

**BIRDS EYE FOODS TACOMA, WA  
VAPOR INTRUSION WORK PLAN  
VCP SITE NUMBER SW1187**

**March 27, 2012**

**BIRDS EYE FOODS TACOMA, WA  
VAPOR INTRUSION WORK PLAN  
VCP SITE NUMBER SW1187**

*Prepared for:*

**Pinnacle Foods Group LLC  
399 Jefferson Road  
Parsippany, NJ 07054**

*Prepared by:*

**Pacific Groundwater Group  
2377 Eastlake Avenue East, Suite 200  
Seattle, Washington 98102  
206.329.0141**

*March 27, 2012*

*J11001.03*

*BEF\_VIPlan\_Finalv1.docx*

---

## TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>1</b>
<b>2.0</b>	<b>SITE DESCRIPTION .....</b>	<b>1</b>
2.1	FORMER BOILER ROOM UST SITE DESCRIPTION .....	1
2.2	LAND AND BUILDING USE .....	2
2.3	VADOSE ZONE HYDROGEOLOGIC UNITS AND GROUNDWATER.....	3
2.4	BOILER ROOM SITE CONSTITUENTS OF CONCERN .....	3
<b>3.0</b>	<b>VAPOR INTRUSION WORK PLAN .....</b>	<b>4</b>
3.1	SAMPLE PARAMETERS .....	4
3.2	TIME OF SAMPLING .....	5
3.3	SOIL GAS SAMPLING LOCATIONS AND RATIONALE .....	5
3.4	SOIL GAS SAMPLING METHODOLOGY .....	6
3.5	SAMPLE HANDLING .....	7
3.6	QUALITY CONTROL FOR SOIL GAS SAMPLING .....	7
3.7	SCREENING LEVELS .....	7
3.8	REPORTING .....	8
<b>4.0</b>	<b>REFERENCES .....</b>	<b>8</b>

---

## TABLES

Table 1: Summary of 2011 BTEX Soil Results, Birds Eye Boiler Room Site

---

## FIGURES

- Figure 1: Site Vicinity  
Figure 2: Birds Eye Foods Site and Adjacent Parcels  
Figure 3: Proposed Soil Gas Sample Locations  
Figure 4: Boiler Room Site Hydrographs

---

## 1.0 INTRODUCTION

This Work Plan has been developed in response to comments made by the Washington State Department of Ecology (Ecology) regarding findings of the independent 2011 Remedial Investigation and Feasibility Study (2011 RI/FS; Pacific Groundwater Group, 2011) performed on behalf of Birds Eye Foods LLC (Birds Eye) for their facility known as Birds Eye Foods, or Former Nalley's Fine Foods, in Tacoma, Washington (Figure 1). The subject of the 2011 RI/FS is a portion of the Birds Eye facility, referred to as the "Former Boiler Room UST Site" or "Boiler Room Site" (Figure 2).

Based on the nature of contaminants in subsurface soil at the Boiler Room Site, Ecology requested that Birds Eye perform a Vapor Intrusion study to assess if volatile compounds in the subsurface pose a threat to indoor air in current or future buildings at the Site. This Work Plan provides specific guidance for field methodology that will be followed by Pacific Groundwater Group (PGG) and subcontractors on behalf of our client, Birds Eye Foods.

The Work Plan has been prepared in compliance with Ecology's *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* (Draft Vapor Guidance; Ecology, 2009) and developed under the Washington State Model Toxics Control Act (MTCA, Washington Administrative Code [WAC] Chapter 173-340). The Birds Eye Boiler Room Site entered Ecology's Voluntary Cleanup Program (VCP) in September 2011 and was assigned VCP Site Number SW1187.

This Work Plan was developed using generally accepted hydrogeologic practices used at this time and in this vicinity, for exclusive application to this study, and for the exclusive use of Bird's Eye Foods. This is in lieu of other warranties, express or implied.

---

## 2.0 SITE DESCRIPTION

This section provides general descriptions of the Boiler Room Site at the Birds Eye facility, including subsurface soils, groundwater levels, and contamination. Additional information is presented in the 2011 RI/FS.

---

### 2.1 FORMER BOILER ROOM UST SITE DESCRIPTION

The Birds Eye Foods facility is a former food processing facility located approximately 3 miles southwest of downtown Tacoma and the southernmost tip of Commencement Bay (Figure 1). Locally, the facility is also known as Nalley's Fine Foods, the original food processing company at this location.

The subject of the 2011 RI/FS and this Vapor Intrusion Work Plan is a portion of the Birds Eye facility, referred to as the "Former Boiler Room UST Site" or "Boiler Room Site" (Figure 2). The Boiler Room Site is located in the south-western portion of the Birds Eye facility.

As presented in Figures 2 and 3, the Boiler Room Site is located in the main internal vehicle corridor through the facility. A railroad spur, overhead power lines, and underground utilities transect the Site as described in the 2011 RI/FS. Three buildings are located in the vicinity of the Boiler Room Site: the Potato Warehouse (currently vacant), the Boiler Room Building, and the former Pallet Room Building (currently vacant).

The Boiler Room Site is largely paved or covered with buildings. Crushed rock and gravel lies between the rails in the southern 350 feet of track and to approximately 2.5 feet on either side of the rails. There is also a gravel covered area approximately 1,200 square feet along the southern 100 feet of track.

