PUBLIC WORKS DEPARTMENT

CITY OF WAUKESHA

CITY HALL—201 DELAFIELD ST.
WAUKESHA, WI 53188-3685
414-524-3600
FAX 414-524-3888

June 4, 1991

Mr. James Schmidt
Hazardous Materials Coordinator
Department of Natural Resources
Southeast Headquarters
2300 N. Martin Luther King Jr. Drive
P. O. Box 12436
Milwaukee, WI 53212

Re: West Sunset Drive
Wisconsin Central Railroad Tracks to Sentry Drive
Waukesha County, Wisconsin
Project I.D. #2772-06-00

Dear Mr. Schmidt:

Enclosed you will find 1 set of the Phase II Environmental Assessment Report. Walter Parsons, Project Manager for the Wisconsin Department of Transportation Department-District 2, recommended that I send you a copy. The reports show the project area clear of hazardous materials.

If you have any questions please contact me at 524-3589.

Sincerely,

Margaret A. Liedtke

Margaret A. Liedtke
Project Engineer

MAL/waw

Enclosures

PHASE II

ENVIRONMENTAL ASSESSMENT REPORT

FOR THE

WEST SUNSET DRIVE RECONSTRUCTION PROJECT

AT TEDDY'S AUTO SALES

S31 W24687 SUNSET DRIVE

CITY OF WAUKESHA, WISCONSIN

MAY 1991

PREPARED FOR

CITY OF WAUKESHA DEPARTMENT OF PUBLIC WORKS

WAUKESHA, WISCONSIN

PREPARED BY
AQUA-TECH, INC.
140 SOUTH PARK STREET
PORT WASHINGTON, WISCONSIN 53074
ATI PROJECT 95321

PHASE II

ENVIRONMENTAL ASSESSMENT REPORT

FOR THE

WEST SUNSET DRIVE RECONSTRUCTION PROJECT

AT TEDDY'S AUTO SALES

S31 W24687 SUNSET DRIVE

CITY OF WAUKESHA, WISCONSIN

Prepared By: _____ Date: 5-23-91

Peter E. Pavalko
Environmental Specialist
Aqua-Tech, Inc.

Reviewed By: _____ Date: 5/23/91

Stephen G. Reuter, C.P.G.
Hydrogeologist
AIPG Certificate #7836
Aqua-Tech, Inc.

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1.0 SUMMARY

Aqua-Tech, Inc. has completed a Phase II Environmental Assessment at S31 W24687 West Sunset Drive in the city of Waukesha, Waukesha County, Wisconsin. This appraisal was conducted on April 17, 1991, for the City of Waukesha Department of Public Works.

The purpose of the assessment was to identify possible environmental contamination within the existing right-of-way which may be associated with the former underground storage tank system located at Teddy's Auto Sales, S31 W24687 Sunset Drive. No new right-of-way will be acquired at this location. The Phase II Assessment included the following:

* Two soil borings to a maximum depth of 15.0 feet
* Field screening subsurface soil samples for volatile organic compounds (VOCs) with a photoionization detector (PID)
* Chemical analyses of two subsurface soil samples for total petroleum hydrocarbons (TPH)
* Documentation of assessment procedures and results

Results of this assessment indicate that the soils within the existing right-of-way at the site are not contaminated by petroleum compounds. No levels of total petroleum hydrocarbons above the 10 ug/g Wisconsin Department of Industry, Labor, and Human Relations (WDILHR) remedial action level for petroleum contaminated soil were detected by laboratory analyses of soil samples collected at the site. In addition, field screening of soil samples with a PID did not indicate the presence of VOCs.

Groundwater was not encountered in borings completed at the site. The borings were not completed to groundwater because field screening of the soil samples detected no presence of VOC contamination and excavation greater than 15.0 feet is not anticipated as part of the road reconstruction project. Consequently,

dewatering or excavation of soil within the zone of groundwater fluctuation is unlikely.

Based on the results of the Phase II assessment, Aqua-Tech, Inc. recommends no additional corrective action or investigation for the existing right-of-way at this site.

2.0 SITE DESCRIPTION

2.1 Introduction

This section summarizes the previous investigation at this site. Refer to Aqua-Tech, Inc. report #95321 dated April 8, 1991, for information concerning the geologic review, site reconnaissance inspection, and the site representative interview.

2.2 Summary of Previous Investigation

A total of six soil borings were completed at three sites on West Sunset Drive during the original investigation. Borings completed near the Union 76 Gasoline Station, 922 West Sunset Drive, and J and L Gasoline Station, S31 W24601 Sunset Drive did not indicate the presence of petroleum contamination within the existing right-of-ways.

Two soil borings (B-3 and B-4) were completed approximately 22 feet south of the West Sunset Drive centerline during the original investigation at the Teddy's Auto Sales site. At that time, it was believed that the city owned 33 feet of right-of-way south of the West Sunset Drive centerline. Field screening and laboratory analyses of soil samples collected from borings B-3 and B-4 did not indicate the presence of petroleum components. Subsequently, it was determined that the city owned 50 feet of right-of-way south of the centerline at the site. Based on this additional information and the presence of a former underground storage tank bed approximately 55 feet south of the centerline, Aqua-Tech, Inc. recommended additional borings and soil sampling to determine if the existing right-of-way had been impacted by petroleum components from the former underground storage tank system.

3.0 SITE ASSESSMENT PROCEDURES AND FIELD OBSERVATIONS

3.1 Introduction

This section outlines assessment procedures and observations for the Phase II Environmental Assessment, S31 W24687 West Sunset Drive, Waukesha, Wisconsin. Individual subsections address specific assessment activities including sampling procedures, and chain of custody procedures.

3.2 Soil Boring and Sampling Procedures

Soil Boring and Sample Locations

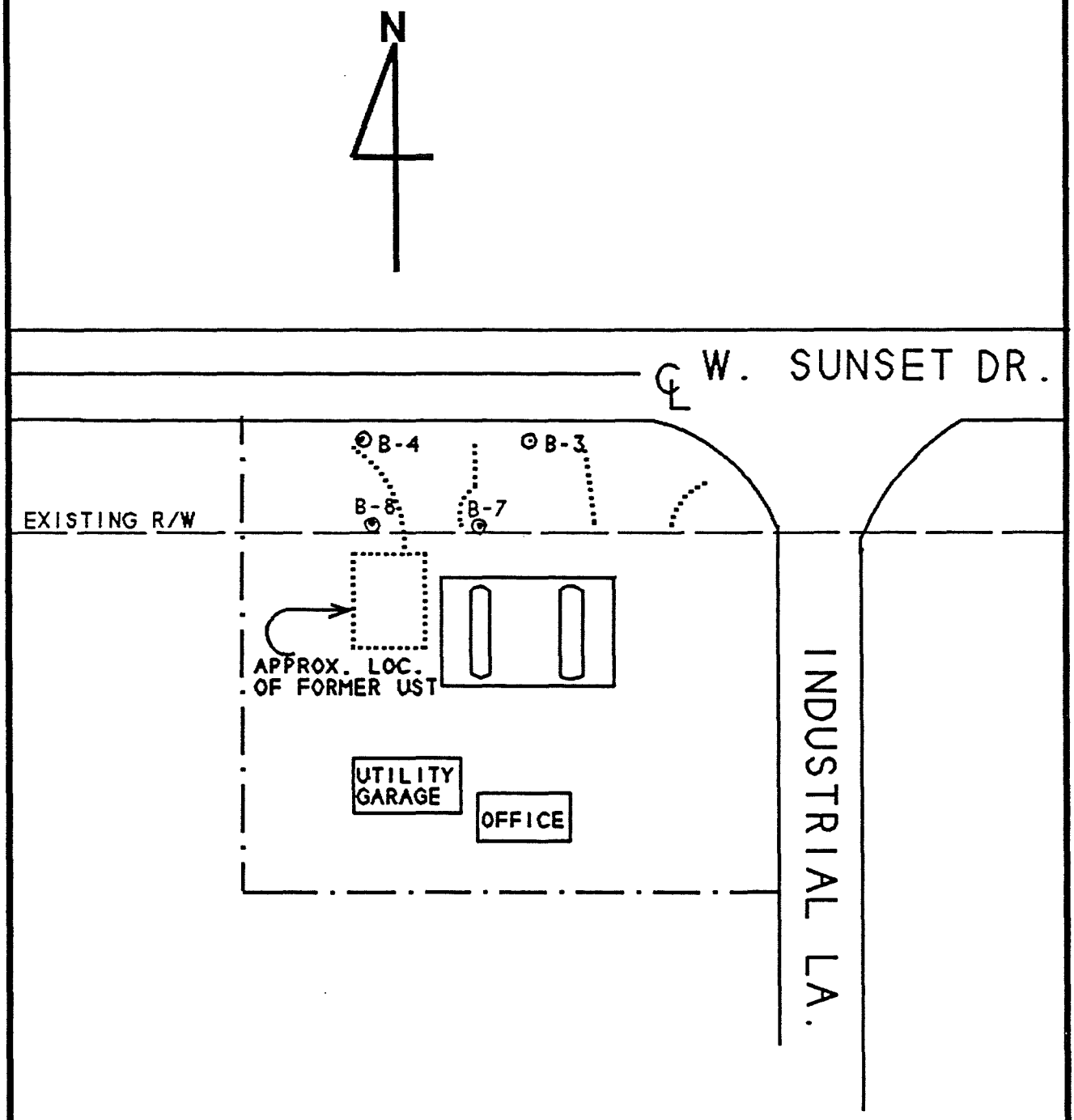
On April 17, 1991, Peter E. Pavalko of Aqua-Tech, Inc. collected two subsurface soil samples for laboratory analyses from borings B-7 and B-8 completed at the site. See Figure 3-1 for boring locations and site features. Photographs of the boring locations are provided in Appendix A.

Borings B-7 and B-8 were located in the West Sunset Drive right-of-way, approximately 47 to 49 feet south of the West Sunset Drive centerline, north of Teddy's Auto Sales. The borings were completed in areas thought most likely to be impacted by a release from the underground storage tank system or piping associated with the dispensers previously located at the site.

Soil Sample Procedures

One soil sample was selected from each boring and retained for laboratory analysis for TPH. Because field screening with a PID failed to indicate the presence of VOCs, the soil sample collected from the deepest sampling interval was selected for analysis. The depth interval and PID reading of each sample selected for laboratory analysis is as follows:

FIGURE 3-1



95321

AQUA-TECH INC.

SCALE: 1"=50'	APP. BY:	DRAWN BY:
DATE: 5/8/91	5-8-91	RICHARDSON

TEDDY'S AUTO SALES
S31W24687 SUNSET DR.

Soil Sample	Boring	Depth (feet)	PID Reading (ppm)
SB-7	B-7	13.0-15.0	0
SB-8	B-8	13.0-15.0	0

Groundwater was not encountered in either of the borings completed at the site. Consequently, no water samples could be collected.

Subsurface soil samples were collected using a truck mounted rotary drill equipped with hollow steam augers and a two inch diameter, 24 inch split spoon sampler. The split spoon sampler was advanced by conventional methods, including the attachment of the sampler to an AW rod and standard 140 pound hammer.

All drilling tools and equipment were washed with high pressure steam equipment prior to the start of sampling work. All sampling equipment was decontaminated with an alconox and reagent water solution between sampling points to prevent cross contamination.

Subsurface soil samples were collected, warmed, and field screened with a photoionization detector using the headspace method as outlined in Wisconsin DILHR Publication "Closure Assessment for Underground Storage Tanks (September 1990)". PID calibration documentation is presented in Appendix B. Samples selected for laboratory analyses were stored in clean, Teflon™ lidded 4 ounce jars and cooled to 4°C for transport to the laboratory. The depth and PID reading for each sample was recorded on soil profile logs (See Appendix C).

