IDOT: P92-106-98 **ISGS: 1167**

PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT

FINAL REPORT

DATE: January 31, 2001

IDOT DESIGN DATE: March 1, 2001

DATE REQUEST RECEIVED: March 14, 2000

LOCATION: FAP 301 (US 20) from Mississippi River to Barge Terminal Road, East Dubuque, Jo Daviess County; Dubuque South and Menominee quadrangles (USGS 7.5-minute topographic map), T29N, R2W, Sections 19, 20, 28, 29, 30, 33, and 34.

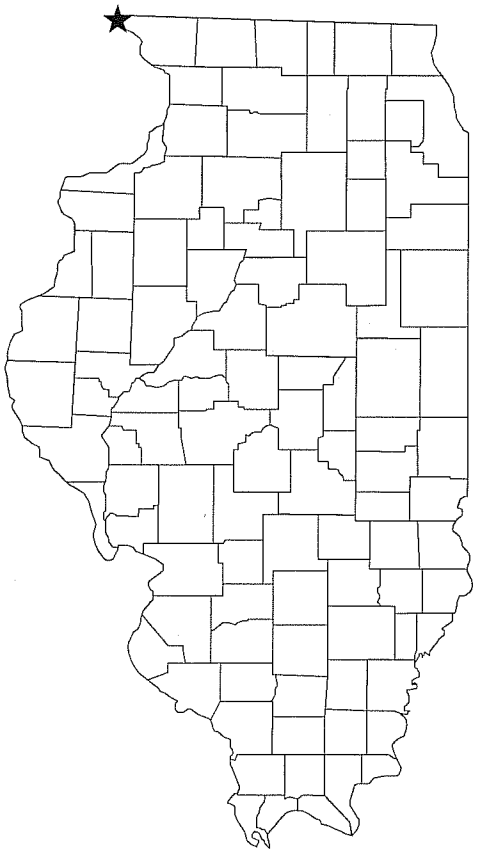

Table of Contents

GLOSSARY OF ACRONYMS

ACM	-	Asbestos-Containing Material
AST	-	Aboveground Storage Tank
ASTM	-	American Society for Testing and Materials
BOL	-	Bureau of Land (IEPA)
BTEX	-	Benzene, Toluene, Ethyl Benzene, and total Xylenes
℄	-	Centerline
CERCLIS-		Comprehensive Environmental Response, Compensation, and Liability Information System
FEMA	-	Federal Emergency Management Agency
FID	-	Flame Ionization Detector
FIRM	-	Flood Insurance Rate Map
GC	-	Gas Chromatograph
ICC	-	Illinois Commerce Commission
IDNR	-	Illinois Department of Natural Resources
IDOT	-	Illinois Department of Transportation
IEMA	-	Illinois Emergency Management Agency
IEPA	-	Illinois Environmental Protection Agency
IMD	-	Illinois Manufacturers Directory
IRPTA	-	Illinois Responsible Property Transfer Act
ISD	-	Illinois Services Directory
ISGS	-	Illinois State Geological Survey
ISV	-	Initial Site Visit
ISWS	-	Illinois State Water Survey
JULIE	-	Joint Utility Locating Information for Excavators
LUST	-	Leaking Underground Storage Tank
µg/kg	-	micrograms per kilogram (ppb)
µg/l	-	micrograms per liter (ppb)
mg/kg	-	milligrams per kilogram (ppm)
mg/l	-	milligrams per liter (ppm)
M.P.	-	Milepost
MSDS	-	Material Safety Data Sheet
MU	-	Meter Units
NFR	-	No Further Remediation
NFRAP	-	No Further Remedial Action Planned
NIPC	-	Northeastern Illinois Planning Commission
NPL	-	National Priority Listing
NRCS	-	Natural Resources Conservation Service (formerly Soil Conservation Service)
OCS	-	Office of Chemical Safety
OSFM	-	Office of the State Fire Marshal
OVA	-	Organic Vapor Analyzer
PAH/PNA-		Polynuclear Aromatic Hydrocarbon
PCB	-	Polychlorinated Biphenyl
PESA	-	Preliminary Environmental Site Assessment
PGC	-	Photovac Gas Chromatograph
PID	-	Photoionization Detector
ppb	-	parts per billion (equivalent to µg/kg for solids, and µg/l in liquids)
ppm	-	parts per million (equivalent to mg/kg in solids, and mg/l in liquids)
PRP	-	Potentially Responsible Party
RCRA	-	Resource Conservation and Recovery Act
ROW	-	Right-of-Way
SIA	-	Surface Impoundment Assessment
SIC	-	Standard Industrial Classification
TACO	-	Tiered Approach to Cleanup Objectives
TCLP	-	Toxicity Characteristic Leaching Procedure
TRI	-	Toxic Release Inventory
TVA	-	Toxic Vapor Analyzer
TVOC	-	Total Volatile Organic Compound
USDA	-	United States Department of Agriculture
USEPA	-	United States Environmental Protection Agency
USGS	-	United States Geological Survey
UST	-	Underground Storage Tank
VOC	-	Volatile Organic Compound
WMRC	-	Waste Management and Research Center (formerly Hazardous Waste Research and Information Center)

PRELIMINARY ENVIRONMENTAL RISK ASSESSMENT[1]

Based upon the following and as of January 5, 2001, the date of the last physical examination of the project area, it is determined that this project has **HIGH** (defined below) risk for the occurrence of regulated substances or natural hazards. **VOCs significantly above background levels were detected in the headspace of soil samples and in immunoassay analyses of soil samples taken from boreholes at the following sites:** former City Garage (Site 1167-2; a LUST site), former Chicago Dubuque Foundry Corp. (Site 1167-3), residence with garage (Site 1167-4), J & L Vending (Site 1167-5), Molo Big 10 Mart (Site 1167-6), Van's Liquor Store parking lot (Site 1167-7), Leibold Brothers Auto Center (Site 1167-8), Custom Auto Repair and Service (Site 1167-9), Obie's Foreign & Domestic Auto Repair (Site 1167-10), Family Beer & Liquor (Site 1167-11), Kieffer Body Shop (Site 1167-12), Kieffer Construction storage yard (Site 1167-13), Ampride gasoline station/Stewart Construction Co. (Site 1167-14), and North Central Farm Lines repair shop (Site 1167-16).

In soil samples taken from the following sites, the following heavy metals exceeded the ingestion value for the IEPA Tier 1 residential TACO objectives:

- Mississippi River (Site 1167-1), arsenic
- Former Chicago Dubuque Foundry Corp. (Site 1167-3), arsenic, lead
- J & L Vending (Site 1167-5), arsenic

However, arsenic in the samples exceeded neither the total metals pH-dependent migration to Class I groundwater nor the TCLP migration to Class I groundwater values for the IEPA Tier 1 residential TACO objectives.

In soil samples taken from the following sites, lead exceeded the TCLP migration to Class I groundwater values for the IEPA Tier 1 residential TACO objectives; no total metals pH-dependent migration to Class I groundwater TACO value for lead exists in the TACO standards:

- Former Chicago Dubuque Foundry Corp. (Site 1167-3)
- Burlington Northern Santa Fe Railroad, Murphy Bungalow (Site 1167-17F)

The Silver Eagle Casino (Site 1167-R) is an archived CERCLIS site. No testing was conducted adjacent to this parcel, due to its distance from the proposed project.

Many buildings along the project ROW were constructed before 1979 and may therefore have friable asbestos-containing materials (ACM) as a component of floor tiles, wall and pipe insulation, roof materials, patching or painting compounds, ceiling materials, or stove and furnace insulation. The buildings along the corridor between Sinsinawa Avenue and Menominee Street from 2nd

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[1] Risk Assessment is the method used to assign a relative risk factor to the probability and likely consequence of encountering man-made and natural hazards. A hazard is the set of inherent properties known to be dangerous to the environment. This rating has an implication for the level of hazard which might be encountered. However, a MODERATE or HIGH risk site might also be easily mitigated by proper methods.

Street to 6th Street were mostly built prior to 1979 and may contain friable ACM in building materials. Soils in the area formerly containing Chicago Dubuque Foundry Corp. (Site 1167-3) may contain friable ACM the originated from demolition of buildings, including the former ICRR roundhouse, which was constructed in the 1800s. Further investigation into the presence of asbestos-containing materials may be desired if building modification or demolition is to occur.

According to Flood Insurance Rate maps, the project route crosses the 100-year floodplain of the Mississippi River from the bank of the river to just west of the crossing of the bridge over the railroad tracks and south of the railroad tracks from 2nd Street to the eastern edge of Section 29, T29N, R2W. The 100-year floodplain crosses the railroad tracks in the southeast quarter of Section 29 and along 3rd Street and IL 35. The 100-year floodplain crosses the entire project area along 3rd Street/IL 35, and in the southeast quarter of Section 29, the current alignment of US 20 crosses the 500-year floodplain of the Mississippi River. Flooding, standing water, and saturated soils may be encountered in these areas, particularly during periods of high or extended rainfall or spring snowmelt.

According to the ISGS map "Karst Terrains and Carbonate Rocks of Illinois", the project is located in a karst region. Karst terrains develop due to the dissolution of carbonate bedrock. Karst features and resulting karst hazards are most common in areas where carbonate rocks either crop out at the surface, or where they are shallowly buried beneath unconsolidated materials generally less than 15 m (49 ft) in thickness. Hazards common to karst regions include sinkholes, springs, erratic surface water drainage and groundwater flow, and rapid subsurface movement of contaminants from spills into and through the subsurface. Sinkholes and springs can also back up and cause local flooding during high-volume rain or snowmelt events.

HIGH. A **HIGH** risk is based on the presence of potentially hazardous compounds, either as detected by ISGS testing or as documented by the Illinois Environmental Protection Agency. The specific presence and levels of regulated substances, to the extent that they are known, will be incorporated in the report. Further investigation may be desired to determine the nature, source, and extent of the problem.

IRPTA COMPLIANCE INFORMATION

The following listed properties within or along the proposed project require IRPTA compliance. The reason(s) for this action are noted and described in the IRPTA Compliance Key on the page following.

Parcel/Address	Reason
City Garage (Site 1167-2) 300 Boat Ramp Road	2B
Chicago Dubuque Foundry Corp. (Site 1167-3) 210 2nd Street	2B
The Circle Club (Site 1167-B) 90 Sinsinawa Avenue	2B
Bluff Liquors and Lotto (Site 1167-C) 91 Sinsinawa Avenue	4
Giggies (Site 1167-D) 114 Sinsinawa Avenue	2B
Register Printing Co. (Site 1167-E) 141 Sinsinawa Avenue	4
Ship & Shore Fish & Seafood (Site 1167-G) 198 Sinsinawa Avenue	2B
East Dubuque Fire Department No. 1 (Site 1167-H) 183 Sinsinawa Avenue	4
Leibold Auto Service (Site 1167-I) 200 Sinsinawa Avenue	2B
Beauty Shack (Site 1167-N) 260 Sinsinawa Avenue	4
J & L Vending (Site 1167-5) 300-303 Menominee Avenue	4
Molo Big 10 Mart (Site 1167-6) 448 Sinsinawa Avenue	2A

Parcel/Address	Reason
Van's Liquor Store parking lot (Site 1167-7) 540 Sinsinawa Avenue	4
Leibold Brothers Auto Center (Site 1167-8) 620 Sinsinawa Avenue	2A
Family Beer & Liquor (Site 1167-11) 20200 US 20 West	2B
Kieffer Body Shop (Site 1167-12) 20100 Rte 20 West	4
Ampride gasoline station (Site 1167-14) 19650 US 20 West	2A
IEI Barge & Rail Terminal (Site 1167-W) 18525 US 20 West	2B

IRPTA COMPLIANCE KEY

The decision as to whether property is subject to IRPTA compliance is based on several considerations. The following is a key to the reason why parcels identified in the report are subject to IRPTA compliance.

1. This parcel contains a facility that is required to prepare or have available a MSDS for a hazardous chemical, as defined under the OSHA Hazard Communication Standard and falls under one of the following categories:

   A. Hazardous chemicals on the parcel are present in amounts equal to or greater than 4,536 kg (10,000 lbs).

   B. Extremely hazardous substances on the parcel are present in amounts greater than or equal to 227 kg (500 lbs) or their threshold planning quantity, whichever is less.

2. This parcel appears on the OSFM list of registered USTs.

   A. At least one active UST is still present on the parcel.

   B. The parcel is on the UST list, but the UST(s) have been removed, are abandoned, are out of use, or have a status of "exempt from registration".

3. This parcel contains one or more USTs that do not appear on the OSFM's UST list but that may be subject to IRPTA.[2]

4. This parcel may be subject to IRPTA compliance upon further investigation. Present information is inadequate, inconclusive, or suggests caution. See report for details.

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[2] USTs/facilities exempt from IRPTA are:

- Farm or residential tank of 4,164 L (1,100 gal) or less capacity used for storing motor fuel for noncommercial purposes;
- Tank used for storing heating oil for consumptive use on the premises where stored;
- Septic tank;
- Pipeline facility (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968; the Hazardous Liquid Pipeline Safety Act of 1979; or which is an intrastate pipeline regulated under comparable state laws.
- Surface impoundment, pit, pond, or lagoon;
- Stormwater or wastewater collection system;
- Flow-through process tank;
- Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations;
- Storage tank situated in an underground area (such as a basement, cellar, mine working, drift, shaft, tunnel) if the storage tank is situated above or upon the surface of the floor.

BACKGROUND

Introduction

This is the **Final Report** of a preliminary environmental assessment by the ISGS of natural and man-made hazards that may be encountered on or along the ROW acquired for this project in Jo Daviess County. This project is located in East Dubuque. The entire project extends from west of U.S. Route 61 (US 61) in Dubuque, IA, to Barge Terminal Road in East Dubuque, IL. It involves replacing the existing two-lane bridge over the Mississippi River with a twin-span four-lane bridge. Also included in the project are construction of interchanges on both the east and west approaches to the bridge and reconstruction of US 20 east of the bridge to a four-lane freeway. New ROW and easements will be acquired. It is not known if railroad ROW, building demolition/modification, or subsurface utility relocation/linear excavation will be included. This PESA covers only the Illinois side of the project (Attachment 1A).

The original request referred to the IIW Phase I study, which included a corridor extending along US 20 and also north along Illinois Route 35 (IL 35). However, plans for a Recommended Alternative forwarded by Larry Hill, Environmental Coordinator with IDOT District 2, and discussions with Mr. Hill have revealed that the two alternatives being considered follow much more restricted alignments along and south of the existing US 20 and include only that part of East Dubuque east of 3rd Street/US 35 and between Menominee Avenue and Sinsinawa Avenue. The alignment shown in Attachments 1A and 1B is the Recommended Alternative shown on plans received from IDOT District 2. This report includes discussion of all sites discovered in the original corridor and included in the IIW Phase I study and the Hansen Engineers Phase I study. However, testing was conducted only adjacent to those parcels that actually fall within or adjacent to the Recommended Alternative as shown in Attachments 1A and 1B. US 20 is known as Sinsinawa Avenue in the city of East Dubuque. However, it will be referred to as US 20 in this report, though addresses within East Dubuque are given by street name. This report identifies and evaluates known or potential occurrences of regulated substances and natural hazards.

This assessment has been prepared using historical and geological information including aerial photographs, U.S. Geological Survey topographic maps, plat maps, file information of the ISGS and other state agencies, and various other sources of information. An on-site investigation has been completed. The specific methods used to conduct the assessment are contained in "A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Projects" (Erdmann et al., 1996). Natural and man-made hazards have been identified and other potential detriments or considerations have been listed as are suitable within the scope of this preliminary survey. If new environmental information is received concerning this site, this report will be updated accordingly and the information made part of the permanent file. If such information is considered to have a significant impact on the findings of this report, the report will be corrected by addendum and resubmitted to IDOT Bureau of Design and Environment.

Geology

Bedrock geology. The uppermost bedrock in the project area consists of the Ordovician-age Galena and Platteville Groups. The Galena Group comprises limestone and dolomite, becoming shaly in the lower portions. The underlying Platteville Group consists mainly of limestone. These

units reach combined thicknesses of 76 m (250 ft) or more in Jo Daviess County. Bedrock was encountered at depths ranging from the surface to 2.7 m (9 ft) in boreholes at five sites.

Surficial geology. The project area is located in the Driftless Area of Illinois. Throughout most of the project area, the uppermost unlithified deposits consist of the Cahokia Formation (formerly Cahokia Alluvium). The Cahokia Formation consists of silt, sand, and gravel deposited in streams. Beneath the Cahokia Formation are deposits of the Henry Formation, made up of sand and gravel deposited by glacial outwash. Upland areas are overlain by thick (more than 6 m [20 ft]) deposits of the Peoria Silt (formerly Peoria Loess). Bare near-vertical bedrock bluffs occur along the north side of US 20 and the northern US 20 access road.

Soils. Along the project ROW, the NRCS has classified the Birds silt loam, Wakeland silt loam, and Lawson silt loam soils as hydric. Non-prime farmland soils along the ROW are the Sparta loamy sand (7-15 percent slopes), Seaton silt loam (25-45 percent slopes), Tell silt loam (5-10 percent slopes), Chelsea loamy fine sand, Lacrescent silt loam, and Algansee fine sandy loam soils.

Hydrogeology

Due to project type or IDOT internal procedure, the sections on surficial public water supplies, groundwater recharge, groundwater protection areas, potential for contamination of shallow aquifers, and well log information are not included in this report.

Drainage direction. Surficial drainage in the project area is generally toward the south and southwest, in the direction of the Mississippi River. However, within East Dubuque, the project area is urbanized, and most surficial runoff will be controlled by the storm sewer system in that community; such systems typically are designed to follow natural drainage patterns.

Neither the near-surface nor the shallow unconfined groundwater flow direction was specifically determined for this project, but they generally mimic local topography.

Depth to water in project boreholes. Water was encountered in two boreholes completed for this project in January 2001. Depth to water in these boreholes was approximately 0.3 m (1 ft). No water was encountered in any of the remaining 31 boreholes completed to depths of up to 2.7 m (9 ft).

Wellhead protection areas. This project crosses two wellhead protection recharge areas for municipal wells for the community of East Dubuque. A wellhead protection area for East Dubuque Well #2 is crossed by US 20 at the east end of the Julien Dubuque Bridge, the well being located in the northeast quadrant of 2nd Street and Menominee Street, near the southeast corner of Section 19, T29N, R2W. A wellhead protection area for East Dubuque Well #3 is crossed by US 20 southeast of the eastern end of the Julien Dubuque Bridge, the well being located along the northwest side of 6th Street between Menominee Street and DeSoto Street. A third well, East Dubuque Well #1, is located on the northeast side of the current police station in the northwest quadrant of Sinsinawa Avenue and Montgomery Avenue. However, the City Manager for East Dubuque stated that this well is inactive, and the IEPA has not established a wellhead protection area for it.

DISCUSSION

Man-Made Hazards

The project area is dominantly commercial within the old business community of East Dubuque, though some residences are mixed in with the commercial development. Southeast along US 20, land use is mixed commercial and residential, with commercial development being mainly along the existing US 20 and residential development being along and south of Wall Street. However, even in this dominantly residential area, commercial enterprises are currently in operation or have been in the past. Because the East Dubuque Fire Department is volunteer, no information was available from the fire department for any site. All information concerning city knowledge of sites along the ROW of this project came from Mr. Mick J. Michel, the City Manager for the City of East Dubuque. In the following discussion, sites are listed in a general west to east direction, beginning with sites nearest the river and near the northwest edge of the project area and concluding with sites along Barge Terminal Road at the southeast end of the project. Sites in close proximity along streets that cross the project alignment are discussed from US 20 toward the southwest along the cross streets. In this discussion, assumption is made that named streets in East Dubuque and US 20 throughout the project area run in an east-west direction. Numbered streets are assumed to run north-south. Because ambient temperatures were significantly below the operating range of the TVA during the week of testing, no soil gas was sampled for TVA analysis. Soil samples were retrieved from each hole and the headspace of the samples was tested using the Photovac GC.

The most recent versions of the OSFM's UST database, IEPA's LUST database, and USEPA's CERCLIS database utilized for this report were dated October 5, 2000, January 13, 2001, and October 5, 2000, respectively. OSFM files were contained in the Phase I Environmental Property Assessment prepared by IIW Engineers and Surveyors of Dubuque, IA, in 1999. IEPA BOL files were reviewed on December 5, 2000. IEPA OCS files were received on November 29, 2000.

This project intersects ISGS PESA #667, which was submitted to IDOT on April 11, 1995, between Lake Frentress Road and Barge Terminal Road. Testing results from this earlier project will be discussed in geographic order below. This project also intersects ISGS PESA #798 at Barge Terminal Road; PESA #798 was submitted to IDOT on May 20, 1996. None of the sites included in PESA #798 are adjacent to this PESA.

