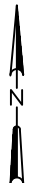


LEGEND

- AREA 14 1989 Dames & Moore Identified areas
- 12-88 Dames & Moore
- ◆ 2-89 Dames & Moore
- ✚ 6-89 Crosby & Overton

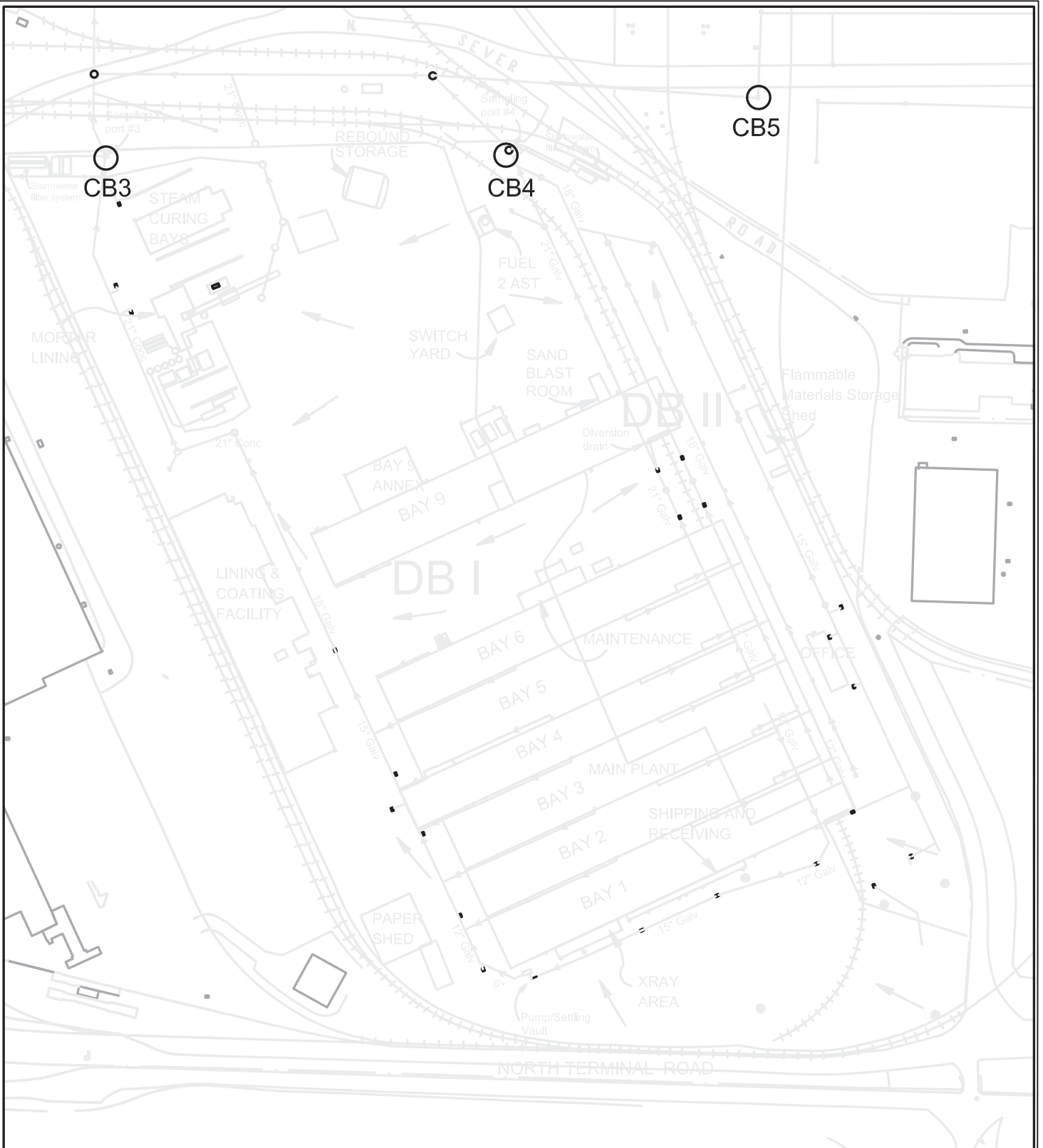
○ 1989 - Crosby & Overton - Approximate area of excavation



