Fraser Shipyards, Inc.

Partial Closure Documentation Report
AOCs #1 and #11

Superior, Wisconsin

SEH No. FRASE9401.00

February 1997

SHORT ELLIOTT HENDRICKSON INC.

SEH

MULTIDISCIPLINED.
SINGLE SOURCE.

FRASER
SHIPYARDS, INC.
P. O. BOX 997
SUPERIOR, WISCONSIN
54880
DIAL (715) 394-7787
FAX (715) 394-2807

February 18, 1997

Mr. Steven LaValley
Hazardous Waste Specialist
Wisconsin Dept. of Natural Resources
1705 Tower Avenue
Superior, WI 54880

Re: Fraser Shipyards, Inc. Partial Closure Documentation Report
AOCs #1 and #11, Superior, WIsconsin SEH No. FRASE9401.00

Dear Mr. LaValley:

Fraser Shipyards, Inc. (Fraser) is submitting this Partial Closure Documentation Report for areas of concern (AOCs) #1 and #11 at the Fraser facility located in Superior, Wisconsin. This report was prepared on behalf of Fraser by our consultant, Short Elliott Hendrickson, Inc. (SEH). The document describes investigation activities which were performed and provides closure documentation for select AOCs at the Fraser facility.

At this time, Fraser wishes to pursue closure of AOC #1 (Waste Oil Staging Area) and AOC #11 (Dry Dock #1 Base). Based on the information presented in this report and the documents previously submitted by Fraser to the Wisconsin Dept. of Natural Resources (WDNR), Fraser has complied with the closure requirements of defining degree and extent of contamination as specified in various WDNR correspondence and discussion.

Fraser respectfully requests the WDNR to review this document and issue a letter of completeness which acknowledges that Fraser has met the conditions for closure and that no further action is required at AOC #1 and #11. Additional investigation data at the remaining open AOCs has not been completed and will follow at a later date.

If you have any questions regarding the submittal of Partial Closure Documentation Report - AOCs #1 and #11, please call me (715) 394-7787 or Cy Ingraham at (715) 720-6231.

Sincerely,

Fraser Shipyards, Inc.

Ronald Peterson
Yard Superintendent

RP:cd

Distribution List

No. of Copies	Sent to
4	Steven LaValley Hazardous Waste Specialist Wisconsin Department of Natural Resources 1705 Tower Avenue Superior, WI 54880
2	Ron Peterson, Superintendent Fraser Shipyards, Inc. Third Street and Clough Avenue Superior, WI 54880
3	Cyrus Ingraham, P.E. Short Elliott Hendrickson Inc. 421 Frenette Drive Chippewa Falls, WI 54729

Partial Closure Documentation Report AOCs #1 and #11

Fraser Shipyards, Inc.
Superior, Wisconsin

Prepared for:
Fraser Shipyards, Inc.
Superior, Wisconsin

Prepared by:
Short Elliott Hendrickson Inc.
421 Frenette Drive
Chippewa Falls, WI 54729
(715) 720-6200

I, Gloria Chojnacki, hereby certify that I am a scientist as that term is defined in s. NR 712.03 (3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Gloria Chojnacki CWI — 2-24-97

Gloria Chojnacki, CHMM — Date
Environmental Scientist

I, John Guhl, hereby certify that I am a Hydrogeologist as that term is defined in s. NR 712.03 (1) Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

John Guhl CWI — #120 — 2-24-97

John Guhl, P.G. — P.G. Number — Date
Hydrogeologist

I, Cyrus W. Ingraham, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

E-24690 — 2-24-97

Cyrus W. Ingraham, P. E. — P. E. Number — Date
Senior Project Manager

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Partial Closure Documentation Report AOCs #1 and #11

Fraser Shipyards, Inc.

Prepared for Fraser Shipyards, Inc.

1.0 Introduction

Fraser Shipyards, Inc. (Fraser) is submitting the Partial Closure Documentation Report for areas of concern (AOCs) #1 and #11, prepared by Short Elliott Hendrickson Inc. (SEH), to the Wisconsin Department of Natural Resources (WDNR). This report was developed to meet the requirements for case closure as specified in ch. NR 726 Wisconsin Administrative Code. The required site investigation activities for defining degree and extent of contamination have been performed in accordance with the WDNR conditionally approved "Additional Investigation Work Plan" (March 1996) and the amendment to that Work Plan (July 29, 1996). Additional verbal guidance regarding closure activities was provided by the WDNR during a meeting at the Fraser facility on June 7, 1996.

A Site Investigation Work Plan (November 1993) which contained specific site information regarding history, waste materials, handling procedures, SEH standard operating protocols (SOPs), and other pertinent project information was submitted by Fraser to the WDNR. An initial site investigation was conducted at the Fraser facility in January 1994 for the purpose of determining the presence or absence of contamination in specific areas of concern (AOCs), including AOC #1 and #11, and to determine whether contamination present was comprised of hazardous constituents above regulatory limits. Additional investigation and closure activities were performed during the summer of 1994 and spring and summer of 1995. Closure documentation has been presented to the WDNR in the following reports:

Site Investigation Report and Closure Plan	May 1994
Partial Closure Documentation Report and Addendum	April 1995
Closure Documentation Report and Monitoring Plan AOCs #1, 3, 5, 7, 9, 11, 12, and 13	November 1995
Additional Investigation Work Plan and Amendment	March 1996
Partial Closure Documentation Report AOCs #8 and 12	October 1996

The purpose of this Partial Closure Documentation Report is to summarize site investigation data gathered from AOC #1 and #11 at the Fraser facility located in Superior, Wisconsin and provide additional information as required by the WDNR to achieve closure of the select AOCs.

Previous WDNR correspondence has indicated the following AOCs are considered "closed" and no further action is necessary at this time:

Closed AOCs	Closure Correspondence
2 - Sandblasting Grit Storage	July 14, 1995
6 - 600 KVA Substation	July 14, 1995
10 - Upper Landing Dry Dock #1	July 14, 1995
13 - Southeast Fill Area	July 14, 1995
3 - Dirty Solvent Staging	January 4, 1996
4 - Bilge Water Staging	January 4, 1996
7 - Transformer Staging	January 4, 1996
9 - Fuel Storage	January 4, 1996

Based on a recent discussions with the WDNR (Steve LaValley phone conversation November 13, 1996 and February 12, 1997), SEH understands that AOC #8 and #12 were considered closed based on additional information provided by SEH.

1.1 Project Contacts

1. Ron Peterson, Superintendent
   Fraser Shipyards, Inc.
   Third Street and Clough Avenue
   Superior, WI 54880
   (715) 394-7787

2. Steve LaValley
   Hazardous Waste Specialist
   Wisconsin Department of Natural Resources
   1705 Tower Avenue
   Superior, WI 54880
   (715) 392-7988

3. Cyrus Ingraham, P.E., Project Manager
   Gloria Chojnacki, CHMM, Environmental Scientist
   Short Elliott Hendrickson Inc.
   421 Frenette Drive
   Chippewa Falls, WI 54729
   (715) 720-6231

2.0 Closure Documentation

The site is owned and operated by Fraser and is located at Third Street and Clough Avenue in Superior, Wisconsin as shown in Figure 1, "Site Location." The site is located on Howard's Bay in Section 11, T49N, R14W, Douglas County, Wisconsin.

Laboratory analysis for this project was performed by U.S. Filter (formerly Enviroscan Corp.) and Lake Superior Laboratories according to specified WDNR and EPA methods at the time of sample collection. The address and phone number of U.S. Filter is:

U.S. Filter/Enviroscan
301 W. Military Road
Rothschild, WI 54474
(800) 338-7226
WI Lab Certification No. 737053130

The address and phone number of Lake Superior Laboratories is:

Lake Superior Laboratories
728 Garfield Avenue
Duluth, MN 55802
(218) 722-1911
WI Lab Certification No. 998032370

2.1 AOC #1 - Waste Oil Staging Area

Fraser staged waste oil along the southern fence line between the Fraser Shipyards, Inc. and Reuben Johnson Construction Company properties. The wastes previously staged in this area were primarily waste lubricating oils. The waste oils located in this area at the time of the April 20, 1993 WDNR Hazardous Waste inspection were reportedly generated during the 1992/93 season and were staged in 55 gallon containers. This waste oil was used to fuel a boiler for building heat. The location of AOC #1 is indicated on Figure 2, "Site Plan."

2.1.1 Sample Collection

AOC #1 was initially investigated for the presence or absence of contaminated soils associated with potential release from materials staged at the AOC. The investigation consisted of six discrete soil samples (B-1 through B-6) obtained using a hollow stem auger and split spoon sampling technique from the 2 to 3 foot depth interval on January 11,

1994. Four of the discrete soil samples were submitted for laboratory analysis of Diesel Range Organic compounds (DRO). An additional composited sample collected from the six borings was submitted for analysis of Volatile Organic Compounds (VOCs). Analytical results indicated elevated concentrations of DRO in two of the soil samples analyzed.

A total of 132 tons of impacted soil were excavated from AOC #1 and thermally treated offsite in 1995. Seven confirmatory soil samples were obtained with a backhoe on May 3, 1995 from the sidewalls and floor following remedial excavation of soils from the area and submitted for laboratory analysis of DRO and petroleum related VOCs (PVOCs). During excavation activities, a concrete slab was discovered approximately 1.5 feet below the ground surface in a portion of the AOC. In addition to the concrete slab, another obstacle in the excavation area is a buried high voltage power cable. The exact location of this power cable is undetermined due to the concrete slab.

Additional investigation of AOC #1 was conducted on August 16, 1996 with the installation of a monitoring well (MW-1) and two soil borings (B-1, B-2) in general accordance with SEH's March 1996 Work Plan. The location of the monitoring well and borings were determined in the field by Fraser and SEH and approved by the WDNR on June 7, 1996. The purpose of the additional investigation was two-fold: first, to determine if groundwater had been impacted by contaminants detected at the site and second, as a means of further defining the degree and extent of soil contamination.

2.1.1.1 Soil Samples

Soil samples were collected continuously from hollow stem auger (HSA) borings using a two foot split spoon sampler. Detailed boring logs are included in Appendix A, "Soil Boring Logs and Abandonment Forms." Undisturbed soil samples for field and laboratory analysis were collected from the borings according to SEH Standard Operating Procedures (SOPs) submitted in the November 1993 Work Plan. Laboratory samples were collected using brass tubes placed within a split spoon sampler. The brass tubes were capped and immediately placed on ice upon sample collection. Laboratory samples were selected, containerized, preserved as necessary, and returned to the ice filled cooler for transport under standard chain of custody procedures within two hours of sample collection. Soil samples were submitted for laboratory analysis of DRO and PVOCs. The locations of the soil samples are indicated in Figure 3, "AOC #1." Field and soil analytical results for select AOCs, including AOC #1 are summarized in Table 1, "Field and Soil Analytical Results."

2.1.1.2 Groundwater Samples

Monitoring well MW-1 was constructed using two inch ID Schedule 40 PVC, with a 10 foot slotted screen section. The monitoring well construction was performed in accordance with ch. NR 141. WDNR

Monitoring Well Construction Forms (4400-113A) are included in Appendix B, "Monitoring Well Forms." MW-1 was developed by surging with a block and pumping on August 29, 1996. Sampling was conducted in accordance with SEH's March 1996 Work Plan with immediate placement of samples in an ice filled cooler for transfer to the laboratory. Two rounds of groundwater samples were collected from MW-1 and submitted to the laboratory. The first round of samples was analyzed for VOCs, PAHs, lead and cadmium. The second round was analyzed for PVOCs, lead and cadmium. WDNR Well Development Forms (4400-113B) are included in Appendix B. Groundwater Analytical Results for select AOCs, including AOC #1 are summarized in Table 2, "Groundwater Analytical Results."

2.1.2 Sample Results

2.1.2.1 Soil Sample Results

Initial soil analytical results indicated that DRO concentrations ranged from none detected to 4,370 mg/kg prior to excavation. Concentrations of DRO in the post excavation confirmatory soil samples ranged from none detected to 266 mg/kg. The s. NR 720.09 generic residual soil contaminant level (RCL) standard for DRO is 100 mg/kg based on the protection of groundwater.

An initial composite soil sample indicated the presence of low concentrations of total xylenes (0.0444 mg/kg). Post excavation laboratory analyses of PVOCs indicated low concentrations of benzene (0.013 mg/kg), 1,3,5-trimethylbenzene (0.0069 mg/kg), and total xylenes (0.0065 mg/kg to 0.119 mg/kg). Although these concentrations are low, the benzene detected in one soil sample exceeds the generic RCL specified in s. NR 720.09 based on the protection of groundwater. Benzene was not detected in the remaining soil samples and no other generic RCLs were exceeded for PVOCs.

Additional soil samples collected on August 16, 1996 for the purpose of further defining the degree and extent of contamination (MW-1, B-1, B-2) indicated DRO concentrations ranging from none detected to 16.8 mg/kg from depths of 2.5 to 9.5 feet below grade. PVOC analyses indicated the presence of low concentrations of toluene, total xylenes and 1,2,4-trimethylbenzene. Concentrations of both DRO and the PVOCs are below the code specified generic RCLs. Copies of the laboratory results from the August 15, 1996 sampling event are included in Appendix C, "Laboratory Results."

2.1.2.2 Groundwater Sample Results

Groundwater samples were collected in order to demonstrate that groundwater had not been impacted by contaminants detected within soils at the AOC. Two rounds of groundwater samples were collected. Both rounds of groundwater samples (collected on August 29, 1996 and November 21, 1996) indicated the presence of very low concentrations of total xylenes (1.2 μg/l and 1.12 μg/l) and total PAHs (0.458 μg/l and

0.806 μg/l). Cadmium was detected in the first round of sampling at a concentration of 1.88 μg/l (exceeds PAL) but was not detected in the second round. All contaminants detected were less than the Enforcement Standards (ES) specified in ch. NR 140. Copies of the laboratory results can be found in Appendix C.

2.1.3 Closure Documentation

Based on post excavation confirmatory sampling results, the majority of the contamination source has been removed from AOC #1 and relatively low levels of residual petroleum contaminated soil remain as compared with initial concentrations. In order to further define the extent of contamination, additional investigation of both onsite soils and groundwater was conducted in accordance with the field discussion which occurred onsite between WDNR, Fraser and SEH on June 7, 1996.

Soil samples collected on August 16, 1996 indicate that the contaminated soils are limited to a relatively small area in which underground obstacles (high voltage power cable and concrete slab) exist making further excavation of the soil unfeasible. In addition, two rounds of groundwater collected at the site have shown that the groundwater has not been adversely impacted by the residual soil contamination at AOC #1.

Based on the fact that the degree and extent of soil contamination has been identified, further excavation of the limited quantity of impacted soils at AOC #1 is not feasible and groundwater has not been impacted, Fraser requests that AOC #1 be submitted for closure and no further action be required at this time.

2.2 AOC #11 - Dry Dock #1 Base

Dry Dock #1 was originally constructed with a concrete base in the southern third of the dock and a stone and wooden base in the remaining northern section. As ships are repaired within the dock, wastes could have potentially fallen onto the stone base and become difficult to remove. Potential wastes which may be generated in this AOC consist of sandblasting grit wastes and solid wastes.

In order to prevent migration of potential contaminants into the stone base, Fraser poured concrete over the northern two third section of Dry Dock #1 during July and August 1994. Approximately two feet of crushed stone was placed directly below the concrete over a floor of natural red clay. The location of AOC #11 is indicated on Figure 2.

2.2.1 Sample Collection

Prior to placement of the stone and concrete in Dry Dock #1, seven soil samples were collected. Two samples were collected by Fraser from a depth of six inches into the red clay floor. A third sample was collected by Fraser from a depth of 6 to 10 inches into the clay floor. The four remaining soil samples were collected by SEH at the clay surface.

Dry Dock #1 gate and sump detail was supplied to the WDNR in the Additional Investigation Work Plan dated March 1996. Additional investigation of AOC #11 was conducted on August 12, 1996 with the installation of a seepage lysimeter. The purpose of the lysimeter was to document that groundwater contamination had not occurred below the dry dock floor.

2.2.1.1 Soil Samples

Soil samples were collected from the 0 to 0.5 foot and the 2 to 2.5 foot depth intervals during the installation of the seepage lysimeter. Soil samples for laboratory analysis were collected from inside the bucket of a three inch diameter decontaminated stainless steel hand auger. Temporary six inch diameter PVC casing was used during performance of the hand auger boring to keep surficial soils from collapsing into the open borehole. Soil samples selected for analysis were immediately placed in the appropriate laboratory clean bottles and placed in an ice filled cooler for transport to the analytical laboratory.

Soil samples were submitted for laboratory analysis of total lead. The locations of the soil samples are indicated in Figure 4, "AOC #11." Soil analytical results for select AOCs, including AOC #11 are summarized in Table 1.

2.2.1.2 Groundwater Samples

Upon completion of the hand auger boring, SEH installed a seepage lysimeter in the open borehole. A TIMCO® cup-type lysimeter was used, with the porous cup installed at a depth of approximately four feet below the dry dock bottom. Silica flour (#200 mesh) was used as a filter media around the lysimeter cup. The remainder of the annular space was filled with granular bentonite.

Following lysimeter installation, the lysimeter was purged dry prior to sampling. The lysimeter was then allowed to recharge, and two rounds of groundwater samples were collected. The samples were placed in the appropriate laboratory clean bottles, preserved as necessary, and placed on ice for transport to the analytical laboratory. The groundwater samples were analyzed for concentrations of dissolved lead. Groundwater analytical results for AOC #11 are presented in Appendix C and summarized on Table 2.

