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June 19, 2012

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Mr. Russ Olsen  
Washington Department of Ecology  
VCP Unit Manager  
3190 160<sup>th</sup> Avenue SE  
Bellevue, WA 98008-5452

**RE: REQUEST FOR DISCONTINUATION OF GROUNDWATER MONITORING,  
FORMER CUSTOM BUILT METALS SITE, 233 D STREET, AUBURN,  
WASHINGTON – FACILITY SITE ID # 77573648; FORMER VCP ID # NW0857**

Dear Mr. Olsen:

On behalf of our client Mr. Troy Thomas, the current owner of the northern portion of the former Custom Built Metals property (tax parcel 446340-0071-08), we are requesting an opinion regarding the discontinuation of groundwater monitoring for the site. In February 2009, Mr. Thomas purchased this parcel in a transaction that incorporated Environmental Covenant No. 20030710001132 of July 10, 2003. This covenant addressed residual soil contamination present on the purchased parcel.

In a letter from Mr. Nnamdi Madakor of the Washington Department of Ecology (Ecology) to Mr. Tony Chiovare (former site owner) dated April 20, 2010, the site was issued an No Further Action and the existing VCP Agreement, NW0857, was terminated. Per this letter, quarterly confirmational groundwater monitoring was to be continued at the site.

In support of this request for discontinuation of groundwater monitoring, we are submitting the results of 1 year of quarterly groundwater sampling for the property, which documents four consecutive quarters of results that comply with Model Toxics Control Act Method A groundwater cleanup standards. The results of the sampling are described in the enclosed report, entitled "May 2011 to February 2012 Groundwater Sampling Report, All New Glass Facility, Lots 1 and 2, 233 D Street, Auburn, Washington." The report is enclosed and provided as hard copy. In addition, all of the analytical laboratory data has been up loaded to the EIM website.

Mr. Russ Olsen  
Washington Department of Ecology  
June 19, 2012  
Page 2

SHANNON & WILSON, INC.

After a recent telephone discussion with Mr. Madakor regarding the proper procedure for submitting this request, we are also including a VCP Agreement form signed by Mr. Thomas, the property owner, to facilitate the review of the report by Ecology and invoicing of Mr. Thomas for this review. In addition, based on our discussion with Mr. Madakor, and his prior involvement with the regulatory history of this site, we respectfully request that he review the groundwater monitoring report and provide the opinion regarding the discontinuation of monitoring and decommissioning of monitoring wells associated with this site.

Even though the site is no longer in the VCP program, it is our client's understanding that the referenced environmental covenant still remains in place for the property and that institutional controls need to be maintained.

If you have any questions regarding the project please feel free to contact me at (206) 695-6918.

Sincerely,

**SHANNON & WILSON, INC.**



David J. Randall  
Senior Environmental Scientist

DJR:MRW/NM/TT/djr

Enc: VCP Agreement  
May 2011 to February 2012 Groundwater Sampling Report, All New Glass Facility,  
Lots 1 and 2, 233 D Street, Auburn, Washington

c: Troy Thomas, All New Glass  
Nnamdi Madakor, Ecology

any requested opinions and notify the Customer by certified mail that the debt is past due. If payment has not been received within sixty (60) calendar days of the invoice date, then Ecology shall stop all work under the Agreement and may, as appropriate, assign the debt to a collection agency under Chapter 19.16 RCW. The Customer agrees to pay the collection agency fee incurred by Ecology in the course of debt collection.

### Reservation of Rights / No Settlement

This Agreement does not constitute a settlement of liability to the state under MTCA. This Agreement also does not protect a liable person from contribution claims by third parties for matters addressed by the Agreement. The state does not have the authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). Ecology's signature on this Agreement in no way constitutes a covenant not to sue or a compromise of any Ecology rights or authority.

Ecology reserves all rights under MTCA, including the right to require additional or different remedial actions at the Site should it deem such actions necessary to protect human health and the environment, and to issue orders requiring such remedial actions. Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances at the Site.

### Effective Date, Modifications, and Severability

The effective date of this Agreement shall be the date on which this Agreement is signed by the Toxics Cleanup Program's Section Manager or delegated representative. This Agreement may be amended by mutual agreement of Ecology and the Customer. Amendments shall be in writing and shall be effective when signed by the Toxics Cleanup Program's Section Manager or delegated representative. If any provision of this Agreement proves to be void, it shall in no way invalidate any other provision of this Agreement.

### Termination of Agreement

Either party may terminate this Agreement without cause by sending written notice by U.S. mail to the other party. The effective date of termination shall be the date Ecology sends notice to the Customer or the date Ecology receives notice from the Customer, whichever occurs first. Unless otherwise directed, issuance of a No Further Action opinion, either for the Site as a whole or for a portion of the real property located within the Site, shall constitute notice of termination by Ecology.

Under this Agreement, the Customer is only responsible for costs incurred by Ecology before the effective date of termination. However, termination of this Agreement shall not affect any right Ecology may have to recover its costs under MTCA or any other provision of law.

### Representations and Signatures

The undersigned representative of the Customer hereby certifies that he or she is fully authorized to enter into this Agreement and to execute and legally bind the Customer to comply with the Agreement.

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

Section Manager, \_\_\_\_\_  
Toxics Cleanup Program Section

Date: \_\_\_\_\_

TK Investors, LLC

\_\_\_\_\_  
Name of Customer

  
Signature

Troy Thomas  
\_\_\_\_\_  
Printed Name of Signatory

Owner / Manager  
\_\_\_\_\_  
Title of Signatory

Date: 6/11/12

If you need this document in an alternative format, please call the Toxics Cleanup Program at 360-407-7170. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

**VCP AGREEMENT**

JUN 20 2012

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**INSTRUCTIONS:** Submit this Agreement (original) to Ecology as part of your Application. Before submitting, enter the Customer's name and the Site's address on the first page and sign the Agreement on the second page. If your Application is accepted, then Ecology will do the following: 1) identify the Site and VCP project in the box below; 2) sign the Agreement; and 3) send you a copy of the completed Agreement.