**FIGURE 5-1**  
Historical Environmental Areas

NORTHWEST PIPE COMPANY  
PORTLAND, OREGON





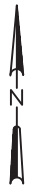
LEGEND



2005 Stormwater Sample Location

CB3

2005 Stormwater Sample Location Number



0 200

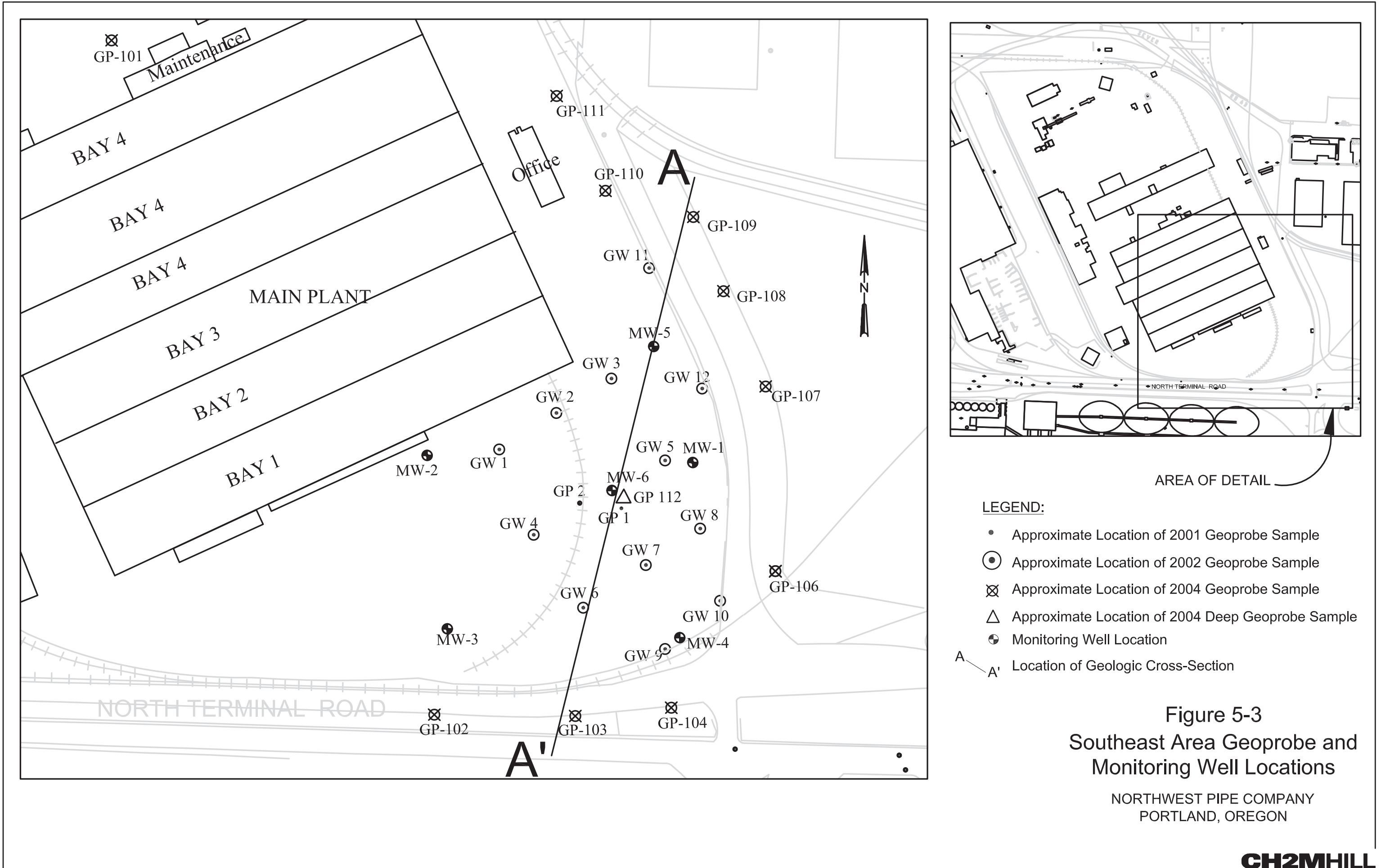


SCALE IN FEET

FIGURE 5-2  
2005 Stormwater Sample Locations

NORTHWEST PIPE COMPANY  
PORTLAND, OREGON





**LEGEND:**

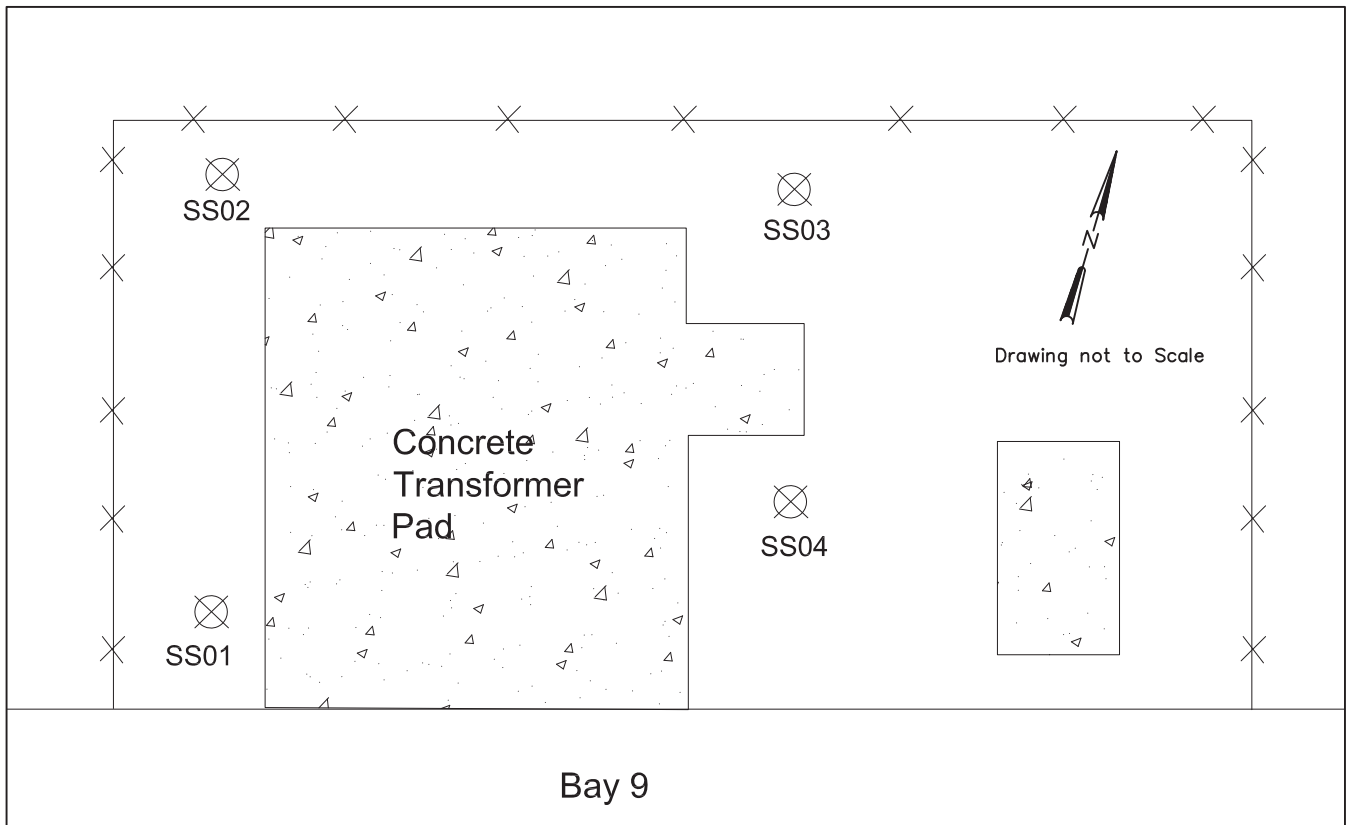
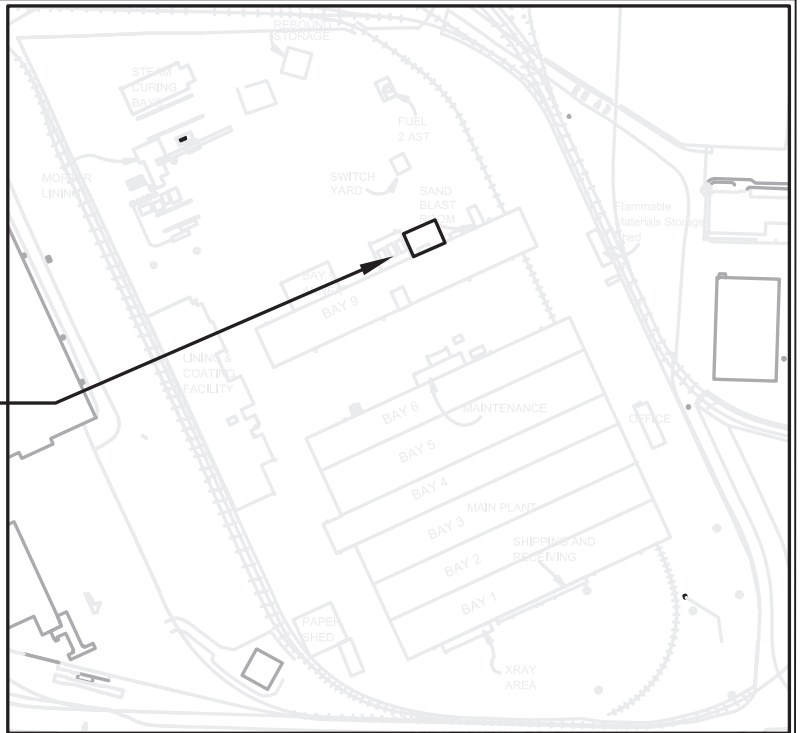
- Approximate Location of 2001 Geoprobe Sample
- ⊙ Approximate Location of 2002 Geoprobe Sample
- ⊗ Approximate Location of 2004 Geoprobe Sample
- △ Approximate Location of 2004 Deep Geoprobe Sample
- Monitoring Well Location
- A-A' Location of Geologic Cross-Section

**Figure 5-3**  
**Southeast Area Geoprobe and**  
**Monitoring Well Locations**

NORTHWEST PIPE COMPANY  
 PORTLAND, OREGON



Area of Detail

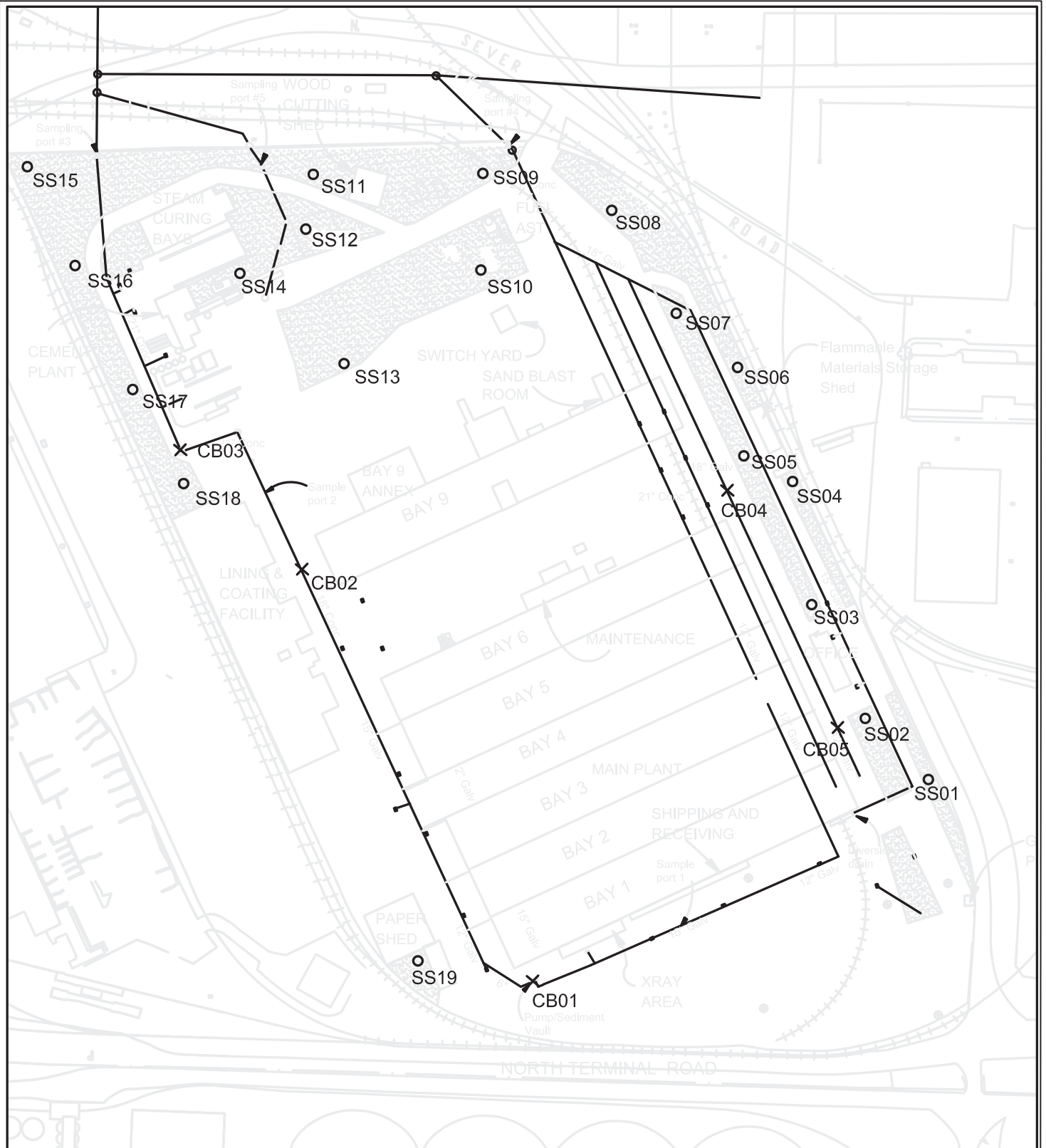


LEGEND

- ⊗ Approximate location of 2005 Soil Sample
- SS01

**FIGURE 5-4**  
**2005 Transformer Area**  
**Surface Soil Sample Locations**  
 NORTHWEST PIPE COMPANY  
 PORTLAND, OREGON