2.2.1.3 Bay Water Samples

Water samples from both inside and immediately outside the Dry Dock #1 gate were collected on October 21,1996. Representative samples of the water column were collected in order to demonstrate that water being pumped from Dry Dock #1 is not impacted with heavy metals. The samples were collected by Fraser with an Alpha® horizontal sampler. One

sample was collected from inside the dock from a water depth of approximately five feet from the bottom. A second sample was collected from outside the dock from approximately 10 feet from the surface. Bay water analytical results are summarized in Table 3, "Bay Water Analytical Results."

2.2.2 Sample Results

2.2.2.1 Soil Sample Results

As reflected on Table 1, initial soil analytical results indicated the presence of total lead concentrations ranging from 30.1 mg/kg to 272 mg/kg at a depth of 6 to 10 inches into the red clay floor. Total lead concentrations at the clay surface ranged from 832 mg/kg to 958 mg/kg.

The additional soil samples collected at the time of the lysimeter installation on August 12, 1996 indicates no detectable concentration of lead at this location in the soil samples collected from 0 to 0.5 foot and from 2.0 to 2.5 feet below ground surface. It should be noted that the samples collected during the lysimeter installation was in close proximity to sample T-2. Copies of the laboratory results from the August 12, 1996 sampling event are included in Appendix C.

2.2.2.2 Groundwater Sample Results

Groundwater samples were collected from a seepage lysimeter in order to demonstrate that groundwater had not been impacted below the dry dock floor. Two rounds of groundwater samples were collected. The first round, collected on August 29, 1996, indicated a dissolved lead concentration of 6.94 μg/l which is below the ch. NR 140 ES of 15 μg/l, but above the PAL of 1.5 μg/l. The second round of sampling, collected on November 21, 1996, indicated no detectable concentration of dissolved lead. Copies of the laboratory results can be found in Appendix C.

2.2.2.3 Bay Water Sample Results

Bay water samples collected from Dry Dock #1 for the purpose of demonstrating if the water pumped from the dry dock is impacted by heavy metals, indicated that dissolved lead was detected inside the dock at a concentration of 7.57 μg/l and outside the dock at 6.83 μg/l. The variation indicated between these results are not significant given the accuracy limits of the analytical methods. Copies of the laboratory results can be found in Appendix C.

2.2.3 Closure Documentation

The soil samples collected for laboratory analysis from AOC #11 were taken from two different depth intervals; 6 to 10 inches into the confining red clay layer and at the clay surface. Laboratory analysis for total lead concentrations indicate levels at the clay surface are elevated (832 mg/kg

to 958 mg/kg). However, greatly reduced lead concentrations (30.1 mg/kg to 272 mg/kg) which are well below acceptable RCL standards, are found in the deeper samples collected six inches below the surface. This demonstrates the vertical extent of contamination and the confining nature of the clay soils beneath AOC #11.

Dry Dock #1 construction (as shown in the cross section in Figure 5), gate detail provided in previous documents, and placement of concrete over the AOC have effectively confined residual lead which may be present to the clay surface. This has been demonstrated in both soil and groundwater samples collected from a seepage lysimeter. Soil samples as well as groundwater samples from the lysimeter do not indicate that they are impacted by lead. Fraser therefore, requests that AOC #11 be submitted for closure and no further action be required at this time.

3.0 Standard of Care

The conclusions and recommendations contained in this report were arrived at in accordance with generally accepted professional practice at this time and location. Other than this, no warranty is implied or intended.

GGC/ls/JEG/CWI

Tables

TABLE 1
FRASER SHIPYARDS, INC.
FIELD AND SOIL ANALYTICAL RESULTS

AOC #	SAMPLE ID	DEPTH	DATE	FIELD SCREEN FID units	FIELD SCREEN PID units	ANALYTICAL PARAMETERS DRO* mg/kg	VOC (8010/8020 or 8021) mg/kg	PVOC (8021a) mg/kg	Pb (6010) mg/kg
1	**WASTE OIL STAGING AREA**								
	B-1	(2.5-3')	1-11-94	1000+	331	94.4	--	--	--
	B-2	(2-2.5')	1-11-94	20	96	4,370	--	--	--
	B-3	(2-2.5')	1-11-94	1000+	31	ND	--	--	--
	B-4	(2-2.5')	1-11-94	300	27	176	--	--	--
	B-5	(2-2.5')	1-11-94	600	104	--	--	--	--
	B-6	(2-2.5')	1-11-94	180	108	--	--	--	--
	COMPOSITE		1-11-94	--	--	--	0.0444 xylenes	--	--
	S-1	(1.5')	5-3-95	1.22	--	96.9	--	--	--
	S-2	(1.5')	5-3-95	49.63	--	266	--	0.013 benzene	--
	S-3	(1.5')	5-3-95	236	--	73.1	--	0.0069 1,3,5-trimethylbenzene 0.0065 m- & p-xylenes	--
	S-4	(1.5')	5-3-95	1.08	--	222	--	--	--
	E-1	(1.5')	5-3-95	40	--	257	--	--	--
	EE-1	(1.5')	5-3-95	120	--	ND	--	--	--
	BW-1	(3.0')	5-3-95	584	--	246	--	0.0776 m-&p- xylenes 0.0418 o-xylene & styrene	--
	B-1	(2.5-4.5')	8-16-96	ND	--	16.8	--	0.034 toluene 0.038 m-&p-xylenes	--
	B-1	(7.5-9.5')	8-16-96	ND	--	4.12	--	0.101 toluene 0.100 m-&p- xylenes	--
	B-2	(2.5-4.5')	8-16-96	ND	--	6.32	--	0.090 toluene 0.027 1,2,4-trimethylbenzene 0.095 m-&p-xylenes 0.027 o-xylene & styrene	--
	B-2	(5-7')	8-16-96	ND	--	ND	--	0.038 toluene 0.048 m-&p-xylenes	--
	MW-1	(5-7')	8-16-96	ND	--	4.92	--	0.035 toluene 0.041 m-&p-xylenes	--
11	**DRY DOCK #1 BASE**								
	DD001	(6" into the	7-7-94	--	--	--	--	--	272
	DD002	clay)	7-7-94	--	--	--	--	--	30.1
	DD003	(6-10")	8-4-94	--	--	--	--	--	34.1
	T1	(clay	8-17-94	--	--	--	--	--	927
	T2	surface)	8-17-94	--	--	--	--	--	832
	T3		8-17-94	--	--	--	--	--	958
	T4		8-17-94	--	--	--	--	--	855
	LYS-1	(0-6")	8-12-96	--	--	--	--	--	ND
	LYS-1	(2-2.5')	8-12-96	--	--	--	--	--	ND

ND = analyzed but not detected
-- indicated parameter not analyzed
* WDNR Modified DRO

compiled by: GGC checked by: TJB

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TABLE 2
FRASER SHIPYARDS, INC.
GROUNDWATER ANALYTICAL RESULTS

AOC #	SAMPLE ID	DATE	ANALYTICAL PARAMETERS & METHODS				
			VOC (8021) ug/l	PVOC (8021) ug/l	PAH (8310) ug/l	Cd (213.2) ug/l	Pb (239.2) ug/l
1	**WASTE OIL STAGING AREA**						
	MW-1	8-29-96	1.2 m-&p-xylenes	--	0.251 phenanthrene 0.207 pyrene	1.88	ND
		11-21-96	--	1.12 m-&p-xylenes	0.085 benzo(b)fluoranthene 0.350 fluoranthene 0.176 phenanthrene 0.195 pyrene	ND	ND
11	**DRY DOCK #1 BASE**						
	LYS-1	8-29-96	--	--	--	--	6.94
		11-21-96	--	--	--	--	ND
ES			620 xylenes		0.2 benzo(a)pyrene 40 naphthalene	5	15
PAL			124 xylenes		0.02 benzo(a)pyrene 8 naphthalene	0.5	1.5

ND = analyzed but not detected
-- indicated parameter not analyzed
1.42 - Bold designation indicates value exceeds NR 140 Enforcement Standard (ES)
1.88 - Underlined designation indicates value exceeds NR 140 Preventive Action Limit (PAL)

compiled by: GGC checked by: TJB

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TABLE 3
FRASER SHIPYARDS, INC.
BAY WATER ANALYTICAL RESULTS

AOC #	SAMPLE ID	DATE	Pb (239.2) ug/l
11	**DRY DOCK #1 BASE** Inside Dock 5' from bottom	10-21-96	7.57
	Outside Dock 10' from the surface	10-21-96	6.83
compiled by: GGC		checked by: JEG	

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Figures

REPRODUCED FROM

USGS SUPERIOR QUADRANGLE

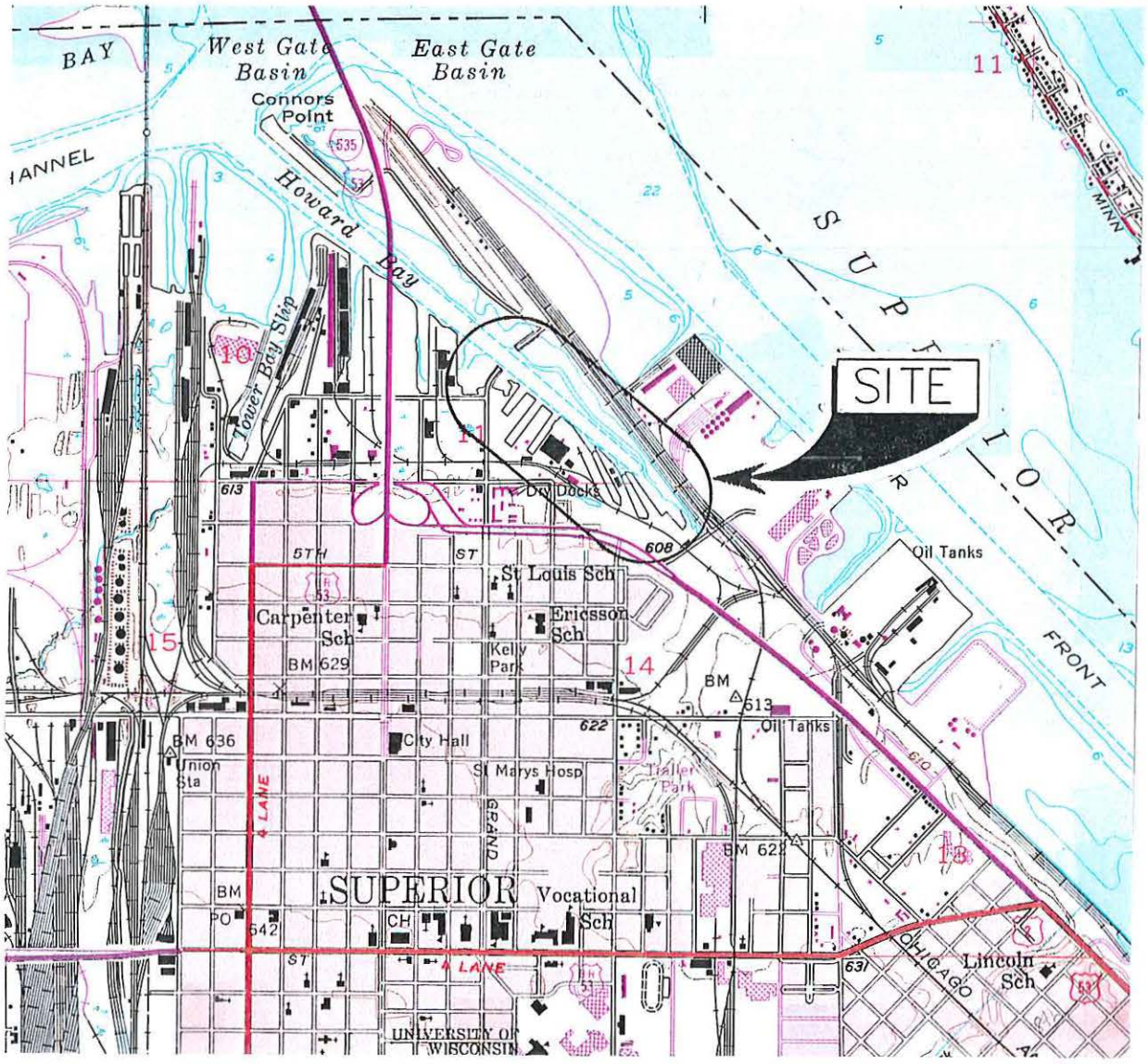
WISCONSIN – DOUGLAS CO. 7.5 MINUTE SERIES

1954– PHOTOREVISED 1983

N

SCALE IN FEET

0 500 1000 2000



NO.	DATE	ISSUE/REVISIONS	DRAWN BY	DESIGN	FIELD REVIEW	QC CHECK
1	01/06/97	----------	JLE 01/97	CWI 01/97		

ENGINEERS ■ ARCHITECTS ■ PLANNERS

FRASER SHIPYARDS, INC.

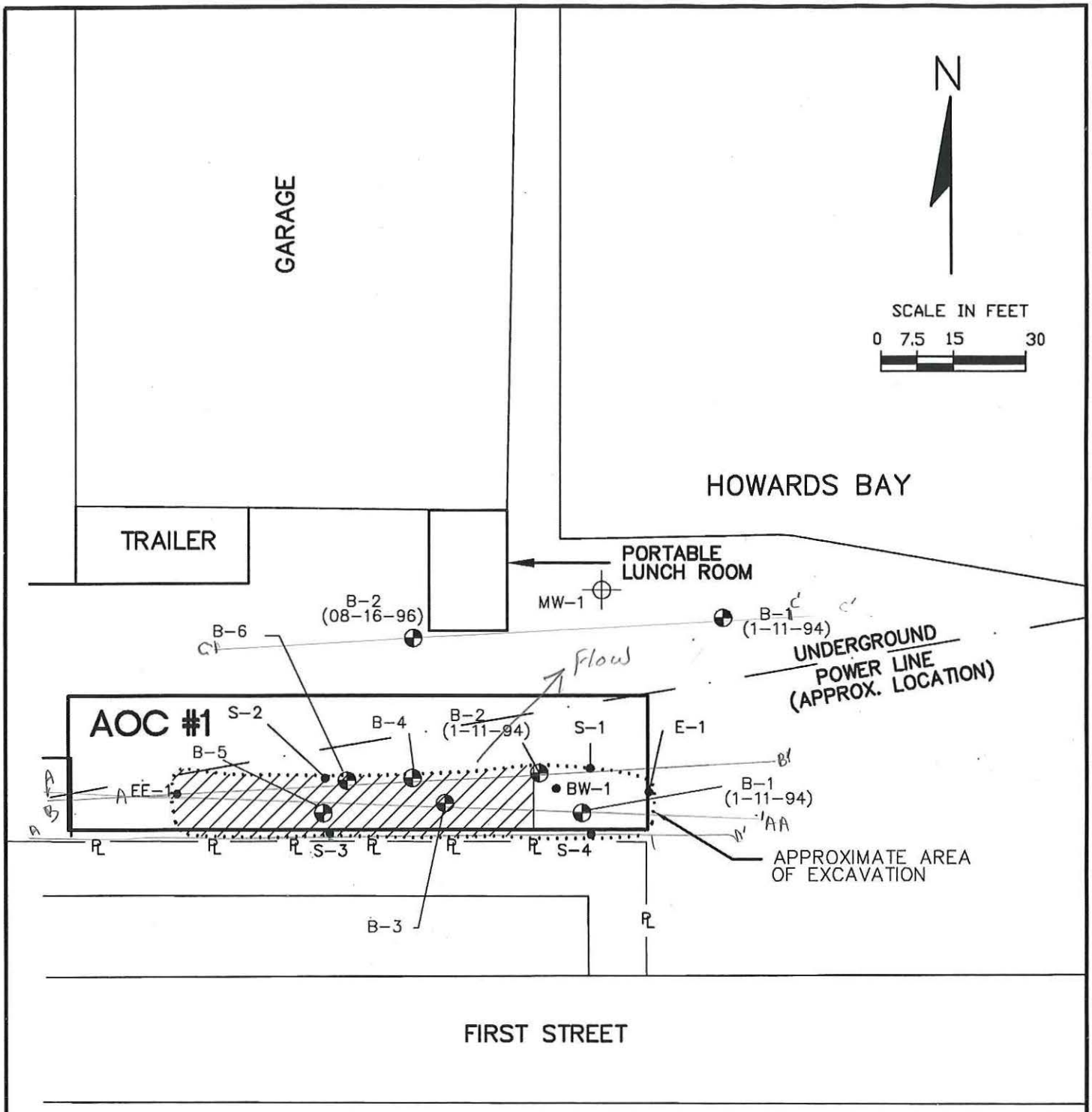
FIGURE 1
SITE LOCATION

PROJ. NO. FRAS9401

DATE 01/06/97

1/6

F:\WASTE\DWG2\WASTE\FRAS9401\REPORT\FUT2



LEGEND

- MW-1 — MONITORING WELL LOCATION AND NUMBER
- B-4 (1-11-94) — SOIL BORING LOCATION AND NUMBER (DATE)
- S-1 (1.5') — POST EXCAVATION SAMPLE (DEPTH)
- UNDERGROUND POWER LINE
- PL — APPROXIMATE PROPERTY LINE AND FENCE
- APPROX. LOCATION OF AOC
- APPROX. LOCATION OF CONCRETE SLAB —EXTENT UNDETERMINED

NO.	DATE	ISSUE/REVISIONS	DRAWN BY	DESIGN	FIELD REVIEW	QC CHECK
1	02/12/97		JLE 01/97	CWI 01/97		

ENGINEERS ■ ARCHITECTS ■ PLANNERS

FRASER SHIPYARDS, INC.