This document constitutes an Agreement between the State of Washington Department of Ecology (Ecology) and \_\_\_\_\_ (Customer) to provide informal site-specific technical consultations under the Voluntary Cleanup Program (VCP) for the Site identified below and associated with the following address:

\_\_\_\_\_

The purpose of this Agreement is to facilitate independent remedial action at the Site. Ecology is entering into this Agreement under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC. If a term in this Agreement is defined in MTCA or Chapter 173-340 WAC, then that definition shall govern.

### Services Provided by Ecology

Upon request, Ecology agrees to provide the Customer informal site-specific technical consultations on the independent remedial actions proposed for or performed at the Site consistent with WAC 173-340-515(5). Those consultations may include assistance in identifying applicable regulatory requirements and opinions on whether the remedial actions proposed for or conducted at the Site meet those requirements.

Ecology may use any appropriate resource to provide the Customer with the requested consultative services. Those resources may include, but shall not be limited to, those of Ecology and the Office of the Attorney General. However, Ecology shall not use independent contractors unless the Customer provides Ecology with prior written authorization.

In accordance with RCW 70.105D.030(1)(i), any opinions provided by Ecology under this Agreement are advisory only and not binding on Ecology. Ecology, the state, and officers and employees of the state are immune from all liability. Furthermore, no cause of action of any nature may arise from any act or omission in providing, or failing to provide, informal advice and assistance under the VCP.

### Payment for Services by Customer

The Customer agrees to pay all costs incurred by Ecology in providing the informal site-specific technical consultations requested by the Customer consistent with WAC 173-340-515(6) and 173-340-550(6). Those costs may include the costs incurred by attorneys or independent contractors used by Ecology to provide the requested consultative services. Ecology's hourly costs shall be determined based on the method in WAC 173-340-550(2).

Ecology shall mail the Customer a monthly itemized statement of costs (invoice) by the tenth day of each month (invoice date) that there is a balance on the account. The invoice shall include a summary of the costs incurred, payments received, identity of staff involved, and amount of time staff spent on the project.

The Customer shall pay the required amount by the due date, which shall be thirty (30) calendar days after the invoice date. If payment has not been received by the due date, then Ecology shall withhold

FOR COMPLETION BY ECOLOGY ONLY	Facility / Site Name:
	Facility / Site No.:
	VCP Project No.:

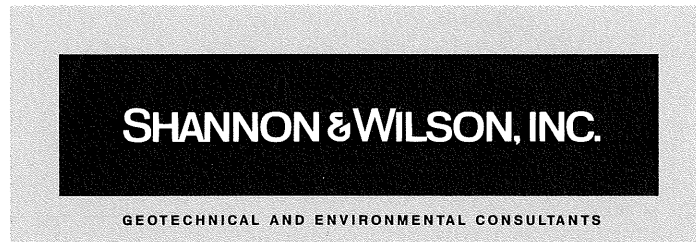
May 2011 to February 2012  
Groundwater Sampling Report  
All New Glass Facility, Lots 1 and 2  
233 D Street  
Auburn, Washington

April 20, 2012

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Excellence. Innovation. Service. Value.

*Since 1954.*

Submitted To:  
Mr. Troy Thomas  
All New Glass  
319 D Street NW, Suite 103  
Auburn, Washington 98001

By:  
Shannon & Wilson, Inc.  
400 N 34<sup>th</sup> Street, Suite 100  
Seattle, Washington 98103

21-1-12334-001

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**MAY 2011 TO FEBRUARY 2012 GROUNDWATER SAMPLING REPORT  
ALL NEW GLASS FACILITY, LOTS 1 AND 2  
233 D STREET  
AUBURN, WASHINGTON**

**1.0 INTRODUCTION**

This report summarizes a year of quarterly groundwater sampling conducted at the All New Glass facility (Site), formerly Custom Built Metals, located at 233 D Street in Auburn, Washington (Figure 1). Sampling was conducted in May, August, and November 2011 and February 2012.

These services were conducted in response to a letter received from the Washington State Department of Ecology (Ecology) dated April 20, 2010, regarding confirmation monitoring of groundwater quality as part of the No Further Action (NFA) determination received in April 2010. A year of quarterly groundwater monitoring was conducted to assess if the Site was adversely impacting groundwater quality and if cleanup actions completed to date provided continued protection of human health and the environment. Based on results of the four quarterly sampling events, we recommend to petition Ecology for an early review to discontinue monitoring and decommission the monitoring wells located at the Site.

**1.1 Site Location**

The site is located at 233 D Street in Auburn, Washington (Figure 2) and consists of two lots, Lots 1 and 2. Both lots are bounded to the east by D Street and a storage yard to the west. Lot 2 is bounded by 2<sup>nd</sup> Street NW to the south and Lot 1 bounded by a vacant lot to the northwest and an additional All New Glass property to the north. A vacant strip of land once used for rail access separates Lot 1 from the All New Glass property to the north.

**1.2 Site History**

The site, which consists of two lots totaling 2.7 acres, was formerly occupied by the Custom-Bilt Metals Company. The northern lot (Lot 1) is currently occupied by a large warehouse building and asphalt-paved parking area and is owned by All New Glass. The southern lot (Lot 2) is currently a laydown and storage area for the Westwater Construction Company, who purchased the property in 2002. Lots 1 and 2 are currently separated by a chain link fence.

In 2001, a Phase II Environmental Site Assessment (ESA) conducted on the property identified shallow soil contamination, which included diesel-, heavy oil-, and gasoline-range hydrocarbons along with polyaromatic hydrocarbons (PAHs), lead, and cadmium, in areas of the property (Enco Environmental Corporation, 2001). Contamination found during the Phase II ESA was present in soils underlying the southern half of the property. In August 2001, as part of a voluntary cleanup action, excavation and off-site disposal of contaminated soils were conducted to remediate the site. Soil contamination extended from the ground surface to as deep as approximately 5 feet below ground surface (bgs). Approximately 811 cubic yards of contaminated soil was transported off-site for proper disposal. Stockpiled soils that did not exceed Model Toxics Control Act (MCTA) Method A cleanup criteria (Ecology, 2001) were subsequently used as fill at the site.

