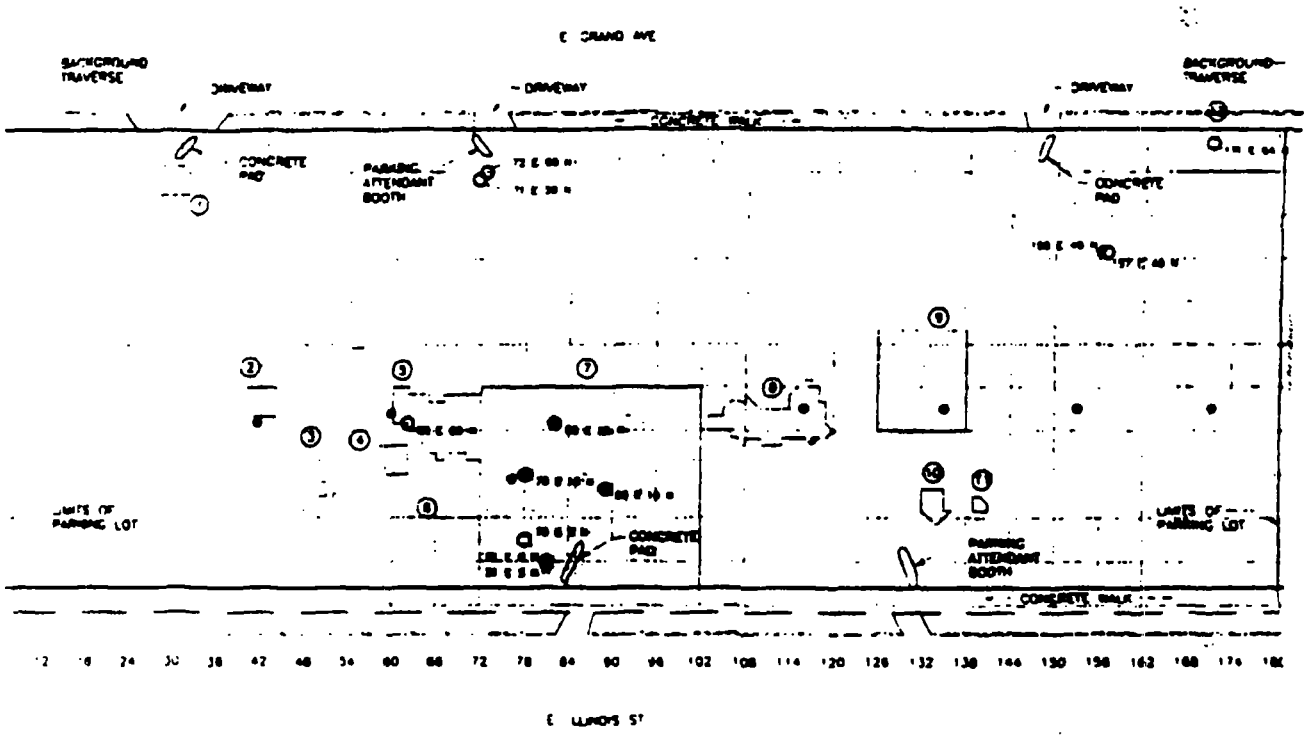

Figure 1: Extent of Contamination Map reproduced from Final Report prepared by STS Consultants, Ltd. (Deerfield, Illinois) to satisfy Administrative Order by Consent No. V-W-94-C-22

a) actual or potential exposure to nearby populations, animals, or the food chain from hazardous substances or pollutants or contaminants:

This factor is present at the site due to the existence of a public parking lot on property found to have gamma readings measured as high as 1.1 milliRoentgen per hour. This reading is 252 times the background level measured for the site.

Gamma rays are penetrating radiation indistinguishable from X-rays which can be absorbed by tissue in the human body, thereby increasing the cancer risk for the person exposed. The excess risk to a transient spending 29 minutes per day for a 250 day work year at this peak exposure spot is 10^{-4}. Transients were judged to be parking lot customers, people using the lot for a short cut or temporary workers.

The excess risk to a parking lot attendant spending an 8 hour shift for 250 days per work year at this peak spot is 2×10^{-3}. Direct measurements with survey instruments at the present parking lot attendant stations found background radiation levels and these were confirmed with longer measurements using TLDs. There is no guarantee these stations could not be moved to the peak point at some future time, thereby introducing the potential for exposure and risk to be actualized.

b) high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate:

The presence of elevated gamma exposure levels at the site validates subsurface deposits of radiological contaminants. The dominant concern is intrusion into these materials that will contaminate the intruder and their equipment and, further, lead to dispersal or spreading of the contaminants from its present locations. Such a scenario probably has arisen, and could again arise, with parking lot excavation where workers and their equipment are contaminated by radioactive soils, dry soil is dispersed in the wind and excavation spoils are moved offsite. The number of people exposed could be greatly increased and might include workers, their families if contaminants are carried home, workers who subsequently use contaminated machinery, residents near the parking lot who might be subject to wind dispersed soils and users of excavation spoils. Such spreading could occur within downtown Chicago where the parking lot is located and out for several miles depending upon where workers reside and where spoils are used. This is a plausible scenario since recent plans were to build a large hospital building on this site.

c) other situations or factors which may pose threats to public health or welfare or the environment:

This factor is present at the Site due to the property's potential for future development. Such construction might entail excavating into potentiallly contaminated soils for placement of building footings and cause increased releases into the environment and human exposure to contaminants. Also, it has not been determined whether subsurface contaminants are soluble. If they are there could be spreading via groundwater.

This site appears to be gridded with sewer lines. The sewers could be conduits for the spread of both soluble and insoluble materials offsite, for extension of the region of contamination and for an increase in the potential for workers (sewer workers) to be exposed.

IV. ENDANGERMENT DETERMINATION

Given the nature of the Site, with unrestricted access to contaminants, the nature of these contaminants - gamma rays, which can not be stopped but attenuated; and an exposure pathway of direct contact, as described in Sections II and III, the actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action described in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS

Removal activities at the Site are to include: removal of contamination from at least 12 areas in the parking lot and disposal of all characterized wastes identified and generated during removal activities.

Specifically, the following activities will be necessary:

1) Develop and implement site health, safety and security measures.

2) Develop and implement air monitoring program.

3) Remove contamination until the cleanup criterion of 5 picoCuries per gram total radium (radium-226 + radium-228) over background is achieved. This cleanup criterion will be met in each 15 centimeter layer below the surface. Averaging over areas up to 100 square meters will be allowed, but only after reasonable efforts have been made to achieve levels As Low As Reasonably Achievable (ALARA). It is not U.S. EPA's intent to leave any elevated areas of contamination if at all possible.

4) Establish local background for radium-226 and radium-228 from four soil samples taken on the property at points where the

gamma exposure rates are lowest plus eight soil samples taken off-site, but in the immediate vicinity, of the parking lot.

5) Transport and dispose of all characterized or identified hazardous substances, pollutants, wastes or contaminants at a RCRA/CERCLA/IDNS approved disposal facility in accordance with the U.S. EPA Off-Site Rule (58 F.R. 49200).

6) Conduct off-site surveying and sampling as necessary and, at a minimum, implement 40 CFR 192, if deemed necessary should contamination be discovered beyond current site boundaries.

7) Backfill all excavations with suitable material, and if soil, test borrow source for radioactivity and other pertinent characteristics in 40 CFR Part 261.

Removal activities will require approximately 60 on-site working days to complete. The threat posed by continual gamma-ray exposure meets the criteria listed in Section 300.415(b)(2) of the NCP and are consistent with any long-term remedial action which may be required.

The OSC has begun planning for the provision of post-removal site control, consistent with the provisions of Section 300.415(k) of the NCP. However, the nature of the removal should eliminate all exposure threats, which should minimize the need for post-removal site control.

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants or contaminants at the facility which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements(ARARS)

All applicable or relevant and appropriate requirements(ARARS) of Federal law will be complied with to the extent practicable.

The primary Federal ARAR for soil cleanup criteria is Title 40, Part 192, of the Code of Federal Regulations, "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings". Ancillary ARARs include the NRC's Title 10, Part 20, of the Code of Federal Regulations,"Standards for Protection Against Radiation", NRC Regulatory Guide 1.86, "Termination of Operating Licenses for Nuclear Reactors", and the Department of Transportation's Title 49 for shipping hazardous materials. Also, many of the regulations carried out by NRC have been delegated to IDNS.

U.S. EPA is awaiting a waste designation from IDNS. Once IDNS classifies the waste, U.S. EPA will incorporate that information into remediation of the Site. IDNS has state jurisdiction over the radiological contamination at the site.

In accordance with the revised NCP, Section 300.825(a)(1), a list of State ARARs will be added to the administrative record.

VI. CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED

Delayed or non-action may result in increased likelihood of direct contact threat to human populations accessing and working on the Site. Also, since there is no threshold for cancer the continued exposure to gamma rays will increase the cancer risk.

VII. OUTSTANDING POLICY ISSUES

The proposed action may result in U.S. EPA re-examining its position on the Lindsay Light I site, which is the building described in Section IIB. This building is also thorium-contaminated; however, gamma levels above background can not be detected outside the building. The only persons exposed to the contamination are occupants or visitors to this building. The Lindsay Light I site was referred to the Occupational Safety and Health Administration (OSHA) at two different times but they are constrained by their regulations.

VIII. ENFORCEMENT

For administrative purposes, information concerning confidential enforcement strategy for this site is contained in the Enforcement Confidential Addendum.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Lindsay Light II site, in Chicago, Illinois, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for this site. Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal action. You may indicate your decision by signing below:

APPROVE: Wm. E. Muno 4/22/96
DIRECTOR, SUPERFUND DIVISION

DISAPPROVE: _____
DIRECTOR, SUPERFUND DIVISION

Enforcement Confidential Addendum

-W-

DATE 4-13-98	6	GENERAL REVISIONS	9/15/99	TC
DATE 4-13-98	5	GENERAL REVISIONS	5/19/99	TC
	4	GENERAL REVISION	1/13/99	EJ
DATE 4-13-98	3	GENERAL REVISION	12/28/98	EJ
	2	GENERAL REVISION	5/22/98	EJ
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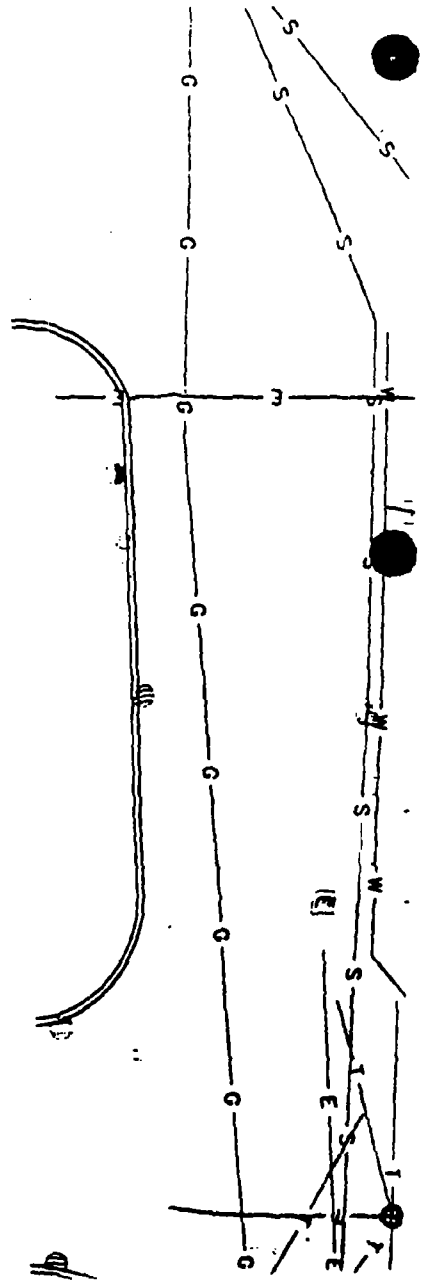

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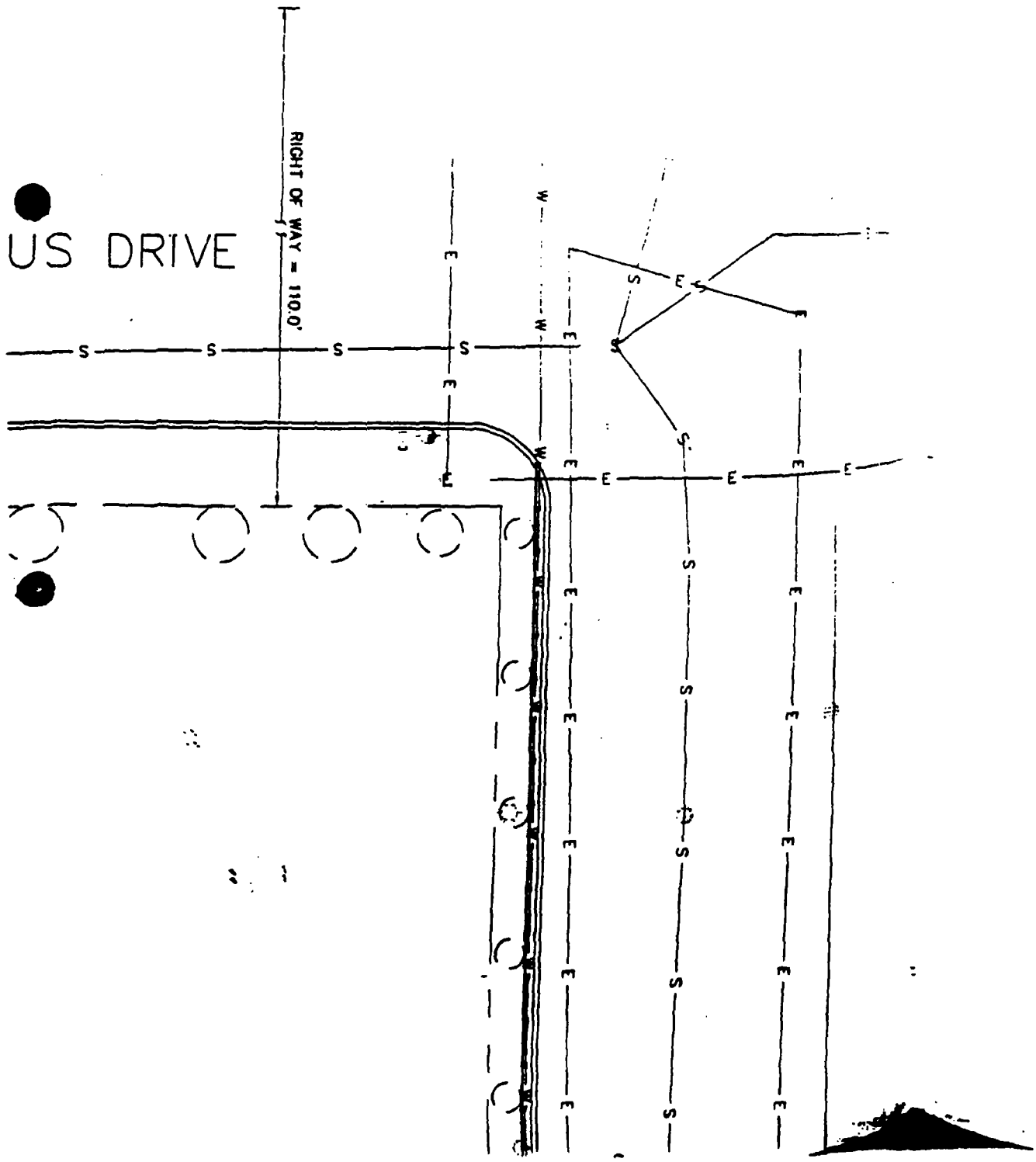
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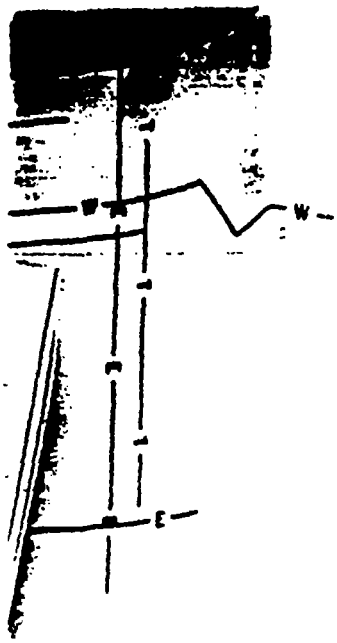

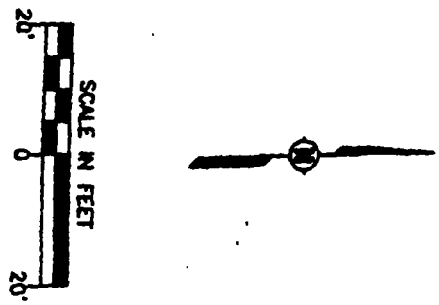

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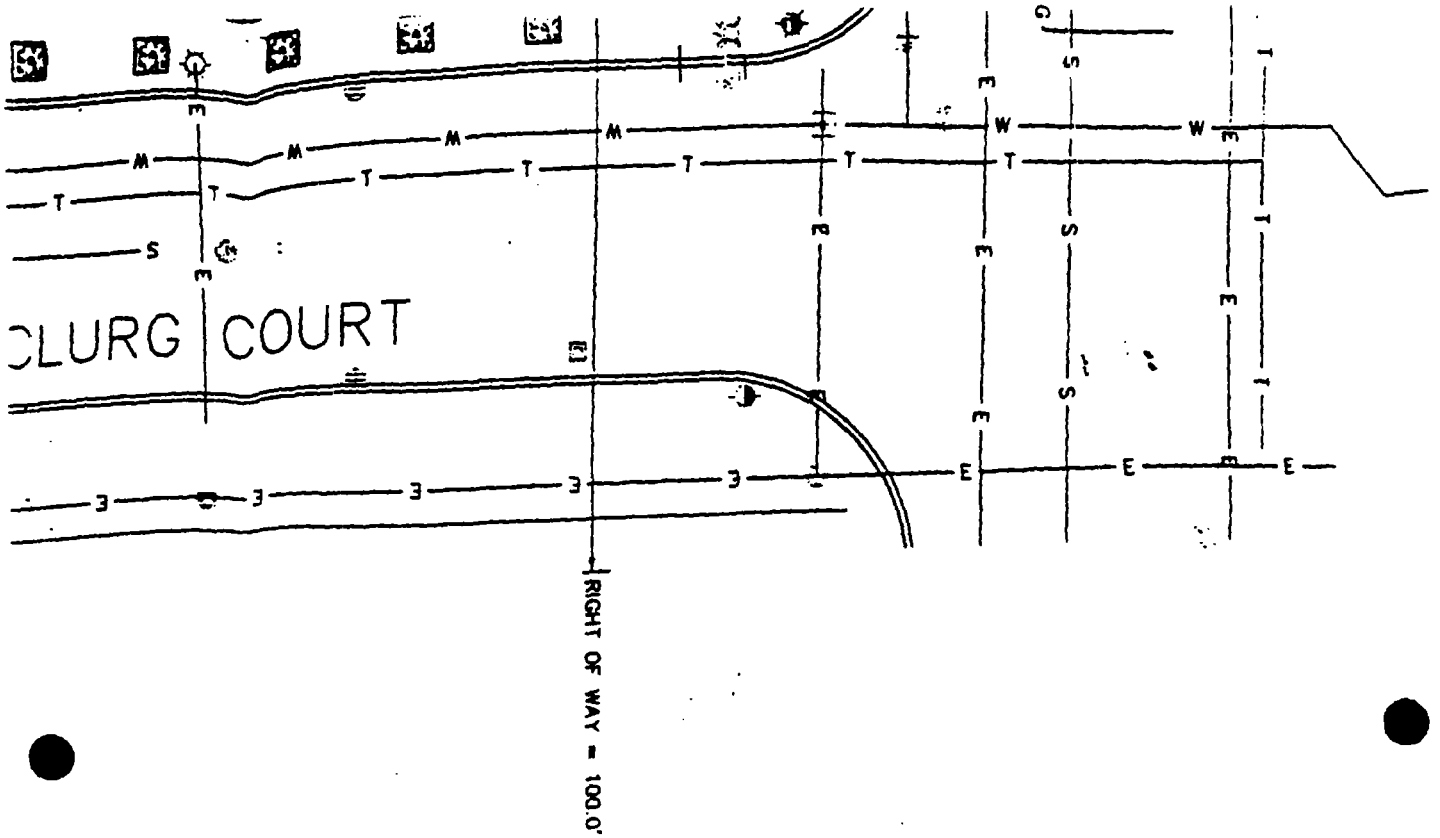

M TED RIGHTS-OF-WAY

RIVER EAST CENTER
MIXED USE DEVELOPMENT
500 EAST ILLINOIS STREET
CHICAGO, ILLINOIS

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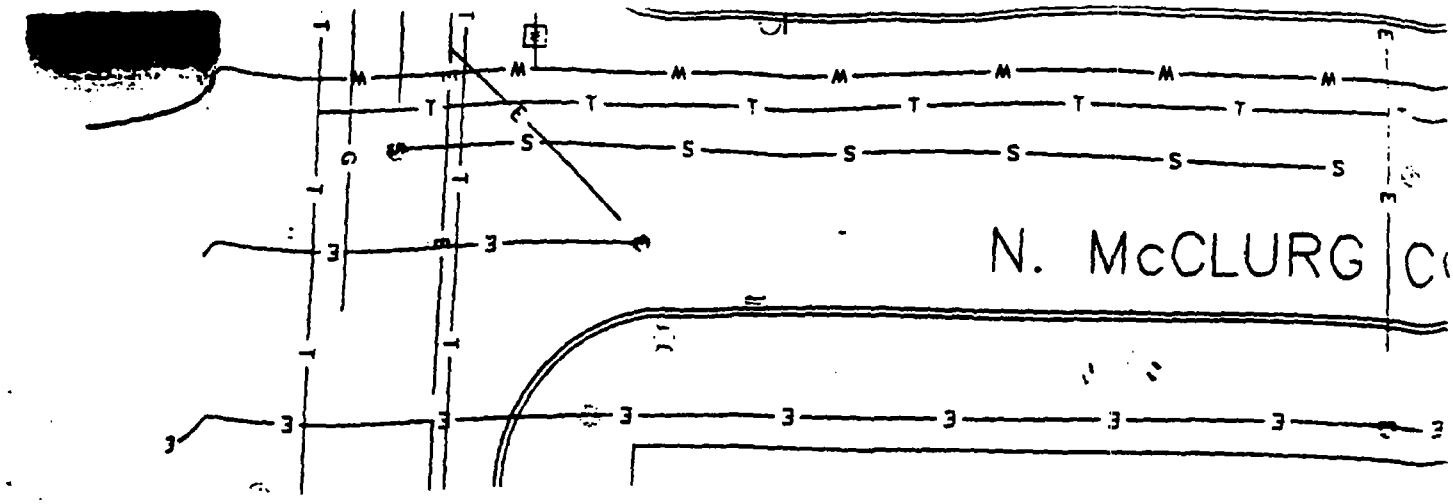