FIGURE 3
AOC #1

PROJ. NO. FRAS9401
DATE 02/12/97

3/5

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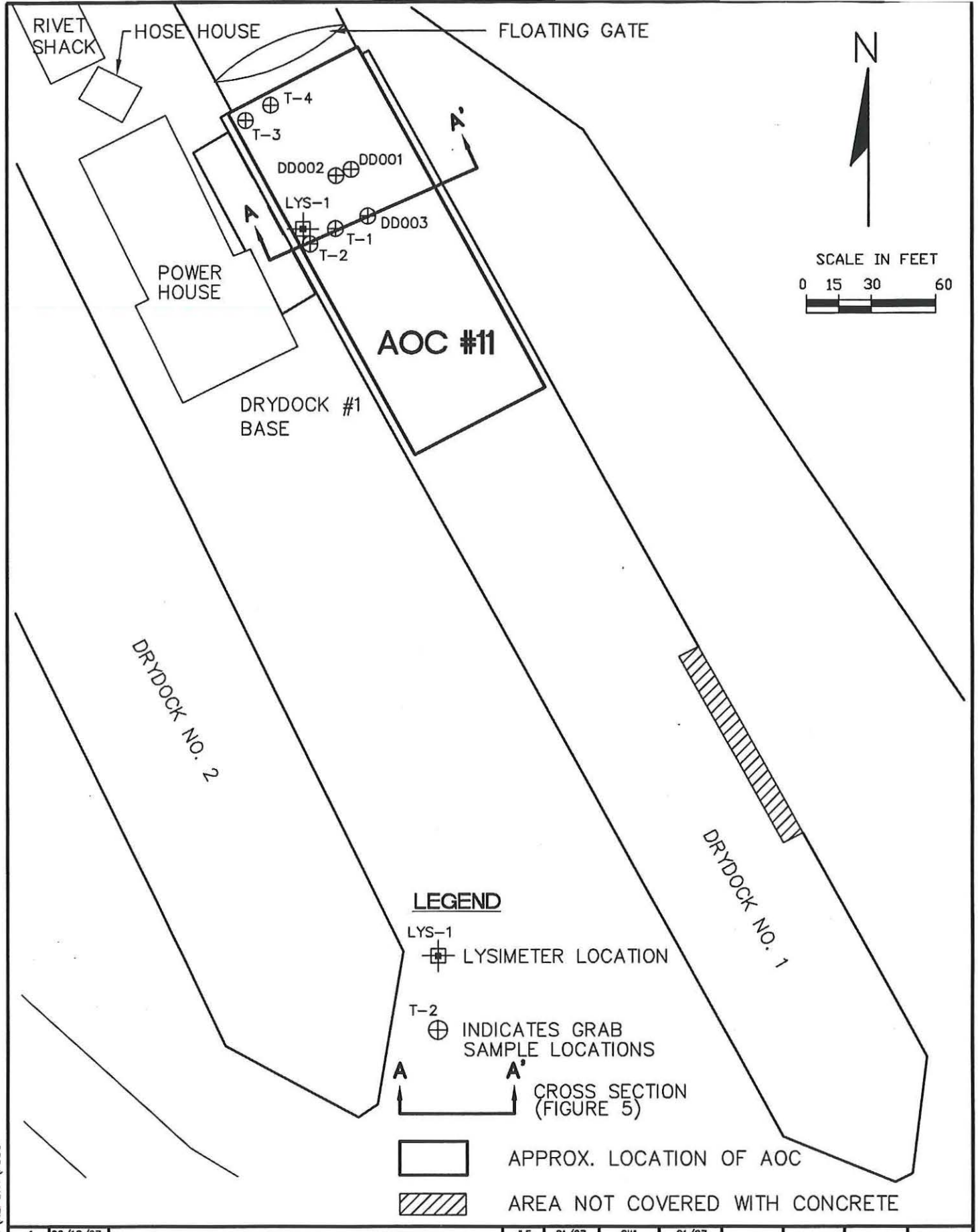

NO.	DATE	ISSUE/REVISIONS	DRAWN BY	DESIGN	FIELD REVIEW	QC CHECK
1	02/12/97		JLE 01/97	CWI 01/97		

ENGINEERS ■ ARCHITECTS ■ PLANNERS

FRASER SHIPYARDS, INC.

FIGURE 4
AOC #11

PROJ. NO. FRAS9401
DATE 02/15/97

4/5

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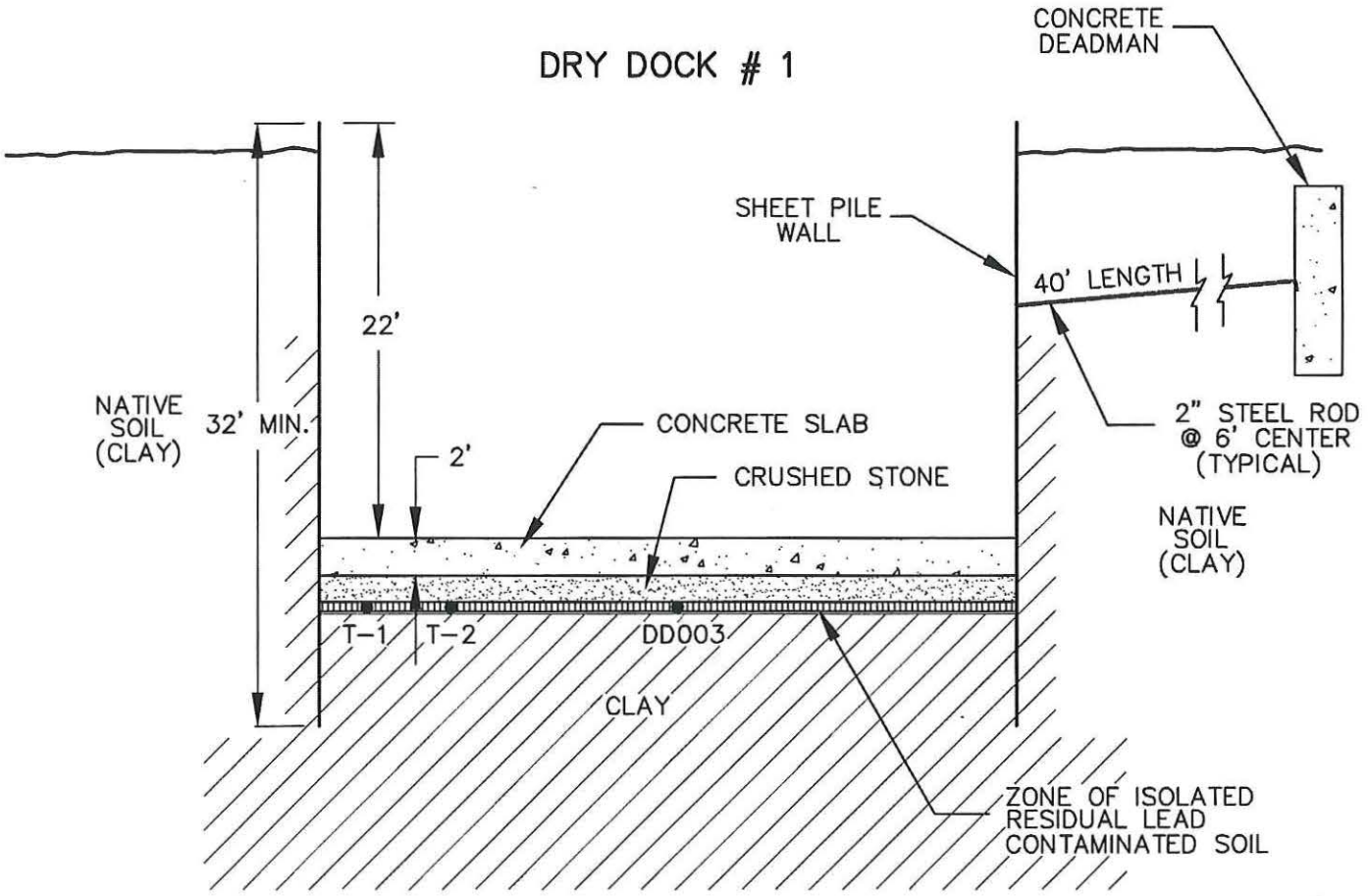
DRY DOCK # 1



LEAD CONCENTRATIONS

SAMPLE	ug/g	VERTICLE LOCATION
T-1	927	TOP OF CLAY
T-2	832	TOP OF CLAY
DD003	34.1	6" INTO CLAY

SECTION A-A'

(SEE FIGURE 4 FOR CROSS-SECTION LOCATION)

SCALE VERTICAL 1"=10'
HORIZONTAL 1"=20'

NO.	DATE	ISSUE/REVISIONS	DRAWN BY	DESIGN	FIELD REVIEW	QC CHECK
1	02/12/97		JLE 01/97	CWI 01/97		

ENGINEERS ■ ARCHITECTS ■ PLANNERS

FRASER SHIPYARDS, INC.

FIGURE 5
DRY DOCK # 1
CROSS SECTION

PROJ. NO. FRAS9401
DATE 02/12/97

5
5

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Appendix A

Soil Boring Logs and Abandonment Forms

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

Soil Boring Log Information
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
FRASER SHIPYARD		**B-1**

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
MES - Erik Shoenberg	**8/16/96**	**8/16/96**	**4 1/4" ID HSA**

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	Inches

Boring Location
State Plane N, E
1/4 of 1/4 of Section T N,R
Lat ° ' "
Long ° ' "

Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
DOUGLAS		**SUPERIOR**

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
1	16	7-9-9-8	2	FILL: Dark Brown Silty Sand, Some Gravel, Occasional Brick or Concrete Pieces				ND	18					
2	20	5-4-5-4	4					ND	9					
3	4	9-2-2-1	6	Black Organic SILT, Little Sand and Gravel More Sand from 7.5 to 9.0 feet	OL			ND	4					
4	18	3-1-1-3	8					ND	2					
				Reddish-Brown Lean CLAY, Little Sand	CL									
				End of Boring at 9.5 ft.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: John E. Shelf

Firm: SEH 421 Frenette Drive
Chippewa Falls, WI. 54729
Tel: 715-720-6200, Fax: 715-720-6300

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

Soil Boring Log Information
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
FRASER SHIPYARD		B-2

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
MES - Erik Schoenberg	8/16/96	8/16/96	4 1/4" ID HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	8.2 Inches

Boring Location
State Plane N, E
1/4 of 1/4 of Section T N,R
Lat ° ' "
Long ° ' "

Local Grid Location (If applicable)
☐ N ☐ E
Feet ☐ S Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
DOUGLAS		SUPERIOR

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
1	23	19-18-23-27	2	FILL: Dark Brown Silty SAND, Some Gravel, Occasional Brick and Concrete Pieces				ND	41					
2	19	14-14-13-11	4					ND	27					
3	19	17-8-10-9	6	Possible very faint odor in sample #3				ND	18					
4	20	10-4-1-2	8					ND	5					
				Brown Fibrous PEAT	PT									
			10	End of Boring at 9.5 ft.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: John E. Gulf

Firm: SEH

SEH 421 Frenette Drive
Chippewa Falls, WI. 54729
Tel: 715-720-6200, Fax: 715-720-6300

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

Soil Boring Log Information

Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
FRASER SHIPYARD		MW-1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
MES - Erik Schoenberg	8/16/96	8/16/96	4 1/4" ID HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-1	Feet MSL	Feet MSL	8.3 Inches

Boring Location
State Plane N, E
1/4 of 1/4 of Section T N,R
Lat ° ' "
Long ° ' "

Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
DOUGLAS		SUPERIOR

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
1	11	0-2-5-5	2	FILL: Dark Brown Silty SAND, Numerous Concrete Pieces				ND	7					
2	0	4-5-3-3	4						8					
3	20	7-4-2-3	6	Loose, Brown, Silty SAND, Little Gravel	SM			ND	6					
4	18	3-1-1-1	8					ND	2					
5	19	5-4-1-1	10					ND	5					
			12											
			14	Sand blew up inside augers preventing collection of 12-14' sample.										
				End of Boring at 14.0 feet Note: Reddish Brown Lean Clay was noted on bottom of auger string.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: John E. Gerhl

Firm: SEH

SEH 421 Frenette Drive
Chippewa Falls, WI. 54729
Tel: 715-720-6200, Fax: 715-720-6300

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5W 11-89

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: DOUGLAS

____ 1/4 of ____ 1/4 of Sec. ____ ; T. ____ N; R. ____ ☐ E ☐ W

(If Applicable)

____ Gov't Lot ____ Grid Number

Grid Location

____ ft. ☐ N. ☐ S., ____ ft. ☐ E. ☐ W.

Civil Town Name: Superior

Street Address of Well

City, Village: SUPERIOR

(2) FACILITY NAME FRASER SHIPYARD

Original Well Owner (If Known): Fraser Shipyards

Present Well Owner: Fraser Shipyards

Street or Route

City, State, Zip Code: Superior, WI

Facility Well No. and/or Name (If Applicable): B-1

WI Unique Well No.

Reason For Abandonment: Boring Completed

Date of Abandonment: 8/16/96

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) 8/16/96

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☒ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) ____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 9.5 (From groundsurface) Casing Diameter (ins.) NA

Casing Depth (Ft.) NA

Was Well Annular Space Grouted? ☐ Yes ☒ No ☐ Unknown
If Yes, To What Depth? ____ Feet

(4) Depth to Water (Feet) 4 ft.

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☒ No	

If No, Explain: Borehole only

Was Casing Cut Off Below Surface?	☐ Yes	☒ No
Did Sealing Material Rise to Surface?	☒ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☒ ~~Conductor Pipe~~ - Gravity ☐ Conductor Pipe - Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☐ Granular Bentonite
☐ Bentonite-Cement Grout

(7)

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Chipped Bentonite	Surface	9.5'	2 bags	

(8) Comments ____

(9) Name of Person or Firm Doing Sealing Work
ESEH Short Elliott Hendrickson Inc.

Signature of Person Doing Work: John E. Gerhard
Date Signed: 9-23-96

Street or Route: 421 Frenette Drive
Telephone Number: (715)720-6200

City, State, Zip Code: Chippewa Falls, WI 54729

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5W 11-89

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: DOUGLAS

____ 1/4 of ____ 1/4 of Sec. ____ ; T. ____ N; R. ____ ☐ E ☐ W

(If Applicable)

____ Gov't Lot ____ Grid Number

Grid Location

____ ft. ☐ N. ☐ S., ____ ft. ☐ E. ☐ W.

Civil Town Name: Superior

Street Address of Well:

City, Village: SUPERIOR

(2) FACILITY NAME FRASER SHIPYARD

Original Well Owner (If Known): Fraser Shipyards

Present Well Owner: Fraser Shipyards

Street or Route:

City, State, Zip Code: Superior, WI

Facility Well No. and/or Name (If Applicable): B-2

WI Unique Well No.:

Reason For Abandonment: Boring Completed

Date of Abandonment: 8/16/96

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) 8/16/96

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☒ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) ____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft) 9.5 Casing Diameter (ins.) NA
(From groundsurface)

Casing Depth (Ft.) NA

Was Well Annular Space Grouted? ☐ Yes ☒ No ☐ Unknown
If Yes, To What Depth? ____ Feet

(4) Depth to Water (Feet) 3.5 ft.

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☒ No	

If No, Explain Borehole only

Was Casing Cut Off Below Surface?	☐ Yes	☒ No
Did Sealing Material Rise to Surface?	☒ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☒ ~~Conductor Pipe~~ - Gravity ☐ Conductor Pipe - Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☐ Granular Bentonite
☐ Bentonite-Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Chipped Bentonite	Surface	9.5	2 bags	

(8) Comments ____

(9) Name of Person or Firm Doing Sealing Work
ESEH Short Elliott Hendrickson Inc.

Signature of Person Doing Work: John P. Hall
Date Signed: 9-28-96

Street or Route: 421 Frenette Drive
Telephone Number: (715)720-6200

City, State, Zip Code: Chippewa Falls, WI 54729

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

DNR/COUNTY

Appendix B

Monitoring Well Forms

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 4-90

Facility/Project Name: FRASER SHIPYARD	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: MW-1
Facility License, Permit or Monitoring Number:	Grid Origin Location: Lat. ___ ___ ___ Long. ___ ___ ___ or St. Plane _____ ft. N, _____ ft. E.	Wis. Unique Well Number / DNR Well Number:
Type of Well: Water Table Observation Well ☒11; Piezometer ☐12	Section Location of Waste/Source: ___1/4 of ___ 1/4 of Sec. ___, T. ___N, R. ___ ☐E. ☐W.	Date Well Installed: 8/16/96
Distance Well Is From Waste/Source Boundary: _____ ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☒ Downgradient n ☐ Not Known	Well Installed By: (Person's Name and Firm): Erik Schoenberg; MES
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No		

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 2.2 ft.