During the excavation, a 2,000-gallon gasoline underground storage tank (UST) was discovered on Lot 2. The tank was removed and disposed in accordance with UST regulations. No petroleum contamination was detected in a groundwater sample collected from below the bottom of the tank. Approximately 37 cubic yards of soil was removed from the excavation. Confirmatory samples from the sidewalls and bottom of the excavation did not exceed MTCA Method A cleanup criteria. In 1993 a 1,000-gallon gasoline UST was removed from the Site and properly disposed. According to the tank closure report, no groundwater was encountered during the tank removal and petroleum hydrocarbon concentrations in soils did not exceed applicable MTCA Method A cleanup action levels (Geotech Consultants, 1993).

Three shallow groundwater monitoring wells were installed in 2002 to evaluate the site groundwater quality, and to characterize the depth to groundwater and the groundwater flow gradient. Two wells (MW-1 and MW-2) were installed on Lot 1 and one well (MW-3) was installed on Lot 2. Samples collected from the three wells did not exceed MCTA cleanup criteria. However, low concentrations of xylenes at 2.8 micrograms per liter ( $\mu\text{g/L}$ ) and three isomers of dichlorobenzene (from 6.4 to 17  $\mu\text{g/L}$ ) were detected in the sample collected from MW-1. At the time groundwater samples were collected, groundwater was approximately 7 feet bgs, below the depth of soil contamination on the site.

Upon the completion of remediation at the site, a request for a No Further Action (NFA) letter was submitted to Ecology for both lots along with the February 2002 remediation report (Enco Environmental Corporation, 2002). The report indicated that contamination encountered by the explorations and excavations had been removed from the site. However, the report also indicated that contamination beneath the warehouse building and adjoining ramp located on

Lot 1 may have been present. In addition, the report also mentioned the possibility that contamination may have been present beneath active utilities and in a part of Lot 2 where heavy metal girders were placed. Ecology issued an Interim NFA letter for the remediated parts of the property in October 2002, but indicated that additional site data would be required to obtain a NFA letter for areas where contamination remained.

In June 2003, a restrictive covenant was filed for a portion of the property located on the Site, beneath which residual contamination was left in place. The residual contamination was located underneath a portion of the existing warehouse building and adjoining ramp.

In 2009, plans were developed to conduct a year of quarterly groundwater monitoring and sampling on three shallow groundwater wells in order to keep the NFA determination active for the Site. Groundwater samples were analyzed for chemical constituents detected in soil prior to remediation activities at the Site. These constituents included: Total Petroleum Hydrocarbons (TPH) for diesel, oil and gasoline; benzene, toluene, ethylbenzene, and xylenes (BTEX); polychlorinated biphenyls (PCBs) (A1254); lead and cadmium; carcinogenic PAHs (cPAHs); and naphthalene.

Prior to the start of the quarterly sampling, a preliminary sampling event was conducted in November 2008. Samples were collected from monitoring wells MW-1, MW-2, and MW-3 to evaluate whether site groundwater conditions had changed appreciably since the last sampling event in 2002 and to evaluate whether additional wells would be needed for the quarterly monitoring (Shannon & Wilson, Inc., 2010). Elevated concentrations of oil and lead, detected in MW-1, were the only detections detected during the preliminary sampling event. The sample result was considered suspect since the well had been buried and not sampled since 2002. MW-1 was resampled following extensive development and the detections could not be reproduced.

Based on the analytical results of the November 2008 sampling event and the historical and current groundwater elevations, two additional groundwater monitoring wells, MW-4 and MW-5 were installed on Lot 1 in December 2008. These monitoring wells (MW-4 and MW-5) were positioned near the northern inside edge of the warehouse to provide monitoring locations downgradient of the site, and specifically downgradient of the areas inside the warehouse and loading ramp where residual contamination was expected to remain.

Four quarterly groundwater sampling events were completed at the Site in 2009. No contaminants of concern were detected in the site groundwater samples collected during the sampling events with the exception of a concentration of 1,1-trichloroethane in one sample near

the laboratory detection limit, and a single occurrence of dissolved lead in MW-1. Dissolved lead was detected slightly above the MCTA Method A cleanup criterion in MW-1 during the second quarter sampling event. Dissolved lead was not detected in either of the following two quarters or in monitoring wells MW-4 and MW-5, which are both downgradient of MW-1.

The analytical data of the four quarterly events indicated that groundwater at the Site continued to meet MTCA Method A Cleanup criteria since the property was remediated and since groundwater was last sampled in 2001 and 2002.

## **2.0 SITE GEOLOGY AND HYDROGEOLOGY**

### **2.1 Site Geology**

The site is situated on a broad flat-lying alluvial plain of the Green River. Based on the soil boring logs from the 2002 site evaluation and the December 2008 monitoring well installation, the alluvial soils underlying the site are comprised of a mixture of brown gravelly sand to sandy gravel and cobbles to depths ranging from 7 to 8 feet bgs. Underneath the layer of sandy gravel consists of alternating layers of fine to medium sand, clayey silt, and peat. The depth of these layers varies across the site and scattered pockets of wood fragments were present in the borings.

### **2.2 Hydrogeology**

The shallow groundwater underlying the site ranged from approximately 3 to 10 feet bgs during the four quarterly sampling events conducted at the Site in 2011-2012, with the highest water levels measured during the rainy season (February and May monitoring events). Quarterly water level measurements for each of the four monitoring wells are provided in Table 1. The groundwater gradient underlying the site varies with the seasons, and is estimated to be typically of the order of 0.05 to 0.002 foot per foot toward the north, conforming to the northward slope of the valley. It is likely, given this low gradient, that the groundwater flow direction varies temporally with rainfall and spatially with localized variability in soil permeability.