IMPACTED RIGHTS-OF-

RIVER EAST CENTER
MIXED USE DEVELOPME
300 EAST ILLINOIS STR
CHICAGO, ILLINOIS

GEND

pCi/gm

LOCATION OF THORIUM IMPACTED SOIL AND MEASURED TOTAL RADIUM CONCENTRATION

O PORTION OF THE 5.17 FOOT STRIP OF LAND DEPICTED AS THE AREA TO BE VACATED" ON THE DRAWING ATTACHED TO THE CITY OF CHICAGO ORDINANCE ENACTED SEPTEMBER 1, 1999 AND NO PORTION OF THE ENC-ROACHMENTS APPROVED BY THE CITY OF CHICAGO ENACTED OCTOBER 7, 1998 AND NO PORTION OF THE SITE LIES WITHIN THE AREA DESIGNATED HEREON AS "IMPACTED RIGHTS-OF-WAY"

IGHT-OF-WAY DIMENSIONS FROM 21st EDITION ATLAS OF COOK COUNTY, LLINOIS, VOLUME 9, TH SIDWELL COMPANY, 1998

RIVER EAST

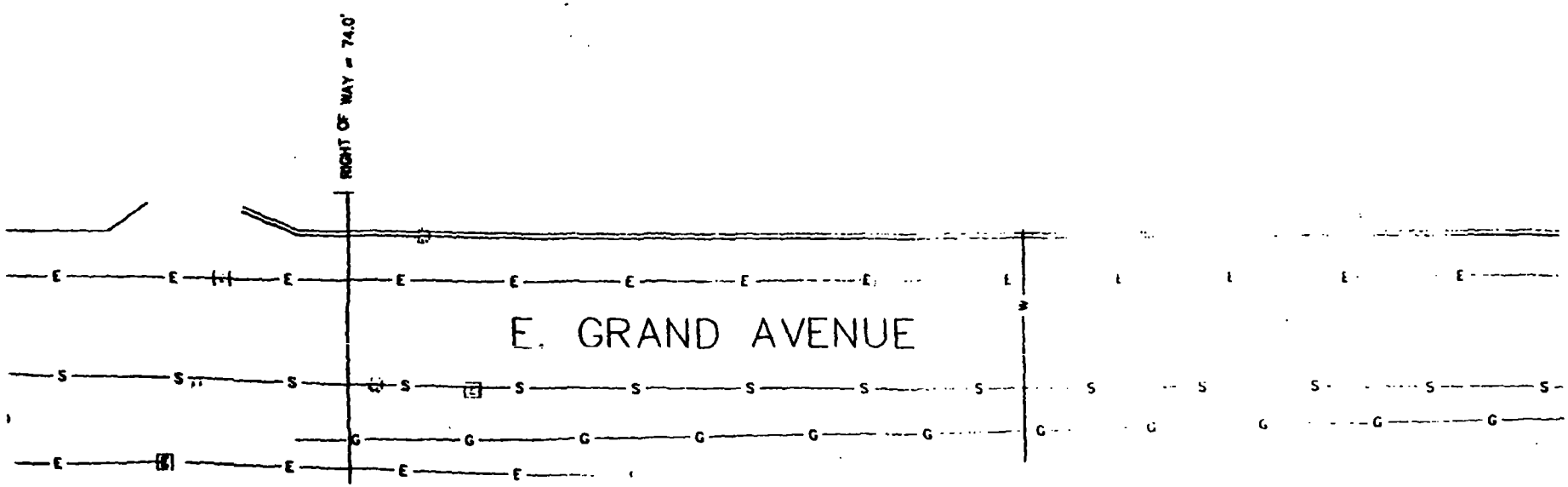
CASE FOUNDATION COMPANY

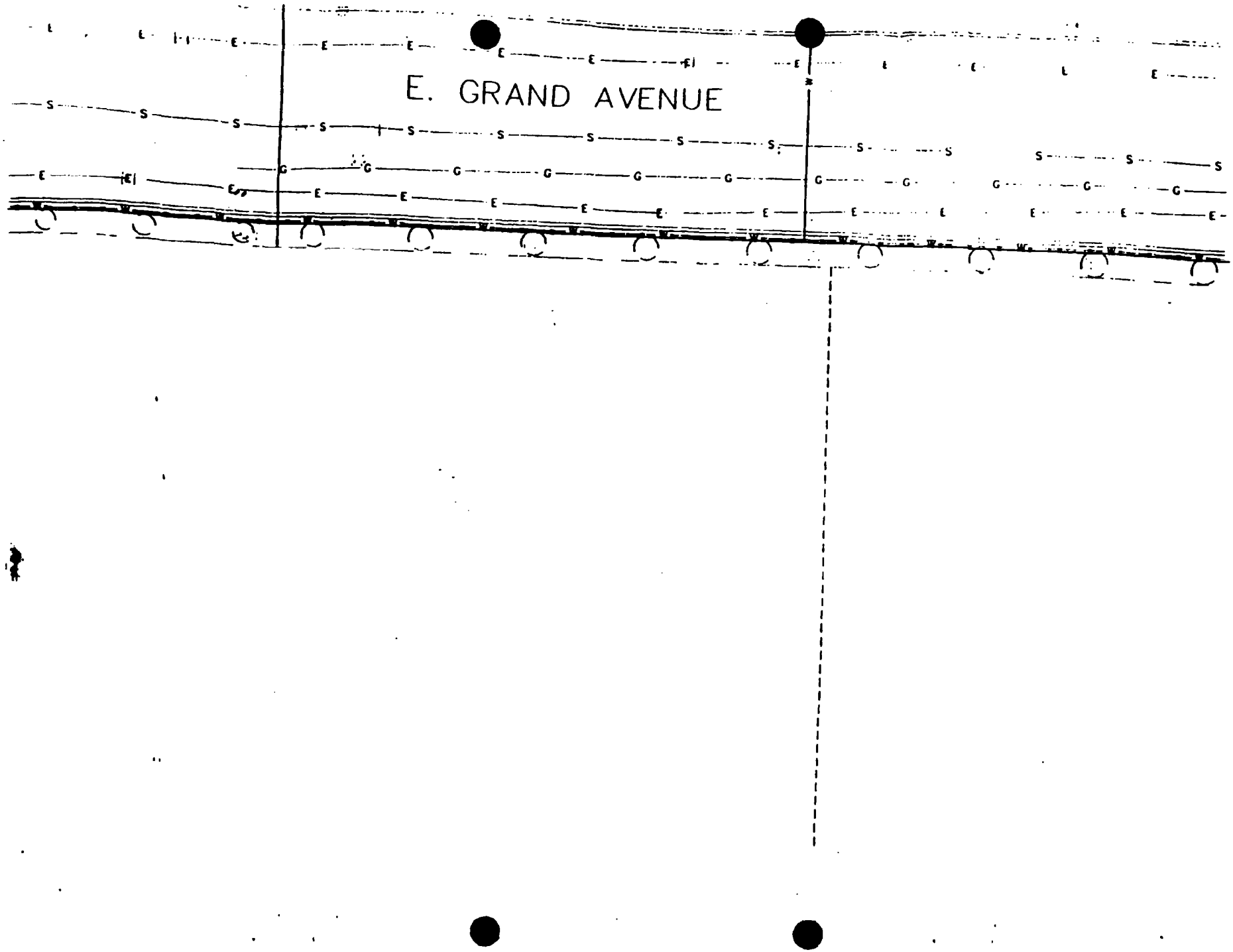
STS PROJECT NUMBER
24418-RR

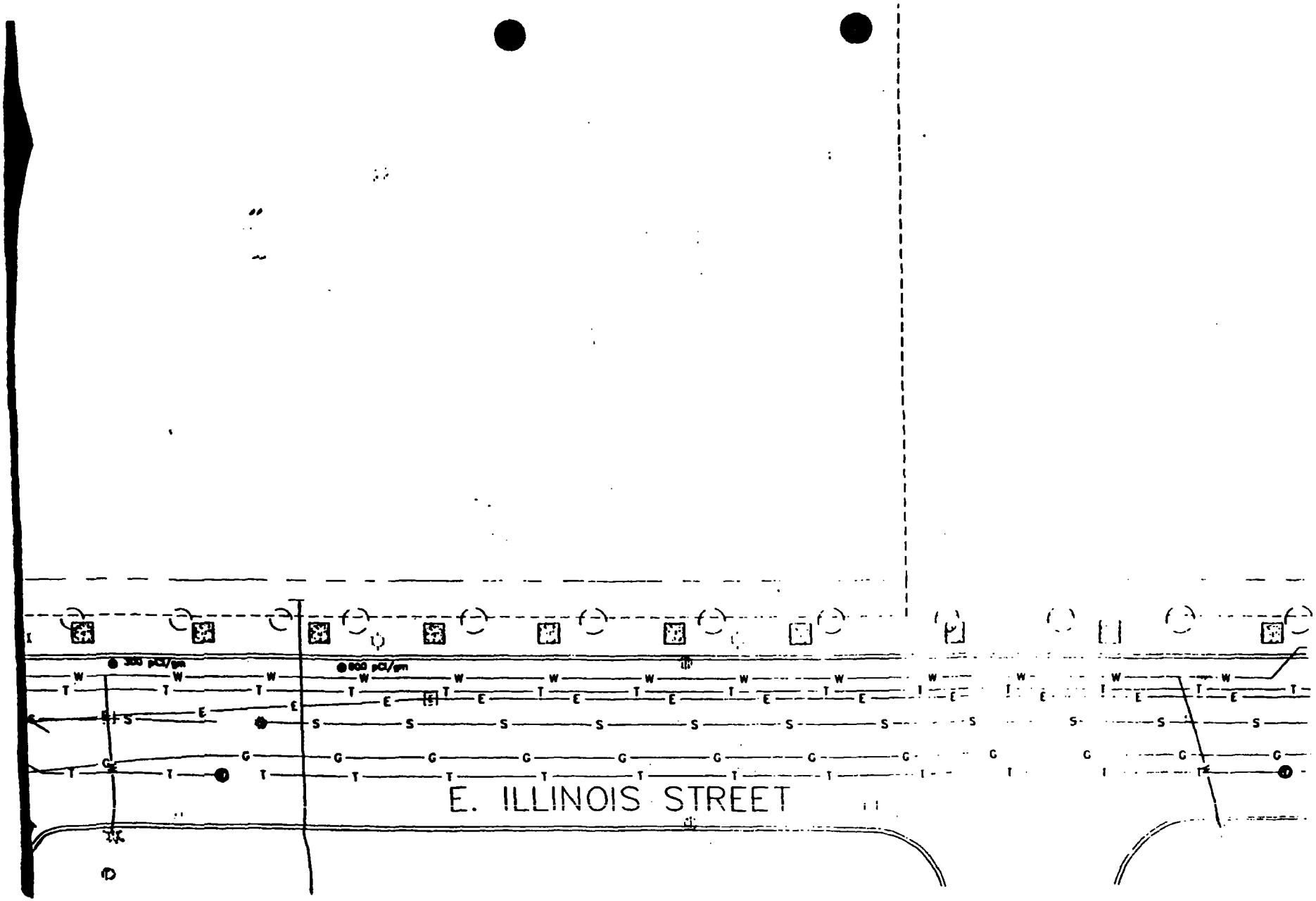
STS PROJECT FILE
Glplan2.dwg

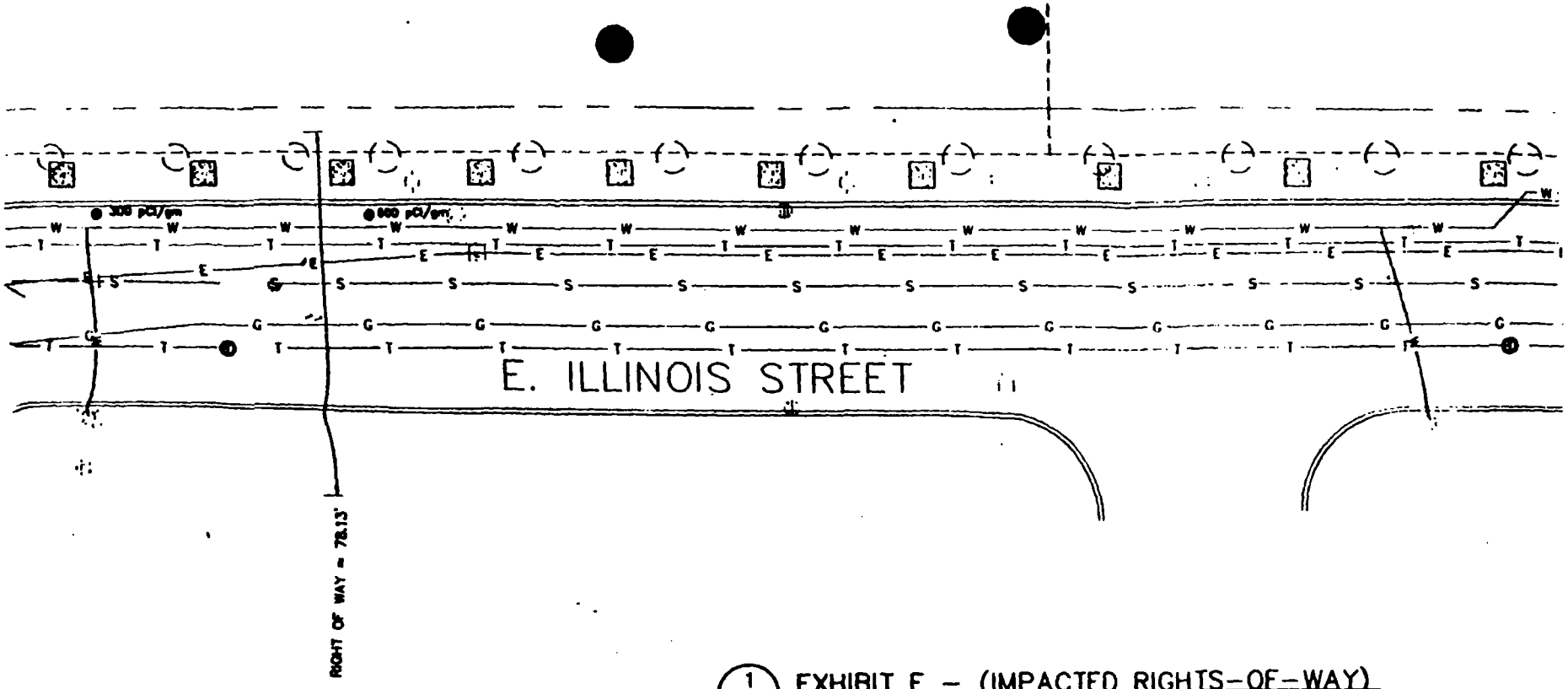
SCALE
AS SHOWN

SHEET NUMBER
1.1

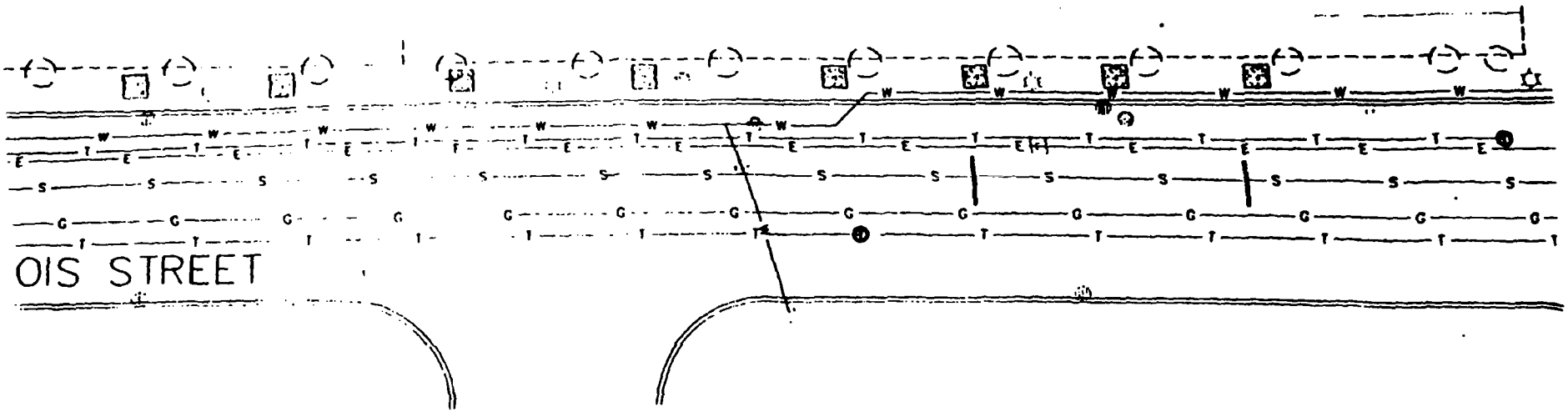

RIGHT OF WAY = 74.0'
E. GRAND AVENUE


E. GRAND AVENUE


300 pCi/gm
600 pCi/gm
E. ILLINOIS STREET



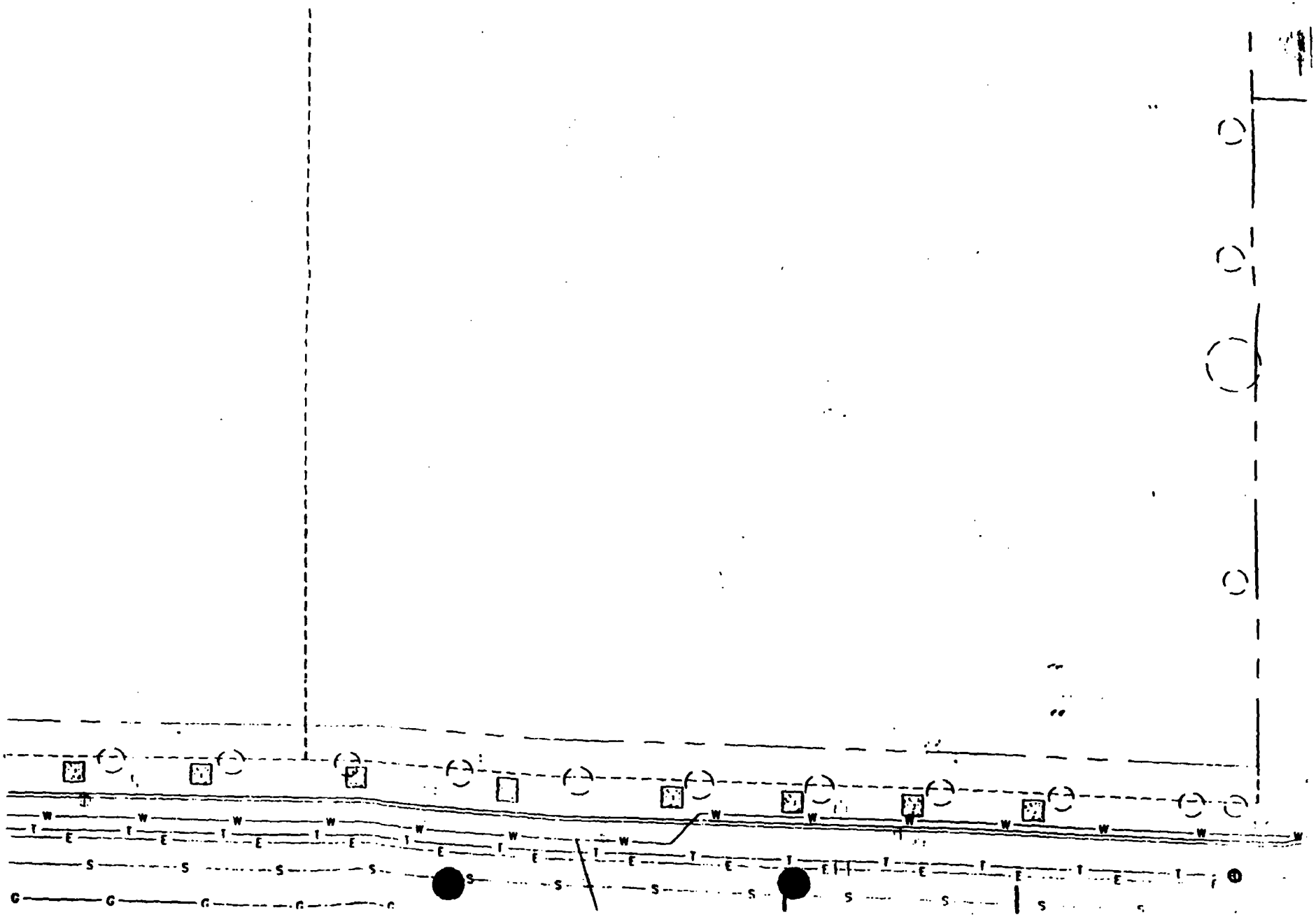
1/2 EXHIBIT E – (IMPACTED RIGHTS-OF-WAY)
SCALE: 1"=20'