Two underground storage tanks (USTs) were removed from the Boiler Room Site in 1990. Soil at the Site is impacted with petroleum compounds from former UST releases of diesel and Bunker C fuels. The 2011 RI/FS assessed the nature and extent of soil contamination at the Boiler Room Site and concluded that non-aqueous phase liquid (NAPL) is present in soil and that dissolution of the contaminant mass to groundwater is no longer occurring. Information on the nature of Site contamination is presented in Section 2.4 of the Work Plan and in the 2011 RI/FS. This is a mature Site and not the result of a recent or new release of hazardous materials to the subsurface.

---

## **2.2 LAND AND BUILDING USE**

The Birds Eye property is zoned by the City of Tacoma as Heavy Industrial (M2) with South Tacoma Groundwater Protection District and South Tacoma Manufacturing/Industrial Center overlays. The surrounding properties are zoned as heavy or light industrial with the same overlays as the Birds Eye facility.

The Birds Eye facility is no longer operational. Food production ceased in June 2011 and subsequent warehousing and distribution activities ended in December 2011. The property is currently for sale. Future land use is unknown, but will likely be industrial given the industrial and commercial zoning of the Nalley Valley and surrounding property use. Also, due to its proximity to other industrial properties and its value as industrial property, it is not likely that zoning will change in the future and there is no intent to change it.

Three buildings are located in the vicinity of the Boiler Room Site: the Potato Warehouse (currently vacant), the former Pallet Room Building (currently vacant), and the Boiler Room Building. The Potato Warehouse was formerly used for storage and is not an enclosed space as it is drafty with a large loading bay or garage-style door. The Potato Warehouse does not have a forced air style heating system. The Pallet Room Building was formerly used to re-build wooden pallets. It has large loading bay or garage-style doors and does have a heating system. The Boiler Room has a large bay-style door, is not insulated, and does not have a separate heating system. The Boiler Room does have an exhaust system that vented the boilers when operating.

The existing buildings were not used as office space and the current conditions of the buildings are not suited for offices. Construction details for the buildings are unknown; however, following a site inspection a remedial engineer made the following assessment:

*While it is not known for certain, it is assumed that both of these buildings [sic the Potato Warehouse and Boiler Room] are founded on shallow spread footings. The Potato Warehouse is wood framed and relatively flexible but it shares a wall with the adjacent Boiler Room building. The Boiler Room building has concrete block walls and will be more brittle (PGG, 2011).*

Plans for buildings that may be constructed in the future in the vicinity of the Boiler Room are unknown.

---

## **2.3 VADOSE ZONE HYDROGEOLOGIC UNITS AND GROUNDWATER**

The following discussion is based on information presented in the 2011 RI/FS. The Site geology and hydrogeology have been investigated through numerous drilling tasks performed at the Birds Eye facility. The Vapor Intrusion investigation will focus on the vadose zone. Two stratigraphic units were encountered in the vadose zone in at the Site:

- Fill
- Upper Sand (unsaturated portions)

Significant low-permeability layers in the vadose zone have not been identified at the Site.

### **Fill**

A layer of structural fill, approximately 4 to 12 feet thick and consisting of sand and gravel occurs at ground surface at the Boiler Room Site. The fill is approximately 15 to 19 feet thick where it was used to backfill the former UST excavations. The lateral extent of fill is unknown. The unit is generally not saturated with groundwater, although fill in the former tank excavations may be saturated at seasonally high groundwater periods. Field observations suggest this unit is relatively permeable.

### **Upper Sand**

The Upper Sand is the shallowest naturally occurring unit at the Site. It is a 30 to 50 foot thick layer of fine to medium sand with minor gravel. At the Boiler Room Site the water table occurs in the Upper Sand unit. Depth to groundwater in Site wells is typically 23 to 28 feet below ground; however the minimum and maximum measured at the Site are about 18 and 30 feet, respectively (Figure 4).

---

## **2.4 BOILER ROOM SITE CONSTITUENTS OF CONCERN**

The sources of soil contamination at the Boiler Room Site were releases of diesel and Bunker C fuel from former USTs that were used to fuel the facility boilers. Gasoline was not stored at the Boiler Room Site.

The constituents of concern (COC) identified for the Boiler Room Site in the 2011 RI/FS for soil are:

- Total Petroleum Hydrocarbons (TPH) including gasoline-, diesel-, and motor oil-range hydrocarbons
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)

During the 2011 Site investigations, the lab analyst noted that the soil chromatogram peaks in the gasoline-range did not match the pattern of an identifiable gasoline chromatogram. The gasoline-range organics present in the Site soil are likely degraded from the original diesel and Bunker C releases.

The constituent list for long-term groundwater monitoring also includes polycyclic aromatic hydrocarbons (PAHs).

The 2011 RI/FS concluded that a NAPL body is present in the Fill and Upper Sand units at the Boiler Room Site that is functionally stable. The Soil-NAPL body is present below the water table with the exception of the B11-09 area (Figure 3) where it was encountered slightly above the water table. The Soil-NAPL body has concentrations of TPH compounds and benzene above MTCA Method A Industrial cleanup levels for soil (Figure 3). Long-term groundwater monitoring indicates that dissolution of the contaminant mass to groundwater is no longer occurring.