## **3.0 FIELD ACTIVITIES**

### **3.1 Groundwater Sampling**

Quarterly groundwater sampling was conducted on three wells, MW-1, MW-4, and MW-5, for four consecutive quarters from May 2011 through February 2012. Sampling was performed on May 5, 2011; August 10, 2011; November 17, 2011; and February 28, 2012.

Prior to sampling activities, the wells were observed for the presence of a floating free-product layer. No free-product layer was observed during the sampling events. The depth to groundwater and total depth was also measured in each monitoring well sampled and in MW-2.

A low-flow submersible pump with disposable tubing was used to purge each monitoring well to remove standing water so that a representative sample could be collected. Purging was completed when field parameters measured during the purge had stabilized. Field parameters included pH, specific conductivity, salinity, temperature, total dissolved solids, turbidity, dissolved oxygen, and oxidation reduction potential. Field parameters were measured before and during purging. Once the parameters had stabilized a groundwater sample was collected using the low flow pump and disposable tubing. Prior to sample collection, the field parameters were measured one last time. Purged water from the well was drummed on Site and held for proper disposal based on the analytical results.

### **3.2 Groundwater Sample Collection**

Groundwater samples were collected from each well after field parameters had reached stabilization. The samples were placed into laboratory-provided glassware and transported under chain-of-custody procedures to OnSite Environmental, Inc. of Redmond, Washington, for analysis of diesel and oil using Northwest TPH as Diesel – Extended Method; gasoline and BTEX using the Northwest TPH as Gasoline with BTEX Distinction Method; PCBs using the U.S. Environmental Protection Agency (EPA) Method (8082); PAHs and naphthalene using EPA Method (8270D/SIM); and metals (lead and cadmium) using EPA Method (6010B). The list of analytes was selected to provide information on potential contaminants of concern identified during the site cleanup action in 2001/2002. Analytical results of the quarterly groundwater sampling events are discussed in the next section.

## **4.0 ANALYTICAL RESULTS**

### **4.1 Groundwater Analytical Results**

Analytical results of the groundwater samples collected during the four quarterly events from monitoring wells MW-1, MW-4, and MW-5 on Lot 1 indicated the following:

- No petroleum hydrocarbons (diesel-, heavy oil-, or gasoline- range hydrocarbons) were present in any of the samples collected.
- No benzene, toluene, ethylbenzene or total xylenes were detected in any of the samples that exceeded MTCA Method A cleanup levels. However, concentrations of

toluene were detected in wells MW-1 and MW-5 during the fourth quarter's sampling event at concentrations that were slightly greater than the laboratories practical quantitation limit (PQL) of 1.0 µg/L. The detected concentrations were 1.4 and 1.1 µg/L, respectively, in the two samples.

- No PCBs were detected at concentrations that exceeded MTCA Method A cleanup levels.
- Total metals (lead and cadmium) were not detected at concentrations that exceeded MTCA Method A cleanup levels.
- Naphthalene was not detected in any of the samples at concentrations that exceeded MTCA Method A cleanup levels. However, naphthalene was detected in MW-5 during the third quarter's sampling event at a concentration of 0.1 µg/L, which is slightly greater the laboratories PQL of 0.095 µg/L.
- cPAHs were not detected in any of the samples at concentrations that exceeded the MTCA Method A cleanup level adjusted Toxic Equivalency Factor (TEF) of 0.1 µg/L.

Results from the quarterly groundwater sampling for Lot 1 are summarized in Table 2. Table 3 provided the TEF calculations of the individual cPAH constituents. The TEF method is used to adjust the concentration of individual cPAHs such that they are relative in toxicity to benzo(a)pyrene, which is the most carcinogenic of the PAHs. The individual cPAH concentrations are then added together for comparison with the MTCA cleanup level for benz(a)pyrene.

Copies of the groundwater laboratory reports are included in Appendix A (see attached data disk).

#### **4.2 Disposal of Investigation-Derived Waste**

Purge and rinse water generated during the field activities, was placed into 55-gallon drum and temporarily stored on site pending analytical analysis. Upon receipt of the analytical data, the water was disposed following State of Washington guidelines.

### **5.0 DISCUSSION AND CONCLUSIONS**

Based on the four quarterly groundwater sampling events which concluded in February 2012, groundwater at the site has continued to meet MTCA Method A cleanup levels since the property was remediated and groundwater was initially sampled in 2001 and 2002 and then again 2009. Analytical results indicate that no contaminants of concern were detected in Site groundwater samples at concentrations that exceeded MTCA Method A cleanup levels.

Based on the information contained in this report, it is our opinion that the site remediation and existing controls continue to be protective of human health and the environment. The analytical data demonstrates that groundwater quality at the site has not been impacted since the site was remediated in 2002. We request to discontinue groundwater sampling at the site and to abandon the wells located on the site.

## **6.0 RECOMMENDATIONS**

Based on results of the four quarterly sampling events we recommend to petition Ecology for an early review to discontinue monitoring and decommission the monitoring wells located at the Site.

## **7.0 LIMITATIONS**

Shannon & Wilson, Inc. has prepared this report in a professional manner, using that level of skill and care normally exercised for similar projects under similar conditions by reputable and competent environmental consultants currently practicing in the area. Shannon & Wilson, Inc. is not responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the report was prepared. We also note that the facts and conditions referenced in this report may change over time, and that the conclusions and recommendations set forth here are applicable to the facts and conditions as described only at the time of this report. We believe that the conclusions stated here are factual, but no guarantee is made or implied.

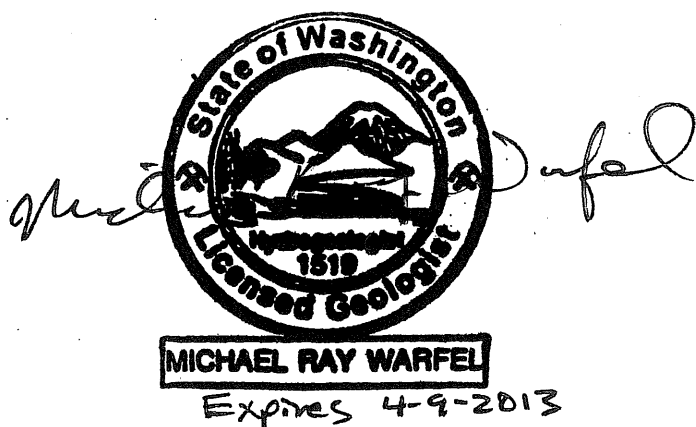
This report was prepared for the exclusive use of Mr. Troy Thomas of All New Glass and his representatives. Shannon & Wilson, Inc. has prepared Appendix B, "Important Information

About Your Geotechnical/Environmental Report," to assist you and others in understanding the use and limitations of our reports.