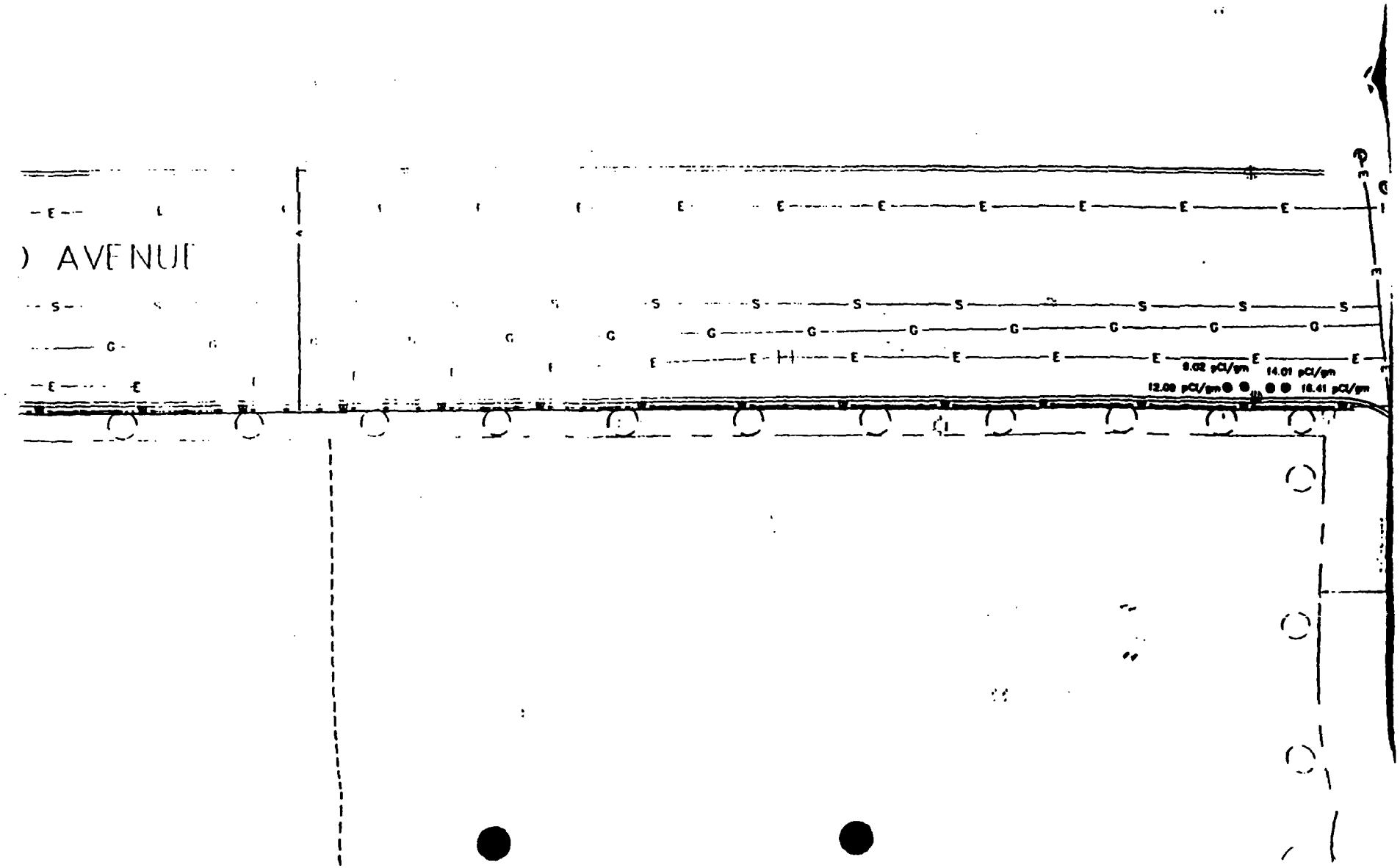


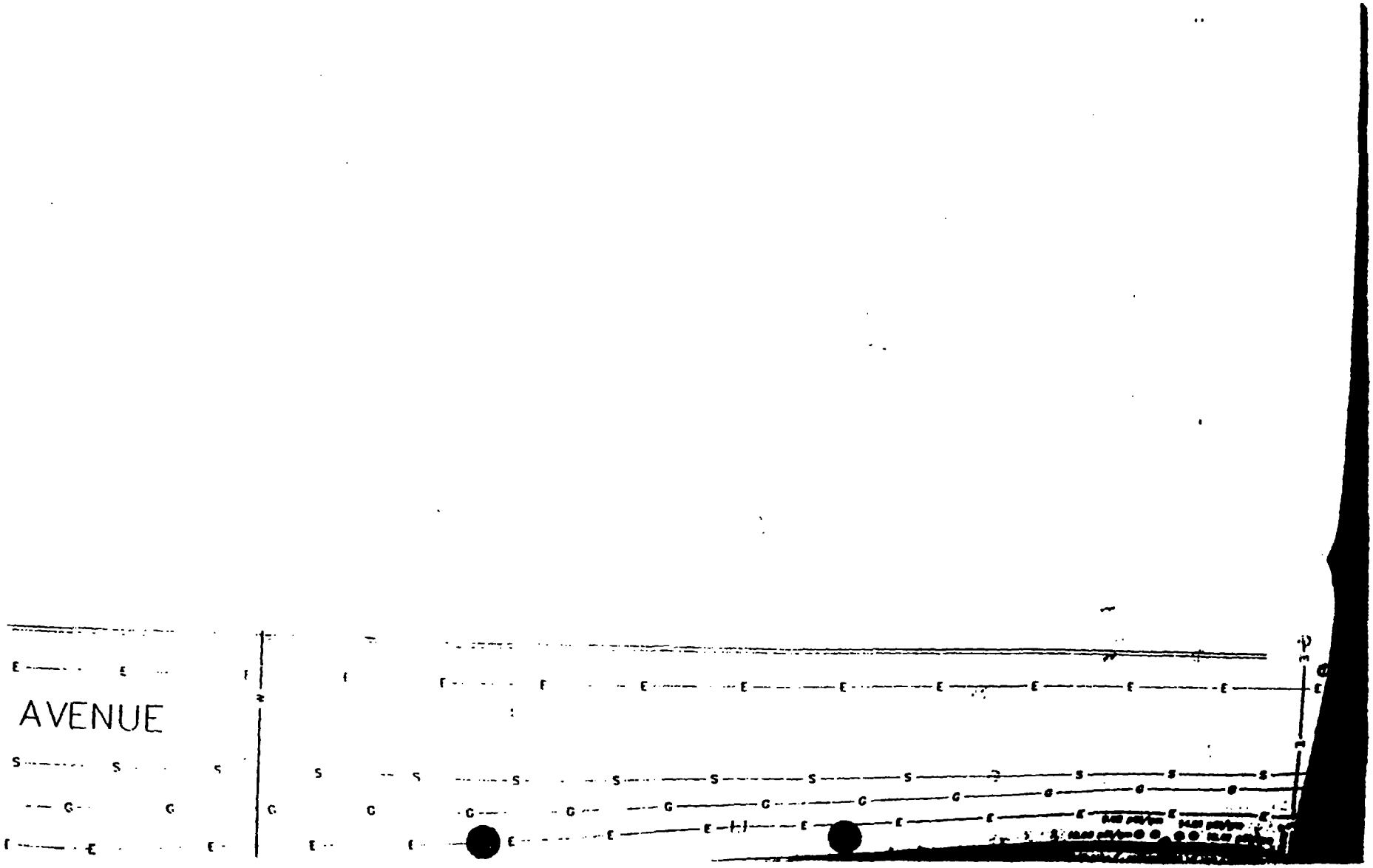
1/2 EXHIBIT E – (IMPACTED RIGHTS-OF-WAY)
SCALE: 1"=20'

NO
(1)

(2)

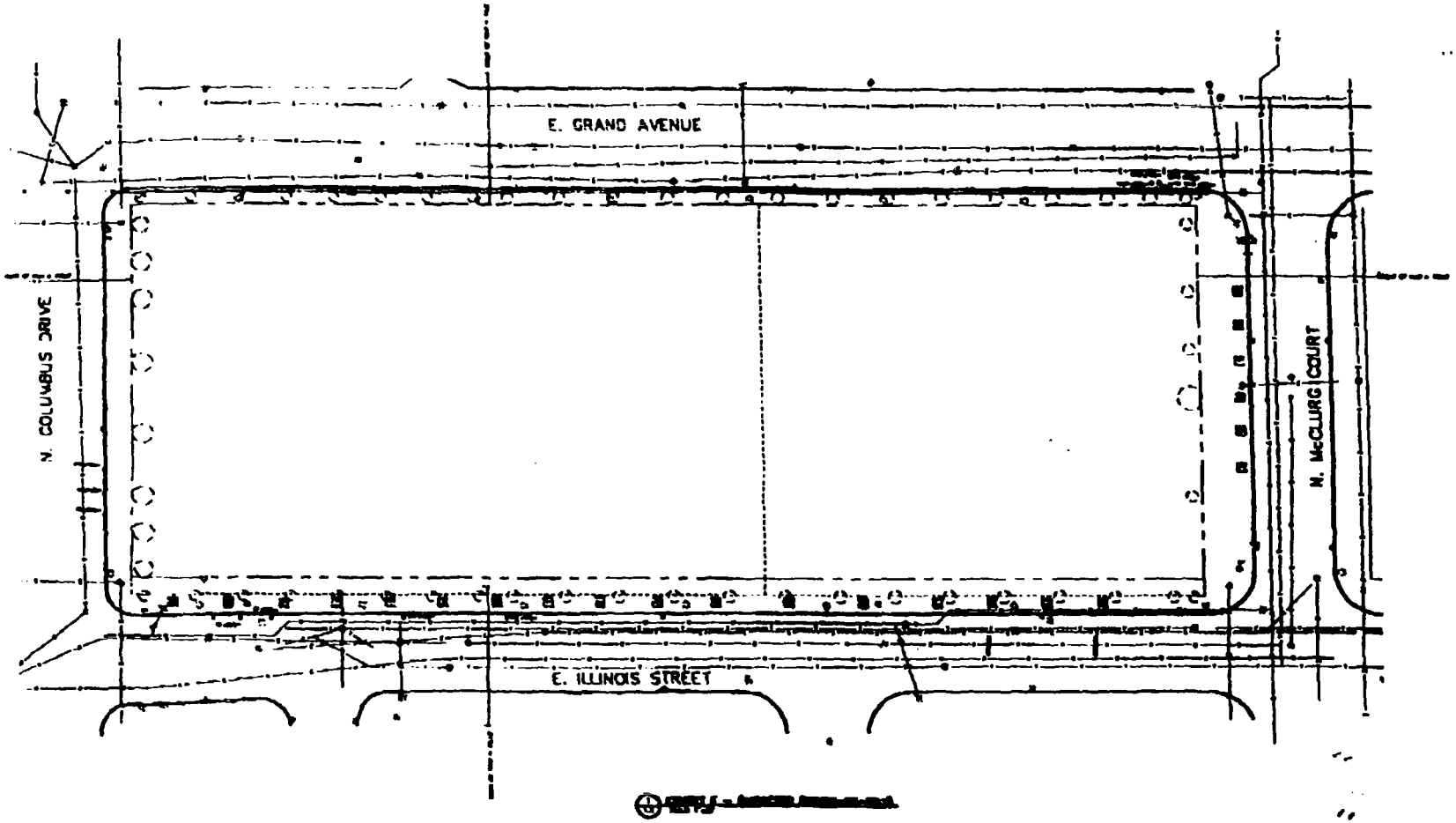



AVENUE
8.02 pCi/gm
14.01 pCi/gm
12.09 pCi/gm
16.41 pCi/gm


AVENUE

ATTACHMENT 2

MAP


E. GRAND AVENUE
N. COLUMBUS DRIVE
N. McCLURG COURT
E. ILLINOIS STREET

LEGEND

ATTACHMENT 3

U.S. EPA REMOVAL ACTION ADMINISTRATIVE RECORD
For LINSAY LIGHT II, CHICAGO, ILLINOIS

AR

ATTACHMENT 3

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II SITE
CHICAGO, ILLINOIS

ORIGINAL
MAY 2, 1994

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	06/21/93	Karl, R., U.S. EPA	Klinger, J., Illinois Dept. of Nuclear Safety	Letter re: Illinois Dept. of Nuclear Safety	1
2	08/18/93	Kouris, T., Ecology and	Pfundheller, J., U.S. EPA	Letter re: Site Assess-ment	4
3	08/26/93	TMA Eberline	Ecology and Environment, Inc.	Thermoluminescent Dosimeter Badges Data	3
4	08/27/93	Klinger, J., Illinois	Karl, R., U.S. EPA	Response to U.S. EPA Letter Dated 6/21/93	2
5	01/27/94	Muno, W., U.S. EPA	Chicago Dock & Canal Trust	Administrative Order by Consent	16
6	07/11/94	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum	12
			UPDATE #1 **SEPTEMBER 18, 1995**		
1	09/00/93	Rogers & Associates Engineering Corporation	Chicago Dock & Canal Trust	Work Plan for Character-ization of Radioactive Contamination, 316 East Illinois St., Chicago, Illinois: Appendix E, Supplemental; Other Sampling	17
2	10/05/95	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health or the Environment at the Lindsay Light II Site	22
			UPDATE #2 (REVISED) **APRIL 1, 1996**		
1	04/22/96	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health and the Environment at the Lindsay Light II Site	40

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
			UPDATE #3 JUNE 3, 1996		
1	10/27/95	STS Consultants, Ltd.	U.S. EPA	The Chicago Dock & Canal Trust Report for Characterization Investigation: Gamma Radiation Survey, Lindsay Light II Site w/Attachments A-E (3 Volumes)	1331
			UPDATE #4 JUNE 24, 1996		
1	10/25/96	Klinger, S., Illinois Dept. of Nuclear Safety	Thompson, R., U.S. EPA	Letter re: Classification of Radioactive Material at Lindsay Light II	1
2	05/30/96	Weber, M., Illinois EPA	Simon, V., U.S. EPA	Letter re: Coordination of Removal Effort and Identification of Applicable or Relevant and Appropriate Requirements (ARARs) for the Lindsay Light II Site	3
3	06/04/96	Allen, R., Illinois Dept. of Nuclear Safety	Simon, V., U.S. EPA	Letter re: Identification of Applicable or Relevant and Appropriate Requirements for the Lindsay Light II Site w/Attachment (Action Criteria for Superfund Removal Actions at the Kerr-McGee Residential Areas Site, West Chicago, IL)	21
4	06/13/96	Morin, C., Illinois EPA	Simon, V., U.S. EPA	Letter re: Response to June 2 Letter Regarding ARARs for the Lindsay Light II Site w/Attachment (List of State and Federal ARARs and TCBs re: Inclusion of ARARs in the Administrative Record)	9

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
			UPDATE #5 **SEPTEMBER 22, 1999**		
1	02/12/98	U.S. EPA/ OERR	U.S. EPA	OERR Directive No. 9200.4-25	5
2	00/00/00	Simon, V. & F. Micke; U.S. EPA	Muno, W., U.S. EPA	Action Memorandum Amendment: Determination that Specific Institutional Controls are Adequate to Abate the Threat to Public Health and the Environment from the Thorium Under the Rights-Of-Way Adjacent to the Lindsay Light II Site **(PENDING)**	

ATTACHMENT - 4

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

MEMORANDUM

DATE:

SUBJECT: ACTION MEMORANDUM - Determination of Threat to Public Health or the Environment at the Lindsay Light II Site Chicago, Cook County, Illinois (Site Spill ID #YT)

FROM: Verneta J. Simon, On-Scene Coordinator Verneta J. Simon
Emergency and Enforcement Response Branch - Section III

TO: William E. Muno, Director
Superfund Divison

I. PURPOSE

The purpose of this Memorandum is to document the determination of an imminent and substantial threat to public health and the environment posed by the results of a Potentially Responsible Party (PRP) lead extent of contamination study at the Lindsay Light II Site, a public parking lot located at 316 East Illinois Street in Chicago, Illinois.

Prior PRP actions were conducted pursuant to an Administrative Order by Consent (AOC) dated January 27, 1994, (please see confidential enforcement addendum) and required the following actions:

1) Develop and implement site health and safety plan.

2) Conduct land surveying to the extent necessary to locate all property boundaries and features, sample locations and areas having elevated radiation levels.

3) Place borings in several locations for the purpose of measuring subsurface radiation levels. Measurements shall be recorded until the natural soils are reached or radiation levels reach background, whichever is the greatest depth.

4) Collect soil samples from the borings and analyze for radionuclide content and RCRA characteristics. These results will then be used by the PRP to correlate subsurface radiation levels and radionuclide content.

5) Transport and dispose of all characterized or identified hazardous substances, pollutants, wastes or contaminants at a RCRA/CERCLA approved disposal facility in accordance with the U.S. EPA off-site rule.

This site is not on the National Priorities List (NPL).

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILD 0000002212

Please refer to the previous Action Memorandum dated July 11, 1994 for a description of site conditions and background location.

Activities completed at this site, besides the extent of contamination study, have been the PRP (Chicago Dock and Canal Trust) voluntarily placed notices at the entrance to the parking lot informing patrons of the risks associated with the lot. The PRP also appears to have successfully encouraged another company, Kerr-McGee, to participate in site remediation. On September 8, 1995, U.S. EPA, Chicago Dock and Canal Trust, and Kerr-McGee met to discuss the framework of future site remediation including the drafting of either an AOC or Unilateral Administrative Order (UAO) to implement remediation work by the PRPs.

III. THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Please refer to Section III of the attached Action Memorandum dated July 11, 1994.

IV. ENDANGERMENT DETERMINATION

Please refer to Section IV of the attached Action Memorandum dated July 11, 1994.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

Pursuant to the AOC or UAO, the PRP will fully remediate the site until maximum protectiveness of the human health and the environment is achieved. This will involve at a minimum the following actions.

1) Develop and implement site health and safety plan.

2) Conduct off-site radiological surveying and sampling as necessary and, at a minimum implement 40 CFR 192 if deemed necessary should extensive contamination be discovered beyond current site boundaries.

3) Transport and dispose of all characterized or identified hazardous substances, pollutants, wastes or contaminants at a RCRA/CERCLA approved disposal facility in accordance with the U.S. EPA off-site rule.

The OSC has begun planning for the provision of post-removal site control, consistent with the provisions of Section 300.415(k) of the NCP. However, the nature of future response actions should

eliminate all exposure threats, which should minimize the need for post-removal site control.

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants or contaminants at the facility which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements (ARARS)

All applicable or relevant and appropriate requirements (ARARS) of Federal law will be complied with to the extent practicable. A letter was sent on August 25, 1995, by Kerr-McGee to the Illinois Department of Nuclear Safety (IDNS) requesting that the IDNS change the waste designation from this site to 11(e)2 "by-product" material and this request is contained in Attachment 1. Correspondence dated August 27, 1993 from the IDNS stated waste from this site should be called "source" material. Once Kerr-McGee receives a response from the IDNS, the waste designation issue should be finally resolved and incorporated into the remediation of this site.

In accordance with the revised NCP, Section 300.825(a)(1), the response from the State to the request for ARARs will be added to the administrative record for this site once the response has been received and evaluated.

VI. CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED

Please refer to Section VI of the attached Action Memorandum dated July 11, 1994.

VII. OUTSTANDING POLICY ISSUES

None.

IX. ENFORCEMENT

For administrative purposes, information concerning confidential enforcement strategy for this site is contained in the Enforcement Confidential Addendum.

X. RECOMMENDATION

This decision document represents the selected removal action for the Lindsay Light II site, in Chicago, Illinois, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for this site. Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal action.

APPROVE: Wm. E. Muno 10/5/95
DIRECTOR, SUPERFUND DIVISION

DISAPPROVE: _____
DIRECTOR, SUPERFUND DIVISION

Attachments: Enforcement Confidential Addendum
1. Letter Dated August 25, 1995 from Kerr-McGee to the Illinois Department of Nuclear Safety (without enclosures)
2. Action Memorandum dated July 11, 1994
3. Index to the Administrative Record

cc: Terri Johnson, OS-210
Don Henne, U.S. Department of the Interior
Office of Environmental Policy and Compliance
U.S. Custom House, Room 217
200 Chestnut Street
Philadelphia, PA 19106
Gary King, IEPA Superfund Coordinator

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II SITE
CHICAGO, ILLINOIS

ORIGINAL
May 2, 1994

DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
06/21/93	Karl, R., U.S. EPA	Klinger, J., Illinois Dept. of Nuclear Safety	Letter Illinois Dept. of Nuclear Safety	1
09/18/93	Kouris, T., Ecology & Environment, Inc.	Pfundheller, J., U.S.EPA	Letter re: Site Assessment	4
08/26/93	TMA Eberline	Ecology & Environment, Inc.	Thermoluminescent Dosimeter Badges Data	3
08/27/93	Klinger, J., Illinois Dept. of Nuclear Safety	Karl, R., U.S. EPA	Response to U.S. EPA Letter Dated 6/21/93	2
1/27/94	Muno, W., U.S. EPA	Chicago Dock & Canal Trust	Administrative Order by Consent	16
07/11/94	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum	12

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II
CHICAGO, ILLINOIS

UPDATE #1
SEPTEMBER 18, 1995

DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
09/00/93	Rogers & Associates Engineering Corporation	Chicago Dock & Canal Trust	Work Plan for Characterization of Radioactive Contamination, 316 East Illinois St., Chicago, Illinois: Appendix E, Supplemental; Other Sampling	17
10/05/95	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health or the Environment at the Lindsay Light II Site	22

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

REPLY TO THE ATTENTION OF

MEMORANDUM

DATE: JUL 11 1994

SUBJECT: ACTION MEMORANDUM - Determination of Threat to Public Health or the Environment at the Lindsay Light II Site Chicago, Cook County, Illinois (Site Spill ID #ZA)

FROM: for Verneta J. Simon, On-Scene Coordinator Frank Rollins
Emergency and Enforcement Response Branch - Section III

TO: William E. Muno, Director
Waste Management Division

THRU: for Jodi L. Traub, Acting Associate Division Director
Office of Superfund

I. PURPOSE

The purpose of this Memorandum is to document the determination of an imminent and substantial threat to public health and the environment posed by the existence of elevated gamma levels as high as 280 microRoentgen per hour (R/hr) at the Lindsay Light II Site, a public parking lot located at 316 East Illinois Street in Chicago, Illinois.

Potentially Responsible Party (PRP) lead response actions are being taken pursuant to an Administrative Order by Consent (AOC) (please see confidential enforcement addendum). These response actions essentially require an extent of contamination study which will help determine the scope of future response actions Currently, the parking lot is covered with asphalt and/or concrete and persons parking at this lot are not expected to be exposed long enough to be adversely affected by the gamma rays emitted. The gamma ray exposure received by parking lot attendants and any long-term area transients may pose an imminent and substantial threat to public health.

This site is not on the National Priorities List (NPL).