LEGEND

× CB01 2006 Catch Basin Sample Location

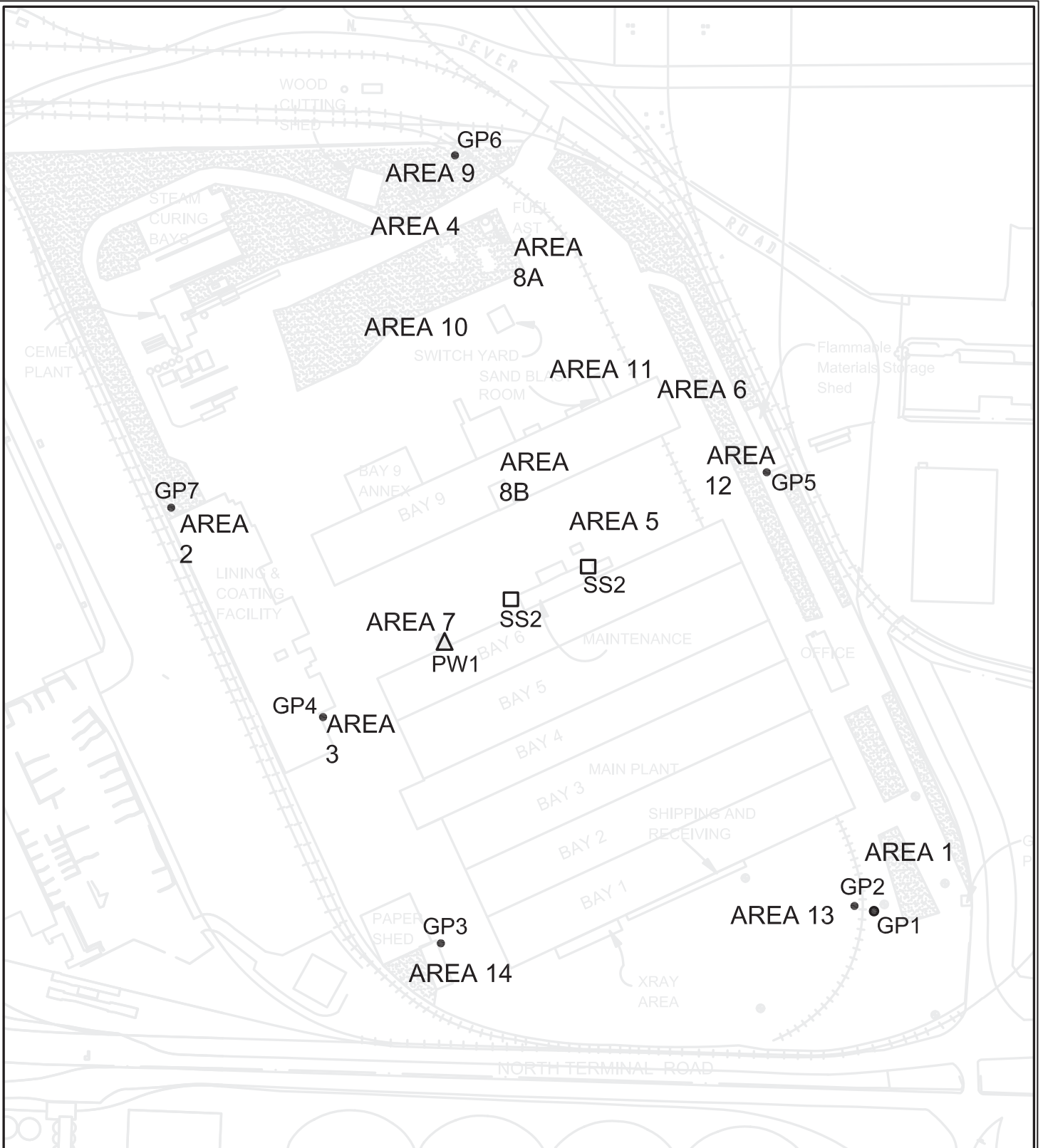
○ SS19 2006 Surface Soil Sample Location



FIGURE 5-5  
2006 Source Control Soil & Catch Basin Sample Locations

NORTHWEST PIPE COMPANY  
PORTLAND, OREGON





**LEGEND**

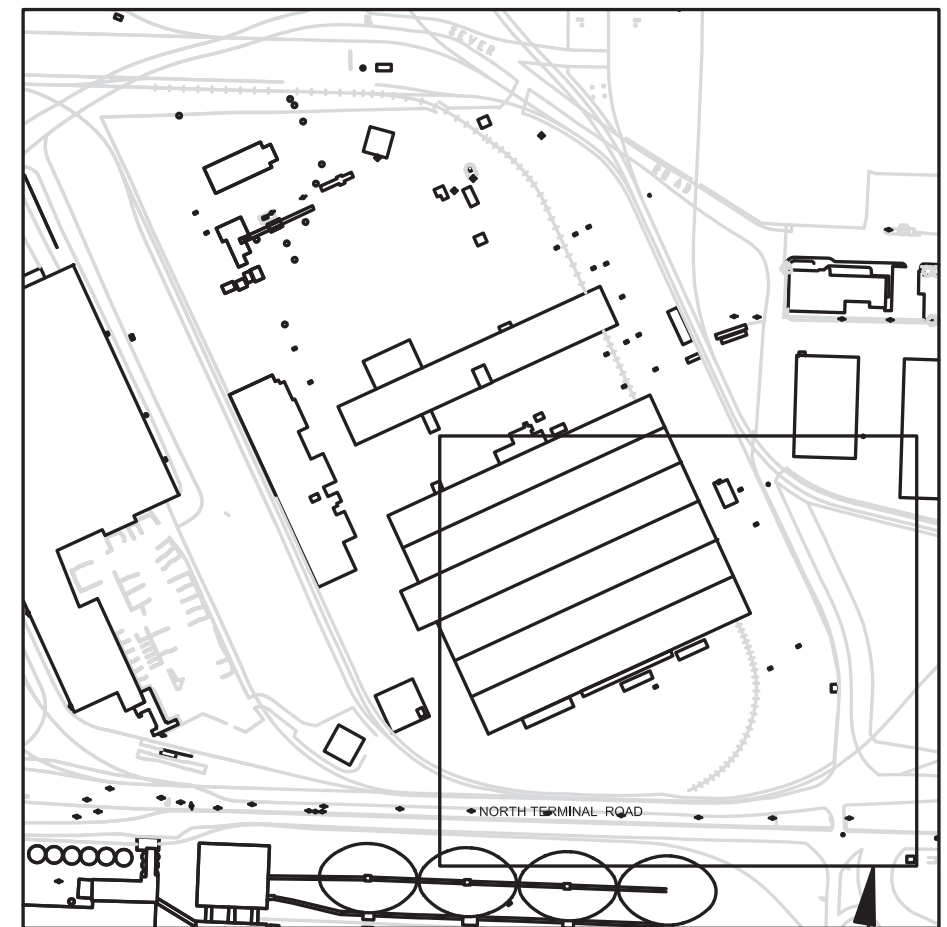
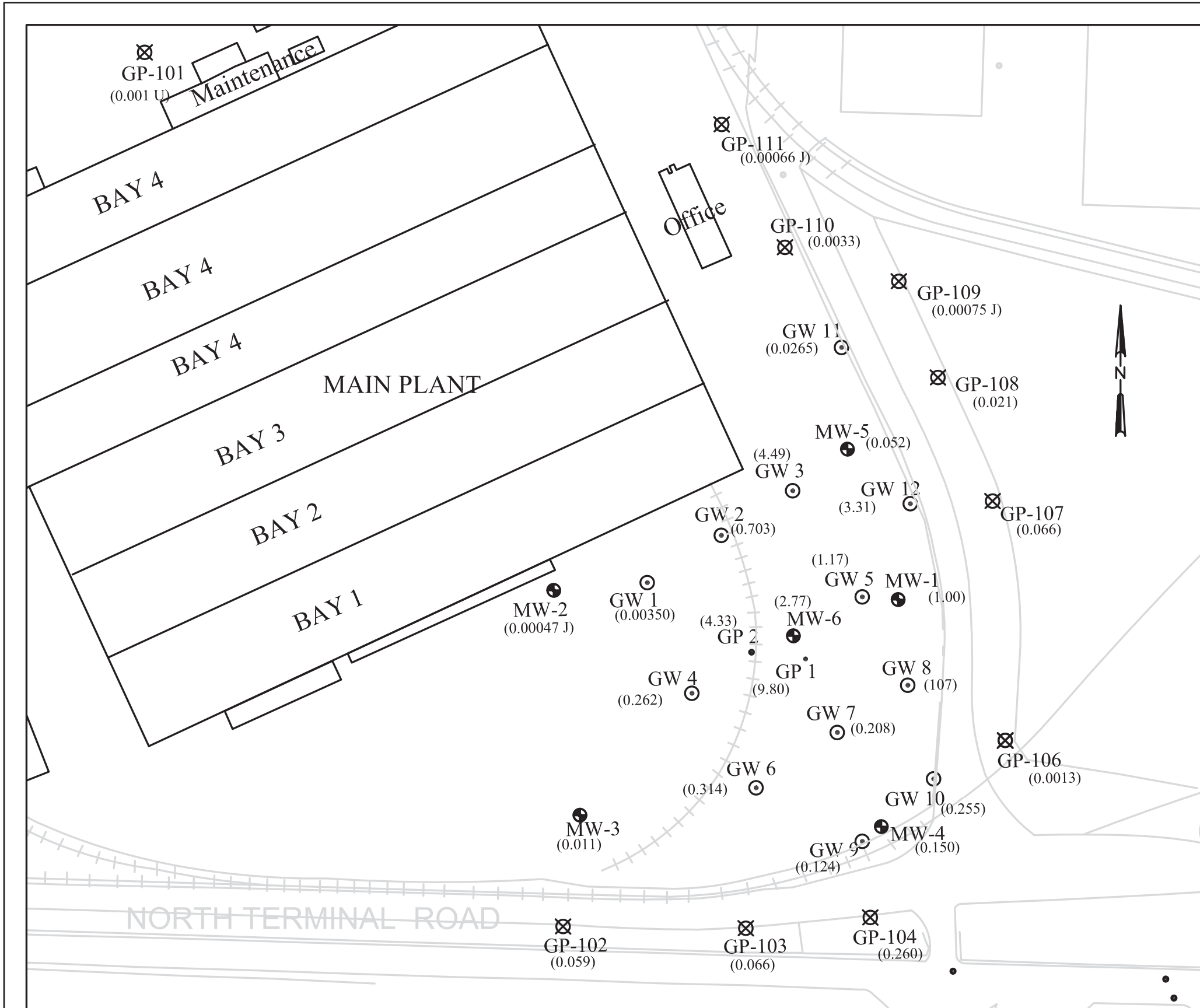
- AREA 14** 1989 Dames & Moore Identified areas
- Approximate Location 2001 Geoprobe Sample
- Approximate Location 2001 Surface Soil Sample
- △ 2001 Production Well Sample