12. USC classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

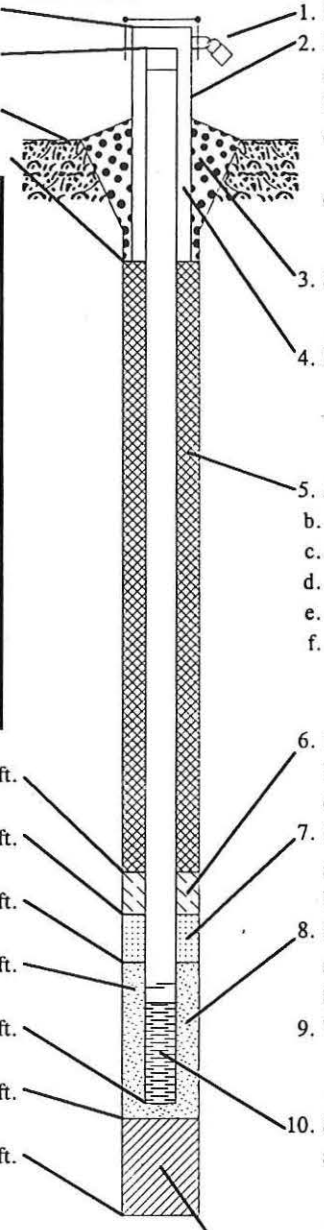
14. Drilling method used: Rotary ☐50; Hollow Stem Auger ☒41; _____ Other ☐

15. Drilling fluid used: Water ☐02 Air ☐01; Drilling Mud ☐03 None ☒99

16. Drilling additives used? ☐ Yes ☒ No
Describe NA

17. Source of water (attach analysis):
NA

E. Bentonite seal, top _____ ft. MSL or 2.2 ft.
F. Fine sand, top _____ ft. MSL or 3.0 ft.
G. Filter pack, top _____ ft. MSL or 3.5 ft.
H. Screen joint, top _____ ft. MSL or 4.0 ft.
I. Well bottom _____ ft. MSL or 14.0 ft.
J. Filter pack, bottom _____ ft. MSL or 14.0 ft.
K. Borehole, bottom _____ ft. MSL or 14.0 ft.
L. Borehole, diameter 8.2 in.
M. O.D. well casing 2.40 in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5.0 ft.
c. Material: Steel ☒ 04; _____ Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: Concrete block placed in front of well
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; _____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐; _____ Other ☐
5. Annular space seal: a. ~~Granular~~ chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☐ 08
6. Bentonite seal: a. Bentonite ~~granules~~ chips ☒ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite pellets ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name and mesh size
a. Red Flint Filter Sand #45-#55
b. Volume added 1/2 bag ft^3
8. Filter pack material: Manufacturer, product name and mesh size
a. Red Flint Filter Sand #30 Mesh
b. Volume added 7 bags ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; _____ Other ☐
10. Screen material: Flush thread PVC Sch.40
a. Screen Type: Factory cut ☒ 11; Continuous slot ☐ 01; _____ Other ☐
b. Manufacturer Diedrich
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 14; _____ Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: John E. Hall
Firm: Short Elliott Hendrickson, Inc. Tel: (715) 720-6200
421 Frenette Drive, Chippewa Falls, WI 54729 Fax: (715) 720-6300

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 4-90

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

Facility/Project Name	County	Well Name
FRASER SHIPYARD	DOUGLAS	MW-1

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:
- surged with bailer and bailed ☐ 41
- surged with bailer and pumped ☐ 61
- surged with block and bailed ☐ 42
- surged with block and pumped ☒ 62
- surged with block, bailed, and pumped ☐ 70
- compressed air ☐ 20
- bailed only ☐ 10
- pumped only ☐ 51
- pumped slowly ☐ 50
- other _____ ☐

3. Time spent developing well 80 min.

4. Depth of well (from top of well casing) 17.2 ft.

5. Inside diameter of well 2.07 in.

6. Volume of water in filter pack and well casing 11.4 gal.

7. Volume of water removed from well 115.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	4.23 ft.	4.34 ft.
Date	b.	8/29/96	8/29/96
Time	c.	8:15 ☒ a.m. ☐ p.m.	10:45 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		1.0 inches	0.0 inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15	Clear ☒ 20 Turbid ☐ 25
(Describe)		Very turbid with brown silt	Clear

Fill in if drilling fluids were used and well is at solid waste facility:

	Before Development	After Development
14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Additional comments on development:
Water clarity became clear after pumping 85 gallons. Slight organic odor during developing.

Well developed by: Person's Name and Firm

Name: Trevor Bauer

Firm: SEH Inc.

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Trevor Bauer

Print Initials: TJB

Firm: SEH Short Elliott Hendrickson Inc.

NOTE: Shaded areas are for DNR use only. See instructions for more information including a list of county codes.

Appendix C

Laboratory Results

ENVIROSCAN

Post-it® Fax Note 7671 | Date | # of pages ▶ 14
To Gloria | From Cy
Co./Dept. | Co.
Phone # | Phone #
Fax # | Fax #

August 30, 1996

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

SEP 3 1996

Attn: John Guhl

Re: FRASE9401.00

Please find enclosed the analytical results for the samples received August 20, 1996.

All analyses were completed in accordance with appropriate EPA and Wisconsin methodologies. Methods and dates of analysis are included in the report tables.

The chain of custody document is enclosed.

If you have any questions about the results, please call. Thank you for using US Filter/Enviroscan for your analytical needs.

Sincerely,

US Filter/Enviroscan

Cindy K Varga

Cindy K. Varga
Senior Analytical Chemist

ANALYTICAL REPORT

ort Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

tn: John Guhl

CUST NUMBER: FRASE9401.00
SAMPLED BY: Client
DATE REC'D: 08/20/96
REPORT DATE: 08/30/96
PREPARED BY: CKV CKV
REVIEWED BY: SPM

lient Sample HAX-3 , Enviroscan Analytical # 74862, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
enzene	0.012	0.025	0.060	< 0.025	< 0.032		08/26/96
romobenzene	0.007	0.025	0.060	< 0.025	< 0.032		08/26/96
romodichloromethane	0.005	0.025	0.060	< 0.025	< 0.032		08/26/96
n-Butylbenzene	0.007	0.025	0.060	< 0.025	< 0.032		08/26/96
sec-Butylbenzene	0.006	0.025	0.060	< 0.025	< 0.032		08/26/96
ert-Butylbenzene	0.004	0.025	0.060	< 0.025	< 0.032		08/26/96
arbon Tetrachloride	0.008	0.025	0.060	< 0.025	< 0.032		08/26/96
hlorobenzene	0.003	0.025	0.060	< 0.025	< 0.032		08/26/96
Chlorodibromomethane	0.005	0.025	0.060	< 0.025	< 0.032		08/26/96
hloroethane	0.006	0.025	0.060	< 0.025	< 0.032	CSH SPH	08/26/96
hloroform	0.002	0.025	0.060	< 0.025	< 0.032		08/26/96
hloromethane	0.012	0.025	0.060	< 0.025	< 0.032	CSH SPL DUP	08/26/96
o-Chlorotoluene	0.003	0.025	0.060	< 0.025	< 0.032		08/26/96
p-Chlorotoluene	0.005	0.025	0.060	< 0.025	< 0.032	SPH	08/26/96
,2-Dibromo-3-chloropropane	0.018	0.025	0.060	< 0.025	< 0.032		08/26/96
,2-Dibromoethane	0.002	0.025	0.060	< 0.025	< 0.032		08/26/96
,2-Dichlorobenzene	0.014	0.025	0.060	< 0.025	< 0.032		08/26/96
1,3-Dichlorobenzene	0.003	0.025	0.060	< 0.025	< 0.032		08/26/96
1,4-Dichlorobenzene	0.002	0.025	0.060	< 0.025	< 0.032		08/26/96
ichlorodifluoromethane	0.005	0.025	0.060	< 0.025	< 0.032	SPL	08/26/96
,1-Dichloroethane	0.002	0.025	0.060	< 0.025	< 0.032		08/26/96
1,2-Dichloroethane	0.001	0.025	0.060	< 0.025	< 0.032		08/26/96
1,1-Dichloroethylene	0.006	0.025	0.060	< 0.025	< 0.032	CSH	08/26/96
is-1,2-Dichloroethylene	0.008	0.025	0.060	< 0.025	< 0.032	CSL SPL	08/26/96
rans-1,2-Dichloroethylene	0.002	0.025	0.060	< 0.025	< 0.032		08/26/96
,2-Dichloropropane	0.002	0.025	0.060	< 0.025	< 0.032		08/26/96
1,3-Dichloropropane	0.002	0.025	0.060	< 0.025	< 0.032		08/26/96
2,2-Dichloropropane	0.008	0.025	0.060	< 0.025	< 0.032	CSL SPL	08/26/96
thylbenzene	0.006	0.025	0.060	< 0.025	< 0.032		08/26/96
exachlorobutadiene	0.003	0.025	0.060	< 0.025	< 0.032	SPH	08/26/96
sopropylbenzene	0.006	0.025	0.060	< 0.025	< 0.032		08/26/96
p-Isopropyltoluene	0.002	0.025	0.060	< 0.025	< 0.032		08/26/96
ethyl tert Butyl Ether	0.017	0.025	0.060	< 0.025	< 0.032		08/26/96
ethylene Chloride	0.009	0.025	0.060	< 0.025	< 0.032	CSL SPL DUP	08/26/96
aphthalene	0.017	0.025	0.060	0.026	0.033	CSH	08/26/96
n-Propylbenzene	0.007	0.025	0.060	< 0.025	< 0.032	SPH	08/26/96
Tetrachloroethylene	0.002	0.025	0.060	< 0.025	< 0.032		08/26/96
,1,2,2-Tetrachloroethane	0.002	0.025	0.060	< 0.025	< 0.032		08/26/96
oluene	0.004	0.025	0.060	< 0.025	< 0.032	DUP	08/26/96
,2,3-Trichlorobenzene	0.003	0.025	0.060	< 0.025	< 0.032		08/26/96
1,2,4-Trichlorobenzene	0.002	0.025	0.060	< 0.025	< 0.032	SPH	08/26/96
Trichloroethylene	0.002	0.025	0.060	< 0.025	< 0.032	SPH	08/26/96
richlorofluoromethane	0.002	0.025	0.060	< 0.025	< 0.032	CSH	08/26/96
,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.032	CSH	08/26/96
1,3,5-Trimethylbenzene	0.020	0.025	0.060	< 0.025	< 0.032		08/26/96
Vinyl Chloride	0.002	0.025	0.060	< 0.025	< 0.032		08/26/96
n- & p-Xylene	0.011	0.025	0.060	< 0.025	< 0.032	SPL	08/26/96
o-Xylene & Styrene	0.011	0.025	0.060	0.036	0.046		08/26/96

* = Regulatory Limit based on total Xylene.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

Attn: John Guhl

CUST NUMBER: FRASE9401.00
SAMPLED BY: Client
DATE REC'D: 08/20/96
REPORT DATE: 08/30/96
PREPARED BY: CKV
REVIEWED BY: ZM

Client Sample HAX-4 , Enviroscan Analytical # 74863, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
Benzene	0.015	0.025	0.060	< 0.025	< 0.027		08/26/96
Bromobenzene	0.009	0.025	0.060	< 0.025	< 0.027		08/26/96
Bromodichloromethane	0.006	0.025	0.060	< 0.025	< 0.027		08/26/96
n-Butylbenzene	0.008	0.025	0.060	< 0.025	< 0.027		08/26/96
sec-Butylbenzene	0.008	0.025	0.060	< 0.025	< 0.027		08/26/96
tert-Butylbenzene	0.005	0.025	0.060	< 0.025	< 0.027		08/26/96
Carbon Tetrachloride	0.010	0.025	0.060	< 0.025	< 0.027		08/26/96
Chlorobenzene	0.004	0.025	0.060	< 0.025	< 0.027		08/26/96
Chlorodibromomethane	0.006	0.025	0.060	< 0.025	< 0.027		08/26/96
Chloroethane	0.007	0.025	0.060	< 0.025	< 0.027	CSH SPH	08/26/96
Chloroform	0.003	0.025	0.060	< 0.025	< 0.027		08/26/96
Chloromethane	0.015	0.025	0.060	0.026	0.028	CSH SPL DUP	08/26/96
o-Chlorotoluene	0.003	0.025	0.060	< 0.025	< 0.027		08/26/96
p-Chlorotoluene	0.006	0.025	0.060	< 0.025	< 0.027	SPH	08/26/96
1,2-Dibromo-3-chloropropane	0.021	0.025	0.060	< 0.025	< 0.027		08/26/96
1,2-Dibromoethane	0.003	0.025	0.060	< 0.025	< 0.027		08/26/96
1,2-Dichlorobenzene	0.017	0.025	0.060	< 0.025	< 0.027		08/26/96
1,3-Dichlorobenzene	0.003	0.025	0.060	< 0.025	< 0.027		08/26/96
1,4-Dichlorobenzene	0.003	0.025	0.060	< 0.025	< 0.027		08/26/96
Dichlorodifluoromethane	0.005	0.025	0.060	< 0.025	< 0.027	SPL	08/26/96
1,1-Dichloroethane	0.002	0.025	0.060	< 0.025	< 0.027		08/26/96
1,2-Dichloroethane	0.002	0.025	0.060	< 0.025	< 0.027		08/26/96
1,1-Dichloroethylene	0.008	0.025	0.060	< 0.025	< 0.027	CSH	08/26/96
cis-1,2-Dichloroethylene	0.009	0.025	0.060	< 0.025	< 0.027	CSL SPL	08/26/96
trans-1,2-Dichloroethylene	0.003	0.025	0.060	< 0.025	< 0.027		08/26/96
1,2-Dichloropropane	0.002	0.025	0.060	< 0.025	< 0.027		08/26/96
1,3-Dichloropropane	0.002	0.025	0.060	< 0.025	< 0.027		08/26/96
2,2-Dichloropropane	0.009	0.025	0.060	< 0.025	< 0.027	CSL SPL	08/26/96
Ethylbenzene	0.008	0.025	0.060	< 0.025	< 0.027		08/26/96
Hexachlorobutadiene	0.004	0.025	0.060	< 0.025	< 0.027	SPH	08/26/96
Isopropylbenzene	0.008	0.025	0.060	< 0.025	< 0.027		08/26/96
p-Isopropyltoluene	0.003	0.025	0.060	< 0.025	< 0.027		08/26/96
Methyl tert Butyl Ether	0.020	0.025	0.060	< 0.025	< 0.027	CSL SPL DUP	08/26/96
Methylene Chloride	0.011	0.025	0.060	< 0.025	< 0.027	CSH	08/26/96
Naphthalene	0.020	0.025	0.060	< 0.025	< 0.027	SPH	08/26/96
n-Propylbenzene	0.008	0.025	0.060	< 0.025	< 0.027		08/26/96
Tetrachloroethylene	0.002	0.025	0.060	< 0.025	< 0.027		08/26/96
1,1,2,2-Tetrachloroethane	0.003	0.025	0.060	< 0.025	< 0.027	DUP	08/26/96
Toluene	0.004	0.025	0.060	< 0.025	< 0.027		08/26/96
1,2,3-Trichlorobenzene	0.004	0.025	0.060	< 0.025	< 0.027	SPH	08/26/96
1,2,4-Trichlorobenzene	0.003	0.025	0.060	< 0.025	< 0.027	SPH	08/26/96
Trichloroethylene	0.002	0.025	0.060	< 0.025	< 0.027	CSH	08/26/96
Trichlorofluoromethane	0.002	0.025	0.060	< 0.025	< 0.027	CSH	08/26/96
1,2,4-Trimethylbenzene	0.009	0.025	0.060	< 0.025	< 0.027		08/26/96
1,3,5-Trimethylbenzene	0.024	0.025	0.060	< 0.025	< 0.027		08/26/96
Vinyl Chloride	0.002	0.025	0.060	< 0.025	< 0.027	SPL	08/26/96
m- & p-Xylene	0.014	0.025	0.060	< 0.025	< 0.027		08/26/96
o-Xylene & Styrene	0.013	0.025	0.060	0.032	0.035		08/26/96

* = Regulatory Limit based on total Xylene.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

Attn: John Guhl

CUST NUMBER: FRASE9401.00
SAMPLED BY: Client
DATE REC'D: 08/20/96
REPORT DATE: 08/30/96
PREPARED BY: CKV
REVIEWED BY:

Client Sample HAX-5 , Enviroscan Analytical # 74864, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
Benzene	0.014	0.025	0.060	< 0.025	< 0.031		08/26/96
Bromobenzene	0.008	0.025	0.060	< 0.025	< 0.031		08/26/96
Bromodichloromethane	0.006	0.025	0.060	< 0.025	< 0.031		08/26/96
n-Butylbenzene	0.007	0.025	0.060	< 0.025	< 0.031		08/26/96
sec-Butylbenzene	0.007	0.025	0.060	< 0.025	< 0.031		08/26/96
tert-Butylbenzene	0.004	0.025	0.060	< 0.025	< 0.031		08/26/96
Carbon Tetrachloride	0.009	0.025	0.060	< 0.025	< 0.031		08/26/96
Chlorobenzene	0.003	0.025	0.060	< 0.025	< 0.031		08/26/96
Chlorodibromomethane	0.005	0.025	0.060	< 0.025	< 0.031		08/26/96
Chloroethane	0.006	0.025	0.060	< 0.025	< 0.031	CSH SPH	08/26/96
Chloroform	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
Chloromethane	0.013	0.025	0.060	< 0.025	< 0.031	CSH SPL DUP	08/26/96
o-Chlorotoluene	0.003	0.025	0.060	< 0.025	< 0.031		08/26/96
p-Chlorotoluene	0.005	0.025	0.060	< 0.025	< 0.031	SPH	08/26/96
1,2-Dibromo-3-chloropropane	0.019	0.025	0.060	< 0.025	< 0.031		08/26/96
1,2-Dibromoethane	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
1,2-Dichlorobenzene	0.015	0.025	0.060	< 0.025	< 0.031		08/26/96
1,3-Dichlorobenzene	0.003	0.025	0.060	< 0.025	< 0.031		08/26/96
1,4-Dichlorobenzene	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
Dichlorodifluoromethane	0.005	0.025	0.060	< 0.025	< 0.031	SPL	08/26/96
1,1-Dichloroethane	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
1,2-Dichloroethane	0.001	0.025	0.060	< 0.025	< 0.031		08/26/96
1,1-Dichloroethylene	0.007	0.025	0.060	< 0.025	< 0.031	CSH	08/26/96
cis-1,2-Dichloroethylene	0.008	0.025	0.060	< 0.025	< 0.031	CSL SPL	08/26/96
trans-1,2-Dichloroethylene	0.003	0.025	0.060	< 0.025	< 0.031		08/26/96
1,2-Dichloropropane	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
1,3-Dichloropropane	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
2,2-Dichloropropane	0.008	0.025	0.060	< 0.025	< 0.031	CSL SPL	08/26/96
Ethylbenzene	0.007	0.025	0.060	< 0.025	< 0.031		08/26/96
Hexachlorobutadiene	0.004	0.025	0.060	< 0.025	< 0.031	SPH	08/26/96
Isopropylbenzene	0.007	0.025	0.060	< 0.025	< 0.031		08/26/96
p-Isopropyltoluene	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
Methyl tert Butyl Ether	0.019	0.025	0.060	< 0.025	< 0.031		08/26/96
Methylene Chloride	0.010	0.025	0.060	< 0.025	< 0.031	CSL SPL DUP	08/26/96
Naphthalene	0.018	0.025	0.060	< 0.025	< 0.031	CSH	08/26/96
n-Propylbenzene	0.008	0.025	0.060	< 0.025	< 0.031	SPH	08/26/96
Tetrachloroethylene	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
1,1,2,2-Tetrachloroethane	0.003	0.025	0.060	< 0.025	< 0.031		08/26/96
Toluene	0.004	0.025	0.060	< 0.025	< 0.031	DUP	08/26/96
1,2,3-Trichlorobenzene	0.003	0.025	0.060	< 0.025	< 0.031		08/26/96
1,2,4-Trichlorobenzene	0.002	0.025	0.060	< 0.025	< 0.031	SPH	08/26/96
Trichloroethylene	0.002	0.025	0.060	< 0.025	< 0.031	SPH	08/26/96
Trichlorofluoromethane	0.002	0.025	0.060	< 0.025	< 0.031	CSH	08/26/96
1,2,4-Trimethylbenzene	0.008	0.025	0.060	< 0.025	< 0.031	CSH	08/26/96
1,3,5-Trimethylbenzene	0.022	0.025	0.060	< 0.025	< 0.031		08/26/96
Vinyl Chloride	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
m- & p-Xylene	0.012	0.025	0.060	< 0.025	< 0.031	SPL	08/26/96
o-Xylene & Styrene	0.012	0.025	0.060	0.112	0.138		08/26/96

* = Regulatory Limit based on total Xylene.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson,Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

Attn: John Guhl

CUST NUMBER: FRASE9401.00
SAMPLED BY: Client
DATE REC'D: 08/20/96
REPORT DATE: 08/30/96
PREPARED BY: CKV
REVIEWED BY: SPM

Client Sample HAX-6 , Enviroscan Analytical # 74865, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
Benzene	0.014	0.025	0.060	< 0.025	< 0.031		08/26/96
Bromobenzene	0.008	0.025	0.060	< 0.025	< 0.031		08/26/96
Bromodichloromethane	0.006	0.025	0.060	< 0.025	< 0.031		08/26/96
n-Butylbenzene	0.008	0.025	0.060	< 0.025	< 0.031		08/26/96
sec-Butylbenzene	0.007	0.025	0.060	< 0.025	< 0.031		08/26/96
tert-Butylbenzene	0.005	0.025	0.060	< 0.025	< 0.031		08/26/96
Carbon Tetrachloride	0.010	0.025	0.060	< 0.025	< 0.031		08/26/96
Chlorobenzene	0.003	0.025	0.060	< 0.025	< 0.031		08/26/96
Chlorodibromomethane	0.005	0.025	0.060	< 0.025	< 0.031		08/26/96
Chloroethane	0.007	0.025	0.060	< 0.025	< 0.031	CSH SPH	08/26/96
Chloroform	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
Chloromethane	0.014	0.025	0.060	< 0.025	< 0.031	CSH SPL DUP	08/26/96
o-Chlorotoluene	0.003	0.025	0.060	< 0.025	< 0.031		08/26/96
p-Chlorotoluene	0.006	0.025	0.060	< 0.025	< 0.031	SPH	08/26/96
1,2-Dibromo-3-chloropropane	0.020	0.025	0.060	< 0.025	< 0.031		08/26/96
1,2-Dibromoethane	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
1,2-Dichlorobenzene	0.016	0.025	0.060	< 0.025	< 0.031		08/26/96
1,3-Dichlorobenzene	0.003	0.025	0.060	< 0.025	< 0.031		08/26/96
1,4-Dichlorobenzene	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
Dichlorodifluoromethane	0.005	0.025	0.060	< 0.025	< 0.031	SPL	08/26/96
1,1-Dichloroethane	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
1,2-Dichloroethane	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
1,1-Dichloroethylene	0.007	0.025	0.060	< 0.025	< 0.031	CSH	08/26/96
cis-1,2-Dichloroethylene	0.009	0.025	0.060	< 0.025	< 0.031	CSL SPL	08/26/96
trans-1,2-Dichloroethylene	0.003	0.025	0.060	< 0.025	< 0.031		08/26/96
1,2-Dichloropropane	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
1,3-Dichloropropane	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
2,2-Dichloropropane	0.009	0.025	0.060	< 0.025	< 0.031	CSL SPL	08/26/96
Ethylbenzene	0.007	0.025	0.060	< 0.025	< 0.031		08/26/96
Hexachlorobutadiene	0.004	0.025	0.060	< 0.025	< 0.031	SPH	08/26/96
Isopropylbenzene	0.007	0.025	0.060	< 0.025	< 0.031		08/26/96
p-Isopropyltoluene	0.003	0.025	0.060	< 0.025	< 0.031		08/26/96
Methyl tert Butyl Ether	0.019	0.025	0.060	< 0.025	< 0.031	CSL SPL DUP	08/26/96
Methylene Chloride	0.011	0.025	0.060	< 0.025	< 0.031	CSH	08/26/96
Naphthalene	0.019	0.025	0.060	< 0.025	< 0.031	SPH	08/26/96
n-Propylbenzene	0.008	0.025	0.060	< 0.025	< 0.031		08/26/96
Tetrachloroethylene	0.002	0.025	0.060	< 0.025	< 0.031		08/26/96
1,1,2,2-Tetrachloroethane	0.003	0.025	0.060	< 0.025	< 0.031	DUP	08/26/96
Toluene	0.004	0.025	0.060	< 0.025	< 0.031		08/26/96
1,2,3-Trichlorobenzene	0.003	0.025	0.060	< 0.025	< 0.031	SPH	08/26/96
1,2,4-Trichlorobenzene	0.002	0.025	0.060	< 0.025	< 0.031	SPH	08/26/96
Trichloroethylene	0.002	0.025	0.060	< 0.025	< 0.031	CSH	08/26/96
Trichlorofluoromethane	0.002	0.025	0.060	< 0.025	< 0.031	CSH	08/26/96
1,2,4-Trimethylbenzene	0.008	0.025	0.060	< 0.025	< 0.031		08/26/96
1,3,5-Trimethylbenzene	0.023	0.025	0.060	< 0.025	< 0.031		08/26/96
Vinyl Chloride	0.002	0.025	0.060	< 0.025	< 0.031	SPL	08/26/96
m- & p-Xylene	0.013	0.025	0.060	< 0.025	< 0.031		08/26/96
o-Xylene & Styrene	0.012	0.025	0.060	0.098	0.122	CR	08/26/96

* = Regulatory Limit based on total Xylene.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/20/96
REPORT DATE: 08/30/96
PREPARED BY: CKV
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	HAX-3 08/15/96	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	78.6		08/20/96
EPA 6010					
Chromium	mg/kg	1.1	10.5		08/27/96
Lead	mg/kg	5.1	33.3		08/27/96
Analytical No.:			74862		

	Units	Reporting Limit	HAX-4 08/15/96	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	92.4		08/20/96
EPA 6010					
Chromium	mg/kg	0.9	3.35		08/27/96
Lead	mg/kg	4.3	X		08/27/96
Analytical No.:			74863		

	Units	Reporting Limit	HAX-5 08/15/96	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	81.2		08/20/96
EPA 6010					
Chromium	mg/kg	1.0	2.92		08/27/96
Lead	mg/kg	4.9	X		08/27/96
Analytical No.:			74864		

	Units	Reporting Limit	HAX-6 08/15/96	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	80.1		08/20/96
EPA 6010					
Chromium	mg/kg	1.0	2.80		08/27/96
Lead	mg/kg	5.0	X		08/27/96
Analytical No.:			74865		

X = Analyzed but not detected.
Results calculated on a dry weight basis.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson,Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

Attn: John Guhl

CUST NUMBER: FRASE9401.00
SAMPLED BY: Client
DATE REC'D: 08/20/96
REPORT DATE: 08/30/96
PREPARED BY: CKV
REVIEWED BY:

Client Sample MW-1,5-7' , Enviroscan Analytical # 74871, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
Benzene	0.012	0.025	0.060	< 0.025	< 0.025		08/23/96
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.025		08/23/96
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.025		08/23/96
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.025		08/23/96
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.025		08/23/96
m- & p-Xylene	0.011	0.025	0.060	0.041	0.041	OK	08/23/96
o-Xylene & Styrene	0.010	0.025	0.060	< 0.025	< 0.025		08/23/96
Toluene	0.003	0.025	0.060	0.035	0.035	OK	08/23/96

Client Sample MW-3, 12.5-14.5 , Enviroscan Analytical # 74872, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
Benzene	0.012	0.025	0.060	0.045	0.045	*	08/23/96
Ethylbenzene	0.006	0.025	0.060	0.032	0.032	OK	08/23/96
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.025		08/23/96
1,2,4-Trimethylbenzene	0.007	0.025	0.060	0.063	0.063	*	08/23/96
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.025		08/23/96
m- & p-Xylene	0.011	0.025	0.060	0.135	0.135	OK	08/23/96
o-Xylene & Styrene	0.010	0.025	0.060	0.045	0.045	OK	08/23/96
Toluene	0.003	0.025	0.060	0.126	0.126	OK	08/23/96

Client Sample MW-4, 7.5-9.5' , Enviroscan Analytical # 74873, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
Benzene	0.012	0.025	0.060	< 0.025	< 0.025		08/28/96
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.025		08/28/96
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.025		08/28/96
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.025		08/28/96
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.025		08/28/96
m- & p-Xylene	0.011	0.025	0.060	< 0.025	< 0.025		08/28/96
o-Xylene & Styrene	0.010	0.025	0.060	< 0.025	< 0.025		08/28/96
Toluene	0.003	0.025	0.060	0.026	0.026	OK	08/28/96

Client Sample MW-5, 2.5-4.5' , Enviroscan Analytical # 74874, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
Benzene	0.012	0.025	0.060	< 0.025	< 0.025		08/23/96
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.025		08/23/96
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.025		08/23/96
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.025		08/23/96
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.025		08/23/96
m- & p-Xylene	0.011	0.025	0.060	0.041	0.041		08/23/96
o-Xylene & Styrene	0.010	0.025	0.060	< 0.025	< 0.025		08/23/96
Toluene	0.003	0.025	0.060	0.037	0.037	OK	08/23/96

* = Regulatory Limit based on total Xylene.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

Attn: John Guhl

CUST NUMBER: FRASE9401.00
SAMPLED BY: Client
DATE REC'D: 08/20/96
REPORT DATE: 08/30/96
PREPARED BY: CKV
REVIEWED BY: SDM

Client Sample B-1, 2.5-4.5' , Enviroscan Analytical # 74875, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
Benzene	0.012	0.025	0.060	< 0.025	< 0.025		08/23/96
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.025		08/23/96
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.025		08/23/96
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.025		08/23/96
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.025		08/23/96
m- & p-Xylene	0.011	0.025	0.060	0.038	0.038	QL	08/23/96
o-Xylene & Styrene	0.010	0.025	0.060	< 0.025	< 0.025		08/23/96
Toluene	0.003	0.025	0.060	0.034	0.034	QL	08/23/96

Client Sample B-1,7.5-9.5' , Enviroscan Analytical # 74876, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
Benzene	0.012	0.025	0.060	< 0.025	< 0.025		08/23/96
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.025		08/23/96
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.025		08/23/96
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.025		08/23/96
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.025		08/23/96
m- & p-Xylene	0.011	0.025	0.060	0.100	0.100	QL	08/23/96
o-Xylene & Styrene	0.010	0.025	0.060	< 0.025	< 0.025		08/23/96
Toluene	0.003	0.025	0.060	0.101	0.101	QL	08/23/96

Client Sample B-2,2.5-4.5' , Enviroscan Analytical # 74877, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
Benzene	0.012	0.025	0.060	< 0.025	< 0.025		08/22/96
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.025		08/22/96
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.025		08/22/96
1,2,4-Trimethylbenzene	0.007	0.025	0.060	0.027	0.027		08/22/96
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.025		08/22/96
m- & p-Xylene	0.011	0.025	0.060	0.095	0.095	QL	08/22/96
o-Xylene & Styrene	0.010	0.025	0.060	0.027	0.027	QL	08/22/96
Toluene	0.003	0.025	0.060	0.090	0.090	QL	08/22/96

Client Sample B-2,5-7' , Enviroscan Analytical # 74878, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet	RESULT Dry	Quality Control Qualifiers	Analysis Date
Benzene	0.012	0.025	0.060	< 0.025	< 0.025		08/22/96
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.025		08/22/96
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.025		08/22/96
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.025		08/22/96
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.025		08/22/96
m- & p-Xylene	0.011	0.025	0.060	0.048	0.048	QL	08/22/96
o-Xylene & Styrene	0.010	0.025	0.060	< 0.025	< 0.025		08/22/96
Toluene	0.003	0.025	0.060	0.038	0.038	QL	08/22/96

* = Regulatory Limit based on total Xylene.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/20/96
REPORT DATE: 08/30/96
PREPARED BY: CKV
REVIEWED BY: SM

Attn: John Guhl

	Units	Reporting Limit	AOC 5, HA-1 08/16/96	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	92.0		08/20/96
EPA 6010					
Chromium	mg/kg	0.9	16.1		08/27/96
Lead	mg/kg	4.3	38.5		08/27/96
Analytical No.:			74866		

	Units	Reporting Limit	AOC 5, HA-2 08/16/96	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	89.7		08/20/96
EPA 6010					
Chromium	mg/kg	0.93	14.9		08/27/96
Lead	mg/kg	4.5	20.4		08/27/96
Analytical No.:			74867		

	Units	Reporting Limit	AOC 5 HA-3 08/16/96	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	88.1		08/20/96
EPA 6010					
Chromium	mg/kg	0.94	17.4		08/27/96
Lead	mg/kg	4.5	48.3		08/27/96
Analytical No.:			74868		

	Units	Reporting Limit	AOC11,LYS1 0-6 08/12/96	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	72.9		08/20/96
EPA 6010					
Lead	mg/kg	5.5	X		08/27/96
Analytical No.:			74869		

X = Analyzed but not detected.
Results calculated on a dry weight basis.
All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/20/96
REPORT DATE: 08/30/96
PREPARED BY: CKV
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	AOC11,LYS12-2.5 08/12/96	Qualifiers	Date Analyzed
PA 160.3					
Total Solids	%	-	77.7		08/20/96
PA 6010					
Lead	mg/kg	5.1	X		08/27/96
Analytical No.:			74870		

X = Analyzed but not detected.
Results calculated on a dry weight basis.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/20/96
REPORT DATE: 08/30/96
PREPARED BY: CKV
REVIEWED BY:

Attn: John Guhl

Qualifier Descriptions

CSH	Check standard for this analyte exhibited a high bias. Sample results may also be biased high. Non-detects were verified by comparison with a low standard.
SPH	The matrix spike included with this analytical batch had a high recovery. Since that sample matrix appears similar to your sample, your result may also be high.
SPL	The matrix spike included with this analytical batch had a low recovery. Since that sample matrix appears similar to your sample, your result may also be low.
DUP	Result of duplicate analysis in this quality assurance batch exceeds the limits for precision. Sample results may also show a degree of variability.
CSL	Check standard for this analyte exhibited a low bias. Sample results may also be biased low. Non-detects were verified by comparison with a low standard.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.00
SAMPLED BY: Client
DATE REC'D: 08/20/96
REPORT DATE: 08/30/96
PREPARED BY: CKV
REVIEWED BY:

Attn: John Guhl

Modified Diesel Range Organics (DRO)
Parameter # 78919

	DRO	Qualifiers	Date Ext	Date Analyzed	Analytical No.
MW-1,5-7'	4.92	D3	08/21/96	08/25/96	74871
MW-5, 2.5-4.5'	75.4	D2 D4	08/21/96	08/27/96	74874
B-1, 2.5-4.5'	16.8	D2	08/21/96	08/25/96	74875
B-1,7.5-9.5'	4.12	D3	08/21/96	08/25/96	74876
B-2,2.5-4.5'	6.32	D3	08/21/96	08/25/96	74877
B-2,5-7'	X		08/21/96	08/25/96	74878
Reporting Limit	5.0				

Units mg/kg
X = Analyzed but not detected.
Results calculated on a dry weight basis.

Qualifiers: Only above indicated qualifiers apply.

(D1) The chromatogram is characteristic for a fuel oil/diesel. (i.e. #1 or #2 Diesel, jet fuel, kerosene, aged or degraded diesel, etc.)
(D2) The chromatogram is not characteristic for diesel. It has the characteristics of a product which has significant peaks within the DRO window.
(D2A) The chromatogram is characteristic for a light petroleum product (i.e. gasoline, aged or degraded gasoline, mineral spirits, etc.)
(D2B) The chromatogram is characteristic for a heavier petroleum product other than diesel (i.e. motor oil, hydraulic oil, etc.)
(D3) The chromatogram is not characteristic for diesel or any single common petroleum product.
(D4) The chromatogram contained significant peaks outside the DRO window.
(D5) The chromatogram contained significant peaks and a raised baseline outside the DRO window.