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILD 0000002212

A. Physical Location

The Lindsay Light II Site, a public parking lot, is located at 316 East Illinois Street, Chicago, Cook County, Illinois. This 3-acre Site is bounded by Grand Avenue, Illinois Street, McClurg Court and Columbus Drive and is situated in a urban area called the Gold Coast. This property is surrounded by commercial and residential buildings with a shopping mall located approximately 200 feet to the south east. The Chicago River is located 1 mile south of the Site and Lake Michigan is about 1.5 miles east of the Site. This Site has the usual metal barricades for a parking lot; however, it does not totally restrict access. It is possible to step over the barricades if you want to gain entry to the parking lot or use it as a short-cut.

B. Site description and background

The Lindsay Light II Site was once occupied by the Lindsay Light Chemical Company, which made incandescent gas mantles for home and street lighting. Earlier reports show this company first imported and then manufactured mantles. These activities occurred from at least 1910 until 1936 at 161 East Grand, which is .25 miles from the Site. It is unclear what Lindsay Light actually did at 316 East Illinois, however, records from the Chicago Dock and Canal Trust indicate this site was a stable, and that Lindsay Light leased portions of the building from Chicago Dock and Canal Trust from 1915-1933. Sometime after 1933, Lindsay Light moved to West Chicago, Illinois and was later purchased by American Potash, who in turn, was purchased by Kerr-McGee Chemical Company.

Gas mantle manufacturing involves dipping gauze mantle bags into solutions containing thorium nitrate and small amounts of cerium, beryllium and magnesium nitrates. The principal ingredient in thorium nitrate is radioactive thorium, specifically, thorium-232. Thorium-232, which is the parent of the Thorium Decay Series, has a half-life of 14 billion years. It is believed that the principal source of contamination at this Site is the Thorium Decay Series.

C. Current site conditions

Conditions have not changed since the site assessment on June 3, 1993. This property is still operated as a public parking lot with attendants stationed as shown on Figure 1.

D. Other actions to date

From June 30, 1993 to July 30, 1993, two thermoluminescent dosimeter(TLD) badges were placed in the ticket booths shown in Figure 1. TLD results for these locations were as follows:

TLD #	
9035	0.00058 millirem per hour or about 1.2 millirem per year
9036	-0.00184 millirem per hour or -3.7 millirem per year (which means all values are effectively zero)

These results were compared to the Nuclear Regulatory Commission (NRC) regulations in the new Title 10, Part 20.1301, Code of Federal Regulations of 100 millirem per year and 2 millirem per hour for individual members of the general public. The above results did not exceed either of these relevant levels.

The City of Chicago, the Illinois Environmental Protection Agency, and the Illinois Department of Nuclear Safety are aware of site conditions and plans described in this Action Memorandum.

III. THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Lindsay Light II site may pose an imminent and substantial endangerment to public health or welfare or the environment, based upon factors set forth in the National Contingency Plan(NCP), 40 CFR 300.415 (b)(2). These factors include:

a) actual or potential exposure to nearby populations, animals, or the food chain from hazardous substances or pollutants or contaminants:

This factor is present at the site due to the existence of a public parking lot on property found to have gamma readings measured as high as 280 microRoentgen per hour (uR/hr) on a Ludlum Model 19 Micro-R meter. This reading is 14 times the background level, 20 uR/hr, measured for the site.

Gamma rays are penetrating radiation indistinguishable from X-rays which can be absorbed by tissue in the human body, thereby increasing the cancer risk for the person exposed. The excess risk to a transient spending 1 hour per day for a 250 day work year at this peak exposure spot is 5×10^{-5}. Transients were judged to be parking lot customers, people using the lot for a short cut or temporary workers. Such a risk is not justified by personal benefit to the transient nor by societal benefit.

The excess risk to a parking lot attendant spending an 8 hour shift for 250 days per work year at this spot is 3×10^{-4}. Again, such an exposure entails cancer risk that would have no personal or societal benefit. Direct measurements with survey instruments at the present parking lot attendant stations found background radiation levels and these were confirmed with longer

measurements using thermoluminescent dosimeters (TLDs). There is no guarantee these stations could not be moved to the peak point at some future time, thereby introducing the potential for exposure and risk to be actualized.

b) high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate:

The presence of elevated gamma exposure levels at the site validates subsurface deposits of radiological contaminants. The dominant concern is intrusion into these materials that will contaminant the intruder and their equipment and, further, lead to dispersal or spreading of the contaminants from its present locations. Such a scenario probably has arisen, and could again arise, with parking lot excavation where workers and their equipment are contaminated by radioactive soils, dry soil is dispersed in the wind and excavation spoils are moved offsite. The number of people exposed could be greatly increased and might include workers, their families if contaminants are carried home, workers who subsequently use contaminated machinery, residents near the parking lot who might be subject to wind dispersed soils and users of excavation spoils. Such spreading could occur within downtown Chicago where the parking lot is located and out for several miles depending upon where workers reside and where spoils are used. This is a plausible scenario since recent plans were to build a large hospital building on this site.

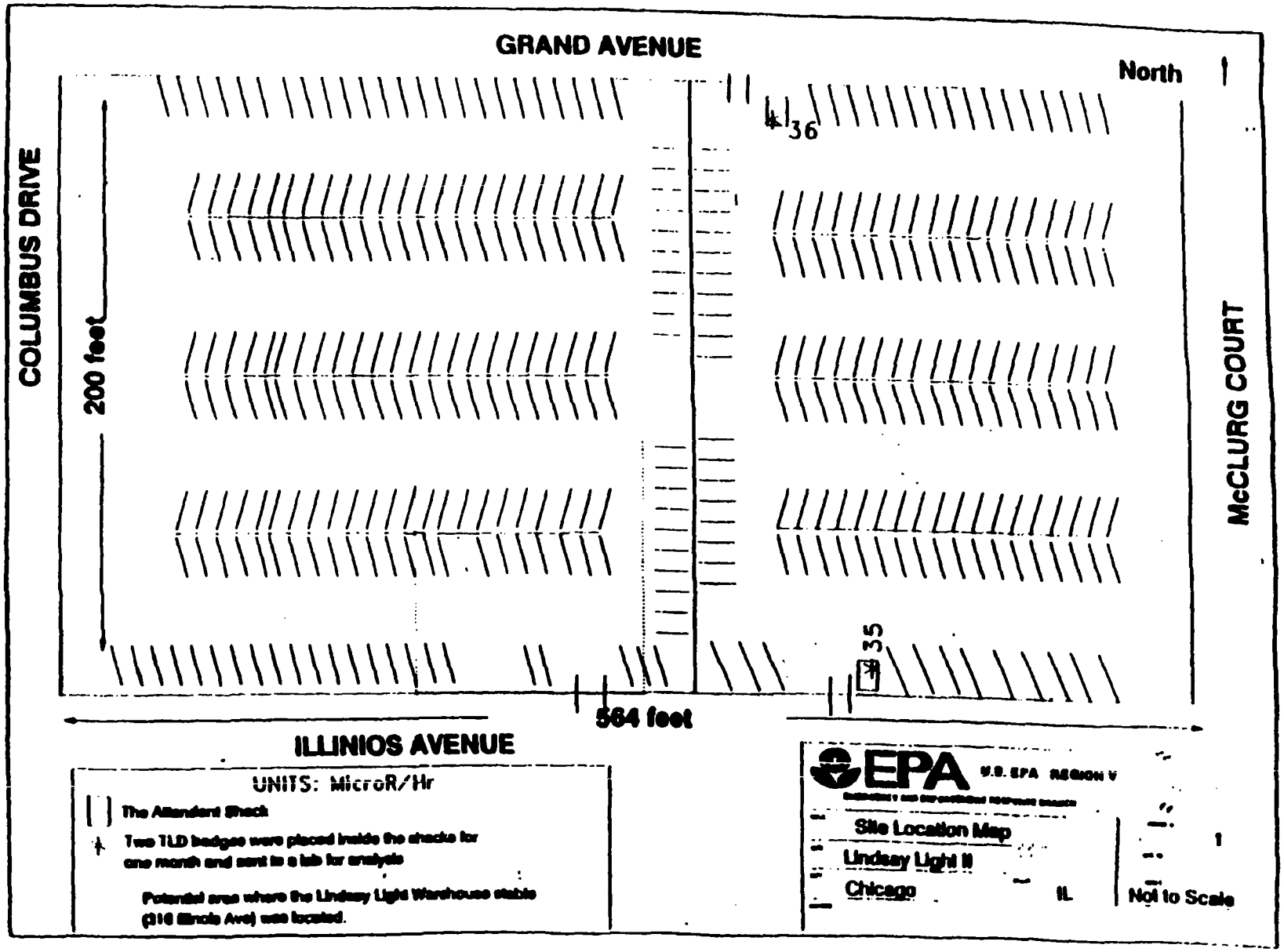
c) other situations or factors which may pose threats to public health or welfare or the environment

This factor is present at the Site due to the property's potential for future development. Such construction might entail excavating into potential contaminated soils for placement of building footings and cause increased releases into the environment and human exposure to contaminants. Also, it has not been determined whether subsurface contaminants are soluble. If they are there could be spreading via groundwater.

This site appears to be gridded with sewer lines. These could be conduits for the spread of both soluble and insoluble materials offsite, for extension of the region of contamination and for an increase in the potential for workers (sewer workers) to be exposed.

IV. ENDANGERMENT DETERMINATION

Given the nature of the Site, with unrestricted access to contaminants, the nature of these contaminants - gamma rays, which can not be stopped but attentuated; and an exposure pathway of direct contact, as described in Section II and III, the actual or threatened releases of hazardous substances from this Site, if


GRAND AVENUE
North
COLUMBUS DRIVE
200 feet
36
35
McCLURG COURT
564 feet
ILLINIOS AVENUE
UNITS: MicroR/Hr
The Attendant Shack
Two TLD badges were placed inside the shacks for one month and sent to a lab for analysis
Potential area where the Lindsay Light Warehouse stable (316 Illinois Ave) was located.
EPA
U.S. EPA REGION V
Site Location Map
Lindsay Light II
Chicago
IL
Not to Scale

not addressed by implementing the response action described in this Action Memorandum, may pose an imminent and substantial endangerment to public health, or welfare, or the environment due to the exposure to gamma rays, of parking lot attendants and/or site transients, which are above U.S. EPA's acceptable excess carcinogenic risk of $1x10^{-4}$.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

Pursuant to the AOC, the PRP intends to undertake the following actions to determine the extent of the contamination of the Site:

1) Develop and implement site health and safety plan.

2) Conduct land surveying to the extent necessary to locate all property boundaries and features, sample locations and areas having elevated radiation levels.

3) Place borings in several locations for the purpose of measuring subsurface radiation levels. Measurements shall be recorded until the natural soils are reached or radiation levels reach background, whichever is the greatest depth.

4) Collect soil samples from the borings and analyze for radionuclide content and RCRA characteristics. These results will then be used by the PRP to correlate subsurface radiation levels and radionuclide content.

5) Transport and dispose of all characterized or identified hazardous substances, pollutants, wastes or contaminants at a RCRA/CERCLA approved disposal facility in accordance with the U.S. EPA off-site rule.

The OSC has begun planning for the provision of post-removal site control, consistent with the provisions of Section 300.415(k) of the NCP. However, the nature of future response actions should eliminate all exposure threats, which should minimize the need for post-removal site control.

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants or contaminants at the facility which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

<u>Applicable or Relevant and Appropriate Requirements(ARARS)</u>

All applicable or relevant and appropriate requirements(ARARS) of

Federal law will be complied with to the extent practicable. A letter was sent to the Illinois Department of Nuclear Safety on June 21, 1993, requesting clarification on the waste designation any radiological material would be called. Their response was to classify waste from this site as "source" material and is contained in Attachment 1. Conversations held with representatives of the Illinois Environmental Protection Agency were that it was not necessary to send an ARARs letter to them since radiological matters are handled by the Illinois Department of Nuclear Safety, however, if it appears that any other issues occur during this action which are non-radiological an ARARs letter will be sent.

In accordance with the revised NCP, Section 300.825(a)(1), the response from the State to the request for ARARs will be added to the administrative record for this site once the response has been received and evaluated.

VI. CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED

Delayed or non-action may result in increased likelihood of direct contact threat to human populations accessing and working on the Site. Also, since there is no threshold for cancer, the continual exposure to gamma rays will increase the cancer risk.

VII. OUTSTANDING POLICY ISSUES

None.

IX. ENFORCEMENT

For administrative purposes, information concerning confidential enforcement strategy for this site is contained in the Enforcement Confidential Addendum.

X. RECOMMENDATION

This decision document represents the selected removal action for the Lindsay Light II site, in Chicago, Illinois, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for this site. Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal action.

APPROVE: Wm. E. Muno 7/11/94
DIRECTOR, WASTE MANAGEMENT DIVISION

DISAPPROVE: _____
DIRECTOR, WASTE MANAGEMENT DIVISION

Attachments: Enforcement Confidential Addendum
1. IDNS Letter Dated August 27, 1993
2. Index to the Administrative Record

cc: Terri Johnson, OS-210
Don Henne, U.S. Department of the Interior
Office of Environmnental Policy and Compliance
U.S. Custom House, Room 217
200 Chestnut Street
Philadelphia, PA 19106
Gary King, IEPA Supertund Coordinator

ATTACHMENT 1

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY
1035 OUTER PARK DRIVE
SPRINGFIELD, ILLINOIS 62704
217/785-9900
217/782-1333 (TDD)

Jim Edgar
Governor

Thomas W Ortciger
Director

August 27, 1993

Mr. Rick Karl, Acting Chief
Emergency and Enforcement Response Branch
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Dear Mr. Karl:

This is in response to your June 21, 1993, request for assistance regarding classification of radioactive contamination at two locations in Chicago and one West Chicago location. We have reviewed all available information concerning these locations and make the following recommendations:

1. 316 East Illinois St., Chicago - Radioactive material at this location should be classified as "source" material. This location was apparently a warehouse facility used in conjunction with the Lindsay Light Chicago gas mantle manufacturing operation.

2. 161 East Grand, Chicago - Radioactive material at this location should be classified as "source" material. This location apparently housed the corporate offices for Lindsay Light and was the manufacturing operation for the gas mantles. However, there is no substantive information that indicates that thorium was actually extracted from ore at this location. Lindsay Light produced thorium nitrate and used it for the gas mantle manufacturing operation, and, in fact, exported thorium nitrate during the period in question. The exact location where the thorium nitrate was produced is unknown. Therefore, the contamination associated with this property must be assumed to be associated with the manufacturing of gas mantles and should be classified as "source" material.

3. 185 West Washington, West Chicago - Our information indicates that this location was used as a laboratory facility in support of Kerr-McGee activities at their West Chicago site. Since all of the contamination associated with the Kerr-McGee West Chicago operations have been determined to be "Byproduct material", the contamination at this location should be classified as "Byproduct Material" as defined in 32 Ill. Adm. Code 332.23.

Please note that the above is based on a careful review of very limited information. If we obtain additional information that alters the above recommendations, we will inform you promptly. We hope this information is helpful and if we can be of additional assistance please contact us.

Sincerely,

Joseph G. Klinger

Joseph G. Klinger,
Head of Licensing
Division of Radioactive Materials

JGK:ren

RMCA
R.M. CHIN & ASSOCIATES, INC.
401 N. Michigan Avenue • Chicago, Illinois 60611

March 23, 2000

Ms. Verneta J. Simon, PE
U.S. Environmental Protection Agency
77 W. Jackson Boulevard (SE-5J)
Chicago, IL 60604

Via Fax & Mail

Re: Grand Pier Center
Chicago, IL
(ECD/GPC/2250.13)

Dear Ms. Simon:

Listed below is a summary of the information you requested at the Wednesday, March 15, 2000 meeting:

Health Screening

- The Health Screening for individuals has been set-up with Northwestern Memorial Hospital during the week of March 27, 2000.

HAZWOPER Training

- Training is to be conducted from March 27, 2000 through March 31, 2000 by Aires Consulting Group, Inc., and held at The Equitable Building, 401 N. Michigan.

Site Specific Training

- STS, RSSI, and Kerr-McGee will be conducting the training on April 3, 2000.

With the above, Grand Pier Center, L.L.C. is expecting to start up with the field work on April 4, 2000, including the work within Illinois Street.

I appreciate your cooperation and, should you have any questions, please feel free to contact Richard Berggreen or myself.

Sincerely,

R.M. Chin & Associates, Inc.

Michael J. Witte

Michael J. Witte
Senior Vice President

cc: R. Chin, B. Lorenc, E. Fulton, R. Berggreen (STS), J. Hayhurst (MDI)
J:\DGILLI-1\CORRESPO\2250.13\032300VS.WPD

ATTACHMENT - 5

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

REPLY TO THE ATTENTION OF

MEMORANDUM

DATE: JUL 11 1994

SUBJECT: ACTION MEMORANDUM - Determination of Threat to Public Health or the Environment at the Lindsay Light II Site Chicago, Cook County, Illinois (Site Spill ID #ZA)

FROM: for Verneta J. Simon, On-Scene Coordinator Frank Rollins
Emergency and Enforcement Response Branch - Section III

TO: William E. Muno, Director
Waste Management Division

THRU: for Jodi L. Traub, Acting Associate Division Director
Office of Superfund

I. PURPOSE

The purpose of this Memorandum is to document the determination of an imminent and substantial threat to public health and the environment posed by the existence of elevated gamma levels as high as 280 microRoentgen per hour (R/hr) at the Lindsay Light II Site, a public parking lot located at 316 East Illinois Street in Chicago, Illinois.

Potentially Responsible Party (PRP) lead response actions are being taken pursuant to an Administrative Order by Consent (AOC) (please see confidential enforcement addendum). These response actions essentially require an extent of contamination study which will help determine the scope of future response actions Currently, the parking lot is covered with asphalt and/or concrete and persons parking at this lot are not expected to be exposed long enough to be adversely affected by the gamma rays emitted. The gamma ray exposure received by parking lot attendants and any long-term area transients may pose an imminent and substantial threat to public health.

This site is not on the National Priorities List (NPL).

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILD 0000002212

A. Physical Location

The Lindsay Light II Site, a public parking lot, is located at 316 East Illinois Street, Chicago, Cook County, Illinois. This 3-acre Site is bounded by Grand Avenue, Illinois Street, McClurg Court and Columbus Drive and is situated in a urban area called the Gold Coast. This property is surrounded by commercial and residential buildings with a shopping mall located approximately 200 feet to the south east. The Chicago River is located 1 mile south of the Site and Lake Michigan is about 1.5 miles east of the Site. This Site has the usual metal barricades for a parking lot; however, it does not totally restrict access. It is possible to step over the barricades if you want to gain entry to the parking lot or use it as a short-cut.

B. Site description and background

The Lindsay Light II Site was once occupied by the Lindsay Light Chemical Company, which made incandescent gas mantles for home and street lighting. Earlier reports show this company first imported and then manufactured mantles. These activities occurred from at least 1910 until 1936 at 161 East Grand, which is .25 miles from the Site. It is unclear what Lindsay Light actually did at 316 East Illinois, however, records from the Chicago Dock and Canal Trust indicate this site was a stable, and that Lindsay Light leased portions of the building from Chicago Dock and Canal Trust from 1915-1933. Sometime after 1933, Lindsay Light moved to West Chicago, Illinois and was later purchased by American Potash, who in turn, was purchased by Kerr-McGee Chemical Company.

Gas mantle manufacturing involves dipping gauze mantle bags into solutions containing thorium nitrate and small amounts of cerium, beryllium and magnesium nitrates. The principal ingredient in thorium nitrate is radioactive thorium, specifically, thorium-232. Thorium-232, which is the parent of the Thorium Decay Series, has a half-life of 14 billion years. It is believed that the principal source of contamination at this Site is the Thorium Decay Series.

C. Current site conditions

Conditions have not changed since the site assessment on June 3, 1993. This property is still operated as a public parking lot with attendants stationed as shown on Figure 1.

D. Other actions to date

From June 30, 1993 to July 30, 1993, two thermoluminescent dosimeter(TLD) badges were placed in the ticket booths shown in Figure 1. TLD results for these locations were as follows:

TLD #	
9035	0.00058 millirem per hour or about 1.2 millirem per year
9036	-0.00184 millirem per hour or -3.7 millirem per year (which means all values are effectively zero)

These results were compared to the Nuclear Regulatory Commission (NRC) regulations in the new Title 10, Part 20.1301, Code of Federal Regulations of 100 millirem per year and 2 millirem per hour for individual members of the general public. The above results did not exceed either of these relevant levels.

The City of Chicago, the Illinois Environmental Protection Agency, and the Illinois Department of Nuclear Safety are aware of site conditions and plans described in this Action Memorandum.

III. THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Lindsay Light II site may pose an imminent and substantial endangerment to public health or welfare or the environment, based upon factors set forth in the National Contingency Plan(NCP), 40 CFR 300.415 (b)(2). These factors include:

a) actual or potential exposure to nearby populations, animals, or the food chain from hazardous substances or pollutants or contaminants:

This factor is present at the site due to the existence of a public parking lot on property found to have gamma readings measured as high as 280 microRoentgen per hour (uR/hr) on a Ludlum Model 19 Micro-R meter. This reading is 14 times the background level, 20 uR/hr, measured for the site.

Gamma rays are penetrating radiation indistinguishable from X-rays which can be absorbed by tissue in the human body, thereby increasing the cancer risk for the person exposed. The excess risk to a transient spending 1 hour per day for a 250 day work year at this peak exposure spot is 5×10^{-5}. Transients were judged to be parking lot customers, people using the lot for a short cut or temporary workers. Such a risk is not justified by personal benefit to the transient nor by societal benefit.

The excess risk to a parking lot attendant spending an 8 hour shift for 250 days per work year at this spot is 3×10^{-4}. Again, such an exposure entails cancer risk that would have no personal or societal benefit. Direct measurements with survey instruments at the present parking lot attendant stations found background radiation levels and these were confirmed with longer

measurements using thermoluminescent dosimeters (TLDs). There is no guarantee these stations could not be moved to the peak point at some future time, thereby introducing the potential for exposure and risk to be actualized.

b) high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate:

The presence of elevated gamma exposure levels at the site validates subsurface deposits of radiological contaminants. The dominant concern is intrusion into these materials that will contaminant the intruder and their equipment and, further, lead to dispersal or spreading of the contaminants from its present locations. Such a scenario probably has arisen, and could again arise, with parking lot excavation where workers and their equipment are contaminated by radioactive soils, dry soil is dispersed in the wind and excavation spoils are moved offsite. The number of people exposed could be greatly increased and might include workers, their families if contaminants are carried home, workers who subsequently use contaminated machinery, residents near the parking lot who might be subject to wind dispersed soils and users of excavation spoils. Such spreading could occur within downtown Chicago where the parking lot is located and out for several miles depending upon where workers reside and where spoils are used. This is a plausible scenario since recent plans were to build a large hospital building on this site.