**FIGURE 5-6**  
2001 Environmental Sample Locations

NORTHWEST PIPE COMPANY  
PORTLAND, OREGON



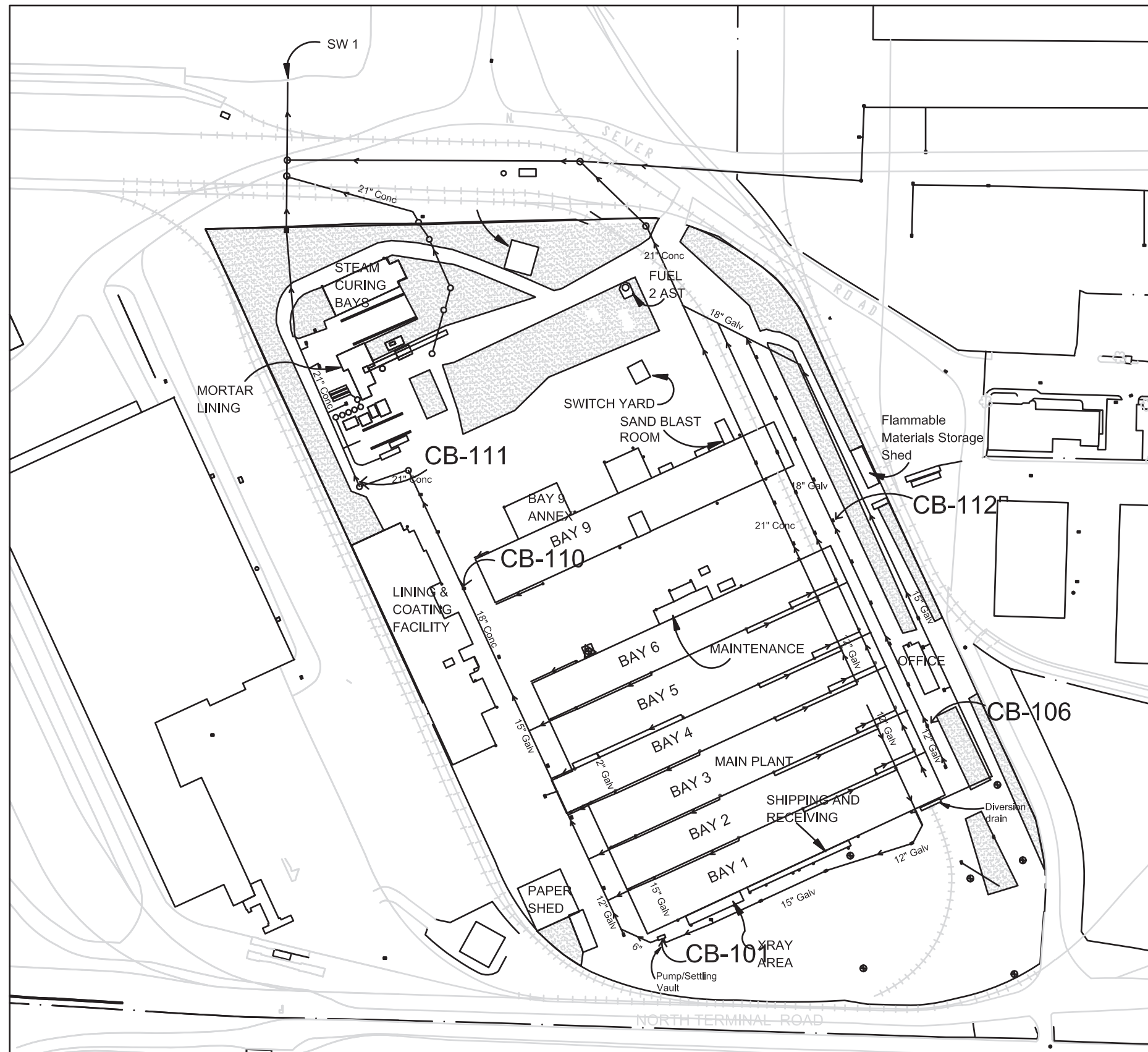


**LEGEND:**

- Approximate Location of 2001 Geoprobe Sample
- ⊙ Approximate Location of 2002 Geoprobe Sample
- ⊗ Approximate Location of 2004 Geoprobe Sample
- △ Approximate Location of 2004 Deep Geoprobe Sample
- ⊕ Monitoring Well Location of Aug. 2004 Sample
- (0.0013) PCE Concentration mg/L
- U Not Detected at Reporting Limit
- J Estimated Value

**Figure 5-7**  
**Southeast Area Geoprobe and**  
**Monitoring Well Location**  
**with PCE Concentrations**  
 NORTHWEST PIPE COMPANY  
 PORTLAND, OREGON





LEGEND






-  GROUNDWATER MONITORING WELL
-  PRODUCTION WELL
- SW 1 STORMWATER OUT FALL (OUTFALL 18)
-  STORMWATER CATCH BASIN
- 12" Galv 12" GALVANIZED STEEL PIPE
- 21" Conc 21" CONCRETE PIPE
-  APPROXIMATE LOCATION OF UNDERGROUND STORM DRAIN
-  APPROXIMATE AREA OF PREVIOUSLY PERVIOUS SURFACES
- CB-112 SAMPLE LOCATION

Figure 5-8  
10/4/06 CATCHBASIN  
SAMPLE LOCATIONS

NORTHWEST PIPE COMPANY  
PORTLAND, OREGON

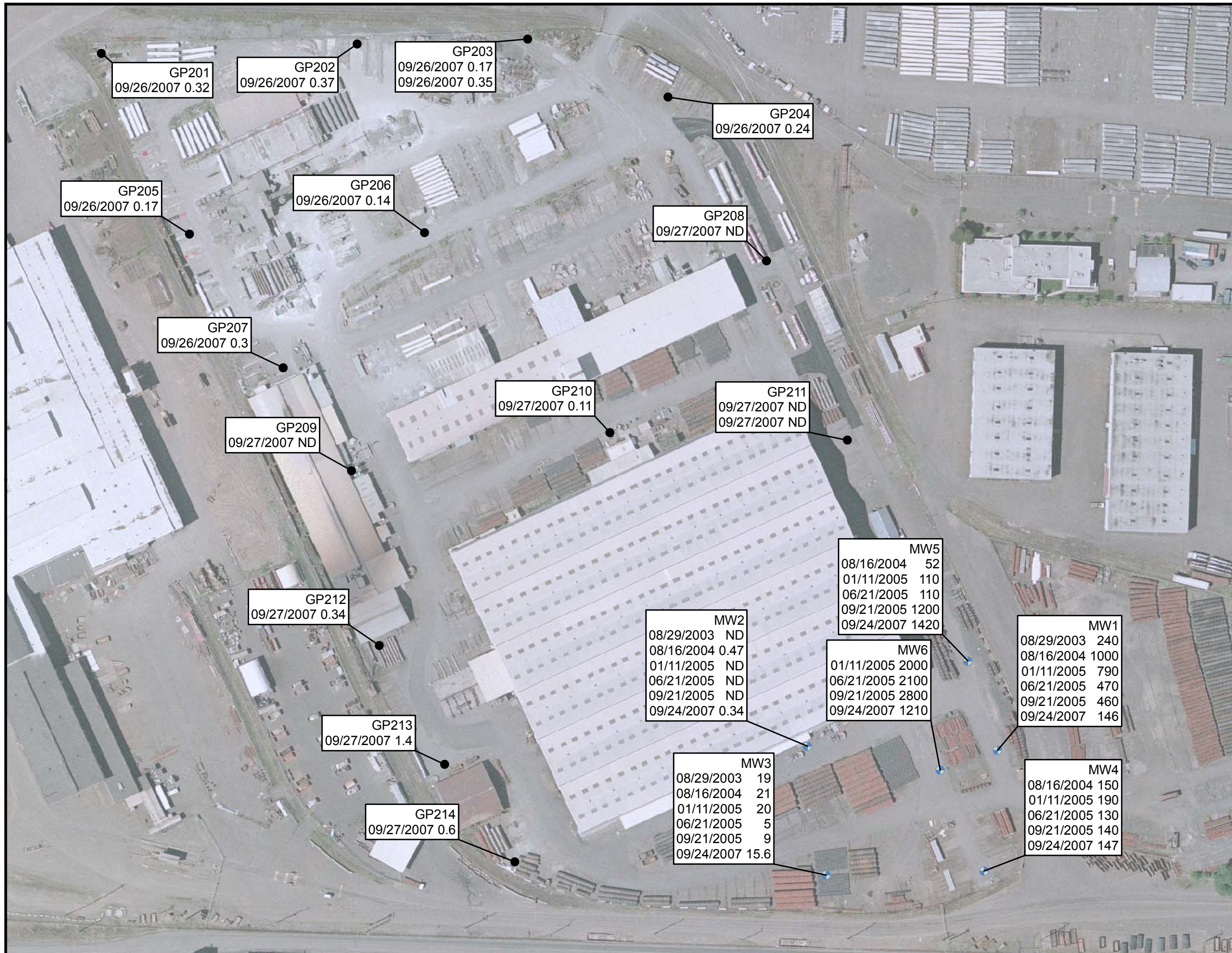
# FIGURE 5-9 Groundwater Sample Locations