Site 1167-1. Mississippi River. This segment of the Mississippi River has not been rated, according to the IEPA Water Quality Report 1994-1995, dated September 1996 and updated in 1998. However, according to the IEPA Illinois Water Quality web site (http://www.epa.state.il.us/water/water-quality/), dated 1999, the overall resource quality is "good" for the entire stretch of the Mississippi River at East Dubuque.

Spills of petroleum and other materials have been documented in this section of the Mississippi River. In February 1978, a train derailment on the Iowa side of the river just downstream from Dubuque spilled approximately 45 metric tons (50 short tons) of sodium carbonate when the hopper cars toppled into the river (IEMA #780041). The Iowa Department of Environmental Quality believed the material would stay on the Iowa side of the river. Davenport, IA, reported a strong increase in pH following the spill.

In November 1983, a spill of asphalt at approximately Mile 590 occurred when two or three barges ran aground (IEMA #830925). Information received from IEPA OCS indicated that approximately one-half of the river was covered by a thick film from Mile 590 to Lock and Dam #11 at Mile 583. It is unknown if this spill was contained at Lock and Dam #11 or if it continued on downstream to East Dubuque.

In July 1994, an estimated 1135 L (300 gal) of diesel fuel was released into the river from a dredge that capsized at Midtown Marina, located at the end of 5th Street in East Dubuque (IEMA #941562). Other unreported releases may have occurred into the river at or upstream of East Dubuque.

River sediments are considered by IDOT to be transient in nature, and ISGS does not normally conduct testing of river sediments. However, Mr. Larry Hill of District 2 specifically requested that testing be conducted at the site of this bridge-replacement project. Soil sample 1167-1 (Attachment 2A) was taken from the top 0.3 m (1 ft) of sand at the river's edge for total metals and TCLP analyses. The sample location was beneath the centerline of the bridge approximately 15 m (50 ft) west of the last bridge support on the Illinois shore. These analyses were performed by Severn Trent Laboratories. The pH value for the soil sample was 7.5. The results are presented in the table below, along with the ingestion and inhalation cleanup objectives for total metals (mg/kg), and migration to Class I groundwater cleanup objectives for both pH-dependent total metals (mg/kg) and TCLP metals (mg/L), as determined for TACO Tier 1 standards for residential properties. NA = no toxicity criteria available for route of exposure. ND = not present above detection limit.

1167-1	Total metals (mg/kg)		TCLP metals (mg/L)		Ingestion (mg/kg)	Inhalation (mg/kg)	Migration to Class I GW (soil component): pH-dependent pH 7.25 to 7.74 (mg/kg)	Migration to Class I GW (soil component) (mg/L)
Metal	Result	Detection limit	Result	Detection limit				
arsenic	**1.3**	0.82	ND	0.05	**0.4**	750	30	0.05
barium	19.8	4.1	ND	1	5,500	690,000	1,800	2.0
cadmium	ND	0.41	ND	0.005	78	1,800	59	0.005
chromium (total)	6.5	1.6	ND	0.05	390	270	NA	0.1
lead	6.5	0.41	ND	0.0075	400	NA	NA	0.0075
mercury	ND	0.042	ND	0.002	23	6.4	6.4	0.002
selenium	ND	0.41	ND	0.05	390	NA	3.3	0.05
silver	ND	0.82	ND	0.05	390	NA	39	0.05

The sample collected from the river was a medium brown sand.

Site 1167-A. Julien Dubuque Bridge. This bridge is listed in the IEPA Incident Database under the name, Jevic Transportation Inc. (IEMA #960470, IEPA #0850103003). According to information received from the IEPA OCS, an accident occurred on this bridge in March 1996,

involving a diesel truck. Approximately 473 L (125 gal) of diesel fuel was spilled onto the bridge surface from ruptured fuel tanks. Sand was spread on the bridge to contain the fuel, but fuel ran down a drain pipe onto the ground beneath the bridge. Approximately 9 m^3 (12 yd^3) of sand was removed from the bridge and an unknown amount of soil was excavated from beneath the bridge and replaced with crushed rock. Additional information received from the IEPA pertained to a provisional USEPA generator identification number for transportation of soil contaminated with diesel fuel. No information was available from the Jo Daviess County Sheriff, who responded to this event. No testing was conducted beneath the bridge, because the location of the spill could not be determined.

Site 1167-2. LUST/former UST site: Former City Garage, north side of Boat Ramp Road west of 2nd Street (300 Boat Ramp Road). This parcel, located along the west side of Site 1167-3, contained the garage for the City of East Dubuque and the East Dubuque Waste Water Treatment Plant. The garage consisted of two buildings west of the driveway at the south end adjacent to Boat Ramp Road. Both buildings were of steel construction, painted white. Both seemed new. The waste-water treatment plant was located at the north end of the parcel, along the south side of the Burlington Northern Santa Fe Railroad tracks.

According to aerial photographs, construction on these facilities began about 1986. Evidence of construction activities can be seen on 1986 aerial photographs, and both facilities are present on 1988 and later photographs. From 1964 to 1986, a smaller building can be seen east of the driveway and east of the current location of the lift station and sludge holding tank, adjacent to the southwest edge of the Chicago Dubuque Foundry Corp. (Site 1167-3) parcel. This smaller building was the former city garage, according to site maps in IEPA files. The city used this garage from 1956 until its demolition in 1992. Photographs from 1947 through 1958 show only the former ICRR roundhouse, which was occupied by the Chicago Dubuque Foundry Corp. (Site 1167-3) from as early as 1921 to at least 1996.

This facility is contained on the latest OSFM UST list with two tanks in a closed status. The tanks were last used in 1992 to store gasoline and have been removed. This is also a LUST site under the name, City of East Dubuque (IEMA #920050; IEPA #0850105007).

According to information obtained from IEPA files, an investigation of the parcel in 1991 by RMT Inc., consultant to the former Chicago Dubuque Foundry (Site 1167-3), which was considering purchase of the parcel, reported evidence of spills in the form of soil stains, demolition debris, and leaking lead-acid batteries. That investigation also discovered soil contamination during a boring program, which encountered groundwater at depths of 4-4.3 m (13-14 ft) and contaminated soil at depths of 3-5.8 m (10-19 ft). In that investigation, a city employee stated that one UST had been drained and abandoned in 1984 due to gasoline odors in a sanitary drainage collection basin located 15 m (50 ft) west of the tank. The garage building was subsequently demolished and the USTs removed. Further investigations of the parcel by IIW Engineers and Surveyors P.C. and Mid-State Associates Inc., consultants to the city, determined that both groundwater and soils were impacted. Approximately 3,440 m^3 (4,500 yd^3) of petroleum-impacted soil was excavated from the site in an area measuring approximately 21 m (70 ft) along and 40 m (130 ft) perpendicular to Boat Ramp Road. Groundwater flow was determined to be toward the south, and petroleum-impacted groundwater was believed to extend beneath Boat Ramp Road to the south. All contaminated soil except that in and under the floodwall was removed. The floodwall was believed to be impacted. but the extent was unknown. A series of letters between the City of East Dubuque and its

consultants and the IEPA between 1996 and September 2000 failed to obtain an NFR letter. However, Mr. Mick J. Michel, City Manager of East Dubuque, stated on November 13, 2000, that the city hoped to have an NFR letter soon. Further information was not available in IEPA files.

A magnetometer survey was not conducted of the ROW adjacent to this parcel. The entire area between the north edge of Boat Ramp Road and the chain-link fence surrounding this parcel is filled with utilities, including water and sewer lines, which made detecting individual anomalies indicative of USTs not possible.

IDOT ROW falls along the south side of Boat Ramp Road adjacent to this parcel. It was not possible to probe boreholes along the north side of Boat Ramp Road, due to the extensive utilities in this area. The south side of Boat Ramp Road is a steep slope, which was covered with snow and ice during the week of testing. Attempts to emplace boreholes at the base of this slope with hand equipment were thwarted by the presence of extensive gravelly fill. Therefore, two boreholes were probed with a soil probe beneath the US 20 bridge. Water was encountered at a depth of 0.3 m (1 ft) in both of the holes. Borehole 1167-2a was located west of bridge support #33. During Photovac GC analysis of the headspace of soil samples collected from depths of 0.9, 1.8, and 2.7 m (3, 6, and 9 ft), no VOCs significantly above background levels were detected.

Borehole 1167-2b was located east of bridge support #33 (Attachment 2B). An obstruction at 0.9 m (3 ft) prevented penetration to greater depths. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), four unidentified VOCs were detected.

Borehole 1167-2a passed through sand, which increased in grain size from fine- to medium-grained sand at 0.9 m (3 ft) to coarse-grained sand at 2.7 m (9 ft). A fine- to medium-grained sand was collected from borehole 1167-2b at a depth of 0.9 m (3 ft).

Site 1167-3. Former industrial/former UST/former RCRA site: former Chicago Dubuque Foundry Corp., northwest quadrant of 2nd Street and US 20 (210 2nd Street). This parcel contained a vacant paved lot. During the ISV, one semi-trailer was observed parked on the lot, located just south of three small buildings along the north edge. The entire lot was surrounded by a barbed-wire-topped chain-link fence.

This lot originally contained an Illinois Central Railroad roundhouse. The roundhouse was converted to a foundry by at least 1921, the first Sanborn Fire Insurance Map that shows this facility. Aerial photographs show use of the roundhouse by the foundry as is through 1970, after which time additions were completed on the south and west. The foundry continued at the site through at least 1992, the latest city directory available. Aerial photographs from 1994 show that the roundhouse had been demolished, though other buildings remained on site. Information presented in IEPA files show that the facility was completely destroyed by fire on May 1, 1996.

Chicago Dubuque Foundry Corp. is contained on the latest OSFM UST list with one tank in a closed status. The tank was last used in 1993 to store diesel fuel and has been removed. It is also in the IEPA Site Remediation Program (IEPA #0850105001), is a RCRA site, and is on the USEPA Toxics Release Inventory.

In 1991, a release of Isoset 4437 was reported here (IEMA #913632). Isoset 4437 consists primarily of epoxy phenolic resin and cumene hydroperoxide, with minor amounts of

isopropylbenzene and 2-phenyl-2-propanol. The spill occurred when a barrel heater overheated. The material spilled on a concrete floor, where it was contained by constructing a dike of foundry sand. The contaminated sand was placed in a hopper for future disposal. Vapors were also vented to the atmosphere. Further information concerning this event was not available in IEPA files.

RCRA documents pertain to inspections of the facility. According to those documents, the foundry generated two hazardous wastes: baghouse dust and waste solvent. Baghouse dust is classified as D006/D008 waste, which are cadmium and lead. Waste solvent is classified as D001 waste, which is ignitable waste. Subsequent reports indicate that the facility shipped waste naphtha to a site in Davenport, IA, for disposal or recovery.

Also contained in the file was a letter, dated April 17, 1985, from Shive-Hattery Engineers, consultant to the City of East Dubuque, concerning an investigation of a foundry-waste landfill where the city's current waste-water treatment plant has subsequently been built. According to that letter, the landfill thickness varied between 4.9 and 6.4 m (16 and 21 ft), and an estimated 5,550 m^3 (7,000 yd^3) of this material was to be relocated on the property. The analysis included with the report is presented in the table below. The pH of the composite sample was 8.21. As shown, cadmium, total chromium, and lead exceeded the migration to Class I groundwater, according to IEPA TACO standards.

Metal	Total metals (mg/l)	Ingestion (mg/kg)	Inhalation (mg/kg)	Migration to Class I GW (soil com-ponent): pH-dependent (mg/kg)	Migration to Class I GW (soil component) (mg/L)
arsenic	0.002	0.4	750	NA	0.05
barium	1.2	5,500	690,000	NA	2.0
cadmium	**0.01**	78	1,800	NA	**0.005**
chromium (total)	**0.1**	390	270	NA	**0.1**
lead	**0.1**	400	NA	NA	**0.0075**
mercury	0.0006	23	10	NA	0.002
selenium	0.002	390	NA	NA	0.05
silver	ND	390	NA	NA	0.05

A magnetometer survey was conducted on December 21, 2000. The existing ROW along the west side of 2nd Street and north side of Boat Ramp Road east of the wooden guardrail was surveyed. No significant magnetic anomalies were detected.

IDOT proposes to obtain new ROW adjacent to this parcel. Therefore, three boreholes were probed to test for VOCs; water was not encountered in any of the holes. Borehole 1167-3a was located along the north side of Boat Ramp Road near the south central portion of the parcel (Attachment 2E). During Photovac GC analysis of the headspace of soil samples collected from

depths of 0.9, 1.8, and 2.7 m (3, 6, and 9 ft), no VOCs significantly above background levels were detected.

Borehole 1167-3b was located beneath the US 20 bridge adjacent to the southeast corner of the parcel (Attachment 2C), because extensive utilities along the north side of Boat Ramp Road prevented probing of a borehole there. During Photovac GC analysis of the headspace of soil samples collected from depths of 0.9, 1.8, and 2.7 m (3, 6, and 9 ft), no VOCs significantly above background levels were detected. The three soil samples were analyzed using a Petro-Risc immunoassay kit. Results of this analysis indicate that petroleum products were detected in the soil samples in concentrations greater than 1 ppm and less than 10 ppm.

Borehole 1167-3c was located along the west side of 2nd Street adjacent to the entrance gate (Attachment 2D). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), one unidentified VOC was detected. No VOCs significantly above background levels were detected in the headspace of soil samples taken from depths of 1.8 and 2.7 m (6 and 9 ft).

Soil samples 1167-3A and 1167-3B were taken from the top 0.3 m (1 ft) of soil adjacent to this parcel for total metals and TCLP analyses. Soil sample 1167-3A was taken from a point approximately 27 m (90 ft) west of the centerline of 2nd Street and 3.7 m (12 ft) north of the centerline of Boat Ramp Road, a location near borehole 1167-3a (Attachment 2E). Soil sample 1167-3B was taken from a point adjacent to borehole 1167-3c approximately 6 m (20 ft) east of the centerline of 2nd Street and 34 m (110 ft) north of the centerline of Menominee Avenue (Attachment 2D). These analyses were performed by Severn Trent Laboratories. The pH values for the soil samples were 7.56 and 7.76. The results are presented in the table below, along with the ingestion and inhalation cleanup objectives for total metals (mg/kg), and migration to Class I groundwater cleanup objectives for both pH-dependent total metals (mg/kg) and TCLP metals (mg/L), as determined for TACO Tier 1 standards for residential properties. NA = no toxicity criteria available for route of exposure. ND = not present above detection limit.

Sample #	Total metals (mg/kg)		TCLP metals (mg/L)		Ingestion (mg/kg)	Inhalation (mg/kg)	Migration to Class I GW (soil component): pH-dependent (mg/kg)	Migration to Class I GW (soil component) (mg/L)
Metal	Result	Detection limit	Result	Detection limit				
1167-3A							pH 7.25 to 7.74	
arsenic	**7.9**	0.8	ND	0.05	**0.4**	750	30	0.05
barium	58.6	4	ND	1	5,500	690,000	1,800	2.0
cadmium	2.8	0.4	ND	0.005	78	1,800	59	0.005
chromium (total)	48.5	1.6	ND	0.05	390	270	NA	0.1
lead	**583**	0.4	**0.744**	0.0075	**400**	NA	NA	**0.0075**
mercury	ND	0.041	ND	0.002	23	6.4	6.4	0.002

Sample #	Total metals (mg/kg)		TCLP metals (mg/L)		Ingestion (mg/kg)	Inhalation (mg/kg)	Migration to Class I GW (soil component): pH-dependent (mg/kg)	Migration to Class I GW (soil component) (mg/L)
Metal	Result	Detection limit	Result	Detection limit				
selenium	2	0.4	ND	0.05	390	NA	3.3	0.05
silver	ND	0.8	ND	0.05	390	NA	39	0.05
1167-3B							pH 7.75 to 8.0	
arsenic	**16.3**	0.73	ND	0.05	**0.4**	750	31	0.05
barium	85.4	3.7	ND	1	5,500	690,000	2,100	2.0
cadmium	1.7	0.37	ND	0.005	78	1,800	430	0.005
chromium (total)	20.7	1.5	ND	0.05	390	270	NA	0.1
lead	240	0.37	**0.0689**	0.0075	400	NA	NA	**0.0075**
mercury	0.091	0.038	ND	0.002	23	8	8	0.002
selenium	1.2	0.37	ND	0.05	390	NA	2.4	0.05
silver	ND	0.73	ND	0.05	390	NA	110	0.05

Soil retrieved from borehole 1167-3a consisted of a yellowish brown silt or very fine-grained sand at 0.9 m (3 ft), a medium brown very fine-grained sand at 1.8 m (6 ft), and a medium brown medium-grained sand at 2.7 m (9 ft). In borehole 1167-3b, soil materials comprised a silty fine-grained sand at 0.9 and 1.8 m (3 and 6 ft). Drainage-tile fragments were contained in the 1.8-m (6-ft) sample. From a depth of 2.7 m (9 ft), soil consisted of a medium brown fine-grained sand. Fill was retrieved from a depth of 0.9 m (3 ft) in borehole 1167-3c; the fill contained coal fragments, clinkers, and ash. A medium brown medium-grained sand was retrieved from a depth of 1.8 m (6 ft), while the material from a depth of 2.7 m (9 ft) consisted of a dark brown sand.

Site 1167-B. LUST/former UST site: The Circle Club Inc., southwest quadrant of Sinsinawa Avenue and 1st Street (90 Sinsinawa Avenue). Two large buildings had been joined on this parcel to form a disco and night club. On the south was a large steel building, while a smaller masonry building occupied the area to the north. The two buildings together occupied the entire area from Sinsinawa Avenue to just north of the railroad tracks and were the reason for termination of Wall Street at 1st Street. On the west side of the masonry building was a parking lot.

According to aerial photographs and Sanborn Fire Insurance Maps, a building has been located at this site since at least 1891. A bottling works was located here in 1891 in a building that spanned the parcel along the south (railroad track) site. In 1906, the bottling-works building was vacant, except for a small ice house that occupied the southeastern quadrant. The area to the north along Sinsinawa Avenue remained a vacant lot. By 1921, two stores had been built along Sinsinawa Avenue, but they were vacant. The former bottling-works building along the southern portion of this parcel had been converted to a beer depot by 1940, and a restaurant occupied the

northeastern quadrant of the parcel. An automobile repair business occupied the western edge of the parcel.

This address is on the OSFM UST list under the name, City of East Dubuque, with three tanks in a closed status. The tanks have been removed and, according to the UST list, formerly contained gasoline. However, Mick J. Michel, City Manager of East Dubuque, stated that the tanks formerly contained heating oil. He said that tanks for heating oil were buried in the ROW of Sinsinawa Avenue. During rebuilding of Sinsinawa Avenue several years ago, several of these tanks were uncovered and removed. This site is also contained on the LUST list under Village of East Dubuque (IEMA #941821; IEPA #0850105010).

Information concerning the LUST received from the IEPA indicates that the USTs were discovered during construction activities on Sinsinawa Avenue; those records indicate that the tanks had been used to store gasoline. Contaminated soil was excavated to a depth of 3 m (10 ft) from an area approximately 3 m by 3 m (10 ft by 10 ft) and transported to the village's waste water treatment plant for storage. A letter from the IEPA stated that, because the USTs were taken out of service prior to 1974, no corrective action was required at the site. Further information was not available in IEPA files.

This site was contained in the corridor originally considered for this project and was reported in the Phase I report completed by Hansen Engineers. However, the new plans received from IDOT District 2 place this parcel more than 122 m (400 ft) north of the current alignment. Therefore, no testing was conducted adjacent to this site.

Site 1167-C. Former UST site: Bluff Liquors and Lotto, north side of Sinsinawa Avenue at 1st Street (91 Sinsinawa Avenue). This closed business contained a large two-story building on the west with a single-story wing to the east. East of this large building was a warehouse building with a single loading dock at the east edge of the parcel. According to Sanborn Fire Insurance Maps, this was a lumber yard from 1891 through at least 1921. However, Sanborn maps from 1940 show a gasoline station here, and it may have been a gasoline station through 1947 or 1954 according to aerial photographs. Three USTs were located approximately half way between the bluff and Sinsinawa Avenue, centered on 1st Street. This parcel is not contained on the latest OSFM UST list, nor was it flagged in the IIW Phase I report.

This site was contained in the corridor originally considered for this project , though it was not reported in the Phase I report completed by IIW Engineers and Surveyors or by Hansen Engineers. However, the new plans received from IDOT District 2 place this parcel more than 152 m (500 ft) north of the current alignment. Therefore, no testing was conducted adjacent to this site.