---

### 3.0 VAPOR INTRUSION WORK PLAN

This section presents the scope of work for the Vapor Intrusion investigation to be conducted at the Boiler Room Site. The objective of the investigation is to assess if volatile compounds present in the Boiler Room Site subsurface are of significant strength to pose a potential vapor intrusion threat to existing or future buildings at the Site.

Ecology's Draft Vapor Intrusion Guidance has a tiered approach to evaluate if concentrations of volatile substances are high enough to pose a potentially unacceptable threat to indoor air quality in current or future buildings depending on the subsurface source:

- Shallow Groundwater Source (only): use measured groundwater concentrations or soil gas concentrations
- Vadose Zone Soil Source (only): use measured soil gas concentrations
- Shallow Groundwater and Vadose Zone Soil Sources: use measured soil gas concentrations
- LNAPL Source (on top of the water table): use measured soil gas concentrations

Based on observations of NAPL at the Boiler Room Site, soil gas is the Ecology-recommended media to evaluate potential vapor intrusion.

---

#### 3.1 SAMPLE PARAMETERS

Substances that could potentially contaminant indoor air to unacceptable levels through the vapor intrusion pathway are identified in the Draft Vapor Guidance. Of the Boiler Room Site chemicals of concern, those with a potential vapor intrusion pathway are the

BTEX compounds. Benzene is the most toxic volatile organic compound detected in soil at the Boiler Room Site and is therefore the driver for the Vapor Intrusion investigation.

Soil gas samples collected for this Vapor Intrusion investigation will be analyzed for BTEX compounds by EPA Method TO-15. In addition, the soil gas samples will be analyzed for oxygen content to assess if site conditions are favorable to aerobic degradation. Analytical services will be provided by a Washington State accredited lab.

---

### **3.2 TIME OF SAMPLING**

Ecology recommends that soil gas sampling be avoided during or immediately following a heavy rain event because it can affect the representativeness of the soil gas sample. However, it may not be practical to collect soil gas samples under optimal weather conditions, as sampling will be scheduled weeks in advance with subcontractors. Other factors that can impact the degree of vapor intrusion from soil gas include the height of the water table and temperature of soil and groundwater.

---

### **3.3 SOIL GAS SAMPLING LOCATIONS AND RATIONALE**

During the 2011 RI/FS, BTEX compounds were analyzed in 45 soil samples collected from 16 boreholes drilled at the Boiler Room Site (Table 1). Benzene was only detected in the following samples:

- B11-06: samples collected from 25 and 30 feet below ground
- B11-08: samples collected from 20, 25, and 30 feet below ground
- B11-14: sample collected from 30 feet below ground

Of these three locations and six samples, benzene concentrations exceeded MTCA Method A Industrial soil cleanup levels in three samples: the B11-06 30 foot sample and the B11-08 25 and 30 foot samples. Borehole locations are presented in Figure 3.

Ethylbenzene and xylenes were detected in 9 and 11 soil samples respectively, but at concentrations that did not exceed MTCA Method A Industrial soil cleanup levels. Toluene was not detected in the Site soil samples.

Four soil gas samples are proposed to assess potential vapor intrusion at the Site (Figure 3). Soil gas locations are proposed where the highest concentrations of benzene were measured in Site soil (Table 1). Because these locations are outside the existing buildings, sub-slab soil gas samples will not be collected. Instead, samples will be collected just above the contaminant source or above the capillary zone, whichever is shallower. Based on the 2011 RI/FS benzene results, most samples will be collected at or deeper than 15 feet below ground. Due to the possibility of diluting the collected soil gas sample with atmospheric air, samples should not be collected from depths shallower than 5 feet.



---

### 3.4 SOIL GAS SAMPLING METHODOLOGY

Soil gas samples will be collected from probes advanced to the target sampling depth by direct-push drilling methods. The Post Run Tubing (PRT) system or similar will be used to isolate the soil gas sample from the steel drive rods and to minimize possible leaks of ambient air from the rod joints. In accordance with Ecology's Draft Vapor Guidance, Summa canisters will be used to collect the samples. Grab samples will be collected over a short time interval; integrated samples (collected over 8-24 hours) are not proposed.

Before mobilizing to the field for soil gas sampling, underground utilities in the drilling vicinity will be marked by public and private locators. Upon receipt of the Summa canisters from the analytical lab, the initial vacuum of each canister will be verified and recorded.

At the proposed soil gas sample locations near B11-06 and B11-14 (Figure 3), a licensed driller will advance pilot boreholes to the water table. Because the detections of benzene in Site soils are below the water table, the purposes of the pilot boreholes are to confirm the depth to water at the time of drilling so soil gas samples are collected from the vadose zone. Pilot boreholes may not be drilled at the other soil gas sample locations if the water level is instead measured in monitoring well PW-4 (Figure 3). Soil cores from the pilot boreholes will be retrieved at 4 or 5 foot intervals and visually inspected and logged in the field by a PGG hydrogeologist. Significant subsurface characterization has been performed at the Boiler Room Site and continuous cores and logs will not be maintained. Pilot boreholes will be decommissioned following appropriate state standards.