SHANNON & WILSON, INC.



David J. Randall  
Senior Environmental Scientist



Michael R. Warfel, L.G., L.H.G.  
Vice President

DJR:MRW/djr

## 8.0 REFERENCES

- Enco Environmental Corporation, 2001, Subsurface Phase II ESA Report, Custom-Bilt Metals, Auburn WA: Report to Mr. Drew Popson, August 14.
- Enco Environmental Corporation, 2002, Soil remediation by removal, Custom-Bilt Metals, Auburn WA: Report to Mr. Drew Popson, February 14.
- Geotech Consultants, Inc., 1993, Closure report: underground storage tank, 233 D Street Northwest, Auburn WA, October 15.
- Shannon & Wilson, Inc., 2010, Groundwater sampling and monitoring well installation report , Former Custom-Bilt Metals Facility Lots 1&2, 233 D Street, Auburn WA, March.
- Washington State Department of Ecology (Ecology), 2001, Model Toxics Control Act cleanup regulation, Chapter 173-340 Washington Administrative Code (WAC): Olympia, Wash., Washington State Department of Ecology, publication No. 94-06, amended February 12.
- Washington State Department of Ecology (Ecology), 2004, Dangerous waste regulations, Chapter 173-303 Washington Administrative Code (WAC): Olympia, Wash., Washington State Department of Ecology, November 30.

**TABLE 1**  
**GROUNDWATER ELEVATIONS IN MONITORING WELLS**  
**(May 2011 - February 2012)**

<b>Well Number</b>	<b>Date</b>	<b>TOC Elevation</b>	<b>DTW</b>	<b>Groundwater Elevation</b>
MW-1 (AGJ686)	5/5/2011	72.16	3.51	68.65
	8/10/2011	72.16	5.21	66.95
	11/17/2011	72.16	5.65	66.51
	2/18/2012	72.16	2.78	69.38
MW-2 (AGJ687)	5/5/2011	72.73	3.16	69.57
	8/10/2011	72.73	4.85	67.88
	11/17/2011	72.73	5.75	66.98
	2/18/2012	72.73	3.12	69.61
MW-4 (BBA739)	5/5/2011	75.98	8.66	67.32
	8/10/2011	75.98	10.77	65.21
	11/17/2011	75.98	10.61	65.37
	2/18/2012	75.98	8.76	67.22
MW-5 (BBA740)	5/5/2011	76.32	7.56	68.76
	8/10/2011	76.32	10.62	65.70
	11/17/2011	76.32	10.48	65.84
	2/28/2012	76.32	7.51	68.81

Notes:

Elevations are in feet.

DTW = depth to water

TOC = top of well casing

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
(May 2011 - February 2012)

Well Number	Sample Number	Sample Date	Petroleum (mg/L)		Gasoline (µg/L)	BTEX (µg/L)				Metals (µg/L)		PCBs (µg/L)	Total cPAHs (µg/L)	Naphthalene (µg/L)
			Oil	Diesel		Benzene	Toluene	Ethylbenzene	Xylenes	Lead	Cadmium			
GROUNDWATER RESULTS														
MW-1	MW-1-GW-1:11	5/5/2011	<0.41	<0.26	<100	<0.20	<1.0	<0.20	<0.60	<1.1	<4.4	<0.047	0.01	<0.095
MW-1	MW-1-GW-2:11	8/10/2011	<0.41	<0.26	<100	<0.20	<1.0	<0.20	<0.60	<1.0	<4.0	<0.048	0.01	<0.096
MW-1	MW-1-GW-3:11	11/17/2011	<0.41	<0.26	<100	<0.20	<1.0	<0.20	<0.60	<1.1	<4.4	<0.048	0.01	<0.095
MW-1	MW-1-GW-4:12	2/28/2012	<0.41	<0.26	<100	<0.20	1.4	<0.20	<0.60	<1.0	<0.40	<0.048	0.01	<0.095
MW-4	MW-4-GW-1:11	5/5/2011	<0.41	<0.26	<100	<0.20	<1.0	<0.20	<0.60	<1.1	<4.4	<0.047	0.01	<0.095
MW-4	MW-4-GW-2:11	8/10/2011	<0.41	<0.26	<100	<0.20	<1.0	<0.20	<0.60	<1.0	<4.0	<0.048	0.01	<0.096
MW-4	MW-4-GW-3:11	11/17/2011	<0.42	<0.26	<100	<0.20	<1.0	<0.20	<0.60	<1.1	<4.4	<0.047	0.01	<0.095
MW-4	MW-4-GW-4:12	2/12/2012	<0.41	<0.26	<100	<0.20	<1.0	<0.20	<0.60	<1.0	<0.40	<0.048	0.01	<0.095
MW-5	MW-5-GW-1:11	5/5/2011	<0.41	<0.26	<100	<0.20	<1.0	<0.20	<0.60	<1.1	<4.4	<0.049	0.01	<0.095
MW-5	MW-5-GW-2:11	8/10/2011	<0.41	<0.26	<100	<0.20	<1.0	<0.20	<0.60	<1.0	<4.0	<0.048	0.04	<0.096
MW-5	MW-5-GW-3:11	11/17/2011	<0.41	<0.25	<100	<0.20	<1.0	<0.20	<0.60	<1.1	<4.4	<0.048	0.01	0.1
MW-5	MW-5-GW-4:12	2/28/2012	<0.41	<0.26	<100	<0.20	1.1	<0.20	<0.60	<1.0	<0.40	<0.047	0.01	<0.095
MW-5	MW-5-GW-4:12A	2/28/2012	--	--	--	--	--	--	--	--	--	--	0.01	<0.095
MTCA Method A			500	500	1,000	5	1000	700	1,000	15	5	0.1	0.1 <sup>(1)</sup>	160

Notes:

<sup>(1)</sup> Sum of the toxic equivalency factor (TEF) for each carcinogenic polycyclic aromatic hydrocarbon. Calculated as the detected concentration times the TEF, or as the method detection limit (if analyte is not detected) times the TEF.