Site 1167-D. LUST/former UST site: Giggies, second business east of 1st Street on south side of Sinsinawa Avenue (114 Sinsinawa Avenue). This building contained a disco and nightclub. Sanborn Fire Insurance Maps show that this was a vacant lot in 1891 and 1906 and contained a grocery in 1921 and a store in 1940. This site is contained on the OSFM UST list under the name, City of East Dubuque, with one tank in an exempt status. Mick J. Michel, City Manager of East Dubuque, stated that tanks for heating oil were buried in the ROW of Sinsinawa Avenue. During rebuilding of Sinsinawa Avenue several years ago, several of these tanks were uncovered and removed. This site is also contained on the LUST list under City of East Dubuque (IEMA #941822; IEPA #0850105011).

Information received from the IEPA indicates that the tank was discovered on August 12, 1994, during construction activities on Sinsinawa Avenue. Though the IEMA form indicates that the tank was corroded, information in IEPA files does not indicate that soils were contaminated. A letter from the IEPA stated that, because the USTs were taken out of service prior to 1974, no corrective action was required at the site. Further information was not available in IEPA files.

This site was contained in the corridor originally considered for this project and was reported in the Phase I report completed by IIW Engineers and Surveyors. However, the new plans received from IDOT District 2 place this parcel more than 122 m (400 ft) north of the current alignment. Therefore, no testing was conducted adjacent to this site.

Site 1167-E. RCRA/commercial site: Register Printing Co., north side of Sinsinawa Avenue between 1st and 2nd Streets (141 Sinsinawa Avenue). This business was a commercial printing company, which has been in existence since 1893. It was formerly located in the southwest quadrant of 2nd and Wall Streets. According to a keyboard operator at the business, it has been at this site for 90 years. However, Sanborn Fire Insurance Maps show that this was a lumberyard from at least 1891 to as late as 1921, though a printing company was here in 1940. This facility is contained on the IEPA BOL Inventory (IEPA #0850105013). Information received from the IEPA pertains to regulated waste activity. In 1991, the business generated waste with toxic and corrosive characteristics.

This site is in the corridor originally considered for this project. However, the new plans received from IDOT District 2 place this parcel more than 122 m (400 ft) north of the current alignment. Therefore, no testing was conducted adjacent to this site.

Site 1167-F. Former commercial site: Former Spahn & Rose Lumber Co., west quadrant of 2nd and Wall Streets (154 2nd Street). This parcel was vacant except for the remains of a wood-frame structure on the east end. It was formerly the location of a lumber company, which Mr. Tom Sheehan, owner of Sheehan Insurance north of Wall Street, stated had been in operation until about 1996. Mr. Sheehan said that the lumberyard delivered coal and lumber. He further stated that it did not have fuel on site but obtained fuel for delivery trucks at local gasoline stations. According to Sanborn Fire Insurance Maps, this was the site of a lumberyard in 1891, contained a printing company in 1908 and 1921, and was once again a lumber company in 1940. It is not contained on the latest OSFM UST list, nor could any evidence of USTs be identified on site.

This site was contained in the corridor originally considered for this project. However, the new plans received from IDOT District 2 place this parcel more than 122 m (400 ft) north of the current alignment. Therefore, no testing was conducted adjacent to this site.

Site 1167-G. Former UST site: Ship & Shore Fish & Seafood, west quadrant of 2nd Street and Sinsinawa Avenue (198 Sinsinawa Avenue). A large white, wood-frame structure located on this parcel contained a seafood business. The building contained two stories along the north side on Sinsinawa Avenue and one story at the rear. A grass and gravel lot at the south side was used to park automobiles. This address is contained in the Phase I report completed by Hansen Engineers as a former UST site. Sanborn Fire Insurance Maps show that a dealer in agricultural implements was located here in 1891 and that a tin shop and buggy storage occupied the parcel in 1906, while it contained a grocery (1921) and store (1940) in later years. This address is a LUST site (IEPA #941823; IEPA #0850105012).

Information received from the IEPA indicates that the tank was discovered on August 12, 1994, during construction activities on Sinsinawa Avenue. The IEMA form indicates that the tank was corroded, and the OSFM tank-removal form shows significant contamination of the floor of the UST pit. A letter from the IEPA stated that, because the USTs were taken out of service prior to 1974, no corrective action was required at the site. Further information was not available in IEPA files.

This site was contained in the corridor originally considered for this project. However, the new plans received from IDOT District 2 place this parcel approximately 61 m (200 ft) north of the ROW along the north side of the bridge. Therefore, no testing was conducted adjacent to this site.

Site 1167-H. Former UST site: East Dubuque Fire Department No. 1, second building west of Montgomery Avenue on north side of Sinsinawa Avenue (183 Sinsinawa Avenue). According to Mr. Tom Sheehan, owner of Sheehan Insurance on the south side of Sinsinawa Avenue, and according to a date on the front of the building, this building was constructed in 1971. Sanborn Fire Insurance Maps show a gasoline station here in 1940, and Mr. Sheehan stated that it operated until the late 1960s, which has been confirmed by examination of aerial photographs. According to Sanborn maps, three gasoline tanks were located on the west side of the building and were centered on 2nd Street close to the foot of the limestone bluff.

This site was contained in the corridor originally considered for this project and was reported in the Phase I report completed by IIW Engineers and Surveyors. However, the new plans received from IDOT District 2 place this parcel a full block west of the end of the current alignment at Sinsinawa Avenue and IL 35. Therefore, no testing was conducted adjacent to this site.

Site 1167-I. LUST/former UST site: Leibold Auto Service, East side of 2nd Street between Sinsinawa Avenue and Wall Street (200 Sinsinawa Avenue). An automotive service business was located on this parcel, operating from a building that had been a gasoline station in the past. The building was located in the southeast quadrant of the parcel, and the pavement covering the remainder of the parcel contained several parked cars awaiting repair when last visited. This site is on the OSFM UST list under the name, Leibold Sinclair, with nine tanks in a closed status. Two of the tanks are exempt from registration, while the remaining seven have been removed. This is also a LUST site (IEMA #971764; IEPA #0850100006) under the name, Liebold's Sinclair, and is contained on the IEPA BOL Inventory under the name, Leibold Sinclair Service.

Information received from the IEPA concerning the LUST incident indicates that it was discovered on September 19, 1997, during a drilling program. Reports by LandTech, Inc., consultant to the company, indicate that, following removal of seven USTs in November 1997, 89 m^3 (116 yd^3) of soil were excavated. Groundwater was encountered at depths of 4.3-4.9 m (14-16) ft below the surface, and flow was determined to be toward the southwest. Petroleum-impacted soil was detected at depth of 4-4.6 m (13-15 ft) in the southeast quadrant of 2nd Street and Sinsinawa Avenue, on the north side of the parcel. Further information was not available in IEPA files concerning this LUST event. Other information in IEPA files concerning Leibold Sinclair Service pertained to tire generator inspections.

This site was contained in the corridor originally considered for this project and was reported in the Phase I report completed by IIW Engineers and Surveyors. However, the new plans received from IDOT District 2 place this parcel a full block west of the end of the current alignment at the

intersection of IL 35 with Sinsinawa Avenue and Wall Street. Therefore, no testing was conducted adjacent to this site.

Site 1167-J. Former commercial site: U.S. Post Office, southeast quadrant of 2nd and Wall Streets. This parcel contained the active U.S. Post Office for East Dubuque. According to Sanborn Fire Insurance Maps, this parcel was occupied by a hotel in 1891, contained a blacksmith in 1906, was a vacant building in 1921, and was a vacant lot in 1940. Though in the original corridor for this project, this parcel is no longer in the corridor of the recommended alternative. Also, the blacksmith operated for only a short period of time. Therefore, no testing was conducted adjacent to this site.

Site 1167-K. Former commercial site: Vacant lot, fourth lot east of Montgomery Avenue on the north side of Sinsinawa Avenue. This vacant lot contained a blacksmith from as early as 1891, the earliest Sanborn map available, through 1940, the most recent Sanborn map available. Though extensive use of metals may have occurred on this parcel, it is no longer in or adjacent to the alignment for this project. Therefore, no testing was conducted adjacent to this site.

Site 1167-L. Former commercial site: Kids Zone/BSer's Tap, second building west of 3rd Street on the south side of Sinsinawa Avenue. This building contained two businesses. On the east side was Kids Zone, a children's gaming area, while the business on the west was a tavern. According to Sanborn Fire Insurance Maps, the part of the building containing the tavern was a paint store in 1906, an auto-supply business in 1921, and an undefined store in 1940. This address is no longer in or adjacent to the alignment for this project. Therefore, no testing was conducted adjacent to this site.

Site 1167-M. Former commercial site: Bank and laundromat, second and third lots west of 3rd Street on the south side of Wall Street. According to Sanborn Fire Insurance Maps, the parcels occupied by these businesses contained a warehouse and vacant lot in 1891. Liveries, feed stores, and dealers in cord wood occupied the parcels in 1906. In 1921, these parcels consisted mainly of vacant buildings, but a tin shop occupied the approximate center of this group of parcels. By 1940, the western buildings contained a store and contractor's storage, but the eastern buildings had been damaged by fire and were vacant. This address is no longer in or adjacent to the alignment for this project. Therefore, no testing was conducted adjacent to this site.

Site 1167-N. Former UST site: Beauty Shack, alley west of 3rd Street between Sinsinawa Avenue and Wall Street (260 Sinsinawa Avenue). This small building protruded from the east side of a larger building. Constructed of brick with entrance doors on the south and east, it contained a smaller wood-frame addition on the north side. The remains of a dispenser island that formerly contained at least four dispensers could be seen in the pavement along the east side of the building. This building is not on the latest OSFM UST list.

According to Sanborn Fire Insurance Maps, this was a vacant lot in 1906 and 1921. A gasoline station was located here in 1940. Sanborn maps show three USTs south of the station building approximately in the center of the block between Sinsinawa Avenue and Wall Street. Those maps also show an oil-storage building in the southwest quadrant of the parcel. Mr. Burroughs, the owner of Site 1167-O, stated that a gasoline station occupied this site until the 1950s.

This site was contained in the corridor originally considered for this project. However, the new plans received from IDOT District 2 place this parcel more than a block west of the end of the current alignment at the intersection of IL 35 with Sinsinawa Avenue and Wall Street. Therefore, no testing was conducted adjacent to this site.

Site 1167-O. Former commercial site: Vacant garage building, northwest quadrant of 3rd and Wall Streets (275-277 Wall Street). This gray, shed-roof, wood-frame structure with a shed roof fronted on Wall Street and was located at the rear of two business that faced Sinsinawa Avenue. Two personnel entrance doors were located on the south side, west of a garage door. This building is not on the latest OSFM UST list, nor was any evidence of USTs observed at the site.

Sanborn Fire Insurance Maps from 1891 indicate that a residence was located here, while those from 1906 show an unmarked building behind a paint store and a meat market. Though the same buildings were present in 1921, grease-rendering kettles had been added along the west side of this vacant garage. Sanborn maps from 1940 show an automobile garage behind a tire service business. Mr. Burroughs, the owner of the building, stated that this may have been the service area where tires were replaced by the tire business.

This site was contained in the corridor originally considered for this project. However, the new plans received from IDOT District 2 place this parcel about a block west of the end of the current alignment at the intersection of IL 35 with and Wall Street. Therefore, no testing was conducted adjacent to this site.

Site 1167-4. RCRA site: Residence with garage, northwest quadrant of Menominee Avenue and 3rd Street (295 Menominee Avenue). A small, single-story residence occupied this parcel. A single-stall attached garage was located on the southwest edge of the building, and a larger double-stall unattached garage was to the west. At the rear of the stand-alone garage was a steel building. Automotive body parts were observed along the north side of the garage, west of the steel building.

This parcel was a vacant lot from 1891 through 1940, according to Sanborn maps. According to aerial photographs and city directories, a residence has been located on this parcel since at least 1947, the earliest aerial photograph available.

This address is contained on the IEPA BOL Inventory under the name, John and Darlene Starosta (IEPA #0850103002). No files were available from the IEPA concerning this event. This parcel lies entirely within the area proposed for ROW for this project. Therefore, two borehole were probed along the north side of Menominee Avenue adjacent to the garage and probable service area. Water was not encountered in either borehole. Borehole 1167-4a was located near the southwest corner of the garage (Attachment 2F). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), VOCs with retention times similar to the following compounds were detected in the following approximate concentrations: benzene, less than 3 ppm; ethyl benzene, less than 3 pm; o-xylene, less than 3 ppm; five unidentified VOCs were also detected. No VOCs significantly above background levels were detected in the headspace of soil samples collected from depths of 1.8 and 2.7 m (6 and 9 ft).

Borehole 1167-4b was located adjacent to the southeast corner of the garage. No VOCs significantly above background levels were detected in the headspace of soil samples collected from depths of 0.9, 1.8, and 2.7 m (3, 6, and 9 ft) in this borehole.

Soil retrieved from borehole 1167-4a consisted of silt to very fine-grained sand at 0.9 m (3 ft), dark brown silt at 1.8 m (6 ft), and medium brown fine-grained sand at 2.7 m (9 ft). A gravelly sand fill was retrieved from borehole 1167-4b at a depth of 0.9 m (3 ft). A dark brown fine- to medium-grained sand was retrieved from 1.8 m (6 ft), while the material collected from a depth of 2.7 m (9 ft) consisted of a dark brown silt.

Site 1167-5. Former industrial/possible former AST site: J & L Vending, block bounded by 3rd Street on west, 4th Street on east, railroad tracks on north, and Menominee Avenue on south (300-303 Menominee Avenue). This parcel contained an elongated, single-story, limestone building with a drive-in basement. A pick-up truck and an automobile were observed in the basement on November 15, 2000. A white wood-frame structure on the southeast side of the building contained sliding doors for four bays on the west side and a large overhead door on the south side. A small, white, stand-alone, wood-frame building was located on the southeast quadrant of the parcel, and may have served as office space for the business. The area east of these structures was vacant. According to a sign adjacent to the northwest quadrant of the building, this business serviced vending machines.

According to the owner of the business at this site, this building was built in 1860 and is the second oldest building in East Dubuque. Sanborn Fire Insurance Maps and city directories show that this has formerly been the location of an iron works business, an automotive dealership or service garage, a heating oil company, a pallet-manufacturing company, storage, and two railroad companies. Two possible ASTs can be seen on aerial photographs from 1970. They were located along the south side of the railroad tracks approximately half way between the east end of the building and 4th Street.

This facility is contained on the IEPA BOL Inventory under the name, Luella O'Neill (IEPA #0850100004). Information received from the IEPA indicates that the eastern part of the parcel was being used as an illegal dump in 1973. By January 1974, the randomly dumped refuse had been removed from the parcel. Further information concerning this site or this event was not available in IEPA files.

The distance from 3rd Street to 4th Street is approximately 122 m (400 ft), and IDOT will be acquiring the entire parcel for ROW. Therefore, three boreholes were probed adjacent to this parcel to test for VOCs. Water was not encountered in any of the holes. Borehole 1167-5a was located along the east side of 3rd Street adjacent to the entrance door in that area (Attachment 2G). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), eight unidentified VOCs were detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 1.8 m (6 ft), no VOCs significantly above background levels were detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.7 m (9 ft), six unidentified VOCs were detected.

Borehole 1167-5b was located along the north side of Menominee Avenue adjacent to the fenced area by the basement garage (Attachment 2H). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), three unidentified VOCs were detected.

During Photovac GC analysis of the headspace of a soil sample collected from a depth of 1.8 m (6 ft), five unidentified VOCs were detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.7 m (9 ft), five unidentified VOCs were detected.

Borehole 1167-5c was also located along the north side of Menominee Avenue, but adjacent to the area where ASTs are believed to have been formerly located (Attachment 2I). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), no VOCs significantly above background levels were detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 1.8 m (6 ft), a VOC with a retention time similar to benzene was detected at a concentration of less than 3 ppm; two unidentified VOCs were also detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.7 m (9 ft), a VOC with a retention time similar to benzene was detected at a concentration of less than 3 ppm; six unidentified VOCs were also detected.

Soil sample 1167-5 was taken from the top 0.3 m (1 ft) of soil for total metals and TCLP analyses. The sample location was adjacent to the railroad tracks on the north side of the building (Attachment 2J), approximately 23 m (75 ft) east of the centerline of 3rd Street and 3 m (10 ft) north of the north edge of the building. These analyses were performed by Severn Trent Laboratories. The pH value for the soil sample was 7.27. The results are presented in the table below, along with the ingestion and inhalation cleanup objectives for total metals (mg/kg), and migration to Class I groundwater cleanup objectives for both pH-dependent total metals (mg/kg) and TCLP metals (mg/L), as determined for TACO Tier 1 standards for residential properties. NA = no toxicity criteria available for route of exposure. ND = not present above detection limit. -- = test not run.

1167-5	Total metals (mg/kg)		TCLP metals (mg/L)		Ingestion (mg/kg)	Inhalation (mg/kg)	Migration to Class I GW (soil component): pH-dependent pH 7.25 to 7.74 (mg/kg)	Migration to Class I GW (soil component) (mg/L)
Metal	Result	Detection limit	Result	Detection limit				
arsenic	**8.9**	0.82	ND	0.05	**0.4**	750	30	0.05
barium	174	4.1	1.12	1	5,500	690,000	1,800	2.0
cadmium	0.78	0.41	ND	0.005	78	1,800	59	0.005
chromium (total)	15.1	1.6	ND	0.05	390	270	NA	0.1
lead	69	0.41	ND	0.0075	400	NA	NA	0.0075
mercury	0.28	0.042	ND	0.002	23	6.4	6.4	0.002
selenium	1.3	0.41	ND	0.5	390	NA	3.3	0.05
silver	ND	0.82	ND	0.5	390	NA	39	0.05

Soil retrieved from borehole 1167-5a consisted of a medium brown sandy gravel fill at 0.9 m (3 ft), a light brown sandy gravel with broken limestone at 1.8 m (6 ft), and a light brown sand at 2.7 m (9 ft). Borehole 1167-5b contained a dark brown clayey topsoil at 0.9 m (3 ft), a medium brown fine- to medium-grained sand at 1.8 m (6 ft), and a dark brown clayey silt or silty clay at 2.7 m (9

ft). Material collected in borehole 1167-5c was a dark brown sandy topsoil over a medium brown medium-grained sand at 0.9 m (3 ft), a medium brown medium-grained sand at 1.8 m (6 ft), and a dark brown silty fine-grained sand at 2.7 m (9 ft).

Site 1167-6. UST site: Molo Big 10 Mart, east side of ramp from US 20 eastbound between US 20 and Wall Street (448 Sinsinawa Avenue). Located on the west side of Van's Liquor Store (Site 1167-7), Big 10 Mart was a Conoco gasoline station. Dispenser islands were located along the west side of the station building, and the building contained a convenience store. It is included on the latest OSFM UST list with five tanks in an active status. Three of the tanks are currently in use, while the remaining two are labeled as exempt from registration. The tanks were clustered in two locations north and south of the dispenser islands. The tanks along the north edge of the parcel were centered on a point approximately 22 m (72 ft) south of Sinsinawa Avenue, while the tanks along the south edge were centered on a point approximately 13 m (43 ft) north of Wall Street. Monitoring wells were observed on the parcel.

According to aerial photographs and city directories, a gasoline station has occupied this site since at least 1958. Aerial photographs from 1958 to 1970 suggest the possibility of multiple dispenser islands, perhaps as many as six, along the west portion of this parcel. Aerial photographs and Sanborn Fire Insurance Maps show that it was residential from 1891 to probably as late as 1954.

Spills of gasoline at this site have been documented by examination of IEPA files. In February 1990, 114-189 L (30-50 gal) of gasoline was spilled due to overfilling of a fuel tank on a truck (IEMA #900320). The gasoline flowed into a storm sewer. Another spill of approximately 30 L (8 gal) of gasoline occurred when a fuel tank on an automobile overflowed (IEMA #901418). The spill was contained by spraying a chemical on the gasoline and applying oil dry.

A magnetometer survey was conducted on December 21, 2000. The existing ROW along the north side of Wall Street and south side of US 20 was surveyed. The west end of the parcel along the east side of the exit ramp from US 20 east-bound could not be surveyed due to excessively deep snow piled up from plowing of the exit ramp and because of large pieces of metal, including dumpsters and traffic signs. No significant magnetic anomalies were detected.

