03-09-001500

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Donald R. Winter, District Director

Western District Headquarters
1300 W. Clairemont Avenue
PO Box 4001
Eau Claire, WI 54702-4001
TELEPHONE 715-839-3700
FAX 715-839-6076/1605
TTY 715-839-2786

March 18, 1996

Site Ref: LUST Case #1500.WD
Chippewa County

Mr. Burt Wright
Chippewa Valley Regional Airport
3800 Starr Avenue
Eau Claire, WI 54703

SUBJECT: Site Closure for the Chippewa Valley Regional Airport Maintenance Garage Located at 3800 Starr Avenue, Eau Claire, WI

Dear Mr. Wright:

On October 5, 1995, the Department of Natural Resources provided a notice to you that the degree and extent of petroleum contamination at the above-named site was required to be investigated and remediated. We have since been informed that the required investigation and remediation have been accomplished.

On March 14, 1996, the maintenance garage was reviewed by the Western District Closeout Committee for possible closure under ch. NR 726, Wisconsin Administrative Code. Based on the investigative and remedial documentation provided to the Department, it appears that the petroleum contamination at the above-named site has been remediated in compliance with the requirements of chs. NR 700 to 724, Wisconsin Administrative Code. Therefore, the Department considers the case "closed," having determined pursuant to ch. NR 726, Wisconsin Administrative Code, that no further action is necessary at the site.

If you have any questions concerning this letter, please contact me at (715) 839-3775.

Sincerely,

John R. Grump

John R. Grump
Hydrogeologist
JRG/ah
c: Bill Evans
Frank Lowry, SEH

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
CASE SUMMARY AND CLOSE OUT FORM

FOR DEPARTMENT USE ONLY

Close Out Option: (Committee) Fast Track DNR Project Manager: John Grump

Priority: (High) Medium Low Type of Release: (LUST) Spill ERP Other _____ Unknown

Site Name: Chippewa Valley Regional Airport DNR Case No. 1500.WD

Address/Location: 3300 Starr Avenue City/Vill/Tn: City of Eau Claire

Legal Description: NE 1/4, SW 1/4, Sec 33 T 28 N, R 9 W County: Chippewa

Contaminant Type(s) Diesel Quantity Released Unknown

Incident Type: (amount released if known): Unknown

Date of Incident/Discovered: 9/28/95 Date Closure Submitted to DNR: February 12 1996

If Incident = LUST: Form 4 Pending? ___ Yes _X_ No

Depth to Groundwater/Flow Direction: ~70'/southwest Perched Water? ___ Yes _X_ No Depth: _____

Soil Type Sand and Gravel Depth to Bedrock ~104'

Potential Receptors: Groundwater, Eau Claire well field, and Chippewa River

Site Assessment Consultant: Ayres Associates

Investigation/Remediation Consultant: Short Elliott Hendrickson Inc. (SEH)

Certified Lab Testing Soils/Water: Enviroscan Corp.

Status of water supply wells within 1200 feet of the site?

Because groundwater was not impacted, the likelihood of an impact to the Eau Claire well field is low.

Enforcement Actions or Permits Closed Out? ___ Yes ___ No

RECEIVED
FEB 14 1996
DNR - WD

Form completed by:
I certify that, to the best of my knowledge, the information presented on and attached to this form are true and accurate. This recommendation for case closure is based upon all available data as of February 1, 1996. I have read the Case Summary and Close Out Form Instructions and all required information has been included.

Name: Frank Lowry Firm Name: Short Elliott Hendrickson Inc. (SEH)

Affiliation with Site Owner: Environmental Consultant

Address: 421 Frenette Drive

City: Chippewa Falls State: WI Zip: 54729

Telephone Number: (715)720-6228

(Signature)

Attach Case Summary and Justification for Closure

SOIL
PRE-REMEDIATION OR INVESTIGATION ANALYTICAL RESULTS

Extent Defined? _X_ Yes ___ No

Attach Table of Pre-remedial Soil Samples See Table 2 (Samples B1-1, B1-7, B2-2, B2-8, B3-4, B3-8, B4-7, and B4-8)

SOIL
POST REMEDIATION ANALYTICAL RESULTS

Attach the Table for Post Remedial Soil Results

Remedial Action Completed? ___ Yes _X_ No 720.19 analysis ___ Yes _X_ No (if Yes attach supporting documentation)

Final Confirmation Sampling Methods: NA

Description of remedial action taken:

Remedial action not required. Soil contamination does not exceed current soil cleanup standards

Were Soils Excavated? ___ Yes _X_ No Quantity: NA Disposal Method: NA

Soil Disposal Form Attached? ___ Yes _X_ No Final Disposal Location: NA

GROUNDWATER ANALYTICAL RESULTS

Extent Defined? ___ Yes ___ No _X_ NA

Remedial Action Completed? ___ Yes ___ No

Field Analyses? ___ Yes ___ No Lab Analyses? ___ Yes ___ No No. of Sampling Points: ___

Number of Sample Rounds: _____

#NR 141 Temporary Wells: _____ #Recovery Sumps: _____

#Private Wells: _____ For private wells, Form 3300-67 completed: _____

#Municipal Wells: _____ #NR141 Monitoring Wells: _____

Preventive Action Limit exceeded? ___ Yes ___ No (If yes, location) _____

Enforcement Standard exceeded? ___ Yes ___ No (If yes, location) _____

Attach Table of Groundwater Results

Description of remedial action taken:

COMMITTEE RECOMMENDATION: **Date:** _____

CASE CLOSE OUT: **Date:** 3-14-96

James E Boettcher
(Signature)

Bill Evans
(Signature)

Douglas Jack
(Signature)

John L Grump
(Signature)

Executive Summary

The Chippewa Valley Regional Airport is located in Eau Claire, Wisconsin. On September 28, 1995, three 10,000 gallon underground storage tanks and associated piping and pumps were removed. During the tank removal, a grab sample of soil from beneath the former diesel pump indicated the presence of diesel range organics at a concentration of 5,100 mg/kg. SEH initiated a Site Investigation on December 12, 1995 that included drilling four hollow stem auger soil borings. Laboratory soil samples were collected and analyzed for diesel range organics, petroleum volatile organic compounds, and polynuclear aromatic hydrocarbons. The soil sample analyses indicate that there are no ch. NR 720 Wisconsin Administrative Code soil cleanup standard exceedances at this site. Based on results of the Site Investigation, SEH recommends that the project be submitted for case closure under ch. NR 726.

Table 1
Results of Headspace Analysis

Boring No.	Depth (ft)	Headspace PID/FID	Unified Soil Classification
B-1	5-7	36.6/5.7	SM
	7-9	36.0/3.4	SP
	9-11	34.9/2.3	SP
	11-13	16.1/1.2	SP
	13-15	22.9/1.3	SP
	15-17	3.3/1.5	SP
	17-19	1.6/1.1	SP
B-2	3-5	4.5/3.3	SM
	5-7	12.4/10.0	SM/SP
	7-9	11.3/1.6	SP
	9-11	19.5/1.9	SP
	11-13	26.3/2.3	SP
	13-15	30.2/1.4	SP
	15-17	20.4/2.0	SP
	17-19	12.7/1.4	SP
B-3	3-5	18.0/2.1	SM/SP
	5-7	29.6/2.1	SP
	7-9	33.8/1.8	SP
	9-11	35.3/2.7	SP
	11-13	34.6/2.0	SP
	13-15	35.2/2.4	SP
	15-17	35.9/3.0	SP
	17-19	34.7/2.7	SP
B-4	3-5	8.63.6	SM
	5-7	No Recovery	No Recovery
	7-9	20.9/4.4	SM/SP
	9-11	22.4/4.7	SP
	11-13	24.5/3.0	SP
	13-15	27.2/4.1	SP
	15-17	31.9/6.3	SP
	17-19	34.5/4.7	SP

Table 2
Soil Analytical Results

Analytical Parameters	ch. NR 720 soil cleanup standards	Sample No. (Depth-Feet)							
		B1-1 (5-7)	B1-7 (17-19)	B2-2 (5-7)	B2-8 (17-19)	B3-4 (9-11)	B3-8 (17-19)	B4-7 (15-17)	B4-8 (17-19)
DRO (mg/kg)	100	BDL	BDL	35.3	BDL	BDL	BDL	BDL	BDL
PVOCs (mg/kg)									
Benzene	0.0055	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ethylbenzene	2.9	BDL	0.027[1]	BDL[1]	BDL	BDL	BDL	BDL	BDL
Methyl-tert-butyl-ether	NSE	BDL[2]	BDL[2]	BDL[2]	BDL[2]	BDL[2]	BDL[2]	BDL[2]	BDL[2]
Toluene	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2,4-Trimethylbenzene	NSE	BDL	0.026[3]	BDL	BDL	BDL	BDL	BDL	BDL
1,3,5-Trimethylbenzene	NSE	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Xylenes (Total)	4.1	BDL	<0.060	BDL	BDL	BDL	BDL	BDL	BDL
PAHs (mg/kg)									
Acenaphthene	NSE	BDL	BDL						
Acenaphthylene	NSE	BDL	BDL						
Anthracene	NSE	BDL	BDL						
Benzo(a)Anthracene	NSE	BDL	BDL						
Benzo(a)Pyrene	NSE	BDL	BDL						
Benzo(b)Fluoranthene	NSE	BDL	BDL						
Benzo(k)Fluoranthene	NSE	BDL	BDL						
Benzo(ghi)Perylene	NSE	BDL	BDL						
Chrysene	NSE	BDL	0.00269						
Dibenzo(a,h)Anthracene	NSE	BDL	BDL						
Fluoranthene	NSE	BDL	0.0197						
Fluorene	NSE	BDL	BDL						
Indeno(1,2,3-cd)Pyrene	NSE	BDL	BDL						
1-Methyl Naphthalene	NSE	BDL	BDL						
2-Methyl Naphthalene	NSE	BDL	BDL						
Naphthalene	NSE	BDL	BDL						
Phenanthrene	NSE	BDL	BDL						
Pyrene	NSE	BDL	0.0157						

Note:
Results reported as wet weight
Sample No. B1-7 refers to soil sample 7 from boring no. 1
BDL = Below laboratory detection limits
NSE = No standard established
= Not analyzed for these compounds
[1] = Reported value may be elevated due to compounds of similar retention time
[2] = Check standard for this analyte exhibited a high bias; reported value may be biased high
[3] = Unconfirmed; compound was initially detected at reported value, but was not detected in the confirmation analysis

REPRODUCED FROM

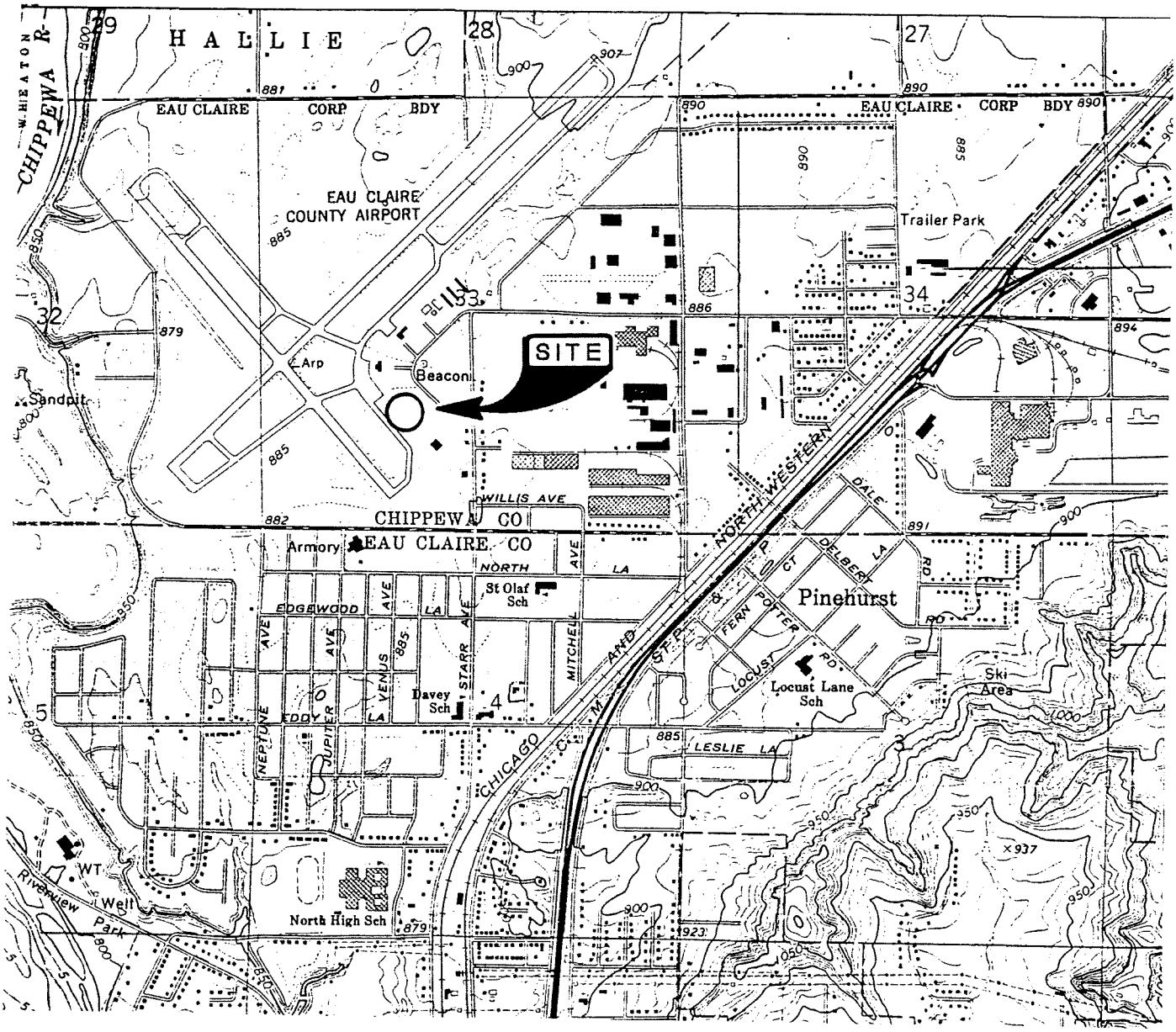
USGS EAU CLAIRE EAST QUADRANGLE

WISCONSIN – EAU CLAIRE CO. 7.5 MINUTE SERIES

N

SCALE IN FEET

0 500 1000 2000



NO.	DATE	ISSUE/REVISIONS	DRAWN BY		DESIGN		FIELD REVIEW		QC CHECK	
1	01/10/96	ISSUED FOR AGENCY REVIEW	JLE	11/95	FJL	11/20/95	KEA	01/96		1/10/96

ENGINEERS ■ ARCHITECTS ■ PLANNERS

CHIPPEWA VALLEY REGIONAL AIRPORT SITE INVESTIGATION

FIGURE 1
SITE LOCATION

PROJ. NO. CVAIR

DATE 01/10/96

1

3

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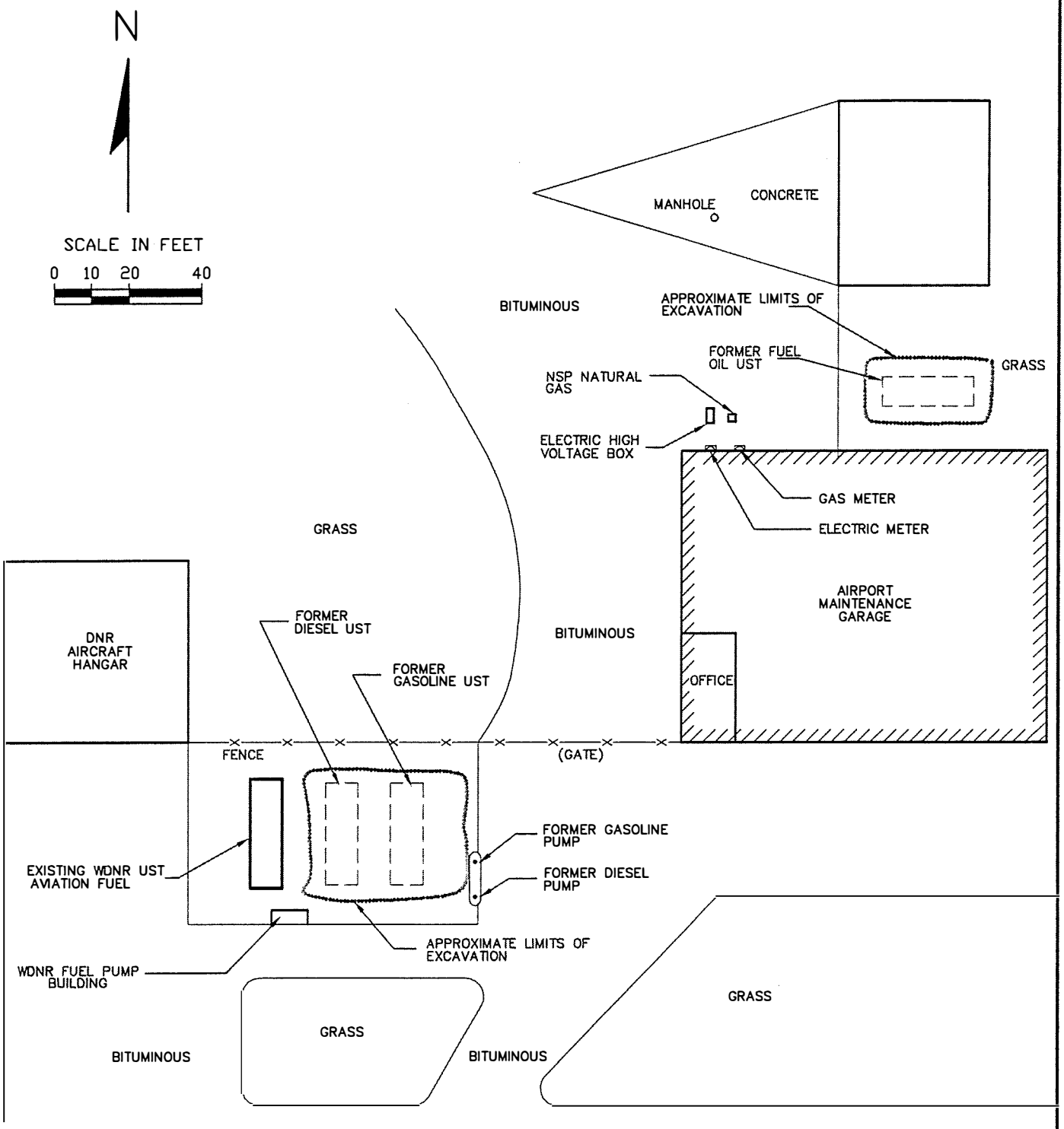


NOTE: SITE PLAN FEATURES AND DIMENSIONS FROM AYRES AND ASSOCIATES (NOVEMBER, 1995)

NO.	DATE	ISSUE/REVISIONS	DRAWN BY		DESIGN		FIELD REVIEW		QC CHECK	
1	01/10/96	ISSUED FOR AGENCY REVIEW	JLE	11/95	FJL	11/20/95	KEA	01/96	KA	2/5/96

ENGINEERS ■ ARCHITECTS ■ PLANNERS

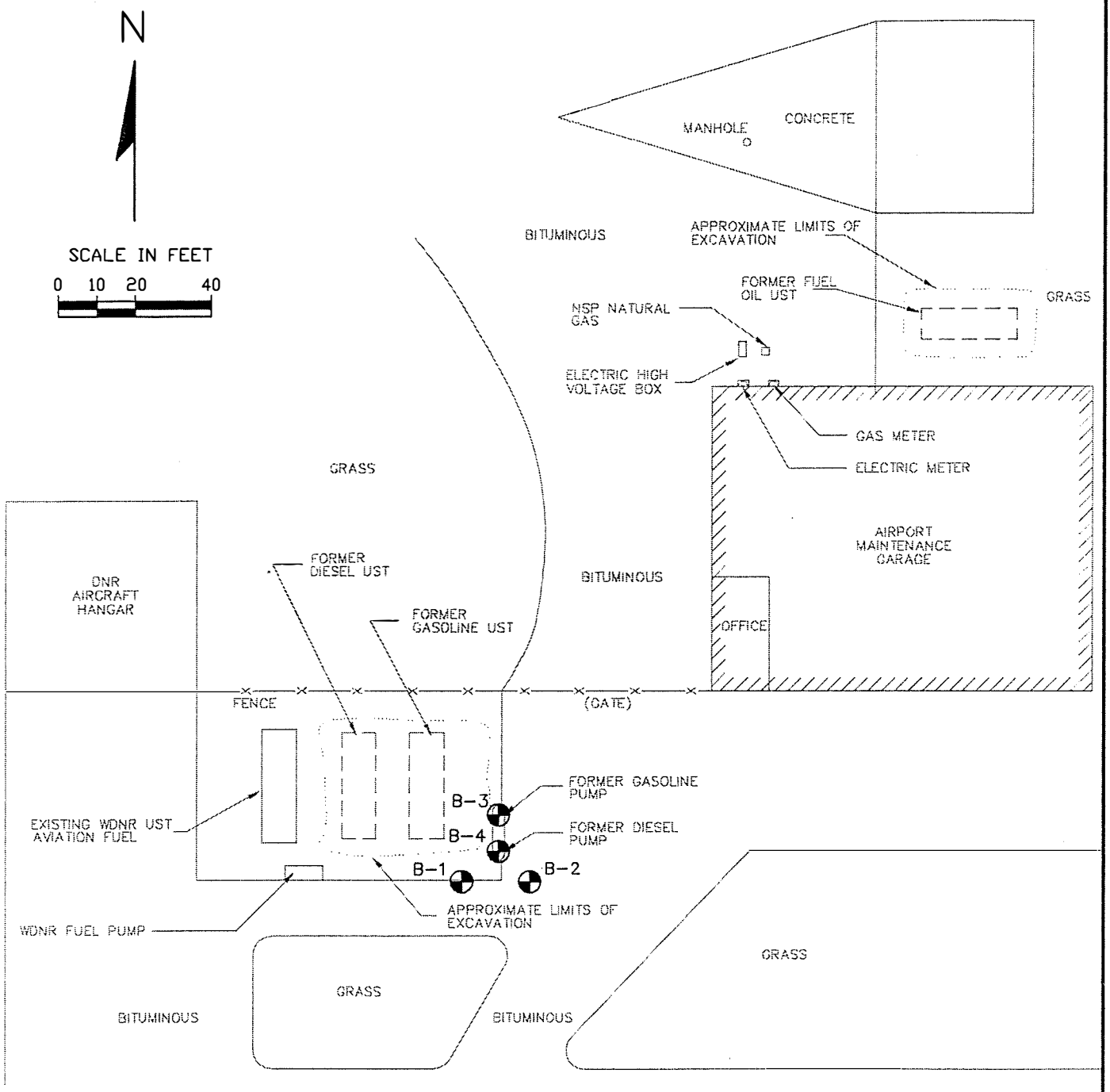
CHIPPEWA VALLEY REGIONAL AIRPORT SITE INVESTIGATION

FIGURE 2
SITE PLAN

PROJ. NO. CVAIR
DATE 01/10/96

2
3

E:\WASTE\CVAIR\9601\FZE2



LEGEND

B-2 ⊕ SOIL BORING LOCATION AND NUMBER

NOTE: SITE PLAN FEATURES AND DIMENSIONS FROM AYRES AND ASSOCIATES (NOVEMBER, 1995)

NO.	DATE	ISSUE/REVISIONS	DRAWN BY	DESIGN	FIELD REVIEW	QC CHECK
1	01/10/96	ISSUED FOR AGENCY REVIEW	JLE 11/95	FJL 11/20/95	JLE 01/96	2/5/96

ENGINEERS ■ ARCHITECTS ■ PLANNERS

CHIPPEWA VALLEY REGIONAL AIRPORT SITE INVESTIGATION

FIGURE 3
SOIL BORING LOCATIONS

PROJ. NO. CVAIR
DATE 01/10/96

3 / 3

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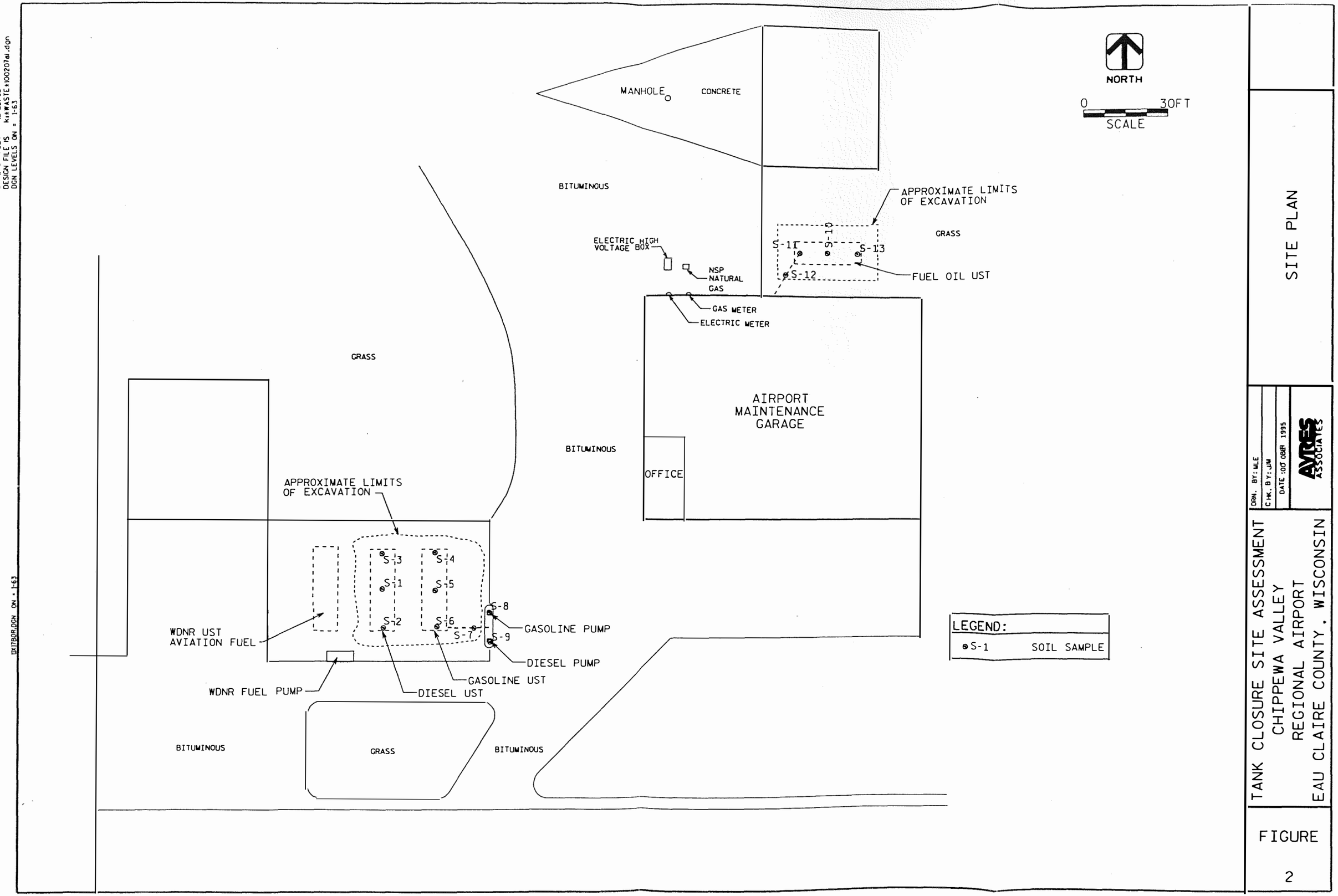

D:\TBDR.DGN DN = 1-63

DRN. BY: WLE
CHK. BY: JJM
DATE: 00 OBR 1995

AMES ASSOCIATES

TANK CLOSURE SITE ASSESSMENT
CHIPPEWA VALLEY
REGIONAL AIRPORT
EAU CLAIRE COUNTY, WISCONSIN

FIGURE
2

TABLE 2
SOIL SAMPLING RESULTS

DATE	SAMPLE LOCATION	SAMPLE DEPTH (FEET)	FID RESPONSE (instr. units)	LABORATORY RESULTS GRO (mg/Kg)	LABORATORY RESULTS DRO (mg/Kg)
09/28/95	S-1	12	NR	NA	<1.2
09/28/95	S-2	12	NR	NA	<1.2
09/28/95	S-3	12	NR	NA	<1.2
09/28/95	S-4	12	NR	<1.0	NA
09/28/95	S-5	12	NR	<1.0	NA
09/28/95	S-6	12	NR	<1.0	NA
09/28/95	S-7	3.5	NR	NA	<1.3
09/28/95	S-8	3	5	3	NA
09/28/95	S-9	4.5	32	NA	5100
09/28/95	S-10	15	NR	NA	<1.2
09/28/95	S-11	15	NR	NA	<1.2
09/28/95	S-12	4	NR	NA	<1.2
09/28/95	S-13	15	NR	NA	<1.3

NOTE: NR = No Response
NA = Not Analyzed

File

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Donald R. Winter, District Director

Western District Headquarters
1300 W. Clairemont Avenue
PO Box 4001
Eau Claire, WI 54702-4001
TELEPHONE 715-839-3700
FAX 715-839-6076/1605
TTY 715-839-2786

March 1, 1996

File Ref: LUST Case #1500.WD
Chippewa County

Mr. Burt Wright
Chippewa Valley Regional Airport
3800 Starr Avenue
Eau Claire, WI 54703

SUBJECT: Receipt of WD Case Summary and Close-Out Form for the Chippewa Valley Regional Airport Maintenance Garage Located at 3800 Starr Avenue, Eau Claire, WI

Dear Mr. Wright:

This letter is to acknowledge receipt of the WD Case Summary and Close-Out Form we received from Frank Lowry, SEH, on February 14, 1996. The estimated date for this site to be reviewed for closure is March 14, 1996. We will notify you in writing of the closure committee's decision.

If you have any questions concerning this letter, please contact me at (715) 839-3775.

Sincerely,

John R. Grump
Hydrogeologist

JRG/ah

c: Bill Evans
Frank Lowry, SEH

1500

Department of Natural Resources

LEAKING UNDERGROUND STORAGE TANK (Case Tracking)
Form 4400-146 Rev. 2-93

UID Number: | **FID Number:** | **PMN Number:**

County: Chippewa
Site Name: CVR Airport Maintenance Garage
Address: 3800 Starr Avenue
Eau Claire, WI 54703
Municipality:
Legal Descript.: SE 1/4 SE 1/4 sec. 33 T 28 N R 9 (E/W)
Lat.: _____ Long.: _____

Initial Contact Date: 10/02/95
Date RPLetter Sent: 10/05/95
Date Closure Approved: 03/14/96

Person/Firm Reporting: Frank Maenner
Ayres Associates
Phone Number: (715) 834-3161

Priority Screening
X 1 = High
___ 2 = Medium
___ 3 = Low
___ 4 = Unknown

Scoring Criteria
1. 10
2. _____
3. _____
4. 12
5. 6

Funding Source
X 1 = RP
___ 2 = LTF
___ 3 = EF
___ 4 = Other

Effective Date
___/___/___
___/___/___
___/___/___
___/___/___

LUST Trust Eligible
X 1 = Federal
___ 2 = Non-Federal

Score: 28 Init.: ____ Date: 11/13/95

Case Status

	Start Date	End Date
___ (F) Free Product Removal	___/___/___	___/___/___
___ (E) RP Emergency Response	___/___/___	___/___/___
___ (R) LTF Emergency Response	___/___/___	___/___/___
___ (L) Long Term Monitoring	___/___/___	___/___/___

Responsible Party
Contact Person: Burt Wright
Company Name: Chippewa Valley Regional Airport
Address: 3800 Starr Avenue
Eau Claire, WI 54703
Phone Number: (715) 839-~~5099~~ 4900

CC's: Bill Ehlers - WD
John Feldhoch - WD
Darrell Christy - DILHR

Impacts
Enter "P" for potential and "K" for known
___ (1) Fire/Explosion Threat
___ (2) Contaminated Private Well(s) ____ # of Wells
___ (3) Contaminated Public Well
P (4) Groundwater Contamination
K (5) Soil Contamination
___ (6) Other: _____
___ (7) Surface Water Impacts
___ (9) Floating Product

Consultant
Contact Name: Frank Lowry
Company Name:: SEH
Address: 421 Frenette Avenue
Chippewa Falls, WI 54729
Telephone: (715) 720-6200

Substances	# Tank(s)	Size
___ (1) Leaded Gas		
X (2) Unleaded Gas	1	10,000 gal.
X (3) Diesel	1	10,000 "
X (4) Fuel Oil	1	10,000 "
___ (5) Unkwn Hydrocrbn		
___ (8) Other		
___ (12) Waste Oil		

CASE STATUS SUMMARY

UID: 1500 SITE NAME: CVR Airport Maintenance Garage

03 = NTC of Non Compliance
04 = Enf. Conference
14 = Notice of Violation
18 = Admin. Order Issued
19 = Admin. Order Modified
20 = Admin. Order Canceled
21 = Contest Case Hearing
23 = Referral to DOJ
30 = Notice to Proceed
31 = Tnk Cls/SA Work Plan
32 = Tnk Cls/SA WP Appv'd
33 = Tnk Cls/SA Rpt Recv'd
34 = Tnk Cls/SA Rpt Appv'd
35 = SI Work Plan Recv'd
36 = SI Work Plan Appv'd
37 = SI Report Recv'd
38 = SI Report Appv'd
39 = RA Work Plan Recv'd
40 = RA Work Plan Appv'd
41 = RA Report Recv'd
42 = RA Report Appv'd
43 = Qrtly/Mthly Status Rpt
44 = Form 4 Received
45 = Form 4 Approved
46 = Form 4 Denied
47 = PECFA Reimbursement
48 = Free Product Recovery
49 = Alternate Water Supplied

60 = ____ 61 = ____ 62 = ____ 63 = ____ 64 = ____ 65 = ____ 66 = ____ 67 = ____
68 = ____ 69 = ____ 70 = ____ 71 = ____ 72 = ____ 73 = ____ 74 = ____ 75 = ____
76 = ____ 77 = ____ 78 = ____ 79 = ____ 80 = ____ 81 = ____ 82 = ____ 83 = ____
84 = ____ 85 = ____ 86 = ____ 87 = ____ 88 = ____ 89 = ____ 90 = ____ 91 = ____
92 = ____ 93 = ____ 94 = ____ 95 = ____ 96 = ____ 97 = ____ 98 = ____ 99 = ____

CASE STATUS UPDATES:

Action Code	Date Received/Sent	Compliance Due Date	Compliance Achieved	Date Entered In Tracking
33	11/08/95 (R/S)	/ /	/ /	/ /
35	11/22/95 (R/S)	/ /	/ /	/ /
36	11/28/95 (R/S)	/ /	/ /	/ /
37	2/14/96 (R/S)	/ /	/ /	/ /
79	2/14/96 (R/S)	/ /	/ /	/ /
	2/14/96 (R/S)	Recv'd Close-out Forms from SEH		/ /
11	03/14/96 (R/S)	/ /	/ /	/ /
38	02/14/96 (R/S)	/ /	/ /	/ /
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Chippewa Valley Regional Airport

Site Investigation

Eau Claire, Wisconsin

SEH No. CVAIR9601
WDNR LUST Case #1500.WD

February 1996

SHORT ELLIOTT HENDRICKSON INC.