Upon completion of sampling, the boreholes were completely backfilled with bentonite and abandoned according to Wisconsin Administrative Code N.R. 141.25 (See Appendix C).

3.3 Chain of Custody Procedures

This section describes procedures used for sample identification and chain of custody. The purpose of these procedures is to ensure security and integrity of the sample from collection through transportation, storage, and analysis.

Sample identification documents are carefully prepared so that sample identification and chain of custody are maintained and sample disposition is controlled. Sample identification documents include:

* Field Notebooks
* Sample Labels
* Chain of Custody Records

Each sample is labeled, chemically or physically preserved, and sealed immediately after collection. To minimize handling of sampling containers, a label is filled out prior to sample collection. The sample label is completed using waterproof ink and then firmly affixed to the sample container. The sample label provides the following information:

* Location
* Sample Number
* Date and Time of Collection
* Analysis Required
* Name of Sampler

A chain of custody record (Appendix D) is fully completed in triplicate by the Aqua-Tech sampler immediately following sample collection.

Transfer of Custody Shipment

The samples are packed in a cooler and are accompanied by the chain of custody record. When transferring samples, the individuals relinquishing and receiving them sign, date, and note the time on the chain of custody record. This record documents sample custody.

Laboratory Custody Procedures

A designated sample custodian accepts custody of the shipped sample and verifies the sample identification number matches that on the chain of custody record. A copy of the completed chain of custody record is retained by the laboratory until analyses are complete. The record is then transferred to the site file with the analytical results.

4.0 FIELD AND ANALYTICAL RESULTS

4.1 Introduction

This section includes results of field screening and chemical analyses of Aqua-Tech collected soil samples from soil borings B-7 and B-8 for total petroleum hydrocarbons (TPH) as gasoline. Samples were analyzed at the Aqua-Tech, Inc. Laboratory in Port Washington, Wisconsin.

4.2 Analytical Procedures

Soil samples were analyzed for TPH by the Modified California Method. Analytical methodology references for each sampling task contain specific quality control (QC) criteria associated with the particular methods. These specific requirements include calibration and QC samples and are described in detail within the methods. Daily performance tests and demonstration of precision and accuracy are required.

4.3 Results of Field Screening

A summary of field screening results of subsurface soil samples for volatile organic compounds with a PID is as follows:

* Subsurface soil samples from borings B-7 and B-8 yielded no PID response.

4.4 Results of Chemical Analyses of Aqua-Tech Collected Samples

Chemical analyses of soil samples SB-7 and SB-8 yielded the following results:

* No petroleum hydrocarbons as gasoline were detected above the 1.0 ug/g laboratory detection limit.

All TPH results were calculated on a dry weight basis as required by WDILHR. Table 4-1 contains the original laboratory results of the collected soil samples. Complete laboratory data are provided in Appendix D.

TABLE 4-1
RESULTS OF CHEMICAL ANALYSES OF SOIL BORING SOIL SAMPLES
S31 W24687 WEST SUNSET DRIVE
WAUKESHA, WISCONSIN

DATE COLLECTED: APRIL 17, 1991

Sample Number	Depth Interval(feet)	Total Petroleum Hydrocarbons as gasoline (ug/g)[1]	Maximum Photoionization Detector Readings (ppm)
SB-7	13.0-15.0	ND[2,3]	0
SB-8	13.0-15.0	ND[2]	0

1 All TPH results calculated on a dry weight basis.

2 Not detected above the 1.0 ug/g laboratory detection limit.

3 Ten ug/g is the maximum level of TPH contamination allowed in soil before remediation is required by the Wisconsin Department of Industry, Labor, and Human Relations.

5.0 DISCUSSION OF ASSESSMENT RESULTS

5.1 Introduction

This section discusses field observations and analytical data pertaining to observed or potential contamination which may be associated with the Teddy's Auto Sales site.

5.2 Soil

Field screening split spoon soil samples from borings B-7 and B-8 with a PID suggested no VOCs in excess of background levels. In addition, TPH was not detected by laboratory analysis of soil samples collected within the existing right-of-way at the site at concentrations above the Wisconsin DILHR remedial action levels of 10 ug/g. Results of laboratory analyses of soil samples collected from the right-of-way suggest that soils within the existing right-of-way have not been impacted by petroleum components at the locations of the soil borings completed at this site.

5.3 Groundwater

Groundwater was not encountered in the borings completed during this assessment. The disturbance of soil greater than 15.0 feet is not anticipated as part of the reconstruction project. Consequently, Aqua-Tech, Inc. was directed to complete borings to a depth of 15.0 feet. The potential for contamination from sources outside the right-of-way entering the groundwater and migrating to the current right-of-way cannot be discounted. However, it is unlikely that these substances would be encountered during the construction project even if they were present.

6.0 RECOMMENDATIONS

After completing the Phase II Environmental Assessment at the S31 W24687 West Sunset Drive site, Aqua-Tech, Inc. recommends no additional investigation or corrective action for the existing right-of-way at this location.

APPENDIX A

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: West Sunset Drive - Teddy's Auto Service PAGE 1 OF 1

DATE: 4/17/91

TIME: 11:15 A.M.

DIRECTION OF PHOTOGRAPH:

Southwest

WEATHER CONDITIONS:

Sunny

55°F

PHOTOGRAPHED BY:

Peter E. Pavalko

SAMPLE ID: (If Applicable):

SB-7 & SB-8

DESCRIPTION: Pictured are the locations of borings B-7and B-8 in the right-of-way north of the former gasoline station.

DATE: 4/17/91

TIME: 11:15 A.M.

DIRECTION OF PHOTOGRAPH:

West

WEATHER CONDITIONS:

Sunny

55°F

PHOTOGRAPHED BY:

Peter E. Pavalko

SAMPLE ID: (If Applicable):

SB-7 & SB-8

DESCRIPTION: Pictured are the locations of borings B-7 and B-8. Note red dashed line - indicates existing right-of-way 50 feet south of centerline.

APPENDIX B

AQUA-TECH INC.

HNU Photoionization Detector
Calibration Documentation

HNU Photoionization Detector Number 3 was calibrated with 101 ppm Isobutylene which is equivalent in response to 55 ppm Benzene at a span setting of 4.5 with a 10.2 electron volt (eV) lamp.

Job Name and Number: City of Waukesha, Teddy's [illegible] 95321

Calibration Location: on site

Date: 4-17-91 Time: 9:30 AM

Signature: [signature]

Procedure For Calibration

A. Battery Check - Attach probe to unit. Turn function switch to BATT. The needle should be in the green region. If not, recharge the battery.

B. Zero Set - Instrument should be zeroed on site if possible. Turn function switch to STANDBY. Listen to make sure fan is operating. Set the zero point with the ZERO set control.

C. Calibration - Attach calibration gas to end of probe extension. Adjust SPAN control setting to obtain the necessary meter reading. If meter does not respond, or if the correct reading cannot be adjusted, the unit must be serviced or cleaned

The above calibration procedure is taken from Calibration Procedure, Section 3.4, of the Instruction Manual, Trace Gas Analyzer, HNU Model 101, December, 1985.

CORPORATE
140 S. Park St., Port Washington, WI 53074
(414) 284-5746 FAX (414) 284-0243

TREATMENT FACILITY
340 Robinson Rd Greer, S.C. 29651
(803) 877-1048 FAX (803) 877-1872

APPENDIX C

AQUA-TECH INC.
140 South Park Street
Port Washington, Wisconsin 53074

TELEPHONE:

(414) 284-5746
(414) 375-0407 (MILW METRO)

SOIL PROFILE LOG

PROJECT: **TEDDY'S AUTO SALES**

LOCATION: S31 W24587 SUNSET DRIVE
WAUKESHA, WI

PROJECT#:

ATI WO#: 95321

BORING B-7 SURFACE ELEVATION

SAMPLES NO.	MOISTURE (BLOWS)	REC	PID LEVELS (PPM) HEADSPACE	DEPTH (FT)	DESCRIPTION AND REMARKS
				0.0	0.0' - 2.0' ASPHALT, GRAVEL FILL 6"-1.5', SILT 1.5' - 2.0'
	DRY 3, 8 10, 13		0		2.0' - 4.0' BLACK SILT TAN SAND W/GRAVEL
	DRY 9, 10 12, 13		0	5.0	4.0' - 6.0' FINE TO COARSE TAN SAND W/MEDIUM TO FINE GRAVEL
	DRY 9, 12 12, 13		0		6.0' - 8.0' TAN SAND W/FINE - 2" GRAVEL
	DRY 6, 9 11, 14		0		8.0' - 10.0' FINE TO MEDIUM TAN SAND W/TRACE GRAVEL
	DRY 5 8 9 12		0	10.0	10.0' - 12.0' FINE TO COARSE TAN SAND
					12.0' - 13.0' NO RECOVERY
SB-7	DRY 14 7 7 9		0		13.0' - 15.0' FINE TO MEDIUM TAN SAND
				15.0	TERMINATED BORING AT 15.0'
				20.0	*NO GROUNDWATER ENCOUNTERED *NO BEDROCK ENCOUNTERED *SOIL SAMPLE SB-7: 13.0' - 15.0'
				25.0	

WATER LEVEL OBSERVATIONS		GENERAL INFORMATION	
WHILE DRILLING	----	START DATE 04/17/91	COMPLETION DATE 04/17/91
DEPTH TO WATER	----	DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING	
DEPTH TO CAVE-IN	----	LOGGER:	

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 7-89

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

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: WAUKESHA

NE 1/4 of NW 1/4 of Sec. 15 ; T. 6 N; R. 19 ☒ E ☐ W

(If applicable) _____ Gov't Lot _____ Grid Number

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name: WAUKESHA

Street Address of Well: 531 W 24687 SUNSET DRIVE

City, Village: WAUKESHA

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner

Street or Route

City, State, Zip Code

Facility Well No. and/or Name (If Applicable): B-7

WI Unique Well No.: _____

Reason For Abandonment: SOIL BORING Completed

Date of Abandonment: 4-17-91

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 4-17-91

☐ Monitoring Well
☐ Water Well
☒ Drillhole
☐ Borehole

Construction Report Available?
☒ Yes ☐ No
BORING LOG

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

Formation Type:
☐ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) BORING 15.0 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) NOT ENCOUNTERED

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

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
BENTONITE	Surface	15.0	2-350lb SACKS	100% BENTONITE

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
AQUA-TECH, INC.