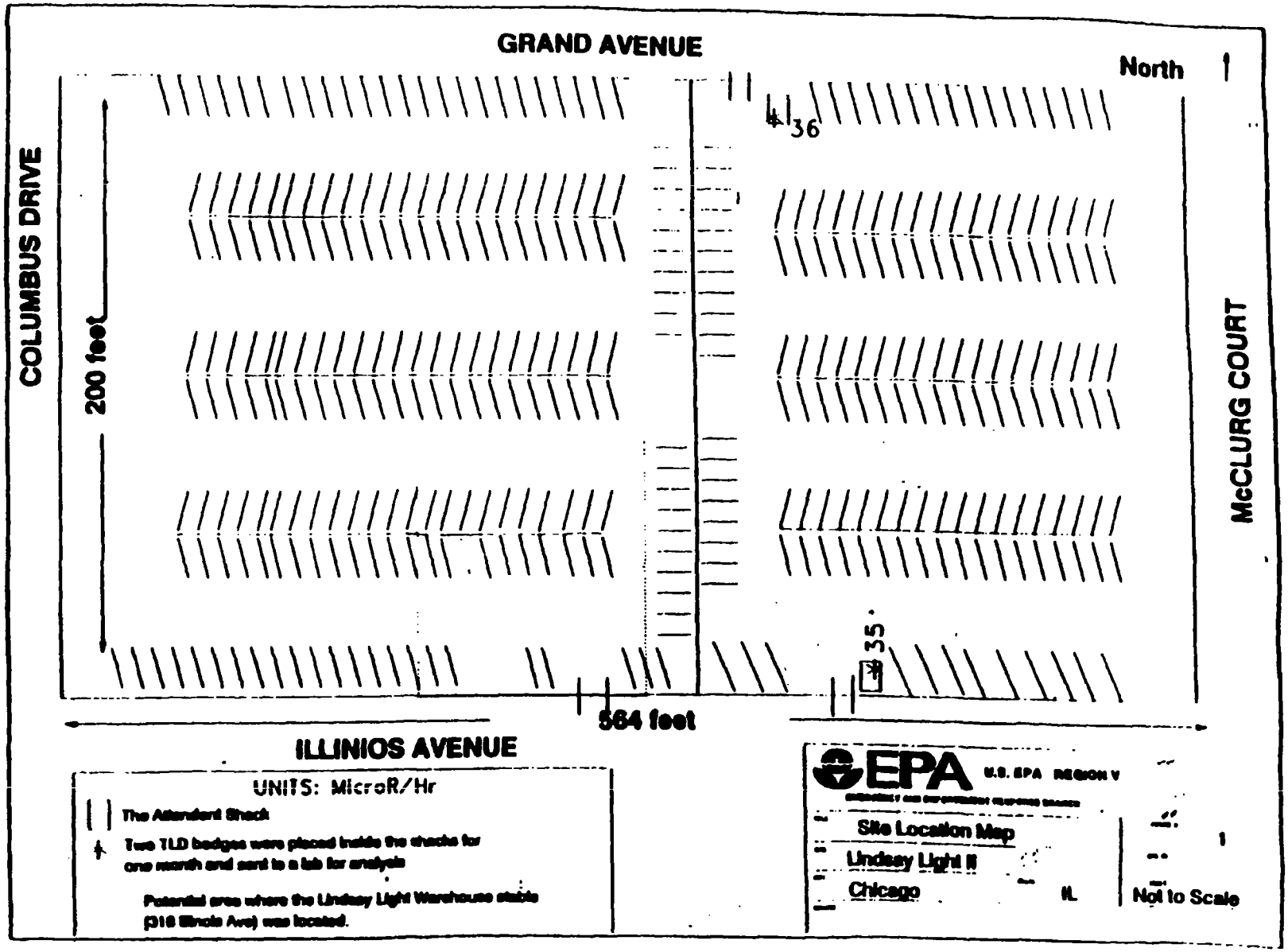
c) other situations or factors which may pose threats to public health or welfare or the environment

This factor is present at the Site due to the property's potential for future development. Such construction might entail excavating into potential contaminated soils for placement of building footings and cause increased releases into the environment and human exposure to contaminants. Also, it has not been determined whether subsurface contaminants are soluble. If they are there could be spreading via groundwater.

This site appears to be gridded with sewer lines. These could be conduits for the spread of both soluble and insoluble materials offsite, for extension of the region of contamination and for an increase in the potential for workers (sewer workers) to be exposed.

IV. ENDANGERMENT DETERMINATION

Given the nature of the Site, with unrestricted access to contaminants, the nature of these contaminants - gamma rays, which can not be stopped but attentuated; and an exposure pathway of direct contact, as described in Section II and III, the actual or threatened releases of hazardous substances from this Site, if


GRAND AVENUE
North
COLUMBUS DRIVE
200 feet
36
35
McCLURG COURT
564 feet
ILLINIOS AVENUE
UNITS: MicroR/Hr
The Attendant Shack
Two TLD badges were placed inside the shacks for one month and sent to a lab for analysis
Potential area where the Lindsey Light Warehouse stable (318 Illinois Ave) was located.
EPA
U.S. EPA REGION V
Site Location Map
Lindsey Light II
Chicago
IL
Not to Scale

not addressed by implementing the response action described in this Action Memorandum, may pose an imminent and substantial endangerment to public health, or welfare, or the environment due to the exposure to gamma rays, of parking lot attendants and/or site transients, which are above U.S. EPA's acceptable excess carcinogenic risk of $1x10^{-4}$.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

Pursuant to the AOC, the PRP intends to undertake the following actions to determine the extent of the contamination of the Site:

1) Develop and implement site health and safety plan.

2) Conduct land surveying to the extent necessary to locate all property boundaries and features, sample locations and areas having elevated radiation levels.

3) Place borings in several locations for the purpose of measuring subsurface radiation levels. Measurements shall be recorded until the natural soils are reached or radiation levels reach background, whichever is the greatest depth.

4) Collect soil samples from the borings and analyze for radionuclide content and RCRA characteristics. These results will then be used by the PRP to correlate subsurface radiation levels and radionuclide content.

5) Transport and dispose of all characterized or identified hazardous substances, pollutants, wastes or contaminants at a RCRA/CERCLA approved disposal facility in accordance with the U.S. EPA off-site rule.

The OSC has begun planning for the provision of post-removal site control, consistent with the provisions of Section 300.415(k) of the NCP. However, the nature of future response actions should eliminate all exposure threats, which should minimize the need for post-removal site control.

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants or contaminants at the facility which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

<u>Applicable or Relevant and Appropriate Requirements(ARARS)</u>

All applicable or relevant and appropriate requirements(ARARS) of

Federal law will be complied with to the extent practicable. A letter was sent to the Illinois Department of Nuclear Safety on June 21, 1993, requesting clarification on the waste designation any radiological material would be called. Their response was to classify waste from this site as "source" material and is contained in Attachment 1. Conversations held with representatives of the Illinois Environmental Protection Agency were that it was not necessary to send an ARARs letter to them since radiological matters are handled by the Illinois Department of Nuclear Safety, however, if it appears that any other issues occur during this action which are non-radiological an ARARs letter will be sent.

In accordance with the revised NCP, Section 300.825(a)(1), the response from the State to the request for ARARs will be added to the administrative record for this site once the response has been received and evaluated.

VI. CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED

Delayed or non-action may result in increased likelihood of direct contact threat to human populations accessing and working on the Site. Also, since there is no threshold for cancer, the continual exposure to gamma rays will increase the cancer risk.

VII. OUTSTANDING POLICY ISSUES

None.

IX. ENFORCEMENT

For administrative purposes, information concerning confidential enforcement strategy for this site is contained in the Enforcement Confidential Addendum.

X. RECOMMENDATION

This decision document represents the selected removal action for the Lindsay Light II site, in Chicago, Illinois, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for this site. Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal action.

APPROVE: Wm. E. Muno 7/11/94
DIRECTOR, WASTE MANAGEMENT DIVISION

DISAPPROVE: _____
DIRECTOR, WASTE MANAGEMENT DIVISION

Attachments: Enforcement Confidential Addendum
1. IDNS Letter Dated August 27, 1993
2. Index to the Administrative Record

cc: Terri Johnson, OS-210
Don Henne, U.S. Department of the Interior
Office of Environmental Policy and Compliance
U.S. Custom House, Room 217
200 Chestnut Street
Philadelphia, PA 19106
Gary King, IEPA Superfund Coordinator

Three Attachments

1. Action Memorandum dated July 11, 1994
2. Action Memorandum dated October 5, 1995
3. Index to the Administrative Record

cc: E. Watkins, U.S. EPA HQ, 5202G
D. Henne, U.S. Department of Interior
G. King, IEPA Superfund Coordinator
J. Klinger/T.Runyon, Illinois Department of Nuclear Safety
L. Robinson, City of Chicago

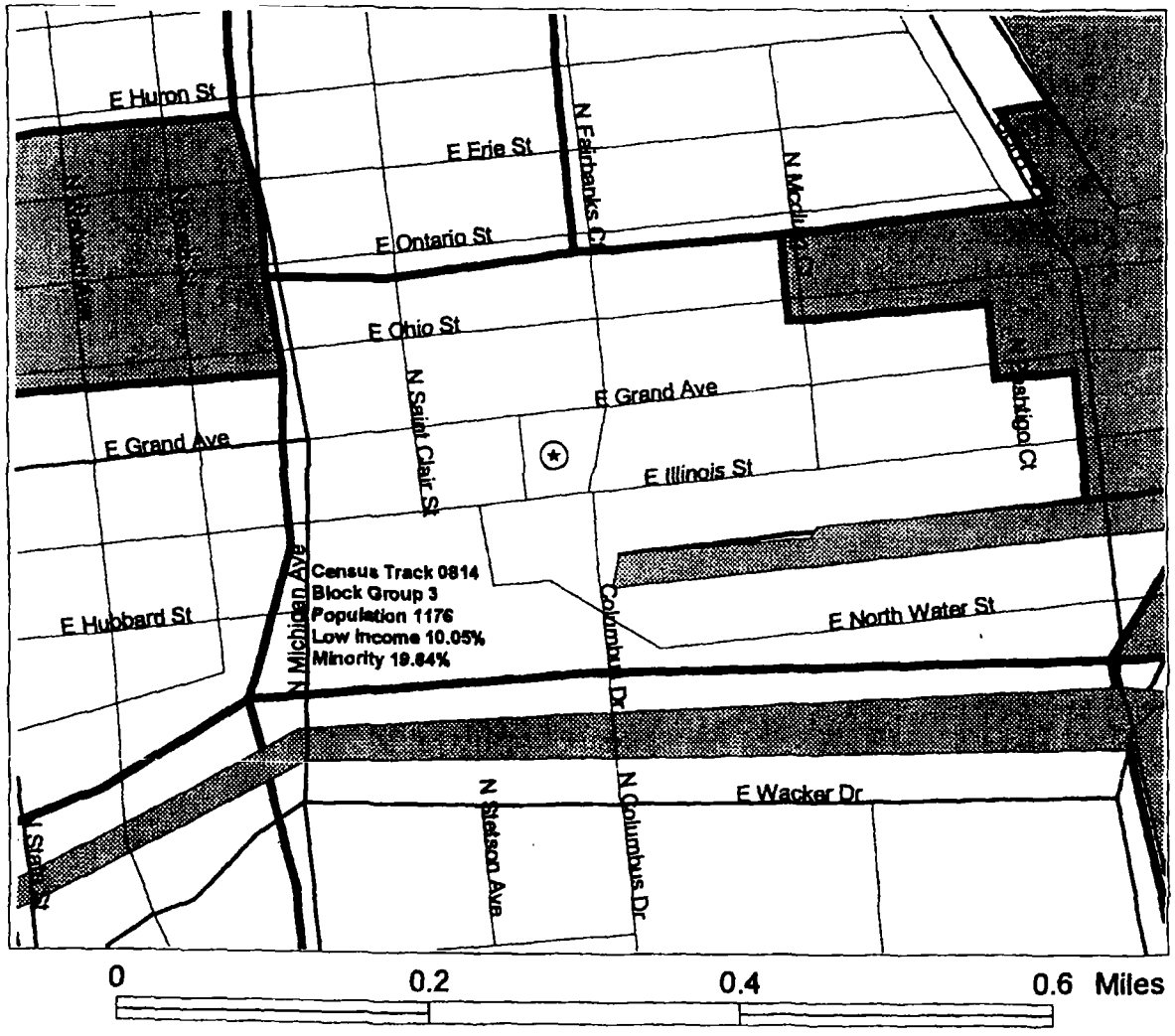
LINDSAY LIGHT II SITE
Chicago, Illinois
Administative Record - Update #7

BCC Page
1 - Page

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

Region 5 Superfund EJ Analysis
Lindsay Light II Site / (RV3 North Columbus Drive)
Chicago, IL



EJ Identification

- Low Income and Minority Less than State Average
- Low Income or Minority at or Greater than State Average
- Low Income or Minority 2 Times or Greater than State Average *(meets Region 5 EJ Case criteria)*
- Site Location
- Block Group Boundary

Region 5 EJ Case Criteria for Illinois
Minority: 50% or greater
Low Income: 54% or greater

Date of Map: 03/20/00

Source of Map: 1990 Census Database

ATTACHMENT - 6

AR

ATTACHMENT - 7

ATTACHMENT 7

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II SITE
CHICAGO, ILLINOIS

ORIGINAL
MAY 2, 1994

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	06/21/93	Karl, R., U.S. EPA	Klinger, J., Illinois Dept. of Nuclear Safety	Letter re: Illinois Dept. of Nuclear Safety	1
2	08/18/93	Kouris, T., Ecology and	Pfundheller, J., U.S. EPA	Letter re: Site Assessment	4
3	08/26/93	TMA Eberline	Ecology and Environment, Inc.	Thermoluminescent Dosimeter Badges Data	3
4	08/27/93	Klinger, J., Illinois	Karl, R., U.S. EPA	Response to U.S. EPA Letter Dated 6/21/93	2
5	01/27/94	Muno, W., U.S. EPA	Chicago Dock & Canal Trust	Administrative Order by Consent	16
6	07/11/94	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum	12
			UPDATE #1 SEPTEMBER 18, 1995		
1	09/00/93	Rogers & Associates Engineering Corporation	Chicago Dock & Canal Trust	Work Plan for Characterization of Radioactive Contamination, 316 East Illinois St., Chicago, Illinois: Appendix E, Supplemental; Other Sampling	17
2	10/05/95	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health or the Environment at the Lindsay Light II Site	22
			UPDATE #2 (REVISED) APRIL 1, 1996		
1	04/22/96	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health and the Environment at the Lindsay Light II Site	40

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
			UPDATE #3 **JUNE 3, 1996**		
1	10/27/95	STS Consultants, Ltd.	U.S. EPA	The Chicago Dock & Canal Trust Report for Characterization Investigation: Gamma Radiation Survey, Lindsay Light II Site w/Attachments A-E (3 Volumes)	1331
			UPDATE #4 **JUNE 24, 1996**		
1	10/25/96	Klinger, S., Illinois Dept. of Nuclear Safety	Thompson, R., U.S. EPA	Letter re: Classification of Radioactive Material at Lindsay Light II	1
2	05/30/96	Weber, M., Illinois EPA	Simon, V., U.S. EPA	Letter re: Coordination of Removal Effort and Identification of Applicable or Relevant and Appropriate Requirements (ARARs) for the Lindsay Light II Site	3
3	06/04/96	Allen, R., Illinois Dept. of Nuclear Safety	Simon, V., U.S. EPA	Letter re: Identification of Applicable or Relevant and Appropriate Requirements for the Lindsay Light II Site w/Attachment (Action Criteria for Superfund Removal Actions at the Kerr-McGee Residential Areas Site, West Chicago, IL)	21
4	06/13/96	Morin, C., Illinois EPA	Simon, V., U.S. EPA	Letter re: Response to June 2 Letter Regarding ARARs for the Lindsay Light II Site w/Attachment (List of State and Federal ARARs and TCBs re: Inclusion of ARARs in the Administrative Record)	9

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
			UPDATE #5 **SEPTEMBER 22, 1999**		
1	02/12/98	U.S. EPA/ OERR	U.S. EPA	Memo re: Use of Soil Cleanup Criteria in 40 CFR Part 192 as Remediation Goals for CERCLA sites (OERR Directive No. 9200.4-25)	6
2	09/22/99	Simon, V. & F. Micke; U.S. EPA	Muno, W., U.S. EPA	Action Memorandum Amendment: Determination that Specific Institutional Controls are Adequate to Abate the Threat to Public Health and the Environment from the Thorium Under the Rights-Of-Way Adjacent to the Lindsay Light II Site (PORTIONS OF THIS DOCUMENT HAVE BEEN REDACTED)	53
			UPDATE #6 **OCTOBER 18, 1999**		
1	09/27/99	City of Chicago	U.S. EPA	Residual Radioactive Waste Right-of-Way Agreement w/Attachments A-F	103
			UPDATE #7 **LINDSAY LIGHT II (RV3 NORTH COLUMBUS DRIVE) SITE** **MARCH 24, 2000**		
1	06/21/93	Simon, V., U.S. EPA	Steele, R., 161 E. Grand Associates	Letter re: U.S. EPA/IDNS Verification of Radioactivity at the 161 E. Grand Building and Request to Install Thermoluminescent Dosimeter (TLD) Badges in the Building (Lindsay Light I Site)	2
2	09/00/93	U.S. EPA	File	TLD Data, ATSDR Recomendations and Gamma Survey Maps of Lindsay Light Building for the Lindsay Light I Site	16
3	10/22/93	Traub, J., U.S. EPA	Steele, R., 161 E. Grand Associates	Letter re: TLD Results for the 161 E. Grand Building (Lindsay Light I Site)	9

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
4	06/07/94	Anderson, G., U.S. DOL/ OSHA	Simon, V., U.S. EPA	Letter re: OSHA's May 11, 1994 Inspection at 161 E. Grand Avenue (Lindsay Light I Site)	5
5	07/09/96	Steele, R., 161 E. Grand Associates	Simon, V., U.S. EPA	FAX Transmission re: Final OSHA Ruling and Data for the 106 E. Grand Building	4
6	08/12/96	Charp, P., USDHHS/ USPHS/ ATSDR	Anderson, G., U.S. DOL/ OSHA	Letter re: ATSDR's Concern for Radiological Contamination at 161 E. Grand Avenue (Lindsay Light I Site)	3
7	08/20/96	Charp, P., USDHHS/ USPHS/ ATSDR	Anderson, G., U.S. DOL/ OSHA	Letter re: Corrections to ATSDR's August 12, 1996 Letter Concerning Radiological Contamination at 161 E. Grand Avenue (Light I Site)	1
8	08/22/97	U.S. EPA/ OERR	U.S. EPA	Memorandum: Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination (OSWER Directive 9200.4-18)	20
9	02/12/98	U.S. EPA/ OERR	U.S. EPA	Memorandum: Use of Soil Cleanup Criteria in 40 CFR Part 192 as Remediation Goals for CERCLA Sites (Directive 9200.4-25)	6
10	09/27/99	City of Chicago	Obligers	Right of Way Agreement for the Rights of Way Adjacent to 316 E. Illinois Street Between the City of Chicago, River East and Kerr-McGee Chemical	10
11	10/20/99	Prasad, N., City of Chicago/ Department of Environment	Iacullo, C., City of Chicago/ Department of Transportation	Memorandum re: Right of Way Agreement for the Rights of Way Adjacent to 316 E. Illinois Street	1
12	01/00/00	Metro Commercial Real Estate/ R.M. Chin & Associates		Development Brochure for the Grand Pier Center	22

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
13	01/21/00	Osakada, S., City of Chicago/ Department of Sewers	Rhymes, B., City of Chicago/ Department of Sewers	Memorandum re: Illinois Street Sewer from Columbus Drive to McClurg Court	1
14	01/24/00	City of Chicago/ Department of Sewers	File	Permit Application for Work to be Performed on the Main Sewer at Illinois Street from Columbus Drive to McClurg Court	1
15	02/23/00	Simon, V., U.S. EPA	Chin, R., R.M. Chin & Associates	Letter re: Lindsay Light II Site and Grand Pier Development w/Attached Consent for Access to Property Form	5
16	02/28/00	Chin, R., R.M. Chin & Associates	U.S. EPA	Signed Consent for Access to Property Form for the 2XX Block of Illinois Street	1
17	03/02/00	U.S. EPA	File	Table: Grand Pier Center Off Site Disposal (Semi Loads Hauled Off Site) for the Period January 14 - February 29, 2000	1
18	03/08/00	Micke, F., U.S. EPA	Witte, M., R.M. Chin & Associates	Letter re: Work to be Conducted Pursuant to the June 6, 1996 Unilateral Administrative Order at the Lindsay Light II (RV3 North Columbus Drive) Site	3
19	03/21/00	U.S. EPA	File	Tables: Comparison of Sample Results Related to the North Columbus Drive Site	6
20	03/22/00	Rissman, M., *Mayer, Brown & Platt*	Regel, D., U.S. EPA	Letter re: Grand Pier's Response to U.S. EPA's March 17, 2000 Notice Letter for the Lindsay Light II (RV3 North Columbus Drive) Site	2
21	03/17/00	Karl, R., U.S. EPA	Chin, R., Grand Pier Center	Letter re: General Notice of Potential Liability for the Lindsay Light II (RV3 North Columbus Drive) Site	5

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
22	03/23/00	Chin, R., R.M. Chin & Associates	U.S. EPA	Signed Consent for Access to Property Form for 200 East Illinois Street	1
23	00/00/00	Simon, V. & F. Micke; U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health or the Environment at the Lindsay Light II (RV3 North Columbus Drive) Site **(PENDING)**	

STS Consultants, Ltd.
Solutions through Science & Engineering

June 8, 2000

Mr. Fred Micke, On-Scene Coordinator
Ms. Verneta Simon, On-Scene Coordinator
U. S. Environmental Protection Agency
Region 5
77 W. Jackson Blvd., SE-5J
Chicago, Illinois 60604

RE: Addendum to May 26, 2000 Correspondence Regarding Grade Beam and Right-of-Way Excavations, North Columbus Drive RV3 Site, Chicago, Illinois - STS Consultants Project No. 24418-XK

Dear Mr. Micke and Ms. Simon:

By this letter we are requesting your response to our previous correspondence describing the proposed remediation and construction methods. We are specifically requesting your concurrence with regards to addressing the thorium impacted soils below the right-of-ways which will be impacted by the grade beam construction at the above referenced site. This letter also provides additional information with regard to the possible schedule for the work and constraints due to activities in the City of Chicago. Finally, we are including Figure 1 which was not previously provided with the May 26, 2000 correspondence.