IDOT will be acquiring ROW on the north, south, and west sides of this parcel. Two boreholes were probed adjacent to this parcel to test for VOCs; water was not encountered in either of the holes. Borehole 1167-6a was located along the south side of US 20 adjacent to the dispenser island and the USTs in that area (Attachment 2K). During Photovac GC analysis of the headspace of soil samples collected from depths of 0.9 and 1.8 m (3 and 6 ft), no VOCs significantly above background levels were detected. However, during Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.4 m (8 ft), a VOC with a retention time similar to benzene was detected at a concentration of less than 3 ppm; four unidentified VOCs were also detected.

Borehole 1167-6b was located along the north side of Wall Street adjacent to the dispenser island and those USTs (Attachment 2L). It was only probed to a total depth of 2.4 m (8 ft), due to the presence of bedrock at that depth. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), a VOC with a retention time similar to toluene was detected at a concentration of less than 3 ppm; 10 unidentified VOCs were also detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 1.8 m (6 ft), a VOC with a retention time similar to toluene was detected at a concentration of less than 3 ppm; eight

unidentified VOCs were also detected. During Photovac GC analysis of the headspace of a soil sample collected from that depth, VOCs with retention times similar to the following compounds were detected in the following approximate concentrations: benzene, less than 3 ppm; toluene, less than 3 ppm; six unidentified VOCs were also detected.

A sandy silt fill was retrieved from a depth of 0.9 m (3 ft) in borehole 1167-6a. An orangish brown silt was collected from a depth of 1.8 m (6 ft). Bedrock was encountered at a depth of 2.4 m (8 ft), and the material on top of bedrock consisted of broken limestone, dark brown silt, and light brown sand. Borehole 1167-6b penetrated silt throughout, ranging from a dark brown silt at a depth of 0.9 m (3 ft) to a reddish brown clayey silt at depths of 1.6 and 2.7 m (6 and 9 ft).

Site 1167-7. Former UST site: Van's Liquor Store parking lot, triangular parcel bounded by US 20 on the north, Wall Street on the south, and 5th Street on the west (540 Sinsinawa Avenue). Van's Liquor Store was located on the west side of 5th Street. This parcel, located on the east side of 5th Street, was used to provide parking for customers. A section in the northeast quadrant of 5th and Wall Streets was also paved with asphalt for parking. The area along the south side of US 20 and the narrow tip of the triangle between US 20 and Wall Street was covered with grass. The owner of the liquor store stated that the store and parking lot were built in about 1993 and that the area was vacant at that time.

According to city directories, a gasoline station occupied this parcel in 1960 and may have been present as long ago as 1937. The owner of Van's Liquor Store stated that a 70-year-old patron spoke of a gasoline station on this parcel when he was 10 years old, and Sanborn Fire Insurance Maps from 1940 show a gasoline station on the parcel. According to Sanborn maps, the gasoline station occupied the eastern half of the parcel, and three gasoline tanks were located east of the station building. Two residences occupied the western half of the parcel. In 1970, the parcel contained an automobile dealer according to city directories. This parcel is not on the OSFM UST list, nor was any evidence of USTs observed during a field investigation of the parcel.

A magnetometer survey was conducted on December 21, 2000. The area surveyed included the entire parking lot, except for spaces occupied by vehicles, the existing ROW along the north side of Wall Street, and approximately 1.5 m (5 ft) of the ROW along the north side of the parking lot. The remaining ROW along the south side of US 20 was inaccessible due to excessively deep snow from plowing of US 20. No significant magnetic anomalies were detected.

IDOT will be acquiring the entire parcel of this parking lot for ROW. Therefore, two boreholes were probed adjacent to the parking lot to test for VOCs; water was not encountered in either of the holes. Borehole 1167-7a was located along the north side of Wall Street. No VOCs significantly above background levels were detected in the headspace of soil samples collected from depths of 0.9, 1.6, and 2.7 m (3, 6, and 9 ft) in this borehole.

Borehole 1167-7b was probed along the south side of US 20 (Attachment 2M). No VOCs significantly above background levels were detected in the headspace of soil samples collected from depths of 0.9 and 1.6 m (3 and 6 ft). However, during Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.7 m (9 ft), VOCs with retention times similar to the following compounds were detected in the following approximate concentrations: benzene, less than 3 ppm; toluene, less than 3 ppm; ethyl benzene, less than 3 ppm; eight unidentified VOCs were also detected.

Borehole 1167-7a penetrated a silt throughout, which ranged from a reddish brown silt at depths of 0.9 and 1.8 m (3 and 6 ft) to a medium brown silt at 2.7 m (9 ft). Soil retrieved from borehole 1167-7b was a medium brown fine-grained sandy silt at all three depths.

Site 1167-P. Commercial site: Eagle Auto Sales, northeast quadrant of Menominee Avenue and 5th Street (503 Menominee Avenue). A small wood-frame building was set back from Menominee Avenue and adjacent to the railroad tracks. Used automobiles were clustered around the south and west sides of the building. A small, single-stall, cramped service area was located at the rear of the building. The owner of the business stated that he performed maintenance on cars he sold. He further stated that used motor oil was placed in a small, white, plastic bucket (essentially a drywall-mud bucket) and taken to an Amoco gasoline station in Dubuque, IA, for recycling. According to city directories, this has been a used-car dealer since at least 1980. Sanborn Fire Insurance Maps show that this was a vacant lot adjacent to stock pens along the railroad tracks in 1940.

This business is in the corridor to be acquired by IDOT for construction of this project. However, the small amount of vehicular fluids collected on site and the lack of any evidence of USTs indicates that this business is not likely to constitute a risk to this project. Therefore, no testing was conducted adjacent to this site.

Site 1167-Q. Commercial site: Kevin's Auto Diagnostic Center/B&G Auto Sales, west quadrant of 5th Street and Menominee Avenue (208 5th Street/490 Menominee Avenue). The main building on this parcel was a single-story steel building with three overhead doors along the east side. This was the location of Kevin's Auto Diagnostic Center. A small building on the west side with an overhead door on the north end was labeled B&G Auto Sales. Kevin, the owner, stated that both buildings belonged to the same business. He said the buildings were built in the 1970s for use as a body shop and that the parcel was residential prior to that time. He further stated that waste oil was used as fuel for space heating. According to Sanborn Fire Insurance Maps, this parcel was vacant in 1906 and 1921 and contained a residence in 1940.

Though located in close proximity south of the proposed ROW for this project, activities in this building are not likely to constitute a risk to this project. Therefore, no testing was conducted adjacent to this site.

Site 1167-8. LUST/UST site: Leibold Brothers Auto Center, southeast quadrant of US 20 and 6th Street (620 Sinsinawa Avenue). This business was a Phillips 66 gasoline station and an automotive service garage. The gasoline station was located at the west end of the building, with one dispenser canopy, while the service area occupied the eastern two-thirds of the building. According to aerial photographs and city directories, a gasoline station has been located here since at least 1958 and possibly since 1954. Sanborn Fire Insurance Maps show that it was residential in 1940. The current business is contained on the OSFM UST list with eight tanks in an active status. Four of the tanks have been removed, and two are exempt from registration. The two tanks currently in use were centered on a point approximately 14 m (46 ft) east of 6th Street and 22 m (72 ft) south of US 20. This is also a LUST site under the name, Leibold 76 (IEMA #912910; IEPA #0850105005).

Information received from the IEPA concerning the LUST event indicate that it was discovered on October 11, 1991. Six tanks formerly used to store gasoline, waste oil, and diesel fuel, formerly

located at the west end of the building, were removed, and significant contamination was noted in the pipe trench beneath the dispenser island on the north side of the building. A 45 Day Report by IIW Engineers and Surveyors P.C., consultant to the company, indicated that the area beneath the dispenser island and the area around the tanks was excavated. Groundwater was not encountered. The tanks were installed in the 1950s and had not been used by the current business in the 30 years it had been present. The IEPA issued an NFR letter on April 21, 1992.

This site has also been inspected for waste tire activity (IEPA #0850105005). Discrepancies noted involved storing waste tires longer than 90 days and allowing waste tires stored outside the facility to accumulate water.

A magnetometer survey was conducted on December 21, 2000. The existing ROW along the south side of US 20 and east side of 6th Street was surveyed. No significant magnetic anomalies were detected.

IDOT will acquire this entire parcel for new ROW. Therefore, three boreholes were probed adjacent to this parcel to test for VOCs; water was not encountered in any of the holes. Borehole 1167-8a was located along the east side of 6th Street adjacent to the dispenser island (Attachment 2N). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), a VOC with a retention time similar to benzene was detected at a concentration of less than 3 ppm; six unidentified VOCs were also detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 1.8 m (6 ft), VOCs with retention times similar to the following compounds were detected in the following approximate concentrations: benzene, less than 3 ppm; toluene, less than 3 ppm; 12 unidentified VOCs were also detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.7 m (9 ft), no VOCs significantly above background levels were detected.

Borehole 1167-8b was located along the south side of US 20 adjacent to the dispenser island and the gasoline station office. During Photovac GC analysis of the headspace of soil samples collected from depths of 0.9, 1.8, and 2.7 m (3, 6, and 9 ft), no VOCs significantly above background levels were detected.

Borehole 1167-8c was located along the south side of US 20 adjacent to the service and automobile parking area (Attachment 2O). An obstruction believed to be bedrock was encountered at a depth of 1.8 m (6 ft). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), five unidentified VOCs were detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 1.8 m (6 ft), 10 unidentified VOCs were detected.

Soil retrieved from borehole 1167-8a consisted of a black topsoil over a medium brown fine-grained sand at 0.9 m (3 ft). A medium brown fine- to medium-grained sand was retrieved from depths of 1.8 and 2.7 m (6 and 9 ft). Soil collected from depths of 0.9 and 1.8 m (3 and 6 ft) in borehole 1167-8b consisted of a dark brown silt; a medium brown medium-grained sand was collected from a depth of 2.7 m (9 ft). The 0.9-m (3-ft) sample collected from borehole 1167-8c consisted of a medium brown sandy silt. Soil taken from the deepest point of hole 8c, right above bedrock, consisted of sand, silt, and broken limestone.

Site 1167-9. Former RCRA/commercial site: Custom Auto Repair and Service, northwest quadrant of Menominee Avenue and 6th Street (501 Menominee Avenue). The building in the northwest quadrant of this intersection contained two businesses. The building was backed by the BNSF railroad tracks. Used automobiles were for sale on the west side. A car wash was attached to the south side of the building. On the west end of the building was Custom Auto Repair and Service. The owner stated that he performed all types of automobile repair and also owned the car wash on the south side. He further stated that waste motor oil was placed in a 189-L (50-gal) AST located at the rear of the building. He said he had been here only since early 1999, and the AST had just been completely filled for the first time. Therefore, he did not know who would pick up the contents. Prior to the current business, this was the site of Kevin's Auto Diagnostic Center (Site 1167-Q). The business on the east end of the building, A & A Bait and Tackle, was closed, and that section of the building was for rent. When the site was visited on January 5, 2001, for testing, the east end of the building contained a laundromat.

This was formerly the site of Hudspeth Auto, which is contained on the IEPA BOL Inventory (IEPA #0850105014). Information received from the IEPA pertained to application for an inventory identification number.

According to Sanborn Fire Insurance Maps, vacant lots and stock pens along the railroad tracks occupied this area in 1940. Aerial photographs show the stock pens through 1958. By 1964, they seem to have deteriorated, and trees had grown up around them by 1970. The first building on this lot had been built by 1979.

Two boreholes were probed along the north side of Menominee Avenue adjacent to this parcel to test for VOCs; water was not encountered in any of the holes. Borehole 1167-9a was located adjacent to the west end of the parcel (Attachment 2P) and adjacent to Eagle Auto Sales (Site 1167-P). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), a VOC with a retention time similar to o-xylene was detected at a concentration of less than 3 ppm; three unidentified VOCs were also detected. No VOCs significantly above background levels were detected in the headspace of soil samples collected from depths of 1.8 and 2.7 m (6 and 9 ft).

Borehole 1167-9b was located adjacent to the car wash and the service building. No VOCs significantly above background levels were detected in the headspace of soil samples collected from depths of 0.9, 1.8, and 2.7 m (3, 6, and 9 ft) in this borehole.

Soil taken from borehole 1167-9a consisted of a gray sand with normal soil mottling at 0.9 m (3 ft) and a medium brown medium- to coarse-grained sand at 1.8 m (6 ft). The soil sample collected from a depth of 2.7 m (9 ft) in this borehole consisted of a clayey silt. Soil retrieved from borehole 1167-9b was a black medium-grained sand overlying a medium brown medium-grained sand; the black may have been asphalt falling from the surface. The sample retrieved from a depth of 1.8 m (6 ft) in this borehole consisted of medium brown medium-grained sand overlying black clayey silt. A black fine-grained sandy clayey silt was retrieved from a depth of 2.7 m (9 ft).

Site 1167-10. Commercial site: Obie's Foreign & Domestic Auto Repair, south side of US 20 in Section 29, T29N, R2W. (21375 Rte 20 West). Three buildings occupied this area. A residence was located on the east at the right-angle curve in a driveway from US 20. West of the residence were two steel buildings. The building to the north was used for automotive service,

while that to the south appeared to be a body shop. Numerous automobiles and small trucks were observed in various states of repair along the east, north, and west sides of the northern building. Dave Obermeyer, co-owner of the facility, stated that this was the first business on this parcel. He said that a residence was located here before. He further stated that the business performed all types of automotive repairs from engine and other mechanical work through body work. He said that oil was stored in an AST inside the building and picked up by a person who used as fuel for space heating.

According to aerial photographs, the buildings occupied by this business have been present only since the 1980s. The area was residential on 1979 and earlier photographs, and may have been agricultural in 1947. This business is contained on the IEPA BOL Inventory (IEPA #0850105018). Information obtained from the IEPA pertains to waste tire activity and inspections for waste and used tires. No violations were noted.

IDOT will acquire this parcel in its entirety, and the new alignment of US 20 will pass through the location occupied by the northern building. Therefore, two boreholes were probed along the north side of the northern building, south of the railroad tracks, to test for VOCs. Water was not encountered in either borehole. Borehole 1167-10a was located north of the western end of the building in the road that passes between the building and several junk vehicles stored along the south edge of the railroad-track embankment (Attachment 2Q). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), a VOC with a retention time similar to benzene was detected at a concentration of less than 3 ppm; seven unidentified VOCs were also detected. During Photovac GC analysis of the headspace of soil samples collected from depths of 1.8 and 2.7 m (6 and 9 ft), no VOCs significantly above background levels were detected.

Borehole 1167-10b was located adjacent to one of the junk vehicles north of the central portion of the building. During Photovac GC analysis of the headspace of soil samples collected from depths of 0.9, 1.8, and 2.7 m (3, 6, and 9 ft), no VOCs significantly above background levels were detected.

Soil collected from borehole 1167-10a consisted of coarse-grained sandy gravel fill at 0.9 m (3 ft) and medium to dark brown silty fine-grained sand at 1.8 and 2.7 m (6 and 9 ft). Soil taken from borehole 1167-10b was a dark brown silt at 0.9 m (3 ft) and medium brown medium- to coarse-grained sand at depths of 1.8 and 2.7 m (6 and 9 ft).

Site 1167-11. Former UST site: Family Beer & Liquor, northeast quadrant of US 20 and Camillus Road (20200 Rte 20 West). This large supermarket-size liquor store was formerly the site of a gasoline station. It is contained on the OSFM UST list with five tanks in a closed status. Last used in 1998 to store gasoline and diesel fuel, these tanks have been removed. Tim Althaus, Regional Manager and son of the owner, stated that it was a gasoline station for about 18 years. He said the current building was constructed in 1980 and expanded in 1999. He further stated that the tanks were removed in November 1999 and were formerly located at the southwest corner of the building. They are estimated to have been centered on a point approximately 58 m (190 ft) north of US 20.

Aerial photographs show the front half of this building, prior to the rear addition, from 1986 to 1994. A dispenser island can be seen on those photographs, located at the southwest corner of the building. The parcel was vacant in 1979 and contained a small building of unknown purpose in

1964 and 1970. A larger commercial building was present on this parcel in 1954 and 1958. Bare ground along the south side of the building suggests trafficking by automobiles. It is not known if this larger building was a gasoline station or was related to the race track on the bluffs north of the US 20 that is first shown on 1954 aerial photographs and whose former location can be seen on all photographs through 1988. The building is present on aerial photographs from 1947, but the race track had not yet been built.

A magnetometer survey was conducted on December 21, 2000. Only that part of the ROW in the driveways along the north side of the US 20 access road was surveyed; the rest of the parcel was covered by large piles of snow and could not be accessed. No significant magnetic anomalies were detected.

IDOT ROW along the north side of old US 20 passes north of the grass separating this business from the US 20 access road and close to this former UST location. Two boreholes were probed in existing ROW in this area to test for VOCs. Water was not encountered in either borehole. Borehole 1167-11a was located along the east side of the western entrance drive from the access road (Attachment 2R). During Photovac GC analysis of the headspace of soil samples collected from depths of 0.9 and 1.6 m (3 and 6 ft), no VOCs significantly above background levels were detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.7 m (9 ft), two unidentified VOCs were detected.

Borehole 1167-11b was probed along the east side of the eastern entrance drive (Attachment 2S). A monitoring well was observed at the west edge of this drive. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), a VOC with a retention time similar to benzene was detected at a concentration of less than 3 ppm; three unidentified VOCs were also detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 1.8 m (6 ft), VOCs with retention times similar to the following compounds were detected in the following approximate concentrations: benzene, less than 3 ppm; ethyl benzene, less than 3 ppm; eight unidentified VOCs were also detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.7 m (9 ft), one unidentified VOC was detected.

Soil retrieved from borehole 1167-11a consisted of a dark brown silt at 0.9 m (3 ft) and medium brown silt at 1.8 and 2.7 m (6 and 9 ft). A black silt was collected from a depth of 0.9 m (3 ft) in borehole 1167-11b. Samples taken from depths of 1.8 and 2.7 m (6 and 9 ft) were the same medium brown silt as in borehole 11a.

Site 1167-12. RCRA/commercial site: Kieffer Body Shop, north side of US 20 east of Camillus Road (20100 Rte 20 West). This large wood-frame structure had the appearance of a barn. Additions had been made to the north side, and a residential structure was located to the west. Tim, the manager, stated that the business had been here since 1975. He said the building was built as a barn and then became a sign company. The automotive-service area was located on the east end of the main building and in the additions on the north side. The location of AST(s) for storage of used motor oil is unknown.

This site is on the IEPA BOL Inventory (IEPA #0850100007). Information received from the IEPA consisted of RCRA documents for a generator's identification number and a Notification of Regulated Waste Activity, which shows that the business generates 100-1,000 kg/mo (220-2,200

lbs/mo) of ignitable waste, category F003 and F005. The results of an inspection conducted in 1996 reveals that the facility at that time generated 19 L/mo (5 gal/mo) of paint waste (F005) from cleaning a paint gun.

Two boreholes were probed along the north side of the US 20 access road adjacent to this parcel. Water was not encountered in either borehole. Borehole 1167-12a was located at the east edge of the western entrance drive (Attachment 2T). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), no VOCs significantly above background levels were detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 1.8 m (6 ft), VOCs with retention times similar to the following compounds were detected in the following approximate concentrations: toluene, less than 3 ppm; ethyl benzene, less than 3 ppm; o-xylene, less than 3 ppm; 10 unidentified VOCs were also detected. During Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.7 m (9 ft), VOCs with retention times similar to the following compounds were detected in the following approximate concentrations: toluene, less than 3 ppm; o-xylene, less than 3 ppm; 13 unidentified VOCs were also detected.

Borehole 1167-12b was probed along the west side of the eastern drive (Attachment 2U). No VOCs significantly above background levels were detected in the headspace of soil samples collected from depths of 0.9 and 1.8 m (3 and 6 ft). However, during Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.7 m (9 ft), VOCs with retention times similar to the following compounds were detected in the following approximate concentrations: benzene, less than 3 ppm; toluene, less than 3 ppm; 10 unidentified VOCs were also detected.

Soil retrieved from a core of the top 1.2 m (4 ft) of borehole 1167-12a consisted of 1.1 m (3.5 ft) of fill overlying 3 cm (1.2 in) of limestone fragments. Beneath the limestone fragments was a silty fine-grained sand. An orangish brown fine-grained sand was collected from a depth of 1.8 m (6 ft), and the sample taken from a depth of 2.7 m (9 ft) was a clayey silty fine-grained sand. Bedrock was encountered right beneath the 2.7-m (9-ft) sample. The top 1.2 m (4 ft) of soil taken in borehole 1167-12b was 1.1 m (3.5 ft) of the same fill overlying m 3 cm (1.2 in) of limestone fragments. Beneath the limestone was a black sandy silt at both 1.8 and 2.7 m (6 and 9 ft).