Signature of Person Doing Work: Robert G Pawlik
Date Signed: 3-19-91

Street or Route: 140 S. Park ST.
Telephone Number: (414) 284-5746

City, State, Zip Code: PORT WASHINGTON WI 53074

(10) FOR DNR OR COUNTY USE ONLY

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

DNR/COUNTY

AQUA-TECH INC.
140 South Park Street
Port Washington, Wisconsin 53074

TELEPHONE:

(414) 284-5746
(414) 375-0407 (MILW METRO)

SOIL PROFILE LOG

PROJECT: **TEDDY'S AUTO SALES**

LOCATION: S31 W24587 SUNSET DRIVE
WAUKESHA, WI

PROJECT#:

ATI WO#: 95321

BORING B-8 SURFACE ELEVATION

SAMPLES NO.	MOISTURE (BLOWS)	REC	PID LEVELS (PPM) HEADSPACE	DEPTH (FT)	DESCRIPTION AND REMARKS
				0.0	0.0' - 2.0' ASPHALT, GRAVEL FILL 0.0' - 1.5' SILT 1.5' - 2.0'
	DRY 14, 16 16, 15		0		2.0' - 2.5' BLACK SILT 2.5' - 4.0' FINE TO COARSE SAND W/TRACE OF GRAVEL
	DRY 9, 22 22, 25		0	5.0	4.0' - 6.0' SILT, SAND & GRAVEL
	DRY 11, 10 10, 12		0		6.0' - 8.0' TAN SAND W/FINE TO MEDIUM GRAVEL
	D - M 7, 10 10, 11		0		8.0' - 9.5' TAN SAND W/FINE GRAVEL (DRY)
	D - M 3, 12 14, 17		0	10.0	9.5' - 10.0' VERY, VERY FINE SAND (MOIST) 10.0' - 12.0' FINE TO MEDIUM TAN SAND W/GRAVEL
					12.0' - 13.0' NO RECOVERY
SB-8	DRY 5, 8 10, 12		0		13.0' - 15.0' FINE TO MEDIUM TAN SAND W/FINE TO 1" GRAVEL
				15.0	TERMINATED BORING AT 15.0'
				20.0	
				25.0	

*NO GROUNDWATER ENCOUNTERED
*NO BEDROCK ENCOUNTERED
*SOIL SAMPLE SB-8: 13.0' - 15.0'

WATER LEVEL OBSERVATIONS

WHILE DRILLING ----
DEPTH TO WATER ----
DEPTH TO CAVE-IN ----

GENERAL INFORMATION

START DATE 04/17/91 COMPLETION DATE 04/17/91

DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING

LOGGER: Peter C. Swalko

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 7-89

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

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: WAUKESHA

NE 1/4 of NW 1/4 of Sec. 15 ; T. 6 N; R. 19 ☒ E ☐ W

(If applicable) Gov't Lot _____ Grid Number _____

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name: WAUKESHA

Street Address of Well: S31 W24687 SUNSET DRIVE

City, Village: WAUKESHA

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner

Street or Route

City, State, Zip Code

Facility Well No. and/or Name (If Applicable): B-8

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: SOIL BORING Completed

Date of Abandonment: -91

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 4-17-91

☐ Monitoring Well
☐ Water Well
☒ Drillhole
☐ Borehole

Construction Report Available? ☒ Yes ☐ No

BORING LOG

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

Formation Type:
☐ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) BORING 15.0 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) NOT ENCOUNTERED

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

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
BENTONITE	Surface	15.0	2-35lb SACKS	100% BENTONITE

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
AQUA-TECH, INC.

Signature of Person Doing Work: Peter G Pavalko
Date Signed: 3-19-91

Street or Route: 140 S. Park ST.
Telephone Number: (414) 284-5746

City, State, Zip Code: PORT WASHINGTON WI 53074

(10) FOR DNR OR COUNTY USE ONLY

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

DNR/COUNTY

APPENDIX D

AQUA-TECH INC.

April 30, 1991

Pete Pavalko
Aqua-Tech, Inc.
140 S. Park Street
Port Washington, WI 53074

Sample Description: Teddy's Auto Sales, Waukesha, Wisconsin
WO #95321
Lab # W3841A
SB - 7

Date Collected: 4-17-91 Date Received: 4-18-91

Parameter	Detect. Limit	Conc.	Units	Date Analyzed
Total Solids	0.5	99.	%	4-25-91
TPH - Gasoline	1.0	ND	ug/g	4-29-91

ND = Not Detected

Analyzed by Modified California Method.

Bruce Ten Haken
Laboratory Supervisor
Certification No. 246049430

140 S. Park Street Port Washington, WI 53074 (414) 284-5746 FAX (414) 284-0243

AQUA-TECH INC.

April 30, 1991

Pete Pavalko
Aqua-Tech, Inc.
140 S. Park Street
Port Washington, WI 53074

Sample Description: Teddy's Auto Sales, Waukesha, Wisconsin
WO #95321
Lab # W3841B
SB - 8

Date Collected: 4-17-91 Date Received: 4-18-91

Parameter	Detect. Limit	Conc.	Units	Date Analyzed
Total Solids	0.5	97.	%	4-25-91
TPH - Gasoline	1.0	ND	ug/g	4-29-91

ND = Not Detected

Analyzed by Modified California Method.

Bruce Ten Haken
Laboratory Supervisor
Certification No. 246049430

AQUA-TECH GROCE LABORATORIES

CORPORATE
Aqua-Tech, Inc.
140 S. Park St., Port Washington, WI 53074
(414) 284-5746 FAX (414) 284-0243

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
95321	531W24587 TEDDY'S Auto SALES, Sunset DR, Waukesha

SAMPLERS: *(Signature)* Peter Pavalko

LAB NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	Depth	NO. OF CONTAINERS	% Solids	TPH (GRO)					REMARKS
														HNU =
W3841A	4/17/91	10:30		X	SB-7	13-15	1	X	X					0
W3841B	4/17/91	11:00		X	SB-8	13-15	1	X	X					0

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Date / Time
Peter Pavalko	4/17/91 2:15pm		
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Date / Time
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	
		Pete Olsen 4-18-91 8:30 am	

Remarks

Report to:
Name P. Pavalko
Street
City State Zip
Phone no. ( )

Remarks

PHASE II

ENVIRONMENTAL ASSESSMENT REPORT

FOR THE

WEST SUNSET DRIVE RECONSTRUCTION PROJECT

WISCONSIN CENTRAL RAILROAD TO SENTRY DRIVE

CITY OF WAUKESHA, WISCONSIN

APRIL 1991

PREPARED FOR

CITY OF WAUKESHA DEPARTMENT OF PUBLIC WORKS

WAUKESHA, WISCONSIN

PREPARED BY
AQUA-TECH, INC.
140 SOUTH PARK STREET
PORT WASHINGTON, WISCONSIN 53074
ATI PROJECT 95321

ENVIRONMENTAL ASSESSMENT REPORT

FOR THE

WEST SUNSET DRIVE RECONSTRUCTION PROJECT

WISCONSIN CENTRAL RAILROAD TO SENTRY DRIVE

CITY OF WAUKESHA, WISCONSIN

Prepared By: Peter E. Pavalko Date: 4-8-91

Peter E. Pavalko
Environmental Assessment Specialist
Aqua-Tech, Inc.

Reviewed By: J. Vance Jackson, Jr. Date: 4-8-91

J. Vance Jackson, Jr.
Hydrogeologist
Aqua-Tech, Inc.

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1.0 SUMMARY

Aqua-Tech, Inc. has completed a Phase II Environmental Assessment for the West Sunset Drive Reconstruction Project in the city of Waukesha, Waukesha County, Wisconsin. This appraisal was conducted on March 4, 1991, for the City of Waukesha Department of Public Works.

The purpose of the assessment, was to identify possible environmental contamination within existing right-of-way which may be associated with the two existing and one former underground storage tank (UST) systems located as follows:

- Union 76 Gasoline Station, 922 West Sunset Drive
- Teddy's Auto Sales, S31 W24687 Sunset Drive
- J & L Gasoline Station, S31 W24601 Sunset Drive

These three sites were identified by the city of Waukesha as potential sources of petroleum contamination which could impact the West Sunset Drive right-of-way. The acquisition of 11.0 to 13.0 feet of additional right-of-way is anticipated at Teddy's Auto Sales and J & L Gasoline Station sites. No new right-of-way will be acquired at the Union 76 Gasoline Station. The Phase II Assessment included the following:

* Six soil borings to a maximum depth of 15.0 feet (two borings at each site)
* Field screening of subsurface soil samples for volatile organic compounds (VOCs) with a photoionization detector (PID)
* Chemical analyses of six subsurface soil samples for total petroleum hydrocarbons (TPH)
* Chemical analyses of three subsurface soil samples for TCLP Lead
* Documentation of assessment procedures and results

Results of this assessment indicate that the soils within the existing right-of-way at the three sites are not contaminated by petroleum compounds. No levels of total petroleum hydrocarbons (TPH) above the 10 ug/kg Wisconsin Department of Industry, Labor, and Human Relations (WDILHR) remedial action level for petroleum contaminated soil were detected by laboratory analyses of soil samples collected at the sites. In addition, field screening of soil samples with a PID did not indicate the presence of VOCs at any of the three sites.

Lead levels identified in soil samples collected from the sites indicate that the soil is not contaminated by lead at concentrations considered hazardous by

Environmental Protection Agency toxicity characteristic guidelines stated in 40 CFR 261.24.

Groundwater was not encountered in borings completed at the sites. The borings were not completed to groundwater because excavation greater than 15.0 feet is not anticipated as part of the road reconstruction project. Consequently, dewatering or excavation of soil within the zone of groundwater fluctuation is unlikely.

Based on the results of the Phase II assessment, Aqua-Tech, Inc. recommends no additional assessments for the existing rights-of-way at the three sites investigated. However, the purchase of additional right-of-way at Teddy's Auto Sales site could include the location of the former UST system. Aqua-Tech, Inc. recommends that the city of Waukesha determine if the proposed right-of-way acquisition at the Teddy's Auto Sales site is contaminated prior to purchase. Specific recommendations are discussed in Section 6.0

2.0 SITE DESCRIPTION

2.1 Introduction

This section includes information obtained from the geologic review, site reconnaissance inspections, and the site representative interviews.

2.2 Site Location

The sites are located at the following addresses in the city of Waukesha, Waukesha County, Wisconsin:

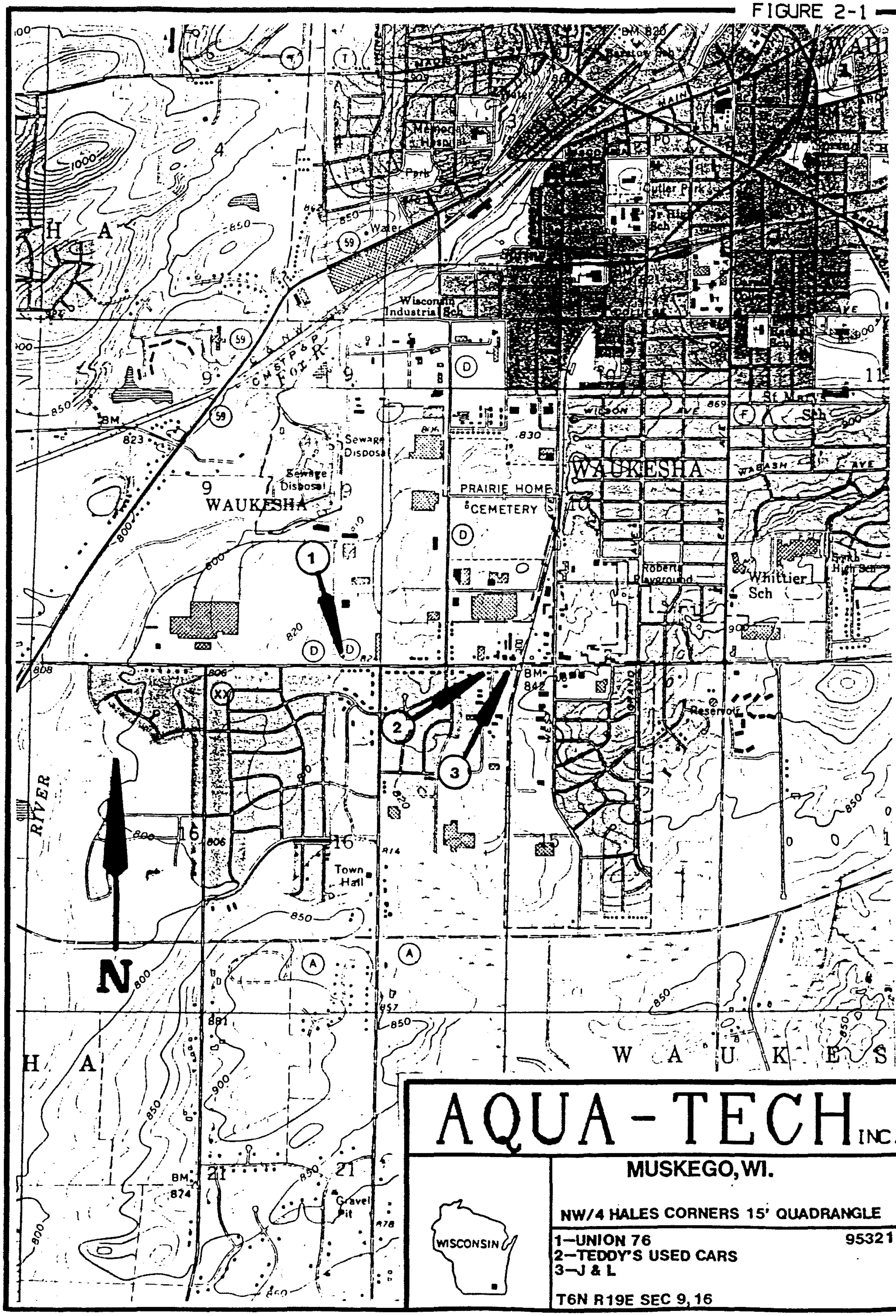
* Union 76 Gasoline Station - 922 West Sunset Drive
* Teddy's Auto Sales - S31 W24687 Sunset Drive
* J & L Gasoline Station - S31 W24601 Sunset Drive

The sites occur in a residential/commercial area of Waukesha County, Wisconsin (See Figure 2-1).