The entire area within the DRO window was quantitated.

The replicate spike recovery of this batch of samples was found to be 95.0% and 87.5%.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

QUALITY ASSURANCE

Sample Receipt Report

Client: Short Date Received: 8/20/96

Analytical No.: 74862 Through 74878

Check all deviations from EPA or WDNR sample protocol.

[ ] Sample(s) received at ____°C which is above the EPA and WDNR limit of 4°C.

[ ] VOC vial(s) received with headspace. Explain: _____

[ ] Sample(s) received in bottles not furnished by Enviroscan. Preservation method, if used, is unknown.

[ ] Sample(s) not properly preserved per EPA/WDNR protocol for the following: _____

[ ] Sample(s) received beyond EPA holding time for: _____

[ ] Sample date/time not supplied by client. Actual holding time unknown.

[ ] GRO/PVOC/VOC/DRO (circle appropriate) sample(s) are <19.5 gms and this report is the flag for that information. Sample(s) under-weight: _____

[X] GRO/PVOC/VOC (circle appropriate) sample(s) were between 26.4-35.4 gms so methanol was added in a 1:1 ratio. Sample(s) included: 74871 → 3ml, 74873 → 3ml, 74874 → 4ml / 74877 → 5ml

[ ] GRO/PVOC/VOC/DRO (circle appropriate) sample(s) were >35.4 gms and are required to be rejected. Sample(s) included: _____

[X] Other: report as wet weight no Total solid for samples 74871 → 74878

Client contact concerning the above deviations:

Client John Gohl (contact name) notified of the above deviation(s) on 8/22/96 at 9:00 am/pm by Sharon K Matty (signature) and the client ordered:

[X] Proceed with analyses as ordered.

[ ] Proceed with analyses after taking the following corrective action: _____

[ ] Do NOT proceed with analyses.

EQUEST FOR SERVICES

303 W. MILITARY RD. ROTHSCHILD, WI 54474 1-800-338-SCAN

REPORT TO:
Name: JOHN GUHL
Company: SHORT ELLIOTT HENDRICKSON INC.
Address: 421 FRENETTE DRIVE
C.F. WI 54729
Phone: (715) 720-6200
P.O. #: FRASER
Project #: FRASE9401.00 Quote #: 341-5

BILL TO: (If different from Report To Info):
Name:
Company:
Address:
Phone: ( )

Sample Type (Check all that apply)
- [ ] Groundwater
- [ ] Wastewater
- [x] Soil/Solid
- [ ] Drinking Water
- [ ] Oil
- [ ] Vapor
- [ ] Other

Turnaround Time
- [x] Normal
- [ ] Rush (Pre-approved by Lab)

Date Needed ______
Approved By ______

ANALYTICAL REQUESTS
(use separate sheet if necessary)

[redacted]	DATE	TIME	No. of Containers COMP	No. of Containers GRAB	SAMPLE ID	VOCs m-EPA 8021 GROUT / DOCrun	TOTAL LEAD Pb	TOTAL CHROMIUM Cr mprep	PVOC m-PVOC	DRO GROUT DROrun	REMARKS
[redacted]	8-15-96			/	HAX-3 (VOCs)	/	/	/			
[redacted]	8-15-96			/	HAX-4	/	/	/			
[redacted]	8-15-96			/	HAX-5	/	/	/			
[redacted]	8-15-96			/	HAX-6	/	/	/			
[redacted]	8-16-96			/	AOC #5, HA-1, 0"-6"		/	/			
[redacted]	8-16-96			/	AOC #5, HA-2, 0"-6"		/	/			
[redacted]	8-16-96			/	AOC #5, HA-3, 0"-6"		/	/			
[redacted]	8-12-96			/	AOC #11, LYS 1, 0"-6"		/				
[redacted]	8-12-96			/	AOC #11, LYS 1, 2'-2.5'		/				
[redacted]	8-16-96			/	MW-1, 5'-7'				/	/	PVOC = 2843 DRO = 2642

[redacted]

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)*
John E. Guhl

RELINQUISHED BY: *(Signature)*	DATE/TIME		RECEIVED BY: *(Signature)*
John E. Guhl	8-19-96	10:30am	
RELINQUISHED BY: *(Signature)*	DATE/TIME		RECEIVED BY: *(Signature)*
RELINQUISHED BY: *(Signature)*	DATE/TIME		[redacted]

[redacted]

Comments:

wt give by client

REQUEST FOR SERVICES

303 W. MILITARY RD. ROTHSCHILD, WI 54474 1-800-338-SCAN

REPORT TO:
Name: JOHN GUHL
Company: SHORT ELLIOTT HENDRICKSON INC.
Address: 421 FRENETTE DRIVE
C.F. WI 54729
Phone: (715) 720-6200
P.O. # FRASER
Project # FRASE9401.00 Quote #

BILL TO: (if different from Report To info):
Name:
Company:
Address:
Phone: ( )

Sample Type *(Check all that apply)*
- ☐ Groundwater
- ☐ Wastewater
- ☒ Soil/Solid
- ☐ Drinking Water
- ☐ Oil
- ☐ Vapor
- ☐ Other

Turnaround Time
- ☐ Normal
- ☐ Rush (Pre-approved by Lab)

Date Needed
Approved By

ANALYTICAL REQUESTS
(use separate sheet if necessary)

DATE	TIME	No. of Containers COMP	No. of Containers GRAB	SAMPLE ID	PVOCs	DRO	REMARKS
8-16-96			✓	MW-3, 12.5'-14.5'	✓		PVOC 26.9
8-16-96			✓	MW-4, 7.5'-9.5'	✓		PVOC = 28.0
8-16-96			✓	MW-5, 2.5'-4.5'	✓	✓	PVOC = 28.1 DRO = 27.6
8-16-96			✓	B-1, 2.5'-4.5'	✓	✓	PVOC = 26.0 DRO = 25.3
8-16-96			✓	B-1, 7.5'-9.5'	✓	✓	PVOC = 25.5 DRO = 26.0
8-16-96			✓	B-2, 2.5'-4.5'	✓	✓	PVOC = 29.5 DRO = 26.3
8-16-96			✓	B-2, 5'-7'	✓	✓	PVOC = 26.4 DRO = 28.6

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)*

RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED BY: *(Signature)*
RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED BY: *(Signature)*
RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED FOR LABORATORY BY: DATE/TIME

Comments:

ENVIROSCAN

ENVIRONMENTAL AND
ANALYTICAL SERVICES

September 16, 1996

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

Attn: John Guhl

Re: FRASE9401.00

Please find enclosed the analytical results for the samples received August 31, 1996.

All analyses were completed in accordance with appropriate EPA and Wisconsin methodologies. Methods and dates of analysis are included in the report tables.

The chain of custody document is enclosed.

If you have any questions about the results, please call. Thank you for using US Filter/Enviroscan for your analytical needs.

Sincerely,

US Filter/Enviroscan

Jay C. Hunger
Analytical Chemist

ANALYTICAL REPORT

ESCAN

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/31/96
REPORT DATE: 09/16/96
PREPARED BY: JCH
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	MW-1 08/29/96	Qualifiers	Date Analyzed
EPA 213.2					
Cadmium (GFAAS)	µg/l	0.21	1.88		09/07/96
EPA 239.2					
Lead (GFAAS)	µg/l	1.0	X		09/04/96
EPA 8021					
Benzene	µg/l	0.5	X		09/06/96
Bromobenzene	µg/l	2.0	X		09/06/96
Bromodichloromethane	µg/l	1.0	X		09/06/96
n-Butylbenzene	µg/l	1.0	X		09/06/96
sec-Butylbenzene	µg/l	1.0	X		09/06/96
tert-Butylbenzene	µg/l	1.0	X		09/06/96
Carbon Tetrachloride	µg/l	1.0	X		09/06/96
Chlorobenzene	µg/l	1.0	X		09/06/96
Chlorodibromomethane	µg/l	1.0	X		09/06/96
Chloroethane	µg/l	1.0	X	CSL	09/06/96
Chloroform	µg/l	1.0	X		09/06/96
Chloromethane	µg/l	2.0	X	CSL	09/06/96
o-Chlorotoluene	µg/l	1.0	X		09/06/96
p-Chlorotoluene	µg/l	2.0	X		09/06/96
1,2-Dibromo-3-chloropropane	µg/l	1.0	X		09/06/96
1,2-Dibromoethane	µg/l	1.0	X		09/06/96
1,2-Dichlorobenzene	µg/l	1.0	X		09/06/96
1,3-Dichlorobenzene	µg/l	1.0	X		09/06/96
1,4-Dichlorobenzene	µg/l	1.0	X		09/06/96
Dichlorodifluoromethane	µg/l	2.0	X		09/06/96
1,1-Dichloroethane	µg/l	1.0	X		09/06/96
1,2-Dichloroethane	µg/l	1.0	X		09/06/96
1,1-Dichloroethylene	µg/l	1.0	X		09/06/96
cis-1,2-Dichloroethylene	µg/l	2.0	X		09/06/96
trans-1,2-Dichloroethylene	µg/l	1.0	X		09/06/96
1,2-Dichloropropane	µg/l	1.0	X		09/06/96
1,3-Dichloropropane	µg/l	1.0	X		09/06/96
2,2-Dichloropropane	µg/l	2.0	X		09/06/96
Ethylbenzene	µg/l	1.0	X	SPH	09/06/96
Hexachlorobutadiene	µg/l	1.0	X		09/06/96
Isopropylbenzene	µg/l	1.0	X		09/06/96
Isopropyl Ether	µg/l	1.0	X		09/06/96
p-Isopropyltoluene	µg/l	1.0	X		09/06/96
Methyl tert Butyl Ether	µg/l	1.0	X		09/06/96
Methylene Chloride	µg/l	2.0	X	CSL	09/06/96
Naphthalene	µg/l	1.0	X		09/06/96
Analytical No.:			75796		

X = Analyzed but not detected.

ANALYTICAL REPORT

ESCAN

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/31/96
REPORT DATE: 09/16/96
PREPARED BY: JCH
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	MW-1 08/29/96	Qualifiers	Date Analyzed
EPA 8021					
n-Propylbenzene	µg/l	1.0	X		09/06/96
Tetrachloroethylene	µg/l	1.0	X		09/06/96
1,1,2,2-Tetrachloroethane	µg/l	1.0	X		09/06/96
Toluene	µg/l	1.0	X		09/06/96
1,2,3-Trichlorobenzene	µg/l	1.0	X		09/06/96
1,2,4-Trichlorobenzene	µg/l	1.0	X		09/06/96
1,1,1-Trichloroethane	µg/l	1.0	X		09/06/96
1,1,2-Trichloroethane	µg/l	1.0	X		09/06/96
Trichloroethylene	µg/l	0.5	X		09/06/96
Trichlorofluoromethane	µg/l	1.0	X	CSL	09/06/96
1,2,4-Trimethylbenzene	µg/l	1.0	X	SPH	09/06/96
1,3,5-Trimethylbenzene	µg/l	1.0	X	SPH	09/06/96
Vinyl Chloride	µg/l	0.2	X DL		09/06/96
m- & p-Xylene	µg/l	1.0	1.2		09/06/96
o-Xylene	µg/l	1.0	X		09/06/96
EPA 8310					
Acenaphthene	µg/l	0.2	X		09/12/96
Acenaphthylene	µg/l	0.04	X		09/12/96
Anthracene	µg/l	0.32	X		09/12/96
Benzo(a)Anthracene	µg/l	0.14	X		09/12/96
Benzo(a)Pyrene	µg/l	0.14	X		09/12/96
Benzo(b)Fluoranthene	µg/l	0.08	X		09/12/96
Benzo(k)Fluoranthene	µg/l	0.06	X		09/12/96
Benzo(ghi)Perylene	µg/l	0.16	X		09/12/96
Chrysene	µg/l	0.06	X		09/12/96
Dibenzo(a,h)Anthracene	µg/l	0.22	X		09/12/96
Fluoranthene	µg/l	0.22	X		09/12/96
Fluorene	µg/l	0.12	X		09/12/96
Indeno(1,2,3-cd)Pyrene	µg/l	0.24	X		09/12/96
1-Methyl Naphthalene	µg/l	0.04	X		09/12/96
2-Methyl Naphthalene	µg/l	0.12	X		09/12/96
Naphthalene	µg/l	0.06	X		09/12/96
Phenanthrene	µg/l	0.24	0.251		09/12/96
Pyrene	µg/l	0.18	0.207		09/12/96
Analytical No.:			75796		

X = Analyzed but not detected.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

ENVIROSCAN

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/31/96
REPORT DATE: 09/16/96
PREPARED BY: JCH
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	DUP-1 08/29/96	Qualifiers	Date Analyzed
EPA 8021					
Benzene	µg/l	0.5	X		09/06/96
Bromobenzene	µg/l	2.0	X		09/06/96
Bromodichloromethane	µg/l	1.0	X		09/06/96
n-Butylbenzene	µg/l	1.0	X		09/06/96
sec-Butylbenzene	µg/l	1.0	X		09/06/96
tert-Butylbenzene	µg/l	1.0	X		09/06/96
Carbon Tetrachloride	µg/l	1.0	X		09/06/96
Chlorobenzene	µg/l	1.0	X		09/06/96
Chlorodibromomethane	µg/l	1.0	X		09/06/96
Chloroethane	µg/l	1.0	X	CSL	09/06/96
Chloroform	µg/l	1.0	X		09/06/96
Chloromethane	µg/l	2.0	X	CSL	09/06/96
o-Chlorotoluene	µg/l	1.0	X		09/06/96
p-Chlorotoluene	µg/l	2.0	X		09/06/96
1,2-Dibromo-3-chloropropane	µg/l	1.0	X		09/06/96
1,2-Dibromoethane	µg/l	1.0	X		09/06/96
1,2-Dichlorobenzene	µg/l	1.0	X		09/06/96
1,3-Dichlorobenzene	µg/l	1.0	X		09/06/96
1,4-Dichlorobenzene	µg/l	1.0	X		09/06/96
Dichlorodifluoromethane	µg/l	2.0	X		09/06/96
1,1-Dichloroethane	µg/l	1.0	X		09/06/96
1,2-Dichloroethane	µg/l	1.0	X		09/06/96
1,1-Dichloroethylene	µg/l	1.0	X		09/06/96
cis-1,2-Dichloroethylene	µg/l	2.0	X		09/06/96
trans-1,2-Dichloroethylene	µg/l	1.0	X		09/06/96
1,2-Dichloropropane	µg/l	1.0	X		09/06/96
1,3-Dichloropropane	µg/l	1.0	X		09/06/96
2,2-Dichloropropane	µg/l	2.0	X		09/06/96
Ethylbenzene	µg/l	1.0	X	SPH	09/06/96
Hexachlorobutadiene	µg/l	1.0	X		09/06/96
Isopropylbenzene	µg/l	1.0	X		09/06/96
Isopropyl Ether	µg/l	1.0	X		09/06/96
p-Isopropyltoluene	µg/l	1.0	X		09/06/96
Methyl tert Butyl Ether	µg/l	1.0	X		09/06/96
Methylene Chloride	µg/l	2.0	X	CSL	09/06/96
Naphthalene	µg/l	1.0	X		09/06/96
n-Propylbenzene	µg/l	1.0	X		09/06/96
Tetrachloroethylene	µg/l	1.0	X		09/06/96
1,1,2,2-Tetrachloroethane	µg/l	1.0	X		09/06/96
Toluene	µg/l	1.0	X		09/06/96
1,2,3-Trichlorobenzene	µg/l	1.0	X		09/06/96
1,2,4-Trichlorobenzene	µg/l	1.0	X		09/06/96
1,1,1-Trichloroethane	µg/l	1.0	X		09/06/96
1,1,2-Trichloroethane	µg/l	1.0	X		09/06/96
Trichloroethylene	µg/l	0.5	X		09/06/96
Analytical No.:			75800		

X = Analyzed but not detected.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/31/96
REPORT DATE: 09/16/96
PREPARED BY: JCH 9.04
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	DUP-1 08/29/96	Qualifiers	Date Analyzed
EPA 8021					
Trichlorofluoromethane	µg/l	1.0	X	CSL	09/06/96
1,2,4-Trimethylbenzene	µg/l	1.0	X	SPH	09/06/96
1,3,5-Trimethylbenzene	µg/l	1.0	X	SPH	09/06/96
Vinyl Chloride	µg/l	0.2	X		09/06/96
m- & p-Xylene	µg/l	1.0	1.6		09/06/96
o-Xylene	µg/l	1.0	X		09/06/96
Analytical No.:			75800		