Site 1167-13. AST site: Kieffer Construction storage yard, north side of old US 20 in northwest quarter of Section 33, T29N, R2W (20100 US 20 West). This small quarry, located on the north side of old US 20 just east of Kieffer Body Shop (Site 1167-12), contained a large pile of fill, covered with a tarp, at the center. Along the east side were numerous items of equipment and remnants of equipment, including a flat-bed trailer, a cab from a bulldozer, a pickup-truck cap, tires, and several lengths of plastic pipe. At the west side of the quarry were two ASTs stacked one above the other on a metal rack affixed to a concrete pad. A smaller AST was located on the ground along the north side of these ASTs and appeared to be out of service. Examination of the ground around the stacked ASTs revealed minor petroleum staining of the concrete pad at the center of the eastern edge beneath the dispenser hose.

Jeff, an employee at Kieffer Body Shop (Site 1167-12), stated that he owns the quarry and uses the area to store trucks and other equipment. He further stated that the ASTs are for diesel fuel for the trucks.

This site is on the IEPA Incident Database under the name, Kieffer Excavating (IEMA #930546). According to information received from the IEPA OCS, an AST containing diesel fuel ruptured in March 1993 when the ground beneath the rack thawed and the legs shifted, puncturing a tank. Approximately 473 L (125 gal) of diesel fuel leaked onto the ground and ran down the hill to the frontage road (old US 20) along the north side of US 20, covering an area approximately one block in length and 1.5 m (5 ft) wide. Approximately 8,517 L (2,250 gal) of oil-contaminated water was removed from the frontage road area. Though information in the file showed a charge for a soil sample, results for sample analysis was not given. Further information was not available in IEPA files.

This site is also on the IEPA BOL Inventory (IEPA #0850103001). Information received from the IEPA pertains to assignment of a Special Waste Hauling Permit.

Two boreholes were probed along the north side of the US 20 access road to test for VOCs. Water was not encountered in either borehole. Borehole 1167-13a was located west of the driveway to the facility (Attachment 2V). The borehole was cored to a depth of 1.2 m (4 ft); weathered bedrock was encountered at a depth of 0.6 m (2 ft). A soil sample was collected from a dark zone at a depth of 0.3-0.5 m (1-1.5 ft) for GC analysis. During Photovac GC analysis of the headspace of the soil sample, VOCs with retention times similar to the following compounds were detected in the following approximate concentrations: benzene, less than 3 ppm; ethyl benzene, less than 3 ppm; 12 unidentified VOCs were also detected.

Borehole 1167-13b was located at the entrance to the driveway (Attachment 2W). The borehole was cored to a depth of 0.9 m (3 ft); weathered bedrock was encountered at a depth of 0.6 m (2 ft). A soil sample was collected from a dark zone at a depth of 0.3-0.5 m (1-1.5 ft) for GC analysis. During Photovac GC analysis of the headspace of the soil sample, 13 unidentified VOCs were detected. The soil sample was also analyzed using a Petro-Risc immunoassay kit. Results of this analysis indicate that petroleum products were detected in the soil sample in concentrations greater than 1 ppm and less than 10 ppm.

Soil retrieved from borehole 1167-13a consisted of 0.6 m (2 ft) of fill overlying 0.6 m (2 ft) of weathered limestone. Soil taken from borehole 1167-13b comprised 0.6 m (2 ft) of a gravelly sandy silt fill overlying 0.3 m (1 ft) of weathered limestone.

Site 1167-R. Archived CERCLIS site: Silver Eagle Casino, SE quarter of NW quarter of Section 33, T29N, R2W (south of Illinois Central Railroad tracks and west of Frentress Lake Road). This parcel contained a casino and docking facilities for casino riverboats. A large parking lot was located north and west of the building on site. The facility is present on aerial photographs from 1994, but is absent from those of 1988. This is an archived CERCLIS site (IEPA #0850100008; USEPA #ILO000034165) under the name, Frentress Lake Property.

According to information contained in IEPA files, the parcel was used to store harvested timber by a tree service company in the 1980s. Fill was dumped on the property beginning along the south side of the railroad in the late 1980s. Fill consisted of construction debris. The property was acquired by a riverboat company in 1992 to provide parking.

Two citizen complaints resulted in this site being investigated by the IEPA under the CERCLIS program. The first complaint indicated that soil contaminated with coal tar from a former

manufactured gas plant (FMGP) in Dubuque, IA, was dumped as part of the fill. However, the FMGP is a Superfund site and monitored by the USEPA. All contaminated soil was hauled by railroad to Sioux City, IA, where it was incinerated. A second complaint concerned possible dumping of soil contaminated with gasoline from another site in Dubuque. The soil was from a site demolished by the Iowa DOT. According to the Iowa DOT field office in Manchester, the contaminated soil remained on site in Dubuque and only brick, broken concrete, and foundations from the building were transported to the Frentress Lake Property. The contractor was permitted to load only a very small amount of soil with the demolition debris, because the soil was to remain on site in Dubuque for land application and tilling. Because dumping of hazardous waste was not documented for this site, it was assigned a NFRAP, and the file was closed.

Dumping of contaminated soil at this site was not documented during an investigation by the IEPA, and groundwater flow in this area is likely southwest toward the Mississippi River. Also, the ICRR tracks are located approximately 0.3 km (0.2 mi) south of US 20. Therefore, no testing was conducted adjacent to this property.

Site 1167-14. UST site: Ampride gasoline station/Stewart Construction Co., second business west of Badger Road on north side of US 20 (19650 Rte 20 West). Two buildings along the west portion of this parcel contained W. C. Steward Construction Inc. The westernmost one-story building contained office space, while the eastern building was a steel service building with two large overhead doors on the south and east sides. An area fenced with a chain-link fence along the south side of the service building contained several watch dogs. At the east end of the service building were two ASTs. One of the ASTs was labeled for off-road use only, while the other contained no label. This parcel is separated from US 20 by old US 20 (now an access road) and IDOT ROW.

To the east was an Ampride gasoline station. Gasoline dispensers were located beneath a large canopy, and diesel dispensers were to the west, approximately half way between the dispenser canopy and the service building. Three USTs in an active status are contained on the OSFM UST list, under the name, W. C. Stewart Construction Inc. The tanks were located on the south side of a small building with three vent pipes, and were centered on a point approximately 24 m (79 ft) north of old US 20. Monitoring wells were observed in the area near the UST pit.

Aerial photographs show this gasoline station and the associated construction company buildings from 1979 to the present. The parcel was vacant in 1970 and 1964 and may have contained a farm in 1958 and earlier years.

A magnetometer survey was conducted of the ROW along the north side of the US 20 access road on December 21, 2000. Only the area adjacent to the gasoline station was surveyed. No significant magnetic anomalies were detected.

Borehole 1167-14a was probed adjacent to the dispenser canopy (Attachment 2X). No water was encountered. However, bedrock was found immediately beneath a thin asphalt cover. A sample of crushed bedrock was collected from a depth of 0.9 m (3 ft) for GC analysis. During Photovac GC analysis of the headspace of the sample, a VOC with a retention time similar to toluene was detected at a concentration of less than 3 ppm; 10 unidentified VOCs were also detected.

Because of shallow bedrock in the area and utilities that prevented probing boreholes adjacent to the drainage ditch, three boreholes were probed along the south side of the US 20 access road. Water was not encountered in any of the holes. Borehole 1167-14b was located across the road from the construction company ASTs (Attachment 2Y). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), six unidentified VOCs were detected. No VOCs significantly above background levels were detected in the headspace of a soil sample collected from a depth of 1.8 m (6 ft). However, during Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.7 m (9 ft), a VOC with a retention time similar to ethyl benzene was detected at a concentration of less than 3 ppm; 10 unidentified VOCs were also detected.

Borehole 1167-14c was situated across the US 20 access road from the gasoline station USTs (Attachment 2Z). During Photovac GC analysis of the headspace of a soil sample collected from a depth 0.9 m (3 ft), a VOC with a retention time similar to ethyl benzene was detected at a concentration of less than 3 ppm; 17 unidentified VOCs were also detected. During Photovac GC analysis of the headspace of soil samples collected from depths of 1.8 and 2.7 m (6 and 9 ft), two unidentified VOCs were detected in each sample.

Borehole 1167-14d was located across the US 20 access road from the dispenser island. No VOCs significantly above background levels were detected in the headspace of soil samples collected from depths of 0.9, 1.8, and 2.7 m (3, 6, and 9 ft) in this borehole.

Bedrock was encountered beneath a thin veneer of asphalt in borehole 1167-14a. Sand was collected from borehole 1167-14b, ranging in grain size from fine-grained at 0.9 m (3 ft) to coarse-grained at 2.7 m (9 ft). Borehole 1167-14c penetrated fill at the surface, and the sample taken from a depth of 0.9 m (3 ft) consisted of a sandy gravel fill. Medium brown medium- to coarse-grained sand was retrieved from depths of 1.8 and 2.7 m (6 and 9 ft). All samples collected from borehole 1167-14d were fine-grained sand. The sample from 0.9 m (3 ft) was a black organic sand, while the remaining samples were a medium brown sand.

Site 1167-S. Commercial site: Rockford Industrial Welding Supply, northeast quadrant of US 20 and Badger Road (19500 Rte 20 West). This business was located inside a brick building containing numerous items of welding supply. Two large vertical ASTs at the west end of the building contained liquid nitrogen and liquid oxygen. A fence enclosure west of the building, along the east side of Badger Road, contained bottles of flammable gas. Gases identified were oxygen, argon, propylene, propane, LPG, and acetylene.

Aerial photographs show the first building had been constructed on this parcel by 1970. It was a small building, and the current structure first appeared on aerial photographs from 1979. An employee inside the building stated that the business dealt only with welding supply; he said that no fabrication or welding took place on site. Because the site provided supplies for welding, no fabrication took place on site, and the outside ASTs and gas bottles contained only light gases, no testing was conducted adjacent to this site.

Site 1167-T (667-1). Former AST site: J & R Supply Inc., southwest quadrant of US 20 and Frentress Lake Road (220 North Frentress Lake Road). The business at this site was a warehouse and dealer for pipe and fittings. Plastic pipe was stored outside, and metal fittings were in a warehouse at the rear (west end) of the building on site. Joe, the owner, stated that, in

addition to warehousing pipe and fittings, the company delivered pipe within a 113 km (70 mi) radius.

Joe said that J & R had been at this location since 1978. He said that the building was vacant when his company acquired it. He further stated that Penn-Ray Oil Co. had been at the site before. According to Joe, Penn-Ray was a one-man operation that mixed additives for fuel. Joe said that five ASTs were formerly located southwest of the building. That location is estimated to have been approximately 15 m (50 ft) south and 15 m (50 ft) west of the southwest corner of the building. Aerial photographs show the current arrangement of buildings in 1979, 1986, 1988, and 1994. The 1979 photograph shows the ASTs. A much smaller facility is shown on photographs from 1970 and 1964, while photographs from 1958 and earlier show a vacant agricultural parcel where the current buildings stand.

Testing was conducted adjacent to this parcel for PESA #667. Borehole 667-1 was probed along the south side of US 20. No VOCs significantly above background levels were detected in soil gas taken from depths of 0.9 and 1.8 m (3 and 6 ft) in this borehole. According to the plans received from IDOT District 2 on November 20, 2000, work in this part of the project area will take place along the existing alignment of US 20. Existing ROW along this alignment is more than 61 m (200 ft) in a downdrainage direction. Any contaminants that might have been released from the Penn-Ray operation would most likely move in the direction of drainage toward the Mississippi River and away from the project area. Therefore, no additional testing was conducted adjacent to this site for PESA #1167.

Site 1167-U. Former drum site: Wooded area, south side of U.S. 20 east of Frentress Lake Road and west of Barge Terminal Road. This site was reported in ISGS PESA 667, completed on April 11, 1995. The following information is taken from that report:

> During field investigations, several dumped drums and other metal debris were noted in the vicinity of an abandoned metal grain bin in a wooded area between two cornfields and west of the Freezer Services facility . . . . Aerial photographs from 1939 to 1970 and the most recent topographic map, revised in 1972 . . ., depict a farmstead in this area. In a 1979 aerial photograph, the structures that comprised the original farmstead appear to have been altered, and a 1988 aerial photograph shows that all structures had been removed. Currently, no structures (other than the abandoned metal grain bin) were noted in this area. Repeated attempts to contact the East Dubuque volunteer fire chief, Mr. Lloyd Fluhr, to discuss this site were unsuccessful. No field testing was conducted in this area since the source and potential contents of these drums is unknown.

A complaint investigation form, contained in IEPA files for the Frentress Lake Property CERCLIS site (Site 1167-R), reported on an investigation following reporting of this site to the IEPA by Mr. Steven Gobelman of IDOT Central Office. The investigator found three rusted empty drums and several rusted buckets at the site. Vegetation was observed growing through and around the drums and seemed to be unstressed. No evidence of environmental threat was observed. The site was not further investigated by the IEPA, and further information concerning the status of this site was not contained in IEPA files. Because there seems to be no risk to the project associated with this site, no testing was conducted for this PESA adjacent to this site.

Site 1167-V. Commercial/spill site: AmeriCold Logistics, south side of US 20 west of Barge Terminal Road (18531 Rte 20 West). This large building was located just south of US 20 along the south side of an access road that runs west from Barge Terminal Road. The parcel was surrounded by a barbed-wire topped chain-link fence. Several semi-trailers were observed parked or backed up against loading docks on the north side of the building. A gate guard at the entrance gate to the facility stated that the site was used only for cold storage and that it was a distribution center that had been here since the mid-1990s. It first appears on aerial photographs taken in 1994, and the lot was vacant farmland in 1988. This facility is not on the OSFM UST list. This parcel was reported in ISGS PESA #667, completed on April 11, 1995, under the name, Freezer Services, which is a RCRA site (IEPA #0850105015). The only information available in IEPA files pertained to an application for an inventory identification number.

The following information is taken from ISGS PESA #667 concerning Freezer Services:

> According to Mr. Charlie Hunt, employee, this operating facility ships frozen products and has been on-site since 1993. Aerial photographs from 1939 to 1988 depict agricultural land at this location. Mr. Hunt stated that no fuel USTs are on the property. He indicated that the large ASTs adjacent to the north side of the building contain ammonia which is used in the truck freezers. During field investigations, one 757-liter (200-gallon) diesel fuel AST was noted in the paved parking area within the property fence line, greater than 60 meters (197 feet) downslope of existing ROW; no staining was noted. No field testing was conducted at this site due to the distance of the AST downslope from the ROW.

This site is listed in the IEPA Incident Database (IEMA #960800; IEPA #0850105015). According to information received from the IEPA OCS, 132-151 L (35-40 gal) of diesel fuel was spilled in the east end of the parking lot for this facility when dollies supporting a reefer trailer collapsed, puncturing the fuel tank for the reefer unit. The diesel fuel was contained before it could flow into a storm drain and was removed from the parking lot using sorbent pads. Further information was not available for this event.

No activities that might constitute a risk to this project were identified on this parcel. Therefore, no testing was conducted adjacent to this site.

Site 1167-W (667-2). LUST/former UST/RCRA site: IEI Barge and Rail Terminal, southwest quadrant of US 20 and Barge Terminal Road. A large truck scale was located at the east end of this building. The eastern part of the building contained office space and scale operating areas. To the west was a warehouse-type area. At the rear (south side) of the building were five large overhead doors. Two ASTs south of the building were both surrounded by containment walls; the content of the ASTs is unknown but assumed to be vehicle fuel. A scale operator stated that, in addition to storage, bagging operations also occurred in the western end of the building. She said that the company handled fertilizer, coal, fish meal, and animal feed.

According to aerial photographs, the easternmost portion of this building had been built by 1970, with the remaining portions completed by 1979. On aerial photographs from 1964 and earlier, this parcel is agricultural.

This company is on the OSFM UST list with three tanks in a closed status. Formerly used to store diesel fuel and gasoline, they were last used in 1985 and have been removed. The scale operator stated that the tanks were located along the north side of the building. The easternmost tank is estimated to have been 15 m (49 ft) west of Barge Terminal Road and 105 m (344 ft) south of US 20 (42 m [140 ft] south of the frontage road). This parcel was tested during the field investigation for ISGS PESA #667 in 1995, and the USTs were present at that time.

This is a LUST site (IEMA #952158; IEPA #0850105009). Information received from the IEPA indicates that the release was discovered on October 18, 1995. According to a report by Carlson Environmental, consultant to the company, the USTs were removed in November 1995. Following removal of the USTs and 26 m^3 (34 yd^3) of backfill, samples from the walls and floor of the excavation were analyzed. No VOCs were detected, and an NFR letter was requested. The IEPA issued an NFR letter in February 1996.

This is also a RCRA site (IEPA #0850105017), and records of numerous inspections and citations are contained in IEPA files. These inspections pertain to disposal of asphalt, debris, and contaminated soil from a Sinclair bulk facility in Dubuque, IA. This material had been dumped in an area between the railroad tracks south of the facility. The material was removed from the IEI Barge site and transported to a landfill in Dubuque. Subsequent inspections by IEPA in May 2000 determined that the facility had returned to compliance.

This facility leases space to Agri Grain Marketing, which is the site of three spills of hydraulic oil. One spill occurred in July 1994 (IEMA #941606) and involved approximately 11 L (3 gal) of oil from a hydraulic motor located above a grain bin. The oil was removed with oil-absorbent material. The second spill occurred in October 1995 (IEMA #952132) and involved approximately 76 L (20 gal) of oil from a hydraulic motor located above a grain bin. Approximately 3.8 L (1 gal) reached the ground and was removed with oil-absorbent material. The third spill occurred in January 1999 (IEMA #990135) and involved approximately 1.8 kg (4 lbs) of oil from a hydraulic motor located above a grain bin. The oil was prevented from entering a drainage ditch by diking and was removed using oil booms, oil-absorbent pads, and floating oil dry. Further information concerning these events was not available in IEPA files.

Testing was conducted adjacent to this facility for ISGS PESA #667. Two boreholes were probed to a depth of 2.7 m (9 ft). No VOCs significantly above background levels, other than one with a retention time similar to methane, were detected in soil gas taken from depths of 0.9, 1.8, and 2.7 m (3, 6, and 9 ft) in borehole 667-2A or from a depth of 2.7 m (9 ft) in borehole 667-2B.

In this area of the project, work on US 20 will take place along its existing alignment. Therefore, no testing was conducted adjacent to this site, due to the distance of the USTs and the fertilizer bagging operation from the ROW of US 20. Any contaminants that might have been released from this operation should move downdrainage toward the Mississippi River and away from the project area.

Site 1167-15. Pipeline site: Northern Illinois Gas Station 290, southeast quadrant of US 20 and Barge Terminal Road. This natural-gas pipeline terminal contained a small steel building with an above-ground heater to warm the gas to a temperature to make it more easily pumped by the electrical pumps. These heaters elsewhere have been found to be filled with ethylene glycol as an

antifreeze. This terminal can be seen on aerial photographs beginning in 1970. The area was agricultural until at least 1964.

This site was reported in ISGS PESA #667. Because only natural gas pipelines were identified at this facility, no testing was conducted here for ISGS PESA #667. However, mercury-filled manometers were used extensively by the natural gas industry until at least 1993-94. These manometers were usually located in meter houses, which were typically sheet-metal buildings with dirt floors. The small building on this site may be such a meter house. Elemental mercury could have been spilled onto the dirt floor or released into pipelines from broken manometers. Though small amounts would have been released at any given time, the cumulative effect of decades of such releases has resulted in mercury-contaminated soils in the vicinity of such installations. Therefore, one soil sample was tested for total and TCLP mercury.

Soil sample 1167-15 was taken from the top 0.3 m (1 ft) of soil for total and TCLP mercury analyses. The sample location was 15 m (50 ft) east of the centerline of Barge Terminal Road and 5.5 m (18 ft) south of the centerline of the US 20 access road. These analyses were performed by Severn Trent Laboratories. The pH value for the soil sample was 7.42. The results are presented in the table below, along with the ingestion and inhalation cleanup objectives for total metals (mg/kg), and migration to Class I groundwater cleanup objectives for both pH-dependent total metals (mg/kg) and TCLP metals (mg/L), as determined for TACO Tier 1 standards for residential properties. NA = no toxicity criteria available for route of exposure. ND = not present above detection limit.