BTEX = benzene, toluene, ethylbenzene, and xylenes

cPAHs = carcinogenic polycyclic aromatic hydrocarbons

µg/L = micrograms per liter

MTCA = Washington Model Toxics Control Act

PCBs = polychlorinated biphenyls

**TABLE 3**  
**TOXICITY EQUIVALENCY FACTOR-ADJUSTED cPAH CONCENTRATIONS**  
**(May 2011 - February 2012)**

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-1-GW-1:11**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0095	0.1	0.000475
Chrysene	ND	0.0095	0.01	0.0000475
Benzo(b)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(k)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(a)pyrene	ND	0.0095	1	0.00475
Indeno(1,2,3-c,d)pyrene	ND	0.0095	0.1	0.000475
Dibenzo(a,h)anthracene	ND	0.0095	0.4	0.0019
<b>Sum<sup>(2)</sup></b>				<b>0.01</b>
MTCA Method A Cleanup Level				0.1

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-4-GW-1:11**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0095	0.1	0.000475
Chrysene	ND	0.0095	0.01	0.0000475
Benzo(b)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(k)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(a)pyrene	ND	0.0095	1	0.00475
Indeno(1,2,3-c,d)pyrene	ND	0.0095	0.1	0.000475
Dibenzo(a,h)anthracene	ND	0.0095	0.4	0.0019
<b>Sum<sup>(2)</sup></b>				<b>0.01</b>
MTCA Method A Cleanup Level				0.1

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-5-GW-1:11**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0095	0.1	0.000475
Chrysene	ND	0.0095	0.01	0.0000475
Benzo(b)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(k)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(a)pyrene	ND	0.0095	1	0.00475
Indeno(1,2,3-c,d)pyrene	ND	0.0095	0.1	0.000475
Dibenzo(a,h)anthracene	ND	0.0095	0.4	0.0019
<b>Sum<sup>(2)</sup></b>				<b>0.01</b>
MTCA Method A Cleanup Level				0.1

**TABLE 3**  
**TOXICITY EQUIVALENCY FACTOR-ADJUSTED cPAH CONCENTRATIONS**  
**(May 2011 - February 2012)**

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-1-GW-2:11**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0095	0.1	0.000475
Chrysene	ND	0.0095	0.01	0.0000475
Benzo(b)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(k)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(a)pyrene	ND	0.0095	1	0.00475
Indeno(1,2,3-c,d)pyrene	ND	0.0095	0.1	0.000475
Dibenzo(a,h)anthracene	ND	0.0095	0.4	0.0019
<b>Sum<sup>(2)</sup></b>				<b>0.01</b>
MTCA Method A Cleanup Level				0.1

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-5-GW-2:11**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	<b>0.018</b>	0.0098	0.1	0.0018
Chrysene	<b>0.030</b>	0.0098	0.01	0.0003
Benzo(b)fluoranthene	<b>0.044</b>	0.0098	0.1	0.0044
Benzo(k)fluoranthene	<b>0.026</b>	0.0098	0.1	0.0026
Benzo(a)pyrene	<b>0.023</b>	0.0098	1	0.023
Indeno(1,2,3-c,d)pyrene	<b>0.019</b>	0.0098	0.1	0.0019
Dibenzo(a,h)anthracene	ND	0.0098	0.4	0.00196
<b>Sum<sup>(2)</sup></b>				<b>0.04</b>
MTCA Method A Cleanup Level				0.1

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-4-GW-2:11**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0096	0.1	0.00048
Chrysene	ND	0.0096	0.01	0.000048
Benzo(b)fluoranthene	ND	0.0096	0.1	0.00048
Benzo(k)fluoranthene	ND	0.0096	0.1	0.00048
Benzo(a)pyrene	ND	0.0096	1	0.0048
Indeno(1,2,3-c,d)pyrene	ND	0.0096	0.1	0.00048
Dibenzo(a,h)anthracene	ND	0.0096	0.4	0.00192
<b>Sum<sup>(2)</sup></b>				<b>0.01</b>
MTCA Method A Cleanup Level				0.1

**TABLE 3**  
**TOXICITY EQUIVALENCY FACTOR-ADJUSTED cPAH CONCENTRATIONS**  
**(May 2011 - February 2012)**

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-1-GW-3:11**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0095	0.1	0.000475
Chrysene	ND	0.0095	0.01	0.0000475
Benzo(b)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(k)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(a)pyrene	ND	0.0095	1	0.00475
Indeno(1,2,3-c,d)pyrene	ND	0.0095	0.1	0.000475
Dibenzo(a,h)anthracene	ND	0.0095	0.4	0.0019
<b>Sum<sup>(2)</sup></b>				<i>0.01</i>
MTCA Method A Cleanup Level				0.1

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-5-GW-3:11**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0095	0.1	0.000475
Chrysene	ND	0.0095	0.01	0.0000475
Benzo(b)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(k)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(a)pyrene	ND	0.0095	1	0.00475
Indeno(1,2,3-c,d)pyrene	ND	0.0095	0.1	0.000475
Dibenzo(a,h)anthracene	ND	0.0095	0.4	0.0019
<b>Sum<sup>(2)</sup></b>				<i>0.01</i>
MTCA Method A Cleanup Level				0.1