X = Analyzed but not detected.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/31/96
REPORT DATE: 09/16/96
PREPARED BY: JCH
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	TRIP BLANK 08/29/96	Qualifiers	Date Analyzed
EPA 8021					
Benzene	µg/l	0.5	X		09/06/96
Bromobenzene	µg/l	2.0	X		09/06/96
Bromodichloromethane	µg/l	1.0	X		09/06/96
n-Butylbenzene	µg/l	1.0	X		09/06/96
sec-Butylbenzene	µg/l	1.0	X		09/06/96
tert-Butylbenzene	µg/l	1.0	X		09/06/96
Carbon Tetrachloride	µg/l	1.0	X		09/06/96
Chlorobenzene	µg/l	1.0	X		09/06/96
Chlorodibromomethane	µg/l	1.0	X		09/06/96
Chloroethane	µg/l	1.0	X	CSL	09/06/96
Chloroform	µg/l	1.0	X		09/06/96
Chloromethane	µg/l	2.0	X	CSL	09/06/96
o-Chlorotoluene	µg/l	1.0	X		09/06/96
p-Chlorotoluene	µg/l	2.0	X		09/06/96
1,2-Dibromo-3-chloropropane	µg/l	1.0	X		09/06/96
1,2-Dibromoethane	µg/l	1.0	X		09/06/96
1,2-Dichlorobenzene	µg/l	1.0	X		09/06/96
1,3-Dichlorobenzene	µg/l	1.0	X		09/06/96
1,4-Dichlorobenzene	µg/l	1.0	X		09/06/96
Dichlorodifluoromethane	µg/l	2.0	X		09/06/96
1,1-Dichloroethane	µg/l	1.0	X		09/06/96
1,2-Dichloroethane	µg/l	1.0	X		09/06/96
1,1-Dichloroethylene	µg/l	1.0	X		09/06/96
cis-1,2-Dichloroethylene	µg/l	2.0	X		09/06/96
trans-1,2-Dichloroethylene	µg/l	1.0	X		09/06/96
1,2-Dichloropropane	µg/l	1.0	X		09/06/96
1,3-Dichloropropane	µg/l	1.0	X		09/06/96
2,2-Dichloropropane	µg/l	2.0	X		09/06/96
Ethylbenzene	µg/l	1.0	X	SPH	09/06/96
Hexachlorobutadiene	µg/l	1.0	X		09/06/96
Isopropylbenzene	µg/l	1.0	X		09/06/96
Isopropyl Ether	µg/l	1.0	X		09/06/96
p-Isopropyltoluene	µg/l	1.0	X		09/06/96
Methyl tert Butyl Ether	µg/l	1.0	X		09/06/96
Methylene Chloride	µg/l	2.0	X	CSL	09/06/96
Naphthalene	µg/l	1.0	X		09/06/96
n-Propylbenzene	µg/l	1.0	X		09/06/96
Tetrachloroethylene	µg/l	1.0	X		09/06/96
1,1,2,2-Tetrachloroethane	µg/l	1.0	X		09/06/96
Toluene	µg/l	1.0	X		09/06/96
1,2,3-Trichlorobenzene	µg/l	1.0	X		09/06/96
1,2,4-Trichlorobenzene	µg/l	1.0	X		09/06/96
1,1,1-Trichloroethane	µg/l	1.0	X		09/06/96
1,1,2-Trichloroethane	µg/l	1.0	X		09/06/96
Trichloroethylene	µg/l	0.5	X		09/06/96
Analytical No.:			75801		

X = Analyzed but not detected.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/31/96
REPORT DATE: 09/16/96
PREPARED BY: JCH
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	TRIP BLANK 08/29/96	Qualifiers	Date Analyzed
EPA 8021					
Trichlorofluoromethane	µg/l	1.0	X	CSL	09/06/96
1,2,4-Trimethylbenzene	µg/l	1.0	X	SPH	09/06/96
1,3,5-Trimethylbenzene	µg/l	1.0	X	SPH	09/06/96
Vinyl Chloride	µg/l	0.2	X		09/06/96
m- & p-Xylene	µg/l	1.0	X		09/06/96
o-Xylene	µg/l	1.0	X		09/06/96
Analytical No.:			75801		

X = Analyzed but not detected.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

ESCAN

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/31/96
REPORT DATE: 09/16/96
PREPARED BY: JCH
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	MW-5 08/29/96	Qualifiers	Date Analyzed
EPA 213.2					
Cadmium (GFAAS)	µg/l	0.21	2.84		09/07/96
EPA 218.2					
Chromium (GFAAS)	µg/l	1.0	X		09/10/96
EPA 239.2					
Lead (GFAAS)	µg/l	1.0	X		09/04/96
EPA 8021					
Benzene	µg/l	0.5	X		09/06/96
Bromobenzene	µg/l	2.0	X		09/06/96
Bromodichloromethane	µg/l	1.0	X		09/06/96
n-Butylbenzene	µg/l	1.0	X		09/06/96
sec-Butylbenzene	µg/l	1.0	X		09/06/96
tert-Butylbenzene	µg/l	1.0	X		09/06/96
Carbon Tetrachloride	µg/l	1.0	X		09/06/96
Chlorobenzene	µg/l	1.0	X		09/06/96
Chlorodibromomethane	µg/l	1.0	X		09/06/96
Chloroethane	µg/l	1.0	X	CSL	09/06/96
Chloroform	µg/l	1.0	X		09/06/96
Chloromethane	µg/l	2.0	X	CSL	09/06/96
o-Chlorotoluene	µg/l	1.0	X		09/06/96
p-Chlorotoluene	µg/l	2.0	X		09/06/96
1,2-Dibromo-3-chloropropane	µg/l	1.0	X		09/06/96
1,2-Dibromoethane	µg/l	1.0	X		09/06/96
1,2-Dichlorobenzene	µg/l	1.0	X		09/06/96
1,3-Dichlorobenzene	µg/l	1.0	X		09/06/96
1,4-Dichlorobenzene	µg/l	1.0	X		09/06/96
Dichlorodifluoromethane	µg/l	2.0	X		09/06/96
1,1-Dichloroethane	µg/l	1.0	X		09/06/96
1,2-Dichloroethane	µg/l	1.0	X		09/06/96
1,1-Dichloroethylene	µg/l	1.0	X		09/06/96
cis-1,2-Dichloroethylene	µg/l	2.0	X		09/06/96
trans-1,2-Dichloroethylene	µg/l	1.0	X		09/06/96
1,2-Dichloropropane	µg/l	1.0	X		09/06/96
1,3-Dichloropropane	µg/l	1.0	X		09/06/96
2,2-Dichloropropane	µg/l	2.0	X		09/06/96
Ethylbenzene	µg/l	1.0	X	SPH	09/06/96
Hexachlorobutadiene	µg/l	1.0	X		09/06/96
Isopropylbenzene	µg/l	1.0	X		09/06/96
Isopropyl Ether	µg/l	1.0	X		09/06/96
p-Isopropyltoluene	µg/l	1.0	X		09/06/96
Analytical No.:			75802		

X = Analyzed but not detected.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

ESCAN

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/31/96
REPORT DATE: 09/16/96
PREPARED BY: JCH 9-16
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	MW-5 08/29/96	Qualifiers	Date Analyzed
EPA 8021					
Methyl tert Butyl Ether	µg/l	1.0	X		09/06/96
Methylene Chloride	µg/l	2.0	X	CSL	09/06/96
Naphthalene	µg/l	1.0	X		09/06/96
n-Propylbenzene	µg/l	1.0	X		09/06/96
Tetrachloroethylene	µg/l	1.0	X		09/06/96
1,1,2,2-Tetrachloroethane	µg/l	1.0	X		09/06/96
Toluene	µg/l	1.0	X		09/06/96
1,2,3-Trichlorobenzene	µg/l	1.0	X		09/06/96
1,2,4-Trichlorobenzene	µg/l	1.0	X		09/06/96
1,1,1-Trichloroethane	µg/l	1.0	X		09/06/96
1,1,2-Trichloroethane	µg/l	1.0	X		09/06/96
Trichloroethylene	µg/l	0.5	X		09/06/96
Trichlorofluoromethane	µg/l	1.0	X	CSL	09/06/96
1,2,4-Trimethylbenzene	µg/l	1.0	X	SPH	09/06/96
1,3,5-Trimethylbenzene	µg/l	1.0	X	SPH	09/06/96
Vinyl Chloride	µg/l	0.2	X		09/06/96
m- & p-Xylene	µg/l	1.0	X		09/06/96
o-Xylene	µg/l	1.0	X		09/06/96
EPA 8310					
Acenaphthene	µg/l	0.1	X		09/12/96
Acenaphthylene	µg/l	0.02	X		09/12/96
Anthracene	µg/l	0.16	X		09/12/96
Benzo(a)Anthracene	µg/l	0.07	0.97 ?		09/12/96
Benzo(a)Pyrene	µg/l	0.07	1.42 ?		09/12/96
Benzo(b)Fluoranthene	µg/l	0.04	0.835 ?		09/12/96
Benzo(k)Fluoranthene	µg/l	0.03	0.509 ?		09/12/96
Benzo(ghi)Perylene	µg/l	0.08	0.541 ?		09/12/96
Chrysene	µg/l	0.03	X		09/12/96
Dibenzo(a,h)Anthracene	µg/l	0.11	X		09/12/96
Fluoranthene	µg/l	0.11	2.97 ?		09/12/96
Fluorene	µg/l	0.06	X		09/12/96
Indeno(1,2,3-cd)Pyrene	µg/l	0.12	0.840 ?		09/12/96
1-Methyl Naphthalene	µg/l	0.02	1.01 ?		09/12/96
2-Methyl Naphthalene	µg/l	0.06	X		09/12/96
Naphthalene	µg/l	0.03	0.338 ? OK		09/12/96
Phenanthrene	µg/l	0.12	1.48 ?		09/12/96
Pyrene	µg/l	0.09	4.25 ?		09/12/96

Analytical No.: 75802

" = Analyzed but not detected.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

ESCAN

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/31/96
REPORT DATE: 09/16/96
PREPARED BY: JCH
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	LYS-1 08/29/96	Qualifiers	Date Analyzed
EPA 239.2					
Lead (GFAAS)	µg/l	1.0	6.94		09/04/96
Analytical No.:			75803		

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 08/31/96
REPORT DATE: 09/16/96
PREPARED BY: JCH 9.27.
REVIEWED BY:

Attn: John Guhl

Qualifier Descriptions

CSL	Check standard for this analyte exhibited a low bias. Sample results may also be biased low. Non-detects were verified by comparison with a low standard.
SPH	The matrix spike included with this analytical batch had a high recovery. Since that sample matrix appears similar to your sample, your result may also be high.

ENVIROSCAN

REQUEST FOR SERVICES

303 W. MILITARY RD. ROTHSCHILD, WI 54474 1-800-338-SCAN

REPORT TO:
Name: John Guhl
Company: SEH Inc.
Address: 421 Frenette Dr.
Chippewa Falls, WI 54729
Phone: (715) 720-6200
P.O. #
Project # FRASE9401.00 Quote # 3941-5

BILL TO: (if different from Report To info):
Name:
Company:
Address:
Phone: ( )

Sample Type (Check all that apply)
- [x] Groundwater
- [ ] Wastewater
- [ ] Soil/Solid
- [ ] Drinking Water
- [ ] Oil
- [ ] Vapor
- [ ] Other

Turnaround Time
- [x] Normal
- [ ] Rush (Pre-approved by Lab)

Date Needed
Approved By

ANALYTICAL REQUESTS (use separate sheet if necessary)

LAB USE ONLY	DATE	TIME	No. of Containers COMP	No. of Containers GRAB	SAMPLE ID	PAHs LPNA A	VOCs 8021/VOC	PVOCs VOC/LUST	Lead F-Pb Cadmium F-Cd	Lead, F-Pb Chromium F-Cr	REMARKS
10075796	8/29/96	9:40 AM		4	MW-1	X	X		X		Page 1 of 2
10075797	↓	12:45		1	MW-2					X	
10075798		11:30		2	MW-3			X			
10075799		11:35		2	MW-4			X			
10075800		1:00		2	Dup-1		X				
10075801				2	Trip Blank		X				
	↓			1	Temp Blank						
Short	Frasersh										

Dely: Hand (Comm.)
Ship. Cont. OK? (Y) N N/A
Samples leaking? Y (N) N/A
Seals OK? (Y) N N/A
Rec'd on ice? (Y) N N/A C

Comments:

CHAIN OF CUSTODY RECORD

SAMPLERS: (Signature) Jim Baur

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Jim Baur	8/30/96 9:30 AM	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED FOR LABORATORY BY: (Signature) Nicci Kamke — DATE/TIME 8/31/96 9:15am

REQUEST FOR SERVICES

303 W. MILITARY RD. ROTHSCHILD, WI 54474 1-800-338-SCAN

REPORT TO:
Name: John Guhl
Company: SEH, Inc.
Address: 421 Frenette Dr
Chippewa Falls, WI 54729
Phone: (715) 720 - 6200
P.O. #
Project # FRASE9401.00 Quote #

BILL TO: (if different from Report To info):
Name:
Company:
Address:
Phone: ( )

Sample Type (Check all that apply)
- [X] Groundwater
- [ ] Wastewater
- [ ] Soil/Solid
- [ ] Drinking Water
- [ ] Oil
- [ ] Vapor
- [ ] Other

Turnaround Time
- [X] Normal
- [ ] Rush (Pre-approved by Lab)

Date Needed
Approved By

ANALYTICAL REQUESTS
(use separate sheet if necessary)

LAB USE ONLY	DATE	TIME	No. of Containers COMP	No. of Containers GRAB	SAMPLE ID	PAHs	VOCs	Lead, Cadmium, Chromium	Lead		REMARKS
	~~8/29/96~~	~~9:40 AM~~			~~MW-4~~						Pg. 2 of 2
10075802	8/29/96	12:30		4	MW-5	X	X	X			
10075803	↓	1:55		1	Lys-1				X		
Shaff	Fasersh										

CHAIN OF CUSTODY RECORD

SAMPLERS: (Signature) Jwn Bau

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Jwn Bau	8/30/96 9:30 AM	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED FOR LABORATORY BY: (Signature) / DATE/TIME
		Melissa Kpoke 8/31/96 9:15 am

Deliv: Hand Comm
Ship. Cont. OK? Y N N/A
Samples leaking? Y N N/A
Seals OK? Y N N/A
Rec'd on ice? Y N N/A °C

Comments:

U.S. FILTER

UNITED STATES FILTER CORPORATION

U.S. FILTER/ENVIROSCAN
301 WEST MILITARY ROAD
ROTHSCHILD, WI 54474

TELEPHONE 715-359-7226
FACSIMILE 715-355-3221

December 12, 1996

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

DEC 16

Attn: John Guhl

Re: FRASE9401.00

Please find enclosed the analytical results for the samples received November 23, 1996.

All analyses were completed in accordance with appropriate EPA methodologies. Methods and dates of analysis are included in the report tables.

The chain of custody document is also enclosed.

If you have any questions about the results, please call. Thank you for using US Filter/Enviroscan for your analytical needs.

Sincerely,

US Filter/Enviroscan

Gary L. Scharrer
Instrumentation Chemist

U.S. FILTER

UNITED STATES FILTER CORPORATION

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 11/23/96
REPORT DATE: 12/12/96
PREPARED BY: GLS
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	MW-1 11/21/96	Qualifiers	Date Analyzed
EPA 213.2					
Cadmium (GFAAS)	µg/l	0.21	X		12/02/96
EPA 239.2					
Lead (GFAAS)	µg/l	1.0	X		12/03/96
EPA 8021					
Benzene	µg/l	0.5	X		11/27/96
Ethylbenzene	µg/l	1.0	X	SPH	11/27/96
Methyl tert Butyl Ether	µg/l	1.0	X		11/27/96
Toluene	µg/l	1.0	X		11/27/96
1,2,4-Trimethylbenzene	µg/l	1.0	X		11/27/96
1,3,5-Trimethylbenzene	µg/l	1.0	X		11/27/96
m- & p-Xylene	µg/l	1.0	1.12 OK		11/27/96
o-Xylene & Styrene	µg/l	1.0	X		11/27/96
EPA 8310					
Acenaphthene	µg/l	0.1	X		12/06/96
Acenaphthylene	µg/l	0.02	X		12/06/96
Anthracene	µg/l	0.16	X		12/06/96
Benzo(a)Anthracene	µg/l	0.07	X	SPL DUP	12/06/96
Benzo(a)Pyrene	µg/l	0.07	X (7 PAL)	DUP	12/06/96
Benzo(b)Fluoranthene	µg/l	0.04	0.085	SPL	12/06/96
Benzo(k)Fluoranthene	µg/l	0.03	X	SPL	12/06/96
Benzo(ghi)Perylene	µg/l	0.08	X	SPL DUP	12/06/96
Chrysene	µg/l	0.03	X		12/06/96
Dibenzo(a,h)Anthracene	µg/l	0.11	X (OK)	SPL	12/06/96
Fluoranthene	µg/l	0.11	0.350	SPL DUP	12/06/96
Fluorene	µg/l	0.06	X		12/06/96
Indeno(1,2,3-cd)Pyrene	µg/l	0.12	X	SPL DUP	12/06/96
1-Methyl Naphthalene	µg/l	0.02	X		12/06/96
2-Methyl Naphthalene	µg/l	0.06	X		12/06/96
Naphthalene	µg/l	0.03	X ?		12/06/96
Phenanthrene	µg/l	0.12	0.176		12/06/96
Pyrene	µg/l	0.09	0.195 (OK)		12/06/96
Water Org Ext - PNAs		-	COMP		11/27/96

Analytical No.: 83154

X = Analyzed but not detected.