NORTHWEST PIPE COMPANY  
PORTLAND, OREGON

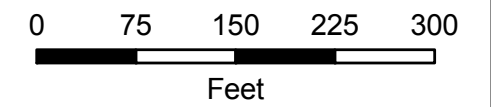
## LEGEND

- Sept, 2007 CH2M Hill (TPH, PAH, VOC and Inorganics)
- 2003-07 CH2M Hill Monitoring Wells (VOCs)

Sample ID	
GP203	
09/26/2007	0.17
09/26/2007	0.35
Sample date	
PCE concentration in µg/L	



Note - Metro 2001 Aerials



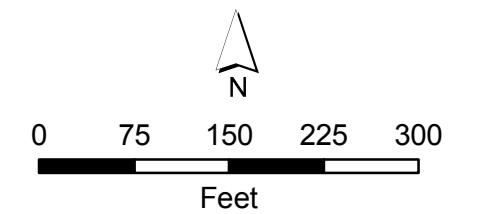
**Figure 5-10**  
**Surface Soil**  
**Sample Locations**  
 Northwest Pipe Company  
 Portland, Oregon

**Legend**

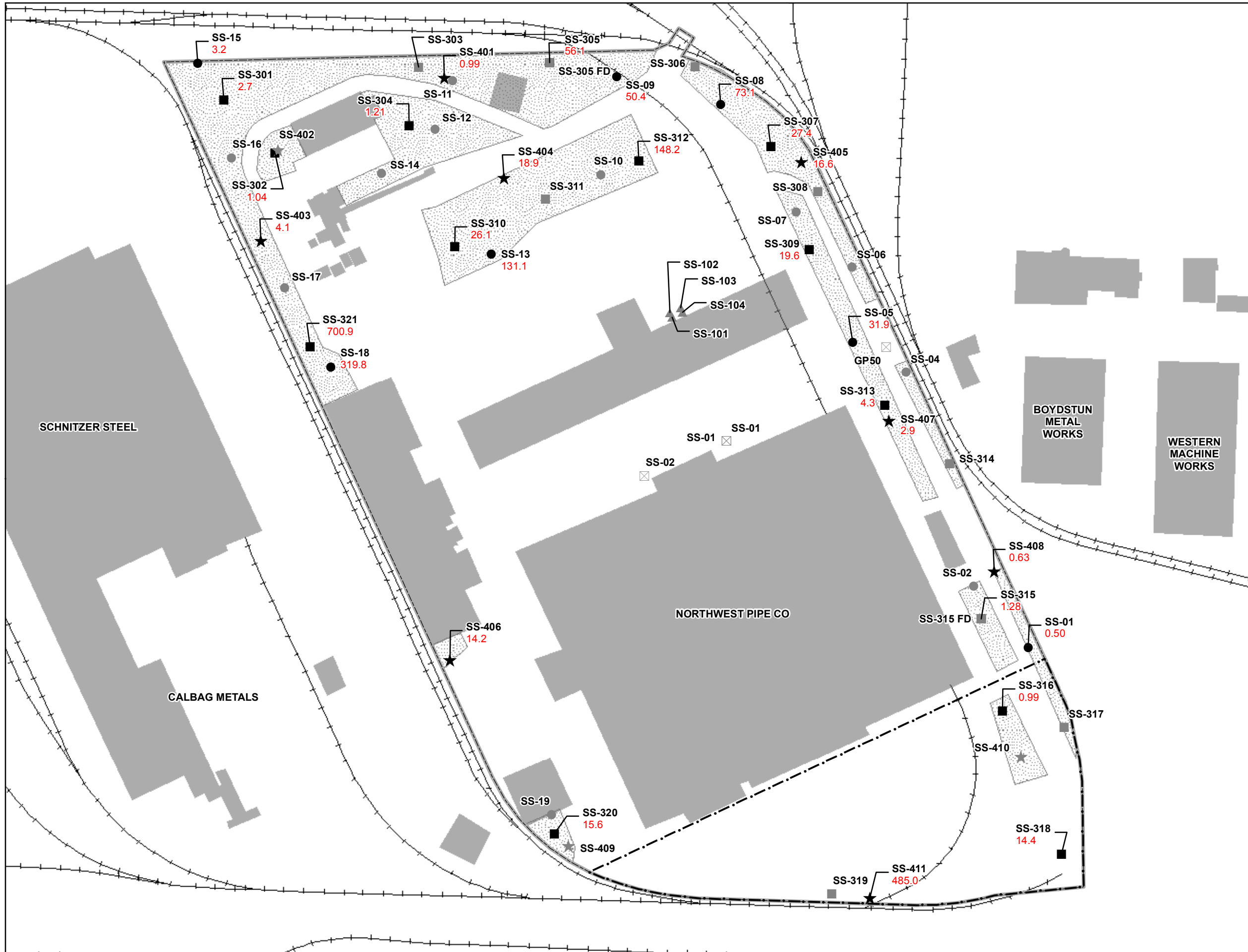
**Historic Surface Soil Sampling**

- ☒ 9-01 CH2M Hill
- ▲ 6-05 CH2M Hill
- 10-06 CH2M Hill
- 9-07 CH2M Hill
- ★ 10-09 CH2M Hill
- Northwest Pipe Property Boundary
- Building Footprint
- +— Railroad Line
- ▨ Previously Unpaved Area
- ⊞ Leased Property Boundary

Note: This figure shows both historical and recent surface soil sample locations.



**Figure 5-11**  
**Surface Soil Sample**  
**Locations and Total**  
**PAH Concentrations**  
 Northwest Pipe Company  
 Portland, Oregon



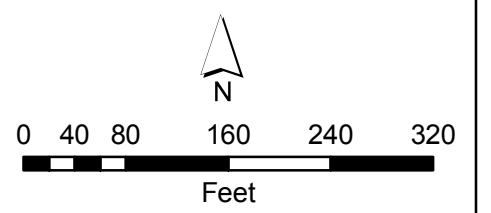
**Legend**

**Surface Soil Sampling**

- ☒ CH2MHILL 2001, No TPAH Data
- ▲ CH2MHILL 2005, No TPAH Data
- CH2MHILL 2006, No TPAH Data
- CH2MHILL 2006, TPAH Data
- CH2MHILL 2007, No TPAH Data
- CH2MHILL 2007, TPAH Data
- ★ CH2MHILL 2009, No TPAH Data
- ★ CH2MHILL 2009, TPAH Data
- ☐ Leased Property Boundary
- ▭ Northwest Pipe Property Boundary
- Building Footprint
- Railroad Line
- ▨ Previously Unpaved Area

0.506 Total Polynuclear Aromatic Hydrocarbons in mg/kg  
 Total PAH concentration calculated by adding detected values and 0 for non-detects.

Note: A field duplicate was collected at sample point SS411. The value used for this assessment is an average of the two sample results.



**Figure 5-12**  
**Surface Soil Sample**  
**Locations and Total**  
**PCB Concentrations**  
 Northwest Pipe Company  
 Portland, Oregon