2.3 Site Geology

These sites occur in the Eastern Ridges and Lowlands Physiographic Province in southeastern Wisconsin. Glaciation has been an important agent in determining the geology and physiography of the sites. They are part of the pitted outwash plain

FIGURE 2-1


WAUKESHA
Sewage Disposal
PRAIRIE HOME CEMETERY
Wisconsin Industrial Sch
Cutler Park
Whittier Sch
Reservoir
Town Hall
Gravel Pit
RIVER
N
W A U K E S
AQUA-TECH INC.
MUSKEGO, WI.
NW/4 HALES CORNERS 15' QUADRANGLE
WISCONSIN
1—UNION 76
95321
2—TEDDY'S USED CARS
3—J & L
T6N R19E SEC 9,16

deposited by the Green Bay lobe of the Wisconsinan ice sheet.

The soils encountered within the soil borings at the sites consisted of sands, gravels, and some silts which are consistent with the complex of soils typical of pitted outwash deposits of southeastern Wisconsin.

Bedrock in the area is buried to varying depths by glacial deposits. Regionally, it consists of Paleozoic age dolomite of the Silurian system. Bedrock was not encountered at any of the sites during the soil borings which reached to a maximum depth of 15.0 feet.

Surface topography at the site slopes gently to the west. Based on surface topography, the regional groundwater flow appears to be to the west toward the Fox River, which is approximately 4,000 feet west of Sentry Drive.

2.4 Site Reconnaissance Inspection

Union 76 - 922 West Sunset Drive

The site consists of an active service station with an office and a one stall garage (See Figure 2-2). There are three 8,000 gallon underground storage tanks at the site which contain regular, unleaded, and premium unleaded gasoline. The tanks are located in a single tank bed between the Union

76 station and Sentry Drive. The tank bed is approximately 75 feet north of the edge of the pavement for the west bound lane of West Sunset Drive. There is one 500 gallon waste oil tank located near the southeast corner of the station approximately 75 feet north of the edge of pavement for the west bound lane of West Sunset Drive. Each of the tanks at the site are greater than 17 years old. There are two gasoline dispenser islands at the site. The closest one to West Sunset Drive is located approximately 45 feet north of the edge of pavement for the west bound lane of West Sunset Drive.

The site appeared clean and relatively well kept. No obvious signs of spills (i.e., stressed vegetation or stained soil) or improper storage or disposal of hazardous materials was noted at the site. The station owner, Mr. Ralph Ferks, stated that there have been no significant spills at the site since he purchased it in 1976. Photographs of the site are provided in Appendix A.

Teddy's Auto Service - S31 W24687 Sunset Drive

The site is currently a used automobile dealership (See Figure 2-3). Buildings on the site consist of an office and small utility garage. Most of the site is covered with asphalt or cement

and utilized as a car lot. The site is the location of a former gasoline station. Two dispenser islands (pumps removed) are located approximately 60 feet south of the West Sunset Drive centerline. According to Mr. Jim Schaus, Teddy's Auto Sales Manager, the underground storage tanks were removed during the 1970s. Mr. Schaus stated that the former underground storage tank bed was located west of the dispenser islands. A rectangular area of patched asphalt was noted west of the dispenser islands. The north end of this patched area is approximately 50 feet south of the existing West Sunset Drive centerline.

Mr. Schaus stated that automobiles are not repaired at the site and that to the best of his knowledge, no underground storage tanks are currently located at the site. No evidence of underground storage tanks (i.e., fill or vent pipes) or other potential sources of contamination were identified at the site. Photographs of the site are provided in Appendix A.

J & L Gasoline Station - S31 W24601 Sunset Drive

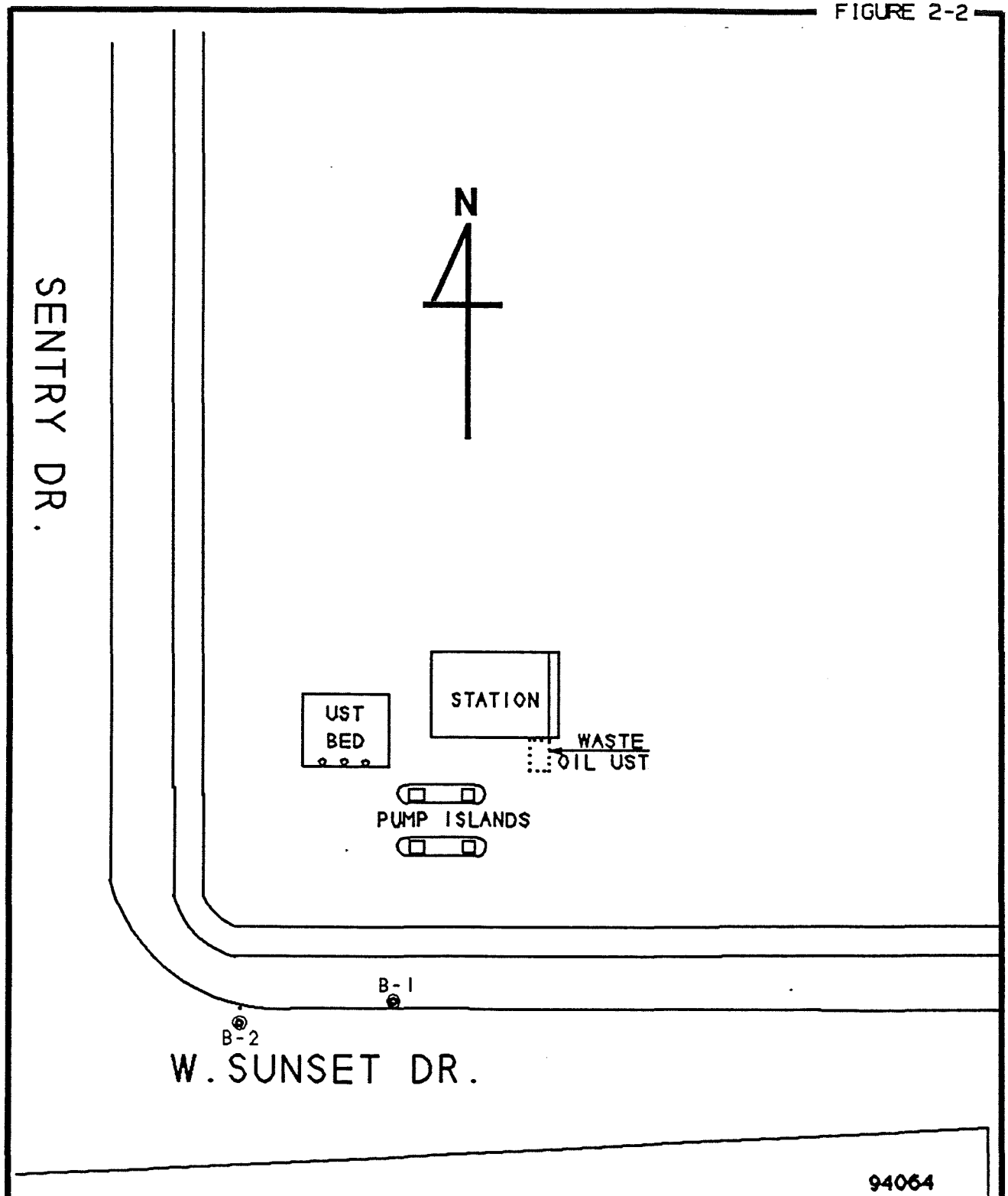
The site consists of an active service station with a cashier's office (See Figure 2-4). There are three underground storage tanks at the site which contain regular, unleaded, and premium un-

leaded gasoline. The tanks are located in a single tank bed between the cashier's office and the Wisconsin Central Railroad. The tank bed is located near the east property line approximately 80 feet south of the West Sunset Drive center line. The gasoline dispenser islands are located approximately 90 feet south of the West Sunset Drive center line.

The site appeared clean and relatively well kept. No obvious signs of spills or improper storage or disposal of hazardous materials was noted at the site.

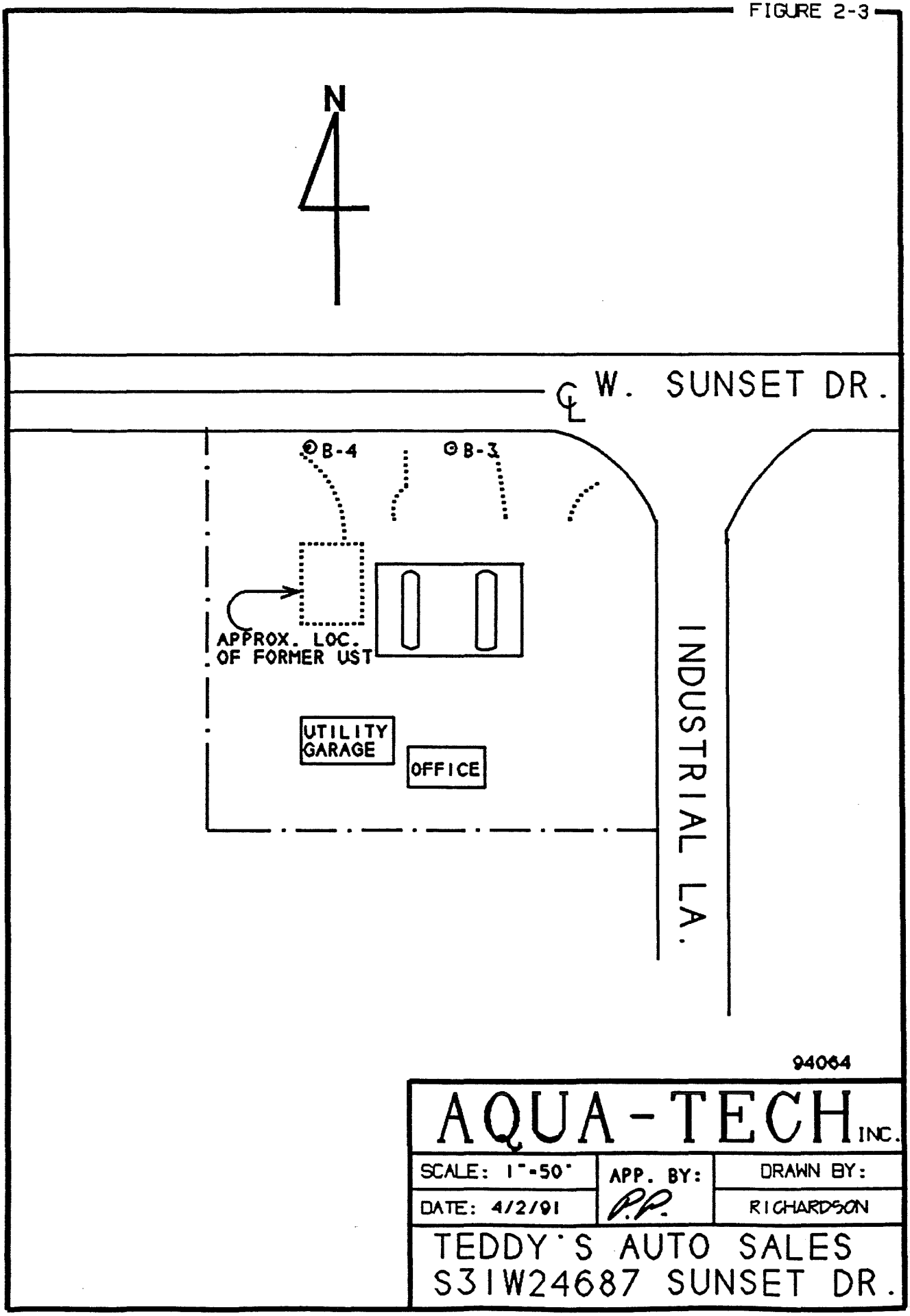
Photographs of the site are provided in Appendix A.