Based on the pilot borehole log or water level measurement, the PGG hydrogeologist will identify a depth above the water table to collect a soil gas sample. A second borehole adjacent to the pilot borehole will be advanced to the target soil gas sample interval and the following protocol will be used to collect the soil gas sample:

- At the target sample interval, lower disposable tubing with a PRT adapter to the bottom of the rods and thread the adapter onto the point holder in the bottom of the rods.
- Perform a leak test of the PRT tubing system by applying vacuum to the tubing.
- Pull back the probe rods approximately 1 foot to provide an open cylinder in the soil through which the soil gas may be sampled.
- Place a surface seal of hydrated bentonite around the outside of the drill rod to inhibit surface air migration down the outer portion of the drill rod.
- Allow a minimum of 20 minutes to pass since the drill rod was sealed at ground surface and purge the sample tubing a minimum of three casing volumes. A peristaltic pump, vacuum/volume system, purge canister/manifold system, syringe, or similar may be used to purge the tubing. Collectively this equipment is referred to as the sample train. Following purging, clamps or valves should be used to minimize backflow of atmospheric air into the tubing.
- Attach a Summa canister with a pressure gage, flow regulator, and particulate filter to the sample train. Record the start time of sample collection on the field notes. Fill the Summa Canister at less than 200 mL/minute to prevent stripping of volatiles.

- If using a peristaltic pump, open the valve or release the clamp on the flexible tubing and immediately open the flow control device on the canister.
- Close the sample canister valve when the gage indicates approximately 5 inches Hg vacuum and then disconnect the canister from the tubing. Place an identification label on the canister.
- Record the time sample collection was stopped in the field notes.
- Discard sample tubing, retrieve probe rods, and decommission the borehole in accordance with Washington State regulations.

---

### 3.5 SAMPLE HANDLING

Sample containers will be labeled with sample identification, date and time of sample collection, and starting and ending canister pressures. This information will also be recorded in field notes and pertinent information will be transferred to the chain-of-custody. All Summa canisters will be packed in the original shipping containers and sent to the analytical lab. Soil gas samples have a 30-day holding time and must be stored in a clean environment.

---

### 3.6 QUALITY CONTROL FOR SOIL GAS SAMPLING

No field quality control samples will be collected for soil gas samples. Duplicate samples will not be collected because there is no adequate method to collect a duplicate sample using Summa canisters. Quality control will be performed by the laboratory in compliance with the analytical method.

---

### 3.7 SCREENING LEVELS

MTCA Industrial air cleanup levels would be appropriate for current and future buildings at the Boiler Room Site based on current land use and the expectation that future land use will remain industrial. Industrial air cleanup levels are established under MTCA Method C and are tabulated in the Draft Vapor Guidance:

Constituent	Soil Gas Screening Levels (ug/m <sup>3</sup> )	
	Sample Shallower than 15 feet	Sample 15 feet or deeper
Benzene	32	320
Ethylbenzene	10,000	100,000
Toluene	49,000	490,000
Xylenes	1,000	10,000

Soil gas concentrations will be compared to the screening levels tabulated above. Oxygen percentages in soil gas samples that are greater than 4-percent indicate that subsurface conditions are favorable to aerobic degradation. If the oxygen percent in the Boiler Room soil gas samples exceed 4-percent, the screening levels presented above for samples collected 15 feet or deeper will be increased by a factor of ten.

If measured soil gas concentrations exceed the screening levels, the results will be input to a model, like the Johnson and Ettinger model, and used to predict indoor air concentrations.

---

### **3.8 REPORTING**

A concise Vapor Intrusion Investigation report will be developed for Ecology submittal that documents the field investigation, summarizes analytical results, evaluates the soil gas results relative to screening levels, and presents recommendations.

---

## **4.0 REFERENCES**

Pacific Groundwater Group. December 16, 2011. Birds Eye Foods Tacoma, WA 2011 Remedial Investigation/Feasibility Study.

Washington State Department of Ecology. October 2009. Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. Review Draft. Publication No. 09-09-047