MULTIDISCIPLINED.
SINGLE SOURCE.

421 FRENETTE DRIVE, CHIPPEWA FALLS, WI 54729 715 720-6200 800 472-5881 FAX 715 720-6300
ARCHITECTURE • ENGINEERING • ENVIRONMENTAL • TRANSPORTATION

February 12, 1996

RE: Chippewa Valley Regional Airport
Site Investigation
Eau Claire, Wisconsin
SEH No. CVAIR9601
WDNR LUST Case #1500.WD

Mr. John Grump, Hydrogeologist
Wisconsin Department of Natural Resources
1300 W. Clairemont Avenue
Eau Claire, WI 54702

Dear Mr. Grump:

On behalf of the Chippewa Valley Regional Airport, Short Elliott Hendrickson Inc. (SEH) is submitting a copy of the enclosed report titled "Chippewa Valley Regional Airport – Site Investigation" dated February 1996. This report is being submitted to the Wisconsin Department of Natural Resources (WDNR) in response to the Department's request that an investigation be performed at the Chippewa Valley Regional Airport to fully define the degree and extent of petroleum contamination. The report summarizes a subsurface investigation conducted at the site by SEH during December 1995.

SEH respectfully requests that WDNR prepare a written response to the conclusions and recommendations presented in this report. Enclosed is a Western District "Case Summary and Close-out Form for your review and approval. If you have any questions regarding the report content, please feel free to contact us.

Sincerely,

Frank J. Lowry, P.E., P.G.
Project Manager

TJB/ls/KEA/FJL/GPB

Distribution List

No. of Copies	Sent to
1	John Grump Wisconsin Department of Natural Resources 1300 W. Clairemont Avenue Eau Claire, WI 54702
1	Burt Wright, Airport Manager Chippewa Valley Regional Airport 3800 Starr Avenue Eau Claire, WI 54703

Site Investigation

Prepared for:
Chippewa Valley Regional Airport
Eau Claire, Wisconsin

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

I, Frank J. Lowry, 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.

Frank J. Lowry, P.E., P.G. — 28812 — P.E. Number
Project Manager

I, Trevor J. Bauer, 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.

Trevor J. Bauer — 2-12-96 — Date
Environmental Scientist

Table of Contents

List of Tables

Table of Contents (Continued)

List of Figures

List of Appendices

Executive Summary

The Chippewa Valley Regional Airport is located in Eau Claire, Wisconsin. On September 28, 1995, three 10,000 gallon underground storage tanks and associated piping and pumps were removed. During the tank removal, a grab sample of soil from beneath the former diesel pump indicated the presence of diesel range organics at a concentration of 5,100 mg/kg. SEH initiated a Site Investigation on December 12, 1995 that included drilling four hollow stem auger soil borings. Laboratory soil samples were collected and analyzed for diesel range organics, petroleum volatile organic compounds, and polynuclear aromatic hydrocarbons. The soil sample analyses indicate that there are no ch. NR 720 Wisconsin Administrative Code soil cleanup standard exceedances at this site. Based on results of the Site Investigation, SEH recommends that the project be submitted for case closure under ch. NR 726.

Site Investigation

Chippewa Valley Regional Airport

Eau Claire, Wisconsin

1.0 Introduction

Short Elliott Hendrickson Inc. (SEH) has completed a ch. NR 716 Wisconsin Administrative Code Site Investigation (SI) of a petroleum release at the Chippewa Valley Regional Airport. The SI was completed in response to the Wisconsin Department of Natural Resources (WDNR) letter (dated October 5, 1995) requesting an investigation at the site. This report documents the findings of the SI.

1.1 Purpose

The purpose of this SI was to:

- Determine the degree and extent of petroleum contamination identified beneath a former diesel pump during the tank removal site assessment;
- Determine the potential for impact to groundwater;
- Identify potential sources and receptors; and,
- Provide sufficient information to recommend further investigation, remediation methods, or case closure.

1.2 Scope of Work

The scope of work for this SI utilized information obtained during previous tank removal site assessment activities and included the following additional activities:

- Completion of four hollow stem auger (HSA) soil borings;
- Collection of soil samples from borings for field headspace and laboratory analysis;

- Classification of soil samples (color, grain size, and petroleum staining); and,
- Preparation of this report describing results of the SI and recommendations for the site.

1.3 Project Contacts

1. Burt Wright, Airport Manager
   Chippewa Valley Regional Airport
   3800 Starr Avenue
   Eau Claire, WI 54703
   (715) 839-4900

2. John Grump, Hydrogeologist
   Department of Natural Resources
   1300 W. Clairemont Avenue
   Eau Claire, WI 54702
   (715) 839-3775

3. Frank J. Lowry, P.E., P.G., Project Manager
   Short Elliott Hendrickson Inc.
   421 Frenette Drive
   Chippewa Falls, WI 54729
   (715) 720-6228

2.0 Site Background

The Chippewa Valley Regional Airport is located at 3800 Starr Avenue in Eau Claire, Wisconsin and is shown in Figure 1, "Site Location." The site is located in the NE 1/4 of the SW 1/4 of Section 33, T28N, R9W in Chippewa County, Wisconsin.

On September 28, 1995, a tank removal site assessment was completed by Ayres Associates for the Chippewa Valley Regional Airport. The report "Tank Closure Site Assessment for Underground Storage Tanks – Chippewa Valley Regional Airport" (dated November 1995) was submitted to the WDNR. The report describes the removal of a 10,000 gallon gasoline underground storage tank (UST), a 10,000 gallon diesel UST, and a 10,000 gallon fuel oil UST. An existing aviation fuel UST, the former UST locations, and the general site layout are included in Figure 2, "Site Plan." Petroleum contaminated soil was identified beneath the diesel pump with a diesel range organic (DRO) concentration of 5,100 mg/kg. Laboratory soil samples analyzed from the former gasoline, diesel, and fuel oil tank beds did not indicate petroleum compound concentrations above the WDNR action guideline of 10 parts per million.

SEH initiated the SI field work at the Chippewa Valley Regional Airport December 12, 1995. This work included drilling four HSA soil borings. Soil samples were collected for field and laboratory analysis. The area investigated included the soils below the former diesel pump. SEH submitted a "Site Investigation Work Plan" (dated November 1995) to the WDNR and a follow-up letter (dated December 1, 1995) prior to beginning field work for the SI.

3.0 Geology, Hydrogeology, and Topography

The Hydrogeologic Atlas of the Chippewa River basin (H. L. Young and S. M. Hindall, 1972), the Bedrock Geology Map of Wisconsin (B. A. Brown, 1988) and boring log information from the WDNR were utilized to determine the geologic and hydrogeologic characteristics of the site.

The site is underlain by approximately 104 feet of glacial outwash deposits consisting of well sorted, stratified sands and gravels. Precambrian age crystalline bedrock underlies the glacial outwash. Soil encountered during SI drilling included silty sand (SM) and sand (SP).

Based on information provided by the WDNR, groundwater is at a depth of approximately 70 feet. Groundwater is expected to flow southwesterly towards the City of Eau Claire municipal well field and the Chippewa River.

Surface water in the diesel pump area drains into the vegetated areas where it percolates to the subsurface. The surface elevation of the site is 885±2 feet above Mean Sea Level (MSL) according to the most recent United States Geologic Survey (USGS) topographic map. The area topography is shown in Figure 1.

4.0 Potential Receptors of Contamination

There are three potential receptors of contamination from this site. One is the deep groundwater aquifer underlying the site, the second is the Eau Claire well field, and the third is the Chippewa River.

Groundwater below the site is likely contaminated with volatile organic compounds (VOCs) from the Presto contamination plume. Since groundwater was not encountered in any of the soil borings, groundwater is not expected to be additionally impacted by petroleum contamination associated with the former diesel pump. Based on groundwater flow direction, the Eau Claire well field could be a receptor for groundwater contamination. However, the likelihood of an impact to the well field is low due to the distance from the petroleum release area and the large dilution factor.

5.0 Site Investigation

5.1 Subsurface Investigation

SEH conducted the initial field work for the SI on December 12, 1995. This work consisted of four HSA soil borings. Soil samples for field and laboratory analysis were collected in brass tubes with a split spoon sampling device. Soil samples collected for field analysis were screened with a Foxboro TVA-1000 that has photoionization detector (PID) and flame ionization detector (FID) capabilities. Standard procedures for FID and PID calibration, field screening, and split spoon soil sampling are included in Appendix A, "Standard Operating Procedures."

5.2 Location of Soil Borings

The soil borings were placed to determine the horizontal and vertical extent of contamination. The locations of the SI soil borings are shown in Figure 3, "Soil Boring Locations." Groundwater was not encountered in the four borings.

Borings were abandoned in accordance with ch. NR 141. Drillhole abandonment forms and boring logs are included in Appendix B, "Soil Boring Logs and Abandonment Forms."

5.3 Soil Sampling

Soil sampling took place on December 12, 1995. Split spoon soil samples were collected in brass tubes at continuous two foot intervals starting at 5 feet below grade and continuing to 19 feet below grade in boring B-1. Samples were collected at continuous two foot intervals starting at 3 feet below grade and continuing to 19 feet below grade in borings B-2, B-3, and B-4. Soil in one brass tube from each two foot sample interval was used for field headspace screening. Remaining brass tubes containing soil were labeled, capped, and temporarily placed on ice (less than two hours) for possible laboratory analysis. At each boring location, soil samples were collected from the brass tubes and submitted for laboratory analysis. The laboratory samples were collected from the sample with the highest FID headspace reading and from the bottom of the boring.

5.4 Laboratory Analysis

Soil analysis for this project was performed by Enviroscan Corporation according to applicable WDNR standards at the time of sample collection. Information regarding Enviroscan Corporation and analytical methods, parameters, and preservation is listed below:

Enviroscan Corporation
303 W. Military Road
Rothschild, WI 54474
(715) 359-7226
WI Lab Certification #737053130

Parameters	Analytical Methods	Sample Preservation
Diesel Range Organics (DRO)	WDNR - Modified DRO	None
Petroleum Volatile Organic Compounds (PVOCs)	EPA 8021	MeOH
Polynuclear Aromatic Hydrocarbons (PAHs)	EPA 8310	None
Percent Solids	EPA 160.3	None

6.0 Results of Site Investigation

6.1 Field Headspace Results

The PID/FID results were used primarily to determine which soil samples to submit for laboratory confirmation and to correlate results from each boring. The headspace results indicate that no significant concentrations of organic vapors were present in soil samples collected from borings B-1, B-2, B-3, or B-4. The results of headspace analysis conducted on soil samples are summarized in Table 1, "Results of Headspace Analysis."

6.2 Soil Laboratory Results

Laboratory results were used to define the degree and extent of petroleum contamination associated with the former diesel pump. Eight soil samples collected from the borings were analyzed for DRO and PVOCs. Two soil samples from boring B-1 were also analyzed for PAHs. The laboratory analytical report indicated that concentrations of DRO were below laboratory detection limits in seven of the samples. Boring B-2 at 5 to 7 feet below grade had 35.3 mg/kg of DRO. Concentrations of PVOCs were below laboratory detection limits or below ch. NR 720 soil cleanup standards in the eight soil samples. Low concentrations of PAHs were detected in the soil sample from boring B-1 at 17 to 19 feet below grade. The laboratory results are summarized in Table 2, "Soil Analytical Results." Laboratory analytical reports from Enviroscan Corporation are included in Appendix C, "Analytical Reports."

7.0 Discussions

SEH completed the SI at the Chippewa Valley Regional Airport in general accordance with the requirements of ch. NR 700 to 726. However, a cross section was not constructed for this report because the soil borings were closely spaced and showed very similar lithology; the water table was not encountered; the topography is very flat; and an area of contamination was not discovered.

A WDNR approved work plan was used as the basis for field work at the site. Results of the SI indicated no exceedances of ch. NR 720 soil cleanup standards. The area for potential contamination has been adequately defined in both horizontal and vertical directions. Groundwater was not encountered during field activities for the SI.

8.0 Recommendations

Based on analytical results and information obtained during the SI, no additional investigation and no remediation are necessary for the petroleum release area investigated at the Chippewa Valley Regional Airport in Eau Claire, Wisconsin. SEH recommends that the project be submitted for case closure under ch. NR 726.

9.0 Standard of Care

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

TJB/ls/KEA/FJL/GPB

10.0 References

Boettcher, James, 11/20/95, Boring Log Information for the Chippewa Valley Regional Airport, WDNR Files.

Brown, B.A., 1988, "Bedrock Geology of Wisconsin, West-Central Sheet," Wisconsin Geological and Natural History Survey Map 88-7.

Young, H.L. and S.M. Hindall, 1972, "Water Resources of Wisconsin, Chippewa River Basin," University of Wisconsin-Extension, Geologic and Natural History Survey, Hydrologic Investigations Atlas HA-386.

Tables

Table 1
Results of Headspace Analysis

Boring No.	Depth (ft)	Headspace PID/FID	Unified Soil Classification
B-1	5-7	36.6/5.7	SM
	7-9	36.0/3.4	SP
	9-11	34.9/2.3	SP
	11-13	16.1/1.2	SP
	13-15	22.9/1.3	SP
	15-17	3.3/1.5	SP
	17-19	1.6/1.1	SP
B-2	3-5	4.5/3.3	SM
	5-7	12.4/10.0	SM/SP
	7-9	11.3/1.6	SP
	9-11	19.5/1.9	SP
	11-13	26.3/2.3	SP
	13-15	30.2/1.4	SP
	15-17	20.4/2.0	SP
	17-19	12.7/1.4	SP
B-3	3-5	18.0/2.1	SM/SP
	5-7	29.6/2.1	SP
	7-9	33.8/1.8	SP
	9-11	35.3/2.7	SP
	11-13	34.6/2.0	SP
	13-15	35.2/2.4	SP
	15-17	35.9/3.0	SP
	17-19	34.7/2.7	SP
B-4	3-5	8.63.6	SM
	5-7	No Recovery	No Recovery
	7-9	20.9/4.4	SM/SP
	9-11	22.4/4.7	SP
	11-13	24.5/3.0	SP
	13-15	27.2/4.1	SP
	15-17	31.9/6.3	SP
	17-19	34.5/4.7	SP

Table 2
Soil Analytical Results

Analytical Parameters	ch. NR 720 soil cleanup standards	Sample No. (Depth-Feet)							
		B1-1 (5-7)	B1-7 (17-19)	B2-2 (5-7)	B2-8 (17-19)	B3-4 (9-11)	B3-8 (17-19)	B4-7 (15-17)	B4-8 (17-19)
DRO (mg/kg)	100	BDL	BDL	35.3	BDL	BDL	BDL	BDL	BDL
PVOCs (mg/kg)									
Benzene	0.0055	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ethylbenzene	2.9	BDL	0.027[1]	BDL[1]	BDL	BDL	BDL	BDL	BDL
Methyl-tert-butyl-ether	NSE	BDL[2]	BDL[2]	BDL[2]	BDL[2]	BDL[2]	BDL[2]	BDL[2]	BDL[2]
Toluene	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2,4-Trimethylbenzene	NSE	BDL	0.026[3]	BDL	BDL	BDL	BDL	BDL	BDL
1,3,5-Trimethylbenzene	NSE	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Xylenes (Total)	4.1	BDL	<0.060	BDL	BDL	BDL	BDL	BDL	BDL
PAHs (mg/kg)									
Acenaphthene	NSE	BDL	BDL						
Acenaphthylene	NSE	BDL	BDL						
Anthracene	NSE	BDL	BDL						
Benzo(a)Anthracene	NSE	BDL	BDL						
Benzo(a)Pyrene	NSE	BDL	BDL						
Benzo(b)Fluoranthene	NSE	BDL	BDL						
Benzo(k)Fluoranthene	NSE	BDL	BDL						
Benzo(ghi)Perylene	NSE	BDL	BDL						
Chrysene	NSE	BDL	0.00269						
Dibenzo(a,h)Anthracene	NSE	BDL	BDL						
Fluoranthene	NSE	BDL	0.0197						
Fluorene	NSE	BDL	BDL						
Indeno(1,2,3-cd)Pyrene	NSE	BDL	BDL						
1-Methyl Naphthalene	NSE	BDL	BDL						
2-Methyl Naphthalene	NSE	BDL	BDL						
Naphthalene	NSE	BDL	BDL						
Phenanthrene	NSE	BDL	BDL						
Pyrene	NSE	BDL	0.0157						

Note:
Results reported as wet weight
Sample No. B1-7 refers to soil sample 7 from boring no. 1
BDL = Below laboratory detection limits
NSE = No standard established
= Not analyzed for these compounds
[1] = Reported value may be elevated due to compounds of similar retention time
[2] = Check standard for this analyte exhibited a high bias; reported value may be biased high
[3] = Unconfirmed; compound was initially detected at reported value, but was not detected in the confirmation analysis

Figures

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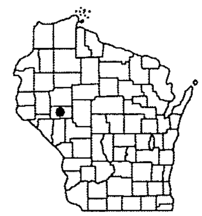
USGS EAU CLAIRE EAST QUADRANGLE

WISCONSIN – EAU CLAIRE CO. 7.5 MINUTE SERIES



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SCALE IN FEET

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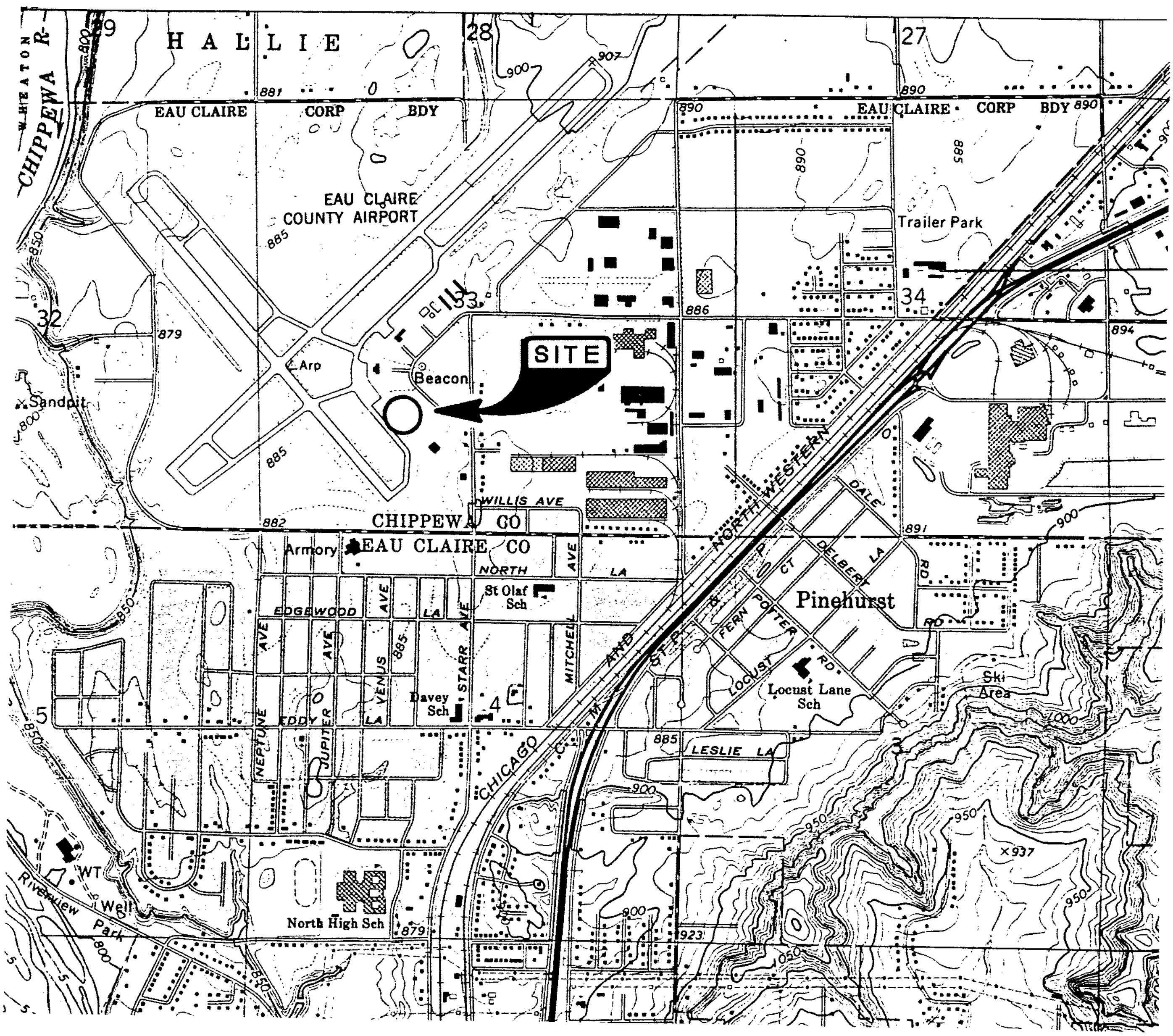


NO.	DATE	ISSUE/REVISIONS	DRAWN BY		DESIGN		FIELD REVIEW		QC CHECK	
1	01/10/96	ISSUED FOR AGENCY REVIEW	JLE	11/95	FJL	11/20/95	KEA	01/96	TSA	1/10/96

SEH

ENGINEERS ■ ARCHITECTS ■ PLANNERS

CHIPPEWA VALLEY REGIONAL AIRPORT SITE INVESTIGATION

FIGURE 1

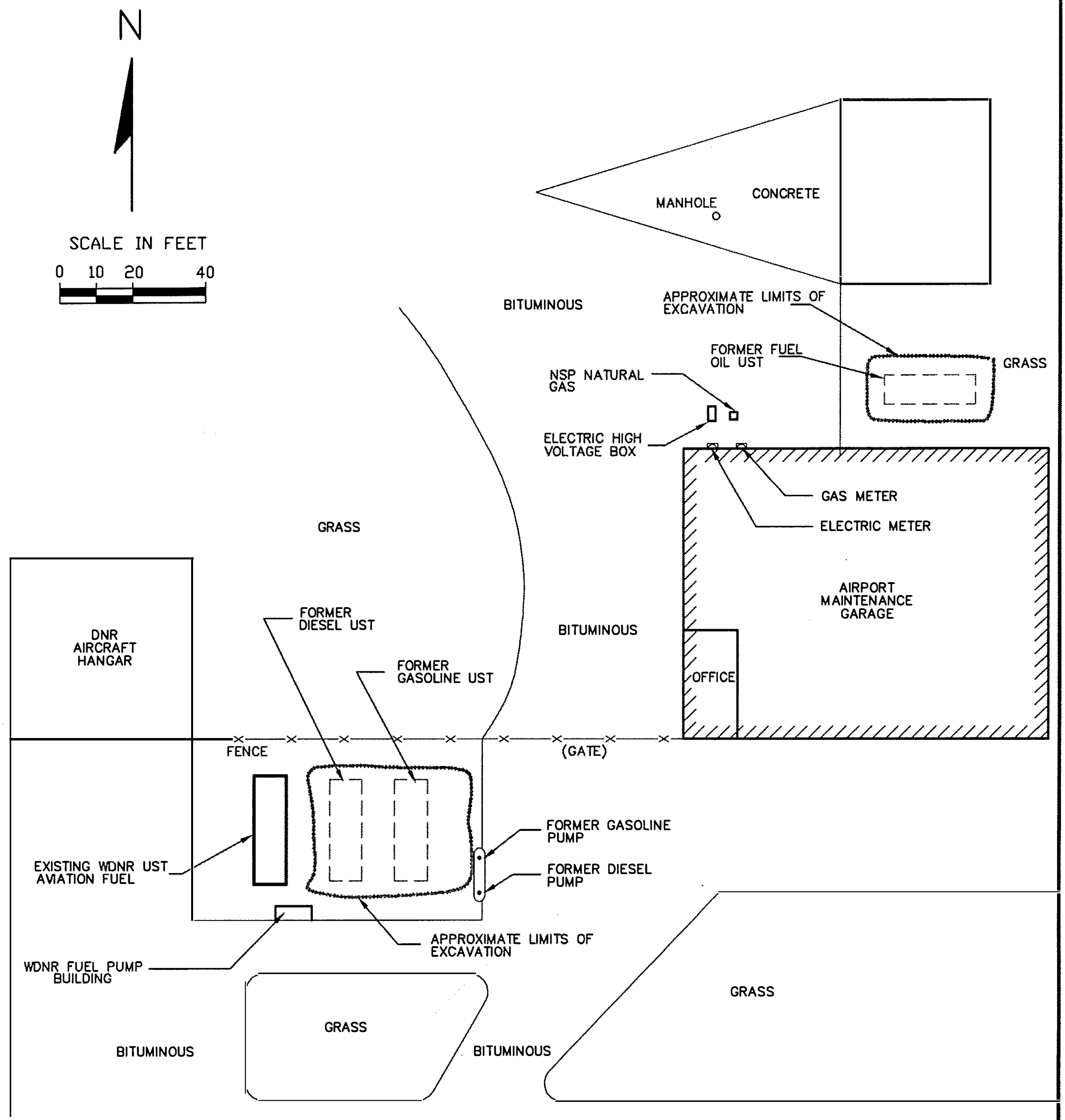
SITE LOCATION

PROJ. NO. CVAIR

DATE 01/10/96

1

3



NOTE: SITE PLAN FEATURES AND DIMENSIONS FROM AYRES AND ASSOCIATES (NOVEMBER, 1995)

NO.	DATE	ISSUE/REVISIONS	DRAWN BY		DESIGN		FIELD REVIEW		QC CHECK	
1	01/10/96	ISSUED FOR AGENCY REVIEW	JLE	11/95	FJL	11/20/95	KEA	01/96	KA	2/5/96

SEH ENGINEERS ■ ARCHITECTS ■ PLANNERS

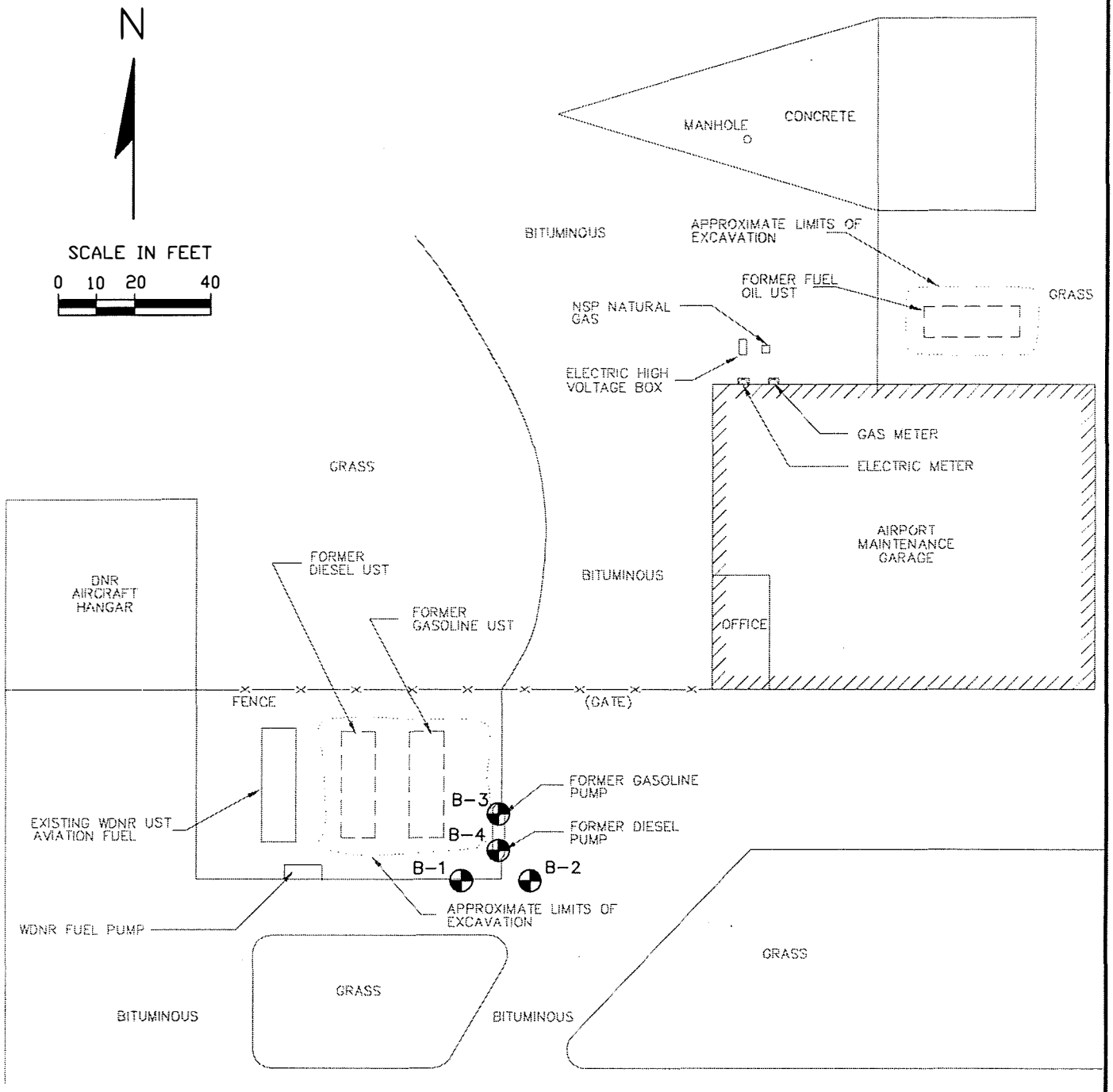
CHIPPEWA VALLEY REGIONAL AIRPORT SITE INVESTIGATION

FIGURE 2 SITE PLAN

PROJ. NO. CVAIR

DATE 01/10/96

2 / 3



LEGEND

B-2 ◓ SOIL BORING LOCATION AND NUMBER

NOTE: SITE PLAN FEATURES AND DIMENSIONS FROM AYRES AND ASSOCIATES (NOVEMBER, 1995)

NO.	DATE	ISSUE/REVISIONS	DRAWN BY	DESIGN	FIELD REVIEW	QC CHECK
1	01/10/96	ISSUED FOR AGENCY REVIEW	JLE 11/95	FJL 11/20/95	JLE 01/96	TJA 2/5/96

ENGINEERS ■ ARCHITECTS ■ PLANNERS

CHIPPEWA VALLEY REGIONAL AIRPORT SITE INVESTIGATION

FIGURE 3
SOIL BORING LOCATIONS

PROJ. NO. CVAIR
DATE 01/10/96

3 / 3

C:\WASTE\CVAIR\9601\FZMT

Appendix A

Standard Operating Procedures

Protocol for Split Spoon Sampling of Subsurface Soils

Subsurface soil samples are collected by performing soil borings at selected locations at the site. Soil borings are performed using hollow stem auger (HSA) and split spoon sampling techniques. Soil samples are typically collected at 2.5 foot intervals in general accordance with American Society of Testing and Materials (ASTM) standards (ASTM D1586-84). However, site conditions where consistent soil profiles are observed below ten feet may allow for split spoon sampling to be reduced to five foot intervals. A standard 2 inch OD split spoon sampler with brass tube inserts is used for collection of soil samples. The drilling is directed by SEH's Site Representative, who logs geologic materials encountered during drilling, field screens auger cuttings and soil samples, and observes the drilling activities and supervises sample collection.