FIGURE 2-2



AQUA-TECH INC.		
SCALE: 1"-50'	APP. BY:	DRAWN BY:
DATE: 4/3/91		RICHARDSON
UNION 76 GAS STATION 922 W. SUNSET DR.		

FIGURE 2-3



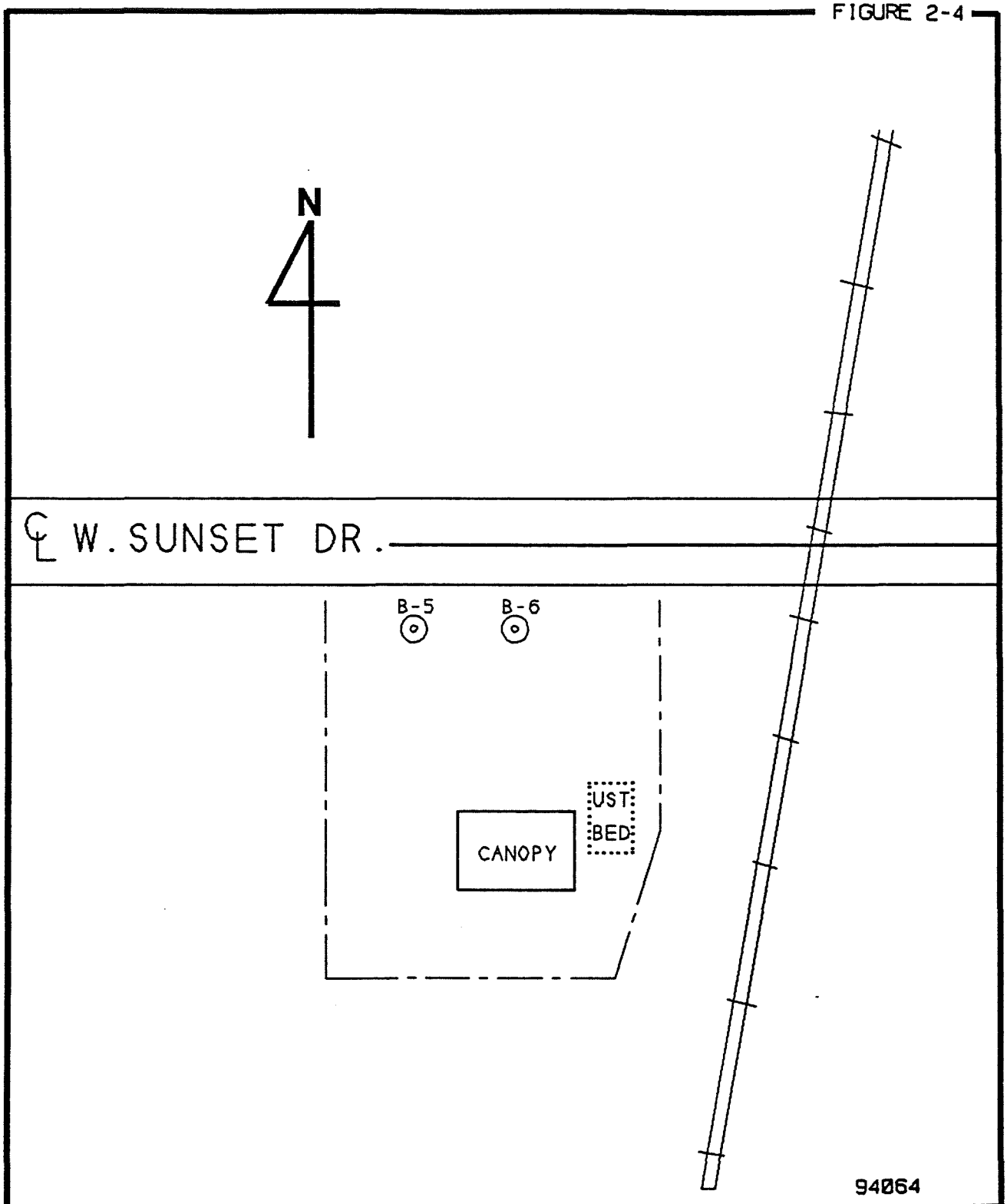
94064

AQUA-TECH INC.

SCALE: 1"=50'	APP. BY: P.P.	DRAWN BY: RICHARDSON
DATE: 4/2/91		

TEDDY'S AUTO SALES
S31W24687 SUNSET DR.

FIGURE 2-4



AQUA-TECH INC.		
SCALE: 1"=50'	APP. BY: P.P.	DRAWN BY: RICHARDSON
DATE: 4/2/91		
J&L GAS STATION S31W24601 SUNSET DR.		

3.0 SITE ASSESSMENT PROCEDURES AND FIELD OBSERVATIONS

3.1 Introduction

This section outlines assessment procedures and observations for the Phase II Environmental Assessment, West Sunset Drive, Waukesha, Wisconsin. Individual subsections address specific assessment activities including field observations, sampling procedures, and chain of custody procedures.

3.2 Soil Boring and Sampling Procedures

Soil Boring and Sample Locations

On March 4, 1991, Peter E. Pavalko of Aqua-Tech, Inc. collected a total of nine subsurface soil samples from borings completed at the three sites within the West Sunset Drive project area. See Figure 2-2, 2-3, and 2-4 for boring locations. Photographs of the boring locations are provided in Appendix A.

Borings B-1 and B-2 were located in the West Sunset Drive right-of-way south of the Union 76 Gasoline Station. Borings B-3 and B-4 were located in the West Sunset Drive right-of-way north of Teddy's Auto Sales. Borings B-5 and B-6 were completed in the West Sunset Drive right-of-way north of the J & L Gasoline Station. The location of borings was restricted due to overhead and underground utilities. Borings were completed in

areas thought most likely to be impacted by a release from the underground storage tanks or piping associated with the dispensers currently or previously located at the sites.

Soil Sample Procedures

One soil sample was selected from each boring and retained for laboratory analysis for TPH. Because field screening with a PID failed to indicate the presence of VOCs at any of the sites, the soil sample collected from the deepest sampling interval was selected for analysis. In addition, one soil sample was collected from each site from a depth of 1.0 foot below ground surface and retained for laboratory analysis for TCLP lead. The depth interval and PID reading of each sample selected for laboratory analysis is as follows:

Soil Sample	Boring	Depth (feet)	PID Reading (ppm)
SB-1A	B-1	1.0[1]	0
SB-1B	B-1	13.0-15.0[2]	0
SB-2A	B-2	13.0-15.0[2]	0
SB-3A	B-3	1.0[1]	0
SB-3B	B-3	13.0-15.0[2]	0
SB-4A	B-4	13.0-15.0[2]	0
SB-5A	B-5	1.0[1]	0
SB-5B	B-5	13.0-15.0[2]	0
SB-6A	B-6	13.0-15.0[2]	0

[1] Composite Sample
[2] Grab Sample

Groundwater was not encountered in any of the borings completed at the sites. Consequently, no water samples could be collected.

Subsurface soil samples were collected using a truck mounted rotary drill equipped with hollow steam augers and a two inch diameter, 24 inch split spoon sampler. The split spoon sampler was advanced by conventional methods, including the attachment of the sampler to an AW rod and standard 140 pound hammer.

All drilling tools and equipment were washed with high pressure steam equipment prior to the start of sampling work. All sampling equipment was decontaminated with an alconox and reagent water solution between sampling points to prevent cross contamination.

Subsurface soil samples were collected, warmed, and field screened with a photoionization detector using the headspace method as outlined in Wisconsin DILHR Publication "Closure Assessment for USTs (September 1990)". PID calibration documentation is presented in Appendix B. Samples selected for laboratory analyses were stored in clean, teflon™ lidded 4 ounce jars and cooled to 4°C for transport to the laboratory. The depth and PID

reading for each sample was recorded on soil profile logs (See Appendix C).

Upon completion of sampling, the boreholes were completely backfilled with bentonite and abandoned according to Wisconsin Administrative Code N.R. 141.25 (See Appendix C).

3.3 Chain of Custody Procedures

This section describes procedures used for sample identification and chain of custody. The purpose of these procedures is to ensure security and integrity of the sample from collection through transportation, storage, and analysis.

Sample identification documents are carefully prepared so that sample identification and chain of custody are maintained and sample disposition is controlled. Sample identification documents include:

* Field Notebooks
* Sample Labels
* Chain of Custody Records

Each sample is labeled, chemically or physically preserved, and sealed immediately after collection. To minimize handling of sampling containers, a label is filled out prior to sample collection. The sample label is completed using waterproof ink and then firmly affixed to the

sample container. The sample label provides the following information:

* Location
* Sample Number
* Date and Time of Collection
* Analysis Required
* Name of Sampler

A chain of custody record (Appendix D) is fully completed in triplicate by the Aqua-Tech sampler immediately following sample collection.

Transfer of Custody Shipment

The samples are packed in a cooler and are accompanied by the chain of custody record. When transferring samples, the individuals relinquishing and receiving them sign, date, and note the time on the chain of custody record. This record documents sample custody.

Laboratory Custody Procedures

A designated sample custodian accepts custody of the shipped sample and verifies the sample identification number matches that on the chain of custody record. A copy of the completed chain of custody record is retained by the laboratory until analyses are complete. The record is then transferred to the site file with the analytical results.

4.0 FIELD AND ANALYTICAL RESULTS

4.1 Introduction

This section includes field screening results and results of chemical analyses of Aqua-Tech collected soil samples from soil borings B-1 through B-6 for total petroleum hydrocarbons (TPH) as gasoline. Chemical analyses of soil samples SB-1A, SB-3A, and SB-5A for TCLP Lead are also presented. Samples were analyzed at the Aqua-Tech, Inc. Laboratory in Port Washington, Wisconsin.

4.2 Analytical Procedures

Soil samples were analyzed for TPH and TCLP Lead by the Modified California Method, and EPA Method 1311/7420, respectively.

Analytical methodology references for each sampling task contain specific quality control (QC) criteria associated with the particular methods. These specific requirements include calibration and QC samples and are described in detail within the methods. Daily performance tests and demonstration of precision and accuracy are required.

4.3 Results of Field Screening

A summary of field screening results of subsurface soil samples for volatile organic compounds with a PID is as follows:

* Subsurface soil samples from borings B-1 through B-6 yielded no PID response.

4.4 Results of Chemical Analyses of Aqua-Tech Collected Samples

Chemical analyses of soil samples SB-1B, SB-2A, SB-3B, SB-4A, SB-5B, and SB-6A yielded the following results:

* No petroleum hydrocarbons as gasoline were detected above the 1.0 ug/g laboratory detection limit.

All TPH results were calculated on a dry weight basis as required by WDILHR.