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-4-GW-3:11**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0096	0.1	0.00048
Chrysene	ND	0.0096	0.01	0.000048
Benzo(b)fluoranthene	ND	0.0096	0.1	0.00048
Benzo(k)fluoranthene	ND	0.0096	0.1	0.00048
Benzo(a)pyrene	ND	0.0096	1	0.0048
Indeno(1,2,3-c,d)pyrene	ND	0.0096	0.1	0.00048
Dibenzo(a,h)anthracene	ND	0.0096	0.4	0.00192
<b>Sum<sup>(2)</sup></b>				<i>0.01</i>
MTCA Method A Cleanup Level				0.1

**TABLE 3**  
**TOXICITY EQUIVALENCY FACTOR-ADJUSTED cPAH CONCENTRATIONS**  
**(May 2011 - February 2012)**

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-1-GW-4:12**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0095	0.1	0.000475
Chrysene	ND	0.0095	0.01	0.0000475
Benzo(b)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(k)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(a)pyrene	ND	0.0095	1	0.00475
Indeno(1,2,3-c,d)pyrene	ND	0.0095	0.1	0.000475
Dibenzo(a,h)anthracene	ND	0.0095	0.4	0.0019
<b>Sum<sup>(2)</sup></b>				<b>0.01</b>
MTCA Method A Cleanup Level				0.1

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-5-GW-4:12**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0095	0.1	0.000475
Chrysene	<b>0.014</b>	0.0095	0.01	0.00014
Benzo(b)fluoranthene	<b>0.014</b>	0.0095	0.1	0.0014
Benzo(k)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(a)pyrene	ND	0.0095	1	0.00475
Indeno(1,2,3-c,d)pyrene	<b>0.0096</b>	0.0095	0.1	0.00096
Dibenzo(a,h)anthracene	ND	0.0095	0.4	0.0019
<b>Sum<sup>(2)</sup></b>				<b>0.01</b>
MTCA Method A Cleanup Level				0.1

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-4-GW-4:12**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0095	0.1	0.000475
Chrysene	ND	0.0095	0.01	0.0000475
Benzo(b)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(k)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(a)pyrene	ND	0.0095	1	0.00475
Indeno(1,2,3-c,d)pyrene	ND	0.0095	0.1	0.000475
Dibenzo(a,h)anthracene	ND	0.0095	0.4	0.0019
<b>Sum<sup>(2)</sup></b>				<b>0.01</b>
MTCA Method A Cleanup Level				0.1

**TABLE 3**  
**TOXICITY EQUIVALENCY FACTOR-ADJUSTED cPAH CONCENTRATIONS**  
**(May 2011 - February 2012)**

**ADJUSTED TEF CONCENTRATION FOR SAMPLE MW-5-GW-4:12A**

<b>Analyte</b>	<b>Sample Result (µg/L)</b>	<b>Method Detection Limit (µg/L)</b>	<b>Toxic Equivalency Factor</b>	<b>Adjusted Concentration<sup>(1)</sup> (µg/L)</b>
Benzo(a)anthracene	ND	0.0095	0.1	0.000475
Chrysene	ND	0.0095	0.01	0.0000475
Benzo(b)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(k)fluoranthene	ND	0.0095	0.1	0.000475
Benzo(a)pyrene	ND	0.0095	1	0.00475
Indeno(1,2,3-c,d)pyrene	ND	0.0095	0.1	0.000475
Dibenzo(a,h)anthracene	ND	0.0095	0.4	0.0019
<b>Sum<sup>(2)</sup></b>				<i>0.01</i>
<b>MTCA Method A Cleanup Level</b>				<b>0.1</b>

Notes:

<sup>(1)</sup> Calculated as the detected concentration times the toxic equivalency factor (TEF), or as the method detection limit (if analyte is not detected) times the TEF.

<sup>(2)</sup> Sum of the TEF adjusted concentrations for each carcinogenic polycyclic aromatic hydrocarbon, which is compared to a regulatory criteria.

**Bold** text indicates a detected analyte.

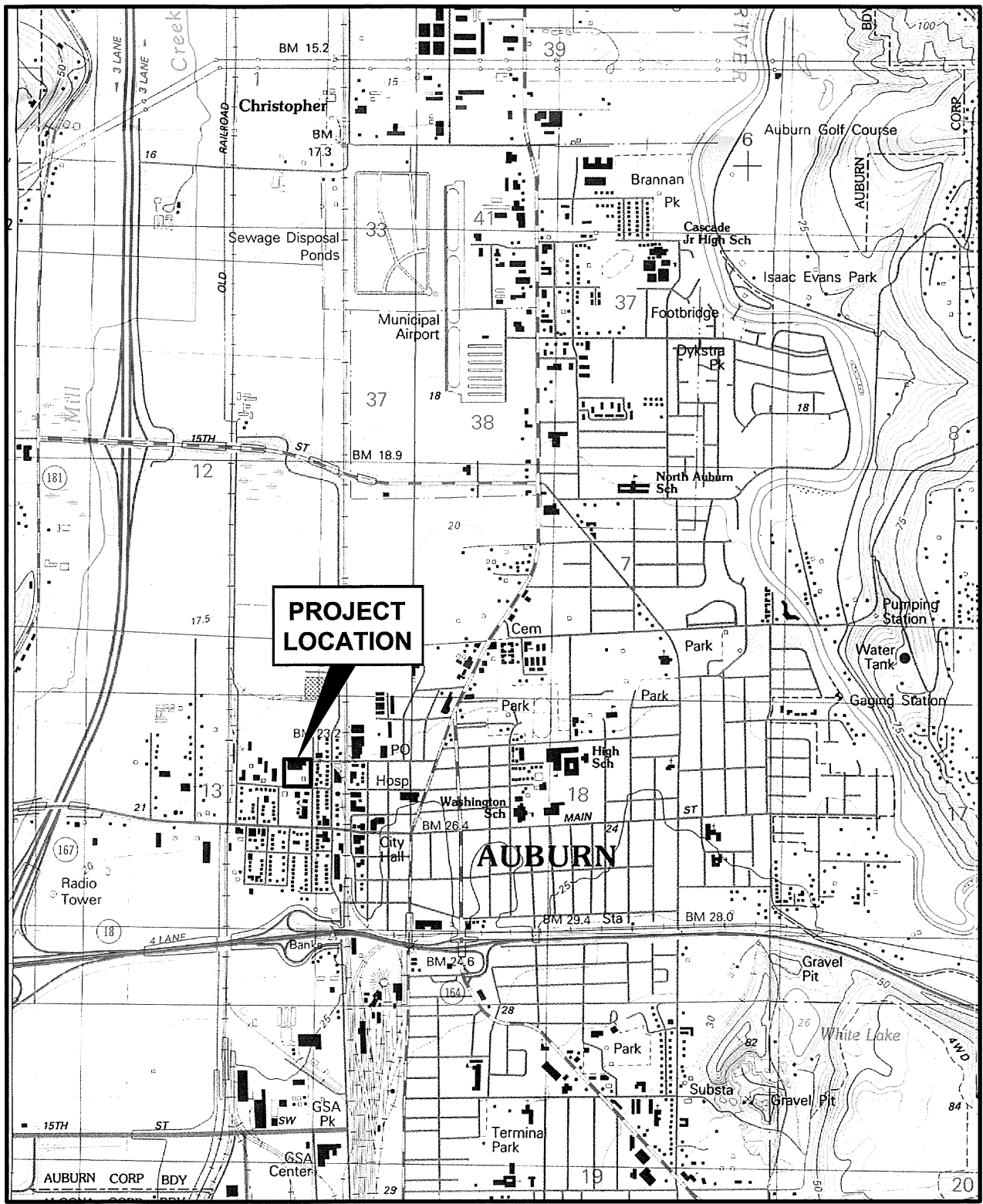
cPAHs = carcinogenic polycyclic aromatic hydrocarbons