As samples are obtained in the field, they are visually classified by SEH's Site Representative. Sample lithology is recorded using the Unified Soil Classification System. Soil boring logs, documenting soil types and subsurface conditions, are completed by SEH's Site Representative. Actual borehole depth and selection of soil samples for analysis is based upon instrument screening, visual observation and odor.

Drill cuttings and liquid generated by boring activities are left on site. Contaminated soils are either stockpiled on plastic sheeting or when required by site conditions are contained in 55-gallon steel drums. When sampling is completed, borings are backfilled with bentonite mixed with clean soil cuttings. Borehole abandonment procedures follow WDNR guidelines and are documented on standard forms by the driller. The split spoon sampler is cleaned between samples to minimize cross contamination. Brass tubes that must be reused are also decontaminated in the field. The cleaning procedure consists of a soap and water or trisodium phosphate (TSP) wash, followed by a rinse with clean tap or distilled water. Split-spoons are typically cleaned by the drilling contractor while brass tubes are decontaminated by SEH's Site Representative. To avoid cross-contamination between soil borings, drilling augers are steam-cleaned between borings.

In accordance with SEH's Site Health and Safety Plan, a photoionization detector (PID) or flame ionization detector (FID) and explosimeter are used to monitor ambient air concentrations at the borehole and within the work zone during drilling. The PID and FID are also used for field screening soil samples for the presence of volatile organic compounds. Personal protective equipment is utilized by site personnel during performance of sampling activities, as specified in the Site Health and Safety Plan.

Stainless steel sampling equipment used to collect soil samples from the split spoon are decontaminated between samples using a soap and water wash followed by a distilled water rinse. As samples are obtained in brass tubes, they are split into two subsamples. One subsample is used for field headspace screening. The second subsample is immediately placed in an ice filled cooler for possible laboratory analysis. At the completion of the boring, the sample with the highest headspace reading and the sample from the bottom of the boring are collected for laboratory analysis.

The latest WDNR LUST Guidance protocols are followed in collecting and preserving soil samples for laboratory analyses. Soil samples are transferred from brass tubes to laboratory cleaned glass jars and labeled with identifying sample number, location, date, time and sampling personnel. Samples submitted for analysis are preserved on ice and shipped in a cooler overnight to the contracted analytical laboratory. SEH standard chain of custody procedures are followed regarding shipment and receipt of samples.

Soil Vapor Monitoring - Simultaneous FID and PID

Soil vapor (headspace) measurements are made on soil samples collected during soil boring and excavation activities. The field instrument used is a portable Foxboro Toxic Vapor Analyzer (TVA) Model 1000 with simultaneous flame ionization detector (FID) and photoionization detector (PID) capabilities. The TVA-1000 has been laboratory calibrated. The calibration of the FID is verified in the field using 105 ppm methane and the PID is verified in the field with 98 ppm isobutylene prior to conducting any sample measurements. This instrument has the following standard specifications:

Accuracy	*PID Instrument* - ±25% of reading or ±2.5 ppm, whichever is greater, from 0.5 to 500 ppm. Accuracy listed is achieved using isobutylene with a 1-point calibration in the range of 100 to 300 ppm (including drift) at the temperature and humidity of the calibration. *FID Instrument* - ±25% of reading or ±2.5 ppm, whichever is greater, from 1.0 to 10,000 ppm. Accuracy listed is achieved using methane with a 1-point calibration in the range from 100 to 500 ppm (including drift) at the temperature and humidity of the calibration.
Repeatability	*PID Instrument* - ±1% at 100 ppm of isobutylene *FID Instrument* - ±2% at 100 ppm of methane
Dynamic Range	*PID Instrument* - ±0.5 to 2,000 ppm of isobutylene *FID Instrument* - ±1.0 to 50,000 ppm of methane
Linear Range	*PID Instrument* - ±0.5 to 500 ppm of isobutylene *FID Instrument* - ±1.0 to 10,000 ppm of methane
Minimum Detectable Level	The minimum detectable level is defined as two times the peak-to-peak noise. *PID Instrument* - 100 ppb of benzene *FID Instrument* - 300 ppb of hexane
Response Time Using Close Area Sampler	*PID Instrument* - Less than 3.5 seconds for 90% of final value, using 100 ppm of isobutylene *FID Instrument* - Less than 3.5 seconds for 90% of final value, using 10,00 ppm of methane
Response Time Using Charcoal Filter Adapter	*PID Instrument* - Less than 20 seconds for 90% of final value, using 100 ppm of isobutylene *FID Instrument* - Less than 20 seconds for 90% of final value, using 10,000 ppm of methane
Data Storage Rate	From 1 per second to 1 per 999 minutes, user selectable
Sample Flow Rate	1 l/minute, nominal, at sample probe inlet
PID Lamp Life	Greater than 2,000 hours for 10.6 eV lamp, with normal cleaning
FID Life	Greater than 2,000 hours
Normal Operating Temperature	0 to +40° C

The following procedure is used in determining headspace gas concentrations in each soil sample:

1. Quart size plastic Ziploc bags were used for soil headspace containers. Soil samples were placed in bags using disposable spatulas or decontaminated stainless steel spatulas. The containers were filled half way with soil from specific sample locations then quickly sealed and labeled to record sample number and depth from which the sample was taken.

2. Headspace is allowed to develop for 10 minutes. The Ziploc bag is vigorously shaken for 15 seconds both at the beginning and end of the headspace development period. Clads of cohesive soil are broken to facilitate development of vapors in the headspace. Where ambient temperatures are below 32° F (0° C), headspace development is conducted within a heated vehicle or building so samples can warm to approximately 70° F.

3. After headspace development, the plastic bag is punctured with the instrument sampling probe to a point about one-half of the headspace depth. Care is exercised to avoid intake of water droplets or soil particles.

4. Following probe insertion through the plastic bag, the highest meter response is recorded as the headspace concentration.

Samples are also examined visually by an environmental professional for staining or other signs of contamination.

Appendix B

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

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chippewa Valley Regional Airport		**B-1**

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Boart Longyear	**12/12/95**	**12/12/95**	**4.25" HSA**

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	**8.0** Inches

Boring Location
State Plane **378500 N, 1617500 E** Lat **44° 51' 41"**
NE 1/4 of **SW** 1/4 of Section **33** T **28** N,R **9W** Long **91° 28' 57"**

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

County	DNR County Code	Civil Town/City/ or Village
Eau Claire	**9**	**Eau Claire**

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
			0	Reddish brown, SILTY SAND and Gravel	SM									
			2											
			4											
1			6					6.6/5.[illegible]						Lab Sample
2			8					6.0/3.[illegible]						
				Brown, fine-medium grained SAND	SP									
3			10					4.9/2.[illegible]						
				Brown, medium-coarse grained SAND; trace gravel	SP									
4			12					6.1/1.[illegible]						
				Brown, medium-coarse grained SAND and Gravel	SP									
5			14					22.9/1.[illegible]						
6								3.3/1.5						
			16	Brown, medium grained SAND	SP									
7			18					1.6/1.1						Lab Sample
				Light brown, fine grained SAND	SP									
				End of Boring @ 19.0'										

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

Signature [signature] Firm SEH

SEH
421 Frenette Drive, Chippewa Falls, WI.
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

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chippewa Valley Regional Airport		**B-2**

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Boart Longyear	**12/12/95**	**12/12/95**	**4.25" HSA**

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	**8.0** Inches

Boring Location
State Plane **378500 N, 1617500 E** Lat **44° 51' 41"**
NE 1/4 of **SW** 1/4 of Section **33** T **28** N,R **9W** Long **91° 28' 57"**

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

County	DNR County Code	Civil Town/City/ or Village
Eau Claire	**9**	**Eau Claire**

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
			2	Reddish brown, SILTY SAND and Gravel	SM									
1			4					4.5/3.3						
2			6					12.4/10						Lab Sample
				Brown, fine-medium grained SAND and Gravel	SP									
3			8					11.3/1.6						
4			10					19.5/1.9						
				Brown, medium-coarse grained SAND and Gravel	SP									
5			12					26.3/2.3						
6			14					30.2/1.4						
				Brown, medium grained SAND	SP									
7			16					20.4/2.0						
				Brown, medium-coarse grained SAND and Gravel	SP									
8			18					12.7/1.4						Lab Sample
				Light brown, fine grained SAND	SP									
				End of Boring @ 19.0'										

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

Signature Kevin E. Leeola Firm SEH

SEH
421 Frenette Drive, Chippewa Falls, WI.
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

Page **1** of **1**

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chippewa Valley Regional Airport		**B-3**

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Boart Longyear	**12/12/95**	**12/12/95**	**4.25" HSA**

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	**8.0** Inches

Boring Location
State Plane **378500 N, 1617500 E** Lat **44° 51' 41"**
NE 1/4 of **SW** 1/4 of Section **33** T **28** N,R **9W** Long **91° 28' 57"**

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

County	DNR County Code	Civil Town/City/ or Village
Eau Claire	**9**	**Eau Claire**

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
			0	Reddish brown, SILTY SAND and Gravel	SM									
1			2					8.0/2.						
			4	Brown, fine-medium grained SAND and Gravel	SP									
2			6					9.6/2.						
3			8					3.8/1.						
				Brown, medium-coarse grained SAND and Gravel	SP									
4			10					5.3/2.						Lab Sample
5			12					4.6/2.						
				Brown, medium grained SAND; trace gravel	SP									
6			14					5.2/2.						
7			16					5.9/3.						
				Brown, medium-coarse grained SAND and Gravel	SP									
8			18					4.7/2.						Lab Sample
				Brown, fine grained SAND	SP									
				End o Boring @ 19.0'										

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

Signature Kevin E. Lemke Firm SEH

SEH
421 Frenette Drive, Chippewa Falls, WI.
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
Chippewa Valley Regional Airport		**B-4**

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Boart Longyear	**12/12/95**	**12/12/95**	**4.25" HSA**

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	**8.0** Inches

Boring Location
State Plane **378500 N, 1617500 E**
NE 1/4 of **SW** 1/4 of Section **33** T **28** N,R **9W**
Lat **44° 51' 41"**
Long **91° 28' 57"**
Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Eau Claire	**9**	**Eau Claire**

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
			0	Reddish brown, SILTY SAND and Gravel	SM									
1			3					8.6/3.6						
2			5											No Recovery
3			7					0.9/4.						
			8	Brown, medium-coarse grained SAND and Gravel	SP									
4			9					2.4/4.						
5			11					4.5/3.						
			12	Brown, fine-medium grained SAND; trace Gravel	SP									
6			13					7.2/4.						
7			15					1.9/6.						Lab Sample
			16	Brown, medium-coarse grained SAND and Gravel	SP									
8			17					34.5/4.						Lab Sample
			18	Brown, fine grained SAND	SP									
			19	End of Boring @ 19.0'										

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

Signature

Firm SEH
421 Frenette Drive, Chippewa Falls, WI.
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: Eau Claire

____ 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

Street Address of Well

City, Village: Eau Claire

(2) FACILITY NAME Chippewa Valley Regional Airport

Original Well Owner (If Known)

Present Well Owner: Chippewa Valley Airport

Street or Route

City, State, Zip Code: Eau Claire, WI

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

WI Unique Well No.

Reason For Abandonment: Test Boring

Date of Abandonment: 12/12/95

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) _____

☐ 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) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (Ft.) _____

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

(4) Depth to Water (Feet) Dry

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 _____

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
Bentonite Chips	Surface	19.0	6 Bags	

(8) Comments _____

(9) Name of Person or Firm Doing Sealing Work: Boart Longyear

Signature of Person Doing Work: [signature] Date Signed: 12/18/95

Street or Route: 101 Alderson Street Telephone Number: (715) 359-7090

City, State, Zip Code: Schofield, WI 54476

(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: Eau Claire

____ 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

Street Address of Well

City, Village: Eau Claire

(2) FACILITY NAME Chippewa Valley Regional Airport

Original Well Owner (If Known)

Present Well Owner: Chippewa Valley Airport

Street or Route

City, State, Zip Code: Eau Claire, WI

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

WI Unique Well No.

Reason For Abandonment: Test Boring

Date of Abandonment: 12/12/95

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) ____

☐ 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) ____ Casing Diameter (ins.) ____
(From groundsurface)

Casing Depth (Ft.) ____

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

(4) Depth to Water (Feet) Dry

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 ____

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
Bentonite Chips	Surface	19.0	6 Bags	

(8) Comments ____

(9) Name of Person or Firm Doing Sealing Work: Boart Longyear

Signature of Person Doing Work: [signature] Date Signed: 12-18-95

Street or Route: 101 Alderson Street Telephone Number: (715) 359-7090

City, State, Zip Code: Schofield, WI 54476

(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: Eau Claire

____ 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

Street Address of Well

City, Village: Eau Claire

(2) FACILITY NAME Chippewa Valley Regional Airport

Original Well Owner (If Known)

Present Well Owner: Chippewa Valley Airport

Street or Route

City, State, Zip Code: Eau Claire, WI

Facility Well No. and/or Name (If Applicable): B-3

WI Unique Well No.

Reason For Abandonment: Test Boring

Date of Abandonment: 12/12/95

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) ____

☐ 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) ____ Casing Diameter (ins.) ____
(From groundsurface)

Casing Depth (Ft.) ____

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

(4) Depth to Water (Feet) Dry

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 ____

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
Bentonite Chips	Surface	19.0	6 Bags	

(8) Comments ____

(9) Name of Person or Firm Doing Sealing Work: Boart Longyear

Signature of Person Doing Work: [signature] Date Signed: 12-18-95

Street or Route: 101 Alderson Street Telephone Number: (715) 359-7090

City, State, Zip Code: Schofield, WI 54476

(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: Eau Claire

____ 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

Street Address of Well

City, Village: Eau Claire

(2) FACILITY NAME Chippewa Valley Regional Airport

Original Well Owner (If Known)

Present Well Owner: Chippewa Valley Airport

Street or Route

City, State, Zip Code: Eau Claire, WI

Facility Well No. and/or Name (If Applicable): B-4

WI Unique Well No.

Reason For Abandonment: Test Boring

Date of Abandonment: 12/12/95

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) _____

☐ 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) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (Ft.) _____

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

(4) Depth to Water (Feet) Dry

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 _____

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
Bentonite Chips	Surface	19.0	6 Bags	

(8) Comments _____

(9) Name of Person or Firm Doing Sealing Work
Boart Longyear

Signature of Person Doing Work: [signature] Date Signed: 12-18-95

Street or Route: 101 Alderson Street Telephone Number: (715) 359-7090

City, State, Zip Code: Schofield, WI 54476

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected | District/County

Reviewer/Inspector

Follow-up Necessary

DNR/COUNTY

Appendix C

Analytical Reports

ENVIROSCAN

RECEIVED

JAN 26 1996

ENVIRONMENTAL AND
ANALYTICAL SERVICES

January 16, 1996

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

Attn: Glenn Bruxvoort/Frank Lowry

Re: CVAIR9601

Please find enclosed the analytical results for the samples received December 13, 1995. The PVOC results have been revised into a new reporting formate per your request.

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

Sincerely,

Enviroscan Corp.

Jay C. Hunger
Analytical Chemist

303 West Military Road Rothschild, WI 54474 (715) 359-7226
An Affiliate of the Black Clawson Co.

ANALYTICAL REPORT

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

CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 12/27/95
PREPARED BY: GPF GPF
REVIEWED BY:

Attn: Frank Lowry

Modified Diesel Range Organics (DRO)
Parameter # 78919

	DRO	Qualifiers	Date Ext	Date Analyzed	Analytical No.
B1-7	X		12/13/95	12/19/95	56464
B1-1	X		12/13/95	12/19/95	56465
B2-2	35.3	D2A D1	12/13/95	12/19/95	56466
B2-8	X		12/13/95	12/19/95	56467
B3-4	X		12/13/95	12/19/95	56468
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.
(SL) Recovery of surrogate was low. Result for sample may also be biased low.

The replicate spike recovery of this batch of samples was found to be 91.3% and 103.%.

ANALYTICAL REPORT

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

CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 12/27/95
PREPARED BY: GPF
REVIEWED BY:

Attn: Frank Lowry

Modified Diesel Range Organics (DRO)
Parameter # 78919

	DRO	Qualifiers	Date Ext	Date Analyzed	Analytical No.
B3-8	X		12/13/95	12/20/95	56469
B4-7	X	SL	12/13/95	12/20/95	56470
B4-8	X		12/13/95	12/20/95	56471

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.
(SL) Recovery of surrogate was low. Result for sample may also be biased low.

The replicate spike recovery of this batch of samples was found to be 83.8% and 120.%. The replicate spike deviation (35.5%) is above the method control limit of 20.0%

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

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

Attn: Frank Lowry

CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 01/16/96
PREPARED BY:
REVIEWED BY:

Client Sample B1-1 , Enviroscan Analytical # 56465, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet **	RESULT Dry	Quality Control Qualifiers	Analysis Date	Regulatory Limit
Benzene	0.012	0.025	0.060	< 0.025	< 0.026		12/13/95	.0055
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.026		12/13/95	2.9
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.026	CSH	12/13/95	
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.026		12/13/95	
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.026		12/13/95	
m- & p-Xylene	0.011	0.025	0.060	< 0.025	< 0.026		12/13/95	4.1 *
o-Xylene	0.010	0.025	0.060	< 0.025	< 0.026		12/13/95	4.1 *
Toluene	0.004	0.025	0.060	< 0.025	< 0.026		12/13/95	1.5

* = Regulatory Limit based on total Xylene.
** = If the result has a less than value greater than 25, it is due to less than 25 grams of soil in the sample.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

ENVIROSCAN

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

Attn: Frank Lowry

CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 01/16/96
PREPARED BY:
REVIEWED BY:

Client Sample B1-7 , Enviroscan Analytical # 56464, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet **	RESULT Dry	Quality Control Qualifiers	Analysis Date	Regulatory Limit
Benzene	0.012	0.025	0.060	< 0.025	< 0.026		12/13/95	.0055
Ethylbenzene	0.006	0.025	0.060	0.027	0.028	CE	12/13/95	2.9
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.026	CSH	12/13/95	
1,2,4-Trimethylbenzene	0.007	0.025	0.060	0.026	0.027	UC	12/13/95	
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.026		12/13/95	
m- & p-Xylene	0.011	0.025	0.060	0.035	0.036		12/13/95	4.1 *
o-Xylene & Styrene	0.010	0.025	0.060	< 0.025	< 0.026		12/13/95	4.1 *
Toluene	0.004	0.025	0.060	< 0.025	< 0.026		12/13/95	1.5

* = Regulatory Limit based on total Xylene.
** = If the result has a less than value greater than 25, it is due to less than 25 grams of soil in the sample.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

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

Attn: Frank Lowry

CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 01/16/96
PREPARED BY:
REVIEWED BY:

Client Sample B2-2 , Enviroscan Analytical # 56466, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet **	RESULT Dry	Quality Control Qualifiers	Analysis Date	Regulatory Limit
Benzene	0.012	0.025	0.060	< 0.025	< 0.026		12/13/95	.0055
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.026	CE	12/13/95	2.9
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.026	CSH	12/13/95	
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.026		12/13/95	
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.026		12/13/95	
m- & p-Xylene	0.011	0.025	0.060	< 0.025	< 0.026		12/13/95	4.1 *
o-Xylene	0.010	0.025	0.060	< 0.025	< 0.026		12/13/95	4.1 *
Toluene	0.004	0.025	0.060	< 0.025	< 0.026		12/13/95	1.5

* = Regulatory Limit based on total Xylene.
** = If the result has a less than value greater than 25, it is due to less than 25 grams of soil in the sample.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

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

Attn: Frank Lowry

CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 01/16/96
PREPARED BY:
REVIEWED BY:

Client Sample B2-8 , Enviroscan Analytical # 56467, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet **	RESULT Dry	Quality Control Qualifiers	Analysis Date	Regulatory Limit
Benzene	0.012	0.025	0.060	< 0.025	< 0.026		12/14/95	.0055
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.026		12/14/95	2.9
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.026	CSH	12/14/95	
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.026		12/14/95	
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.026		12/14/95	
m- & p-Xylene	0.011	0.025	0.060	< 0.025	< 0.026		12/14/95	4.1 *
o-Xylene	0.010	0.025	0.060	< 0.025	< 0.026		12/14/95	4.1 *
Toluene	0.004	0.025	0.060	< 0.025	< 0.026		12/14/95	1.5

* = Regulatory Limit based on total Xylene.
** = If the result has a less than value greater than 25, it is due to less than 25 grams of soil in the sample.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

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

Attn: Frank Lowry

CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 01/16/96
PREPARED BY:
REVIEWED BY:

Client Sample B3-4 , Enviroscan Analytical # 56468, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet **	RESULT Dry	Quality Control Qualifiers	Analysis Date	Regulatory Limit
Benzene	0.012	0.025	0.060	< 0.025	< 0.026		12/14/95	.0055
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.026		12/14/95	2.9
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.026	CSH	12/14/95	
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.026		12/14/95	
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.026		12/14/95	
m- & p-Xylene	0.011	0.025	0.060	< 0.025	< 0.026		12/14/95	4.1 *
o-Xylene	0.010	0.025	0.060	< 0.025	< 0.026		12/14/95	4.1 *
Toluene	0.004	0.025	0.060	< 0.025	< 0.026		12/14/95	1.5

* = Regulatory Limit based on total Xylene.
** = If the result has a less than value greater than 25, it is due to less than 25 grams of soil in the sample.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

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

Attn: Frank Lowry

CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 01/16/96
PREPARED BY:
REVIEWED BY:

Client Sample B3-8 , Enviroscan Analytical # 56469, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet **	RESULT Dry	Quality Control Qualifiers	Analysis Date	Regulatory Limit
Benzene	0.012	0.025	0.060	< 0.025	< 0.026		12/14/95	.0055
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.026		12/14/95	2.9
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.026	CSH	12/14/95	
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.026		12/14/95	
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.026		12/14/95	
m- & p-Xylene	0.011	0.025	0.060	< 0.025	< 0.026		12/14/95	4.1 *
o-Xylene	0.010	0.025	0.060	< 0.025	< 0.026		12/14/95	4.1 *
Toluene	0.004	0.025	0.060	< 0.025	< 0.026		12/14/95	1.5

* = Regulatory Limit based on total Xylene.
** = If the result has a less than value greater than 25, it is due to less than 25 grams of soil in the sample.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

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

Attn: Frank Lowry

CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 01/16/96
PREPARED BY:
REVIEWED BY:

Client Sample B4-7 , Enviroscan Analytical # 56470, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet **	RESULT Dry	Quality Control Qualifiers	Analysis Date	Regulatory Limit
Benzene	0.012	0.025	0.060	< 0.025	< 0.026		12/14/95	.0055
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.026		12/14/95	2.9
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.026	CSH	12/14/95	
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.026		12/14/95	
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.026		12/14/95	
m- & p-Xylene	0.011	0.025	0.060	< 0.025	< 0.026		12/14/95	4.1 *
o-Xylene	0.010	0.025	0.060	< 0.025	< 0.026		12/14/95	4.1 *
Toluene	0.004	0.025	0.060	< 0.025	< 0.026		12/14/95	1.5

* = Regulatory Limit based on total Xylene.
** = If the result has a less than value greater than 25, it is due to less than 25 grams of soil in the sample.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ANALYTICAL REPORT

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

Attn: Frank Lowry

CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 01/16/96
PREPARED BY:
REVIEWED BY:

Client Sample B4-8 , Enviroscan Analytical # 56471, Results are in Units of mg/kg

Method EPA 8021	MDL	LUST LOD	LUST LOQ	RESULT Wet **	RESULT Dry	Quality Control Qualifiers	Analysis Date	Regulatory Limit
Benzene	0.012	0.025	0.060	< 0.025	< 0.026		12/14/95	.0055
Ethylbenzene	0.006	0.025	0.060	< 0.025	< 0.026		12/14/95	2.9
Methyl tert Butyl Ether	0.016	0.025	0.060	< 0.025	< 0.026	CSH	12/14/95	
1,2,4-Trimethylbenzene	0.007	0.025	0.060	< 0.025	< 0.026		12/14/95	
1,3,5-Trimethylbenzene	0.019	0.025	0.060	< 0.025	< 0.026		12/14/95	
m- & p-Xylene	0.011	0.025	0.060	< 0.025	< 0.026		12/14/95	4.1 *
o-Xylene	0.010	0.025	0.060	< 0.025	< 0.026		12/14/95	4.1 *
Toluene	0.004	0.025	0.060	< 0.025	< 0.026		12/14/95	1.5

* = Regulatory Limit based on total Xylene.
** = If the result has a less than value greater than 25, it is due to less than 25 grams of soil in the sample.

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: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 02/07/96
PREPARED BY: JCH
REVIEWED BY:

Attn: Frank Lowry

	Units	Reporting Limit	B1-1 12/12/95	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	96.2		12/13/95
EPA 8310					
Acenaphthene	mg/kg	0.0038	X		12/21/95
Acenaphthylene	mg/kg	0.0049	X		12/21/95
Anthracene	mg/kg	0.0038	X		12/21/95
Benzo(a)Anthracene	mg/kg	0.0018	X		12/21/95
Benzo(a)Pyrene	mg/kg	0.0035	X		12/21/95
Benzo(b)Fluoranthene	mg/kg	0.0028	X		12/21/95
Benzo(k)Fluoranthene	mg/kg	0.0028	X		12/21/95
Benzo(ghi)Perylene	mg/kg	0.0056	X		12/21/95
Chrysene	mg/kg	0.0021	X		12/21/95
Dibenzo(a,h)Anthracene	mg/kg	0.007	X		12/21/95
Fluoranthene	mg/kg	0.0052	X		12/21/95
Fluorene	mg/kg	0.0028	X		12/21/95
Indeno(1,2,3-cd)Pyrene	mg/kg	0.0059	X		12/21/95
1-Methyl Naphthalene	mg/kg	0.0052	X		12/21/95
2-Methyl Naphthalene	mg/kg	0.0031	X		12/21/95
Naphthalene	mg/kg	0.0031	X		12/21/95
Phenanthrene	mg/kg	0.0031	X		12/21/95
Pyrene	mg/kg	0.0052	X	DUP	12/21/95
LUST Soil Org Ext - PNAs		-	COMP		12/15/95
Analytical No.:			56465		

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: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 02/07/96
PREPARED BY: JCH
REVIEWED BY:

Attn: Frank Lowry

	Units	Reporting Limit	B1-7 12/12/95	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	97.4		12/13/95
EPA 8310					
Acenaphthene	mg/kg	0.0038	X		12/21/95
Acenaphthylene	mg/kg	0.0048	X		12/21/95
Anthracene	mg/kg	0.0038	X		12/21/95
Benzo(a)Anthracene	mg/kg	0.0017	X		12/21/95
Benzo(a)Pyrene	mg/kg	0.0035	X		12/21/95
Benzo(b)Fluoranthene	mg/kg	0.0028	X		12/21/95
Benzo(k)Fluoranthene	mg/kg	0.0028	X		12/21/95
Benzo(ghi)Perylene	mg/kg	0.0055	X		12/21/95
Chrysene	mg/kg	0.0021	0.00269		12/21/95
Dibenzo(a,h)Anthracene	mg/kg	0.0069	X		12/21/95
Fluoranthene	mg/kg	0.0051	0.0197		12/21/95
Fluorene	mg/kg	0.0028	X		12/21/95
Indeno(1,2,3-cd)Pyrene	mg/kg	0.0059	X		12/21/95
1-Methyl Naphthalene	mg/kg	0.0051	X		12/21/95
2-Methyl Naphthalene	mg/kg	0.0031	X		12/21/95
Naphthalene	mg/kg	0.0031	X		12/21/95
Phenanthrene	mg/kg	0.0031	X		12/21/95
Pyrene	mg/kg	0.0051	0.0157	DUP	12/21/95
LUST Soil Org Ext - PNAs		-	COMP		12/15/95
Analytical No.:			56464		

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: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 02/07/96
PREPARED BY: JCH
REVIEWED BY:

Attn: Frank Lowry

	Units	Reporting Limit	MEOH BLANK 12/12/95	Qualifiers	Date Analyzed
EPA 8021					
Benzene	µg/l	25.0	X		12/14/95
Ethylbenzene	µg/l	25.0	X		12/14/95
Methyl tert Butyl Ether	µg/l	25.0	X	CSH	12/14/95
Toluene	µg/l	25.0	X		12/14/95
1,2,4-Trimethylbenzene	µg/l	25.0	X		12/14/95
1,3,5-Trimethylbenzene	µg/l	25.0	X		12/14/95
m- & p-Xylene	µg/l	25.0	X		12/14/95
o-Xylene & Styrene	µg/l	25.0	X		12/14/95
Analytical No.:			56472		

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

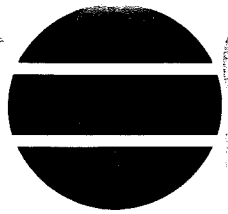
CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 02/07/96
PREPARED BY: JCH
REVIEWED BY:

Attn: Frank Lowry

	Units	Reporting Limit	B2-2 12/12/95	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	95.4		12/13/95
Analytical No.:			56466		
	Units	Reporting Limit	B2-8 12/12/95	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	96.9		12/13/95
Analytical No.:			56467		
	Units	Reporting Limit	B3-4 12/12/95	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	97.5		12/13/95
Analytical No.:			56468		
	Units	Reporting Limit	B3-8 12/12/95	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	96.4		12/13/95
Analytical No.:			56469		
	Units	Reporting Limit	B4-7 12/12/95	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	97.6		12/13/95
Analytical No.:			56470		
	Units	Reporting Limit	B4-8 12/12/95	Qualifiers	Date Analyzed
EPA 160.3					
Total Solids	%	-	97.1		12/13/95
Analytical No.:			56471		

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

ANALYTICAL REPORT



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

Attn: Frank Lowry

CUST NUMBER: CVAIR9601
SAMPLED BY: Client
DATE REC'D: 12/13/95
REPORT DATE: 01/16/96
PREPARED BY:
REVIEWED BY:

Qualifier Descriptions

CE	The value reported for this compound may be elevated due to a compound(s) which shares retention time characteristics with the target compound.
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.
UC	Unconfirmed. This compound sample was initially found at the reported concentration but was not detected in the confirmation analysis above the specified limits.

REQUEST FOR SERVICES

ENVIROSCAN

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

REPORT TO:
Name: Frank Lowry
Company: SEH
Address: 421 Frenette Dr.
Chippewa Falls, WI 54729
Phone: (715) 720-6200
P.O. # CVAIR9601
Project # ______ Quote # 4017-0

BILL TO: (if different from Report To info):
Name: Chippewa Valley Regional Airport
Company: 3800 Starr Ave.
Address: AS PER BID
Eau Claire, WI 54703
Phone: (   ) Burt Wright

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 12-26-95
Approved By ______

ANALYTICAL REQUESTS (use separate sheet if necessary)

LAB USE ONLY	DATE	TIME	No. of Containers COMP	No. of Containers GRAB	SAMPLE ID	DRO SOIL DRO	PVOC 5-PVOC	PAH 5-LUNC	T.S.		REMARKS
06056464	12/12	11:05		4	B1-7 ✓	X	X	X	X		
06056465	/95	10:50		4	B1-1 ✓	X	X	X	X		
06056466		11:45		3	B2-2 ✓	X	X		X		
06056467		12:00		3	B2-8 ✓	X	X		X		
06056468		1:10		3	B3-4 ✓	X	X		X		
06056469		1:20		3	B3-8 ✓	X	X		X		
06056470		2:20		3	B4-7 ✓	X	X		X		
06056471	↓	2:30		3	B4-8 ✓	X	X		X		
06056472	12/6/95			1	MEOH Blank ✓		X				
—				1	Temp Blank						
SHORT	CHIPPREG										

Del'v: 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) Kevin E. Ceccola

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Kevin E. Ceccola	12/12/95 5:00	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED FOR LABORATORY BY: (Signature) Sue Schultz — DATE/TIME 12/13/95 10:20a

TERMS AND CONDITIONS

1. ORDERS

Customer may order Analytical Services by completing this form, submitting a written purchase order to Enviroscan Corp. or by placing a telephone order which is subsequently confirmed in writing.

2. SAMPLES

When analyses only are ordered, Customer will be responsible for obtaining representative sample(s), preserving same in an appropriate manner, and forwarding them intact to Enviroscan Corp. Customer has these responsibilities whether using own sample containers or containers provided by Enviroscan Corp. Enviroscan Corp. will exercise reasonable care in handling samples, but in no event shall Enviroscan's liability for loss or destruction of any sample exceed the amount paid for analysis of that particular sample.

3. CHARGES AND PAYMENT

Enviroscan Corp. will perform Analytical Services in return for charges as outlined in our quotation, or as stated on Enviroscan's current price list. Terms of payment are Net/30 days. An additional charge of one and one half percent per month will be added to unpaid accounts.

4. WARRANTY-LIABILITY

Enviroscan Corp. will perform Analytical Services and provide Customer with a written report of results. Notwithstanding anything herein to the contrary, liability in connection with any claim relating to Analytical Services shall be limited to, at Enviroscan's option, repeating the Services at Enviroscan's expense, or the refund of the charges paid for performance of the Services.