**Table 1. Summary of 2011 BTEX Soil Results, Birds Eye Boiler Room Site**

Investigation	Sample ID (borehole ID- sample depth in feet bgs)	Units	Benzene	Ethylbenzene	Toluene	o-Xylene	m+p Xylenes	Sum of Xylenes	Xylenes, Total
			MTCA Method A Industrial Land Use Cleanup Levels:						
			30 ug/kg	6,000 ug/kg	7,000 ug/kg	Not Established	Not Established	9,000 ug/kg	9,000 ug/kg
Jan-11	B11-01-20	ug/kg	13 U	13 U	13 U	13 U	27 U	Xylenes not detected	---
Jan-11	B11-01-30	ug/kg	9.9 U	130 U	130 U	690	2,000	2,690	---
Jan-11	B11-03-24	ug/kg	17 U	17 U	17 U	17 U	34 U	Xylenes not detected	---
Jan-11	B11-06-15	ug/kg	9.8 U	9.8 U	9.8 U	9.8 U	20 U	Xylenes not detected	---
Jan-11	B11-06-20	ug/kg	11 U	44 U	44 U	180	290	470	---
Jan-11	B11-06-25	ug/kg	30	55 U	55 U	270	570	840	---
Jan-11	B11-06-30	ug/kg	290	280	52 U	360	100 U	360	---
Jan-11	B11-08-20	ug/kg	19	950	44 U	240	88 U	240	---
Jan-11	B11-08-25	ug/kg	80	1,300	50 U	210	130	340	---
Jan-11	B11-08-30	ug/kg	880	2,600	46 U	420	2,700	3,120	---
Jan-11	B11-09-23.5	ug/kg	10 U	100	10 U	56	36	92	---
Jan-11	B11-11-10	ug/kg	16 U	16 U	16 U	16 U	32 U	Xylenes not detected	---
Jan-11	B11-12-10	ug/kg	12 U	1,100	57 U	710	200	910	---
Jan-11	B11-12-15	ug/kg	11 U	13 U	13 U	13 U	27 U	Xylenes not detected	---
Jan-11	B11-12-20	ug/kg	14 U	14 U	14 U	14 U	28 U	Xylenes not detected	---
Jan-11	B11-14-09	ug/kg	14 U	14 U	14 U	14 U	27 U	Xylenes not detected	---
Jan-11	B11-14-30	ug/kg	16	2,400	950 U	950 U	1,900 U	Xylenes not detected	---
Jan-11	B11-16-12	ug/kg	12 U	150 U	150 U	290	300 U	290	---
Jan-11	B11-17-10	ug/kg	12 U	1,000	150 U	150 U	300 U	Xylenes not detected	---
Jan-11	B11-17-15	ug/kg	16 U	16 U	16 U	16 U	32 U	Xylenes not detected	---
Jan-11	B11-17-20	ug/kg	16 U	16 U	16 U	16 U	32 U	Xylenes not detected	---
Jan-11	B11-17-30	ug/kg	12 U	1,200 U	1,200 U	1,200 U	2,400 U	Xylenes not detected	---
Jul-11	B11-18-40	ug/kg	20 U	37	20 U	---	---	---	110
Jul-11	B11-18-51	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-18-52	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-19-45	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-19-50	ug/kg	20 U	20 U	20 U	---	---	---	60 U

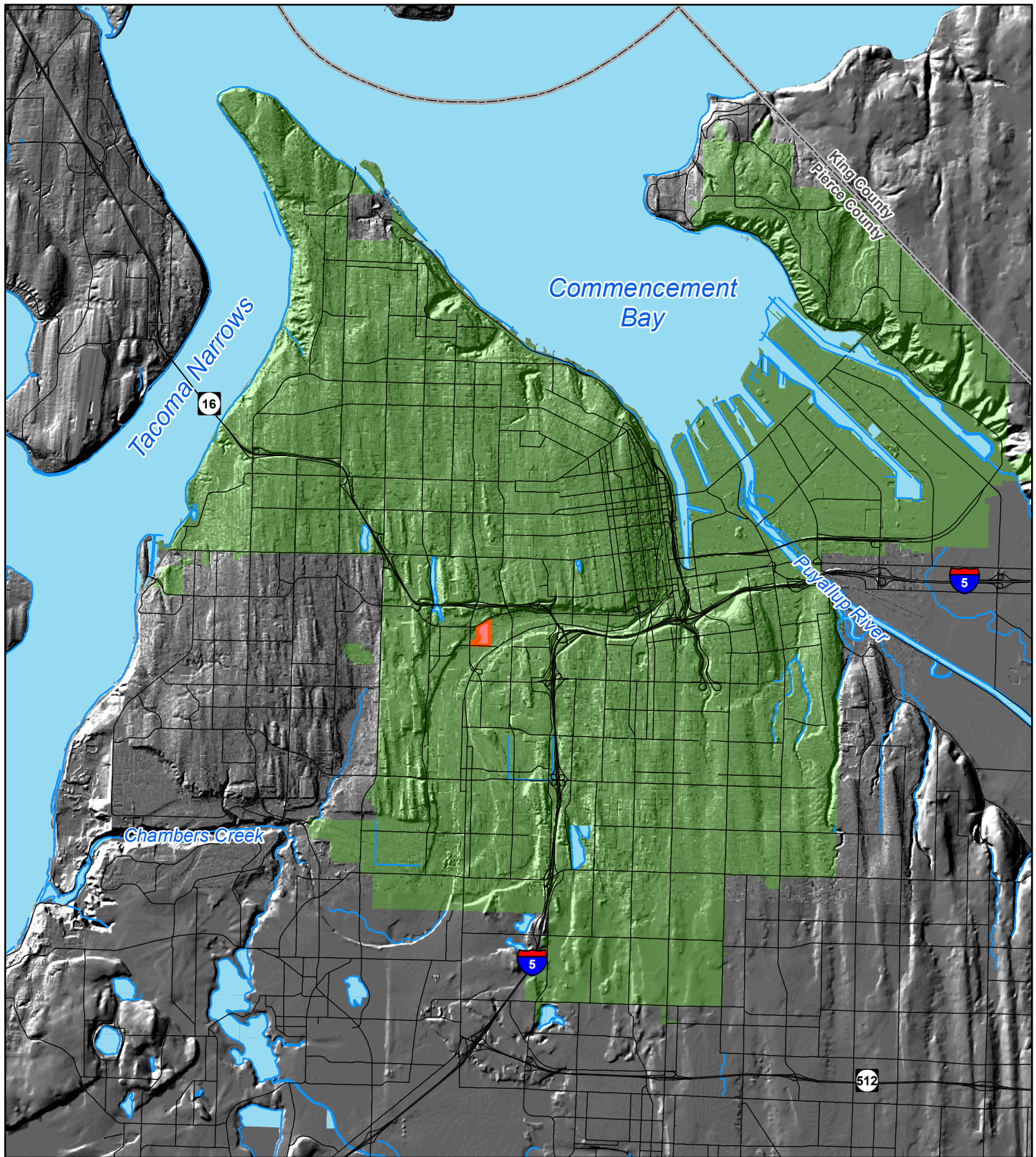
**Table 1. Summary of 2011 BTEX Soil Results, Birds Eye Boiler Room Site**