Chemical analyses of soil samples SB-1A, SB-3A, and SB-5A for TCLP lead yielded the following results:

* A TCLP lead level of 0.33 mg/L was detected in soil sample SB-1A.
* No TCLP lead levels were detected above the 0.30 mg/L laboratory detection limit in soil samples SB-3A or SB-5A.

Table 4-1 contains the original laboratory results of the collected soil samples. Complete laboratory data are provided in Appendix D.

TABLE 4-1
RESULTS OF CHEMICAL ANALYSES OF SOIL BORING SOIL SAMPLES
WEST SUNSET DRIVE
WAUKESHA, WISCONSIN

DATE COLLECTED: 3/4/91

Sample Number	Depth Interval(feet)	Total Petroleum Hydrocarbons as gasoline(ug/g)[1,5]	TCLP Lead mg/L[6]	Maximum Photoionization Detector Readings (ppm)
SB-1A	1.0	---[2]	0.33	0
SB-1B	13.0-15.0	ND[3]	---[2]	0
SB-2A	13.0-15.0	ND[3]	---[2]	0
SB-3A	1.0	---[2]	ND[4]	0
SB-3B	13.0-15.0	ND[3]	---[2]	0
SB-4A	13.0-15.0	ND[3]	---[2]	0
SB-5A	1.0	---[2]	ND[4]	0
SB-5B	13.0-1.50	ND[3]	---[2]	0
SB-6A	13.0-15.0	ND[3]	---[2]	0

[1] All TPH results calculated on a dry weight basis.
[2] Not Analyzed
[3] Not detected above the 1.0 ug/g laboratory detection limit.
[4] Not detected above the 0.30 mg/L laboratory detection limit.
[5] Ten ug/g is the maximum level of TPH contamination allowed in soil before remediation is required by the Wisconsin Department of Industry, Labor, and Human Relations.
[6] 5.0 mg/L is the maximum level of TCLP lead allowed in soil before it is classified as hazardous by the EPA.

5.0 DISCUSSION OF ASSESSMENT RESULTS

5.1 Introduction

This section discusses field observations and analytical data pertaining to observed or potential contamination which may be associated with the West Sunset Drive sites. In addition, potential migration pathways for contaminants are discussed, if warranted.

5.2 Soil

Field screening of split spoon samples from borings B-1 through B-6 with a PID suggested no VOCs in excess of background levels. In addition, TPH was not detected by laboratory analysis at concentrations above the Wisconsin DILHR remedial action levels of 10 ug/g in soil samples collected within the existing right-of-way at any of the three sites investigated. Analyses of near surface soil samples collected from each site did not indicate hazardous levels of lead.

The underground storage tanks at the Union 76 and J & L Gasoline Stations are set back from the West Sunset Drive centerline approximately 70 and 80 feet, respectively. This distance, in addition to the predominance of sandy soils at these sites, make it less likely for contamination from these underground storage tanks to migrate horizontally

through the subsurface soils to the existing Sunset Drive right-of-way.

The former underground storage tank bed at the Teddy's Auto Sales site appears to have been located approximately 15 to 20 feet south of the existing Sunset Drive right-of-way. Due to the sandy nature of the soils at this site, if these tanks were leaking the contamination could have migrated vertically and not been detected in the borings completed at the site.

5.3 Groundwater

Groundwater was not encountered in the borings completed during the Phase II Assessment. The disturbance of soil greater than 15.0 feet is not anticipated as part of the reconstruction project. Consequently, Aqua-Tech, Inc. was directed to complete borings to a depth of 15.0 feet. The potential for contamination from sources outside the right-of-way entering the groundwater and migrating to the current right-of-way cannot be discounted. The completion of soil borings that intercept the groundwater table and allow the collection of water samples for analyses would be necessary to determine the absence or presence of groundwater contamination.

6.0 RECOMMENDATIONS

After completing the Phase II Environmental Assessment for the West Sunset Drive sites, Aqua-Tech, Inc. recommends the following actions:

Union 76 Gasoline Station

Based on the field screening and laboratory results of soil samples collected at this site, and the expectation of acquiring no additional right-of-way, Aqua-Tech, Inc. recommends no additional investigation at this time.

Teddy's Auto Sales

Based on the field screening and laboratory results of soil samples collected at this site, Aqua-Tech, Inc. recommends no additional investigation for the existing right-of-way at this time. However, if the city of Waukesha plans to acquire additional right-of-way in front of the Teddy's Auto Sales site which includes the area of the former underground storage tank bed, Aqua-Tech, Inc. recommends an additional investigation to determine if the additional right-of-way is contaminated prior to purchase.

If it is determined that the former underground storage tank bed is included in the proposed right-of-way, Aqua-Tech, Inc. recommends the completion of one to two soil borings to groundwater and the collection and analysis of soil and water samples within that area. The cost to complete two borings, analyze soil and water

samples, and document the findings would be $2,000.00 to $2,200.

J & L Gasoline Station

Based on the field screening and laboratory results of soil samples collected at this site, and expectation of acquiring a maximum of 13.0 feet of additional right-of-way, Aqua-Tech, Inc. recommends no additional investigation at this time.

APPENDIX A

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: West Sunset Drive - Union 76 PAGE 1 OF 3

DATE: 3/4/91

TIME: 9:30 a.m.

DIRECTION OF PHOTOGRAPH:

North

WEATHER CONDITIONS:

Sunny

40°F

PHOTOGRAPHED BY:

Peter E. Pavalko

SAMPLE ID: (If Applicable):

DESCRIPTION: Pictured are the locations of borings B-1 and B-2 in the right-of-way south of the Union 76 Gasoline Station. The concrete pad overlying the USTs can be seen to the west of the building.

DATE: 3/4/91

TIME: 9:30 a.m.

DIRECTION OF PHOTOGRAPH:

East

WEATHER CONDITIONS:

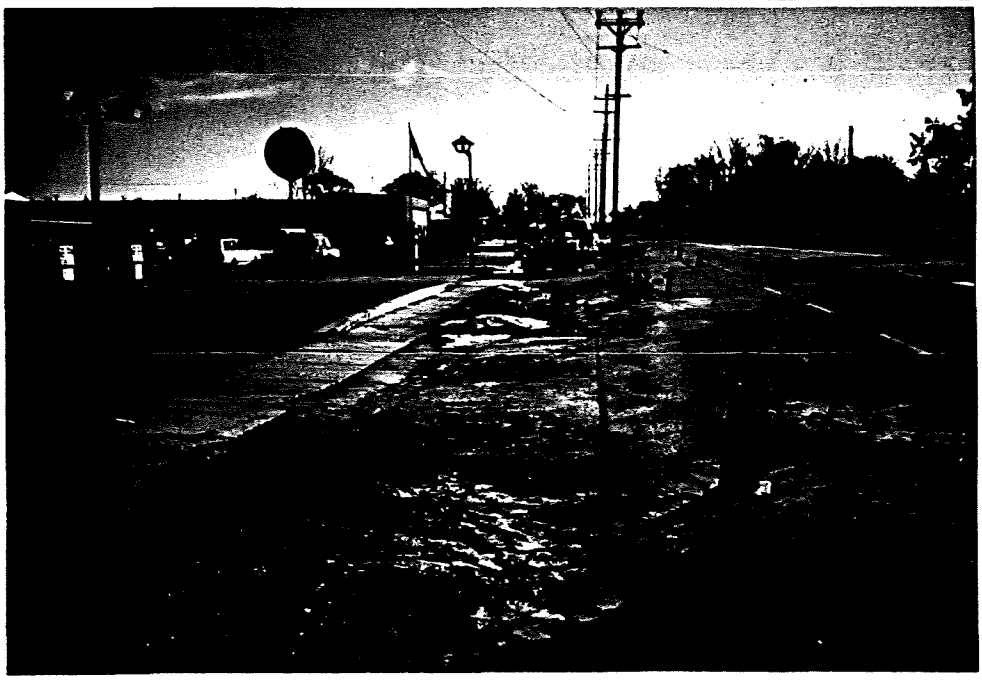
Sunny

40°F

PHOTOGRAPHED BY:

Peter E. Pavalko

SAMPLE ID: (If Applicable):



DESCRIPTION: Pictured are the locations of borings B-1 and B-2. Note overhead and underground utilities that limited potential drilling locations and did not allow for the completion of borings nearer to the USTs.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: West Sunset Drive - Teddy's Auto Service PAGE 2 OF 3

DATE: 3/4/91

TIME: 11:15 a.m.

DIRECTION OF PHOTOGRAPH:

South

WEATHER CONDITIONS:

Sunny

40°F

PHOTOGRAPHED BY:

Peter E. Pavalko

SAMPLE ID:
(If Applicable):

DESCRIPTION: Pictured are the locations of borings B-3 and B-4 in the right-of-way north of the former gasoline station. Lamp posts indicate location of pump island.

DATE: 3/4/91

TIME: 11:15 a.m.

DIRECTION OF PHOTOGRAPH:

West

WEATHER CONDITIONS:

Sunny

40°F

PHOTOGRAPHED BY:

Peter E. Pavalko

SAMPLE ID:
(If Applicable):

DESCRIPTION: Pictured are the locations of borings B-3 and B-4. Note underground utilities that limited potential drilling locations.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: West Sunset Drive - J & L Gasoline Station PAGE 3 OF 3

DATE: 3/4/91

TIME: 12:30 p.m.

DIRECTION OF PHOTOGRAPH:

South

WEATHER CONDITIONS:

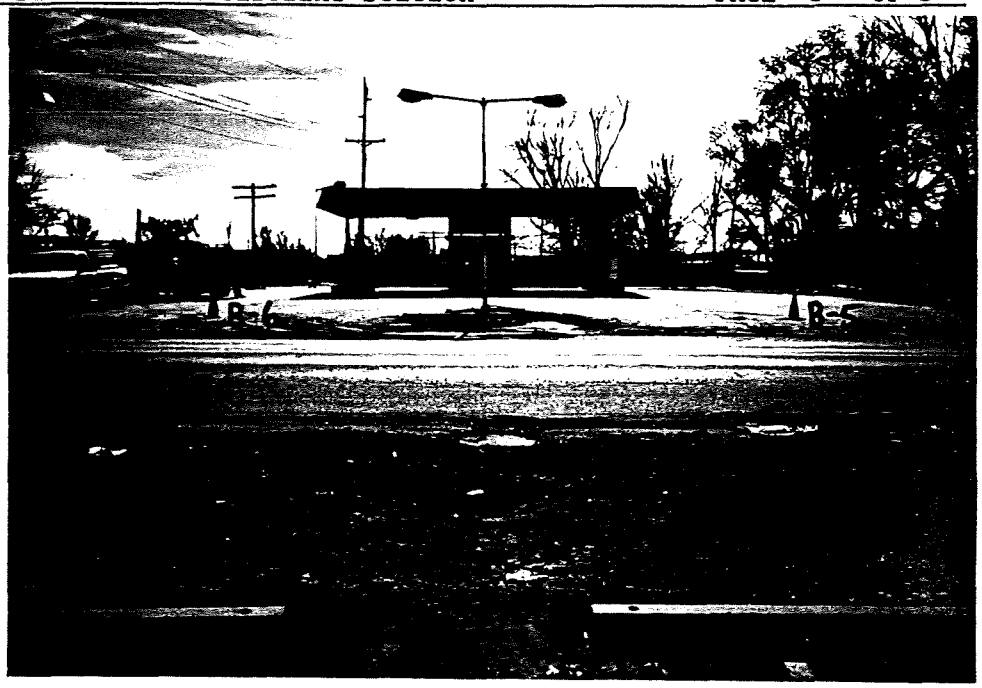
Sunny

40°F

PHOTOGRAPHED BY:

Peter E. Pavalko

SAMPLE ID:
(If Applicable):



DESCRIPTION: Pictured are the locations of borings B-5 and B-6 in the right-of-way north of the J & L Gasoline Station. USTs are located east of drilling rig.