Evidence of residual contamination has been found at the property line, beneath the sidewalk, along the east (Columbus Drive), north (Grand Avenue), and south (Illinois Street) sides of the site. Work on any of these sides of the site will require closing the sidewalk to allow for excavation. We understand that the City of Chicago Department of Transportation will not allow Columbus Drive to be impacted until after the Taste of Chicago Festival is completed, which will extend through July 4, 2000. This for all practical purposes precludes work on the east side of the site for the next month or more. The north side of the site has a water main which we understand is to be relocated before the foundation work in that area proceeds. This similarly constrains work on this side of the site. The Illinois Street side appears to be where the initial work on removal of soils from the right-of-way will be conducted.

It is proposed initially to excavate only limited portions of the foundation elements, i.e., grade beams and caisson caps along the site perimeter. It should be recognized from a practical standpoint, however, during construction it will be necessary to excavate larger lengths and prepare concrete forms for these larger lengths before beginning the concrete pour. The initial limited excavation will be for the purpose of confirming screening and excavation procedures, managing the exposure protection which will include plastic sheeting, plywood sheeting, and if necessary steel plates, and addressing potential interference with the utilities present beneath the sidewalks.

ATTACHMENT 36

750 Corporate Woods Parkway • Vernon Hills, IL 60061-3153 • (847) 279-2500 • (847) 279-2510 Fax

We are requesting your urgent attention to review the May 26, 2000 correspondence and this addendum. The progress of construction at the site is such that we anticipate needing approval for this work in the next day or two, hopefully before Monday June 12, 2000.

Thank you for your attention. Please contact me with any questions you may have regarding this matter.

Regards,

STS CONSULTANTS, LTD.

Richard G. Berggreen, C.P.G. for
Principal Geologist

cc: Mike Witte, Grand Pier Center, LLC
Rick Mueller, Bill Anaya, Johnson & Bell
Tom Dimond, Mayer Brown & Platt
Dan White, J. T. Smith, Kerr-McGee
Bernie Bono, Bono Consulting
Mark Placek, Torben Jensen, Morse-Diesel

R E P O R T

Grand Pier Center LLC
401 N. Michigan Ave
Chicago, Illinois 60611

Columbus Drive Sidewalk RemediationWork Plan

Grand Pier Center
Chicago, Illinois

3/9/01

1-24418-XK

March 9, 2001

ATTACHMENT 37

STS Consultants, Ltd.
Solutions through Science & Engineering

March 9, 2001

Ms. Verneta Simon, On-Scene Coordinator
Mr. Fred Micke, On-Scene Coordinator
U. S. Environmental Protection Agency
Region 5
77 W. Jackson Blvd., SE-5J
Chicago, Illinois 60604

RE: Work Plan for Columbus Drive Sidewalk Remediation - STS Project No. 1-24418-XK

Dear Ms. Simon and Mr. Micke:

Attached please find the Work Plan for the removal of the impacted soil beneath the Columbus Drive sidewalk. This plan presents our proposed approach to this removal, as discussed in the meeting at USEPA offices on February 21, 2001.

Please contact us with any questions or comments you may have regarding this plan.

Regards,

STS CONSULTANTS, LTD.

Richard G. Berggreen, C.P.G.
Principal Geologist

cc: Michael Witte, Grand Pier Center LLC
Rick Mueller, Johnson & Bell
Thomas Dimond, Mayer, Brown & Platt
John Curtiss, AIG
Harold Holmberg, Kerr-McGee, Oklahoma City
Mark Krippel, Kerr-McGee, West Chicago
Vincent Oleszkiewicz, Baker & McKenzie

750 Corporate Woods Parkway • Vernon Hills, IL 60061-3153 • (847) 279-2500 • (847) 279-2510 Fax

GRAND PIER CENTER
COLUMBUS DRIVE SIDEWALK REMEDIATION WORK PLAN

1.0 INTRODUCTION

Construction of the Grand Pier Center involved removal of thorium-impacted soils present on the site. In the course of the construction and removal, impacted soil was identified at several locations beneath the sidewalks surrounding the subject site. The horizontal extent of the impacted soils into and beneath the rights-of-way was not evident based on surface scans. In most cases, the detected and measured concentrations were removed by extending the excavations some small distance into the right-of-way, or the concentrations that remained were relatively low, close to the remediation criteria. In those cases, the locations have been noted and any further work in those areas will be performed acknowledging the potential to encounter these soils.

At one location along the eastern side of the site, beneath the Columbus Drive sidewalk, the concentrations are sufficiently above the clean-up criteria that the U. S. Environmental Protection Agency (USEPA) specified that the soil would be removed to the curb line, remediating beneath the width of the sidewalk. There are several constraints to removing the material to the curb line, including utilities which are located beneath the sidewalk and the adjacent street, concerns with the stability of the excavation adjacent to the street, and restrictions on street closings which would be required for this work.

This Work Plan presents the proposed method for this removal, including consideration of the constraints and the options for meeting the objective of removing the higher levels of impacted soil from beneath the right-of-way.

2.0 REMOVAL SCOPE OF WORK

The previous excavations on the Grand Pier Center site were made for two purposes, to remove the impacted soil encountered, and to excavate foundation elements, including along the Columbus Drive side of the site, a trench for the construction of the foundation grade beams. At this location, an effort was made to excavate the impacted soil under the sidewalk, including excavation into portions of the right-of-way an estimated 6 feet (see Figure 1). However, relatively high levels of impacted soil remained in the excavation wall. As a result of the levels of radiation that remained, steel plates were placed against the trench wall to provide the construction workers with shielding, in addition to the plywood sheeting and plastic membrane that was used to isolate the impacted soil. Those plates were placed over the highest levels measured in surveying the wall. Those plates were left in place when the excavation was backfilled after the grade beams were constructed. The locations of those plates are shown on Figure 1.

The survey of the wall identified that the soil from immediately beneath the sidewalk to a depth of approximately 3 feet was below the clean-up criteria. This may be attributed to the placement of clean backfill following the installation of the City of Chicago electric conduit beneath the sidewalk at a depth of approximately 3.5 feet. This apparently clean material and the position of the City of Chicago electric conduit are shown on the cross section on Figure 1.

In that the objective is to remove the impacted soils that are substantially above the cleanup criteria, several options are available for managing the removal. The highest levels of impacted soil lie in a zone from perhaps 3 feet deep to perhaps 6 feet deep, and along a width of perhaps 15 feet. Lower concentrations of impacted soil extend to the natural soil at approximately 8 feet deep. Additionally, the width of the elevated concentrations is limited to the areas shielded by the steel plates, with lower concentrations laterally along the wall of the former excavation to the north and south.

The City of Chicago electric conduit is proposed to be left in place. Excavation around the line can be done by hand if necessary, as long as the exposed length is kept to a minimum. It may be necessary to provide temporary support while being excavated. Flowable fill may be used as backfill to support the conduit following the removal effort. It will be necessary to obtain an opinion from the Chicago Department of Transportation or the proper agency with jurisdiction as to the length which can be exposed without support, the type of support required, and the required backfill material. Inquiries in this regard are currently being made.

A limitation on the length of trench which can be exposed at one time will also contribute to constraining the stability concerns with regard to the adjacent street. With regard to the street, however, it is proposed to slope the excavation embankment from the street toward the site. This slope provides for support and buttressing the street. Standard excavation specifications are anticipated to require 1.5 horizontal to 1 vertical slopes. It is proposed to seek authorization to steepen these slopes to as steep as 1 to 1, with provision for the following measures to minimize slope instability issues. The length of exposed trench will be limited to a maximum of some design length, say 8 feet (to be determined following engineering review by the City of Chicago). No persons will be permitted in the excavation with over-steepened slopes. The duration of time during which the excavation is open will be limited by requesting that USEPA personnel be on-site to confirm adequate excavation, as the excavation proceeds. The need for on-site USEPA presence is based on safety and stability issue concerns. Scheduling USEPA personnel will be resolved before excavation begins. The excavated section will be backfilled with clean fill before the next section is excavated. Any indications of pending instability such as sloughing of the walls or developing cracks in the adjacent street or sidewalk will be cause for immediate backfill to limit potential movements. Adequate backfill materials will be staged near the excavation to respond as soon as feasible.

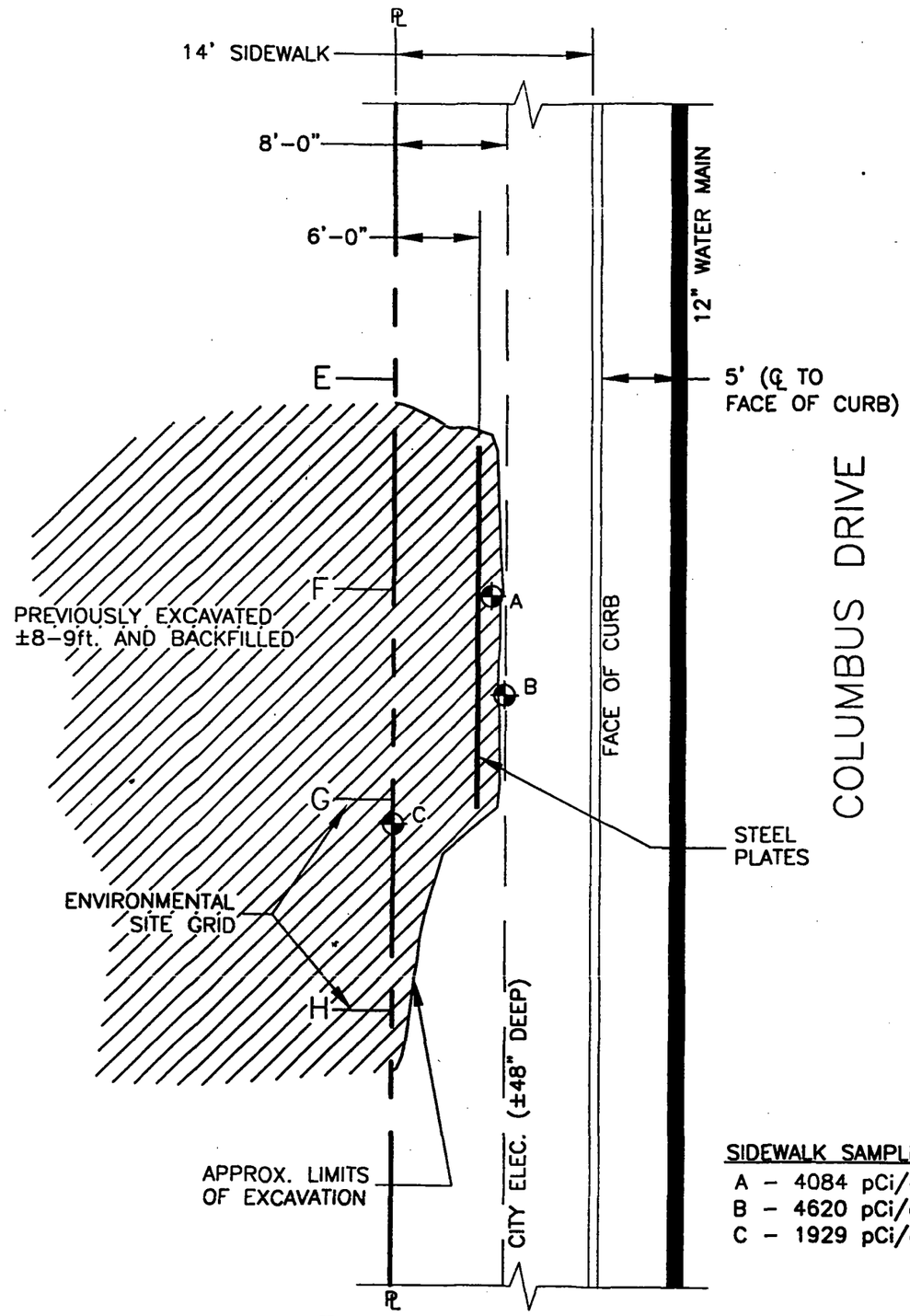
The anticipated volume of impacted material is on the order of 30 to 35 cubic yards. This estimate is based on 25 feet length, north to south, a thickness of 5 feet from 3 to 8 feet deep, and an average width of 7 feet from the current excavation limit at the steel plates to the sloping back of the excavation. It is anticipated that the thorium-impacted soil will be loaded directly into shipping containers for transport and disposal. No temporary storage is anticipated for the excavated, impacted soil. The apparently clean overburden will be staged adjacent to the excavation and tested before being released for use as clean backfill.

3.0 SCHEDULE

Permits for the excavation and for the lane closing will be required before beginning this work. Board of Underground review and approval will involve an anticipated 60 days. Following receipt of permits, delivery of the containers will be scheduled, which may take 2 weeks to procure. Coordination with the permit review process may allow containers to be ordered during the permit review.

The actual date for the work will depend on when the lane can be closed. The City of Chicago Department of Transportation will dictate when the lane(s) can be closed. It is recognized that a moratorium on street closings will likely be set for late June-early July for the Taste of Chicago festival. It is anticipated the actual excavation work will be completed in one or two days.

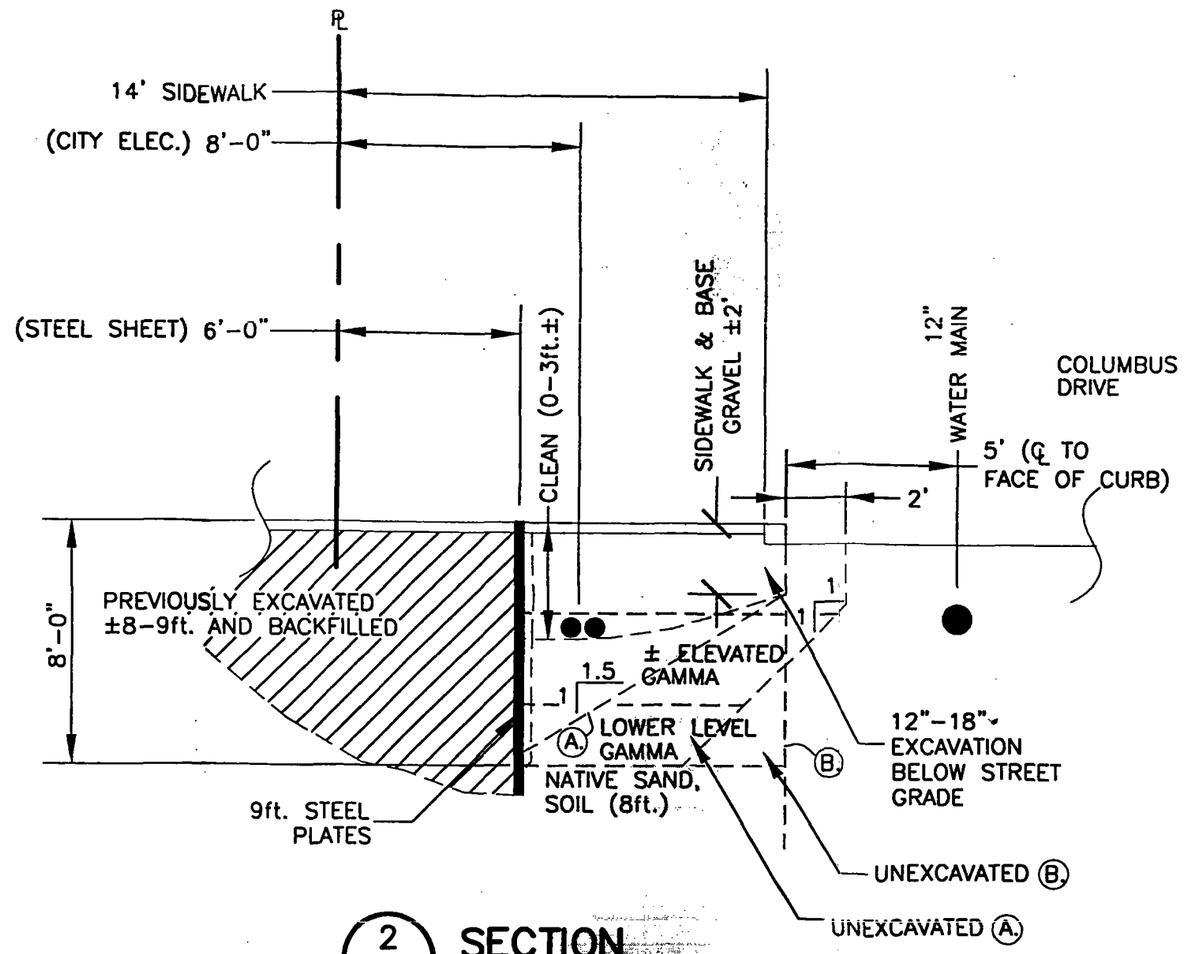
Following the completion of this removal, a summary report will be prepared as an addendum to the North Columbus RV3 report.



SIDEWALK SAMPLES

A – 4084 pCi/g
B – 4620 pCi/g
C – 1929 pCi/g

1 FIG.1 **PLAN VIEW**
1" = 10'-0"



2 FIG.1 **SECTION**
1" = 5'-0"

A START EXCAVATION AT CURBLINE, 18" DEEP. SLOPED 1.5:1

B ANTICIPATE MODEST ENCROACHMENT (±2ft.) OUTSIDE CURB INTO STREET. STEEPEN SLOPE 1:1, EXCAVATING A MINIMUM WIDTH BEFORE BACKFILL.

		DATE
DRAWN BY	TJC	3/5/01
CHECKED BY	RGB	3/5/01
APPROVED BY	RGB	3/5/01
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COLUMBUS DRIVE SIDEWALK REMEDIATION
EXCAVATION OPTIONS
GRAND PIER CENTER
CHICAGO, IL

STS Consultants Ltd.
Consulting Engineers

STS PROJECT NO. 24418-XK
STS PROJECT FILE SW-REMEDIATION.dwg
SCALE AS SHOWN
FIGURE NO. FIG. 1

Chicago Tribune

SECTION 3

BUSINESS

FRIDAY
JUNE 1, 2001

6/1/01

Grand Pier construction at standstill

Contractor exits in financial dispute

By Thomas A. Corfman
Tribune staff reporter

Developer Ray Chin is looking for a new contractor to take over the work on his ambitious Grand Pier Center project in Streeterville after an $8.6 million dispute with construction giant AMEC PLC, which walked off the job.

The work stoppage is just the latest in a series of misfortunes to befall the highly leveraged project, which was delayed last year by unexpected environmental problems. And it was also severely weakened by the bankruptcy epidemic that spread through the movie theater industry, forcing two cinema chains to back out of deals.

The project, located east of Michigan Avenue, was originally conceived as a glittering, $375 million twin-tower development with luxury condominiums, a hotel and high-end retailing. But it was scaled back two years ago, when construction began on an $80 million first phase that included a parking garage and a Dominick's supermarket.

Some real estate industry experts wonder whether the project's plight is an early sign that the economy's downturn is beginning to affect the commercial real estate market.

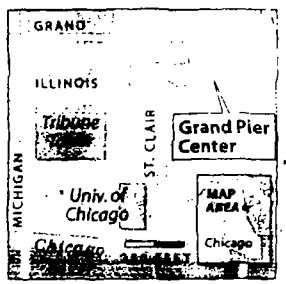
But others caution against drawing broad conclusions. Some experts contend that the project was star-crossed from the beginning because Chin paid too much for the land. The developer paid $25.6 million for the 2.5-acre site bounded by Illinois and St. Clair Streets, Grand Avenue and Columbus Drive.

The entire real estate industry is watching every project for signs of a downturn, said Professor Thomas Lys, director of Northwestern University's Guthrie Center for Real Estate Research, who would not comment specifically on Grand Pier.

"Everybody is nervous, as they should be, because a downturn is not something that you want to miss," Lys said. "When the stock market declines by as much as it did, real estate prices are not going to just sit there. On top of this, some projects may be just bad, period."

Disputes with contractors are

PLEASE SEE GRAND PIER, PAGE 4



Chicago Tribune

GRAND PIER: Builder's 1st major project

CONTINUED FROM PAGE 1

not unusual, and Chin, the president of Chicago-based R.M. Chin & Associates Inc. demonstrates the grittiness required to complete such a complicated project, his first major real estate development.

A spokeswoman for Chin said that AMEC was terminated on May 25 because of a dispute over cost overruns. Sources said AMEC walked off the job because it was concerned that Chin was running out of money to complete construction, a charge Chin's spokeswoman denied.

An AMEC spokesman would not comment on whether the project was running out of cash but said that the company believed the financial dispute would be amicably resolved. London-based AMEC agreed to the termination, he said.

The dispute came to a head May 7, when a subcontractor, Prairie View-based Revcon Construction Corp., filed a lien against Chin and AMEC for more than $1 million. Other subcontractors stopped work and then on May 25, AMEC filed an $8.6 million lien. It's unclear whether that sum includes the amount owed to Revcon.

The spokesman said the additional costs were the result of changes to the project that were required after the U.S. Environmental Protection Agency discovered traces of radioactive thorium, residue from a factory that closed in 1933.

The environmental cleanup delayed the project for about one month.

Chin started construction on the first phase of the project in November 1999 as a lower-level platform for the later construction of hotel and residential towers. After several attempts to sell off the residential portion of the development to another developer, earlier this year he decided to undertake that part of the project himself.

RICH HEIN/SUN-TIMES

Work on the Grand Pier project stopped in May when developer Ray Chin couldn't pay the contractors. LR Development LLC President Tom Weeks isn't sure a deal with Chin is possible because of the financial complexities.

Chin looking into partnership

Developer **Ray Chin**, deep in the financial mire at his failed Grand Pier project in Streeterville, is exploring a partnership with **LR Development LLC** that could finally put a condo high-rise on the site.

Chin can't pay a $21 million mortgage to **LaSalle Bank**, which is foreclosing, plus a debt of a similar sum to **Lehman Brothers**. LR is in the guise of a three-building condo project at Lake Shore Drive and Pearson, but needs to show it can still make big deals without its charismatic founder, Bruce Abrams, who died in December 1999.