Investigation	Sample ID (borehole ID- sample depth in feet bgs)	Units	Benzene	Ethylbenzene	Toluene	o-Xylene	m+p Xylenes	Sum of Xylenes	Xylenes, Total
			MTCA Method A Industrial Land Use Cleanup Levels:						
			30 ug/kg	6,000 ug/kg	7,000 ug/kg	Not Established	Not Established	9,000 ug/kg	9,000 ug/kg
Jul-11	B11-19-55	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-20-32	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-21-16	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-21-21	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-21-25	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-21-30	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-21-35	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-21-50	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-21-55	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-22-38	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-23-15	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-23-20	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-23-25	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-23-35	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-23-40	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-23-45	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-23-50	ug/kg	20 U	20 U	20 U	---	---	---	60 U
Jul-11	B11-23-55	ug/kg	20 U	20 U	20 U	---	---	---	60 U

U: compound not detected, number associated is the lab reporting limit

**Bold Red:** concentration exceeds MTCA Method A Cleanup Level





-  Birds Eye Parcels
-  City of Tacoma

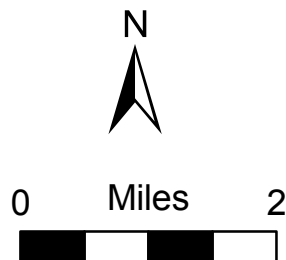
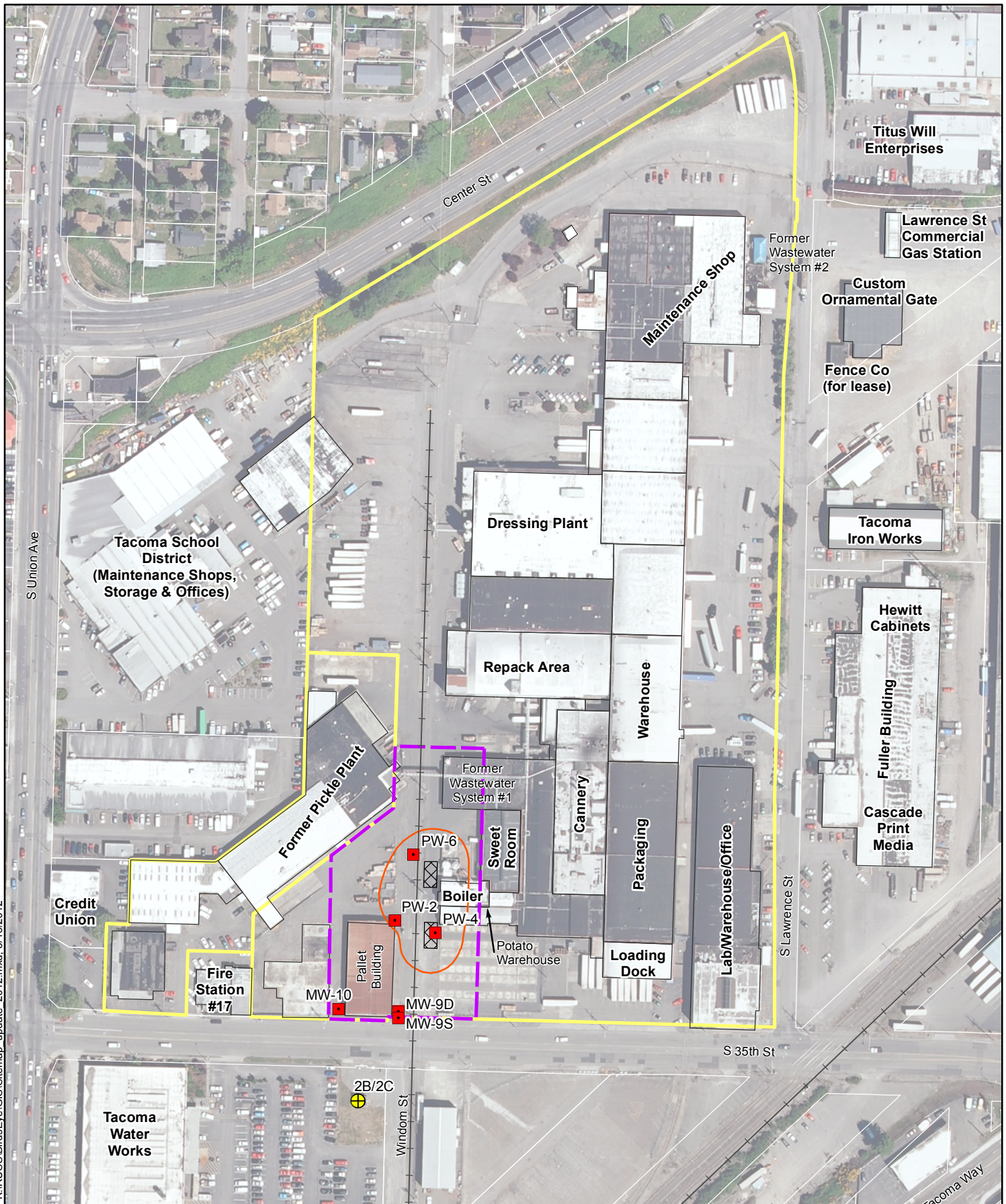