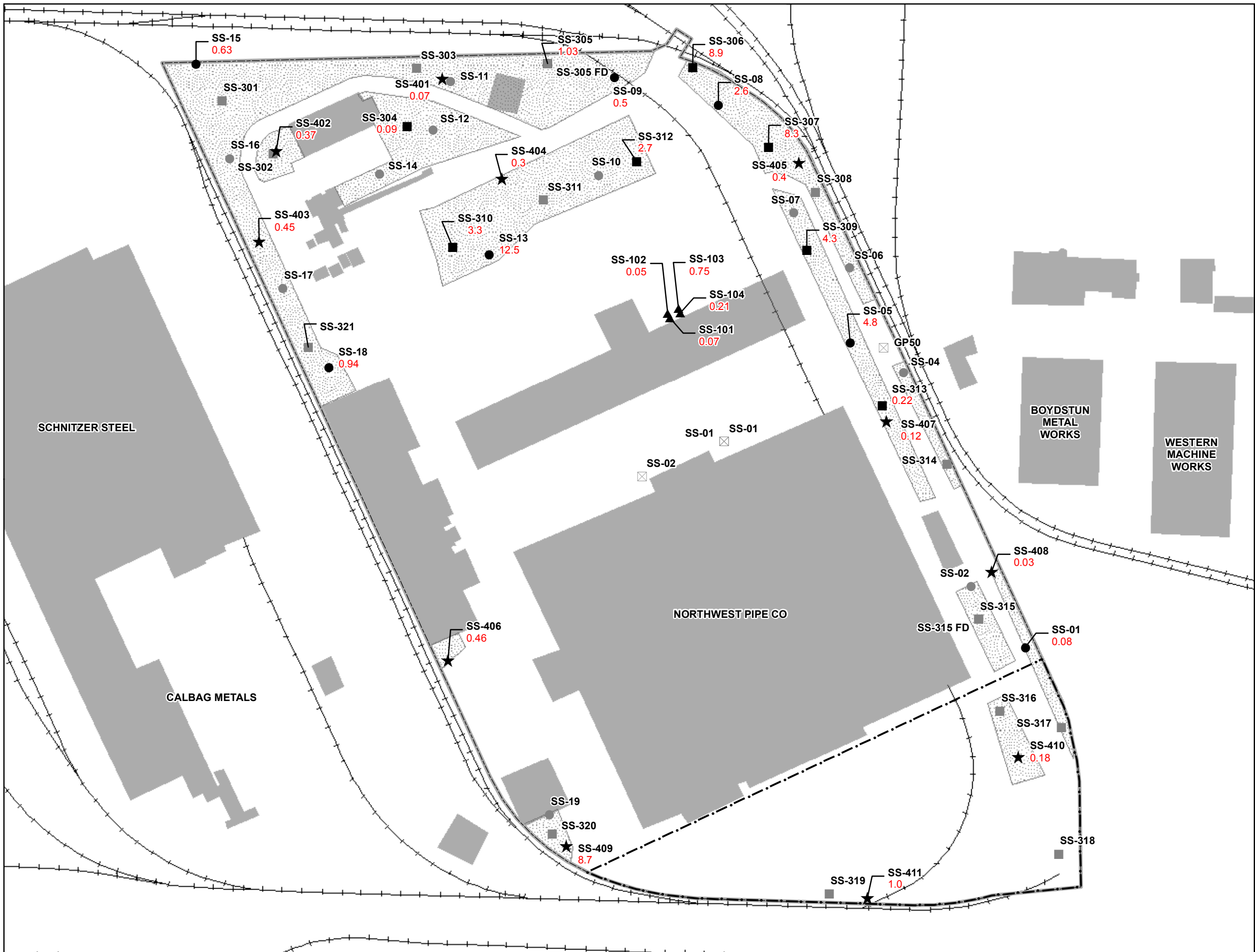
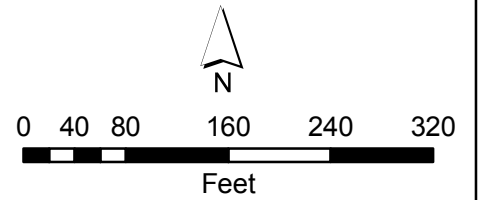
**Legend**

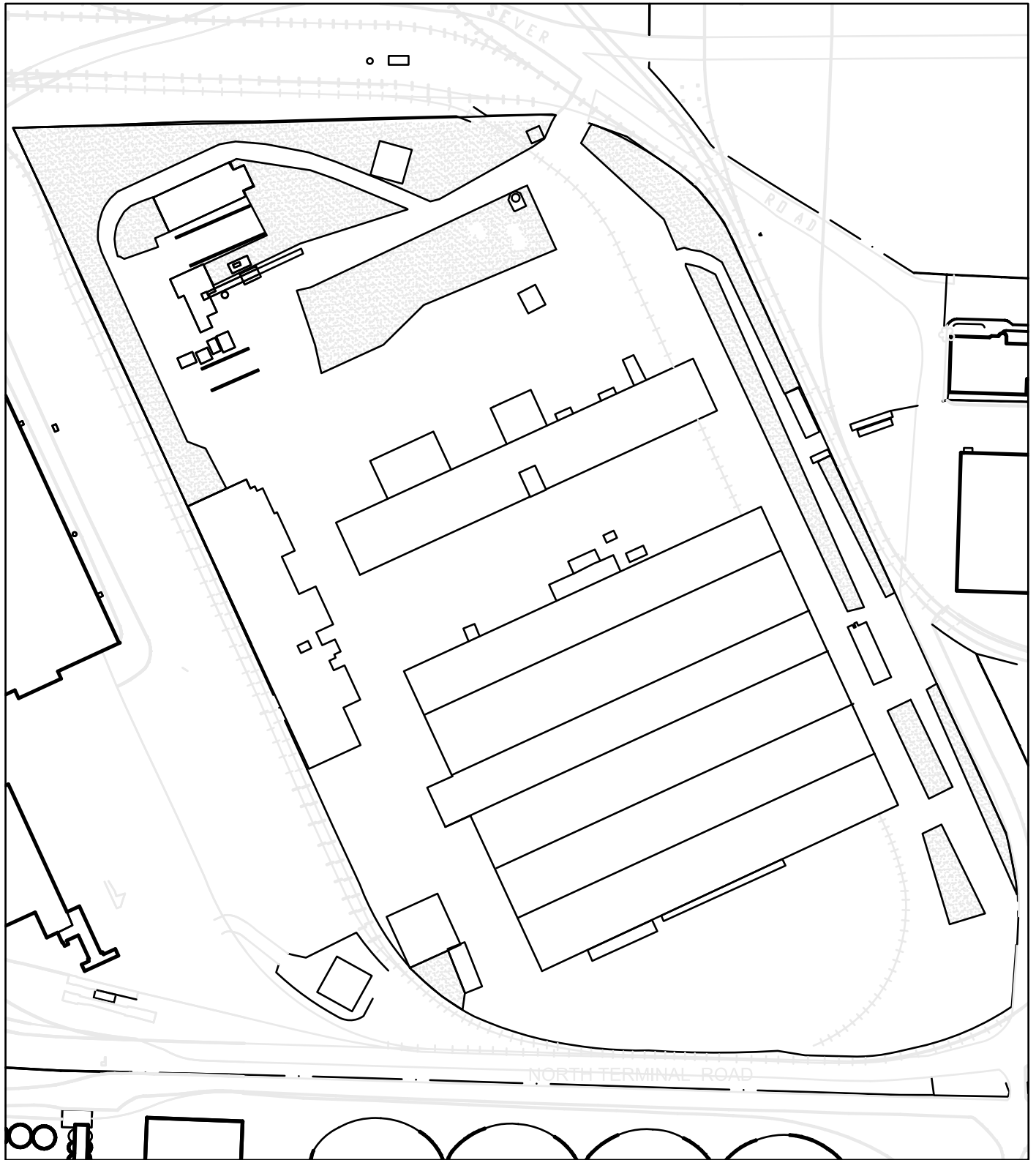
**Surface Soil Sampling**

- ☒ CH2MHILL 2001, No PCB Data
- ▲ CH2MHILL 2005, No PCB Data
- ▲ CH2MHILL 2005, PCB Data
- CH2MHILL 2006, No PCB Data
- CH2MHILL 2006, PCB Data
- CH2MHILL 2007, No PCB Data
- CH2MHILL 2007, PCB Data
- ★ CH2MHILL 2009, No PCB Data
- ★ CH2MHILL 2009, PCB Data
- ☐ Leased Property Boundary
- ▭ Northwest Pipe Property Boundary
- Building Footprint
- Railroad Line
- ▨ Previously Unpaved Area

3.31 Total Polychlorinated Biphenyls in mg/kg  
 Total PCB concentration calculated by adding detected values and 0 for non-detects.

Note: A field duplicate was collected at sample point SS411. The value used for this assessment is an average of the two sample results.