1167-15	Total metals (mg/kg)		TCLP metals (mg/L)		Ingestion (mg/kg)	Inhalation (mg/kg)	Migration to Class I GW (soil component): pH-dependent pH 7.25 to 7.74 (mg/kg)	Migration to Class I GW (soil component) (mg/L)
Metal	Result	Detection limit	Result	Detection limit				
mercury	ND	0.04	ND	0.002	23	6.4	6.4	0.002

Site 1167-16. Commercial site: North Central Farm Lines repair shop, southeast quadrant of US 20 and Barge Terminal Road. This large steel building contained overhead doors on both the east and west sides for semi-trailer truck access. A sign north of the building on the south side of the US 20 access road indicated that this business offered Big Truck Quick Lube. Mr. Dave Holz, manager of the facility, stated that Big Truck Quick Lube is a brand name and that this is the service and repair shop for North Central Farm Lines. He further stated that the business opened in May 2000 and that any and all maintenance needed is performed on trucks. He said that waste motor oil is stored on the east side of the building in a large AST. The tank was observed at the north end of the east side.

Two boreholes were probed along the south side of the US 20 access road to test for VOCs. Water was not encountered in either borehole. Borehole 1167-16a was located at the west edge of the western entrance drive (Attachment 2AA). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), a VOC with a retention time similar to benzene was detected at a concentration of less than 3 ppm; eight unidentified VOCs were also

detected. Five unidentified VOCs were detected in the headspace of each of the samples collected from depths of 1.8 and 2.7 m (6 and 9 ft).

Borehole 1167-16b was situated just west of the eastern entrance drive (Attachment 2AB). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 0.9 m (3 ft), no VOCs significantly above background levels were detected. Ten unidentified VOCs were detected in the headspace of a soil sample taken from a depth of 1.8 m (6 ft). During Photovac GC analysis of the headspace of a soil sample collected from a depth of 2.7 m (9 ft), VOCs with retention times similar to the following compounds were detected in the following approximate concentrations: toluene, less than 3 ppm; o-xylene, less than 3 ppm; 11 unidentified VOCs were also detected.

Soil retrieved from borehole 1167-16a was an orangish brown silty fine-grained sand at a depth of 0.9 m (3 ft) and an orangish brown fine-grained sand at 1.8 m (6 ft). The sample collected from a depth of 2.7 m (9 ft) was a clean medium- to coarse-grained sand. All soil samples taken from borehole 1167-16b consisted of orangish brown sand, though the sample collected from 2.7 m (9 ft) was a very clean medium- to coarse-grained sand.

Site 1167-17. Railroad site: Burlington Northern Santa Fe Railroad, south side of US 20 throughout project area. Several railroad tracks ran beneath the bridge and along the south side of US 20 throughout the project area. These were primarily through lines, carrying Burlington Northern Santa Fe and Canadian National/Illinois Central freight trains. This area was also used as a switching yard, and several segmented trains were observed during all visits to the project area. Stations and maintenance facilities were located west of the project area adjacent to the tunnel that leads to the railroad bridge over the Mississippi River to Dubuque, IA. BNSF RR maintained a small office building adjacent to this tunnel. The former Chicago Dubuque Foundry Corp. was located partially in a building that had been the Illinois Central roundhouse in the 1800s. These facilities were either out of the project area or were part of sites tested for this report.

A spill of soybean oil has been documented for these rail lines (IEMA #810142). In March 1981, a valve on an Illinois Central tank car failed, causing 7,571-11,356 L (2,000-3,000 gal) of soybean oil to leak onto the tracks. Some of the oil, located between the rails of the southwesternmost set of tracks, ran downhill to a small inlet off Lake Lacoma, where it was contained by placing a boom at the entrance to the inlet. Further information was not available in IEPA files concerning this event.

A spill of waste water sludge occurred in the Burlington Northern yard in March 1992 (IEMA #920585). According to a letter report by Environmental Management Resources, consultant to the company, the spill involved less than 379 L (100 gal) and occurred when a pipe on a 75,708-L (20,000-gal) tank car froze. The contaminated soil was excavated and disposed of at a landfill. No BTEX compounds were detected in soil samples taken from the floor of the excavation, though total petroleum hydrocarbons, toluene, and xylene were detected in the excavated soil. Further information was not available in IEPA files concerning this event.

Normal freight traffic and this spill of soybean oil are not considered to be of risk to this project. The spill of waste water sludge occurred in the yard west of the bridge, adjacent to the tunnel to the bridge carrying trains over the Mississippi River. However, bungalows containing switching equipment were located adjacent to streets crossing the railroad at the following locations: 2nd Street (DOT BN306928F, MP 184.80), 4th Street (DOT BN306926S, MP 184.60), and Frentress

Lake Road northern (Track #1, DOT BN306918A, MP 182.3) and southern (Track #2, DOT BN306917T, MP 182.40) crossings. In addition to a steel bungalow at 3rd Street, a concrete bungalow was located on the west side, and a small wooden building was to the east behind an active bank. A sign at this crossing indicated East Cabin. Also, at 20205 US 20 West was a concrete bungalow on the north side of the tracks between the tracks and US 20 and a newer steel bungalow on a platform on the south side of the tracks. This bungalow contained a sign indicating Murphy.

Mr. Kevin McWilson, Signal Maintainer at the BNSF RR office at the west end of East Dubuque, stated that all of the bungalows at these crossings had lead-acid storage batteries as backup for operating the signals and crossings gates. He said that the wooden building at the 3rd Street crossing (East Cabin) was for storage only and that the concrete bungalow was an old bungalow no longer in use. He also stated that the concrete Murphy Bungalow was also out of use and that the steel bungalow on the platform was a new one.

The bungalows on the west side of the drainage canal and at 2nd, 3rd, 4th, and 6th Street were all in close proximity to the alignment of this project, located between the current US 20 on the north side of the tracks and the new alignment to be built on the south side of the tracks. Also, the old Murphy Bungalow (Attachment 2AC) was closely adjacent to the existing US 20 and planned construction along this alignment. Therefore, a soil sample was collected adjacent to each of these bungalows for lead analysis. The bungalows at Frentress Lake Road were located too far south of the existing alignment of US 20 and the alignment of this project to be of concern. Therefore, no testing was conducted adjacent to these bungalows.

Soil samples 1167-17A, 1167-17B, 1167-17C, 1167-17D, 1167-17E, and 1167-17F were taken from the top 15.2 cm (6 in) of soil adjacent to these bungalows for total and TCLP lead analyses. The locations of samples 1167-17A through 1167-17E are shown in the following table. Sample 1167-17F was taken from in front (east side) of the entrance door to the northern and older bungalow (Attachment 2AC). Measurements were not possible due to the deep snow at the site and the heavy traffic on US 20.

Sample #	Distance East/West of Centerline	Distance North/South of Centerline
1167-17A	13.7 m (45 ft) east of 2nd Street	7.6 m (25 ft) north of northern RR track
1167-17B	12 m (40 ft) west of drainage canal	6 m (20 ft) north of northern RR track
1167-17C	27 m (90 ft) east of 3rd Street	3 m (10 ft) north of northern RR track
1167-17D	17 m (57 ft) east of 4th Street	4.6 m (15 ft) north of northern RR track
1167-17E	13 m (42 ft) east of 6th Street	13 m (42 ft) south of southern RR track

These analyses were performed by Severn Trent Laboratories. The pH value for the soil samples were 8.03, 8.98, 7.99, 8.42, 7.43, and 7.74. The results are presented in the table below, along with the ingestion and inhalation cleanup objectives for total metals (mg/kg), and migration to Class I groundwater cleanup objectives for both pH-dependent total metals (mg/kg) and TCLP metals (mg/L), as determined for TACO Tier 1 standards for residential properties. NA = no toxicity criteria

available for route of exposure. ND = not present above detection limit. -- = test not run due to insufficient sample.

Sample #								
Metal	Total metals (mg/kg)		TCLP metals (mg/L)		Ingestion (mg/kg)	Inhalation (mg/kg)	Migration to Class I GW (soil component): pH-dependent (mg/kg)	Migration to Class I GW (soil component) (mg/L)
	Result	Detection limit	Result	Detection limit				
1167-17A							NA	
lead	4.8	0.33	--	--	400	NA	NA	0.0075
1167-17B							NA	
lead	8.1	0.36	ND	0.0075	400	NA	NA	0.0075
1167-17C							pH 7.75 to 8.0	
lead	152	0.37	ND	0.0075	400	NA	NA	0.0075
1167-17D							NA	
lead	9.6	0.36	ND	0.0075	400	NA	NA	0.0075
1167-17E							pH 7.25 to 7.74	
lead	7.1	0.41	--	--	400	NA	NA	0.0075
1167-17F							pH 7.25 to 7.74	
lead	52	0.39	**0.0932**	0.0075	400	NA	NA	**0.0075**

Site 1167-X. Spill site: U.S. Route 20 throughout project area. In addition to the spill at the Julien Dubuque Bridge (Site 1167-A), several other spills have been reported along US 20 in the project area. No specific locations for these spills were available. Sgt. Colin Fulrath of the Jo Daviess County ESDA office stated in a telephone conversation that that office had no information other than what was in IEPA files. No testing was conducted along the highway at any of these spill sites. These are reported here for completeness only.

A spill of an unknown amount of diesel fuel, discovered in June 1993, involved US 20 from the Julien Dubuque Bridge to Frentress Lake Road (IEMA #931713). The responsible party is unknown, and only the IEMA Field Report was contained in IEPA files.

A spill of an estimated 4.5 L (1.2 gal) of diesel fuel occurred in December 1997 when a semi-trailer owned by Simkins Trucking dropped to the ground and ruptured the tank on a reefer unit (IEMA #972324). The Menominee-Dunleith fire department used absorbent to remove the fuel from the highway.

Other potential man-made hazards

Asbestos-containing materials. Evidence from aerial photographs, Sanborn Fire Insurance Maps, and topographic maps indicates that many buildings along the project ROW were constructed before 1979 and may therefore have friable asbestos-containing materials (ACM) as a component of floor tiles, wall and pipe insulation, roof materials, patching or painting compounds, ceiling materials, or stove and furnace insulation. The buildings along the corridor between Sinsinawa Avenue and Menominee Street from 2nd Street to 6th Street were mostly built prior to 1979 and may contain friable ACM in building materials. Soils in the area formerly containing Chicago Dubuque Foundry Corp. (Site 1167-3) may contain friable ACM that originated from demolition of buildings, including the former ICRR roundhouse, which was constructed in the 1800s.

Natural Hazards

Wetlands. According to National Wetlands Inventory maps, twelve wetlands have been mapped in the project area. Semipermanently flooded, intermittent, excavated, riverine streambed, wetlands are located in the southwest quarter of Section 28, northeast quarter of Section 32, and northwest quarter of Section 33, which is the location of an unnamed creek that flows into Switzer Lake. Diked or impounded, limnetic, permanently flooded, lacustrine wetlands with an unconsolidated bottom are located in the floodplain of the Mississippi River in Sections 19 and 30, T29N, R2W, at the west end of the project, and along the south side of US 20 in Section 29, T29N, R2W southeast of East Dubuque proper. Seasonally flooded, diked or impounded palustrine wetlands forested with broad-leaved deciduous trees are located along the west side of East Dubuque in Sections 19 and 30, T29N, R2W, and along the south side of US 20 in Section 29, T29N, R2W, southeast of East Dubuque proper. Diked or impounded, emergent, seasonally flooded, palustrine wetlands are south of the bridge at the west edge of East Dubuque in section 30, T29N, R2W; and adjacent to the southward loop in the proposed ROW in sections 29, 32, and 33, T29N, R2W. In the northwest quadrant of section 33, T29N, R2W, is a seasonally flooded palustrine wetland containing broad-leaved deciduous scrub/shrubs. A diked or impounded, intermittently exposed palustrine wetland with an unconsolidated bottom is located near the center of Section 33, T29N, R2W. These wetlands maps were defined primarily by aerial photographs, which may reflect conditions specific to the year or season that the photography was completed. Therefore, wetlands areas may be either overstated or missing entirely.

Floodplains. According to Flood Insurance Rate maps, the project route crosses the 100-year floodplain of the Mississippi River from the bank of the river to just west of the crossing of the bridge over the railroad tracks and south of the railroad tracks from 2nd Street to the eastern edge of Section 29, T29N, R2W. The 100-year floodplain crosses the railroad tracks in the southeast quarter of Section 29 and along 3rd Street and IL 35. The 100-year floodplain crosses the entire project area along 3rd Street/IL 35, and in the southeast quarter of Section 29, the current alignment of US 20 crosses the 500-year floodplain of the Mississippi River. Flooding, standing water, and saturated soils may be encountered in these areas, particularly during periods of high or extended rainfall or spring snowmelt.

Karst region. According to the ISGS map "Karst Terrains and Carbonate Rocks of Illinois", the project is located in a karst region. Karst terrains develop due to the dissolution of carbonate

bedrock. Karst features and resulting karst hazards are most common in areas where carbonate rocks either crop out at the surface, or where they are shallowly buried beneath unconsolidated materials generally less than 15 m (49 ft) in thickness. Hazards common to karst regions include sinkholes, springs, erratic surface water drainage and groundwater flow, and rapid subsurface movement of contaminants from spills into and through the subsurface. Sinkholes and springs can also back up and cause local flooding during high-volume rain or snowmelt events. ISGS mapping indicates that karst features such as caves or sinkholes may be present in the project area; however, these features were not observed during ISGS field investigations for this project. The ISGS karst maps are published at a scale of 1:500,000 and may reflect conditions present in the area but not specific to the actual project location. Therefore, karst hazards may not be present within the project limits.

No other observed or known natural hazards were identified for this project.

FINDINGS

1. **VOCs significantly above background levels were detected in the headspace of soil samples and in immunoassay analyses of soil samples taken from boreholes at the following sites: former City Garage (Site 1167-2; a LUST site), former Chicago Dubuque Foundry Corp. (Site 1167-3), residence with garage (Site 1167-4), J & L Vending (Site 1167-5), Molo Big 10 Mart (Site 1167-6), Van's Liquor Store parking lot (Site 1167-7), Leibold Brothers Auto Center (Site 1167-8), Custom Auto Repair and Service (Site 1167-9), Obie's Foreign & Domestic Auto Repair (Site 1167-10), Family Beer & Liquor (Site 1167-11), Kieffer Body Shop (Site 1167-12), Kieffer Construction storage yard (Site 1167-13), Ampride gasoline station/Stewart Construction Co. (Site 1167-14), and North Central Farm Lines repair shop (Site 1167-16).** Further investigation into the nature, extent, and source(s) of VOCs may be warranted.

2. **In soil samples taken from the following sites, the following heavy metals exceeded the ingestion value for the IEPA Tier 1 residential TACO objectives:**

   - **Mississippi River (Site 1167-1), arsenic**
   - **Former Chicago Dubuque Foundry Corp. (Site 1167-3), arsenic, lead**
   - **J & L Vending (Site 1167-5), arsenic**

   However, arsenic in the samples exceeded neither the total metals pH-dependent migration to Class I groundwater nor the TCLP migration to Class I groundwater values for the IEPA Tier 1 residential TACO objectives.

   Further investigation into the presence of heavy metals at this site may be warranted.

3. **In soil samples taken from the following sites, lead exceeded the TCLP migration to Class I groundwater values for the IEPA Tier 1 residential TACO objectives; no total metals pH-dependent migration to Class I groundwater TACO value for lead exists in the TACO standards:**

   - **Former Chicago Dubuque Foundry Corp. (Site 1167-3)**
   - **Burlington Northern Santa Fe Railroad, Murphy Bungalow (Site 1167-17F)**

   Further investigation into the presence of heavy metals at this site may be warranted.

3. **The Silver Eagle Casino (Site 1167-R) is an archived CERCLIS site.** No testing was conducted adjacent to this parcel, due to its distance from the proposed project.

4. **Evidence from aerial photographs, Sanborn Fire Insurance Maps, and topographic maps indicates that many buildings along the project ROW were constructed before 1979 and may therefore have friable asbestos-containing materials (ACM) as a component of floor tiles, wall and pipe insulation, roof materials, patching or painting compounds, ceiling materials, or stove and furnace insulation. The buildings along the corridor between Sinsinawa Avenue and Menominee Street from 2nd Street to 6th Street were mostly built prior to 1979 and may contain friable ACM**

in building materials. Soils in the area formerly containing Chicago Dubuque Foundry Corp. (Site 1167-3) may contain friable ACM the originated from demolition of buildings, including the former ICRR roundhouse, which was constructed in the 1800s. Further investigation into the presence of asbestos-containing materials may be desired if building modification or demolition is to occur.

5. According to Flood Insurance Rate maps, the project route crosses the 100-year floodplain of the Mississippi River from the bank of the river to just west of the crossing of the bridge over the railroad tracks and south of the railroad tracks from 2nd Street to the eastern edge of Section 29, T29N, R2W. The 100-year floodplain crosses the railroad tracks in the southeast quarter of Section 29 and along 3rd Street and IL 35. The 100-year floodplain crosses the entire project area along 3rd Street/IL 35, and in the southeast quarter of Section 29, the current alignment of US 20 crosses the 500-year floodplain of the Mississippi River. **Flooding, standing water, and saturated soils may be encountered in these areas, particularly during periods of high or extended rainfall or spring snowmelt.**

6. **According to the ISGS map "Karst Terrains and Carbonate Rocks of Illinois", the project is located in a karst region.** Karst terrains develop due to the dissolution of carbonate bedrock. Karst features and resulting karst hazards are most common in areas where carbonate rocks either crop out at the surface, or where they are shallowly buried beneath unconsolidated materials generally less than 15 m (49 ft) in thickness. Hazards common to karst regions include sinkholes, springs, erratic surface water drainage and groundwater flow, and rapid subsurface movement of contaminants from spills into and through the subsurface. Sinkholes and springs can also back up and cause local flooding during high-volume rain or snowmelt events. No karst features were observed during field work for this project.

ENDORSEMENTS

Project Manager: C. Brian Trask — **Date:** 1/31/01

Approved: Anne L. Erdmann — **Date:** 01/31/01

INFORMATION SOURCES

The material listed below should be consulted if more detailed information is desired.

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Line 53, photographs 592, 593

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1979 179-227, 228, 229
1970 BWT-1LL-69, 70, 71, 72
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1958 BWT-3V-69, 70, 71, 144
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Other

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Cachera, Brad (September 18, 2000). Telephone conversation. Illinois Commerce Commission, Railroad Section.

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Owner, Custom Auto Repair and Service (November 15, 2000). Personal interview.