U.S. FILTER

UNITED STATES FILTER CORPORATION

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 11/23/96
REPORT DATE: 12/12/96
PREPARED BY: GLS
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	MW-5 11/21/96	Qualifiers	Date Analyzed
EPA 213.2					
Cadmium (GFAAS)	µg/l	0.21	X		12/02/96
EPA 218.2					
Chromium (GFAAS)	µg/l	1.0	X	SPL	11/26/96
EPA 239.2					
Lead (GFAAS)	µg/l	1.0	X		12/03/96
EPA 8021					
Benzene	µg/l	0.5	X		12/04/96
Bromobenzene	µg/l	2.0	X		12/04/96
Bromodichloromethane	µg/l	1.0	X		12/04/96
n-Butylbenzene	µg/l	1.0	X		12/04/96
sec-Butylbenzene	µg/l	1.0	X		12/04/96
tert-Butylbenzene	µg/l	1.0	X		12/04/96
Carbon Tetrachloride	µg/l	1.0	X		12/04/96
Chlorobenzene	µg/l	1.0	X		12/04/96
Chlorodibromomethane	µg/l	1.0	X		12/04/96
Chloroethane	µg/l	1.0	X		12/04/96
Chloroform	µg/l	1.0	X		12/04/96
Chloromethane	µg/l	1.0	X		12/04/96
o-Chlorotoluene	µg/l	2.0	X		12/04/96
p-Chlorotoluene	µg/l	1.0	X		12/04/96
1,2-Dibromo-3-chloropropane	µg/l	2.0	X	SPH	12/04/96
1,2-Dibromoethane	µg/l	1.0	X		12/04/96
1,2-Dichlorobenzene	µg/l	1.0	X		12/04/96
1,3-Dichlorobenzene	µg/l	1.0	X		12/04/96
1,4-Dichlorobenzene	µg/l	1.0	X		12/04/96
Dichlorodifluoromethane	µg/l	1.0	X		12/04/96
1,1-Dichloroethane	µg/l	2.0	X		12/04/96
1,2-Dichloroethane	µg/l	1.0	X	CSL	12/04/96
1,1-Dichloroethylene	µg/l	1.0	X		12/04/96
cis-1,2-Dichloroethylene	µg/l	1.0	X		12/04/96
trans-1,2-Dichloroethylene	µg/l	2.0	X		12/04/96
1,2-Dichloropropane	µg/l	1.0	X		12/04/96
1,3-Dichloropropane	µg/l	1.0	X		12/04/96
2,2-Dichloropropane	µg/l	1.0	X		12/04/96
Ethylbenzene	µg/l	2.0	X		12/04/96
Hexachlorobutadiene	µg/l	1.0	X		12/04/96
Isopropylbenzene	µg/l	1.0	X		12/04/96
Isopropyl Ether	µg/l	1.0	X		12/04/96
p-Isopropyltoluene	µg/l	1.0	X		12/04/96
Analytical No.:			83151		12/04/96

X = Analyzed but not detected.

U.S. FILTER

UNITED STATES FILTER CORPORATION

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

Attn: John Guhl

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 11/23/96
REPORT DATE: 12/12/96
PREPARED BY: GLS
REVIEWED BY:

	Units	Reporting Limit	MW-5 11/21/96	Qualifiers	Date Analyzed
EPA 8021					
Methyl tert Butyl Ether	µg/l	1.0	X		12/04/96
Methylene Chloride	µg/l	2.0	X		12/04/96
Naphthalene	µg/l	1.0	X		12/04/96
n-Propylbenzene	µg/l	1.0	X		12/04/96
Tetrachloroethylene	µg/l	1.0	X		12/04/96
1,1,2,2-Tetrachloroethane	µg/l	1.0	X		12/04/96
Toluene	µg/l	1.0	X		12/04/96
1,2,3-Trichlorobenzene	µg/l	1.0	X		12/04/96
1,2,4-Trichlorobenzene	µg/l	1.0	X		12/04/96
1,1,1-Trichloroethane	µg/l	1.0	X		12/04/96
1,1,2-Trichloroethane	µg/l	1.0	X		12/04/96
Trichloroethylene	µg/l	0.5	X		12/04/96
Trichlorofluoromethane	µg/l	1.0	X		12/04/96
1,2,4-Trimethylbenzene	µg/l	1.0	X		12/04/96
1,3,5-Trimethylbenzene	µg/l	1.0	X	CSL	12/04/96
Vinyl Chloride	µg/l	0.2	X		12/04/96
m- & p-Xylene	µg/l	1.0	X		12/04/96
o-Xylene & Styrene	µg/l	1.0	X		12/04/96
EPA 8310					
Acenaphthene	µg/l	0.2	X		12/05/96
Acenaphthylene	µg/l	0.04	X		12/05/96
Anthracene	µg/l	0.32	X		12/05/96
Benzo(a)Anthracene	µg/l	0.14	0.718	S1L S2L DUP	12/05/96
Benzo(a)Pyrene	µg/l	0.14	0.785	DUP	12/05/96
Benzo(b)Fluoranthene	µg/l	0.08	0.684	S1L S2L	12/05/96
Benzo(k)Fluoranthene	µg/l	0.06	0.390	S1L S2L	12/05/96
Benzo(ghi)Perylene	µg/l	0.16	0.415	S1L S2L DUP	12/05/96
Chrysene	µg/l	0.06	X		12/05/96
Dibenzo(a,h)Anthracene	µg/l	0.22	X	S1L S2L	12/05/96
Fluoranthene	µg/l	0.22	X	S2L DUP	12/05/96
Fluorene	µg/l	0.12	X		12/05/96
Indeno(1,2,3-cd)Pyrene	µg/l	0.24	0.565	S1L S2L DUP	12/05/96
1-Methyl Naphthalene	µg/l	0.04	X		12/05/96
2-Methyl Naphthalene	µg/l	0.12	X		12/05/96
Naphthalene	µg/l	0.06	X		12/05/96
Phenanthrene	µg/l	0.24	1.03		12/05/96
Pyrene	µg/l	0.18	X		12/05/96
Water Org Ext - PNAs			COMP		11/27/96
Analytical No.:			83151		

X = Analyzed but not detected.

U.S. FILTER

UNITED STATES FILTER CORPORATION

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 11/23/96
REPORT DATE: 12/12/96
PREPARED BY: GLS
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	TRIP BLANK-USF 11/21/96	Qualifiers	Date Analyzed
EPA 8021					
Benzene	µg/l	0.5	X		12/04/96
Bromobenzene	µg/l	2.0	X		12/04/96
Bromodichloromethane	µg/l	1.0	X		12/04/96
n-Butylbenzene	µg/l	1.0	X		12/04/96
sec-Butylbenzene	µg/l	1.0	X		12/04/96
tert-Butylbenzene	µg/l	1.0	X		12/04/96
Carbon Tetrachloride	µg/l	1.0	X		12/04/96
Chlorobenzene	µg/l	1.0	X		12/04/96
Chlorodibromomethane	µg/l	1.0	X		12/04/96
Chloroethane	µg/l	1.0	X		12/04/96
Chloroform	µg/l	1.0	X		12/04/96
Chloromethane	µg/l	2.0	X		12/04/96
o-Chlorotoluene	µg/l	1.0	X	SPH	12/04/96
p-Chlorotoluene	µg/l	2.0	X		12/04/96
1,2-Dibromo-3-chloropropane	µg/l	1.0	X		12/04/96
1,2-Dibromoethane	µg/l	1.0	X		12/04/96
1,2-Dichlorobenzene	µg/l	1.0	X		12/04/96
1,3-Dichlorobenzene	µg/l	1.0	X		12/04/96
1,4-Dichlorobenzene	µg/l	1.0	X		12/04/96
Dichlorodifluoromethane	µg/l	2.0	X	CSL	12/04/96
1,1-Dichloroethane	µg/l	1.0	X		12/04/96
1,2-Dichloroethane	µg/l	1.0	X		12/04/96
1,1-Dichloroethylene	µg/l	1.0	X		12/04/96
cis-1,2-Dichloroethylene	µg/l	2.0	X		12/04/96
trans-1,2-Dichloroethylene	µg/l	1.0	X		12/04/96
1,2-Dichloropropane	µg/l	1.0	X		12/04/96
1,3-Dichloropropane	µg/l	1.0	X		12/04/96
2,2-Dichloropropane	µg/l	2.0	X		12/04/96
Ethylbenzene	µg/l	1.0	X		12/04/96
Hexachlorobutadiene	µg/l	1.0	X		12/04/96
Isopropylbenzene	µg/l	1.0	X		12/04/96
Isopropyl Ether	µg/l	1.0	X		12/04/96
p-Isopropyltoluene	µg/l	1.0	X		12/04/96
Methyl tert Butyl Ether	µg/l	1.0	X		12/04/96
Methylene Chloride	µg/l	2.0	X		12/04/96
Naphthalene	µg/l	1.0	X		12/04/96
n-Propylbenzene	µg/l	1.0	X		12/04/96
Tetrachloroethylene	µg/l	1.0	X		12/04/96
1,1,2,2-Tetrachloroethane	µg/l	1.0	X		12/04/96
Toluene	µg/l	1.0	X		12/04/96
1,2,3-Trichlorobenzene	µg/l	1.0	X		12/04/96
1,2,4-Trichlorobenzene	µg/l	1.0	X		12/04/96
1,1,1-Trichloroethane	µg/l	1.0	X		12/04/96
1,1,2-Trichloroethane	µg/l	1.0	X		12/04/96
Trichloroethylene	µg/l	0.5	X		12/04/96
Analytical No.:			83152		

X = Analyzed but not detected.

U.S. FILTER

UNITED STATES FILTER CORPORATION

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 11/23/96
REPORT DATE: 12/12/96
PREPARED BY: GLS
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	TRIP BLANK-USF 11/21/96	Qualifiers	Date Analyzed
EPA 8021					
Trichlorofluoromethane	µg/l	1.0	X		12/04/96
1,2,4-Trimethylbenzene	µg/l	1.0	X	CSL	12/04/96
1,3,5-Trimethylbenzene	µg/l	1.0	X		12/04/96
Vinyl Chloride	µg/l	0.2	X		12/04/96
m- & p-Xylene	µg/l	1.0	X		12/04/96
o-Xylene & Styrene	µg/l	1.0	X		12/04/96
Analytical No.:			83152		

X = Analyzed but not detected.

U.S. FILTER

UNITED STATES FILTER CORPORATION

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 11/23/96
REPORT DATE: 12/12/96
PREPARED BY: GLS
REVIEWED BY:

Attn: John Guhl

	Units	Reporting Limit	LYS-1 11/21/96	Qualifiers	Date Analyzed
EPA 239.2 Lead (GFAAS)	µg/l	1.0	X		12/03/96
Analytical No.:			83153		

X = Analyzed but not detected.

U.S. FILTER

UNITED STATES FILTER CORPORATION

Short Elliott Hendrickson, Inc.
421 Frenette Drive
Chippewa Falls , WI 54729

CUST NUMBER: FRASE9401.0
SAMPLED BY: Client
DATE REC'D: 11/23/96
REPORT DATE: 12/12/96
PREPARED BY: GLS
REVIEWED BY:

Attn: John Guhl

Qualifier Descriptions

SPL	The matrix spike included with this analytical batch had a low recovery. Since that sample matrix appears similar to your sample, your result may also be low.
SPH	The matrix spike included with this analytical batch had a high recovery. Since that sample matrix appears similar to your sample, your result may also be high.
CSL	Check standard for this analyte exhibited a low bias. Sample results may also be biased low. Non-detects were verified by comparison with a low standard.
S1L	Matrix spike recovery of this sample was low. Result for sample may also be biased low.
S2L	Matrix spike duplicate recovery of this sample was low. Result for sample may also be biased low.
DUP	Result of duplicate analysis in this quality assurance batch exceeds the limits for precision. Sample results may also show a degree of variability.

REQUEST FOR SERVICES

U.S. FILTER/ENVIROSCAN 301 W. MILITARY RD. ROTHSCHILD, WI 54474 1-800-338-SCAN

REPORT TO:
Name: John Guhl
Company: SEH, Inc.
Address: 421 Frenette Dr.
Chippewa Falls, WI 54729
Phone: (715) 720- 6200
P.O. #
Project # FRASE-9401.00 Quote # 3741-5
Location Superior, WI

BILL TO: (If different from Report To info):
Name:
Company:
Address:
Phone: ( )

Sample Type (Check all that apply)
- [X] Groundwater
- [ ] Wastewater
- [ ] Soil/Solid
- [ ] Drinking Water
- [ ] Oil
- [ ] Vapor
- [ ] Other

Turnaround Time
- [X] Normal
- [ ] Rush (Pre-approved by Lab)

Date Needed
Approved By

21-0753

ANALYTICAL REQUESTS (use separate sheet if necessary)

LAB USE ONLY	DATE	TIME	No. of Containers COMP	No. of Containers GRAB	SAMPLE ID	PAHs	VOCs Low Level	Pb Lead, Cd Cadmium, Cr Chromium			REMARKS
09083151	11/21/96	1:45		4	MW-5	X	X	X			page 2 of 2
09083152				2	Trip Blank		X				
				1	Temp Blank						

Short

CHAIN OF CUSTODY RECORD

SAMPLERS: (Signature) Jenn Baum

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Jenn Baum	11-22-96 11:00	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	

Comments:

REQUEST FOR SERVICES

U.S. FILTER/ENVIROSCAN 301 W. MILITARY RD. ROTHSCHILD, WI 54474 1-800-338-SCAN

REPORT TO:
Name: John Guhl
Company: SEH, Inc.
Address: 421 Frenette Dr.
Chippewa Falls, WI 54729
Phone: (715) 720 - 6200
P.O. #
Project # FRASER 9401.00 Quote # 3741-5
Location Superior, WI

BILL TO: (If different from Report To info):
Name:
Company:
Address:
Phone: ( )

Sample Type *(Check all that apply)*
- [X] Groundwater
- [ ] Wastewater
- [ ] Soil/Solid
- [ ] Drinking Water
- [ ] Oil
- [ ] Vapor
- [ ] Other

Turnaround Time
- [X] Normal
- [ ] Rush (Pre-approved by Lab)

Date Needed
Approved By

ANALYTICAL REQUESTS
(use separate sheet if necessary)

LAB USE ONLY	DATE	TIME	No. of Containers COMP	No. of Containers GRAB	SAMPLE ID	PAHs	~~VOCs~~ Lead, Chromium	PVOCs	Lead, Cadmium	Lead	REMARKS
09083153	11/21/96	11:00		1	Lys-1					X	page 1 of 2
09083154	↓	11:45		4	MW-1	X		X	X		
09083155	↓	1:10		1	MW-2		X				

Short

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)* Jim Bau

RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED BY: *(Signature)*
Jim Bau	11-22-96 11:00	
RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED BY: *(Signature)*
RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED FOR LABORATORY BY: DATE/TIME

Comments:

LAKE SUPERIOR LABORATORIES
726 GARFIELD AVENUE ■ DULUTH, MINNESOTA 55802
MN (218) 722-1911 ■ FAX (218) 722-3295
A DIVISION OF TWIN PORTS TESTING, INC.

Date: 11/07/96

Client: Fraser Shipyards
P.O. Box 297
3rd St. & Clough Avenue
Superior, WI 54880

Attn: Ron Peterson

Phone: (715) 394-7767

Fax: (715) 394-2807

Chain of Custody #: 14852

Project: DD#1 & Howards Bay

LAB ID #	SAMPLE ID
3751-96LS	1001/ Inside DD1 Gate
3752-96LS	1002/ Outside DD1 Gate

Signature Linda A. Buck
Linda Thiry, Director
Tim Buck, Lab Manager

Wis. Certification Number: 998032370 Minn. Certification Number: 027-137-407

This cover page is the first of _____ pages

3-2

LABORATORY ANALYSIS REPORT

Client
Fraser Shipyards
P.O. Box 997
3rd St. & Clough Avenue
Superior, WI 54880

Project: DD#1 & Howards Bay

Collected By: Allen Rivard
Delivered By: Allen Rivard

	Chem. Lab ID	3751-96LS	3752-96LS	
	Sample Type	Water	Water	
	Collected	10/21/96	10/21/96	
	Received	10/21/96	10/21/96	
	Reported	11/07/96	11/07/96	
	Sample Description	1001/ Inside DD1 Gate 5' from Btm.	1002/ Outside DD1 Gate 10' from Top	
Analysis	Date Analyzed	RL		
Lead	11/06/96	2.00 ug/l	7.57 ug/l	6.83 ug/l

Remarks
Spike recovery = 125.3%.

RL ⇒ Reporting Limit
ND ⇒ Not Detected at or above RL

3-3

LAKE SUPERIOR LABORATORIES

LAKE SUPERIOR LABORATORIES
725 GARFIELD AVENUE • DULUTH, MINNESOTA 55802
MN (218) 722-1911 • FAX (218) 722-3295
A DIVISION OF TWIN PORTS TESTING, INC.

SERIAL NUMBER
№ 14852

LABORATORY REQUEST AND CHAIN OF CUSTODY RECORD

3-A

Project Name: DD#1 + Howards Bay   No. ______   P.O.# ______

Client: Fraser Shipyards   Report To: Ron Peterson

Address: 3rd St + Clough
Superior WI 54880   Bill To: Fraser

Phone: 715 394-7787   Fax: 715 394 2807

Remarks: DD water + Bay water outside Gate
check for total Lead

Sampler Signature: [signature]

Sampler (Print): Allen Rivers

Sample No./Location	Date	Time	Matrix: Air	Matrix: Liquid	Matrix: Solid	Number of Containers	Preservative	Analyses: Pb	LSL No.
1001 / Inside DD1 Gate 5' From Btm.	10/21/96	2:25 pm		X		2	HNO_3	X	3751
1002 / outside DD1-Gate 10' Fm top	10/21/96	2:40		X		2	HNO_3	X	3752

Relinquished By	Date/Time	Received By	Relinquished By	Date/Time	Received By
[signature]	15:00 11/1/96	[signature]			
Relinquished By	Date/Time	Received By	Relinquished By	Date/Time	Received By

Turnaround Time: 2 Week X   2-5 Day ______ or 24 Hour Rush ______ (additional charge)

Before 11/10/96

TOTAL P.04