Except as expressly stated above, Enviroscan Corp. makes no warranty, expressed or implied, whether of merchantability or fitness for any particular purpose or use or otherwise of the Services. In no event shall Enviroscan Corp. be liable to Customer for any special, indirect, incidental or consequential damages arising out of, or as the result of, the performance of the Services, the use or loss of the use of a report prepared by Enviroscan Corp., or for any charges or expenses of any nature incurred without Enviroscan's written consent, even though Enviroscan Corp. has been negligent.

In no event shall Enviroscan Corp. be responsible to the Customer for incidental, consequential, or special damages of any type or nature.

Except for claims for personal injury, the total liability of Enviroscan Corp., to Customer arising under this order, whether arising by contract, tort, warranty (express or implied), strict liability, delay, inaccuracy in testing results, or otherwise shall not exceed the contract price of this order in the aggregate.

5. FORCE MAJEURE

Enviroscan Corp. shall not be liable for any default or delay in performance if caused, directly or indirectly, by acts of God, war, force or arms, fire, the elements, riot, labor disputes, picketing or other labor controversies, sabotage, civil commotion, accidents, any governmental action, prohibition or regulation, delay in transportation facilities, shortage or breakdown of or inability to obtain or nonarrival of any labor, material or equipment used in the performance of the Services, failure of any party to perform any contract with Enviroscan Corp. relative to the performance of the Services covered hereby, or from any cause whatsoever beyond Enviroscan's control, whether or not such cause be similar or dissimilar to those enumerated.

Enviroscan Corp. shall be compensated for costs incurred when Services cannot be completed for any of the above causes.

6. MISCELLANEOUS

The Analytical Services are contracted for according to the laws of the State of Wisconsin. This document constitutes the full understanding of the parties (Enviroscan Corp. and Customer), and no terms, conditions, understanding or agreement proporting to modify or vary the terms of this document shall be binding unless hereafter made in writing and signed by the party to be bound.

421 FRENETTE DRIVE, CHIPPEWA FALLS, WI 54729 715 720-6200 800 472-5881 FAX 715 720-6300
ARCHITECTURE • ENGINEERING • ENVIRONMENTAL • TRANSPORTATION

December 1, 1995

RE: Chippewa Valley Regional Airport
Site Investigation Work Plan #1500
SEH No. CVAIR9601.00

Mr. John Grump, Hydrogeologist
Wisconsin Department of Natural Resources
1300 W. Clairemont Avenue
Eau Claire, WI 54702-4001

Dear Mr. Grump:

This letter is to confirm our telephone conversation of November 29, 1995, regarding your review of the referenced work plan (dated November 1995) and your response letter dated November 28, 1995. As we discussed, SEH intends to perform PAH sampling only at Boring B-4. Two samples will be submitted for PAH analyses, one at the interval with the highest headspace reading and one at the bottom of the boring. If the investigation extends beyond the four proposed boring locations, then additional PAH samples will be taken where FID headspace readings are above 100 instrument units.

Thank you for your expedient review of the work plan. We plan to begin drilling in mid December.

Sincerely,

Frank Lowry, P.E., P.G.
Project Manager

FJL/pcs/KEA
c. Burt Wright

WISCONSIN
DEPT. OF NATURAL RESOURCES
George E. Meyer
Secretary

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

1300 West Clairemont Avenue
P.O. Box 4001
Eau Claire, WI 54702-4001
TELEPHONE 715-839-3700
TELEFAX 715-839-6076
TDDPHONE 715-839-2786

November 28, 1995

Site Ref: LUST Case #1500.WD
Chippewa County

Mr. Burt Wright
Chippewa Valley Regional Airport
3800 Starr Avenue
Eau Claire, WI 54703

SUBJECT: Review of the Site Investigation Work Plan for the Chippewa Valley Regional Airport Maintenance Garage Site

Dear Mr. Wright:

I have reviewed the above-captioned work plan which was submitted by Frank Lowry, Short, Elliott, Hendrickson, Inc. The work plan outlines a subsurface investigation to determine the degree and extent of petroleum contamination. This contamination appears to be localized near the former diesel pump. A minimum of four (4) hollow-stem auger borings are proposed at, and adjacent to, the former diesel pump location.

The analyte selection for the boring soil samples included DRO, PVOCs and PAHs. However, the sampling locations of the PAH analysis are rather nebulous. Please direct your consultant to provide more clarity to the proposed PAH sampling points.

I am approving this work plan contingent on the acceptance of the aforementioned clarification. If you have any questions concerning this letter, please contact me at (715) 839-3775.

Sincerely,

John R. Grump
Hydrogeologist

JRG/ah

c: Bill Evans
Frank Lowry, SEH

Chippewa Valley Regional Airport

Site Investigation Work Plan

Eau Claire, Wisconsin

SEH No. CVAIR9601

November 1995

SHORT ELLIOTT HENDRICKSON INC.

MULTIDISCIPLINED.
SINGLE SOURCE.

421 FRENETTE DRIVE, CHIPPEWA FALLS, WI 54729 715 720-6200 800 472-5881 FAX 715 720-6300
ARCHITECTURE • ENGINEERING • ENVIRONMENTAL • TRANSPORTATION

November 20, 1995

RE: Chippewa Valley Regional Airport
Site Investigation Work Plan
SEH No. CVAIR9601

Mr. John Grump, Hydrogeologist
Wisconsin Department of Natural Resources
1300 West Clairemont Avenue
Eau Claire, WI 54702

Dear Mr. Grump:

On behalf of the Chippewa Valley Regional Airport, Short Elliott Hendrickson Inc. (SEH) is submitting a copy of the enclosed work plan entitled "Chippewa Valley Regional Airport – Site Investigation Work Plan." This work plan is being submitted to the Wisconsin Department of Natural Resources (WDNR) in response to an apparent petroleum release identified during a September 1995 tank removal site assessment performed by Ayres Associates. The property is located at 3800 Starr Avenue, Eau Claire, Wisconsin.

SEH respectfully requests your expeditious review of this Work Plan. Please do not hesitate to call us if you have any questions or comments.

Sincerely,

Frank J. Lowry, P.E., P.G.
Project Manager

KEA/ls/FJL

Distribution List

No. of Copies	Sent to
1	John Grump, Hydrogeologist Wisconsin Department of Natural Resources 1300 West Clairemont Avenue Eau Claire, WI 54702
1	Burt Wright, Airport Manager Chippewa Valley Regional Airport 3800 Starr Avenue Eau Claire, WI 54703

Site Investigation Work Plan

Prepared for:
Chippewa Valley Regional Airport
Eau Claire, Wisconsin

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

I, Frank J. Lowry, 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.

28812

Frank J. Lowry, P.E., P.G. P. E. Number
Project Manager

I, Kevin E. Accola, 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.

11/20/95

Kevin E. Accola Date
Environmenta Scientist

Table of Contents

List of Figures

List of Appendices

November 1995

Site Investigation Work Plan

Chippewa Valley Regional Airport

Eau Claire, Wisconsin

1.0 Introduction

This Site Investigation (SI) Work Plan was prepared by Short Elliott Hendrickson Inc. (SEH) on behalf of the Chippewa Valley Regional Airport. It was written in accordance with s. NR 716.07 and 716.09 Wisconsin Administrative Code (Wis. Adm. Code). The Work Plan was prepared to address apparent soil petroleum contamination discovered during a September 1995 tank removal site assessment performed by Ayres Associates. The tasks outlined in this Work Plan have been selected to identify the degree and extent of contamination associated with the former diesel pump.

1.1 Project Contacts

1. Burt Wright, Airport Manager
   Chippewa Valley Regional Airport
   3800 Starr Avenue
   Eau Claire, WI 54703
   (715) 839-4900

2. John Grump, Hydrogeologist
   Wisconsin Department of Natural Resources
   1300 West Clairemont Avenue
   Eau Claire, WI 54702
   (715) 839-3775

3. Frank J. Lowry, P.E., P.G., Project Manager
   Short Elliott Hendrickson Inc.
   421 Frenette Drive
   Chippewa Falls, WI 54729
   (715) 720-6228

2.0 Background Information

The Chippewa Valley Regional Airport is located at 3800 Starr Avenue in Eau Claire, Wisconsin and is shown in Figure 1, "Site Location." The site is located in the NE 1/4 of the SW 1/4 of Section 33, T28N, R9W in Chippewa County, Wisconsin.

In September 1995, three 10,000 gallon underground storage tanks (USTs) and associated piping and pumps were removed. Soil samples were collected at the time of tank removal as part of the tank removal site assessment. Analytical results indicated diesel range organic (DRO) contamination 4.5 feet below the former diesel pump at a concentration of 5,100 mg/kg. The WDNR was subsequently notified of the petroleum release. Figure 2, "Site Plan" indicates the location of the former USTs and fuel pumps and general site layout.

If, during the SI, SEH determines that contamination at the Chippewa Valley Regional Airport has potentially impacted adjacent or nearby properties, an attempt will be made at that time to gain permission from affected property owners to investigate offsite. SEH anticipates no problems with investigation on City of Eau Claire property (street right-of-way).

Water is supplied to City residents by the City of Eau Claire municipal water supply. SEH is not aware of any private water supply wells within a 1,200 foot radius of the subject site. The City of Eau Claire Municipal well field is located downgradient (southwest) of the subject site. However, these municipal water supply wells are located outside of the 1,200 foot radius of the petroleum release area.

Groundwater below this site is likely contaminated with volatile organic compounds (VOCs) from the Presto contamination plume. This will be factored in if this investigation results in samples which are taken in or near groundwater. SEH is unaware of any other potential impacts to items listed in ss NR 716.07(8) Wis. Adm. Code.

3.0 Geology, Hydrogeology, and Topography

The Hydrogeologic Atlas of the Chippewa River basin (H. L. Young and S. M. Hindall, 1972), the Bedrock Geology Map of Wisconsin (B. A. Brown, 1988) and boring log information from the WDNR were

utilized to determine the geologic and hydrogeologic characteristics of the site.

The site is underlain by approximately 104 feet of glacial outwash deposits consisting of well sorted, stratified sands and gravels. Precambrian age crystalline bedrock underlies the glacial outwash.

Based on information provided by the WDNR, groundwater is at a depth of approximately 70 feet. Groundwater is expected to flow southwesterly towards the Chippewa River.

Surface water in the diesel pump area drains into the vegetated areas where it percolates to the subsurface. The surface elevation of the site is 885±2 feet above Mean Sea Level (MSL) according to the most recent United States Geologic Survey (USGS) topographic map. The area topography is shown on Figure 1.

Petroleum contamination at the site would be expected to migrate downward through the soil to the water table where it would then be transported downgradient. The coarse nature of the soils suggest that any migration would be relatively uniform. Utility trench backfill is not expected to be a preferential route for contaminant migration at the site.

4.0 Proposed Field Investigation

SEH proposes to perform a SI at the area of known contamination identified during the tank removal site assessment performed by Ayres Associates on September 28, 1995. SEH does not anticipate that petroleum releases from the USTs have impacted groundwater at this site; however, if the SI indicates otherwise, the SI will be modified to include groundwater monitoring well installation and sampling. In order to determine the degree and extent of contamination at the subject site, SEH will perform the following activities described below.

4.1 Soil Borings

A minimum of four hollow stem auger (HSA) soil borings with split spoon sampling will be completed in the vicinity of the documented contamination. One boring will be advanced directly below the former diesel pump location, and three borings will be completed approximately ten feet north, southeast, and southwest of the former pump. The approximate boring locations are shown on Figure 3, "Proposed Soil Boring Locations." SEH will use a flame ionization detector (FID) to determine headspace gas concentrations from the soil samples according to standard SEH procedures found in Appendix A, "Standard Operating Procedures."

Split spoon soil samples will be collected in brass tubes at continuous two foot intervals from one foot to a minimum of twenty feet below grade in borings B-1, B-2, and B-3. Boring B-4 will be sampled similarly from five feet to twenty feet below grade. The borings will be extended further if field screening indicates that soil contamination extends beyond a depth of 20 feet at a given boring. Soil from one brass tube will be used for FID headspace screening. Remaining brass tubes will be capped and placed in an ice filled cooler for possible laboratory analysis. Brass tubes will not be stored on ice for more than two hours before soil is collected in laboratory sample containers. A minimum of two soil samples will be collected from each boring for laboratory analysis according to standard SEH procedures found in Appendix A. Unless conditions warrant a change, the samples submitted for laboratory analyses will be from the sample with the highest FID headspace reading and the sample from the bottom of the boring.

Upon completion of drilling activities, boreholes will be abandoned in accordance with ch. NR 141 Wis. Adm. Code. Borehole abandonment forms (WDNR Form 3300-5B) will be completed for each abandoned boring and submitted to the WDNR by the drilling subcontractor.

4.2 Soil Analysis

Each soil sample will be analyzed for DRO and petroleum volatile organic compounds (PVOCs). Selected samples will be analyzed for polynuclear aromatic hydrocarbons (PAHs) based on headspace screening results and field observations.

Soil sample analyses will be conducted at a WDNR certified analytical laboratory. All samples will be preserved on ice during sample storage and shipment. The PVOC soil samples will be field preserved with methanol. Standard chain-of-custody documentation will be maintained during shipment and receipt of samples.

4.3 Investigative Waste Storage and Disposal

Contaminated soil cuttings generated during SI activities will be containerized in drums. Soil cuttings will remain onsite pending analytical results and determination of the disposal method. Prior to disposal, the drums will be labeled with signage consistent with ch. NR 714.07(3) Wis. Adm. Code.

5.0 Documentation and Quality Assurance/Quality Control (QA/QC)

Specific documentation and QA/QC procedures will be followed during the investigative activities at the Chippewa Valley Regional Airport to ensure that accurate and representative data are collected. This section describes the procedures to be followed during field activities only. The laboratory QA/QC procedures will be performed in accordance with specific method requirements and laboratory standard operating procedures. SEH will select a WDNR certified laboratory to perform the laboratory analysis for the Chippewa Valley Regional Airport project. The following section outlines the field documentation and QA/QC procedures.

5.1 Field Documentation

A written log will be used to document field procedures and conditions. The written log will be kept in a bound field book with pre-numbered pages. Field notes will be entered daily when activities occur. The field notes will include at least the following information:

- Date
- Field personnel (including owner, consultants, subcontractors, regulatory agency)
- Weather (temperature, cloud cover, wind, precipitation)
- Equipment (including screening, sampling, subcontractor equipment)
- Calibrations performed, calibration curves or standards
- Results and techniques used for field screening
- Sampling locations (this requires an accurate map)
- Methods and/or devices used in sampling.
- Decontamination procedures used.
- Time and date of sample collection.
- Type of sample (soil, groundwater, surface water, etc.)
- Field preservation performed
- Field QC data associated with the sample
- Sample ID (must clearly correlate to sample locations shown on a map)
- Any deviations from work plan, SOP or special conditions

In addition to the written log, a photographic log may also be prepared documenting pertinent field conditions and sampling procedures. The photographs will be labeled to indicate the subject, date, time,

6.0 Report

Following completion of field activities and laboratory analyses, SEH will prepare an SI report for the subject site and submit the report to the WDNR. The analytical results obtained from the tank removal site assessment will be included with the SI results. The report will describe the estimated extent of petroleum contamination, site geology and hydrogeology, potential receptors of contamination, and results of a groundwater investigation if groundwater is found to be impacted. The degree and extent of petroleum contamination at the subject site will be determined by correlating soil analytical results within HSA borings. The results of the SI as well as recommendations for additional investigation and/or site remediation will be included in the narrative section of the SI report. Three remedial alternatives will be compared and the selected site remediation option will be included in the SI report.

7.0 Site Health and Safety Plan

See Appendix B.

8.0 Project Schedule

A proposed schedule of activities at the subject site is as follows:

Task	Estimated Date for Task Completion
1. Site Investigation Soil Boring Installation	December 1995
2. Site Investigation Report	February 1996

9.0 References

Attig, J.W., Clayton, L., and D.M. Mickelson, 1988, "Pleistocene Stratigraphic Units of Wisconsin 1984-1987" Wisconsin Geological and Natural History Survey, Information Circular No. 62.

Ostrom, M.E., 1966, "Cambrian Stratigraphy in Western Wisconsin," University of Wisconsin, Geologic and Natural History Survey, Information Circular No. 7.

Wisconsin Department of Natural Resources. James Boettcher. Telephone Conversation 11/20/95.

Young, H.L. and S.M. Hindall, 1972, "Water Resources of Wisconsin, Chippewa River Basin," University of Wisconsin-Extension, Geologic and Natural History Survey, Hydrologic Investigations Atlas HA-386.

Figures

REPRODUCED FROM

USGS EAU CLAIRE EAST QUADRANGLE

WISCONSIN – EAU CLAIRE CO. 7.5 MINUTE SERIES

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SCALE IN FEET

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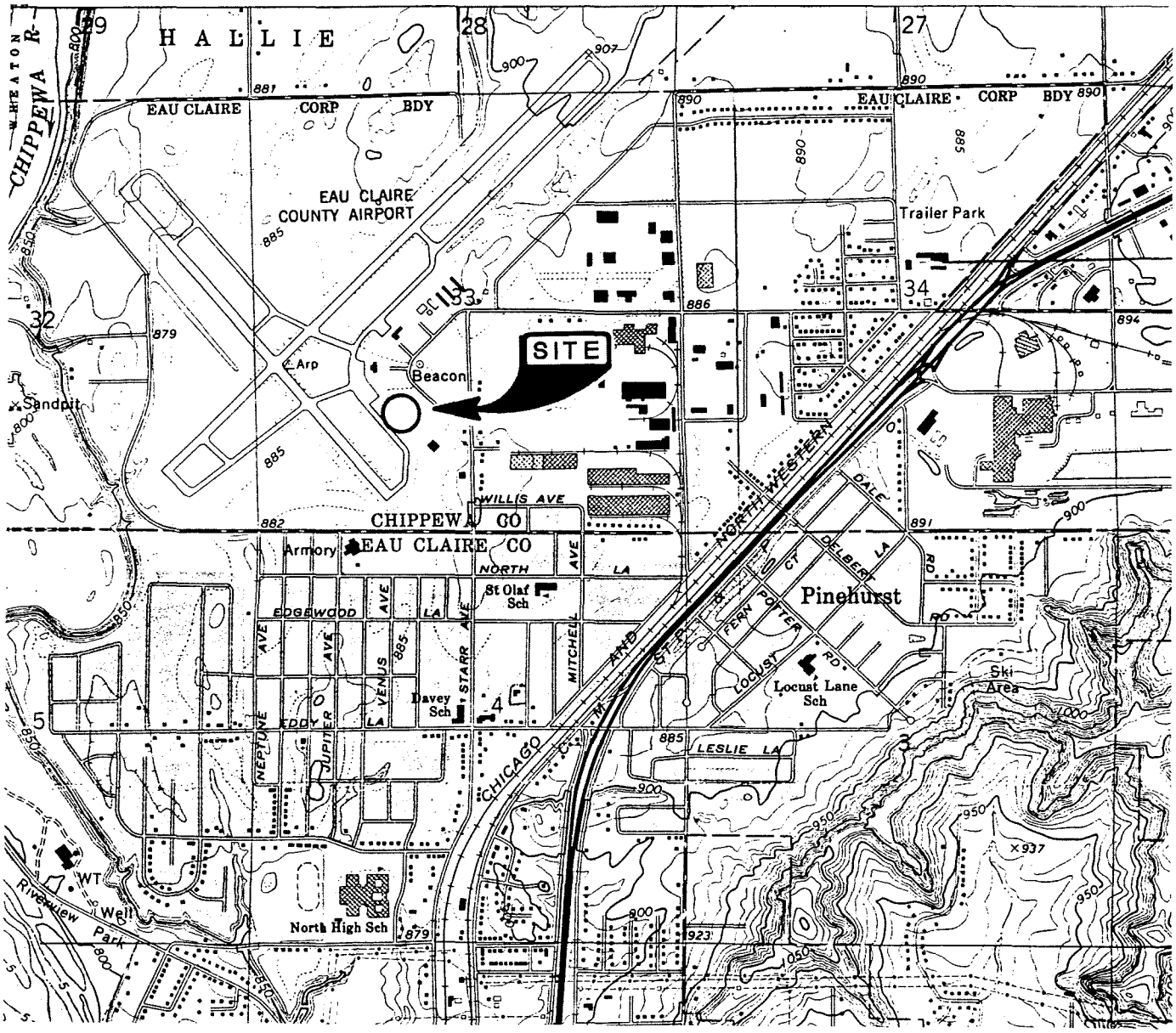

NO.	DATE	ISSUE/REVISIONS	DRAWN BY	DESIGN	FIELD REVIEW	QC CHECK
1	11/17/95	SITE INVESTIGATION WORK PLAN	JLE 11/95	FJC 11/20/95		KR 11/20/95

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CHIPPEWA VALLEY REGIONAL AIRPORT

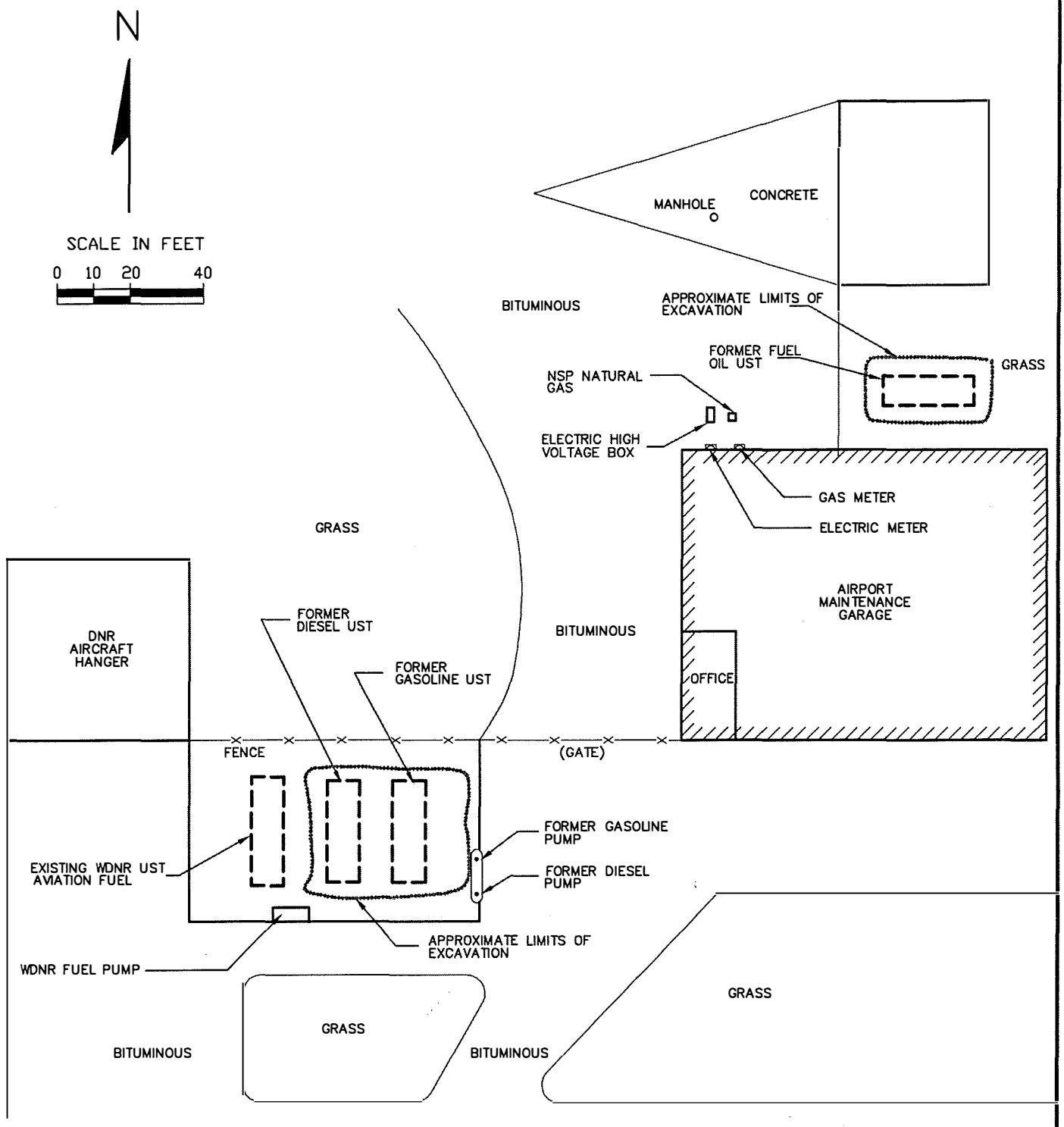
FIGURE 1
SITE LOCATION

PROJ. NO. CVAIR

DATE 11/20/95

1/3

E:\WASTE\CVAIR\9601\FIG1



NOTE: SITE PLAN FEATURES AND DIMENSIONS FROM AYRES AND ASSOCIATES (OCTOBER, 1995)

NO.	DATE	ISSUE/REVISIONS	DRAWN BY	DESIGN	FIELD REVIEW	QC CHECK
1	11/13/95	SITE INVESTIGATION WORK PLAN	JLE 11/95	FJL 11/20/95		DRR 11/20/95

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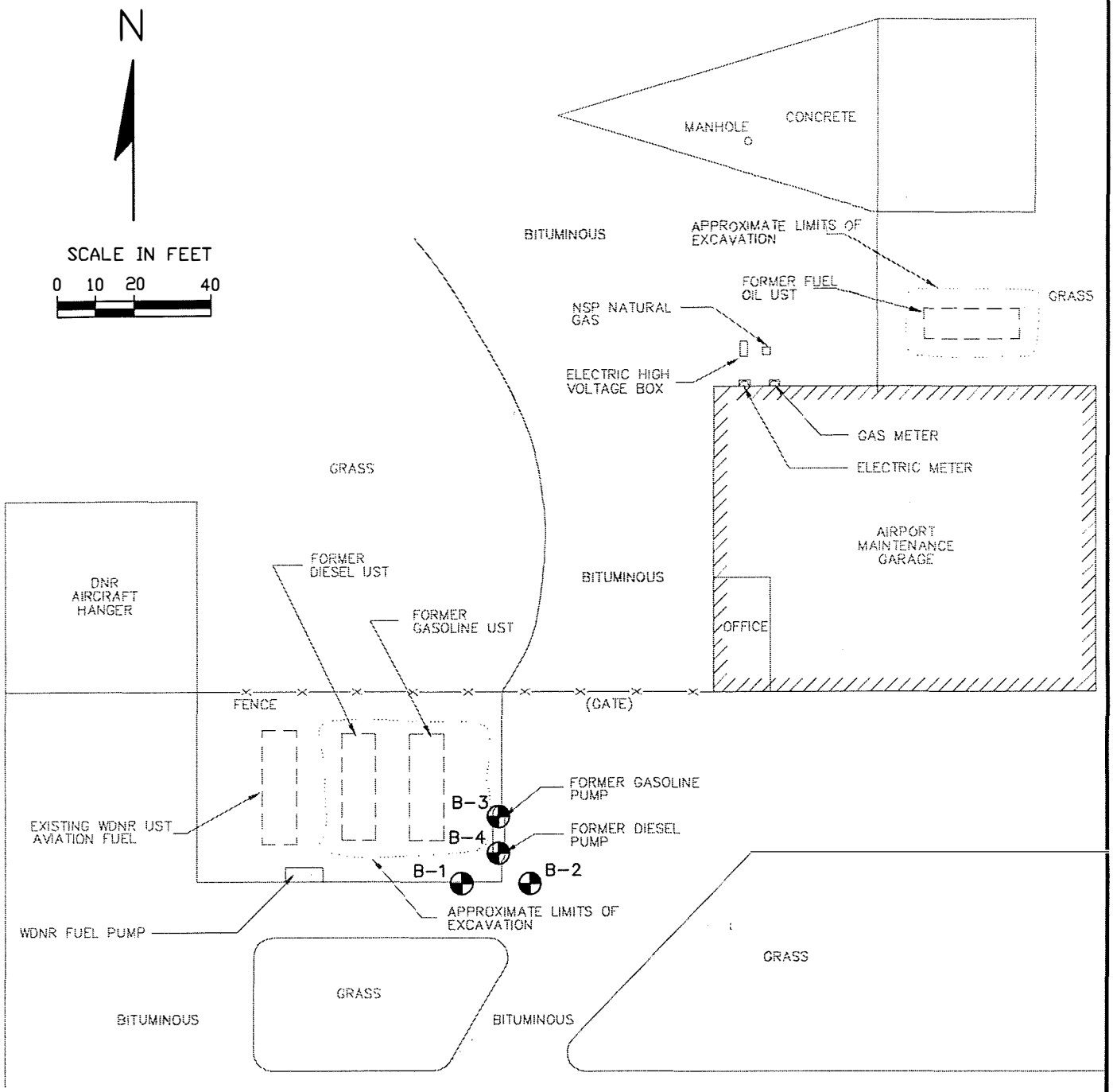
CHIPPEWA VALLEY REGIONAL AIRPORT

FIGURE 2
SITE PLAN

PROJ. NO. CVAIR
DATE 11/20/95

2/3

E:\WASTE\CVAIR\9601\FIG2



LEGEND

B-2 ⊕ PROPOSED SOIL BORING LOCATION AND NUMBER

NOTE: SITE PLAN FEATURES AND DIMENSIONS FROM AYRES AND ASSOCIATES (OCTOBER, 1995)

NO.	DATE	ISSUE/REVISIONS	DRAWN BY	DESIGN	FIELD REVIEW	QC CHECK
1	11/13/95	SITE INVESTIGATION WORK PLAN	JLE 11/95	RJL 11/20/95		DRB 11/20/95

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CHIPPEWA VALLEY REGIONAL AIRPORT

FIGURE 3
PROPOSED SOIL BORING LOCATIONS

PROJ. NO. CVAIR
DATE 11/20/95
3 / 3

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Appendix A

Standard Operating Procedures

Protocol for Split Spoon Sampling of Subsurface Soils

Subsurface soil samples are collected by performing soil borings at selected locations at the site. Soil borings are performed using hollow stem auger (HSA) and split-spoon sampling techniques. Soil samples are typically collected at 2.5 foot intervals in general accordance with American Society of Testing and Materials (ASTM) standards (ASTM:D 1586-84). However, site conditions where consistent soil profiles are observed below ten feet may allow for split spoon sampling to be reduced to five foot intervals. A standard 2 inch OD split spoon sampler with brass tube inserts is used for collection of soil samples. The drilling is directed by SEH's Site Representative, who logs geologic materials encountered during drilling, field screens auger cuttings and soil samples, and observes the drilling activities and supervises sample collection.

As samples are obtained in the field, they are visually classified by SEH's Site Representative. Sample lithology is recorded using the Unified Soil Classification System. Soil boring logs, documenting soil types and subsurface conditions, are completed by SEH's Site Representative. Actual borehole depth and selection of soil samples for analysis is based upon instrument screening, visual observation and odor.

Drill cuttings and liquid generated by boring activities are left on site. Contaminated soils are either stockpiled on plastic sheeting or when required by site conditions are contained in 55-gallon steel drums. When sampling is completed, borings are backfilled with bentonite mixed with clean soil cuttings. Borehole abandonment procedures follow WDNR guidelines and are documented on standard forms by the driller. The split-spoon sampler is cleaned between samples to minimize cross contamination. Brass tubes that must be reused are also decontaminated in the field. The cleaning procedure consists of a soap and water or trisodium phosphate (TSP) wash, followed by a rinse with clean tap or distilled water. Split-spoons are typically cleaned by the drilling contractor while brass tubes are decontaminated by SEH's Site Representative. To avoid cross-contamination between soil borings, drilling augers are steam-cleaned between borings.

In accordance with SEH's Site Safety Plan, a photoionization detector (PID) or flame ionization detector (FID) and explosimeter are used to monitor ambient air concentrations at the borehole and within the work zone during drilling. The PID and FID are also used for field screening soil samples for the presence of volatile organic compounds. Personal protective equipment is utilized by site personnel during performance of sampling activities, as specified in the Site Safety Plan.

Stainless-steel sampling equipment used to collect soil samples from the split-spoon are decontaminated between samples using a soap and water wash followed by a distilled water rinse. As samples are obtained in brass tubes, they are split into two subsamples. One subsample is used for field headspace screening. The second subsample is immediately placed in an ice filled cooler for possible laboratory analysis. At the completion of the boring, the sample with the highest headspace reading and the sample from the bottom of the boring are collected for laboratory analysis.

The latest WDNR LUST Guidance protocols are followed in collecting and preserving soil samples for laboratory analyses. Soil samples are transferred from brass tubes to laboratory cleaned glass jars and labeled with identifying sample number, location, date, time and sampling personnel. Samples submitted for analysis are preserved on ice and shipped in a cooler overnight to the contracted analytical laboratory. SEH standard chain of custody procedures are followed regarding shipment and receipt of samples.