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APPENDIX A

ISGS PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT CHECKLIST

IDOT: P92-106-98 ISGS: 1167
County: Jo Daviess
Cities Checked: East Dubuque
Location Coordinates: T29N R2W Sections 19, 20, 28, 29, 30, 33, and 34. Length: 6 km (3.75 mi)

IDOT District Contact: ISGS Lead: Brian Trask
Name: Larry Hill
Phone: (815) 284-5450

Task	Status*	Date	By
Original Material Copied	MF	03/14/00	PBN
USGS Topographic Map(s)			
▸ Current	MF	08/23/00	REB
▸ Historical	MF	08/23/00	REB
Street Map(s)			
▸ DeLorme Mapping Street Atlas USA: 1999	MF	08/23/00	REB
▸ American Map Corporation Chicagoland Atlas: 1999	NA	08/23/00	REB
▸ DeLorme Mapping Illinois Atlas and Gazetteer: 1996	MF	08/23/00	REB
▸ Rand McNally St. Louis and Vicinity Streetfinder: 1994	NA	08/23/00	REB
Street Atlas Locational Database (All other projects in the vicinity of the project)			
▸ Other Preliminary Environmental Site Assessments (PESA)	MF	08/23/00	REB
▸ Maintenance Facilities	NF	08/23/00	REB
▸ Preliminary Site Investigations/Phase II Reports (PSI)	NF	08/23/00	REB
▸ Environmental Impact Statements (EIS)	NF	08/23/00	REB
▸ Permit-Access Agreements (PAA)	NF	08/23/00	REB
▸ Draft Highway Authority Agreements (DHAA)/Highway Authority Agreements (HAA)	NF	08/23/00	REB
▸ Miscellaneous sites (MISC)	NF	08/23/00	REB
Geologic Information			
▸ ISGS Stack Unit Map (GIS): 1995	MF	11/03/00	CBT
▸ ISGS Bedrock Topography of Illinois (GIS): 1994	MF	11/03/00	CBT
▸ ISGS Glacial Drift in Illinois (GIS):1994	MF	11/03/00	CBT
▸ ISGS Geologic Map of Illinois (GIS): 1996	MF	11/03/00	CBT
▸ Fehrenbacher Total Loess Thickness Map: 1986	MF	11/03/00	CBT
▸ Related Geologic Publications (http://www.isgs.uiuc.edu)	MF	11/03/00	CBT
▸ NIPC Stack Unit Map: 1976	NA	11/03/00	CBT
▸ Willman Surficial Geology of Chicago Region Map: 1971	NF	11/03/00	CBT
▸ USDA NRCS Soil Survey/Draft Soil Maps	MF	09/11/00	REB
▸ USDA NRCS Hydric Soils List: 1988	MF	09/11/00	REB
▸ USDA NRCS Prime Farmland Soils List: 1986	MF	09/11/00	REB
Hydrogeologic Information			
▸ IEPA Groundwater Monitoring Raw Source Location Report: 11/9/99	NA	08/23/00	REB
▸ IEPA Restricted Status List: 5/00	NA	08/23/00	REB
▸ ISGS QUESTOR Database/ISGS Well Logs	NA	08/23/00	REB
▸ ISWS Public Groundwater Supply Report(s)	NA	08/23/00	REB
▸ ISWS Public Water Supply Surface Water Intakes in Illinois (GIS): 1994	NA	08/23/00	REB
▸ Berg Potential for Aquifer Contamination Map: 1987	NA	08/23/00	REB
▸ Keefer Potential for Aquifer Recharge Map: 1990	NA	08/23/00	REB
IEPA Well Site Survey Report(s)	MF	09/11/00	REB
IEPA Hazard Review Reports	NF	08/23/00	REB

Task	Status*	Date	By
IEPA Source Water Protection Area Atlas 6/15/99: 7/99	NF	08/23/00	REB
IEPA Illinois Water Quality (http://www.epa.state.il.us/water/water-quality/): 1999	MF	12/19/00	CBT
IEPA Illinois Water Quality Report 1994-95 and 1998 update: 9/96 and 9/98	NF	09/11/00	REB
Sanborn Fire Insurance Maps			
▸ Chadwyck-Healey Inc.	MF	09/15/00	REB
▸ University Publications of America	NF	09/15/00	REB
Land Use Maps			
▸ Rockford Map Publishers Plat Maps	MF	09/15/00	REB
▸ Cook County Township Maps	NA	09/15/00	REB
IEPA Site Remediation Program Database (http://srp.epa.state.il.us/search.asp) : 01/19/01	MF	01/19/01	CBT
IEPA LUST Database (http://ust.epa.state.il.us/search.asp): 01/13/01	MF	01/19/01	CBT
OSFM UST List: 10/5/00	MF	11/03/00	CBT
USEPA Archive CERCLIS, Current CERCLIS, and NPL Final Sites List: 10/5/00	MF	11/03/00	CBT
IEPA Bureau of Land Inventory: 10/5/00	MF	11/03/00	CBT
Landfill and Disposal Sites			
▸ DNR Landfills (GIS): 1997	NF	11/03/00	CBT
▸ Summary of IEPA Landfill and Disposal Sites Lists: compiled 1/00	NF	11/03/00	CBT
▸ WMRC Surface Impoundment Areas (GIS): 1989	NF	11/03/00	CBT
▸ IEPA Solid Waste Unit Application Database: 11/3/00	MF	11/03/00	CBT
IEPA State Underground Injection Control Inventory (1984-January 2000): 1/00	NF	11/03/00	CBT
RCRA and Miscellaneous Sites			
▸ Summary of IEPA RCRA and Miscellaneous Sites Lists: compiled 1/00	NF	11/03/00	CBT
▸ Summary of USEPA RCRA Sites Lists: compiled 10/00	MF	11/03/00	CBT
▸ Summary of WMRC RCRA and Miscellaneous Sites Lists: compiled 1/00	MF	11/03/00	CBT
▸ WMRC On-Site Special Waste Sites (GIS): 1989	NF	11/03/00	CBT
▸ WMRC Special Waste Handlers (GIS): 1989	NF	11/03/00	CBT
IEPA Cleaning Illinois: Summer 1989	NF	11/03/00	CBT
USEPA Brownfields Pilot Sites List and Fact Sheets: 8/98	NF	11/03/00	CBT
USEPA Civil Docket (DOCKET) Database: 7/99	NF	11/03/00	CBT
Summary of Former Manufactured Gas Plant Sites Lists: compiled 1/00	NF	11/03/00	CBT
Spills Databases			
▸ IEPA OCS Incident Database (1972 to 5/00): 7/00	MF	11/03/00	JRO
▸ NRC Emergency Response Notification System (ERNS) Database (1989-97): 7/99	MF	11/03/00	CBT
▸ USEPA Toxics Release Inventory (1987-97): 10/00	MF	11/03/00	CBT
▸ USEPA Accidental Release Information Program (ARIP) Database (1986-95): 7/99	NF	09/06/00	REB
IEMA Hazardous Material Spills Information Request			
▸ Sent	MF	08/25/00	REB
▸ Received	MF	09/14/00	REB
Railroad Information			
▸ ICC Contacted re: 2000 Railroad Spills	NF	09/18/00	REB
▸ ICC Annual Reports of Railroad Spills (1989-99): compiled 7/00	NF	11/03/00	CBT
▸ IDOT Contacted re: Abandoned Railroads	NA	11/15/00	CBT
IDOT Illinois Airport Directory 1998-99: 9/98	NA	09/06/00	REB

Task	Status*	Date	By
Mining Maps and Publications			
▸ Treworgy Subsidence Publication: 09/1/89	NA	09/06/00	REB
▸ ISGS Active and Abandoned Coal Mines in Illinois (GIS): 1991 and 1997	NF	09/06/00	REB
▸ ISGS Directory of Coal Mines in Illinois	NA	09/06/00	REB
▸ ISGS Coal Mines in Illinois Quadrangles	NF	09/06/00	REB
▸ ISGS Mine and Field Notes	NA	09/06/00	REB
▸ ISGS Mine Map Microfilm Collection	NA	09/06/00	REB
▸ ISGS Non-Coal Mine Inventory	NF	09/06/00	REB
▸ ISGS Works Progress Administration Map(s)	NA	09/06/00	REB
▸ Nawrot Abandoned Mined Lands Reclamation: 6/82	NA	09/06/00	REB
▸ Quade Subsidence Report(s)	NA	09/06/00	REB
Seismic Risk Information			
▸ Uniform Building Code Seismic Risk Map of the United States: 1991	MF	09/11/00	REB
▸ Hopper Estimation of Earthquake Effects Map: 1985	NA	09/11/00	REB
FEMA Flood Insurance Rate/Flood Hazard Boundary Map	MF	09/15/00	REB
County Collection	NF	09/15/00	REB
Aerial Photographs	MF	07/12/00	CBT
Local Historical Resources			
▸ AIMHS Historical Society and Museum List (1993-94): (optional)	NF	11/14/00	CBT
▸ City Directories	MF	11/14/00	CBT
▸ Library Resources Information: 10/99 (optional)	MF	11/05/00	CBT
Oil and Gas Information			
▸ ISGS Oil and Gas Facilities in Illinois (GIS): 1984	NF	11/03/00	CBT
▸ ISGS Oil and Gas Fields in Illinois (GIS): 1984	NF	11/03/00	CBT
▸ ISGS Oil and Gas Pipelines in Illinois (GIS): 1984	MF	11/03/00	CBT
▸ ISGS Oil and Gas Wells in Illinois (GIS): 1995	NF	11/03/00	CBT
ISGS Landslide Inventory of Illinois (GIS): 1995	NF	11/03/00	CBT
Weibel Karst Terrains and Carbonate Rocks of Illinois Map: 1997	MF	11/28/00	CBT
USFWS, IDNR, and INHS Illinois Wetlands Inventory (GIS): 1996	MF	11/03/00	CBT
Business Directories			
▸ Manufacturers' News Illinois Manufacturers Directories (1941-96)	MF	11/20/00	CBT
▸ Manufacturers' News Illinois Services Directories (1980-96)	MF	11/20/00	CBT
▸ Industry/Hazardous Materials Check	MF	11/20/00	CBT
IDOT District Environmental Coordinator Contacted	yes	11/14/00	CBT

* MF = Material found for cities checked; NF = Nothing found for cities checked; NA = Not applicable; N/A = Not available

Historical Survey Completed By: Rod Bowen, Jennifer Ousley, Brian Trask Date: 01/19/01

APPENDIX B

Initial Site Visit Checklist

IDOT NO. P92-106-98 Date: 11/13-15/00
ISGS NO. 1167 By: C.B.Trask

ITEM	YES	NO	UNK	COMMENT
FLORA/FAUNA				
Vegetation present	X			
Vegetation stressed		X		
Animal activity or presence	X			
NATURAL FEATURES AND CONDITIONS				
Depressions	X			Comment 1.
Mounding or soil piles	X			Comment 2.
Wetlands, ponds, lakes	X			
Rivers, streams, creeks	X			
Lagoons, surface impoundments		X		
Surface soil discoloration		X		
Water discoloration		X		
CULTURAL FEATURES AND CONDITIONS				
Buildings/structures	X			
Landfills		X		
Industry	X			Comment 3.
Asbestos source/presence			X	Comment 4.
Storage tanks (above or underground)	X			Comment 5.
Pumps/protruding pipes		X		
Drums		X		
Railroad spurs/tracks/ROW	X			
Dead end roads/trails		X		
Sewer lines	X			
Water wells	X			
Monitoring wells	X			Comment 6.
Septic tanks	X			Comment 7.
Pits/quarries	X			Comment 8.
Solid waste (garbage)		X		
Transformers/substations		X		
AMBIENT ENVIRONMENTAL CONDITIONS				
Unusual or noxious odors		X		
Noise pollution		X		
Dust/smoke		X		

COMMENTS:

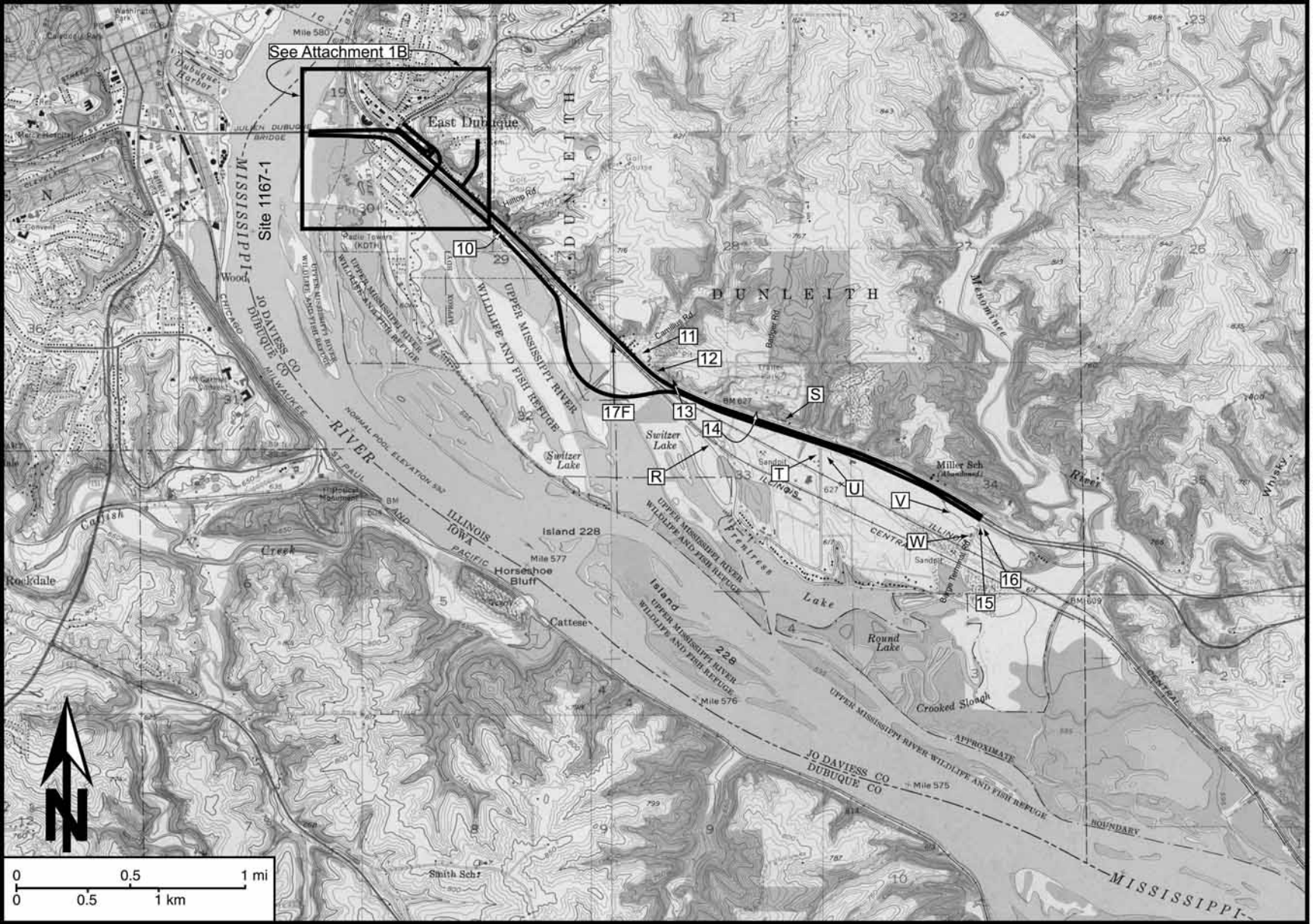
1. Depressions and old gravel pits along railroad tracks.
2. Soil pile at Kieffer Construction storage yard (Site 1167-13).
3. Former Chicago Dubuque Foundry Corp. (Site 1167-3).
4. Asbestos may be present in most buildings along proposed ROW of this project.
5. Big 10 Mart (Site 1167-6); Leibold Brothers Auto Center (Site 1167-8); Family Beer & Liquor (Site 1167-11); Ampride gasoline station (Site 1167-14); Custom Auto Repair and Service (Site 1167-9); Kieffer Construction storage yard (Site 1167-13); Rockford Industrial Welding Supply (Site 1167-S); IEI Barge and Rail Terminal (Site 1167-W); North Central Farm Lines repair shop (Site 1167-16); AmeriCold Logistics (Site 1167-V).
6. Big 10 Mart (Site 1167-6); Family Beer & Liquor (Site 1167-11); Ampride gasoline station (Site 1167-14).
7. Kieffer Body Shop (Site 1167-12).
8. Kieffer Construction storage yard (Site 1167-13); other quarries in bluffs north of US 20; sand pits along railroad.

LIST OF ATTACHMENTS

1. Project location map.
   A. Entire project.
   B. Downtown East Dubuque.

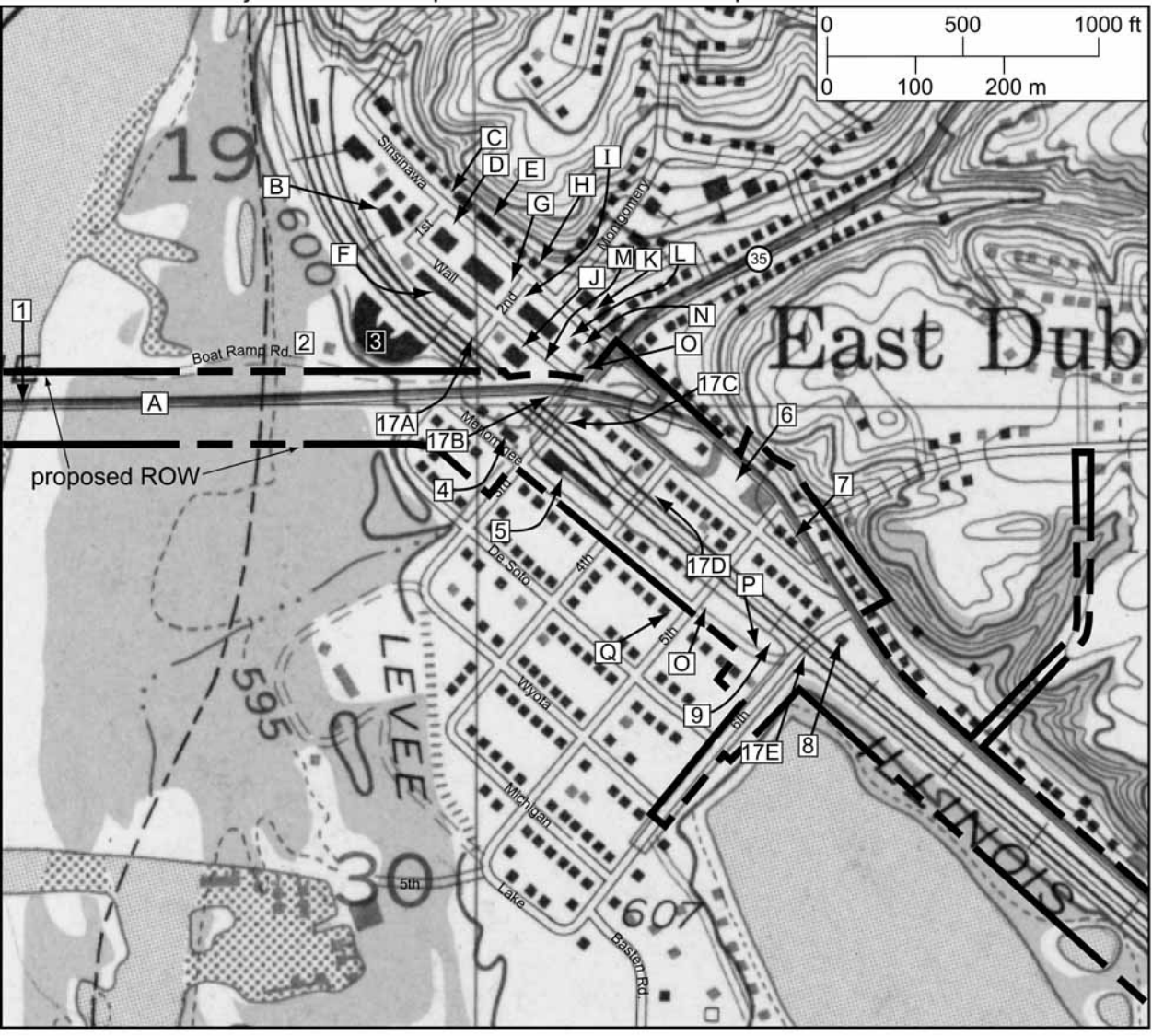
2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

3. Results of testing for volatile organic compounds.



Attachment 1A. Project location map: entire project.

Attachment 1B. Project location map: downtown East Dubuque.



Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2A. Mississippi River (Site 1167-1). Cone marks location of soil sample 1167-1. Photograph taken from beneath Julien Dubuque Bridge, looking west.

2B. Former City Garage (Site 1167-2). Cone marks location of borehole 1167-2b. Photograph taken from Boat Ramp Road, looking south.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2C. Former Chicago Dubuque Foundry Corp. (Site 1167-3). Cone marks location of borehole 1167-3b. Photograph taken from 2nd Street (foreground), looking west. Julien Dubuque Bridge is overhead. Fence at right surrounds former foundry.

2D. Former Chicago Dubuque Foundry Corp. (Site 1167-3). Cone marks location of borehole 1167-3c; soil sample 1167-3B was also collected at approximately the site of the cone. Photograph taken from 2nd Street (foreground), looking west. Remains of foundry are at center of photograph. Current city garage and waste water treatment plant are in background.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2E. Former Chicago Dubuque Foundry Corp. (Site 1167-3). Cone marks location of metals sample 1167-3A; borehole 1167-3a was bored at this approximate location also. Photograph taken from south of Boat Ramp Road (foreground), looking north.

2F. Residence with garage (Site 1167-4). Cone marks location of borehole 1167-4a. Photograph taken from Menominee Avenue (foreground), looking north. House at left is not part of this site.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2G. J & L Vending (Site 1167-5). Cone marks location of borehole 1167-5a. Photograph taken from 3rd Street (foreground), looking east.

2H. J & L Vending (Site 1167-5). Cone marks location of borehole 1167-5B. Photograph taken from 3rd Street (foreground), looking east. Railroad tracks are on rise in background.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2I. J & L Vending (Site 1167-5). Cone marks location of borehole 1167-5c. Photograph taken from Menominee Avenue (foreground), looking north. Railroad tracks are on rise in background.

2J. J & L Vending (Site 1167-5). Cone marks location of soil sample 1167-5. Photograph taken from west end of building, looking east. Railroad tracks area at left.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2K. Molo Big 10 Mart (Site 1167-6). Cone marks location of borehole 1167-6a. Photograph taken from northwest quadrant of parcel, looking east. US 20 is at left.

2L. Molo Big 10 Mart (Site 1167-6). Cone marks location of borehole 1167-6b. Photograph taken from south side of Wall Street (foreground), looking north. US 20 is in background, adjacent to retaining wall.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2M. Van's Liquor Store parking lot (Site 1167-7). Cone marks location of borehole 1167-7b. Photograph taken from parking lot (foreground), looking north. US 20 is on near side of red house.