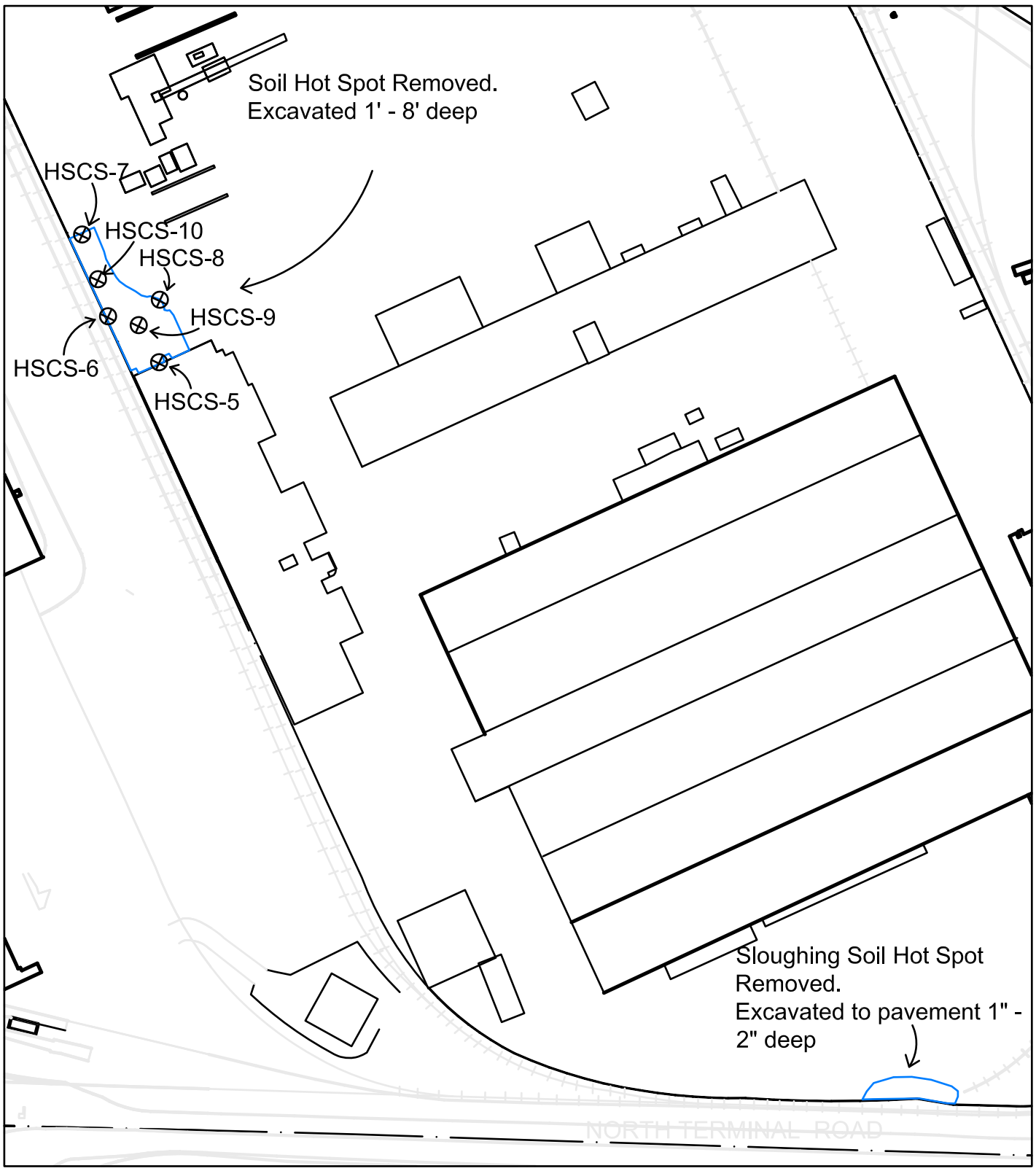
**Legend**

 Approximate Area of Cap Pavement



**FIGURE 5-13**  
**Area of New Cap Pavement**

NORTHWEST PIPE COMPANY  
PORTLAND, OREGON





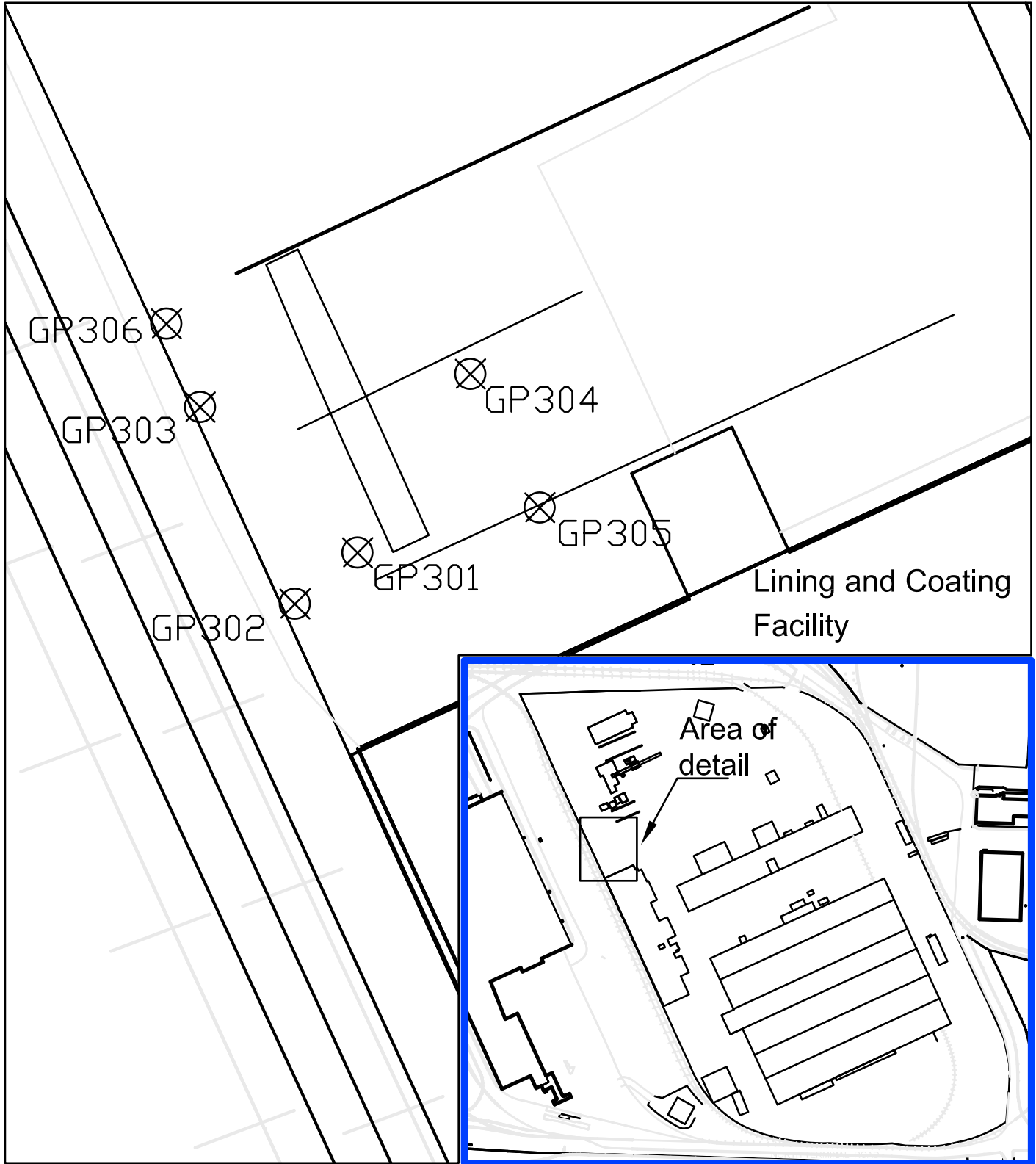
**Legend**

-  Hot Spot Soil Excavation Area
-  Approximate location of confirmation sample



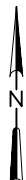
**FIGURE 5-14**  
Hot Spot Excavation  
and Sample Locations  
NORTHWEST PIPE COMPANY  
PORTLAND, OREGON





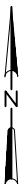
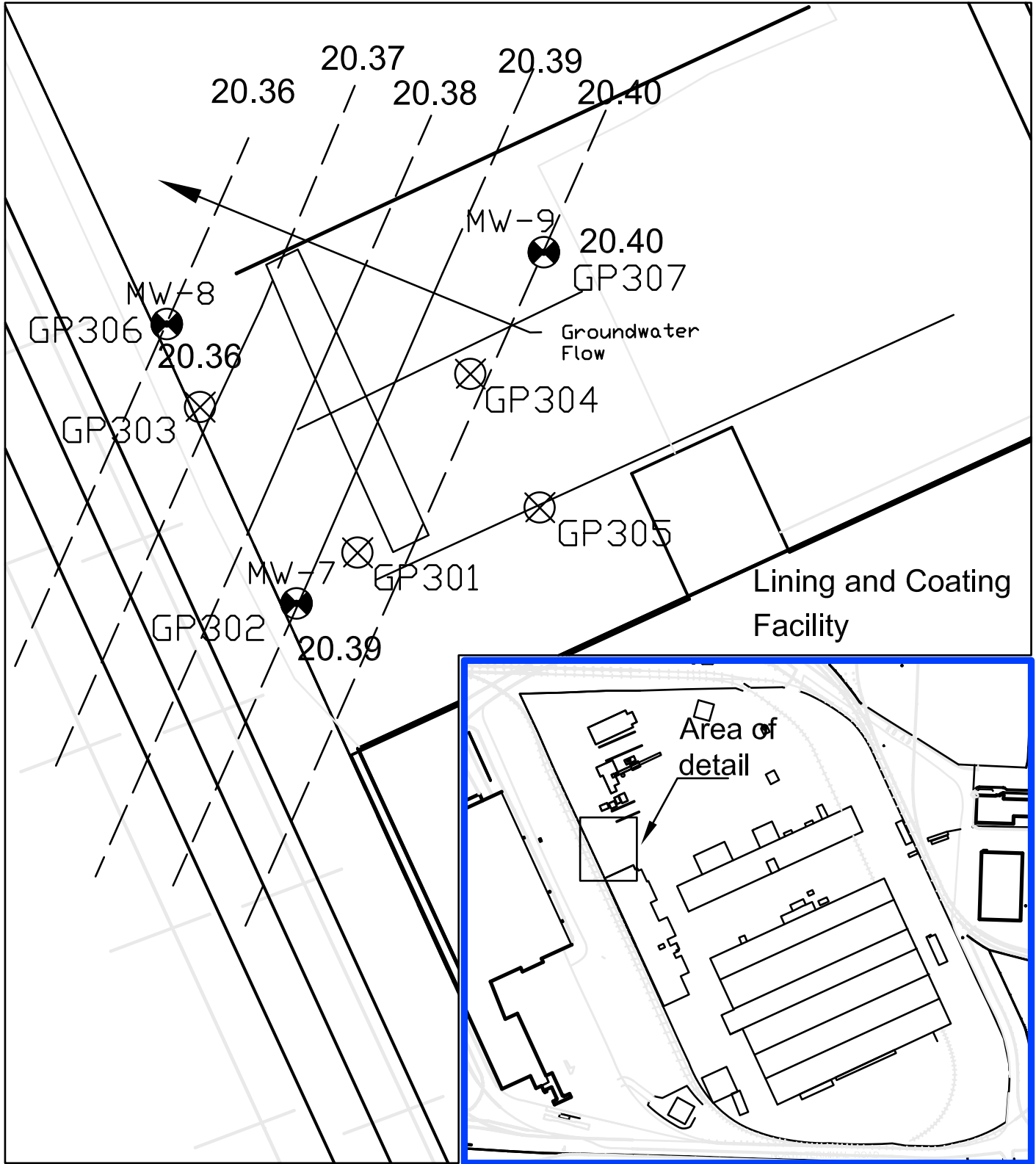
**Legend**