µg/L = micrograms per liter

mg/kg = milligrams per kilogram

MTCA = Washington Model Toxics Control Act

ND = not detected



**NOTE**

Map adapted from 1:25,000 USGS topographic map of Auburn, WA quadrangle, dated 1983.

All New Glass  
233 D Street NW  
Auburn, Washington

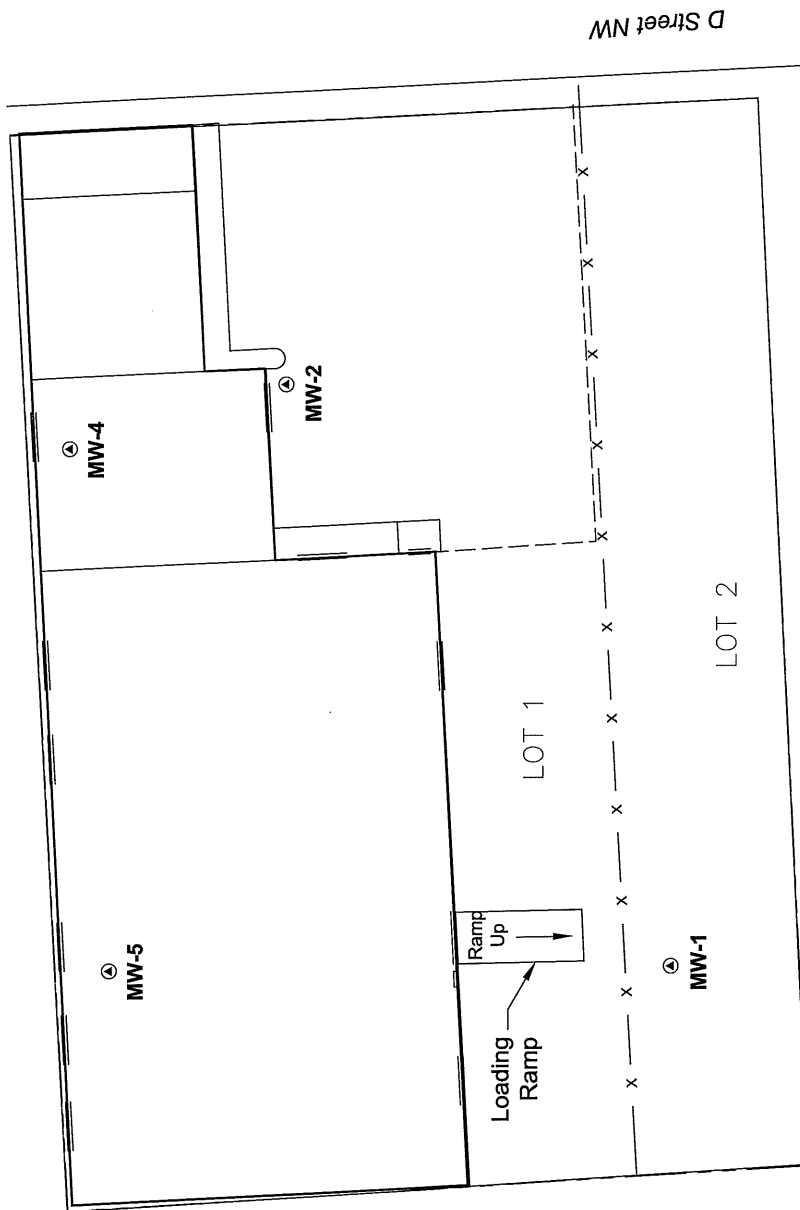
**VICINITY MAP**

April 2012

21-1-12334-001

**SHANNON & WILSON, INC.**  
Geotechnical and Environmental Consultants

**FIG. 1**



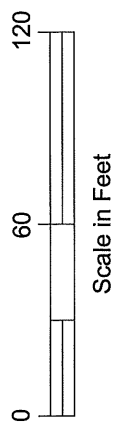
D Street NW

### LEGEND

MW-1 ⓧ Groundwater Monitoring Well

### NOTE

Map adapted from "Excavation Detail" and "Site Plan and Sample Location Diagram" drawings prepared by Enco Environmental Corporation, both dated 7-15-2002.



All New Glass  
233 D Street NW  
Auburn, Washington

## MONITORING WELL LOCATIONS

April 2012 21-1-12334-001

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**FIG. 2**

**FIG. 2**