DATE: 3/4/91

TIME: 12:30 p.m.

DIRECTION OF PHOTOGRAPH:

West

WEATHER CONDITIONS:

Sunny

40°F

PHOTOGRAPHED BY:

Peter E. Pavalko

SAMPLE ID:
(If Applicable):

DESCRIPTION: Pictured are the locations of borings B-5 and B-6 on the southern extent of the West Sunset Drive right-of-way.

APPENDIX B

AQUA-TECH INC.

HNU Photoionization Detector
Calibration Documentation

HNU Photoionization Detector Number #3 was calibrated with 101 ppm Isobutylene which is equivalent in response to 55 ppm Benzene at a span setting of 4.8 with a 10.2 electron volt (eV) lamp.

Job Name and Number: WAUKESHA, W. SUNSET DR. - 95321

Calibration Location: ON-SITE

Date: 3-4-91 Time: 7:30AM

Signature: Peter Pawelczyk

Procedure For Calibration

A. Battery Check - Attach probe to unit. Turn function switch to BATT. The needle should be in the green region. If not, recharge the battery.

B. Zero Set - Instrument should be zeroed on site if possible. Turn function switch to STANDBY. Listen to make sure fan is operating. Set the zero point with the ZERO set control.

C. Calibration - Attach calibration gas to end of probe extension. Adjust SPAN control setting to obtain the necessary meter reading. If meter does not respond, or if the correct reading cannot be adjusted, the unit must be serviced or cleaned

The above calibration procedure is taken from Calibration Procedure, Section 3.4, of the Instruction Manual, Trace Gas Analyzer, HNU Model 101, December, 1985.

CORPORATE
140 S. Park St., Port Washington, WI 53074
[414] 284-5746 FAX [414] 284-0243

TREATMENT FACILITY
340 Robinson Rd. Greer, S.C. 29651
[803] 877-1048 FAX [803] 877-1872

APPENDIX C

AQUA-TECH, INC
140 S. PARK ST.
PORT WASHINGTON, WI 53074
TELEPHONE:
(414) 284-5746
(414) 375-0407 (MILW METRO)

SOIL PROFILE LOG

PROJECT: **CITY OF WAUKESHA - UNION 76**
LOCATION: 922 WEST SUNSET DRIVE WAUKESHA, WI
PROJECT#:
ATI WO#: 95321

BORING B-1 SURFACE ELEVATION

SAMPLES NO.	MOISTURE (BLOWS)	REC	PID LEVELS (PPM) HEADSPACE	DEPTH (FT)	DESCRIPTION AND REMARKS
				0.0	
SB-1(A)	DRY		(CUTTINGS) 0		0.0' - 3.0' BLACK SILT
	DRY		0		3.0' - 7.0' TAN SAND
	DRY		0	5.0	
	DRY		0		7.0' - 9.0' LIGHT TAN SAND
					9.0' - 10.0' NO RECOVERY
	DRY		0	10.0	10.0' - 12.0' TAN SAND
					12.0' - 13.0' NO RECOVERY
SB-1(B)	MOIST		0		13.0' - 15.0' TAN SAND
				15.0	TERMINATED BORING AT 15.0'
					*BORING WAS 2.0' NORTH OF EOP *SOIL SAMPLE SB-1(A): 1.0' SB-1(B): 13.0' - 15.0' *NO GROUNDWATER ENCOUNTERED *NO BEDROCK ENCOUNTERED
				20.0	
				25.0	

WATER LEVEL OBSERVATIONS

WHILE DRILLING ----
DEPTH TO WATER (moist at 14.5') ----
DEPTH TO CAVE-IN ----

GENERAL INFORMATION

START DATE 03/04/91 COMPLETION DATE 03/04/91
DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING
LOGGER: Peter G Pavalko

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 7-89

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

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: UNION 76 Gas Sta.

County: WAUKESHA

SE 1/4 of SE 1/4 of Sec. 9 ; T. 6 N; R. 19 ☒ E ☐ W

(If applicable) _____ Gov't Lot _____ Grid Number

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name

Street Address of Well: 922 WEST SUNSET DRIVE

City, Village: WAUKESHA

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner

Street or Route

City, State, Zip Code

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

WI Unique Well No.: _____

Reason For Abandonment: SOIL BORING Completed

Date of Abandonment: 3-4-91

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 3-4-91

☐ Monitoring Well
☐ Water Well
☒ Drillhole
☐ Borehole

Construction Report Available? ☒ Yes ☐ No

BORING LOG

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

Formation Type:
☐ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) BORING 15.0 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) NOT ENCOUNTERED

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

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
BENTONITE	Surface	15.0	2-35lb SACKS	100% BENTONITE

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: AQUA-TECH, INC.

Signature of Person Doing Work: Peter G Pavalko

Date Signed: 3-19-91

Street or Route: 140 S. Park ST.

Telephone Number: (414) 284-5746

City, State, Zip Code: PORT WASHINGTON WI 53074

(10) FOR DNR OR COUNTY USE ONLY

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

AQUA-TECH, INC
140 S. PARK ST.
PORT WASHINGTON, WI 53074
TELEPHONE:
(414) 284-5746
(414) 375-0407 (MILW METRO)

SOIL PROFILE LOG

PROJECT: **CITY OF WAUKESHA - UNION 76**
LOCATION: 922 WEST SUNSET DRIVE WAUKESHA, WI
PROJECT#:
ATI WO#: 95321

BORING B-2 SURFACE ELEVATION

SAMPLES NO.	MOISTURE (BLOWS)	REC	PID LEVELS (PPM) HEADSPACE	DEPTH (FT)	DESCRIPTION AND REMARKS
	DRY		(CUTTINGS) 0	0.0	0.0' - 3.0' BLACK SILT
	DRY		0		3.0' - 5.0' SILT/SAND
	DRY		0	5.0	5.0' - 12.0' TAN SAND
	DRY		0 (CUTTINGS)		
	DRY		0	10.0	
					12.0' - 13.0' NO RECOVERY
SB-2(A)	MOIST		0		13.0' - 15.0' TAN SAND
				15.0	TERMINATED BORING AT 15.0'
					*SOIL SAMPLE SB-2(A): 13.0' - 15.0' *NO GROUNDWATER ENCOUNTERED *NO BEDROCK ENCOUNTERED
				20.0	
				25.0	

WATER LEVEL OBSERVATIONS

WHILE DRILLING ----
DEPTH TO WATER (moist at 14.5') ----
DEPTH TO CAVE-IN ----

GENERAL INFORMATION

START DATE 03/04/91 COMPLETION DATE 03/04/91
DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING
LOGGER: Peter E. Swalby

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 7-89

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

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: UNION 76 Gas Sta.

County: WAUKESHA

SE 1/4 of SE 1/4 of Sec. 9 ; T. 6 N; R. 19 ☒ E ☐ W

(If applicable) _____ Gov't Lot _____ Grid Number

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name

Street Address of Well: 922 WEST SUNSET DRIVE

City, Village: WAUKESHA

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner

Street or Route

City, State, Zip Code

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

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: SOIL BORING Completed

Date of Abandonment: 3-4-91

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 3-4-91

☐ Monitoring Well
☐ Water Well
☒ Drillhole
☐ Borehole

Construction Report Available? ☒ Yes ☐ No

BORING LOG

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

Formation Type:
☐ Unconsolidated Formation ☐ Bedrock

Total ~~Well~~ BORING Depth (ft.) 15.0 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) NOT ENCOUNTERED

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

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
BENTONITE	Surface	15.0	2-35lb SACKS	100% BENTONITE

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: AQUA-TECH, INC.

Signature of Person Doing Work: Peter E Pawlik

Date Signed: 3-19-91

Street or Route: 140 S. Park ST.

Telephone Number: (414) 284-5746

City, State, Zip Code: PORT WASHINGTON WI 53074

(10) FOR DNR OR COUNTY USE ONLY

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

AQUA-TECH, INC
140 S. PARK ST.
PORT WASHINGTON, WI 53074
TELEPHONE:
(414) 284-5746
(414) 375-0407 (MILW METRO)

SOIL PROFILE LOG

PROJECT: **CITY OF WAUKESHA**
TEDDY'S AUTO SALE
LOCATION: S31 W24687 WEST SUNSET DRIVE
WAUKESHA, WI
PROJECT#:
ATI WO#: 95321

BORING B-3 SURFACE ELEVATION

SAMPLES NO.	MOISTURE (BLOWS)	REC	PID LEVELS (PPM) HEADSPACE	DEPTH (FT)	DESCRIPTION AND REMARKS
SB-3(A)	DRY		(CUTTINGS) 0	0.0	0.0' - 3.0' BLACK SILT
	DRY		0		3.0' - 5.0' BLACK SILT W/GRAVEL
	DRY		0	5.0	5.0' - 7.0' BLACK SILT W/TRACE SAND
	DRY		0 (CUTTINGS)		7.0' - 10.0' BLACK SILT SAND & GRAVEL
	DRY		0	10.0	10.0' - 12.0' BLACK SILT, GRAVEL, SAND (POOR RECOVERY)
					12.0' - 13.0' SAND & GRAVEL
SB-3(B)	DRY		0		13.0' - 15.0' TAN SAND & FINE GRAVEL
				15.0	TERMINATED BORING AT 15.0'
				20.0	*SOIL SAMPLE SB-3(A): 1.0' *SOIL SAMPLE SB-3(B): 13.0' - 15.0' *NO GROUNDWATER ENCOUNTERED *NO BEDROCK ENCOUNTERED
				25.0	

WATER LEVEL OBSERVATIONS

WHILE DRILLING ----
DEPTH TO WATER ----
DEPTH TO CAVE-IN ----

GENERAL INFORMATION

START DATE 03/04/91 COMPLETION DATE 03/04/91
DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING
LOGGER: Peter E. Randall

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 7-89

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

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: TEDDY'S Auto SALES
County: WAUKESHA

NE 1/4 of NW 1/4 of Sec. 15 ; T. 6 N; R. 19 ☒ E ☐ W

(If applicable) Gov't Lot _____ Grid Number _____

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name

Street Address of Well: 531 W24687 SUNSET DRIVE

City, Village: WAUKESHA

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner

Street or Route

City, State, Zip Code

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

WI Unique Well No. _ _ _ _ _ _

Reason For Abandonment: SOIL BORING Completed

Date of Abandonment: 3-4-91

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 3-4-91

☐ Monitoring Well
☐ Water Well
☒ Drillhole
☐ Borehole

Construction Report Available? ☒ Yes ☐ No
BORING LOG

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

Formation Type:
☐ Unconsolidated Formation ☐ Bedrock

Total ~~Well~~ BORING Depth (ft.) 15.0 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) NOT ENCOUNTERED

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

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
BENTONITE	Surface	15.0	2-35 lb SACKS	100% BENTONITE

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
AQUA-TECH, INC.