Soil Vapor Monitoring - Simultaneous FID and PID

Soil vapor (headspace) measurements are made on soil samples collected during soil boring and excavation activities. The field instrument used is a portable Foxboro Toxic Vapor Analyzer (TVA) Model 1005 with simultaneous flame ionization detector (FID) and photoionization detector (PID) capabilities. The TVA-1000 has been laboratory calibrated. The calibration of the FID is verified in the field using 105 ppm methane and the PID is verified in the field with 98 ppm isobutylene prior to conducting any sample measurements. This instrument has the following standard specifications:

Accuracy	*PID Instrument* - ±25% of reading or ±2.5 ppm, whichever is greater, from 0.5 to 500 ppm. Accuracy listed is achieved using isobutylene with a 1-point calibration in the range of 100 to 300 ppm (including drift) at the temperature and humidity of the calibration. *FID Instrument* - ±25% of reading or ±2.5 ppm, whichever is greater, from 1.0 to 10,000 ppm. Accuracy listed is achieved using methane with a 1-point calibration in the range from 100 to 500 ppm (including drift) at the temperature and humidity of the calibration.
Repeatability	*PID Instrument* - ±1% at 100 ppm of isobutylene *FID Instrument* - ±2% at 100 ppm of methane
Dynamic Range	*PID Instrument* - ±0.5 to 2,000 ppm of isobutylene *FID Instrument* - ±1.0 to 50,000 ppm of methane
Linear Range	*PID Instrument* - ±0.5 to 500 ppm of isobutylene *FID Instrument* - ±1.0 to 10,000 ppm of methane
Minimum Detectable Level	The minimum detectable level is defined as two times the peak-to-peak noise. *PID Instrument* - 100 ppb of benzene *FID Instrument* - 300 ppb of hexane
Response Time Using Close Area Sampler	*PID Instrument* - Less than 3.5 seconds for 90% of final value, using 100 ppm of isobutylene *FID Instrument* - Less than 3.5 seconds for 90% of final value, using 10,00 ppm of methane
Response Time Using Charcoal Filter Adapter	*PID Instrument* - Less than 20 seconds for 90% of final value, using 100 ppm of isobutylene *FID Instrument* - Less than 20 seconds for 90% of final value, using 10,000 ppm of methane
Data Storage Rate	From 1 per second to 1 per 999 minutes, user selectable
Sample Flow Rate	1 l/minute, nominal, at sample probe inlet
PID Lamp Life	Greater than 2,000 hours for 10.6 eV lamp, with normal cleaning
FID Life	Greater than 2,000 hours
Normal Operating Temperature	0 to +40° C

The following procedure is used in determining headspace gas concentrations in each soil sample:

1. Quart size plastic Ziploc bags were used for soil headspace containers. Soil samples were placed in bags using disposable spatulas or decontaminated stainless steel spatulas. The containers were filled half way with soil from specific sample locations then quickly sealed and labeled to record sample number and depth from which the sample was taken.

2. Headspace is allowed to develop for 10 minutes. The Ziploc bag is vigorously shaken for 15 seconds both at the beginning and end of the headspace development period. Clads of cohesive soil are broken to facilitate development of vapors in the headspace. Where ambient temperatures are below 32° F (0° C), headspace development is conducted within a heated vehicle or building so samples can warm to approximately 70° F..

3. After headspace development, the plastic bag is punctured with the instrument sampling probe to a point about one-half of the headspace depth. Care is exercised to avoid intake of water droplets or soil particles.

4. Following probe insertion through the plastic bag, the highest meter response is recorded as the headspace concentration.

Samples are also examined visually by an environmental professional for staining or other signs of contamination.

Appendix B

Site Health and Safety Plan

SITE HEALTH AND SAFETY PLAN

Site Name:	Chippewa Valley Regional Airport	Site Contact:	Burt Wright
Address:	3800 Starr Avenue	Phone:	(715) 839-4900
	Eau Claire, WI 54703		

I. Site Coordination

Site Supervisor/ Safety Officer	Kevin Accola or alternate as determined by Project Manager	Phone # (work)	(715) 720-6224
		(home)	(715) 926-3389
Project Manager	Frank J. Lowry, P.E., P.G.	Phone # (work)	(715) 720-6228
		(home)	(715) 723-1464
Health & Safety Administrator	Kevin Accola	Phone # (work)	(715) 720-6224
		(home)	(715) 926-3389

II. Emergency Information

A. Emergency Contacts

Fire Department	911	Poison Control Center	(608) 262-3702
Police Department	911	24 LUST Hotline	(608) 266-3232
Sheriff Department	911 or (715) 726-7700	Chemtrec	(800) 424-9300
Ambulance	911	AT&F (Explosives Info)	(800) 424-9555
Hospital	(715) 839-4222 Sacred Heart Hospital		

*Directions to Hospital: Turn south on Starr Avenue to Eddy Lane. Go west to N. Hastings Way and turn south. Continue on N. Hastings Way to U.S. Highway 12. Turn west on U.S. 12, approximately 2.5 miles to Sacred Heart Hospital, 900 W. Clairemont Avenue (U.S. 12). Turn right into emergency entrance.

*See map for detailed instructions.

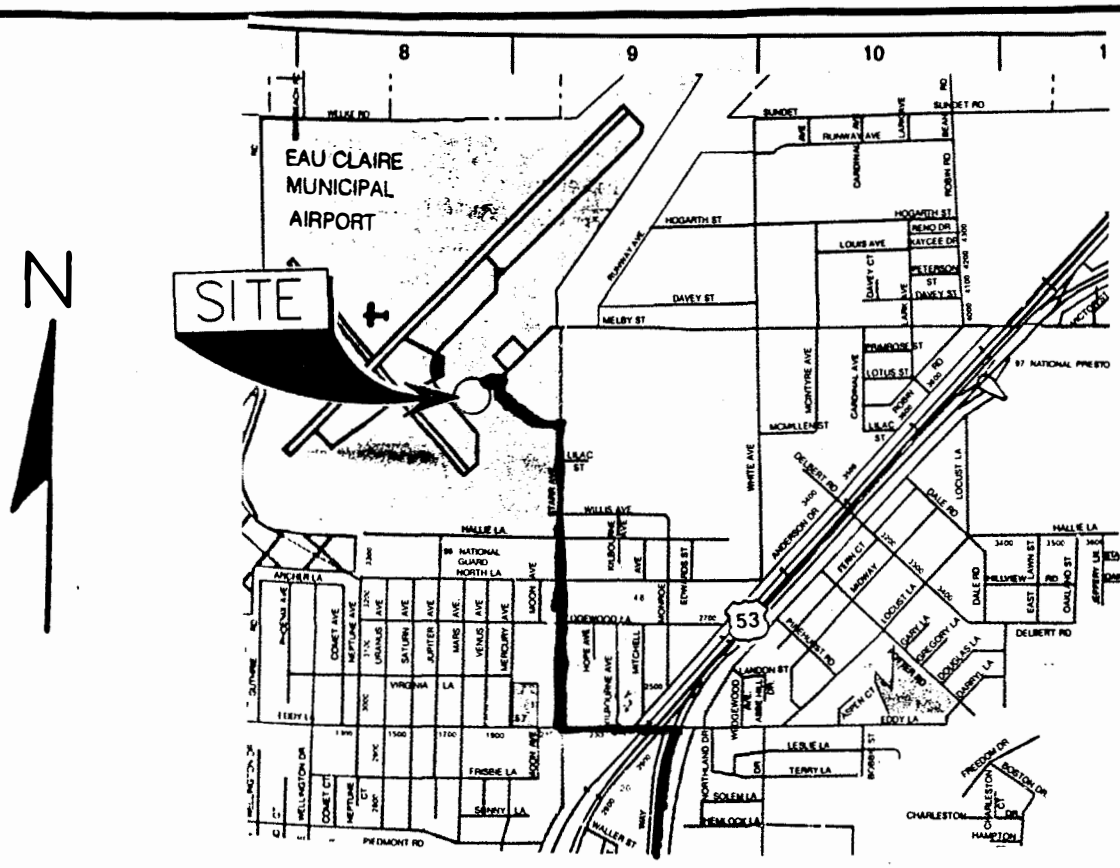
B. Emergency Response

Refer to the SOP for Emergency Response which can be found in Attachment A.

C. Site Evacuation

The evacuation signal for the site is three short blasts of a horn, either on a motor vehicle or an air horn.

Evacuation routes and assembly points to be determined at the site. Preferably the meeting place should be upwind of the work activities and at a safe distance. In the event of an evacuation, the following must be observed:



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HOSPITAL ROUTE MAP

FILE NO.

DRG. NO.

- Employees in the vicinity should immediately shut down all equipment and disconnect electrical or flammable power sources to machinery.
- Immediately after personnel are alerted, they will evacuate the facility via the nearest escape route.
- All evacuated personnel will assemble at the predetermined meeting place.
- Employees should not wait for friends; the Site Safety Officer will ensure all personnel have evacuated before departing.
- Employees should move quickly and calmly without panic.
- Employees should not smoke.
- Once assembled, employees should remain calm and quiet until the Site Safety Officer assesses the situation. Each employee must report to the Site Safety Officer until everyone is accounted for and evacuation is complete.

D. First Aid

Refer to the SOP for First Aid found in Attachment B.

III. Applicability

The purpose of this Site Health and Safety Plan (SHSP) is to assign responsibilities, establish personnel protection standards and safety practices and procedures, and provide for contingencies that may arise during site operations.

The provisions of the plan are required for all on-site SEH personnel who are engaged in hazardous material management activities including, but not limited to, initial site reconnaissance, preliminary field investigations, mobilization, project operations, and demobilization. This plan complies with applicable Occupational Safety and Health Administration (OSHA) standards [29 Code of Federal Regulations (CFR) 1910.120].

SEH personnel working at this site meet the training requirements of 29 CFR 1910.120: Hazardous Waste Operations and Emergency Response. Documentation of this training can be obtained upon written request to SEH, Director of Health and Safety, 421 Frenette Drive, Chippewa Falls, Wisconsin 54729.

The health and safety procedures set forth in this SHSP are based on the site conditions and chemical hazards known or expected to be present using site data available at the time this SHSP was written. This SHSP is intended solely for the use of SEH personnel during the activities described in this SHSP. This SHSP is subject to review and revision by the Site Safety Officer when it is deemed necessary by actual site conditions encountered during field activities.

This SHSP does not supersede or in any way relieve subcontractors of their obligations under any applicable OSHA regulations including: 29 CFR 1910, Occupational Safety and Health Standards; and 29 CFR 1926, Health and Safety Regulations for Construction. Before field activities begin, all contractors and subcontractors must develop their own SHSP. A copy of this SHSP will be provided upon request, but this is not a substitute for an independent plan by the contractor or subcontractor.

IV. Project Objectives

1) Determine the presence or absence of contamination in the areas of concern where hazardous wastes were handled.
2) Determine the degree and extent of contamination in areas of concern.
3) Design and implement corrective action.
4) Close out areas of concern as remedial objectives are met.

V. Hazard Evaluation

A. Scope of Work

Soil Borings and Soil Sampling

B. Potential Hazards

The following waste types may be encountered at the site:

Diesel Fuel

C. Chemical/Physical Hazard Summary

List information for each contaminant or class of contaminants which could potentially be present at each location.

Location	Matrix	Compound*	Max. Concentrations (if known)	Route of Exposure	Symptoms
Diesel Fuel Pump	Soil	Diesel Fuel	5,100 ppm	Absorption, Ingestion	Headache, giddiness, nausea, vomiting, cramping, skin/eye irritation
*Compound information for each substance can be found in Attachment C.					

D. Exposure Limits and Recognition Qualities

Compound	Compound Class*	Exposure Standards			Recognition Qualities	
		PEL/TLV (ppm)	STEL (ppm)**	IDLH (ppm)	Odor Threshold (ppm)	LEL/UEL (%)
Diesel Fuel	VOCs/PAHs	--	--	--	0.7	1.3/6.0
*Compound classes include: VOCs, explosive gas, dusts, etc. **Maximum 15 minute exposure unless specified.						

E. Additional Concerns

Fire Protection/Fire Prevention: Operations involving the potential for fire hazards shall be conducted in a manner as to minimize the risk. Non-sparking tools and fire extinguishers shall be used or available as appropriate. Sources of ignition shall be removed. When necessary, explosion-proof instruments and/or bonding and grounding will be used to prevent fire or explosion.

Utilities: Overhead and underground utility hazards shall be identified and/or inspected prior to conducting operations involving potential contact. Diggers Hotline will be notified at least 3 working days prior to beginning field activities when applicable.

Weather Condition Restrictions: The Site Safety Officer has the authority, should severe weather threaten, to place site activities on standby, cease operations and/or evacuate Site as deemed necessary.

Weather conditions on Site cannot be controlled. Site personnel are to be aware of the warnings of impending severe weather and the precautions that are to be taken when severe weather threatens. Refer to the SOP for Severe Weather found in Attachment D.

Temperature Stress: Hot or cold weather is generally a consideration at any site and cannot be controlled. Site workers need to be aware of engineering controls which can reduce temperature stress, the signs and symptoms of temperatures stress and first aid measures for victims of temperature stress. Refer to the SOP for First Aid found in Attachment B.

General Site Health and Safety Rules: Some general safe work practices apply to all sites. Refer to the SOP for General Site Health and Safety Rules found in Attachment E.

VI. Site Control

A. Present Site Security

None.

B. Site Security Upgrades Needed

None.

C. Zone of Contamination

Zone boundaries do not need to be marked. Generally, the area within 20 feet of field operations is considered the Exclusion Zone and requires the use of personal protection equipment (PPE).

D. Entry Restrictions

Only authorized personnel are permitted within the Exclusion Zone.

VII. Ambient Air Monitoring

A. General

Monitoring will be performed for the hazards presented in Section V, D, "Exposure Limits and Recognition Qualities", to ensure proper selection of engineering controls, work practices and personal protection equipment. Periodic monitoring will be conducted when there is a potential for the presence of hazardous substances or flammable atmosphere or when there is an indication that exposure levels have risen, such as:

- when work begins on a different portion of the site;
- when contaminants other than those previously identified are being handled;
- when a different type of operation is initiated;
- when employees are handling leaking drums or containers or working in areas with obvious liquid contamination.

B. Monitoring Requirements

Location	Compound	Equipment	Action Level*	Protective Level
Diesel Fuel Pump	Diesel Oil	FID	≤ Background ≤5 units above background >5 units above background	D C Case Operation, Re-Evaluate Work Plan
*All ambient measurements taken to evaluate employee exposures must be taken in the individuals breathing zone and must be fairly constant for at least 30 seconds.				

Before any field activities commence, the background levels of the site must be measured and noted. Daily background readings must be conducted away from areas of potential contamination to obtain accurate results.

Monitoring during invasive field activities will be done at a minimum every 15 minutes.

All site readings along with the date, time, background level, weather conditions, wind direction and speed, and the location where the background level was recorded must be noted on Air Monitoring Form.

C. Instrument Calibration and Maintenance

Field instruments will be calibrated according to the manufacturers recommendations. Photoionization detectors (PIDs) and flame ionization detectors (FIDs) will be calibrated with the appropriate calibration gas. The instruments will be calibrated with the following frequency:

1. At the beginning of each day.
2. After any significant changes in humidity or temperature (more than 15 degrees F).
3. After any repairs to the instrument are performed.

Maintenance on field instruments will be done according to the manufacturer's recommendations.

VIII. Personal Protective Equipment (PPE)

All field activities will be performed at the appropriate level of protection for the action levels specified in Section VII, B. The following table describes the equipment required for various levels of protection.

		Protection Level			
Equipment Need	**Type/Material**	**A**	**B**	**C**	**D**
Protective Coveralls or Work Clothes and Gloves					X
Boots with Steel Toe and Shank				X	X
Hard Hat				X	X
Safety Glasses				X	X
Disposable Gloves/Boot Covers	Latex or Nitrile			X	X
Hearing Protection					
Chemical-Resistant Coveralls	Polyethylene Coated Tyvek			X	
Chemical-Resistant Inner/Outer Gloves	Latex, Nitrile/Nitrile			X	
Chemical-Resistant Boot Covers	Polyethylene, Latex			X	
Two-way Radio Communication					
Air-Purifying Respirator with Cartridges	1/2 face, organic vapor			X	
Escape Respirator					
Positive Pressure SCBA					
Fully-Encapsulating, Chemical-Resistant Suit					

IX. Decontamination

Use the SOP for Personal and Equipment Decontamination at the highest protection level used on site each day. See Attachment F for Decontamination SOP.

X. Confined Space Entry

Confined space entry is not allowed in the scope of this SHSP. Should a confined space entry situation be encountered, the Project Manager must be notified and provision for confined space entry must be added to this SHSP.

XI. Spill Containment

It is not anticipated that any drum or container handling will be encountered in this project. Should a container handling situation be encountered where a major spill could occur, the Project Manager must be notified and provisions for container handling and spill control must be added to this SHSP.

XII. Site Safety Plan Review

This document shall be signed by each member of the site investigation team prior to the first site visit.

I have read and understand the contents of this SHSP, have been given opportunity to discuss contents with the Project Manager, and will comply with its provisions, requirements and restrictions.

Site: Chippewa Valley Regional Airport

Location: 3800 Starr Avenue, Eau Claire, WI 54703

Name (print)	Signature	Date
Kevin Accola		

ATTACHMENT A

Field Emergency Response Procedures

ATTACHMENT A

Field Emergency Response Procedures

Based on the type of potential hazards that may be present, the Project Manager is to determine if a site specific emergency response plan is necessary prior to the beginning of work. If a site specific plan is necessary, it is to be attached to the Site Health and Safety Plan (SHSP).

General

In the event of an emergency situation SEH employees should always provide whatever useful information they can to emergency response personnel. Stick to helpful facts and avoid placing blame or judgement.

At a safe distance and at the appropriate time, write down all that is remembered regarding the incident. How did it happen? Who was doing what? What did you see? What did you hear? All this information may be important later when facts are sorted out.

Even a minor fire can become a serious problem, particularly when adjacent to flammable or combustible materials. The first few minutes after discovery of a fire are the most critical in preventing a larger emergency.

In case of a fire or explosion, immediately turn off burners and other heating devices and stop any work in progress. Give priority to assisting injured persons.

Small Fires

Take the following actions immediately:

Alert other personnel in the vicinity and send someone for assistance

If it is a small fire - one that can be extinguished within 30 seconds or with one fire extinguisher - attempt to extinguish the blaze if:

- Conditions are safe
- You have the proper type of fire extinguisher
- You have been trained to use a fire extinguisher properly
- You are not alone

A combination (ABC) extinguisher can be used against the following classes of fires:

- Class A fires - ordinary combustible solids such as paper, wood, coal, rubber and textiles
- Class B fires - petroleum hydrocarbons (diesel fuel, motor oil and grease) and volatile flammable solvents
- Class C fires - electrical equipment

These extinguishers, however, are not effective against Class D fires which include combustible or reactive metals (such as sodium and potassium), metal hydrides or organometallics. Special Class D extinguishers are required.

Avoid entrapment by a fire; always fight from a position accessible to an exit.

If there is any chance that the fire cannot be controlled by locally available personnel and equipment, the following action should then be taken:

- Activate the emergency alarm system (if available) and notify the local fire department.
- Confine the emergency to prevent further spread of the fire.
- Assist injured personnel and provide first aid or transportation to medical aid, if necessary.

Next notify client if the client is in close proximity to the fire. If the fire department is contacted, be prepared to tell them:

- Who you are
- Your location
- Type of fire (i.e., electrical, chemical, combustible solids, vapor)
- If the fire is extinguished
- The need for medical assistance
- Other potential hazards in the area (i.e., proximity to bulk tanks, downed electrical lines, poor access)
- What you will be doing after you hang up the phone and where they can find you or reach you

Upon arrival of the local fire department, brief them of the incident. When given permission, contact the Project Manager (PM) or in the PM's absence, the Department Manager.

Large Fire or Explosion

If other people are in the area, immediately notify them and then call the local fire department. Be prepared to tell them:

- Who you are
  Your location
- Type of fire (i.e., electrical, chemical, combustible solids, vapor)
- If the fire is extinguished
- The need for medical assistance
- Other potential hazards in the area (i.e., proximity to bulk tanks, downed electrical lines, poor access)
- What you will be doing after you hang up the phone and where they can find you or reach you

Upon arrival of the fire department, turn over command to them and supply as much information as possible. When given permission, contact the PM or in the PM's absence, the Department Manager. Get a number where they can again be reached.

Flammable/Combustible Liquid Spills

If a spill of a flammable or combustible liquid occurs, all possible sources of ignition should be extinguished or removed immediately.

Use Material Safety Data Sheets (MSDSs), analytical information from laboratory personnel, and any other

ATTACHMENT B

First Aid

F. Fainting

Keep the victim lying down. Loosen tight clothing. If victim vomits, roll him onto his side or turn his head to the side. If necessary wipe out his mouth. Maintain an open airway. Bathe his face gently with cool water. Unless recovery is prompt, seek medical attention.

G. Fractures

Deformity of an injured part usually means a fracture. If fracture is suspected, splint the part. **DO NOT ATTEMPT TO MOVE INJURED PERSON.** Seek medical attention immediately.

H. Frostbite

Symptoms: Just before frostbite occurs skin may be flushed, then change to white or grayish-yellow. Pain may be felt early, then subsides. Blisters may appear, affected part feels very cold and numb.

Treatment: Bring victim indoors, cover the frozen area, provide extra clothing and blankets. Rewarm frozen area quickly by immersion in warm water-**NOT HOT WATER. DO NOT RUB THE PART.** Seek medical attention immediately.

I. Heat Exhaustion

Caused by exposure to heat, either sun or indoors.

Symptoms: Near normal body temperature, skin is pale and clammy. Profuse sweating, tiredness, weakness, headache, perhaps cramps, nausea, dizziness, and possible fainting.

Treatment: Keep victim in lying position and raise victim's feet. Loosen clothing, apply cool wet cloths. If conscious, give sips of cool water or liquids with electrolytes like diluted Gatorade over a period of one hour. If vomiting occurs, discontinue liquids. Seek medical attention immediately.

J. Sunstroke

Symptoms: Body temperature is high (106 F or higher). Skin is hot, red and dry. Pulse is rapid and strong. Victim may be unconscious.

Treatment: Keep victim in lying position with head elevated. Remove clothing and repeatedly sponge the bare skin with cool water or rubbing alcohol. Seek medical attention immediately.

K. Poisoning

Call the Poison Control Center for instruction on immediate care. If victim becomes unconscious, keep the airway open. If breathing stops, give artificial respiration by mouth-to-mouth breathing. Call an emergency squad as soon as possible.

L. Poison Ivy

Remove contaminated clothing; wash all exposed areas thoroughly with soap and water, followed by rubbing alcohol. If rash is mild, apply calamine or other soothing skin lotion. If a severe reaction occurs, seek medical attention.

M. Puncture Wounds

If puncture wound is deeper than skin surface, seek medical attention. Serious infection can arise unless proper treatment is received.

N. Sprains

Elevate injured part and apply ice bag or cold packs. **DO NOT SOAK IN HOT WATER.** If pain and swelling persist, seek medical attention.

O. Unconsciousness

Never attempt to give anything by mouth. Keep victim lying flat, maintain open airway. If victim is not breathing, provide artificial respiration by mouth-to-mouth breathing and call an emergency squad as soon as possible.

P. General Sequence for Treatment of Exposures to Unknown Chemicals

1. Quickly protect yourself from exposure before attempting to rescue the victim.
2. Decontaminate the victim and terminate exposure.
3. Treat cessation of breathing first.
4. If the heart is not beating, perform cardiopulmonary resuscitation (CPR).
5. Treat eye injuries next.
6. Treat skin contact.
7. Treat shock.
8. Call for help.

Preliminary Assessment

Make a quick assessment of the likely routes of exposure by examining the eyes, mouth, nose and skin of the victim for signs of the chemical itself or damage it has caused such as swelling, redness, bleeding, burns, discharge of fluid or mucous or pallor.

Drooling, difficult swallowing, or distended and painful or hard, rigid abdomen all indicate possible ingestion of a corrosive or caustic substance.

If respirations are rapid, shallow, noisy or labored, suspect inhalation.

If the face has been splashed with chemical, eye contact is likely.

Poisoning by Inhalation

Remove the victim from the contaminated area while protecting yourself from exposure.

Remove contaminated clothing and equipment while wearing protective clothing. If breathing has stopped, open airway, loosen collar and belt, administer artificial resuscitation using a disposable resuscitator and avoid mouth-to-mouth contact. **DO NOT** use mouth-to-mouth resuscitation if the nature of the chemical exposure is unknown.

- Maintain an open airway.
- Check the pulse.

- Continue your efforts until help arrives or the victim starts to breath on their own.
- Keep the victim warm and quiet.

If the victim is unconscious but breathing:

- Lay the victim on their back. If the victim is vomiting, turn the head to the side.
- Clear the airway and loosen tight clothing.
- Keep victim warm and quiet.
- Do not leave the victim unattended.
- Never give an unconscious person anything to drink.

If the victim is conscious:

- Lay the victim down, cover the victim with a blanket and keep them quiet.
- Loosen tight clothing.

Poisoning by Ingestion

Remove the victim from exposure while protecting yourself from exposure.

Call a poison control center, emergency room or physician for advice.

Notify an emergency medical service of the nature of the accident and arrange for transport to a medical facility.

Consult the MSDS to determine whether to offer victim water to drink or to induce vomiting and by what means.

If the victim is conscious:

- Have the victim rinse out mouth with water.
- If there are no signs of burns, swallowing difficulty or abdominal problems and victim is conscious and if so advised by a physician or poison control center:
  - Induce vomiting by giving two teaspoons of Syrup of Ipecac. Follow with at least one cup of water. **DO NOT** use milk. If you do not have Syrup of Ipecac, induce vomiting by asking the victim to touch the back of the throat with a finger, spoon handle or blunt instrument.
  - Have the victim sit up or lean forward while vomiting.
  - Save any vomitus and give it to the emergency medical service personnel to take to the medical facility for analysis.
  - Give the victim one to two cups of water after vomiting has ceased.
- If the victim is unconscious:
  - Lay the victim on the victim's left side, bending the victim's right hip. Loosen the victim's collar and belt.
  - Maintain an open airway.
  - Arrange for transport to the nearest medical facility.
  - Stand by to administer artificial resuscitation and CPR if needed. Be sure to wipe or rinse all traces of chemical from in and around the victim's mouth before giving artificial resuscitation. Always use disposable resuscitators. **DO NOT** use mouth-to-mouth resuscitation if the nature of the chemical exposure is unknown.
  - If breathing has stopped, administer artificial resuscitation using a disposable resuscitator and avoid mouth-to-mouth contact.

If the victim vomits, save the vomitus and send it to the medical facility for analysis.

If the victim shows signs of shock (a weak, rapid pulse; pale clammy skin; cold hands and feet), elevate the victim's feet eight to twelve inches and cover the victim with a blanket.

DO NOT give an unconscious person anything to drink.

DO NOT give someone who is convulsing anything to drink.

DO NOT leave the victim alone.

Poisoning by Skin Contact

Remove the victim from the contaminated area, being careful to protect your lungs, skin and eyes.

Remove the victim's clothing, shoes and jewelry from the affected areas, cutting them off if necessary. Do this under a shower or while flushing with water.

Continue to flush with water until all trace of the chemical is gone and any slippery feeling has disappeared. Rinse for at least 15 minutes.

Cover the victim with a blanket or dry clothing.

Notify a physician, emergency room or poison control center of the accident and obtain advice.

In case of inflammation, burns, blisters or pain:

- Loosely apply a dry sterile dressing, if available, or use a clean dry cloth.
- Notify an emergency medical service of the nature of the accident and arrange for transport to a medical facility.
- If the victim is in a state of shock:
  - Lay the victim down on the victim's side and cover the victim with a blanket.
  - Elevate the victim's feet eight to twelve inches.
  - Notify an emergency medical service of the nature of the accident and arrange for transport to a medical facility.

DO NOT break open blisters or remove skin. If clothing is stuck to the skin after flushing with water, do not remove it.

DO NOT rub or apply pressure to the affected area.

DO NOT apply any oily substance to the affected skin.

DO NOT use hot water.

DO NOT leave the victim alone.

Poisoning by Eye Contact

Remove the victim from the contaminated area, being careful to protect your lungs, skin and eyes.

Act quickly. Seconds count. Flush the victim's eye(s) with clean tepid water for at least 15 minutes. Have the victim lie or sit down and tilt head back. Hold eyelid(s) open and pour water slowly over the eyeball(s) starting at the inner corners by the nose and letting the water run out of the outer corners. The victim may be in great pain and want to keep eyes closed or rub them but you must rinse the chemical out of the eye(s) in order to prevent possible permanent damage.

Ask the victim to look up, down and side to side as you rinse.

Call an emergency medical service and arrange for transport to the nearest facility for examination and treatment as soon as possible. Even if there is no pain and vision is good, a physician should examine the eye(s) since delayed damage may occur.

If the eye(s) is(are) painful:

- Cover loosely with gauze or a clean, dry cloth
- Maintain verbal and physical contact with the victim

ATTACHMENT C

Potential Contaminants/Compounds

OILS, FUEL: 2-D

OTD

Common Synonyms	Oily liquid	Yellow-brown	Lube or fuel oil odor
Diesel oil, medium	Floats on water.		

Stop discharge if possible.
Call fire department.
Avoid contact with liquid.
Isolate and remove discharged material
Notify local health and pollution control agencies.

Fire

Combustible.
Extinguish with dry chemical, foam, carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.

LIQUID
Irritating to skin and eyes.
Harmful if swallowed.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED, and victim is CONSCIOUS, have victim drink water or milk.
DO NOT INDUCE VOMITING.

Water Pollution

Dangerous to aquatic life in high concentrations.
Fouling to shoreline.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)

Mechanical containment
Should be removed
Chemical and physical treatment

2. LABEL

2.1 Category: None
2.2 Class: Not pertinent

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Miscellaneous Hydrocarbon Mixtures
3.2 Formula: Not applicable
3.3 IMO/UN Designation: 3.1/1270
3.4 DOT ID No.: 1270
3.5 CAS Registry No.: Data not available

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Light brown
4.3 Odor: Characteristic

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Protective gloves; goggles or face shield.
5.2 Symptoms Following Exposure: INGESTION causes nausea, vomiting, and cramping; depression of central nervous system ranging from mild headache to drowsiness, coma, and death; pulmonary irritation secondary to exhalation of solvent; signs of kidney and liver damage may be delayed. ASPIRATION causes severe lung irritation with coughing, gagging, dyspnea, substernal distress, and rapidly developing pulmonary edema; later, signs of bronchopneumonia and pneumonitis. acute onset of central nervous system excitement followed by depression.
5.3 Treatment of Exposure: INGESTION: do NOT induce vomiting. ASPIRATION: enforce bed rest; administer oxygen; seek medical attention. EYES: wash with copious quantity of water. SKIN: remove solvent by wiping and wash with soap and water.
5.4 Threshold Limit Value: No single TLV applicable.
5.5 Short Term Inhalation Limits: Data not available
5.6 Toxicity by Ingestion: Grade 1; LD_{50} = 5-15 g/kg
5.7 Late Toxicity: Data not available
5.8 Vapor (Gas) Irritant Characteristics: Slight smarting of eyes or respiratory system if present in high concentrations. The effect is temporary.
5.9 Liquid or Solid Irritant Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of skin.
5.10 Odor Threshold: Data not available
5.11 IDLH Value: Data not available

6. FIRE HAZARDS

6.1 Flash Point: 125°F C.C.
6.2 Flammable Limits in Air: 1.3%-6.0%
6.3 Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide
6.4 Fire Extinguishing Agents Not to be Used: Water may be ineffective
6.5 Special Hazards of Combustion Products: Not pertinent
6.6 Behavior in Fire: Not pertinent
6.7 Ignition Temperature: 480—545°F
6.8 Electrical Hazard: Not pertinent
6.9 Burning Rate: 4 mm/min.
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: 33

8. WATER POLLUTION

8.1 Aquatic Toxicity: 204 mg/l/24 hr/juvenile American shad/TL_m/salt water
8.2 Waterfowl Toxicity: Data not available
8.3 Biological Oxygen Demand (BOD): Data not available
8.4 Food Chain Concentration Potential: None

9. SHIPPING INFORMATION

9.1 Grades of Purity: Diesel fuel 2-D (ASTM)
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No requirement
9.4 Venting: Open (flame arrester)

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

A-T-U

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: Combustible liquid
11.2 NAS Hazard Rating for Bulk Water Transportation: Not listed
11.3 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	0
Flammability (Red)	2
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Liquid
12.2 Molecular Weight: Not pertinent
12.3 Boiling Point at 1 atm: 540—640°F = 282—336°C = 555—611°K
12.4 Freezing Point: 0°F = 18°C = 255°K
12.5 Critical Temperature: Not pertinent
12.6 Critical Pressure: Not pertinent
12.7 Specific Gravity: 0.87—0.90 at 20°C (liquid)
12.8 Liquid Surface Tension: Data not available
12.9 Liquid Water Interfacial Tension: Data not available
12.10 Vapor (Gas) Specific Gravity: Not pertinent
12.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
12.12 Latent Heat of Vaporization: Not pertinent
12.13 Heat of Combustion: —19,440 Btu/lb = —10,800 cal/g = —452.17 X 10^6 J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.25 Heat of Fusion: Data not available
12.26 Limiting Value: Data not available
12.27 Reid Vapor Pressure: Data not available

NOTES

OILS, FUEL: 2-D

12.17 SATURATED LIQUID DENSITY

Temperature (degrees F)	Pounds per cubic foot (estimate)
50	54.310
52	54.310
54	54.310
56	54.310
58	54.310
60	54.310
62	54.310
64	54.310
66	54.310
68	54.310
70	54.310
72	54.310
74	54.310
76	54.310
78	54.310
80	54.310
82	54.310
84	54.310

12.18 LIQUID HEAT CAPACITY

Temperature (degrees F)	British thermal unit per pound-F
0	.414
5	.416
10	.419
15	.421
20	.424
25	.426
30	.428
35	.431
40	.433
45	.436
50	.438
55	.440
60	.443
65	.445
70	.448
75	.450
80	.452
85	.455
90	.457
95	.460
100	.462

12.19 LIQUID THERMAL CONDUCTIVITY

Temperature (degrees F)	British thermal unit-inch per hour-square foot-F
35	.908
40	.908
45	.908
50	.908
55	.908
60	.908
65	.908
70	.908
75	.908
80	.908
85	.908
90	.908
95	.908
100	.908
105	.908
110	.908
115	.908
120	.908
125	.908

12.20 LIQUID VISCOSITY

Temperature (degrees F)	Centipoise
0	3.773
10	3.397
20	3.071
30	2.788
40	2.541
50	2.324
60	2.134
70	1.965
80	1.815
90	1.681
100	1.561
110	1.454
120	1.358
130	1.270
140	1.191
150	1.120
160	1.054
170	.995
180	.940
190	.890
200	.844
210	.802

12.21 SOLUBILITY IN WATER

Temperature (degrees F)	Pounds per 100 pounds of water
	I
	N
	S
	O
	L
	U
	B
	L
	E

12.22 SATURATED VAPOR PRESSURE

Temperature (degrees F)	Pounds per square inch
55	.456
60	.474
65	.492
70	.510
75	.529
80	.548
85	.567
90	.587
95	.607
100	.627
105	.647
110	.668
115	.689
120	.711
125	.732
130	.754

12.23 SATURATED VAPOR DENSITY

Temperature (degrees F)	Pounds per cubic foot
	N
	O
	T
	P
	E
	R
	T
	I
	N
	E
	N
	T

12.24 IDEAL GAS HEAT CAPACITY

Temperature (degrees F)	British thermal unit per pound-F
	N
	O
	T
	P
	E
	R
	T
	I
	N
	E
	N
	T

ATTACHMENT D

Severe Weather

ATTACHMENT D

Severe Weather

When projects are conducted outside, the potential for severe weather must be considered. Thunderstorms, tornados and winter storms can develop quickly, jeopardizing your safety. The following emergency procedures are to be followed in the event of severe weather.