2N. Leibold Brothers Auto Center (Site 1167-8). Cone marks location of borehole 1167-8a. Photograph taken from west side of 6th Street, looking east. US 20 is at left.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2O. Leibold Brothers Auto Center (Site 1167-8). Cone marks location of borehole 1167-8c. Photograph taken from north side of US 20, looking south.

2P. Custom Auto Repair and Service (Site 1167-9). Cone marks location of borehole 1167-9a. Photograph taken from south side of Menominee Avenue, looking north. Eagle Auto Sales (Site 1167-P) is at left; railroad tracks are on embankment in background.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2Q. Obie's Foreign & Domestic Auto Repair (Site 1167-10). Cone marks location of borehole 1167-10a. Photograph taken from northwest quadrant of parcel, looking south. Auto service building is at left; body shop is in background.

2R. Family Beer & Liquor (Site 1167-11). Cone marks location of borehole 1167-11a. Photograph taken from US 20 access road (foreground), looking north.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2S. Family Beer & Liquor (Site 1167-11). Cone marks location of borehole 1167-11b. Photograph taken from US 20 access road (just out of foreground), looking north.

2T. Kieffer Body Shop (Site 1167-12). Cone marks location of borehole 1167-12a. Photograph taken from US 20 access road (foreground), looking north.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2U. Kieffer Body Shop (Site 1167-12). Cone marks location of borehole 1167-12b. Photograph taken from US 20 access road (foreground), looking north.

2V. Kieffer Construction storage yard (Site 1167-13). Cone marks location of borehole 1167-13a. Photograph taken from US 20 access road (foreground), looking northeast. Driveway to storage yard is at right.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2W. Kieffer Construction storage yard (Site 1167-13). Cone marks location of borehole 1167-13b. Photograph taken from US 20 access road (foreground), looking northeast. Driveway leads to storage yard (far right).

2X. Ampride gasoline station/Stewart Construction Co. (Site 1167-14). Cone marks location of borehole 1167-14a. Photograph taken from US 20 access road (foreground), looking north.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2Y. Ampride gasoline station/Stewart Construction Co. (Site 1167-14). Cone marks location of borehole 1167-14b. Photograph taken looking south from Stewart Construction Co. parking lot, north of US 20 access road (foreground). US 20 is at center of photograph; Silver Eagle Casino (Site 1167-R) is at far right.

2Z. Ampride gasoline station/Stewart Construction Co. (Site 1167-14). Cone marks location of borehole 1167-14c. Photograph taken looking south from Ampride gasoline station parking lot. US 20 access road is at center of photograph, and US 20 is farther south. Silver Eagle Casino (Site 1167-R) is at far right.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2AA. North Central Farm Lines repair shop (Site 1167-16). Cone marks location of borehole 1167-16a. Photograph taken looking south from US 20 access road (foreground). Northern Illinois Gas Station 290 (Site 1167-15) is at right.

2AB. North Central Farm Lines repair shop (Site 1167-16). Cone marks location of borehole 1167-16b. Photograph taken looking north from repair shop parking lot. US 20 access road is at center of photograph; US 20 is in background.

Attachment 2. Photographs showing site features and borehole locations at all sites where VOCs or metals were detected.

2AC. Burlington Northern Santa Fe Railroad, Murphy Bungalow (part of Site 1167-17). Cone marks location of soil sample 1167-17F. Photograph taken from south of US 20, looking south. New steel bungalow in background replaced old concrete bungalow.

Attachment 3—Results of testing for volatile organic compounds

Borehole # Date Method	Borehole location and information *All location distances are from roadway centerlines unless otherwise noted.*	Sample depth(s)[1]	Sample type(s)	Analytical results[2] *TVA: total VOCs (FID) and non-methane VOCs (PID) PGC: tentative identification of VOCs using the Photovac GC. OVA (sm): total VOCs detected with the OVA in survey mode. OVA (gc): tentative identification of VOCs using the OVA in GC mode. PR: Petro-Risc immunoassay analysis.*
1167-2a 01/03/01 Soil probe	**Former City Garage** (300 Boat Ramp Road); centerline of bridge 24.4 m (80 ft) west of bridge support #33. • final hole depth: 2.7 m (9 ft) • water encountered at 0.3 m (1 ft)	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
1167-2b 01/03/01 Soil probe	---; centerline of bridge 10 m (33 ft) east of bridge support #33. • final hole depth: 0.9 m (3 ft) • water encountered at 0.3 m (1 ft)	0.9 m (3 ft)	soil sample headspace	PGC: 4 unidentified VOCs
1167-3a 01/03/01 Soil probe	**Former Chicago Dubuque Foundry Corp.** (210 2nd Street); 30 m (98 ft) west of 2nd Street and 4.5 m (15 ft) north of Boat Ramp Road. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
1167-3b 01/03/01 Geoprobe	---; 10 m (33 ft) west of 2nd Street and 4 m (13 ft) south of Menominee Avenue. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
			soil sample	PetroRisc: > 1 but < 10 ppm hydrocarbons
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
			soil sample	PetroRisc: > 1 but < 10 ppm hydrocarbons
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
			soil sample	PetroRisc: > 1 but < 10 ppm hydrocarbons

Attachment 3—Results of testing for volatile organic compounds

Borehole # Date Method	Borehole location and information *All location distances are from roadway centerlines unless otherwise noted.*	Sample depth(s)[1]	Sample type(s)	Analytical results[2] *TVA: total VOCs (FID) and non-methane VOCs (PID) PGC: tentative identification of VOCs using the Photovac GC. OVA (sm): total VOCs detected with the OVA in survey mode. OVA (gc): tentative identification of VOCs using the OVA in GC mode. PR: Petro-Risc immunoassay analysis.*
1167-3c 01/03/01 Geoprobe	---; 6 m (20 ft) west of 2nd Street and 33 m (108 ft) north of Menominee Avenue. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: 1 unidentified VOC
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
1167-4a 01/05/01 Geoprobe	**Residence with garage** (295 Menominee Avenue); 38 m (125 ft) west of 3rd Street and 8 m (26 ft) north of Menominee Avenue. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: benzene, < 3 ppm; ethyl benzene, < 3 pm; o-xylene, < 3 ppm; 5 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
1167-4b 01/04/01 Geoprobe	---; 29 m (95 ft) west of 3rd Street and 7.5 m (25 ft) north of Menominee Avenue. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
1167-5a 01/02/01 Geoprobe	**J & L Vending** (300-303 Menominee Avenue); 4 m (13 ft) east of 3rd Street and 28 m (92 ft) north of Menominee Avenue. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: 8 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: 6 unidentified VOCs

Attachment 3—Results of testing for volatile organic compounds

Borehole # Date Method	Borehole location and information *All location distances are from roadway centerlines unless otherwise noted.*	Sample depth(s)[1]	Sample type(s)	Analytical results[2] *TVA: total VOCs (FID) and non-methane VOCs (PID) PGC: tentative identification of VOCs using the Photovac GC. OVA (sm): total VOCs detected with the OVA in survey mode. OVA (gc): tentative identification of VOCs using the OVA in GC mode. PR: Petro-Risc immunoassay analysis.*
1167-5b 01/02/01 Geoprobe	---; 61 m (200 ft) east of 3rd Street and 7.8 m (26 ft) north of Menominee Avenue. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: 3 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: 5 unidentified VOCs
		2.7 m (9 ft)	soil sample headspace	PGC: 5 unidentified VOCs
1167-5c 01/02/01 Geoprobe	---; 30 m (98 ft) east of 3rd Street and 6.7 m (22 ft) north of Menominee Avenue. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: benzene, < 3 ppm; 2 unidentified VOCs
		2.7 m (9 ft)	soil sample headspace	PGC: benzene, < 3 ppm; 6 unidentified VOCs
1167-6a 01/04/01 Geoprobe	**Molo Big 10 Mart** (448 Sinsinawa Avenue); 21 m (69 ft) west of west side of building and 11 m (36 ft) south of US 20. • final hole depth: 2.4 m (8 ft) • dry hole • bedrock encountered at 2.4 m (8 ft)	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.4 m (8 ft)	soil sample headspace	PGC: benzene, < 3 ppm; 4 unidentified VOCs
1167-6b 01/04/01 Geoprobe	---; 13.5 m (44 ft) west of west side of building and 6 m (20 ft) north of Wall Street. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: toluene, < 3 ppm; 10 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: toluene, < 3 ppm; 8 unidentified VOCs
		2.7 m (9 ft)	soil sample headspace	PGC: benzene, < 3 ppm; toluene, < 3 ppm; 6 unidentified VOCs

Attachment 3—Results of testing for volatile organic compounds

Borehole # Date Method	Borehole location and information *All location distances are from roadway centerlines unless otherwise noted.*	Sample depth(s)[1]	Sample type(s)	Analytical results[2] *TVA: total VOCs (FID) and non-methane VOCs (PID) PGC: tentative identification of VOCs using the Photovac GC. OVA (sm): total VOCs detected with the OVA in survey mode. OVA (gc): tentative identification of VOCs using the OVA in GC mode. PR: Petro-Risc immunoassay analysis.*
1167-7a 01/05/01 Geoprobe	**Van's Liquor Store parking lot** (540 Sinsinawa Avenue); 30 m (98 ft) east of 5th Street and 6.5 m (21 ft) north of Wall Street. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
1167-7b 01/05/01 Geoprobe	---; 36 m (118 ft) east of 5th Street and 10 m (33 ft) south of US 20. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: benzene, < 3 ppm; toluene, < 3 ppm; ethyl benzene, < 3 ppm; 8 unidentified VOCs
1167-8a 01/03/01 Geoprobe	**Leibold Brothers Auto Center** (620 Sinsinawa Avenue); 4.7 m (15 ft) east of 6th Street and 27.5 m (90 ft) south of US 20. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: benzene, < 3 ppm; 6 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: benzene, < 3 ppm; toluene, < 3 ppm; 12 unidentified VOCs
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
1167-8b 01/03/01 Geoprobe	---; 31.5 m (103 ft) east of 6th Street and 10.5 m (34 ft) south of US 20. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels

Attachment 3—Results of testing for volatile organic compounds

Borehole # Date Method	Borehole location and information *All location distances are from roadway centerlines unless otherwise noted.*	Sample depth(s)[1]	Sample type(s)	Analytical results[2] *TVA: total VOCs (FID) and non-methane VOCs (PID) PGC: tentative identification of VOCs using the Photovac GC. OVA (sm): total VOCs detected with the OVA in survey mode. OVA (gc): tentative identification of VOCs using the OVA in GC mode. PR: Petro-Risc immunoassay analysis.*
1167-8c 01/03/01 Geoprobe	---; 61 m (200 ft) east of 6th Street and 11 m (36 ft) south of US 20. • final hole depth: 1.8 m (6 ft) • dry hole • bedrock encountered at 1.8 m (6 ft)	0.9 m (3 ft)	soil sample headspace	PGC: 5 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: 10 unidentified VOCs
1167-9a 01/05/01 Geoprobe	**Custom Auto Repair and Service** (501 Menominee Avenue); 35 m (115 ft) east of 5th Street and 7.8 m (26 ft) north of Menominee Avenue. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: o-xylene, < 3 ppm; 3 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
1167-9b 01/05/01 Geoprobe	---; 60.5 m (198 ft) east of 5th Street and 6 m (20 ft) north of Menominee Avenue. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
1167-10a 01/05/01 Geoprobe	**Obie's Foreign & Domestic Auto Repair** (21375 Rte 20 West); 13.5 m (44 ft) west and 5.7 m (19 ft) north of northeast corner of building. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: benzene, < 3 ppm; 7 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels

Attachment 3—Results of testing for volatile organic compounds

Borehole # Date Method	Borehole location and information *All location distances are from roadway centerlines unless otherwise noted.*	Sample depth(s)[1]	Sample type(s)	Analytical results[2] *TVA: total VOCs (FID) and non-methane VOCs (PID) PGC: tentative identification of VOCs using the Photovac GC. OVA (sm): total VOCs detected with the OVA in survey mode. OVA (gc): tentative identification of VOCs using the OVA in GC mode. PR: Petro-Risc immunoassay analysis.*
1167-10b 01/05/01 Geoprobe	---; 5 m (16 ft) west and 3.5 m (11 ft) north of northwest corner of building. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
1167-11a 01/04/01 Geoprobe	**Family Beer & Liquor** (20200 Rte 20 West); 20 m (66 ft) east of Camillus Drive and 7.5 m (25 ft) north of US 20 access road. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: 2 unidentified VOCs
1167-11b 01/04/01 Geoprobe	---; 46 m (151 ft) east of Camillus Drive and 7.5 m (25 ft) north of US 20 access road. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: benzene, < 3 ppm; 3 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: benzene, < 3 ppm; ethyl benzene, < 3 ppm; 8 unidentified VOCs
		2.7 m (9 ft)	soil sample headspace	PGC: 1 unidentified VOC
1167-12a 01/04/01 Geoprobe	**Kieffer Body Shop** (20100 Rte 20 West); 0.8 m (2.6 ft) east of west end of barn building and 4 m (13 ft) north of US 20 access road. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: toluene, < 3 ppm; ethyl benzene, < 3 ppm; o-xylene, < 3 ppm; 10 unidentified VOCs
		2.7 m (9 ft)	soil sample headspace	PGC: toluene, < 3 ppm; o-xylene, < 3 ppm; 13 unidentified VOCs

Attachment 3—Results of testing for volatile organic compounds

Borehole # Date Method	Borehole location and information *All location distances are from roadway centerlines unless otherwise noted.*	Sample depth(s)[1]	Sample type(s)	Analytical results[2] *TVA: total VOCs (FID) and non-methane VOCs (PID) PGC: tentative identification of VOCs using the Photovac GC. OVA (sm): total VOCs detected with the OVA in survey mode. OVA (gc): tentative identification of VOCs using the OVA in GC mode. PR: Petro-Risc immunoassay analysis.*
1167-12b 01/04/01 Geoprobe	---; 15 m (49 ft) east of east end of barn building and 7.8 m (26 ft) north of US 20 access road. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: benzene, < 3 ppm; toluene, < 3 ppm; 10 unidentified VOCs
1167-13a 01/03/01 Geoprobe	**Kieffer Construction storage yard** (20100 Rte 20 West); 16 m (52 ft) west of driveway and 4 m (13 ft) north of US 20 access road. • final hole depth: 1.2 m (4 ft) • dry hole • bedrock encountered at 0.6 m (2 ft)	0.3-0.6 m (1-1.5 ft)	soil sample headspace	PGC: benzene, < 3 ppm; ethyl benzene, < 3 ppm; 12 unidentified VOCs
1167-13b 01/03/01 Geoprobe	---; 1 m (3.3 ft) west of driveway and 4 m (13 ft) north of US 20 access road. • final hole depth: 0.9 m (3 ft) • dry hole • bedrock encountered at 0.6 m (2 ft)	0.3-0.6 m (1-1.5 ft)	soil sample headspace	PGC: 13 unidentified VOCs
			soil sample	PetroRisc: > 1 but < 10 ppm hydrocarbons
1167-14a 01/03/01 Geoprobe	**Ampride gasoline station/Stewart Construction Co.** (19650 Rte 20 West); 114 m (374 ft) west of Badger Road and 9 m (30 ft) north of US 20 access road. • final hole depth: 0.9 m (3 ft) • dry hole • bedrock encountered beneath thin layer of asphalt	0.9 m (3 ft)	soil sample headspace	PGC: toluene, < 3 ppm; 10 unidentified VOCs

Attachment 3—Results of testing for volatile organic compounds

Borehole # Date Method	Borehole location and information *All location distances are from roadway centerlines unless otherwise noted.*	Sample depth(s)[1]	Sample type(s)	Analytical results[2] *TVA: total VOCs (FID) and non-methane VOCs (PID) PGC: tentative identification of VOCs using the Photovac GC. OVA (sm): total VOCs detected with the OVA in survey mode. OVA (gc): tentative identification of VOCs using the OVA in GC mode. PR: Petro-Risc immunoassay analysis.*
1167-14b 01/05/01 Geoprobe	---; 27 m (89 ft) west of IDOT station 42+50 and 3.8 m (12 ft) south of US 20 access road. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: 6 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: ethyl benzene, < 3 ppm; 10 unidentified VOCs
1167-14c 01/05/01 Geoprobe	---; 17 m (56 ft) east of IDOT station 42+50 and 4 m (13 ft) south of US 20 access road. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: ethyl benzene, < 3 ppm; 17 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: 2 unidentified VOCs
		2.7 m (9 ft)	soil sample headspace	PGC: 2 unidentified VOCs
1167-14d 01/05/01 Geoprobe	---; 111 m (364 ft) west of Badger Road and 3.8 m (12 ft) south of US 20 access road. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		2.7 m (9 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
667-1 3/22/95 Soil probe	**J & R Supply, Inc.** (220 Frentress Lake Road); 19.5 m (64 ft) west and 6.6 m (21.6 ft) north of the north post of the Silver Eagle advertisement sign. • final hole depth: 1.8 m (6 ft) • dry hole	0.9 m (3 ft)	soil gas	OVA (sm): no VOCs significantly above background levels
		1.8 m (6 ft)	soil gas	OVA (sm): no VOCs significantly above background levels

Attachment 3—Results of testing for volatile organic compounds

Borehole # Date Method	Borehole location and information *All location distances are from roadway centerlines unless otherwise noted.*	Sample depth(s)[1]	Sample type(s)	Analytical results[2] *TVA: total VOCs (FID) and non-methane VOCs (PID)* *PGC: tentative identification of VOCs using the Photovac GC.* *OVA (sm): total VOCs detected with the OVA in survey mode.* *OVA (gc): tentative identification of VOCs using the OVA in GC mode.* *PR: Petro-Risc immunoassay analysis.*
667-2A 3/22/95 Soil probe	**IEI Barge Services, Inc.** (18525 Highway 20 West); 5 m (16.4 ft) W of Barge Terminal Road and 106 m (347.8 ft) S of the south side of eastbound U.S. 20. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil gas	OVA (sm): no VOCs significantly above background levels
		1.8 m (6 ft)	soil gas	OVA (sm): no VOCs significantly above background levels
		2.7 m (9 ft)	soil gas	OVA (sm): no VOCs significantly above background levels
667-2B 3/22/95 Soil probe	---; 8.5 m (27.9 ft) W of Barge Terminal Road and 23.8 m (78.1 ft) N of northern railroad tracks. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil gas	OVA (sm): exact reading not possible because soil gas-oxygen mixture not within operating range of FID (flame-out)
		1.8 m (6 ft)	soil gas	OVA (sm): exact reading not possible because soil gas-oxygen mixture not within operating range of FID (flame-out)
		2.7 m (9 ft)	soil gas	OVA (sm): 40 MU
				OVA (gc): methane
1167-16a 01/04/01 Geoprobe	**North Central Farm Lines repair shop** (southeast quadrant of US 20 and Barge Terminal Road); 47 m (154 ft) east of Barge Terminal Road and 6.5 m (30 ft) south of US 20 access road. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: benzene, < 3 ppm; 8 unidentified VOCs
		1.8 m (6 ft)	soil sample headspace	PGC: 5 unidentified VOCs
		2.7 m (9 ft)	soil sample headspace	PGC: 5 unidentified VOCs
1167-16b 01/04/01 Geoprobe	---; 69 m (226 ft) east of Barge Terminal Road and 11 m (36 ft) south of US 20 access road. • final hole depth: 2.7 m (9 ft) • dry hole	0.9 m (3 ft)	soil sample headspace	PGC: no VOCs significantly above background levels
		1.8 m (6 ft)	soil sample headspace	PGC: 10 unidentified VOCs
		2.7 m (9 ft)	soil sample headspace	PGC: toluene, < 3 ppm; o-xylene, < 3 ppm; 11 unidentified VOCs

[1] The depth to which the well point was lowered down the borehole to sample the soil gas *or* the depth at which a water or soil sample was collected from the borehole. Unless otherwise noted, sample depths that are less than the final depth of the borehole are due to water in the hole or hole collapse, and soil-gas sample depths below the indicated water depth were analyzed prior to water depth equilibration during sampling.

[2] Using either the Photovac GC or the OVA in GC (gas chromatograph) mode, a compound is identified based on its retention time. Because many compounds have similar retention times, this identification is not absolute. Concentrations determined by the Photovac GC are valid only in the range from 1/3 to 3 times the concentration of the standards used to calibrate the instrument; concentrations outside this range are reported as either less than or greater than the valid limits for a compound. Any concentrations greater than 20 ppm or MU are rounded to the appropriate multiple of 10.