⊗ Approximate location of soil boring





**FIGURE 5-15**  
June 2012  
Soil Sample Locations  
NORTHWEST PIPE COMPANY  
PORTLAND, OREGON





**Legend**

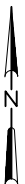
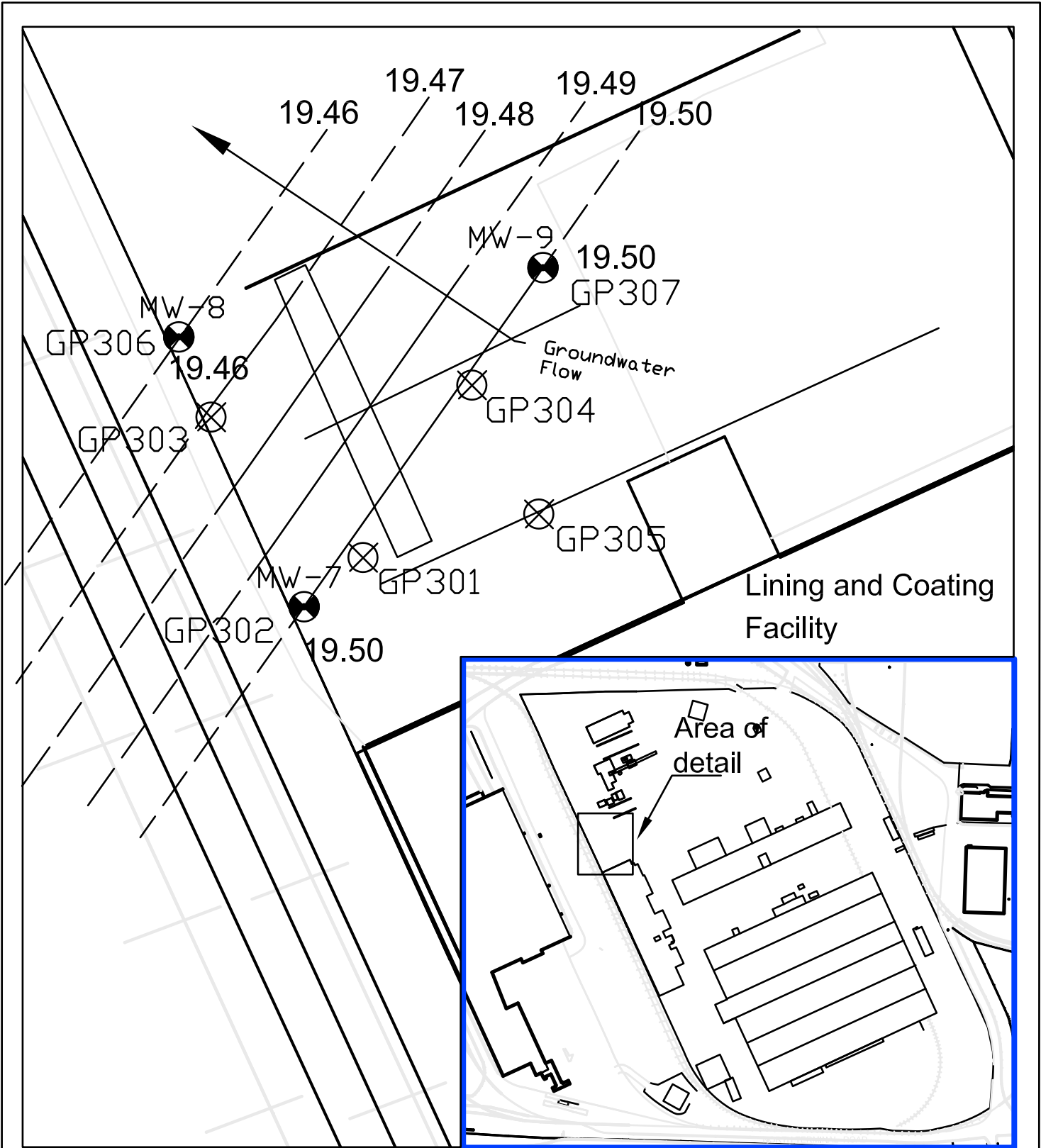
-  Monitoring well and soil boring location
-  Approximate location of soil boring

Note:



- Groundwater measurements taken 6/15/12
- Elevation datum - City of Portland
- Willamette River stage elevation at Morrison Bridge was 9.27

**FIGURE 5-16**  
 June 2012  
 Sample Locations and  
 Groundwater Flow Direction  
 NORTHWEST PIPE COMPANY  
 PORTLAND, OREGON





**Legend**

-  Monitoring well and soil boring location
-  Approximate location of soil boring

Note:  
 - Groundwater measurements taken 5/31/13  
 - Elevation datum - City of Portland  
 - Willamette River stage elevation at Morrison Bridge was 7.97

**FIGURE 5-17**  
 May 2013  
 Sample Locations and  
 Groundwater Flow Direction  
 NORTHWEST PIPE COMPANY  
 PORTLAND, OREGON

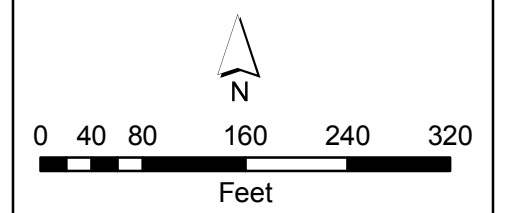


**Figure 5-18**  
**Downspout Roof**  
**Run-Off**  
**Sample Locations**  
 Northwest Pipe Company  
 Portland, Oregon

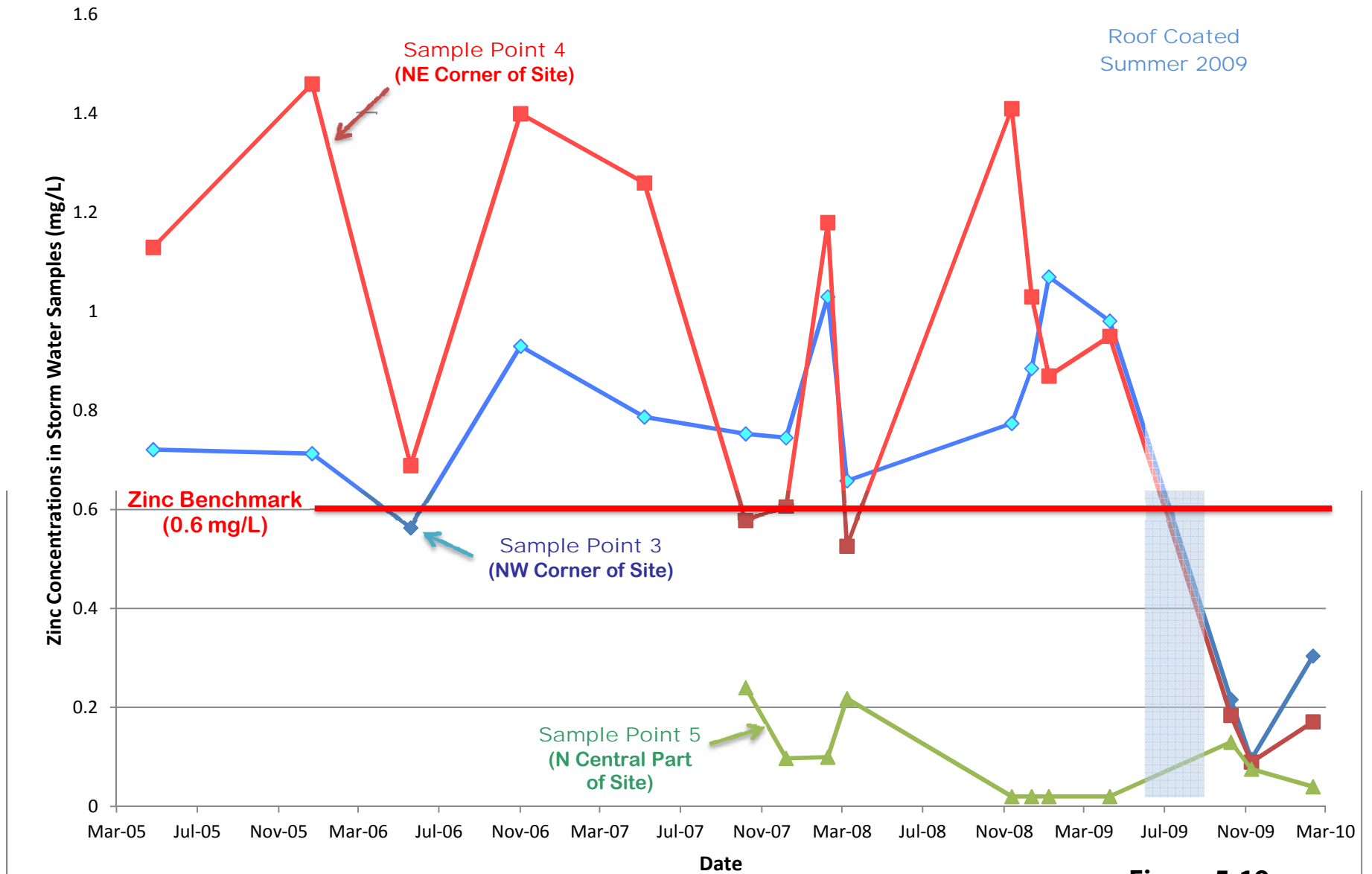


- Legend**
- Approximate Downspout Location
  - Northwest Pipe Property Boundary
  - Leased Property Boundary
  - Building Footprint
  - Railroad Line
  - Formerly Unpaved Area

Note: This figure shows historical downspout sample locations



# Zinc Concentration Trends in Site Storm Water Discharge



**Figure 5-19**