Thunderstorms and Lightning

Monitor weather conditions at all times while working. At a sign of an impending storm - increased cloudiness, darkened skies, increased wind - listen to a radio for the latest weather information.

When a thunderstorm accompanied by lightning is in the project area, cease work immediately. All powered equipment, such as drill rigs, are to be shut down.

Seek shelter inside nearby buildings or trailers. If there are no buildings nearby, seek shelter inside your vehicle.

If you are caught outside, do not stand beneath tall, isolated trees or telephone poles. Avoid areas projecting above the landscape such as hill tops. In open areas, go to a low place such as a ravine or valley. Stay away from open water, metal equipment, wire fences and metal pipes. If you are in a group of people in the open, spread out, staying several yards apart.

If you are caught in a level field or open area far from shelter and you feel your hair stand on end, lightning may be about to strike you. Drop to your knees and bend forward, putting your hands on your knees. You should minimize the body area in direct contact with the ground; **DO NOT LIE FLAT ON THE GROUND.**

If someone has been struck by lightning, monitor life signs and begin administering mouth-to-mouth resuscitation or cardiopulmonary resuscitation as needed. Send for help.

Check conscious victims for burns, especially at the fingers and toes and next to buckles and jewelry. Administer first aid for shock. Do not leave the victim walk around.

Tornados

Tornados usually develop from thunderstorms and normally occur at the trailing edge of the storm. Most tornados occur in the months of April, May, June, and July in the late afternoon and early evening hours.

When storms are predicted for the project area, monitor weather conditions on a radio. A tornado watch is issued when favorable conditions exist for the development of a tornado. A tornado warning is issued by the local weather service office whenever a tornado has actually been sighted or is strongly indicated by radar.

If a tornado warning is issued, seek shelter immediately. If there are permanent buildings located on site, go there immediately, moving toward interior hallways or small rooms on the lowest floor.

If a tornado warning is issued and you are in a vehicle or a site trailer, leave and go to the nearest building. If there are no buildings nearby, go in the nearest ditch, ravine or culvert, with your hands shielding your head.

If a tornado is sighted or a warning issued while you are in open country, lie flat in a ditch or depression. Hold onto something on the ground, such as a brush or wooden fence post, if possible.

SEH

Once a tornado has passed the site, site personnel are to assemble at the designated assembly area to determine if anyone is missing. Administer first aid and seek medical attention as needed.

Winter Storms

When snow or ice storms are predicted for the project area, site personnel should monitor weather conditions on a radio. A winter storm watch is issued when a storm has formed and is approaching the area. A winter storm warning is issued when a storm is imminent and immediate action is to be taken.

When a storm watch is issued, monitor weather conditions and prepare to halt site activities. Notify the Project Manager of the situation. Seek shelter at site buildings or leave the site and seek warm shelter.

If you are caught in a severe winter storm while traveling, seek warm shelter if road conditions prevent safe travel.

If you are stranded in a vehicle during a winter storm:

- Stay in the vehicle. Disorientation comes quickly in blowing and drifting snow.
- Wait for help.
- Keep a window open an inch or so to avoid carbon monoxide poisoning.
- Run the engine and heater sparingly.
- Keep watch - do not let everyone sleep at the same time.
- Exercise occasionally.

ATTACHMENT E

General Health and Safety Rules

ATTACHMENT E

General Health and Safety Rules

General Health and Safety Rules

Use proper lifting techniques when handling heavy articles. Keep the load close, bend your knees, never twist or turn with a load. When in doubt, get help or divide the load.

Report to your supervisor immediately any condition or practice you think might cause injury to employees or others or damage to property, equipment or environment.

Do not participate in horseplay. Do not distract others from their work.

Always wear a safety belt, whether passenger or driver, when in a motor vehicle on company business.

Safety Rules for Field Work

Wear personal protective equipment in all operations where there is an exposure to hazardous conditions or where the need for using such equipment to reduce the hazards is designated in the Site Health and Safety Plan (SHSP)

Hard hats are required in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns.

Hearing protection is required when exposure to noise is above OSHA allowable levels (>85 dBA).

Eye and/or face protection is required when machines or operations present potential physical or health hazards to the eyes or face.

Respiratory protection is required when controls fail or are inadequate to prevent harmful exposure.

Personal flotation devices are required when working over or near water.

Foot protection is required as necessary to prevent injury from dropped or falling objects.

Observe all safety signs and do not remove any "lock-out" tags.

Wear radiation badge when working with nuclear testing equipment.

Follow procedures outlined in Troxler Manual when using, transporting or storing nuclear density meter.

Use proper lifting techniques when transporting nuclear meters or other heavy articles.

Secure all loose equipment in the test vehicle which might "fly" when making sudden stops.

Stay away from the swing of the backhoe bucket. Approach only when operator is aware of your presence.

Read the SHSP before field mobilization. Comply with its requirements at all times.

Always use ground-fault in all circuits that might be exposed to moisture or are used outside.

SEH

Use only grounded or double insulated power tools.

Notify the Site Safety Officer of any unsafe acts or conditions.

Site personnel are to notify Site Safety Officer at the first indication that they are experiencing temperature stress or any signs or symptoms which may be due to exposure of chemicals.

Site personnel are expected to comply with applicable OSHA, EPA or other regulatory agency standards and regulations at all times.

Safety Rules for Work in or Near Manholes, Trenches and Excavations

Field personnel are not to enter confined spaces such as pits, trenches, tanks or manholes unless confined space entry procedures are specifically included in the SHSP and are fully implemented.

Most work can be performed without entering trenches or excavation. Make the necessary engineering changes to accomplish the task without entering the trench or excavation. For example, soil samples can be taken from the backhoe bucket eliminating the need for anyone to enter the excavation.

If such changes cannot be implemented, the SHSP must be amended to include confined space entry procedures. Enter only if the excavation is constructed according to OSHA standards and the SHSP specifically addressed entry into excavations.

Excavations are to be filled in or barricaded at the end of the workday.

Safety Rules When Working Near Highways, Construction Site Traffic or Heavy Equipment

Set out traffic cones, warning signs, and flashers when performing field work in traffic areas. In traffic areas and on construction sites where heavy equipment is operating, wear luminous traffic vests.

Use safety signs when performing bridge and highway surveys and use warning lights on vehicles, as appropriate.

Let the construction equipment operators know you are around. Have "eye to eye" contact prior to setting up for a test.

Check the traffic pattern on construction projects before entering with a vehicle.

If practical, use your vehicle on a large site to divert construction traffic around the test area.

Park the testing vehicle between your work area and the operating equipment. Always work a significant distance behind your vehicle to allow for it being struck.

Safety Rules for Hazardous Waste Sites

Smoking is not permitted at the site.

Eating and drinking are only permitted in the support or clean zone.

No open fires are allowed.

All employees handling hazardous waste samples or who may be exposed to hazardous waste must be active participants in the medical surveillance program.

SEH

A respirator cannot be worn when beards or any other facial hair interferes with the face-to-respirator seal. Individuals with such facial hair are not to be allowed to work in Level of Protection C or B.

Personnel on site must use the buddy system when wearing respiratory protective equipment. Visual contact must be maintained between pairs on-site. Entry team members are to remain close together to assist each other during emergencies.

No "souvenirs" or samples not required for the project are to be collected.

Samples are to be placed in approved containers before they can be removed from the site. Only approved or designated vehicles can be used to transport samples.

Samples are to be left in the designated office sample preparation area.

Field apparel that had not been decontaminated is not be worn into the office.

Field samples are to be disposed of properly.

Contact with contaminated or suspected contaminated surfaces is to be avoided.

Do not walk through puddles, discolored surface, kneel on the ground, or lean, sit, or place equipment on visibly stained surfaces.

Drums or tanks found on site are not to be opened or moved unless specific drum/tank remediation tasks are specifically included in the SHSP and are fully implemented.

Use work schedules that minimize time spent in hazardous areas.

Use work assignments that place employees upwind of sources of air contaminants.

Have a copy of the SHSP readily available, for review by employees. Verify that all SEH personnel entering the site have read and signed the SHSP.

ATTACHMENT F

Decontamination

ATTACHMENT F

Decontamination

Standard Procedures

A decontamination area should be located between the Hot Line (upwind boundary of the Exclusion Zone) and the Support Zone boundary.

A personnel decontamination station (PDS) should be established.

All personnel should proceed through the appropriate contamination reduction sequence upon leaving the contamination area.

All protective gear should be left on site during any lunch break following decontamination procedures.

Material Safety Data Sheets (MSDS) for chemicals used during decontamination procedures should be made available to those who are potentially exposed to these chemicals.

Decontamination of Equipment

To the extent possible, measures should be taken to prevent contamination of sampling and monitoring equipment. (Sampling devices may become contaminated.) Once contaminated, it is difficult to clean instruments without damaging them. Any delicate instrument that cannot be decontaminated easily should have a bag taped and secured around it before use. Openings should be made in the bag for sample intake.

A. Sampling Devices

Sampling devices require cleaning with a detergent or other chemically compatible solvent and triple rinsed with clean solutions or deionized water.

B. Tools

Wooden tools are difficult to decontaminated because they absorb chemicals. They should be kept on site and handled only by protected workers. After use in a contaminated area, wooden tools should be discharged. For decontamination of other tools, follow the same procedure as for sampling devices (above).

C. Respirators

Certain parts of contaminated respirators, such as the harness assembly and cloth components, are difficult to decontaminate. If grossly contaminated, they may have to be discarded. Rubber components can be soaked in soap and water and scrubbed with a brush.

D. Sanitizing of Personal Protective Equipment

Respirators, reusable protective clothing, and other personal articles not only must be decontaminated before being used, but also must be sanitized. The inside of masks and clothing becomes soiled because of exhalation, body oils, and perspiration. The manufacturer's instructions should be followed to sanitize the respirator mask. If practical, protective clothing should be machine washed after a thorough

decontamination; otherwise, it must be cleaned by hand.

E. Disposal of Contaminated Materials

All materials and equipment used for decontamination must be disposed of properly. Clothing, tools, buckets, brushes, and all other equipment that is contaminated must be secured in drums or other containers and labeled. Clothing not completely decontaminated on site should be secured in plastic bags before being removed from the site.

Contaminated wash and rinse solutions should be contained by using step-in-containers (e.g., child's wading pool) to hold spent solutions. Another containment method is to dig a trench about 4 inches deep and line it with plastic. In both cases, the spend solutions should be transferred to drums, which should be labeled and disposed of with other contaminated materials on site.

F. Minimal Decontamination

Less extensive procedures for decontamination can be subsequently established when disposable clothing and equipment are used, the type and degree of contamination become known, or the potential for transfer is judged to be minimal by the Site Safety Officer in consultation with the Project Manager.

G. Closure of the Personnel Decontamination Station

All disposable clothing and plastic sheeting used during the operation should be double bagged, labeled, and either contained on site or removed to a disposal facility. Grossly contaminated protective clothing should be disposed of on site with the permission of the property owner or removed to a disposal facility. Cloth items should be bagged and removed from the site for final cleaning. All wash tubs, pails, containers, etc., should be thoroughly washed, rinsed, and dried prior to removal from the site.

Level D

Equipment Drop

Deposit equipment used on site (tools, sampling devices, monitoring equipment, radios, etc.) on plastic drop cloths. Decontaminate or dispose of items before removal from exclusion zone.

Outer Boot/Glove Wash and Rinse

(Optional, include if necessary for gross decontamination)
Scrub outer boots/gloves and/or splash suit with decontamination solution then rinse with water.

Outer Boot/Glove Removal

Remove outer boots/gloves:

- If outer boots/gloves are disposable, deposit them in the appropriate plastic-lined container.
- If outer boots/gloves are not disposable, store them in a clean, dry place.

Outer Garment Removal

Remove chemical protective outer garments and deposit them in an appropriate container. Remove hard hat and safety glasses. Decontaminate them as necessary and deposit on a clean surface.

Inner Glove Removal

Remove inner gloves and deposit them in the appropriate container for disposal.

Field Wash

Thoroughly wash hands and face with soap and water. Shower as soon as possible.

The maximum and minimum decontamination layout for Level C is shown conceptually in Figures E-1 and E-2.

Level C Routing Decontamination

Equipment Drop

Deposit equipment used on site (tools, sampling devices, monitoring equipment, radios, etc.) on plastic drop cloths. Decontaminate or dispose of items before removal from exclusion zone.

Outer Boot/Glove Wash and Rinse

Scrub outer boots/gloves and/or splash suit with decontamination solution then rinse with water.

Outer Boot/Glove Removal

Remove outer boots/gloves:

- If outer boots/gloves are disposable, deposit them in the appropriate plastic-lined container.
- If outer boots/gloves are not disposable, store them in a clean, dry place.

Outer Garment Removal

Remove chemical-protective outer garments and deposit them in the appropriate container.

Respiratory Protection Removal

Remove hard hat and respirator and deposit them on a clean surface. Discard respirator cartridges in the appropriate container. Wash and rinse hard hat and respirator. Wipe off and store respirator in a clean, dry location.

Inner Glove Removal

Remove inner gloves and deposit them in the appropriate container for disposal.

Field Wash

Thoroughly wash hands and face with soap and water. Shower as soon as possible.

Level C Decontamination for Respirator-Cartridge Exchange

Equipment Drop

Deposit equipment used on site (tools, sampling devices, monitoring equipment, radios, etc.) on plastic drop cloths. Decontaminate or dispose of items before removal from exclusion zone.

Outer Boot/Glove Wash and Rinse

Scrub outer boots/gloves and/or splash suit with decontamination solution then rinse with water.

Outer Boot/Glove Removal

Remove outer boots/gloves:

- If outer boots/gloves are disposable, deposit them in the appropriate plastic-lined container.
- If outer boots/gloves are not disposable, store them in a clean, dry place.

Respirator Cartridge Change

Exchange respirator cartridges. Don new outer boots/gloves. Tape joints and return to exclusion zone.

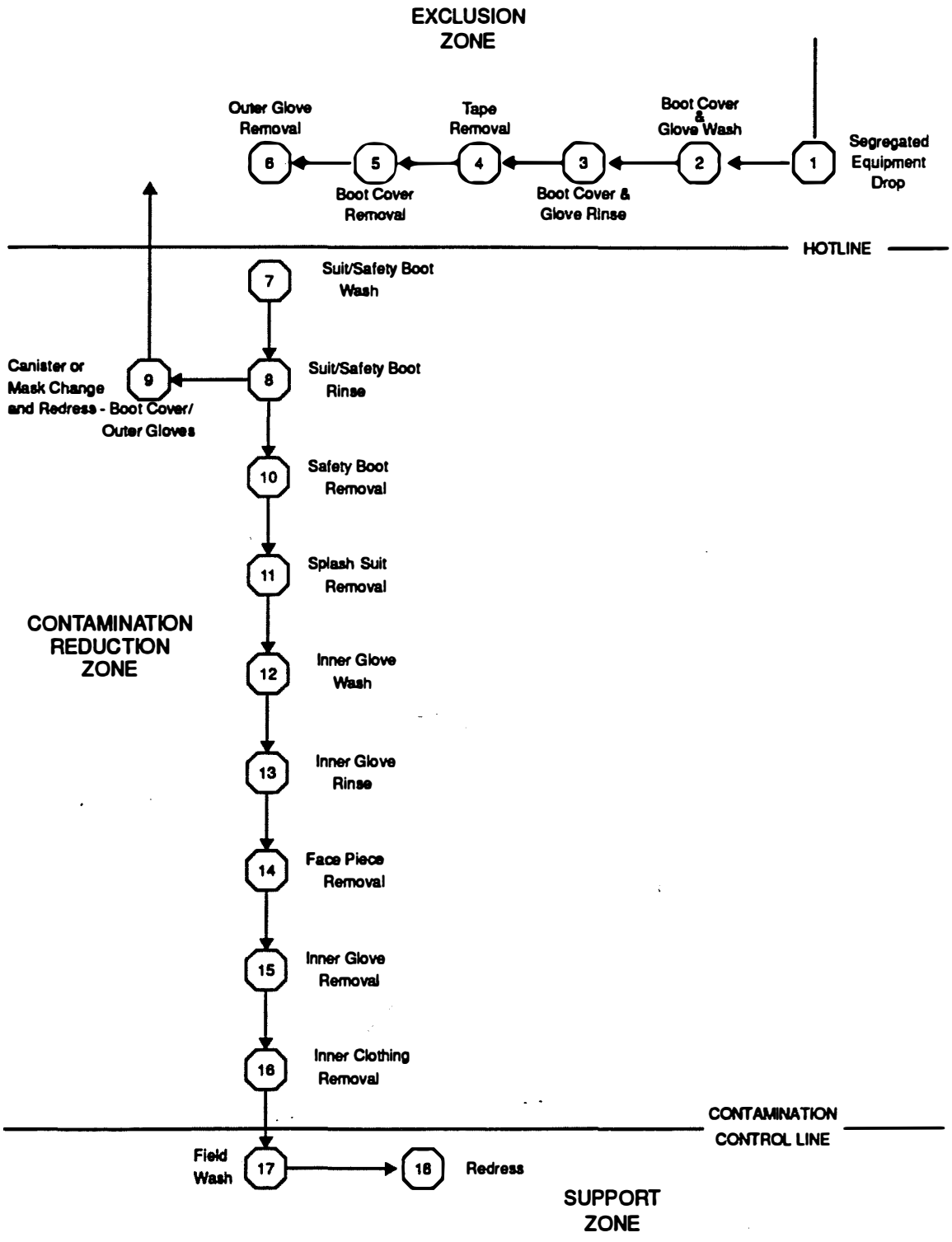

Figure E-1 – Maximum Decontamination Layout Level C Protection

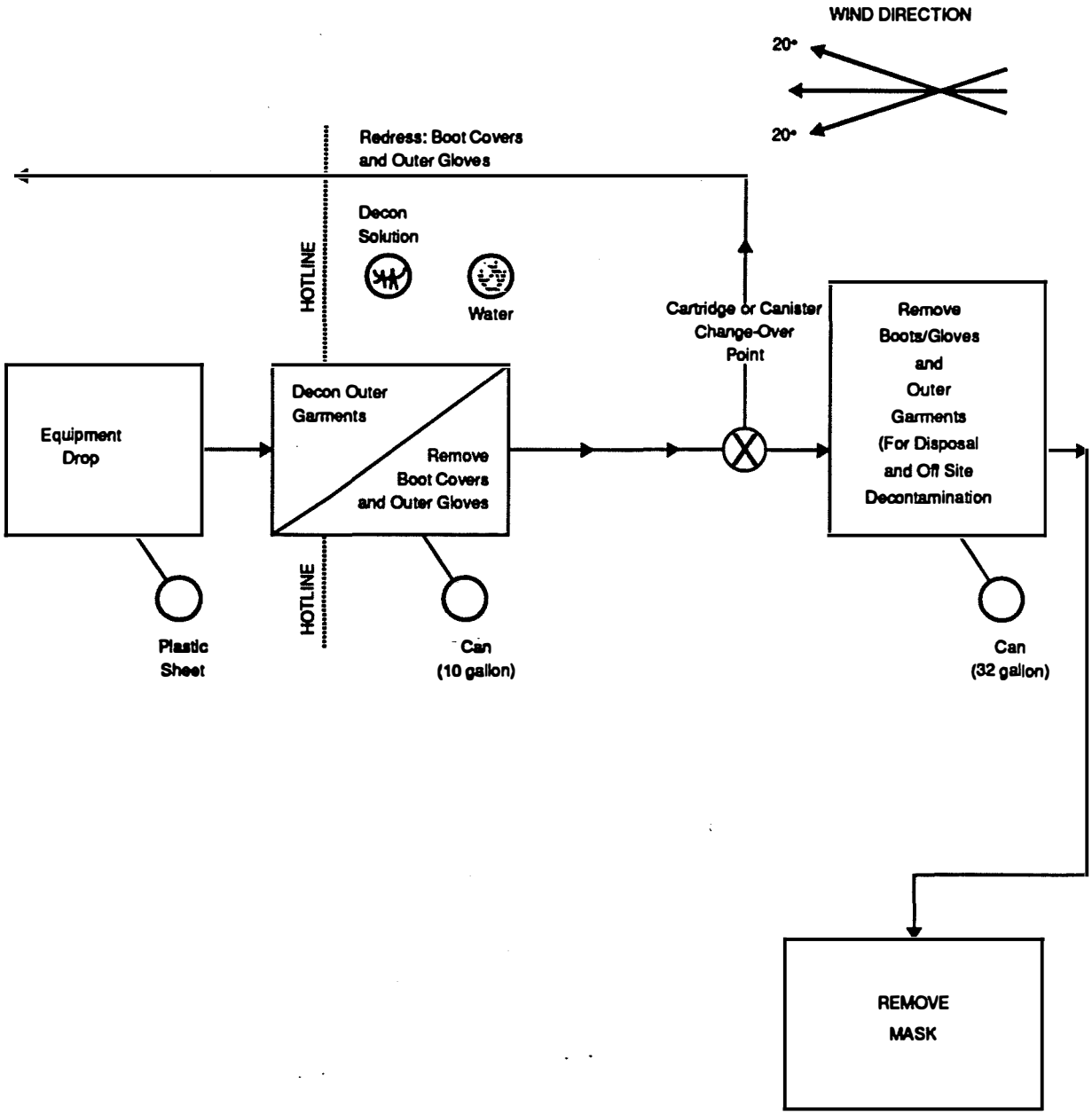

Figure E-2 – Minimum Decontamination Layout Level C Protection

TANK CLOSURE SITE ASSESSMENT
CHIPPEWA VALLEY REGIONAL AIRPORT
EAU CLAIRE COUNTY, WISCONSIN

PREPARED FOR:

CHIPPEWA VALLEY REGIONAL AIRPORT
EAU CLAIRE COUNTY, WISCONSIN

NOVEMBER 1995

AYRES ASSOCIATES

AYRES ASSOCIATES

LETTER OF TRANSMITTAL

To: Wis. Department of Natural Resources
1300 W. Clairemont Ave.
Eau Claire, WI 54701

Date: 11/7/95

Project No: 11-0207.00

Re:

Attn: ~~Eileen~~ Kramer

↘ Enclosed ___ Under Separate Cover Via _____

RECEIVED NOV 8 1995 DNR - WD

No. of Copies	Description
1	Tank Closure Site Assessment Report
	Chippewa Valley Regional Airport

Sent to you for the following reason:

___ For Approval
↘ For Your Use
___ For Review and Comment
___ Review Completed
___ Not Reviewed
___ _____
___ Revise and Resubmit
___ Returned

Remarks:

→ John grumpy
9/C 11/8

Copy To:

Signed: Jon McDaniel

Engineers/Architects/Scientists/Photogrammetrists
3433 Oakwood Hills Parkway, P.O. Box 1590, Eau Claire, WI 54702-1590, (715) 834-3161, FAX (715) 831-7500

TANK CLOSURE SITE ASSESSMENT
CHIPPEWA VALLEY REGIONAL AIRPORT
EAU CLAIRE COUNTY, WISCONSIN
NOVEMBER 1995

THIS REPORT PREPARED BY:
AYRES ASSOCIATES

Frank W. Maenner 11/2/95
Frank W. Maenner
Hydrogeologist
DILHR Site Assessor Cert. No. 01986

Joseph J. McGaver 11/2/95
Joseph J. McGaver, E.I.T.
Environmental Engineer
DILHR Site Assessor Cert. No. 05341

REVIEWED BY:

Dennis L. Johnson 11/2/95
Dennis L. Johnson, P.E.
Manager--Environmental Services
DILHR Site Assessor Cert. No. 00165

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Ayres Project No. 11-0207.00
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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

1.1 PURPOSE

Ayres Associates was retained by Chippewa Valley Regional Airport to conduct a tank closure site assessment associated with the removal of three underground storage tanks (USTs) and associated piping at the Chippewa Valley Regional Airport in Eau Claire County, Wisconsin.

The purpose of this report is to document the technical findings of the tank closure assessment conducted on September 28, 1995. Included in the report is a discussion of field observations, soil sampling procedures, laboratory analysis results, conclusions, and recommendations.

The site assessment was conducted in accordance with the Wisconsin Administrative Code ILHR 10 Flammable and Combustible Liquids and the guidance set forth in the Wisconsin Department of Natural Resources (WDNR) document *Site Assessment for Underground Storage Tanks Technical Guidance, PUBL-SW-175-92.*

1.2 SCOPE

The scope of services provided by Ayres Associates is as follows:

- Collect soil samples in accordance with ILHR 10 Flammable and Combustible Liquids code requirements
- Submit the soil samples to a Wisconsin certified laboratory for diesel range organics (DRO) or gasoline range organics (GRO) analysis, depending on the sampling location requirement
- Preparation of this tank closure assessment report to document abandonment, sludge disposal, sampling procedures, and test results.

1.3 PROJECT CONTACTS

The project contacts are as follows:

Site:

Chippewa Valley Regional Airport
3800 Starr Avenue
Eau Claire, WI 54703

Owner:

Chippewa Valley Regional Airport
3800 Starr Avenue
Eau Claire, WI 54703
Burt Wright, Airport Manager
(715) 839-4900

Consultant:

Ayres Associates
3433 Oakwood Hills Parkway
P.O. Box 1590
Eau Claire, WI 54702-1590
Frank Maenner, Hydrogeologist
DILHR Site Assessor Certification No. 01986
Joseph McGaver, E.I.T., Environmental Engineer
DILHR Site Assessor Certification No. 05341
Dennis L. Johnson, P.E., Project Manager
DILHR Site Assessor Certification No. 00165
(715) 834-3161

Piping/Pump Remover:

Advanced Tank Services
P.O. Box 1072
Eau Claire, WI 54702-1072
(715) 831-8484

2.0 SITE BACKGROUND

2.1 SITE LOCATION AND DESCRIPTION

The Chippewa Valley Regional Airport is located at 3800 Starr Avenue in Eau Claire, Wisconsin. Figure 1 shows the site location and regional topography. The site is located in the NE 1/4, SW 1/4 of Section 33, Township 28 North, Range 9 West, in Eau Claire County.

The site topography is level, with an approximate elevation of 885 feet National Geodetic Vertical Datum (NGVD) based on the 1982 U.S. Geological Survey 7.5 Minute Eau Claire East Quadrangle Map. The abandoned fueling system consisted of two 10,000-gallon tanks, which contained diesel fuel and unleaded gasoline, plumbed to a pump island. A 10,000-gallon fuel oil tank used to heat the airport shop was also removed. The WDNR aviation fuel oil tank and dispensing system was not removed as part of this tank closure.

Figure 2 shows the site layout, including the location of the former USTs, pump islands, and building.

3.0 SITE INVESTIGATION

3.1 GENERAL

The product dispensing system removal and closure assessment was conducted on September 28, 1995. The weather on that day was sunny with temperatures in the mid 70 degree Fahrenheit range. Advanced Tank Service, Inc., Eau Claire, Wisconsin, provided tank removal services; Fritz Koepl, Inc., Chippewa Falls, provided excavation services; and Ayres Associates conducted the tank closure assessment. Table 1 provides a summary of pertinent information associated with the tank removal and site assessment.

3.2 FIELD OBSERVATIONS

Fritz Koepl, Inc., along with and under the direction of Advanced Tank Service, Inc., excavated and removed the tanks, piping, and product dispenser on September 28, 1995. Frank Maenner, Ayres Associates, was on site to observe the tank removal and collect soil samples from beneath the USTs. Soils encountered during the product dispensing system removal were brown, fine to coarse sand classified as SW in the Unified Soil Classification System (USCS). Petroleum odor was not noted during the tank removal, except at the diesel pump sampling location. Ground water was not encountered during the tank closure.

All USTs removed appeared to be in good condition, and no holes were noted in the tank surfaces. The tanks were cleaned and transported to Toy's Salvage and Scrap, Eau Claire, Wisconsin, for disposal. Approximately 90 gallons of diesel fuel and 15 gallons of gas tank bottom sludge were properly profiled, approved for shipping, and transported to Waste Research and Reclamation Company, Inc. DILHR Form SBD-7437 Underground Petroleum Product Inventory, SBD-8951 Checklist for Underground Tank Closure, and statement from Advanced Tank Services, Inc., are in Appendix A. Appendix B shows the tank removal.

3.3 FIELD SAMPLING

On September 28, 1995, Frank Maenner, Ayres Associates, collected soil from beneath the three 10,000-gallon USTs and associated piping. A total of 13 tank bed and piping soil samples were collected on this date. The sampling locations are identified on Figure 2. Table 2 summarizes the sampling depths, field screening readings, and laboratory results.

Soil samples from the tank bed were retrieved from the excavation by backhoe. The samples were taken from the backhoe bucket with a 30-ml soil syringe. The samples under the pipe runs and dispensers were retrieved using a shovel and digging to a depth of 1.5 feet below the product piping. The soil collected as a laboratory sample was taken from an area that did not contact the shovel.

Three separate soil samples were collected at each sampling location. The first sample was collected in an 8-ounce jar for qualitative screening. This sample is referred to as a headspace sample. One sample was collected in a 60-milliliter amber jar with septum lid for DRO or GRO analysis. This sample was weighed to obtain the proper sample quantity for laboratory analysis. The third sample was packed in a 125-ml plastic container for total

moisture analysis. All laboratory samples were immediately stored on ice in a cooler as a preservative. The samples to be analyzed for GRO analysis were also preserved with methanol in the field.

Soils were qualitatively screened for the presence of organic compounds using a Foxboro Model OVA 128 Century Flame Ionization Detector (FID). The FID is factory calibrated, and prior to use, the calibration is checked with a 95 ppm methane standard. The FID calibration check was 84 instrument units on the September 28, 1995, sampling date. The allowable range for calibration is 78 to 114 instrument units. FID responses do not represent the concentration of a specific compound, but do give an indication of total volatile organic compounds present in the headspace sample.

Soil samples collected as headspace samples were agitated to break up soil clumps and allowed to equilibrate to ambient air temperature for approximately 10 minutes prior to screening. The jar lid was then pierced, and the FID probe was immediately inserted into the jar to a depth approximately ¼ to ½ inch above the soil surface. The FID responses to the headspace screening are in Table 2.

Selected samples were submitted for laboratory analysis to document non contaminated areas from contaminated areas. The laboratory samples were shipped by courier in an iced cooler to Mid-State Associates, Inc., (Wisconsin Certified Laboratory #157066030) Baraboo, Wisconsin, for quantification analysis of DRO and GRO. The laboratory report, including methodology, analysis results, and chain of custody, are in Appendix C.