DAVID ROEDER
Commercial Real Estate

The circumstances have made for an extended courtship, at least. **Tom Weeks**, LR's president, said the company has "been following [Grand Pier] for months now. We'd like to see it get done." He said LR would like to control a proposed 74-story high-rise, but not the site's commercial segment, which includes a **Dominick's** food store and a planned hotel.

Work on the block stopped last May when Chin couldn't pay the contractors. The block is bounded by Grand, Illinois, Columbus and St. Clair.

Weeks said that given the financial complexities, he's not sure a deal can be reached. Others have looked and passed, the latest being **Evangeline Gouletas' Skyline Equities Realty LLC**. Even if matters are worked out with LaSalle and Lehman, the developers still have to run the gauntlet of neighborhood opposition to such a tall building just off Michigan Avenue.

LR is a leading developer of housing for the rich, but it also has a division that backs affordable units. That operation celebrated a milestone Monday with the opening of the 100-unit Humboldt Ridge Apartments at 1800 N. Kimball. **Fannie Mae**, the **Illinois Housing Development Authority** and **Bank of America** backed the project, where the apartments are supposed to stay affordable for at least 30 years.

RESCHKE NEEDS RESCUE: **Michael Reschke**, chairman of **Prime Group Realty Trust**, is nothing if not a survivor. His mastery of public and private debt markets made him a real-estate mogul in the 1990s. But recent downturns in the market have hit him hard and now he's running a real risk of losing control of the trust, a leading owner of downtown and suburban offices.

A falling stock price killed his effort to team with a Canadian pension fund and buy the roughly two-thirds of the company that he doesn't already own. And when that happened, he couldn't repay a $62 million loan to **Vornado Realty Trust**, which owns the Merchandise Mart. Vornado has started foreclosure proceedings and could take over Prime Group because Reschke's shares guaranteed the loan. Vornado also is foreclosing on a $38 million loan to Reschke it acquired from another party.

"They've got him surrounded," one insider said. But sources said Vornado wants its money and not control of Prime Group, even though analysts have said its property is worth $14 to $15 a share, compared with its current stock price of $9.63. So Vornado should be open to negotiations if Reschke finds a savior.

CITY VIEWS: Revealing its next bets for the city housing market, **Concord Development Corp. of Illinois** has requested zoning changes for a planned 214-unit building at 518 S. State, across the street from the proposed multi-school dormitory for downtown campuses, and a 70-unit building at 718 N. Dearborn. Concord Executive Vice President **Roger Mankedick** declined to discuss details, other than to say his company is the contract purchaser of both parcels.

Also, city officials have an application from **Interfaith Housing Development Corp.** of Chicago to build a single-room occupancy hotel and six town houses at the southwest corner of Huron and Kedzie.

WARNING SIGNS: The annual "Emerging Trends in Real Estate" report by **PricewaterhouseCoopers LLP** and **Lend Lease Real Estate Investments Inc.** is always a thorough and even entertaining analysis of major markets. This year's edition, although based on surveys conducted before Sept. 11, has plenty of warnings for Chicago. It warns that real estate investment prospects have peaked in the nation's "24-hour cities." It also says, "Today's Generations X and Y now gravitate to the pulse and allure of big city lifestyles, but tomorrow they won't put their children's education at risk in city schools. ... A reverse tide will head back to the 'burbs."

Meanwhile, Chicago-based **Appraisal Research Counselors Ltd.** said in its third-quarter report that it expects the downtown area will add 13,631 residential units from 2001 through 2004. Despite a slowdown in sales, that's still a brisker pace than the 2,400 units annually the region averaged during the 1990s.

MOVING ON: After seven and a half years as the lobbyist for the **Building Owners and Managers Association of Chicago**, **Paul Colgan** is changing fields. He's becoming director of research for **DecisionQuest**, a Los Angeles-based company with Chicago operations that consults on trials, jury selection and use of focus groups. It's also involved in "crisis public relations." But at least Colgan won't have periodic nightmares about City Hall proposing a commercial lease tax.

TWO-STROKE PENALTY: My apologies to golf course architect **Rick Jacobson** for botching his name in last week's report about renovations at **Indian Lakes Resort**.

E-mail: droeder@suntimesmail.com. No attachments, please.

0030403342
6051/0085 40 001 Page 1 of 11
2003-03-25 16:15:01
Cook County Recorder 42.50

This Instrument Prepared By
and after recording return to:
Aris E. Curran, Esq.
Ungaretti & Harris
3500 Three First National Plaza
Chicago, Illinois 60602

NCS-1474 181 E.C

SPECIAL WARRANTY DEED
(IN LIEU OF FORECLOSURE)

This **SPECIAL WARRANTY DEED** is made as of the 24th day of March, 2003 by **GRAND PIER CENTER, L.L.C.,** an Illinois limited liability company ("Grantor"), whose address is 401 North Michigan Avenue, Chicago, Illinois 60611, to **LB STREETERVILLE LLC,** a Delaware limited liability company("Grantee"), whose address is c/o Lehman Brothers Holdings Inc., 999 Park Avenue, 8th Floor, New York, New York 10022.

WITNESSETH:

That Grantor, in consideration of Ten Dollars ($10.00) in hand paid by Grantee, for other valuable consideration, receipt of which is hereby acknowledged, DOES HEREBY REMISE, RELEASE, ALIEN AND CONVEY UNTO GRANTEE, its successors and assigns, FOREVER, the real property situated in the County of Cook, State of Illinois, legally described on Exhibit A attached hereto and incorporated herein by this reference, together with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversion or reversions, remainder or remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim or demand whatsoever, of the Grantor, either in law or equity of, in and to the above described premises, with the hereditaments and appurtenances:

TO HAVE AND TO HOLD the said premises as above described, with the appurtenances, unto the Grantee forever.

This Special Warranty Deed is given in lieu of completion of foreclosure proceedings, and is an absolute conveyance of all of Grantor's right, title and interest in the above described real estate and is not intended as a mortgage, trust conveyance or security of any kind. Grantor declares that this Special Warranty Deed is freely and voluntarily given and further acknowledge that it has waived all redemption and cure rights permitted by law.

Grantor and Grantee hereby state that it is their express intention that the fee interest granted by this Special Warranty Deed in the aforedescribed real estate and all improvements thereon and appurtenances thereto conveyed by this Special Warranty Deed, and the lien of that certain Mortgage, Assignment of Leases and Rents and Security Agreement dated November 4,

ATTACHMENT 39

1999 made by Grantor to and in favor of Lehman Brothers Holdings Inc., and recorded in the office of the Recorder of Deeds of Cook County, Illinois on November 12, 1999 as Document No. 09067693 (the "Mortgage"), and the lien of that certain Construction Mortgage and Security Agreement with Assignment of Rents dated as of November 1, 1999 made by Grantor to and in favor of LaSalle Bank National Association, recorded in the office of the Recorder of Deeds of Cook County, Illinois on November 12, 1999 as Document No. 9067690 and assigned by LaSalle Bank National Association to Lehman Brothers Holdings, Inc. by instrument of even date herewith (as so assigned, the "Senior Mortgage") shall not merge, and that the above described real estate and all improvements thereon and appurtenances thereto conveyed pursuant to this Special Warranty Deed shall remain subject to the Mortgage and the Senior Mortgage and the Mortgage and Senior Mortgage shall remain in full force and effect until released of record.

And the Grantor, for itself and its successors, does covenant, promise and agree to and with the Grantee and its successors, that Grantor has not done or suffered to be done, anything whereby the said premises hereby granted are, or may be, in any manner encumbered or charged except as herein recited; and that Grantor will WARRANT AND DEFEND, the said premises against all persons claiming, or to claim the same, by, through or under Grantor, subject only to the permitted exceptions set forth on Exhibit B attached hereto and incorporated herein by this reference.

IN WITNESS WHEREOF, Grantor has executed this Special Warranty Deed as of the day and year first above written.

GRAND PIER CENTER, L.L.C.,
an Illinois limited liability company

By: **EPC Group, L.L.C.**, an Illinois limited liability company, its manager

By: _____
Name: Raymond Chin
Title: Manager

Schedule of Exhibits:

Exhibit A: Legal Description
Exhibit B: Permitted Exceptions

Exempt under provisions of Paragraph (l) Section 4, Real Estate Transfer Tax Act.

3/24/03 _____ Representative
Date Buyer, Seller, or Representative

EXHIBIT A
Legal Description

0030403342

Block 1 in Cityfront Center, being a resubdivision in the North fraction of Section 10, Township 39 North, Range 14 East of the Third Principal Meridian, in Cook County, Illinois.

Also known as:

PARCEL 1:

That part of Block 1 in Cityfront Center, being a resubdivision in the North fraction of Section 10, Township 39 North, Range 14 East of the Third Principal Meridian, described as follows:

Beginning at the Northeast corner of said Block 1; thence South along the East line of said Block 1, a distance of 125.106 feet to a point of curve; thence Southerly along the Easterly line of said Block 1, being the arc of a circle tangent to the last described line convex to the East and having a radius of 2809.79 feet, an arc distance of 92.822 feet to the Southeast corner of said Block 1; thence West along the South line of said Block 1, a distance of 426.334 feet; thence North along a line perpendicular to said South line of said Block 1, a distance of 99.948 feet to a corner in said Block 1; thence North along a West line of said Block 1, a distance of 117.947 feet to the Northwest corner of said Block 1; thence East along the North line of said Block 1, a distance of 428.054 feet to the point of beginning, in Cook County, Illinois.

PARCEL 2:

That part of Block 1 in Cityfront Center, being a resubdivision in the North fraction of Section 10, Township 39 North, Range 14 East of the Third Principal Meridian, described as follows:

Beginning at the Southwest corner of said Block 1; thence North along the West line of said Block 1, a distance of 99.944 feet to a Northwest corner of said Block 1; thence East along a North line of said Block, being the South line of a public alley, a distance of 150.00 feet to a corner of said Block 1; thence South along a line perpendicular to the South line of said Block 1 at a point 150.164 feet East, as measured along said South line, from the Southwest corner of said Block 1, a distance of 99.948 feet to the South line of said Block 1; thence West along the South line of said Block 1, a distance of 150.164 feet to the point of beginning, in Cook County, Illinois.

PROPERTY ADDRESS: Southwest Corner GRAND AVE AND COLUMBUS DRIVE, CHICAGO, IL

PIN 17-10-212-019-0000

0030403342

ACKNOWLEDGMENT OF GRANTOR

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

I, the undersigned, a Notary Public in and for said County, in the State aforesaid, do hereby certify that Raymond H. Chin, personally known to me to be the same person whose name is subscribed to the foregoing instrument as the Manager of EPC Group, L.L.C., an Illinois limited liability company, the manager of Grand Pier Center, L.L.C., an Illinois limited liability company, appeared before me this day in person and acknowledged that he signed and delivered the said instrument as his own free and voluntary act, and as the free and voluntary act of said limited liability company for the uses and purposes therein set forth.

GIVEN under my hand and Notarial seal this 24th day of March, 2003.

"OFFICIAL SEAL"
SHARON M. STROBO
Notary Public, State of Illinois
My Commission Expires 8/31/04

Sharon M. Strobo
NOTARY PUBLIC

My Commission Expires:

August 31, 2004

EXHIBIT B
PERMITTED EXCEPTIONS

0030403342

1. Taxes for the years 2001, 2002, 2003 and subsequent years.

   Taxes for the year 2001 in the amount of $270,810.63 are unpaid and due with interest and penalties.

   The first installment of 2002 taxes in the amount of $264,115.71 is unpaid and due with interest and penalties.

   The final installment of 2002 taxes and taxes for the years 2003 are not yet ascertainable or payable.

   Permanent Index Number: 17 10 212 019 0000

2. Construction Mortgage and Security Agreement with Assignment of Rents dated November 1, 1999 and recorded November 12, 1999 as Document 09067690 made by Grand Pier Center, L.L.C., an Illinois limited liability company, to LaSalle Bank National Association to secure a Note in the amount of $49,500,000.00, and the terms and conditions thereof.

3. Assignment of Leases and Rents dated November 1, 1999 and recorded November 12, 1999 as Document 09067691 made by Grand Pier Center, L.L.C., an Illinois limited liability company, to LaSalle Bank National Association.

4. Financing Statement evidencing an indebtedness from Grand Pier Center, L.L.C., debtor, to LaSalle Bank National Association, secured party, filed on November 12, 1999 as Number 99U12644.

5. Mortgage, Deed of Trust, Assignment of Leases and Rents and Security Agreement (Subordinate Loan) dated as of November 4, 1999 and recorded November 12, 1999 as Document 09067693 made by Grand Pier Center, L.L.C., an Illinois limited liability company, to Lehman Brothers Holdings Inc., a Delaware corporation, to secure a Note in the amount of $22,500,000.00, and the terms and conditions thereof.

6. Assignment of Leases and Rents dated November 4, 1999 and recorded November 12, 1999 as Document 09067694 made by Grand Pier Center, L.L.C., an Illinois limited liability company, to Lehman Brothers Holdings Inc.

7. Financing Statement evidencing an indebtedness from Grand Pier Center, L.L.C., debtor, to Lehman Brothers Holdings Inc., secured party, filed on November 12, 1999 as Number 99U12645.

8. Terms, provisions, rights, duties and obligations as set forth in Development Rights Agreement dated December 31, 1985 and recorded December 21, 1985 as Document 85343997 and filed December 31, 1985 as Document LR3487130.

9. Reservations in Ordinance recorded February 24, 1987 as Document 87106319 by the City of Chicago.

10. Mutual Grant of Easements in Respect to Cityfront Center, dated December 18, 1986 as Document 87106321.

11. Declaration of Covenants, Conditions, Restrictions and Easements for Cityfront Center West recorded April 30, 1992 as Document 92296750, which include provisions for liens.

    First Amendment to Declaration of Covenants, Conditions, Restrictions and Easements for Cityfront Center West recorded October 24, 1996 as Document 96813611.

12. Rights to place structural supports on the property below the areas dedicated for alley and public street.

13. Encroachment of steel columns and the supports set in the ground as delineated on survey executed by Chicago Guarantee Survey Company dated May 15, 1999 revised June 14, 1999 as Order Number 9812022.

14. Right to maintain public telephone located at the most North and Westerly corner of subject property as delineated survey executed by Chicago Guarantee Survey Company dated May 15, 1999 revised June 14, 1999 as Order Number 9812022.

15. Lease made by Grand Pier Center L.L.C., Landlord, to Dominick's Finer Foods, Inc., Tenant, for an initial term of 15 years with extensions, and the covenants and conditions as therein contained, as disclosed by memorandum dated September 22, 1998, and recorded January 20, 1999 as Document No. 99059326, and rights of all parties claiming thereunder.

16. Subordination, Attornment and Non-Disturbance Agreement recorded November 12, 1999 as Document 09067692 made by and between Grand Pier Center, L.L.C., Dominick's Finer Foods, Inc. and LaSalle Bank National Association.

17. Memorandum of Agreement made by and between LaSalle Bank National Association and Lehman Brothers Holdings Inc. dated November 1, 1999 and recorded December 30, 1999 as Document Number 09207789.

18. Claim for Lien filed May 7, 2001 as Document 0010377706 filed by Revcon Construction Corporation vs. R.M. Chin & Associates in the amount of $1,041,806.00.

19. Claim for Lien recorded May 25, 2001 as Document 0010448869 field by AMEC Construction Management Inc. vs. Grand Pier Center LLC and Others in the amount of $8,636,194.00 (which lien includes the claims of certain subcontractors of AMEC that have not recorded individual claims for lien).

20. Mechanic's Lien claim recorded June 20, 2001 as Document 0010538519 filed by Thatcher Engineering Corporation vs. Grand Pier LLC and Others in the amount of $31,600.00.

21. Claim for Lien recorded June 28, 2001 as Document 0010572243 filed by Great Lakes Plumbing and Heating Company vs. Grand Pier Center LLC and Others in the amount of $130,867.00.

22. Claim for Lien recorded July 13, 2001 as Document 0010622928 filed by Otis Elevator Company vs. Grand Pier Center and Others in the amount of $185,820.00.

23. Claim for Lien recorded July 18, 2001 as Document 0010638941 filed by Roy Strom Excavating and Grading Co. vs. AMEC Construction Management Inc. and Others in the amount of $621,798.69.

24. Claim for Lien recorded July 25, 2001 as Document 0010668072 filed by Maron Electric Company vs. Grand Pier Center LLC and Others in the amount of $81,093.00.

25. Claim for Lien recorded July 25, 2001 as Document 0010668071 filed by Maron Electric Company vs. Grand Pier Center LLC and Others in the amount of $1,232,389.95.

26. Claim for Lien recorded August 1, 2001 as Document 0010694288 filed by Gate City Steel Inc. vs. Grand Pier Center LLC and Others in the amount of $331,581.08.

27. Claim for Lien recorded August 1, 2001 as Document 0010695266 filed by Ozinga Chicago RMC Inc. vs. Grand Pier Center LLC and Others in the amount of $508,546.09.

28. Claim for Lien recorded August 2, 2001 as Document 0010702434 filed by Concrete Structures of Midwest Inc. vs. AMEC Construction Management in the amount of $5,772,193.13.

29. Claim for Lien recorded August 8, 2001 as Document 0010726180 filed by Harmon Limited vs. Grand Pier Center LLC and Others in the amount of $1,058,473.00.

30. Claim for Lien recorded August 14, 2001 as Document 0010745750 filed by Gate City Steel Inc. vs. Grand Pier Center LLC and Others in the amount of $331,581.08.

31. Claim for Lien recorded September 14, 2001 as Document 0010857242 Filed by AMSYSCO Inc. vs. Concrete Structures of Midwest Inc. and Others in the amount of $54,584.00.

32. Claim for Lien recorded October 3, 2001 as Document 0010923145 filed by CECO Concrete Construction LLC vs. Grand Pier Center LLC and Others in the amount of $1,797,480.00.

33. Claim for Lien recorded June 20, 2001 as Document 0010538518 filed by Streich Corporation vs. Grand Pier LLC and Others in the amount of $189,001.00.

34. Claim for Lien recorded October 11, 2001 as Document 0010947665 filed by Midwest Mechanical Construction Co. vs. AMEC Construction and Others in the amount of $9,150.00.

35. Claim for Lien recorded October 16, 2001 as Document 0010959467 field by Loebl Schlossman and Hackl vs. Grand Pier Center LLC in the amount of $435,685.17.

36. Claim for Lien recorded October 16, 2001 as Document 0010959466 filed by Environmental Systems Design Inc. vs. Grand Pier Center LLC and Others in the amount of $141,902.14.

37. Claim for Lien recorded November 28, 2001 as Document 0011117719 field by Thornton-Tomasetti Engineers vs. Grand Pier Center LLC in the amount of 195,952.83

38. Claim for Lien recorded December 7, 2001 as Document 0011159111 filed by Environmental Systems Design Inc. vs. Fujikawa Johnson and Associates Inc. in the amount of $226,050.70.

39. Claim for Lien recorded December 14, 2001 as Document 0011191295 filed by Fujikawa Johnson & Associates Inc. vs. Grand Pier Center in the amount of $628,963.44.

40. Claim for Lien recorded January 9, 2002 as Document 0020035492 filed by USA Hoist Co. Inc. vs. AMEC Construction Management in the amount of $8,800.00.

41. Claim for Lien recorded February 25, 2002 as Document 0020218377 filed by Cityfront Center West Association vs. Pier Center Development in the amount of $90,343.96. **{Note: to be subordinated to the Senior Mortgage and the Mortgage on the Loan Title Policies}**

42. Claim for Lien recorded March 22, 2002 as Document 0020329590 filed by Interstate Scaffolding Inc. vs. Grand Pier Center LLC and Others in the amount of $22,987.00.

43. Claim for Lien recorded March 22, 2002 as Document 0020329589 filed by Interstate Scaffolding vs. Grand Pier Center LLC and Others in the amount of $7,978.00.

44. Claim for Lien recorded July 10, 2002 as Document 0020754631 filed by USA Hoist Co. Inc. vs. AMEC Construction Management and Others in the amount of $8,800.00.

45. Proceedings pending in case 01CH11407 filed by AMEC Construction Management Inc. vs. Grand Pier Center LLC and Others for foreclosure of a mechanics lien claim recorded as Document 0010448869.

NOTE: Several counterclaims have been filed by Harmon Ltd., Maron Electric, LaSalle Bank National Association, Grand Pier Center LLC, CECO Concrete, Environmental Systems, Loebl Schlossman and Hackl, Fujikawa Johnson and Associates, Thornton Tomasetti Group and Roy Strom.

47. Proceedings pending in case 01CH10930 filed by LaSalle Bank NA vs. Grand Pier Center LLC and Others for foreclosure of Mortgage recorded as Document 09067690.

NOTE: Several counterclaims have been filed by Concrete Structures of the Midwest, Revcon Construction, Grand Pier Center, Great Lakes Plumbing and Heating and Otis Elevator.

48. Existing unrecorded leases as follows: Dominicks, Century Theaters, Inc., Chinese Gourmet **{Note: leases to be subordinated to Senior Mortgage and Mortgage on the Loan Policies}**

0030403342

STATEMENT BY GRANTOR AND GRANTEE

The grantor or his agent affirms that, to the best of his knowledge, the name of the grantee shown on the deed or assignment of beneficial interest in a land trust is either a natural person, an Illinois corporation or foreign corporation authorized to do business or acquire and hold title to real estate in Illinois, a partnership authorized to do business or acquire and hold title to real estate in Illinois, or other entity recognized as a person and authorized to do business or acquire title to real estate under the laws of the State of Illinois.

Dated March 25, 2003 Signature _____
Grantor or Agent

Subscribed and sworn to before
me by the said _____ affiant
this 25th day of March,
20 03.
Notary Public _____

"OFFICIAL SEAL"
REGINALD CUNNINGHAM
Notary Public, State of Illinois
My Commission Expires 7/3/05

0030403342

The grantee or his agent affirms and verified that the name of the grantee shown on the deed or assignment of beneficial interest in a land trust is either a natural person, an Illinois corporation or foreign corporation authorized to do business or acquire and hold title to real estate in Illinois, a partnership authorized to do business or acquired and hold title real estate in Illinois, or other entity recognized as a person and authorized to do business or acquire and hold title to real estate under the laws of the State of Illinois.