Figure 1  
Site Vicinity

Birds Eye 2001 RI/FS

 pgg





- + Tacoma Production Wells
- Annual Site Monitoring Wells
- Approximate UST Excavation Areas
- Boiler Room Site Vicinity
- 2011 Soil Investigation Area
- Birds Eye Parcels
- Building Footprints

0 Feet 200  
2009 Orthophoto



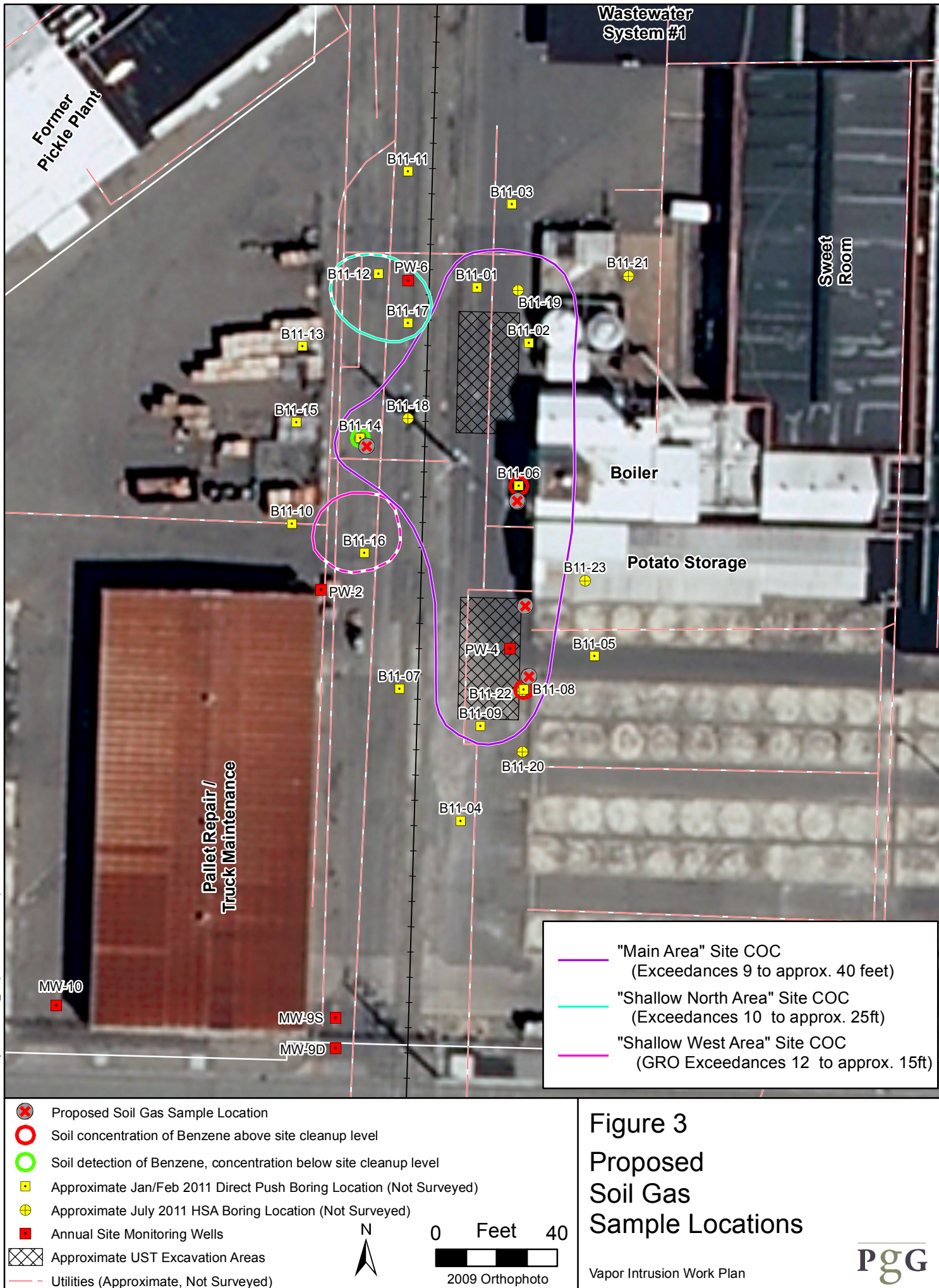
**Figure 2**  
**Birds Eye Foods Site**  
**and Adjacent Parcels**