The laboratory and field screening results indicated no detect of the analyzed contaminants from the three tank beds and pipe runs. The diesel pump location had a reading of 32 instrument units and a quantitative analysis result of 5,100 parts per million (ppm) DRO. The gasoline pump location had a reading of 5.0 instrument units and a quantitative analysis result of 3 ppm GRO. Table 2 summarizes the qualitative and quantitative soil sampling. John Grump, WDNR, was notified by facsimile of the release on September 28, 1995, and again on October 2, 1995, with additional requested information pertaining to the release.

4.0 CONCLUSIONS

No holes were observed in the USTs during removal and cleaning. Petroleum contaminants were not detected in the soil samples collected from the tank bed or along the pipe runs. It is concluded that a petroleum release most likely did not occur in these areas. Petroleum contamination was detected as DRO at the diesel dispenser location at 5,100 ppm. The source of contamination in this area is likely due to leakage around the pipe and dispenser fittings.

5.0 RECOMMENDATIONS

Ayres Associates recommends that a remedial investigation be conducted at the site to determine the degree and extent of soil and possible ground water contamination. This recommendation is based on the detection of petroleum contaminants above the WDNR remedial action guideline of 10 ppm.

6.0 STANDARD OF CARE

This tank closure site assessment report is based on data produced by Ayres Associates and subcontractors through the collection and analysis of soil samples. Soil qualities reported herein apply only to the specific locations and time at which this work was performed. Variations may occur at other locations on site. Conclusions and recommendations made represent our professional judgment in interpreting these data. Ayres Associates' personnel conducting this work are certified under ILHR 10 guidelines for site assessments.

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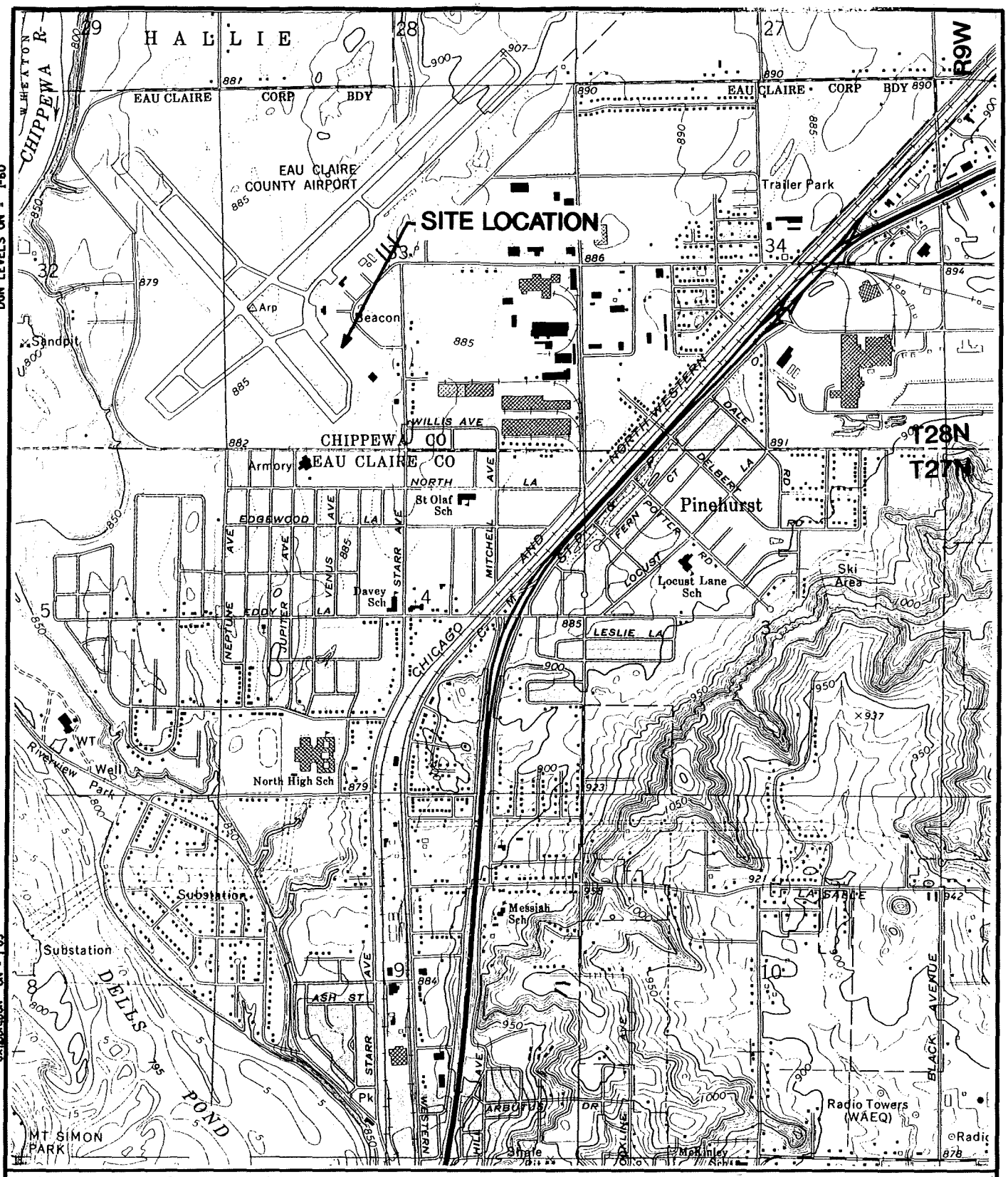

MAP SOURCE: U.S.G.S. MAP
EAU CLAIRE EAST (1982)

SCALE 1:24000

1 0 1 MILE

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NORTH

8XIBOR.DGN ON = 1-63

TANK CLOSURE SITE ASSESSMENT CHIPPEWA VALLEY REGIONAL AIRPORT EAU CLAIRE COUNTY, WISCONSIN	DRN. BY: MLE MLE CHK. BY: JJM DATE: OCT. 1995 AYRES ASSOCIATES	LOCATION MAP	FIGURE 1

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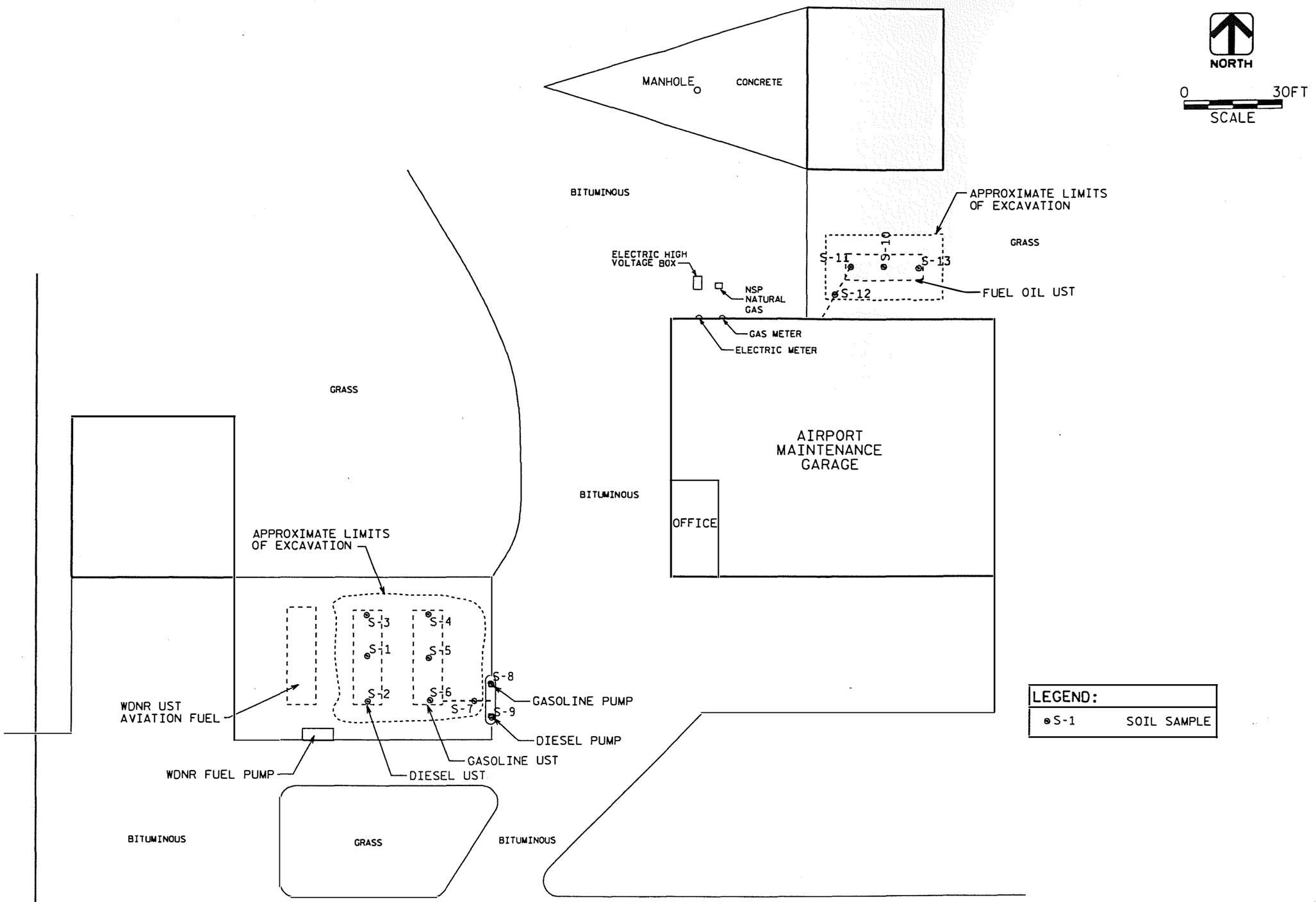

SITE PLAN

DRN. BY: MLE
CHK. BY: JJM
DATE: OCTOBER 1995

AMES ASSOCIATES

TANK CLOSURE SITE ASSESSMENT
CHIPPEWA VALLEY
REGIONAL AIRPORT
EAU CLAIRE COUNTY, WISCONSIN

FIGURE
2

TABLE 1
PROJECT INFORMATION

PROJECT NAME	Chippewa Valley Regional Airport
LOCATION	3800 Starr Avenue Eau Claire, WI 54703
OWNER	Eau Claire County
RESPONSIBLE PARTIES	Chippewa Valley Regional Airport
ADDRESS	3800 Starr Avenue Eau Claire, WI 54703
PHONE	715-839-4900
OPERATORS	Burt Wright Chippewa Valley Regional Airport 3800 Starr Avenue Eau Claire, WI 54703
PHONE	715-839-4900
CERTIFIED SITE ASSESSOR	Frank Maenner DILHR Site Assessor Certification No. 019896 Ayres Associates 3433 Oakwood Hills Parkway P.O. Box 1590 Eau Claire, WI 54702-1590
CERTIFIED TANK REMOVAL CONTRACTOR	Advanced Tank Service, Inc. P.O. Box 1072 Eau Claire, WI 54702 715-831-8484
EXCAVATOR	Fritz Koepl, Inc. 306 4th Ave. Chippewa Falls, WI 715-723-4513
PRODUCT TRANSPORTATION/ DISPOSAL	Handled By Waste Research & Reclamation
SLUDGE TRANSPORTATION/ DISPOSAL	Handled By Waste Research & Reclamation
TANK REMOVAL/ CLEANING PROCEDURES	Purged with CO2 (Advanced Tank Service, Inc.) Wiped Clean (Advanced Tank Serivce, Inc.)
UST REMOVAL DATE WEATHER	28-Sep-95 Partly Rainy, 50suo> (10/4/95)
FIELD INSTRUMENT	FOXBORO OVA MODEL 128 FID
ANALYTICAL LABORATORY	MID-State Associates, Inc. 1230 Lange Court Baraboo, WI 53913 608-356-2760

G:\jjm\951101a1

TABLE 2
SOIL SAMPLING RESULTS

DATE	SAMPLE LOCATION	SAMPLE DEPTH (FEET)	FID RESPONSE (instr. units)	LABORATORY RESULTS GRO (mg/Kg)	LABORATORY RESULTS DRO (mg/Kg)
09/28/95	S-1	12	NR	NA	<1.2
09/28/95	S-2	12	NR	NA	<1.2
09/28/95	S-3	12	NR	NA	<1.2
09/28/95	S-4	12	NR	<1.0	NA
09/28/95	S-5	12	NR	<1.0	NA
09/28/95	S-6	12	NR	<1.0	NA
09/28/95	S-7	3.5	NR	NA	<1.3
09/28/95	S-8	3	5	3	NA
09/28/95	S-9	4.5	32	NA	5100
09/28/95	S-10	15	NR	NA	<1.2
09/28/95	S-11	15	NR	NA	<1.2
09/28/95	S-12	4	NR	NA	<1.2
09/28/95	S-13	15	NR	NA	<1.3

NOTE: NR = No Response
NA = Not Analyzed

APPENDIX A

TANK CLOSURE FORMS

Advanced Tank Service, Inc.

P.O. BOX 1072
EAU CLAIRE, WI 54702

715-831-8484
FAX 715-831-8666

October 9, 1995

Ayres Associates
c/o Frank Maenner
3433 Oakwood Hills Parkway
Eau Claire, WI 54702

Dear Frank,

Thank you for your assistance with the Chippewa Valley Regional Airport Tank Removal Project, Thursday September 28, 1995. Please include this letter in your Tank Closure Assessment Report. We were able to successfully remove the 3 Tanks listed on the Checklist for Underground Tank Closure.

After removal of the tanks from the excavations, the tanks were then inspected for pitting, holes, or other obvious problems, and none were detected. The tanks were then cleaned on site, transported to, and properly scraped at Toys Salvage and Scrap, Eau Claire, Wisconsin 54703.

The 90 Gallons of Diesel-Fuel Oil and 15 Gallons of Gas tank bottom sludge was properly profiled, approved for shipping, and transported for proper disposal by Waste Research & Reclamation Co. Inc., 5200 Highway 93, Eau Claire, Wisconsin 54701 - (715) 834-9624.

Should you have any questions regarding this project, or require additional information, please contact me at any time.

Sincerely,

Chad Bartlett
Advanced Tank Service, Inc.

cc: Gary Seago - McHugh Excavating and Plumbing

Wisconsin Department of Industry, Labor and Human Relations

Complete one form for each site closure.

CHECKLIST FOR UNDERGROUND TANK CLOSURE

The information you provide may be used by other government agency programs [Privacy Law, s. 15.04 (1) (m)].

RETURN COMPLETED CHECKLIST TO:
Safety & Buildings Division
Fire Prevention & Underground Storage Tank Section
P. O. Box 7969, Madison, WI 53707

A. IDENTIFICATION: (Please Print) Indicate whether closure is for: ☒ Tank System ☐ Tank Only ☐ Piping Only

1. Site Name	2. Owner Name
Chippewa Valley Regional Airport	Eau Claire County
Site Street Address (not P.O. Box)	Owner Street Address
3800 Starr Ave.	3800 Starr Ave
☒ City ☐ Village ☐ Town of:	☒ City ☐ Village ☐ Town of:
Eau Claire WI	Eau Claire WI 54703
State / Zip Code	State / Zip Code
WI 54703	WI 54703
County	County
Eau Claire	Eau Claire
Telephone No. (include area code)	
(715) 839 4900	

3. Closure Company Name (Print)	Closure Company Street Address,
Advanced Tank Service, Inc.	P.O. Box 1072
Closure Company Telephone No. (include area code)	Closure Company City, State, Zip Code
(715) 831 8484	Eau Claire WI 54702

4. Name of Company Performing Closure Assessment	Assessment Company Street Address, City, State, Zip Code
Ayres Associates	3433 Oakwood Hills Parkway Eau Claire
Telephone # (include area code) / Certified Assessor Name (Print)	Assessor Signature / Assessor Certification No.
(715) 834 3161 Frank Muenner	Frank K Muenner 01986

Tank ID #	Closure	Temp. Closure	Closure In Place	Tank Capacity	Contents *	Closure Assessment
1.	☒	☐	☐	10,000	01	☒ Y ☐ N
2.	☒	☐	☐	10,000	03	☒ Y ☐ N
3.	☒	☐	☐	10,000	04	☒ Y ☐ N
4.	☐	☐	☐			☐ Y ☐ N
5.	☐	☐	☐			☐ Y ☐ N
6.	☐	☐	☐			☐ Y ☐ N

* Indicate which product by numeric code: 01-Diesel; 02-Leaded; 03-Unleaded; 04-Fuel Oil; 05-Gasohol; 06-Other; 09-Unknown; 10-Premix; 11-Waste oil; 13-Chemical (indicate the chemical name(s) or numbers(s) _____ _____ _____; 14-Kerosene; 15-Aviation.

Written notification was provided to the local agent 15 days in advance of closure date. ☒ Y ☐ N ☐ NA
All local permits were obtained before beginning closure. ☒ Y ☐ N ☐ NA

Check applicable box at right in response to all statements in Sections B - E.

	Remover Verified	Inspector Verified	NA
B. TEMPORARILY OUT OF SERVICE			
Written inspector approval of temporary closure obtained, which is effective until (provide date) _____	☐ Y ☐ N	☐	☐
1. Product Removed			
a. Product lines drained into tank (or other container) and resulting liquid removed, AND	☐ Y ☐ N	☐	☐
b. All product removed to bottom of suction line, OR	☐ Y ☐ N	☐	☐
c. All product removed to within 1" of bottom.	☐ Y ☐ N	☐	☐
2. Fill pipe, gauge pipe, tank truck vapor recovery fittings, and vapor return lines capped.	☐ Y ☐ N	☐	☐
3. All product lines at the islands or pumps located elsewhere are removed and capped, OR	☐ Y ☐ N	☐	☐
4. Dispensers/pumps left in place but locked and power disconnected.	☐ Y ☐ N	☐	☐
5. Vent lines left open.	☐ Y ☐ N	☐	☐
6. Inventory form filed indicating temporary closure.	☐ Y ☐ N	☐	☐
C. CLOSURE BY REMOVAL			
1. Product from piping drained into tank (or other container).	☒ Y ☐ N	☐	☐
2. Piping disconnected from tank and removed.	☒ Y ☐ N	☐	☐
3. All liquid and residue removed from tank using explosion proof pumps or hand pumps.	☒ Y ☐ N	☐	☐
4. All pump motors and suction hoses bonded to tank or otherwise grounded.	☒ Y ☐ N	☐	☐
5. Fill pipes, gauge pipes, vapor recovery connections, submersible pumps and other fixtures removed. **NOTE: DROP TUBE SHOULD NOT BE REMOVED IF THE TANK IS TO BE PURGED THROUGH THE USE OF AN EDUCTOR.**	☒ Y ☐ N	☐	☐
6. Vent lines left connected until tanks purged.	☒ Y ☐ N	☐	☐
7. Tank openings temporarily plugged so vapors exit through vent.	☒ Y ☐ N	☐	☐
8. Tank atmosphere reduced to 10% of the lower flammable range (LEL) - see Section F.	☒ Y ☐ N	☐	☐
9. Tank removed from excavation after **PURGING/INERTING**; placed on level ground and blocked to prevent movement.	☒ Y ☐ N	☐	☐
10. Tank cleaned before being removed being removed from site.	☒ Y ☐ N	☐	☐

- CONTINUE ON NEXT PAGE -

C. CLOSURE BY REMOVAL (continued)

	Remover Verified	Inspector Verified	NA
11. Tank labeled in 2" high letters after removal but before being moved from site.	☒ Y ☐ N	☑	☐
NOTE: COMPLETE TANK LABELING SHOULD INCLUDE WARNING AGAINST REUSE; FORMER CONTENTS; VAPOR STATE; VAPOR FREEING TREATMENT; DATE.			
12. Tank vent hole (1/8 th " in uppermost part of tank) installed prior to moving the tank from site.	☐ Y ☐ N	☐	☑
13. Inventory form filed by owner with Safety and Buildings Division indicating closure by removal.	☒ Y ☐ N	☑	☐
14. Site security is provided while the excavation is open.	☒ Y ☐ N	☑	☐

D. CLOSURE IN PLACE

NOTE: CLOSURES IN PLACE ARE ONLY ALLOWED WITH THE PRIOR WRITTEN APPROVAL OF THE DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS OR LOCAL AGENT.

1. Product from piping drained into tank (or other container).			
2. Piping disconnected from tank and removed.	☐ Y ☐ N	☐	☐
3. All liquid and residue removed from tank using explosion proof pumps or hand pumps.	☐ Y ☐ N	☐	☐
4. All pump motors and suction hoses bonded to tank or otherwise grounded.	☐ Y ☐ N	☐	☐
5. Fill pipes, gauge pipes, vapor recovery connections, submersible pumps and other fixtures removed.	☐ Y ☐ N	☐	☐
NOTE: DROP TUBE SHOULD NOT BE REMOVED IF THE TANK IS TO BE PURGED THROUGH THE USE OF AN EDUCTOR - EDUCTOR OUTPUT 12 FT ABOVE GRADE.			
6. Vent lines left connected until tanks purged.	☐ Y ☐ N	☐	☐
7. Tank openings temporarily plugged so vapors exit through vent.	☐ Y ☐ N	☐	☐
8. Tank atmosphere reduced to 10% of the lower flammable range (LEL) - see Section F.	☐ Y ☐ N	☐	☐
9. Tank properly cleaned to remove all sludge and residue.	☐ Y ☐ N	☐	☐
10. Solid inert material (sand, cyclone boiler slag, pea gravel recommended) introduced and tank filled.	☐ Y ☐ N	☐	☐
11. Vent line disconnected or removed.	☐ Y ☐ N	☐	☐
12. Inventory form filed by owner with Safety and Buildings Division indicating closure in place.	☐ Y ☐ N	☐	☐

E. CLOSURE ASSESSMENTS

NOTE: DETERMINE IF A CLOSURE ASSESSMENT IS REQUIRED BY REFERRING TO ILHR 10.

1. Individual conducting the assessment has a closure assessment plan (written) which is used as the basis for their work on the site.	☒ Y ☐ N	☐	☐
2. Do points of obvious contamination exist?	☒ Y ☐ N	☐	☐
3. Are there strong odors in the soils?	☒ Y ☐ N	☐	☐
4. Was a field screening instrument used to pre-screen soil sample locations?	☒ Y ☐ N	☐	☐
5. Was a closure assessment omitted because of obvious contamination?	☐ Y ☒ N	☐	☐
6. Was the DNR notified of suspected or obvious contamination?	☒ Y ☐ N	☐	☐

Agency, office and person contacted: WDNR Eau Claire Area Mr. John Gromp

7. Contamination suspected because of: ☒ Odor ☒ Soil Staining ☐ Free Product ☐ Sheen On Groundwater ☒ Field Instrument Test

F. METHOD OF ACHIEVING 10% LEVEL DESCRIPTION

☐ Educator Or Diffused Air Blower

Eductor driven by compressed air, bonded and drop tube left in place; vapors discharged minimum of 12 feet above ground. Diffused air blower bonded and drop tube removed. Air pressure not exceeding 5 psig.

☐ Dry Ice

Dry ice introduced at 1.5 pounds per 100 gallons of tank capacity. Dry ice crushed and distributed over the greatest possible tank area. Dry ice evaporated before proceeding.

☒ Inert Gas (CO/2 or N/2) **NOTE: INERT GASSES PRODUCE AN OXYGEN DEFICIENT ATMOSPHERE. THE TANK MAY NOT BE ENTERED IN THIS STATE WITHOUT SPECIAL EQUIPMENT**

Gas introduced through a single opening at a point near the bottom of the tank at the end of the tank opposite the vent. Gas introduced under low pressure not to exceed 5 psig to reduce static electricity. Gas introducing device grounded.

☒ Tank atmosphere monitored for flammable or combustible vapor levels.

Calibrate combustible gas indicator. Drop tube removed prior to checking atmosphere. Tank space monitored at bottom, middle and upper portion of tank. Readings of 10% or less of the lower flammable range (LEL) obtained before removing tank from ground.

G. NOTE SPECIFIC PROBLEMS OR NONCOMPLIANCE ISSUES BELOW

H. REMOVER/CLEANER INFORMATION

Remover Name (print)	Remover Signature	Remover Certification No.	Date Signed
Scott Lau	Scott Lau	04606	9/29/95

I. INSPECTOR INFORMATION

Inspector Name (print)	Inspector Signature	Inspector Certification No.
Jim Onarheim	Jim Onarheim	305

FDID # For Location Where Inspection Performed	Inspector Telephone Number	Date Signed
18010	715 839 4825	9-28-95

OWNER

Wisconsin Department of Industry, Labor and Human Relations

For Office Use Only:
Tank ID #

UNDERGROUND PETROLEUM PRODUCT TANK INVENTORY

Information Required By Sec. 102.142, Wis. Stats.

Send Completed Form To:
Safety & Buildings Division
P.O. Box 7969
Madison, WI 53707
Telephone: (608) 267-5280

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. Please see the reverse side for additional information on this program. An underground storage tank is defined as any tank with at least 10 percent of its total volume (included piping) located below ground level. **A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner.** Have you previously registered this tank by submitting a form? ☐ YES ☐ NO If yes, are you correcting/updating information only? ☐ Yes ☐ No

The information you provide may be used by other government agency programs [Privacy Law, s. 15.04 (1) (m)].

This registration applies to a tank that is (check one):
1A. ☐ In Use or 1B. ☐ Newly Installed
2. ☐ Abandoned With Product
3. ☐ Abandoned No Product (empty) or With Water
4. ☒ Closed - Tank Removed
6. ☐ Closed - Filled With Inert Material
7. ☐ Out of Service - Provide Date: _____
B. ☐ Changed Ownership (Indicate new owner below)

Fire Department Providing Fire Coverage Where Tank Located: EAU CLAIRE

A. IDENTIFICATION: (Please Print)

1. Tank Site Name: Chippewa Valley Regional Airport | Site Address: 3800 STARK Ave. | Site Telephone No.: (715) 839-4900

☒ City ☐ Village ☐ Town of: EAU CLAIRE | State: WI | Zip Code: 54703 | County: EAU CLAIRE

2. Owner Name (mail sent here unless indicated otherwise in #3 below): EAU CLAIRE County | Owner Mailing Address (mail sent here unless indicated otherwise in #3): 3800 STARK Ave.

☒ City ☐ Village ☐ Town of: EAU CLAIRE | State: WI | Zip Code: 54703 | County: EAU CLAIRE

3. Alternate Mailing Name If Different Than #2 | Alternate Mailing Street Address If Different From #2

☐ City ☐ Village ☐ Town of: | State | Zip Code | County

4. Tank Age (date installed, if known: or years old) | 5. Tank Capacity (gallons): 10000 | 6. Tank Manufacturer's Name (if known)

B. TYPE OF USER (check one):

1. ☐ Gas Station 2. ☐ Bulk Storage 3. ☐ Utility 4. ☐ Mercantile
5. ☐ Industrial 6. ☒ Government 7. ☐ School 8. ☐ Residential
9. ☐ Agricultural 10. ☐ Other (specify): _____

C. TANK CONSTRUCTION:

1. ☒ Bare Steel 2. ☐ Cathodically Protected and Coated Steel (A. ☐ Sacrificial Anodes or B. ☐ Impressed Current)
3. ☐ Coated Steel 4. ☐ Fiberglass 5. ☐ Other (specify): _____
6. ☐ Relined - Date _____ 7. ☐ Steel - Fiberglass Reinforced Plastic Composite 9. ☐ Unknown

Approval: 1. ☒ Nat'l Std. 2. ☐ UL 3. ☐ Other: | Is Tank Double Walled? ☐ Yes ☒ No

Overfill Protection Provided? ☐ Yes ☒ No If yes, identify type: | Spill Containment? ☐ Yes ☒ No

Tank leak detection method: 1. ☐ Automatic tank gauging 2. ☐ Vapor monitoring 3. ☐ Groundwater monitoring 4. ☐ Inventory control and tightness testing 5. ☐ Interstitial monitoring 6. ☒ Not required at present 7. ☐ Manual Tank Gauging (only for tanks of 1,000 gallons or less)

D. PIPING CONSTRUCTION

1. ☒ Bare Steel 2. ☐ Cathodically Protected and Coated or Wrapped Steel (A. ☐ Sacrificial Anodes or B. ☐ Impressed Current) 3. ☐ Coated Steel
4. ☐ Fiberglass 5. ☐ Other (specify): _____ 9. ☐ Unknown

Piping System Type: 1. ☐ Pressurized piping with: A. ☐ auto shutoff; B. ☐ alarm; or C. ☐ flow restrictor 2. ☒ Suction piping with check valve at tank
3. ☐ Suction piping with check valve at pump and inspectable

Piping leak detection method: used if pressurized or check valve at tank: 1. ☐ Vapor monitoring 2. ☐ Interstitial monitoring
3. ☐ Groundwater monitoring 4. ☐ Tightness testing 5. ☐ Line Leak Detector 6. ☒ Not Required

Approval: 1. ☒ Nat'l Std 2. ☐ UL 3. ☐ Other: | Double Walled: ☐ Yes ☐ No

E. TANK CONTENTS

1. ☐ Diesel 2. ☐ Leaded 3. ☒ Unleaded 4. ☐ Fuel Oil
5. ☐ Gasohol 6. ☐ Other 7. ☐ Empty 8. ☐ Sand/Gravel/Slurry
9. ☐ Unknown 10. ☐ Premix 11. ☐ Waste Oil 12. ☐ Propane
13. ☐ Chemical * _____ _____ _____ 14. ☐ Kerosene 15. ☐ Aviation

* If # 13 is checked, indicate the chemical name(s) or number(s) of the chemical or waste.

If Tank Closed, Give Date (mo/day/yr): 9/28/95 | Has a site assessment been completed? (see reverse side for details) ☒ Yes ☐ No

If installation of a new tank is being reported, indicate who performed the installation inspection:
1. ☐ Fire Department 2. ☐ DILHR 3. ☐ Other (identify) _____

Name of Owner or Operator (please print): Chippewa Valley Reg. Airport | Indicate Whether: ☒ Owner or ☐ Operator

Signature of Owner or Operator: [signature] | Date Signed: 9/28/95

SBD-7437 (R. 05/94)

IMPORTANT: Complete as many items on this form as possible. Failure to provide sufficient information may cause you to fall under additional regulations.

Wisconsin Department of Industry, Labor and Human Relations

For Office Use Only:
Tank ID #

UNDERGROUND PETROLEUM PRODUCT TANK INVENTORY

Information Required By Sec. 102.142, Wis. Stats.

Send Completed Form To:
Safety & Buildings Division
P.O. Box 7969
Madison, WI 53707
Telephone: (608) 267-5280

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. Please see the reverse side for additional information on this program. An underground storage tank is defined as any tank with at least 10 percent of its total volume (included piping) located below ground level. **A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner.** Have you previously registered this tank by submitting a form? ☐ **YES** ☐ **NO** If yes, are you correcting/updating information only? ☐ Yes ☐ No

The information you provide may be used by other government agency programs [Privacy Law, s. 15.04 (1) (m)].

This registration applies to a tank that is (check one):
1A. ☐ In Use or 1B. ☐ Newly Installed
2. ☐ Abandoned With Product
3. ☐ Abandoned No Product (empty) or With Water
4. ☒ Closed - Tank Removed
6. ☐ Closed - Filled With Inert Material
7. ☐ Out of Service - Provide Date: _____
8. ☐ Changed Ownership (Indicate new owner below)

Fire Department Providing Fire Coverage Where Tank Located: Eau Claire

A. IDENTIFICATION: (Please Print)

1. Tank Site Name: Chippewa Valley Regional Airport | Site Address: 3800 Starr Ave | Site Telephone No.: (715) 834-4900

☒ City ☐ Village ☐ Town of:	State	Zip Code	County
Eau Claire	WI	54703	Eau Claire

2. Owner Name (mail sent here unless indicated otherwise in #3 below): Eau Claire County | Owner Mailing Address (mail sent here unless indicated otherwise in #3): 3800 Starr Ave

☒ City ☐ Village ☐ Town of:	State	Zip Code	County
Eau Claire	WI	54703	Eau Claire

3. Alternate Mailing Name If Different Than #2 | Alternate Mailing Street Address If Different From #2

☐ City ☐ Village ☐ Town of:	State	Zip Code	County

4. Tank Age (date installed, if known: or years old)	5. Tank Capacity (gallons)	6. Tank Manufacturer's Name (if known)
	10000	

B. TYPE OF USER (check one):

1. ☐ Gas Station
2. ☐ Bulk Storage
3. ☐ Utility
4. ☐ Mercantile
5. ☐ Industrial
6. ☒ Government
7. ☐ School
8. ☐ Residential
9. ☐ Agricultural
10. ☐ Other (specify): _____

C. TANK CONSTRUCTION:

1. ☒ Bare Steel
2. ☐ Cathodically Protected and Coated Steel (A. ☐ Sacrificial Anodes or B. ☐ Impressed Current)
3. ☐ Coated Steel
4. ☐ Fiberglass
5. ☐ Other (specify): _____
6. ☐ Relined - Date _____
7. ☐ Steel - Fiberglass Reinforced Plastic Composite
9. ☐ Unknown

Approval: 1. ☒ Nat'l Std. 2. ☐ UL 3. ☐ Other: | Is Tank Double Walled? ☐ Yes ☒ No

Overfill Protection Provided? ☐ Yes ☒ No If yes, identify type: | Spill Containment? ☐ Yes ☒ No

Tank leak detection method: 1. ☐ Automatic tank gauging 2. ☐ Vapor monitoring 3. ☐ Groundwater monitoring 4. ☐ Inventory control and tightness testing 5. ☐ Interstitial monitoring 6. ☒ Not required at present 7. ☐ Manual Tank Gauging (only for tanks of 1,000 gallons or less)

D. PIPING CONSTRUCTION

1. ☒ Bare Steel
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4. ☐ Fiberglass
5. ☐ Other (specify): _____
9. ☐ Unknown

Piping System Type: 1. ☐ Pressurized piping with: A. ☐ auto shutoff; B. ☐ alarm; or C. ☐ flow restrictor 2. ☒ Suction piping with check valve at tank 3. ☐ Suction piping with check valve at pump and inspectable

Piping leak detection method: used if pressurized or check valve at tank: 1. ☐ Vapor monitoring 2. ☐ Interstitial monitoring 3. ☐ Groundwater monitoring 4. ☐ Tightness testing 5. ☐ Line Leak Detector 6. ☒ Not Required

Approval: 1. ☒ Nat'l Std 2. ☐ UL 3. ☐ Other: | Double Walled: ☐ Yes ☒ No

E. TANK CONTENTS

1. ☒ Diesel
2. ☐ Leaded
3. ☐ Unleaded
4. ☐ Fuel Oil
5. ☐ Gasohol
6. ☐ Other
7. ☐ Empty
8. ☐ Sand/Gravel/Slurry
9. ☐ Unknown
10. ☐ Premix
11. ☐ Waste Oil
12. ☐ Propane
13. ☐ Chemical * _____ _____ _____
14. ☐ Kerosene
15. ☐ Aviation

* If # 13 is checked, indicate the chemical name(s) or number(s) of the chemical or waste.