Signature of Person Doing Work: Peter G Pavalko
Date Signed: 3-19-91

Street or Route: 140 S. Park ST.
Telephone Number: (414) 284-5746

City, State, Zip Code: PORT WASHINGTON WI 53074

(10) FOR DNR OR COUNTY USE ONLY

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

AQUA-TECH, INC
140 S. PARK ST.
PORT WASHINGTON, WI 53074
TELEPHONE:
(414) 284-5746
(414) 375-0407 (MILW METRO)

SOIL PROFILE LOG

PROJECT: **CITY OF WAUKESHA TEDDY'S AUTO SALE**
LOCATION: S31 W24687 WEST SUNSET DRIVE WAUKESHA, WI
PROJECT#:
ATI WO#: 95321

BORING B-4 SURFACE ELEVATION

SAMPLES NO.	MOISTURE (BLOWS)	REC	PID LEVELS (PPM) HEADSPACE	DEPTH (FT)	DESCRIPTION AND REMARKS
	DRY		(CUTTINGS) 0	0.0	0.0' - 3.0' BLACK SILT
	DRY		0		3.0' - 5.0' BLACK SILT, SAND & GRAVEL
	DRY		0	5.0	5.0' - 7.0' GRAVEL, SAND
	DRY		0 (CUTTINGS)		7.0' - 10.0' SAND & GRAVEL
	DRY		0	10.0	10.0' - 12.0' SAND & GRAVEL
					12.0' - 13.0' NO RECOVERY
SB-4(A)	DRY		0		13.0' - 15.0' SAND, TRACE OF GRAVEL
				15.0	TERMINATED BORING AT 15.0'
					*SOIL SAMPLE SB-4(A): 13.0' - 15.0'
					*NO GROUNDWATER ENCOUNTERED
					*NO BEDROCK ENCOUNTERED
				20.0	
				25.0	

WATER LEVEL OBSERVATIONS

WHILE DRILLING ----
DEPTH TO WATER ----
DEPTH TO CAVE-IN ----

GENERAL INFORMATION

START DATE 03/04/91 COMPLETION DATE 03/04/91
DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING
LOGGER: Peter E. Pawlby

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 7-89

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

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: TEDDY'S AUTO SALES

County: WAUKESHA

NE 1/4 of NW 1/4 of Sec. 15 ; T. 6 N; R. 19 ☒ E ☐ W

(If applicable) Gov't Lot _____ Grid Number _____

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name

Street Address of Well: S31 W24687 SUNSET DRIVE

City, Village: WAUKESHA

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner

Street or Route

City, State, Zip Code

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

WI Unique Well No. _ _ _ _ _ _

Reason For Abandonment: SOIL BORING Completed

Date of Abandonment: 3-4-91

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 3-4-91

☐ Monitoring Well
☐ Water Well
☒ Drillhole
☐ Borehole

Construction Report Available? ☒ Yes ☐ No

BORING LOG

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

Formation Type:
☐ Unconsolidated Formation ☐ Bedrock

Total Boring Depth (ft.) 15.0 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) NOT ENCOUNTERED

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

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
BENTONITE	Surface	15.0	2-35lb SACKS	100% BENTONITE

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: AQUA-TECH, INC.

Signature of Person Doing Work: Peter G Pavalko

Date Signed: 3-19-91

Street or Route: 140 S. Park ST.

Telephone Number: (414) 284-5746

City, State, Zip Code: PORT WASHINGTON WI 53074

(10) FOR DNR OR COUNTY USE ONLY

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

AQUA-TECH, INC
140 S. PARK ST.
PORT WASHINGTON, WI 53074
TELEPHONE:
(414) 284-5746
(414) 375-0407 (MILW METRO)

SOIL PROFILE LOG

PROJECT: **CITY OF WAUKESHA**
J & L GAS
LOCATION: S31 W24601 Sunset Drive
WAUKESHA, WI
PROJECT#:
ATI WO#: 95321

BORING B-5 SURFACE ELEVATION

SAMPLES NO.	MOISTURE (BLOWS)	REC	PID LEVELS (PPM) HEADSPACE	DEPTH (FT)	DESCRIPTION AND REMARKS
SB-5(A)	DRY		(CUTTINGS) 0	0.0	0.0' - 3.0' BLACK SILT GRAVEL, SAND
	DRY		0		3.0' - 5.0' SILT, GRAVEL & SAND
	DRY		0	5.0	5.0' - 7.0' SAND & GRAVEL
	DRY		0 (CUTTINGS)		7.0' - 10.0' SAND, LARGE GRAVEL TO COBBLE
	DRY		0	10.0	10.0' - 12.0' SAND, LARGE GRAVEL (POOR RECOVERY)
					12.0' - 13.0' NO RECOVERY
SB-5(B)	DRY		0		13.0' - 15.0' SAND
				15.0	TERMINATED BORING AT 15.0'
				20.0	
				25.0	

*SOIL SAMPLE SB-5(A): 1.0'
SB-5(B): 13.0' - 15.0'
*NO GROUNDWATER ENCOUNTERED
*NO BEDROCK ENCOUNTERED

WATER LEVEL OBSERVATIONS	GENERAL INFORMATION
WHILE DRILLING ----	START DATE 03/04/91 COMPLETION DATE 03/04/91
DEPTH TO WATER ----	DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING
DEPTH TO CAVE-IN ----	LOGGER: Peter C. Powalka

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 7-89

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

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: J+L Gas

County: WAUKESHA

NE 1/4 of NW 1/4 of Sec. 15 ; T. 6 N; R. 19 ☒ E ☐ W

(If applicable) _____ Gov't Lot _____ Grid Number

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name

Street Address of Well: 531 W24601 SUNSET DRIVE

City, Village: WAUKESHA

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner

Street or Route

City, State, Zip Code

Facility Well No. and/or Name (If Applicable): B-5

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: SOIL BORING Completed

Date of Abandonment: 3-4-91

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 3-4-91

☐ Monitoring Well
☐ Water Well
☒ Drillhole
☐ Borehole

Construction Report Available? ☒ Yes ☐ No

BORING LOG

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

Formation Type:
☐ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) BORING 15.0 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) NOT ENCOUNTERED

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

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
BENTONITE	Surface	15.0	2-35lb SACKS	100% BENTONITE

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
AQUA-TECH, INC.

Signature of Person Doing Work: Peter G Pawlak
Date Signed: 3-19-91

Street or Route: 140 S. Park St.
Telephone Number: (414) 284-5746

City, State, Zip Code: PORT WASHINGTON WI 53074

(10) FOR DNR OR COUNTY USE ONLY

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

AQUA-TECH, INC
140 S. PARK ST.
PORT WASHINGTON, WI 53074
TELEPHONE:
(414) 284-5746
(414) 375-0407 (MILW METRO)

SOIL PROFILE LOG

PROJECT: **CITY OF WAUKESHA**
J & L GAS
LOCATION: S31 W24601 Sunset Drive
WAUKESHA, WI
PROJECT#:
ATI WO#: 95321

BORING B-6 SURFACE ELEVATION

SAMPLES NO.	MOISTURE (BLOWS)	REC	PID LEVELS (PPM) HEADSPACE	DEPTH (FT)	DESCRIPTION AND REMARKS
	DRY			0.0	0.0' - 3.0' SAND & GRAVEL
	DRY		0		3.0' - 5.0' SILT, GRAVEL & SAND
	DRY		0	5.0	5.0' - 7.0' SAND & GRAVEL
	DRY		0 (CUTTINGS)		7.0' - 10.0' SAND & GRAVEL
	DRY		0	10.0	10.0' - 12.0' SAND, FINE GRAVEL
					12.0' - 13.0' NO RECOVERY
SB-6(A)	DRY MOIST		0		13.0' - 15.0' SAND
				15.0	TERMINATED BORING AT 15.0'
				20.0	
				25.0	

*SOIL SAMPLE SB-6(A): 13.0' - 15.0'
*NO GROUNDWATER ENCOUNTERED
*NO BEDROCK ENCOUNTERED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ----
DEPTH TO WATER ---- (moist at 14.8')
DEPTH TO CAVE-IN ----

GENERAL INFORMATION

START DATE 03/04/91 COMPLETION DATE 03/04/91
DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING
LOGGER: Peter E Pavalko

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 7-89

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

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location J+L Gas

County: WAUKESHA

NE 1/4 of NW 1/4 of Sec. 15 ; T. 6 N; R. 19 ☒ E ☐ W

(If applicable) _____ Gov't Lot _____ Grid Number

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name

Street Address of Well: 531 W 24601 SUNSET DRIVE

City, Village: WAUKESHA

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner

Street or Route

City, State, Zip Code

Facility Well No. and/or Name (If Applicable): B-6

WI Unique Well No. _ _ _ _ _ _

Reason For Abandonment: SOIL BORING Completed

Date of Abandonment: 3-4-91

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 3-4-91

☐ Monitoring Well
☐ Water Well
☒ Drillhole
☐ Borehole

Construction Report Available? ☒ Yes ☐ No

BORING LOG

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

Formation Type:
☐ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) BORING 15.0 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) NOT ENCOUNTERED

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

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
BENTONITE	Surface	15.0	2-35 lb SACKS	100% BENTONITE

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
AQUA-TECH, INC.

Signature of Person Doing Work: Peter G Pawlak — Date Signed: 3-19-91

Street or Route: 140 S. Park St. — Telephone Number: (414) 284-5746

City, State, Zip Code: PORT WASHINGTON WI 53074

(10) FOR DNR OR COUNTY USE ONLY

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

APPENDIX D

AQUA-TECH

ANALYTICAL LABORATORY REPORT

Sample #: W3697 A - I

Customer: City of Waukesha

Date Sampled: 3-4-91

Date Received: 3-4-91

Date Wanted: 3-18-91

Lab Director Approval: [signature] 3-19-91

WO # 95321

Sample Description

PARAMETER	A SB-1A	B SB-1B	C SB-2A	D SB-3A	Tech ID	Date Analysis Completed
Total Solids		86%	87%		SB	3-12-91
TPH-Gas		ND (1.0 mg/g)	ND (1.0 mg/g)		YSK	3-10-91
TCLP Pb	0.33 mg/l			ND (< 0.30 mg/l)	DD	3-19-91
	E	F	G	H		
	SB-3B	SB-4A	SB-5A	SB-5B		
Total Solids	95%	97%		97%	SB	3-12-91
TPH-Gas	ND (1.0 mg/g)	ND (1.0 mg/g)		ND (1.0 mg/g)	YSK	3-10-91
TCLP Pb			ND (< 0.30 mg/l)		DD	3-19-91
	I					
	SB-6A					
Total Solids	71%				SB	3-12-91
TPH-Gas	ND (1.0 mg/g)				YSK	3-10-91

CORPORATE
Aqua Tech, Inc.
140 S. Park St. Port Washington, WI 53074

TREATMENT FACILITY
Groce Laboratories, Inc.
340 Robinson Rd Greer, SC 29651

AQUA-TECH GROCE LABORATORIES

CORPORATE
Aqua-Tech, Inc.
140 S. Park St., Port Washington, WI 53074
(414) 284-5746 FAX (414) 284-0243

CHAIN OF CUSTODY RECORD

PROJ. NO. 95321

PROJECT NAME: City of Waukesha, Sunset PR.

SAMPLERS: (Signature) Peter Pavalko

LAB NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	% Solids	TPH GAS	TCLP Pb	DEPTH	HNU (ppm)
03697A	3-4-91	7:30A	X		(UNION 76) SB-1A	1			X	1.0'	0
B	3-4-91	8:00A		X	(UNION 76) SB-1B	1	X	X		13-15	0
C	3-4-91	9:00A		X	(UNION 76) SB-2A	1	X	X		13-15	0
D	3-4-91	9:30A	X		(TEDDY'S) SB-3A	1			X	1.0'	0
E	3-4-91	10:00A		X	(TEDDY'S) SB-3B	1	X	X		13-15	0
F	3-4-91	10:30A		X	(TEDDY'S) SB-4A	1	X	X		13-15	0
G	3-4-91	11:00A	X		(J+L Gas) SB-5A	1			X	1.0'	0
H	3-4-91	11:30A		X	(J+L Gas) SB-5B	1	X	X		13-15	0
I	3-4-91	12:30P		X	(J+L Gas) SB-6A	1	X	X		13-15	0

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Peter Pavalko	3-4-91 | 2:30pm	Thomas Holmes	3-4-91 | 4:30
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	

Report to:
Name P. PAVALKO
Street
City State Zip
Phone no. ( )

Remarks: Return C of C w/ Results

Remarks

Distribution: White - Accompanies Shipment; Yellow - Laboratory File; Pink - Coordinator Field Files