Vapor Intrusion Work Plan

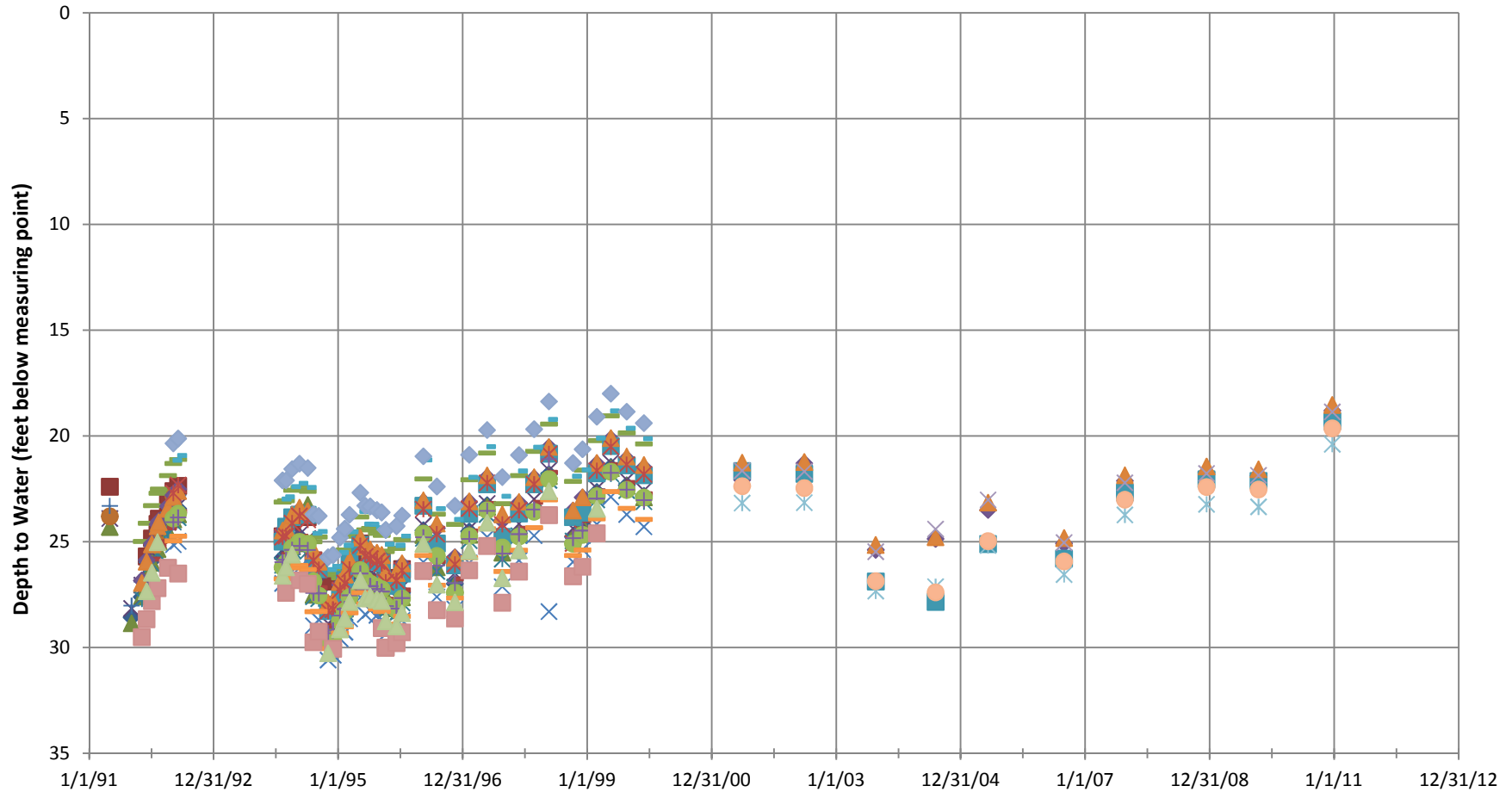
**pgg**



K:\RUSS\BirdsEye\GIS\2012\_ProposedSoilGasSampleLocations.mxd, 3/16/2012







◆ MW-1    ■ MW-2    ▲ MW-3    ✕ MW-4S    ✕ MW-4D    ● MW-5    + MW-6    - MW-7  
 — MW-8    ◆ MW-9s    ■ MW-9d    ▲ MW-10    ✕ MW-11    ✕ P-1    ● P-2    + P-3  
 — P-4    — P-5    ◆ P-6    ■ HC-7    ▲ WELL 2B    ✕ PW-2    ✕ PW-4    ● PW-6

Site monitoring wells completed with flush monuments. Depth to water below the well measuring points approximates depth to water below ground surface.

Figure 4  
Boiler Room Site Hydrographs

Birds Eye 2011 RI/FS

P 206.329.0141 | F 206.329.6968

2377 Eastlake Avenue East | Seattle, WA 98102

P 206.842.3202 | F 206.842.5041

8150 West Port Madison NE | Bainbridge, WA 98110

P 360.570.8244 | F 360.570.0064

1627 Linwood Avenue SW | Tumwater, WA 98512

[www.pgwg.com](http://www.pgwg.com)