If Tank Closed, Give Date (mo/day/yr):	Has a site assessment been completed? (see reverse side for details)
9/28/95	☒ Yes ☐ No

If installation of a new tank is being reported, indicate who performed the installation inspection:
1. ☐ Fire Department 2. ☐ DILHR 3. ☐ Other (identify) _____

Name of Owner or Operator (please print):	Indicate Whether:
Chippewa Valley Reg Airport	☒ Owner or ☐ Operator
Signature of Owner or Operator:	**Date Signed:**
	9/28/95

SBD-7437 (R. 05/94)

IMPORTANT: Complete as many items on this form as possible. Failure to provide sufficient information may cause you to fall under additional regulations.

Wisconsin Department of Industry, Labor and Human Relations

For Office Use Only:
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The information you provide may be used by other government agency programs [Privacy Law, s. 15.04 (1) (m)].

This registration applies to a tank that is (check one):
1A. ☐ In Use or 1B. ☐ Newly Installed 4. ☒ Closed - Tank Removed 8. ☐ Changed Ownership (Indicate new owner below)
2. ☐ Abandoned With Product 6. ☐ Closed - Filled With Inert Material
3. ☐ Abandoned No Product (empty) or With Water 7. ☐ Out of Service - Provide Date: _____

Fire Department Providing Fire Coverage Where Tank Located: EAU CLAIRE

A. IDENTIFICATION: (Please Print)

1. Tank Site Name: Chippewa Valley Regional Airport | Site Address: 3800 STARR AVE | Site Telephone No.: (715) 839-4700
☒ City: EAU CLAIRE ☐ Village ☐ Town of: | State: WI | Zip Code: 54703 | County: EAU CLAIRE

2. Owner Name (mail sent here unless indicated otherwise in #3 below): EAU CLAIRE County | Owner Mailing Address (mail sent here unless indicated otherwise in #3): 3800 STARR AVE.
☒ City: EAU CLAIRE ☐ Village ☐ Town of: | State: WI | Zip Code: 54703 | County: EAU CLAIRE

3. Alternate Mailing Name If Different Than #2 | Alternate Mailing Street Address If Different From #2
☐ City ☐ Village ☐ Town of: | State | Zip Code | County

4. Tank Age (date installed, if known: or years old) | 5. Tank Capacity (gallons): 10000 | 6. Tank Manufacturer's Name (if known)

B. TYPE OF USER (check one):
1. ☐ Gas Station 2. ☐ Bulk Storage 3. ☐ Utility 4. ☐ Mercantile
5. ☐ Industrial 6. ☒ Government 7. ☐ School 8. ☐ Residential
9. ☐ Agricultural 10. ☐ Other (specify): _____

C. TANK CONSTRUCTION:
1. ☒ Bare Steel 2. ☐ Cathodically Protected and Coated Steel (A. ☐ Sacrificial Anodes or B. ☐ Impressed Current)
3. ☐ Coated Steel 4. ☐ Fiberglass 5. ☐ Other (specify): _____
6. ☐ Relined - Date _____ 7. ☐ Steel - Fiberglass Reinforced Plastic Composite 9. ☐ Unknown

Approval: 1. ☒ Nat'l Std. 2. ☐ UL 3. ☐ Other: | Is Tank Double Walled? ☐ Yes ☒ No
Overfill Protection Provided? ☐ Yes ☒ No If yes, identify type: | Spill Containment? ☐ Yes ☒ No

Tank leak detection method: 1. ☐ Automatic tank gauging 2. ☐ Vapor monitoring 3. ☐ Groundwater monitoring 4. ☐ Inventory control and tightness testing 5. ☐ Interstitial monitoring 6. ☒ Not required at present 7. ☐ Manual Tank Gauging (only for tanks of 1,000 gallons or less)

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3. ☐ Suction piping with check valve at pump and inspectable

Piping leak detection method: used if pressurized or check valve at tank: 1. ☐ Vapor monitoring 2. ☐ Interstitial monitoring
3. ☐ Groundwater monitoring 4. ☐ Tightness testing 5. ☐ Line Leak Detector 6. ☒ Not Required

Approval: 1. ☒ Nat'l Std 2. ☐ UL 3. ☐ Other: | Double Walled: ☐ Yes ☒ No

E. TANK CONTENTS
1. ☐ Diesel 2. ☐ Leaded 3. ☐ Unleaded 4. ☒ Fuel Oil
5. ☐ Gasohol 6. ☐ Other 7. ☐ Empty 8. ☐ Sand/Gravel/Slurry
9. ☐ Unknown 10. ☐ Premix 11. ☐ Waste Oil 12. ☐ Propane
13. ☐ Chemical * _____ _____ _____ 14. ☐ Kerosene 15. ☐ Aviation

* If # 13 is checked, indicate the chemical name(s) or number(s) of the chemical or waste.

If Tank Closed, Give Date (mo/day/yr): 9/28/95 | Has a site assessment been completed? (see reverse side for details) ☒ Yes ☐ No

If installation of a new tank is being reported, indicate who performed the installation inspection:
1. ☐ Fire Department 2. ☐ DILHR 3. ☐ Other (identify) _____

Name of Owner or Operator (please print): Chippewa Valley Reg Airport | Indicate Whether: ☒ Owner or ☐ Operator

Signature of Owner or Operator: [signature] | Date Signed: 9/28/95

SBD-7437 (R. 05/94)

IMPORTANT: Complete as many items on this form as possible. Failure to provide sufficient information may cause you to fall under additional regulations.

APPENDIX B

SITE PHOTOGRAPHS

Photo 1 Gasoline and diesel tank excavation. Gasoline tank is in far left background. Diesel tank is in transportation.

Photo 2 Heating oil UST area prior to excavation

Photo 3 Heating oil UST being removed from ground

APPENDIX C

LABORATORY RESULTS

MID-STATE ASSOCIATES, INC.

ANALYTICAL REPORT

Client I.D. No.: LA2000000407
Work Order No.: 9509000700
Report Date: 10/13/95
Date Received: 09/29/95
Arrival Temperature: On Ice

AYRES AND ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54702

Project Name: **CHIPPEWA VALLEY** Project Number: **11-0207.00**

Sample I.D. #:111514 **Sample Description:**S-1 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Diesel Range Organics- WDNR Modified DRO	<1.2	mg/kg	1.2	4.0
Extraction Date DRO	9/29/95			
Analysis Date DRO	10/04/95			
LUST Total Percent Solids--EPA 5030	97.4	%		

Sample I.D. #:111515 **Sample Description:**S-2 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Diesel Range Organics- WDNR Modified DRO	<1.2	mg/kg	1.2	4.0
Extraction Date DRO	9/29/95			
Analysis Date DRO	10/04/95			
LUST Total Percent Solids--EPA 5030	96.5	%		

Sample I.D. #:111516 **Sample Description:**S-3 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Diesel Range Organics- WDNR Modified DRO	<1.2	mg/kg	1.2	4.0
Extraction Date DRO	9/29/95			
Analysis Date DRO	10/04/95			
LUST Total Percent Solids--EPA 5030	96.4	%		

Sample I.D. #:111517 **Sample Description:**S-4 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Gasoline Range Organics- WDNR Modified GRO	<1.0	mg/kg	1.0	3.3
Extraction Date GRO	10/02/95			
Analysis Date GRO	10/03/95			
LUST Total Percent Solids--EPA 5030	96.5	%		

Sample I.D. #:111518 **Sample Description:**S-5 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Gasoline Range Organics- WDNR Modified GRO	<1.0	mg/kg	1.0	3.3
Extraction Date GRO	10/02/95			
Analysis Date GRO	10/03/95			
LUST Total Percent Solids--EPA 5030	96.0	%		

Submitted By: RD

MID-STATE ASSOCIATES, INC.

ANALYTICAL REPORT

Client I.D. No.: LA2000000407
Work Order No.: 9509000700
Report Date: 10/13/95
Date Received: 09/29/95
Arrival Temperature: On Ice

AYRES AND ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54702

Project Name: **CHIPPEWA VALLEY** Project Number: **11-0207.00**

Sample I.D. #:111519 **Sample Description:**S-6 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Gasoline Range Organics- WDNR Modified GRO	<1.0	mg/kg	1.0	3.3
Extraction Date GRO	10/02/95			
Analysis Date GRO	10/03/95			
LUST Total Percent Solids--EPA 5030	94.9	%		

Sample I.D. #:111520 **Sample Description:**S-7 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Diesel Range Organics- WDNR Modified DRO	<1.3	mg/kg	1.2	4.0
Extraction Date DRO	9/29/95			
Analysis Date DRO	10/04/95			
Gasoline Range Organics- WDNR Modified GRO	<1.0	mg/kg	1.0	3.3
Extraction Date GRO	10/02/95			
Analysis Date GRO	10/03/95			
LUST Total Percent Solids--EPA 5030	95.8	%		

Sample I.D. #:111521 **Sample Description:**S-8 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Gasoline Range Organics- WDNR Modified GRO	3.0	mg/kg	1.0	3.3
Estimated value, concentration was less than LOQ.				
Extraction Date GRO	10/02/95			
Analysis Date GRO	10/03/95			
LUST Total Percent Solids--EPA 5030	92.1	%		

Sample I.D. #:111522 **Sample Description:**S-9 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Diesel Range Organics- WDNR Modified DRO	5100	mg/kg	1.2	4.0
Extraction Date DRO	9/29/95			
Analysis Date DRO	10/06/95			
LUST Total Percent Solids--EPA 5030	96.9	%		

Sample I.D. #:111523 **Sample Description:**S-10 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Diesel Range Organics- WDNR Modified DRO	<1.2	mg/kg	1.2	4.0
Extraction Date DRO	9/29/95			
Analysis Date DRO	10/04/95			
LUST Total Percent Solids--EPA 5030	97.4	%		

Submitted By: RD

MID-STATE ASSOCIATES, INC.

ANALYTICAL REPORT

Client I.D. No.: LA2000000407
Work Order No.: 9509000700
Report Date: 10/13/95
Date Received: 09/29/95
Arrival Temperature: On Ice

AYRES AND ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54702

Project Name: **CHIPPEWA VALLEY** Project Number: **11-0207.00**

Sample I.D. #:111524 **Sample Description:**S-11 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Diesel Range Organics- WDNR Modified DRO	<1.2	mg/kg	1.2	4.0
Extraction Date DRO	9/29/95			
Analysis Date DRO	10/04/95			
LUST Total Percent Solids--EPA 5030	97.4	%		

Sample I.D. #:111525 **Sample Description:**S-12 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Diesel Range Organics- WDNR Modified DRO	<1.3	mg/kg	1.2	4.0
Extraction Date DRO	9/29/95			
Analysis Date DRO	10/05/95			
LUST Total Percent Solids--EPA 5030	94.3	%		

Sample I.D. #:111526 **Sample Description:**S-13 **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Diesel Range Organics- WDNR Modified DRO	<1.3	mg/kg	1.2	4.0
Extraction Date DRO	9/29/95			
Analysis Date DRO	10/11/95			
LUST Total Percent Solids--EPA 5030	95.5	%		

Sample I.D. #:111527 **Sample Description:**MeOH BLANK **Date Sampled:**09/28/95

Analyte	Result	Units	LOD	LOQ
Gasoline Range Organics	<1.0	mg/kg	1.0	3.3
Extraction Date GRO	10/03/95			
Analysis Date GRO	10/04/95			

Comments for entire Work Order:
None

Submitted By: RJS

Project Chippewa Valley Regional Airport
Proj. No 11-0207.00

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151 Rev. 4-93

Printed on Recycled Paper

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s)	Title/Work Station/Company	Telephone Number (include area code)
Frank Maenner	Hydrogeologist/Wst Mgt/ Ayres Ass. E.C.	715 834 3161
Property Owner	**Property Address**	**Telephone Number (include area code)**
Chippewa Valley Regional Airport (Burt Wright Representative)	3800 Starr Avenue Eau Claire WI 54702	715 839-5099

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)
Frank Maenner	9/29/95	Bill Krueger 9/29/95 10:50
Relinquished By (Signature)	Date/Time	Received By (Signature)
Relinquished By (Signature)	Date/Time	Received for Laboratory By (Signature)
	9/29/95 5:17	

Sample Condition on Receipt by Laboratory
LABORATORY USE ONLY

Temperature of temperature blank: On Ice

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

Field ID Number[1]	Date Collected	Time Collected	Sample Type[2]	Sample Device[3]	Preserv. Type	Field Screening	Description	Analysis Type	Lab ID Number	No./Type of Containers	Cracked /Broken	Improperly Sealed	Good Condition	Other Comments
S-1	9-28-95	8:45	soil	Soil syringe	ice	FID=NR	Middle of Diesel tank @ 13'	DRO % solids	111514					
S-2	9-28-95	8:55	soil	soil syringe	ice	FID=NR	South end of Diesel @ 13'	DRO % solids	111515					
S-3	9-28-95	9:04	soil	soil syringe	ice	FID=NR	North end of Diesel Tank @ 13'	DRO % solids	111516					
S-4	9-28-95	10:10	soil	soil syringe	MeOH ice	FID=NR	North end of Gas Tank @ 13'	GRO % solids	111517					
S-5	9-28-95	10:15	soil	soil syringe	MeOH ice	FID=NR	Middle of gas tank @ 13'	GRO % solids	111518					
S-6	9-28-95	10:22	soil	soil syringe	MeOH ice	FID=NR	South end of gas tank @ 13'	GRO % solids	111519					
S-7	9-28-95	10:30	soil	soil syringe	MeOH ice	FID=NR	Diesel/Gas pipe Run @ 3.5'	GRO, DRO % solids	111520					
S-8	9-28-95	11:30	soil	soil syringe	MeOH ice	FID=5.0	Below Gas pump @ 3.0'	GRO % solids.	111521					
S-9	9-28-95	11:40	soils	soil syringe	ice	FID=32	Below Diesel pump @ 4.5'	DRO % solids	111522					

[1] Sample description must clearly correlate the sample ID to the sampling location shown on a map.

[2] Specify groundwater, surface water, soil, leachate, sludge, etc.

[3] Type of sampling device; split spoon, hand auger, metal spatula, soil syringe, etc.

DEPARTMENT USE/OPTIONAL FOR SOIL SAMPLERS

Disposition of unused portion of sample

Laboratory should: ☐ Dispose ☐ Retain for ____ days ☐ Return ☐ Other

DD

DEPARTMENT USE ONLY

Split samples: Offered? ☐ Yes ☐ No (Check one)

Accepted? ☐ Yes ☐ No (Check one)

Accepted By: _____
Signature

Proj. Name - Chippewa Valley Regional Airport

State of Wisconsin
Department of Natural Resources

Proj. No. 11-0207.00

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151 Rev. 4-93

MW SII

Printed on Recycled Paper

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s)	Title/Work Station/Company	Telephone Number (include area code)
Frank Maenner	Hydrogeologist Wst Mgt Atypon Ass	715 834 3161
Property Owner	**Property Address**	**Telephone Number (include area code)**
Chippewa Valley Regional Airport (Burt Wright Representative)	3800 Starr Avenue Eau Claire WI 54702	(715) 839 5049

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)	
Frank Maenner	9-29-95	Bill Krueger	9/29/95 10:50
Relinquished By (Signature)	Date/Time	Received By (Signature)	
Relinquished By (Signature)	Date/Time	Received for Laboratory By (Signature)	
	9/29/95		

Sample Condition on Receipt by Laboratory
LABORATORY USE ONLY

Temperature of temperature blank: Ambient

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

Field ID Number[1]	Date Collected	Time Collected	Sample Type[2]	Sample Device[3]	Preserv. Type	Field Screening	Description	Analysis Type	Lab ID Number	No./Type of Containers	Cracked /Broken	Improperly Sealed	Good Condition	Other Comments
S-10	9-28-95	1:35	soil	soil syringe	ice	FID=NR	Middle of Fuel oil Tank @ 15'	DRO %solids	111523					
S-11	9-28-95	1:42	soil	Soil Syringe	ice	FID=NR	West end of Fuel oil Tank @ 15-1	DRO %solids	111524					
S-12	9-28-95	1:46	soil	Soil Syringe	ice	FID=NR	Fuel oil Tank pipe bin @ 40'	DRO %solids	111525					
S-13	9-28-95	1:51	soil	Soil Syringe	ice	FID=NR	East end of Fuel oil @ 15'	DRO %solids	111526					
MeOH Tripblank	9-28-95	9:20	MeOH	40mL to 60mL	ice	—	—	GRO	111527					

[1] Sample description must clearly correlate the sample ID to the sampling location shown on a map.

[2] Specify groundwater, surface water, soil, leachate, sludge, etc.

[3] Type of sampling device; split spoon, hand auger, metal spatula, soil syringe, etc.

DEPARTMENT USE/OPTIONAL FOR SOIL SAMPLERS

Disposition of unused portion of sample

Laboratory should: ☐ Dispose ☐ Retain for ____ days ☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered? ☐ Yes ☐ No (Check one)

Accepted? ☐ Yes ☐ No (Check one)

Accepted By: _____
Signature

WISCONSIN
DEPT. OF NATURAL RESOURCES

George E. Meyer
Secretary

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

1300 West Clairemont Avenue
P.O. Box 4001
Eau Claire, WI 54702-4001
TELEPHONE 715-839-3700
TELEFAX 715-839-6076
TDDPHONE 715-839-2786

October 5, 1995

File Ref: 4440

Mr. Burt Wright
Chippewa Valley Regional Airport
3800 Starr Avenue
Eau Claire, WI 54703

SUBJECT: Soil Contamination at Chippewa Valley Regional Airport Located at 3800 Starr Avenue, Eau Claire, WI

Dear Mr. Wright:

The Department of Natural Resources has been notified that petroleum contamination was discovered during a tank closure site assessment at the above facility. The purpose of this letter is threefold: 1. to inform you of your legal responsibilities under State Law; 2. to inform you of what you must do to investigate and clean up the contamination; 3. to provide you with information about environmental cleanups, the Department of Natural Resources and the state funded cleanup program (PECFA).

Legal Responsibilities:

The Hazardous Substances Spills Law, section 144.76(3), Wisconsin Statute, states:

> RESPONSIBILITY. A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands, or waters of the state.

Because a hazardous substance is contaminating the soil, and possibly the groundwater, you are responsible for restoring the environment. This will include investigating the nature and extent of soil and groundwater contamination. Then you must clean up the contaminated soils and groundwater.

Required Actions:

Because petroleum contamination may spread in the environment, your quick response is important. Quick action may lessen damage to your property and reduce your costs of investigating and cleaning up the contamination. It is important for you to keep us informed of the actions you plan to take. We have established this time frame to help you start and keep the cleanup process moving:

1. Within 30 days of receiving this letter, you must hire an environmental consultant and have them submit written verification to this office that they have been hired to address this problem.

2. Within 60 days of receiving this letter, your consultant must submit a work plan and timetable for conducting the investigation. NR 716, Wisconsin Administrative Code, contains these work plan requirements.

Because of the number of sites which I oversee, I will not be able to review each plan and report at every stage in your investigation and cleanup. You still need to conduct the investigation and cleanup in a timely fashion. Your consultant can provide you with guidance on how to meet Wisconsin's cleanup requirements.

The Cleanup Process, the DNR, and PECFA:

The DNR regulates the cleanup of petroleum contamination. Before your site can be cleaned up, an investigation must first be conducted to characterize the contamination and determine its extent. This is called the "site investigation." The next steps are cleanup design and the actual cleanup, which is sometimes referred to as "remediation" or "remedial action."

The Department of Industry, Labor, and Human Relations (DILHR) administers the Petroleum Environmental Cleanup Fund (PECFA). This fund may reimburse you for eligible costs associated with the remedial investigation and cleanup. Please contact DILHR at (608) 267-3753 for current information about this program and whether your facility is eligible for reimbursements.

The PECFA program now requires that you solicit and review at least three proposals from different consultants before you choose the one that best fits your needs. The consultant you choose must be registered with DILHR. Please call DILHR at (608) 266-2424 with questions on PECFA-registered consultants. Please give a copy of this letter to the consultants you contact.

Section 144.765, Wisconsin Statutes, establishes the Contaminated Lands Recycling Program. If you are interested in obtaining the protection of limited liability under s. 144.765, Stats., please contact Mark Giesfeldt at (608) 267-7562 or Darsi Foss at (608) 267-6713 in the Department of Natural Resources' Madison office for more information. The liability exemption under s. 144.765, Stats., is available to persons who meet the definition of "purchaser" in s. 144.765(1)(c) and receive Department approval for the response actions taken at the property undergoing cleanup. The Department will determine eligibility for this program on a case-by-case basis, prior to the "purchaser" developing a scope of work for conducting a ch. NR 716 site investigation at the property.

If you have any questions about this letter or your responsibilities, please call me at (715) 839-3775. Thank you for your cooperation.

Sincerely,

John R. Grump
Hydrogeologist

JRG/ah

c: Bill Evans - WD
John Paddock - WD
Darrell Christy - DILHR

#919

AYRES ASSOCIATES

FAX TRANSMITTAL

From: Frank Maenner
To: John Grump
Date: 10-2-95
Company: WDNR
Project No: 11-0207.00
Department: LUST
Re: Chippewa Valley Regional Airport Tank Pull / release data
Fax Number: 715 839 6076
Number of Pages (including this transmittal): 3

Remarks:

John,

Included with this fax are both pages of the Notification of petroleum contamination from UST system for the Chippewa Valley Regional Airport. Only page One was faxed last week. I apologize for any inconvenience.

Sincerely

Frank W. Maenner

RP - Iowa

Engineers/Architects/Scientists/Photogrammetrists
3433 Oakwood Hills Parkway, P.O. Box 1590, Eau Claire, WI 54702-1590, (715) 834-3161, FAX (715) 831-7500

Wisconsin Department of Natural Resources

Notification of Petroleum Contamination from Underground Storage Tank System

Please complete this form and FAX it to the appropriate DNR contact person listed on the back page of this form immediately upon discovery of a release from an UST system.

TO: DNR, Attn: Mr. John Grump
FAX #: 839-1605

1. Name, company, mailing address and phone number of person reporting the discharge:

Frank Maenner
Ayres Associates
3433 OAKWOOD Hills Parkway
Eau Claire, WI 54702-1590

2. Site Information:

Name of site at which discharge occurred (local name of site/business, not responsible party name -unless a residence): Chippewa Valley Regional Airport.

Location (actual street address, not P.O. box; if no street address, describe as precisely as possible, e.g., 1/4 mile NW of CTHs 60 & 123 on E side of CTH 60):
3800 Starr Ave.
Eau Claire WI 54703

Municipality (city, village, township in which the site is located – not mailing address):
Eau Claire.

County: Eau Claire

Legal Description: SE 1/4, SE 1/4, Section 33, Tn 28N, Range 9 E (W)

3. Responsible Party (RP) and/or RP Representative Information

Company Name: Chippewa Valley Regional Airport

Contact Person: Mr. Burt Wright.

Mailing Address (with zip code):
3800 Starr Avenue
Eau Claire, Wisconsin

Telephone Number: 7158395099

4. Identity, physical state and quantity of the hazardous substance discharged (check all that apply):

___ Unleaded gasoline
___ Leaded gasoline
X Diesel
___ [illegible]
___ Waste oil
___ Other

3 tanks were pulled.; Gas, diesel and Fuel oil.
odor and PID reading below Diesel pump only.

5. **Impacts to the environment (enter "K" for known or "P" for potential for all that apply):**

___Fire/explosion threat
___Contaminated private wells (# of wells)_____
___Contaminated public wells
P Groundwater contamination
K Soil contamination
___Surface water impacts
___Floating product
___Other_____

6. **Contamination was discovered as a result of:**

X Tank closure assessment ___Site assessment ___Othe_____

On what date: 9-28-95

Additional Comments:

Three 10,000 gallon UST's were pulled. one gas, one diesel, and one fuel oil (heating). Gas and Diesel tanks occupied a common tank pit w/ pump island ~ 20ft east. Soil contamination noted below diesel pump only. FID = 32 i.u.'s. Soils consist of f-c sand w/ gravel. Soil @ 4.5 feet BLS was noted to have a visible oil coating as well as a petroleum odor.

FAX numbers to report LUST sites in DNR's six districts:

Lake Michigan District: 414-492-5859 Attention: Janis DeBrock
(Florence, Marinette, Oconto, Menominee, Shawano, Waupaca, Outagamie, Brown, Door, Kewaunee, Waushara, Winnebago, Calumet and Manitowoc Counties)

North Central District: 715-365-8932 Attention: Janet Kazda
(Vilas, Oneida, Forest, Lincoln, Langlade, Marathon, Wood, Portage, Juneau, and Adams Counties)

Northwest District: 715-635-4105 Attention: Susie Sumon
(Douglas, Bayfield, Ashland, Iron, Burnett, Washburn, Sawyer, Price, Polk, Barron, Rusk and Taylor Counties)

Southern District: 608-275-3338 Attention: Marilyn Jahnke
(Marquette, Green Lake, Richland, Sauk, Fond du Lac, Columbia, Dodge, Dane, Jefferson, Grant, Iowa, Lafayette, Green and Rock Counties)

Southeast District: 414-229-0810 Attention: Giselle Red
(Sheboygan, Washington, Ozaukee, Waukesha, Milwaukee, Walworth, Racine, and Kenosha Counties)

Western District: 715-839-6076 Attention: John Grump
(St. Croix, Dunn, Chippewa, Pierce, Pepin, Eau Claire, Clark, Buffalo, Trempealeau, Jackson, LaCrosse, Monroe, Vernon and Crawford Counties)

Wisconsin Department of Natural Resources

Notification of Petroleum Contamination from Underground Storage Tank System

Please complete this form and FAX it to the appropriate DNR contact person listed on the back page of this form immediately upon discovery of a release from an UST system.

TO: DNR, Attn: Mr. John Grump
FAX #: 839 1605

RECEIVED
SEP 29 1995
DNR - WD

1. Name, company, mailing address and phone number of person reporting the discharge:

Frank Matenner
Ayres Associates
3433 OAKWOOD Hills Parkway
Eau Claire, WI 54702-1590

2. Site Information:

Name of site at which discharge occurred (local name of site/business, not responsible party name – unless a residence): Chippewa Valley Regional Airport.

Location (actual street address, not P.O. box; if no street address, describe as precisely as possible, e.g., 1/4 mile NW of CTHs 60 & 123 on E side of CTH 60):

3800 Starr Ave.
Eau Claire WI 54703

Municipality (city, village, township in which the site is located – not mailing address):

Eau Claire

County: Eau Claire

Legal Description: SE 1/4, SE 1/4, Section 33, Tn 28N, Range 9 E (W)

3. Responsible Party (RP) and/or RP Representative Information

Company Name: Chippewa Valley Regional Airport

Contact Person: Mr. Burt Wright.

Mailing Address (with zip code):

3800 Starr Avenue
Eau Claire, Wisconsin

Telephone Number: 715 839 5099

4. Identity, physical state and quantity of the hazardous substance discharged (check all that apply):

___ Unleaded gasoline
___ Leaded gasoline
X Diesel
___ [illegible]
___ Waste oil
___ Other

3 tanks were pulled. ; Gas, diesel and Fuel oil.
Odor and FID reading below Diesel pump only.

Chippewa Valley Regional Airport 2

PRIORITY SCREENING WORKSHEET

HIGH FACTORS: (DEFINITION: Any case which presents an actual threat to human health, or has a high potential of causing a threat to human health and property; and/or any case which has caused or has a high potential of causing substantial impacts to the soil, waters and air of the State of Wisconsin).

EMERGENCY FACTORS:

___ Contaminated private or public well >NR 140 enf. std.
___ Explosive or toxic vapors in structures
___ Threat of fire

HIGH FACTORS:

___ Floating product (including sheen)
___ GW contamination (>140 enf. std.)
___ Impacted surface water - - wetland, trout stream, etc. impacted
___ Saturated soil contamination posing a significant risk to groundwater *

*e.g. >1,500 ppm GRO/DRO and gw < 25'

MEDIUM FACTORS: (DEFINITION: Any case which does not appear to be an immediate threat to human health or vital natural resources but which shows levels of contamination that may cause substantial environmental impacts if left unaddressed.)

___ Moderate soil contamination with potential for impacting groundwater.
___ Impacted surface water - - no critical habitat threats.
___ Groundwater contamination >NR 140 PAL.

LOW FACTORS: (DEFINITION: Any case where contamination has been documented, but which presents limited potential for immediate threat to human health and vital natural resources.)

___ Soil contamination which appears to have a limited potential for impacting groundwater.
___ Initial Remedial action has substantially reduced environmental threat.

UNKNOWN FACTORS: (DEFINITION: Any case where some indication of contamination is present, but due to incomplete or inaccurate information the level of threat to human health or the environment can not be assessed at this time.)

___ Inadequate information to assign a high, medium, or low ranking.

NUMERICAL LUST SCORING WORKSHEET

1. **GROUNDWATER & SOILS:**

"Major Soil" ≅ GRO/DRO > 3,500 ppm and gw < 25'

POINTS:		Points:	
20	Municipal well impacted	10	"Major soil" and/or gw >ES within 1200' of a public well
18	>6 private wells impacted	8	"Major soil" and/or gw >ES within 1200' of one or more private wells
16	4 - 6 private wells impacted	6	Groundwater contamination >ES
14	2 - 3 private wells impacted	4	Groundwater contamination <ES
12	1 private well impacted	2	Soil contamination

For purposes of this scoring, private well includes any non-municipal water supply system (e.g. non-community and other than municipal)

2. **EXPLOSIVE OR TOXIC VAPORS:**

"Potential" applies if gw or confining layer < 12' from surface.

POINTS: CONFIRMED	"POTENTIAL"	
20	10	"Explosive" levels in a residence or building
16	8	"Explosive" levels in a sewer or other confined space
12	6	Toxic levels in a residence or building

"Potential" "Explosive" applies if free product or GRO > 7,500 ppm

NOTE: Explosive levels determined to be >20% LEL as per an explosivity meter, toxicity levels are based on OSHA permissible exposure limits (PEL's)

3. **SURFACE WATER IMPACTS:**

Apply if surface water < 200' from site and free product observed in gw, or if GRO/DRO > 7,500 ppm

POINTS: CONFIRMED	"POTENTIAL"	
14	7	Visible sheen or product on sensitive surface water environment (e.g. wetland, trout stream)
10	5	Visible sheen or product on non-sensitive surface water area
6	3	Exceedance of NR 102, 103 or 104 surface water quality standards.

Request assistance from District Water Resources staff in evaluating surface water impacts.

4. **HYDROGEOLOGIC SETTING:**

Points:

12 Permeable stratigraphy (gravel, sand, fractured bedrock or utilities capable of intercepting and directing flow) and groundwater within 25 feet of the ground surface.
10 Permeable stratigraphy and groundwater greater than 25 feet below ground surface.
8 Moderately permeable stratigraphy (silty sands, silty gravel, clayey sands) and groundwater within 25 feet of ground surface.
6 Moderately permeable stratigraphy and groundwater greater than 25 feet below ground surface.
4 Low permeability stratigraphy (silt, clayey silt, sand clays) and groundwater within 25 feet of ground surface.
2 Low permeability stratigraphy and groundwater greater than 25 feet below ground surface.

Score: 28

5. **TYPE OF PRODUCT** Released (Assign the score most applicable):

POINTS: *FREE PRODUCT	Type of PRODUCT	
12	8	Gasoline, mixture of gasoline and other products, other light petroleum products.
10	6	Diesel, fuel oil.
6	2	Bunker oil, other heavy oils or crude fractions.