Dated March 24, 20 03 Signature _____
Grantee or Agent

Subscribed and sworn to before
me by the said _____ affiant
this 25th day of March,
20 03.
Notary Public _____

"OFFICIAL SEAL"
REGINALD CUNNINGHAM
Notary Public, State of Illinois
My Commission Expires 7/3/05

Note: Any person who knowingly submits a false statement concerning the identify of a grantee shall be guilty of a Class C misdemeanor for the first offense and of a Class A misdemeanor for subsequent offenses.

(Attach to deed or ABI to be recorded in Cook County, Illinois, if exempt under the provisions of Section 4 of the Illinois Real Estate Transfer Tax Act.)

LEGAL DESCRIPTION

BLOCK 1 IN CITYFRONT CENTER, BEING A RESUBDIVISION IN THE NORTH FRACTION OF SECTION 10, TOWNSHIP 39 NORTH, RANGE 14 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

ALSO KNOWN AS:

PARCEL 1:

THAT PART OF BLOCK 1 IN CITYFRONT CENTER, BEING A RESUBDIVISION IN THE NORTH FRACTION OF SECTION 10, TOWNSHIP 39 NORTH, RANGE 14 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID BLOCK 1; THENCE SOUTH ALONG THE EAST LINE OF SAID BLOCK 1, A DISTANCE OF 125.106 FEET TO A POINT OF CURVE; THENCE SOUTHERLY ALONG THE EASTERLY LINE OF SAID BLOCK 1, BEING THE ARC OF A CIRCLE TANGENT TO THE LAST DESCRIBED LINE CONVEX TO THE EAST AND HAVING A RADIUS OF 2809.79 FEET, AN ARC DISTANCE OF 92.822 FEET TO THE SOUTHEAST CORNER OF SAID BLOCK 1; THENCE WEST ALONG THE SOUTH LINE OF SAID BLOCK 1, A DISTANCE OF 426.334 FEET; THENCE NORTH ALONG A LINE PERPENDICULAR TO SAID SOUTH LINE OF SAID BLOCK 1, A DISTANCE OF 99.948 FEET TO A CORNER IN SAID BLOCK 1; THENCE NORTH ALONG A WEST LINE OF SAID BLOCK 1, A DISTANCE OF 117.947 FEET TO THE NORTHWEST CORNER OF SAID BLOCK 1; THENCE EAST ALONG THE NORTH LINE OF SAID BLOCK 1, A DISTANCE OF 428.054 FEET TO THE POINT OF BEGINNING, IN COOK COUNTY, ILLINOIS.

PARCEL 2:

THAT PART OF BLOCK 1 IN CITYFRONT CENTER, BEING A RESUBDIVISIOM IN THE NORTH FRACTION OF SECTION 10, TOWNSHIP 39 NORTH, RANGE 14 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF SAID BLOCK 1; THENCE NORTH ALONG THE WEST LINE OF SAID BLOCK 1, A DISTANCE OF 99.944 FEET TO A NORTHWEST CORNER OF SAID BLOCK 1; THENCE EAST ALONG A NORTH LINE OP SAID BLOCK, BEING THE SOUTH LINE OF A PUBLIC ALLEY, A DISTANCE OF 150.00 FEET TO A CORNER OF SAID BLOCK 1, THENCE SOUTH ALONG A LINE PERPENDICULAR TO THE SOUTH LINE OF SAID BLOCK 1 AT A POINT 150.164 FEET EAST, AS MEASURED ALONG SAID SOUTH LINE, FROM THE SOUTHWEST CORNER OF SAID BLOCK 1, A DISTANCE OF 99.948 FEET TO THE SOUTH LINE OF SAID BLOCK 1; THENCE WEST ALONG THE SOUTH LINE OF SAID BLOCK 1, A DISTANCE OF 150.164 FEET TO THE POINT OF BEGINNING, IN COOK COUNTY, ILLINOIS.

40

STS Consultants, Ltd.
Solutions through Science & Engineering

August 22, 2000

Ms. Dalia Maor
MWRDGC
Research and Development/Enforcement Section
111 E. Erie Street
Chicago, Illinois 60611-2802

RE: Grand Pier Center Site, Chicago, Illinois – STS Project No. 24418-XK

Dear Ms. Maor:

STS Consultants, Ltd. (STS) is the Environmental Consultant for the above-referenced project. In this capacity, we are responsible for satisfying certain permit requirements at this site. We understand that one such requirement is the acquisition of a MWRDGC one-time water discharge permit for site construction dewatering.

The project site is bordered by Grand Avenue to the north, Illinois Street to the south, Columbus Drive to the east, and St. Clair Street to the west. The construction will provide the final closure of some residual contamination at the site, including thorium-impacted soil. The development of this site will consist of several major components: a 12-level above-ground parking structure, retail/grocery/supermarket, a mid-rise hotel and various commercial spaces including theaters and shops. A site diagram is attached as Figure 1.

Construction of one portion of the development will include a basement. The excavation for that basement will extend to approximately 17 feet deep, approximately 3 to 4 feet below the groundwater table. A temporary monitor well is in place at the site. Dewatering will be necessary to maintain the excavation in the dry for foundation work. This letter is a request to dispose of that dewatering-generated groundwater.

We estimate that, over the course of the basement excavation and construction phase, approximately 2 million gallons of water will be discharged into the Chicago City Sewer System. Of this total discharge, we expect 1.5 million gallons to be from groundwater and 0.5 million gallons to be from rain and site run-on. A silt settling/filtration basin will be installed between the dewatering wells and the sewer discharge location. A sketch of the desilting basin is attached as Figure 2. This equipment will allow us to monitor effluent for potential contaminants prior to discharge to the sewer system. Previous sampling of groundwater at the site found no evidence of contamination. Available analytical data are attached.

The discharge quantity will be monitored on a non-resetting totalizer. The discharge is proposed to be to a stormwater inlet grate on Grand Avenue, as shown on the attached Figure 3. The site and discharge location will be available for inspection and sampling by

750 Corporate Woods Parkway • Vernon Hills, IL 60061-3153 • (847) 279-2500 • (847) 279-2510 Fax

MWRDGC personnel at any time upon request, and without restriction when construction personnel are on-site.

Site construction began in February 2000 and to date has not required any dewatering. We estimate that site dewatering may begin as early as mid-September 2000. Since site dewatering is an integral portion of the subsurface construction, we are requesting that the permitting process be expedited as much as possible with our assurance that there shall be no sewer discharge without the proper permits in place.

Thank you for your consideration in this matter. If you have any questions or need additional information, please contact me at 847-279-2500.

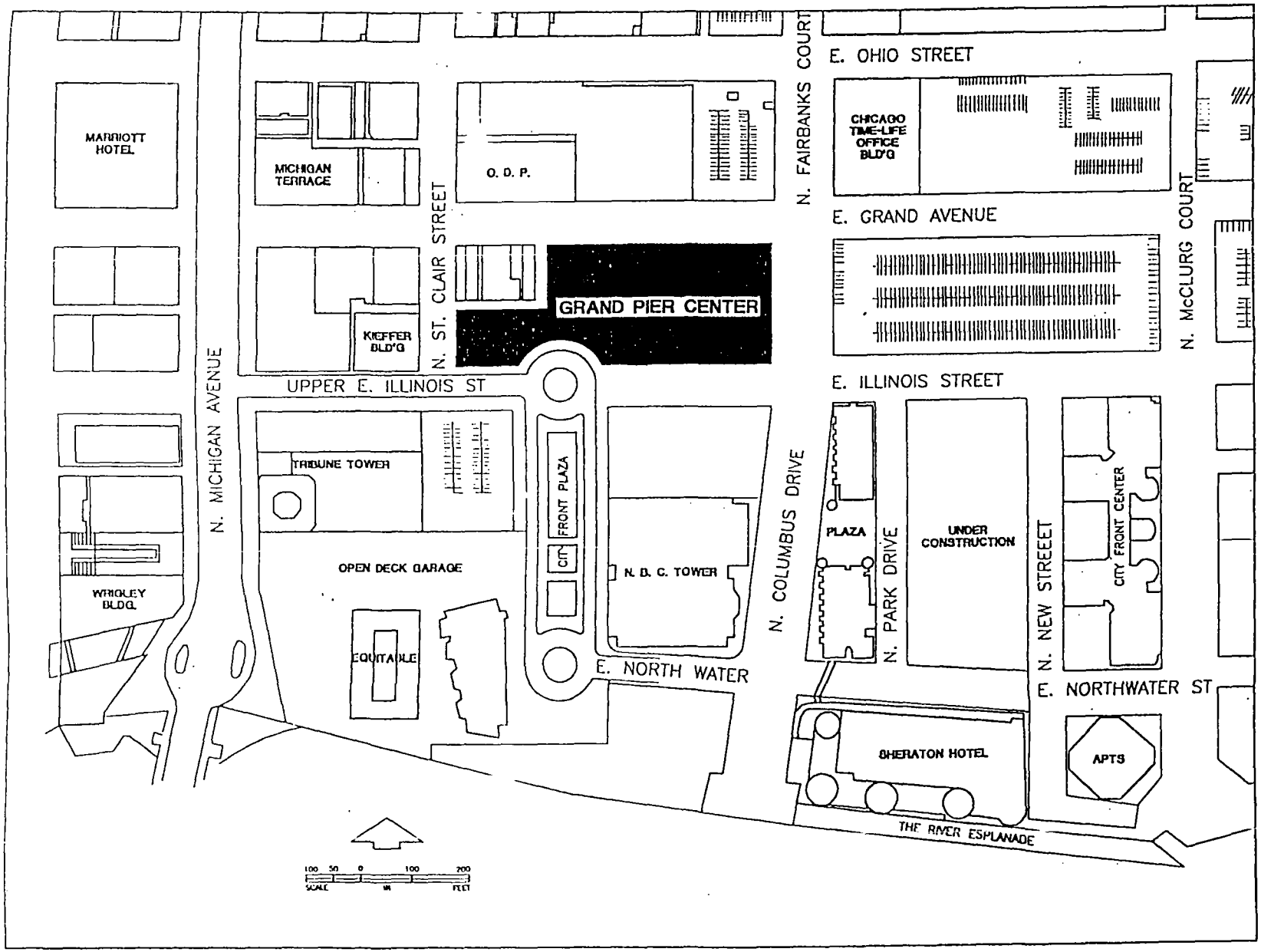
Regards,

STS CONSULTANTS, LTD.

Richard G. Berggreen, C.P.G.
Principal Geologist

cc: Mike Witte, Grand Pier Center LLC
Rick Mueller, Johnson & Bell
Mark Placek, Morse-Diesel

Attachments:
Figure 1 - Site Diagram
Figure 2 - Sketch of Desilting Basin
Figure 3 – Grand Avenue Stormwater Inlet Grate Location
Appendix A - Analytical Data



VICINITY MAP

N

300 GALLON SILT BOX

(WOOD CONSTRUCTION)

MIDWEST DEWATERING COMPANY, INC.
1333 - 125th Street, P.O. Box 050
Hammond, Indiana 46325-0850
(219) 659-0009
FAX: (219) 659-0027

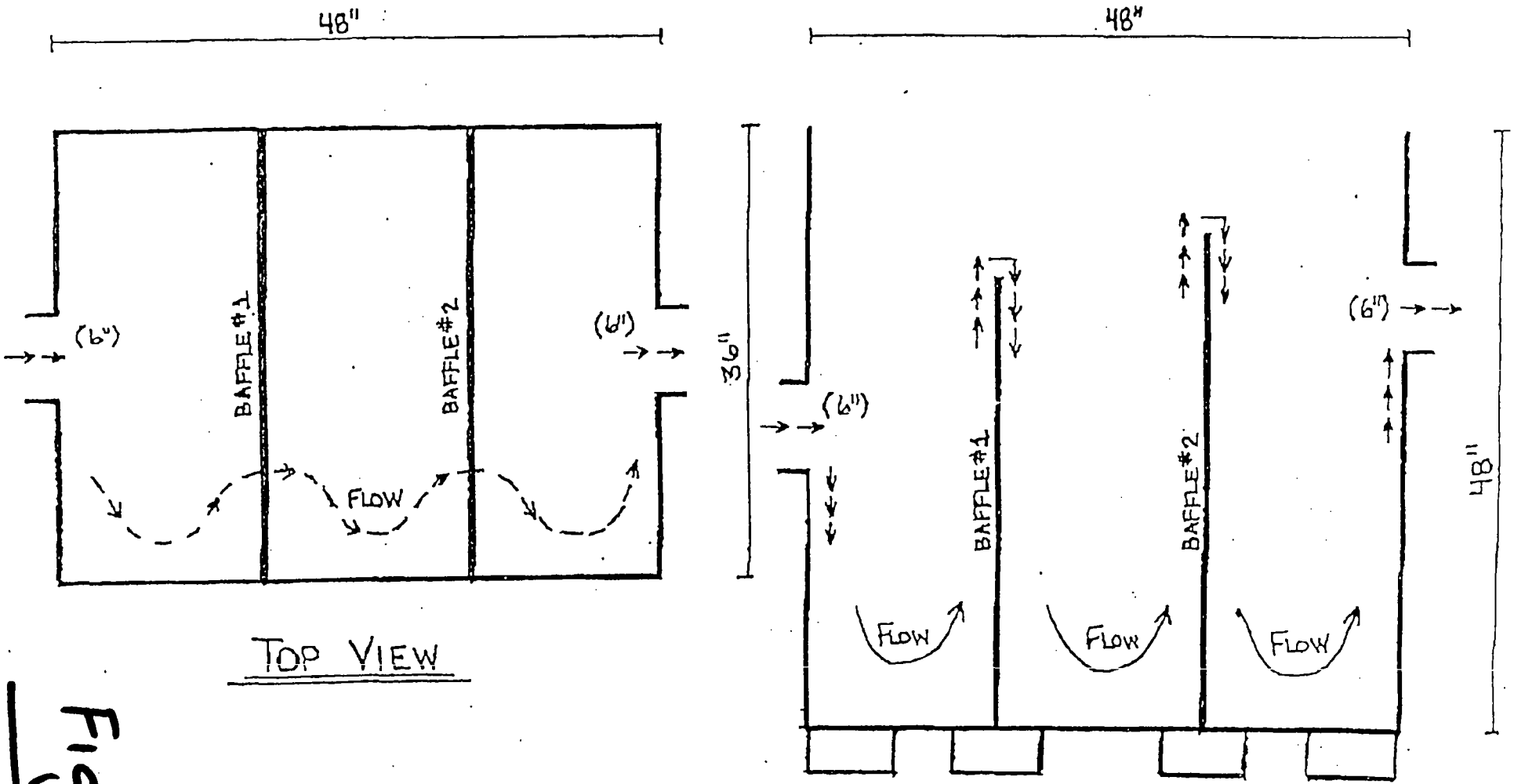


Fig. 2

APPENDIX A

ANALYTICAL DATA

GRACE ANALYTICAL LAB, INC.
5300-B McDermott • Berkeley, IL 60163 • Tel. (708) 449-9449 • Fax (708) 449-3663

VOLATILES ORGANIC ANALYSIS DATA SHEET

STUDY NAME: STS / 24418XK, Grand Pier
GAL PROJECT NO. G000823A
LAB SAMPLE I.D. NO G000823A - 254
FIELD SAMPLE I.D. NO: S #2

US EPA METHOD: 8260B
DATE RECEIVED: 08/23/00
FILE REF. NO: V001207
DATE ANALYZED: 08/23/00

	CAS #	Compound	Concentration (µg/L)
1	74 - 87 - 3	Chloromethane	10 U
2	75 - 01 - 4	Vinyl Chloride	2 U
3	74 - 83 - 9	Bromomethane	10 U
4	75 - 00 - 3	Chloroethane	1.5 U
5	67 - 64 - 1	Acetone	10 U
6	75 - 35 - 4	1,1-Dichloroethene	1.5 U
7	75 - 09 - 2	Methylene Chloride	5 U
8	75 - 15 - 0	Carbon Disulfide	3 U
9	156 - 60 - 5	Trans-1,2-Dichloroethene	1.5 U
10	75 - 34 - 3	1,1-Dichloroethane	1.5 U
11	108 - 05 - 4	Vinyl Acetate	15 U
12	78 - 93 - 3	2-Butanone	10 U
13	156 - 59 - 2	Cis-1,2-Dichloroethene	6.5
14	67 - 66 - 3	Chloroform	1.5 U
15	107 - 06 - 2	1,2-Dichloroethane	1.5 U
16	71 - 55 - 6	1,1,1-Trichloroethane	1.5 U
17	56 - 23 - 5	Carbon Tetrachloride	1.5 U
18	71 - 43 - 2	Benzene	1.5 U
19	78 - 87 - 5	1,2-Dichloropropane	1.5 U
20	79 - 01 - 6	Trichloroethene	1.6
21	75 - 27 - 4	Bromodichloromethane	1.5 U
22	110 - 75 - 8	2-Chloroethylvinyl Ether	1.5 U
23	10061 - 01 - 5	Cis-1,3-Dichloropropene	2 U
24	108 - 10 - 1	4-Methyl-2-Pentanone	10 U
25	10061 - 02 - 6	Trans-1,3-Dichloropropene	2 U
26	79 - 00 - 5	1,1,2-Trichloroethane	1.5 U
27	108 - 88 - 3	Toluene	1.5 U
28	124 - 48 - 1	Dibromochloromethane	1.5 U
29	591 - 78 - 6	2-Hexanone	10 U
30	127 - 18 - 4	Tetrachloroethene	71
31	108 - 90 - 7	Chlorobenzene	1.5 U
32	100 - 41 - 4	EthylBenzene	1.5 U
33	75 - 25 - 2	Bromoform	1.5 U
34	100 - 42 - 5	Styrene	1 U
35	108 - 38 - 3	Xylenes (total)	2.5 U
36	79 - 34 - 5	1,1,2,2-Tetrachloroethane	1.5 U

CODE: U - Compound was analyzed for but not detected. The value reported is the method detection limit.

Analysis Certified By: _____ Laboratory Director

METALS ANALYSIS SAMPLE DATA

PROJECT NAME: STS / 24418YK
GAL PROJECT NO.: G000807B
MATRIX: Water

DATE RECEIVED: 08/07/2000

SAMPLE ID: S-1

ELEMENT	RESULT (mg/L)	MDL* (mg/L)	DATE ANALYZED	USEPA METHOD
Cd	< MDL	0.0002	08/08/00	7131A
Fe	6.14	0.02	08/09/00	6010B
Pb	0.300	0.001	08/08/00	7421
Hg	0.000496	0.0002	08/09/00	7470A
Cr	0.0623	0.02	08/08/00	6010B
Cu	0.0317	0.01	08/08/00	6010B
Ni	< MDL	0.03	08/08/00	6010B
Zn	0.134	0.01	08/08/00	6010B

* METHOD DETECTION LIMIT

Analysis Certified By: _____ Laboratory Director
Reported By: KH

METALS LABORATORY FORTIFIED BLANK DATA

PROJECT NAME: STS / 24418YK
GAL PROJECT NO.: G000807B
MATRIX: Water

DATE RECEIVED: 08/07/2000

Sample S-1

ELEMENT	RESULT (mg/L)	MDL* (mg/L)	DATE ANALYZED	USEPA METHOD
Cd	<MDL	0.0002	08/08/00	LFB000808-1
Fe	<MDL	0.02	08/09/00	LFB000808-1
Pb	<MDL	0.001	08/08/00	LFB000808-1
Hg	<MDL	0.0002	08/09/00	LFB000808-1
Cr	<MDL	0.02	08/08/00	LFB000808-1
Cu	<MDL	0.01	08/08/00	LFB000808-1
Ni	<MDL	0.03	08/08/00	LFB000808-1
Zn	<MDL	0.01	08/08/00	LFB000808-1

* % RECOVERY CONTROL LIMIT: 80-120%

Analysis Certified By: _____ Laboratory Director
Reported By: KH

METALS LABORATORY FORTIFIED BLANK DATA

PROJECT NAME: STS / 24418YK
GAL PROJECT NO.: G000807B
MATRIX: Water

DATE RECEIVED: 08/07/2000

Sample S-1

ELEMENT	SPIKE LEVEL (mg/L)	RECOVERY (%)*	DATE ANALYZED	LAB ID
Cd	1	95.2	08/08/00	LFB000808-1
Fe	1	102	08/09/00	LFB000808-1
Pb	1	89.8	08/08/00	LFB000808-1
Hg	0.003	103	08/09/00	LFB000808-1
Cr	1	105	08/08/00	LFB000808-1
Cu	1	105	08/08/00	LFB000808-1
Ni	1	105	08/08/00	LFB000808-1
Zn	1	108	08/08/00	LFB000808-1

* % RECOVERY CONTROL LIMIT: 80-120%

Analysis Certified By: _____ Laboratory Director
Reported By: KH

INORGANICS ANALYSIS DATA

PROJECT NAME: STS / 24418YK
GAL PROJECT NO.: G000807B
MATRIX: Water

DATE RECEIVED: 08/07/2000

SAMPLE ID: S-1

ELEMENT	RESULT (mg/L)	MDL* (mg/L)	DATE ANALYZED	USEPA METHOD
Oil & Grease	< 5	5.0000	08/09/00	SW9070/SM5520B
Cr+6	0.05	0.01	08/07/00	SW7196/SM3500CR
Total Cyanide	0.017	0.005	08/09/00	BT03-26.1

* METHOD DETECTION LIMIT

Analysis Certified By: _____ Laboratory Director
Reported By: KH

ph. (847) 564-0700 • fax (847) 564-4517

Grace Analytical Laboratory
5300-B McDermott Drive
Berkley, Illinois 60163

LABORATORY REPORT NO. 8100-5487
DATE: 08-10-2000
SAMPLES RECEIVED: 08-08-2000
PURCHASE ORDER NO: _____

Below are the results of the analyses for gross alpha and gross beta on one water sample.

Sample Description	G000807B-51-1		
Lab Code	SPW-5672		
Collection Date	08-07-00		
Isotope	Concentration (pCi/L)	MDL(pCi/L)	Date Analyzed
Gross α	5.5±3.3	2.8	08-09-00
Gross β	53.1±3.7	2.5	08-09-00

Less than (<) values are based on a 3 sigma counting error for the background sample.

Sincerely,

Bronia Grob, M. S.
Lab Manager

APPROVED BY _____
Tony Coorlim,
Quality Assurance

SAMPLES RETAINED THIRTY DAYS AFTER ANALYSIS