

100

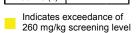
- 1. The locations of all features shown are approximate. 2. This drawing is for information purposes. It is intended

to assist in showing features discussed in an attached document. 3. Refer to Figure 6-1 for identification of property lines and other upland features.

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### Total Petroleum Hydrocarbon Results

Location Depth below Result (mg/kg) mud line (ft)



U indicates chemical not detected

# Sample Type

- Surface Sediment Sample Location
- + Subsurface Sediment Sample Location
- Surface and Subsurface  $\oplus$ Sediment Sample Location

Note: sample location symbols and designations are gray where no data for the sample depth or analyte.

## Sample Source (study, consultant, sampling date)

- RG Haley Supplemental Investigation Sample Location, GeoEngineers, 2012
- RG Haley Supplemental Remedial Investigation Sample Location, GeoEngineers, 2005
- RG Haley Remedial Investigation Sample Location, GeoEngineers, 2004
- RG Haley Preliminary Screening Study Sample Location, GeoEngineers, 2003

Whatcom Waterway Pre-remedial Design Investigation Sample Location, Anchor QEA, 2010

- RG Haley and Bellingham Bay Piling Study Sample Location, Hart Crowser, 2008
- Whatcom Waterway Pre-Remedial Design Evaluation Sample Location, Anchor, 2002

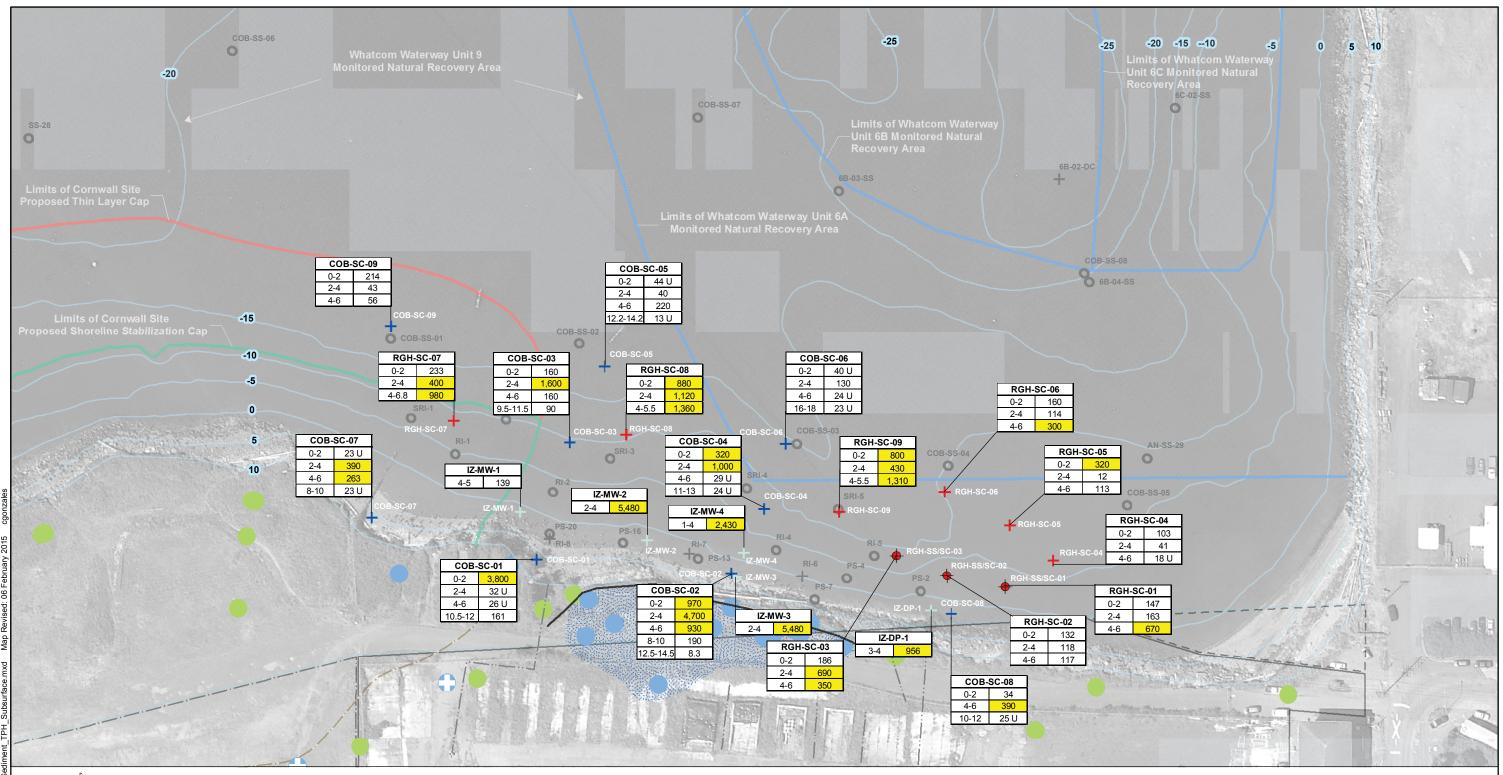
Whatcom Waterway Remedial Investigation Sample Location, Anchor and Hart Crowser, 1996

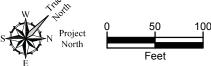
at identified detection limit

**Total Petroleum Hydrocarbon Results for Surface Sediment** 

R.G. Haley Site Bellingham, Washington







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### Total Petroleum Hydrocarbon Results

Location Depth below Result (mg/kg) mud line (ft)

Indicates exceedance of 260 mg/kg screening level

U indicates chemical not detected at identified detection limit

# Sample Type

- O Surface Sediment Sample Location
- + Subsurface Sediment Sample Location
- Surface and Subsurface  $\oplus$

Sediment Sample Location

Note: sample location symbols and designations are gray where no data for the sample depth or analyte.

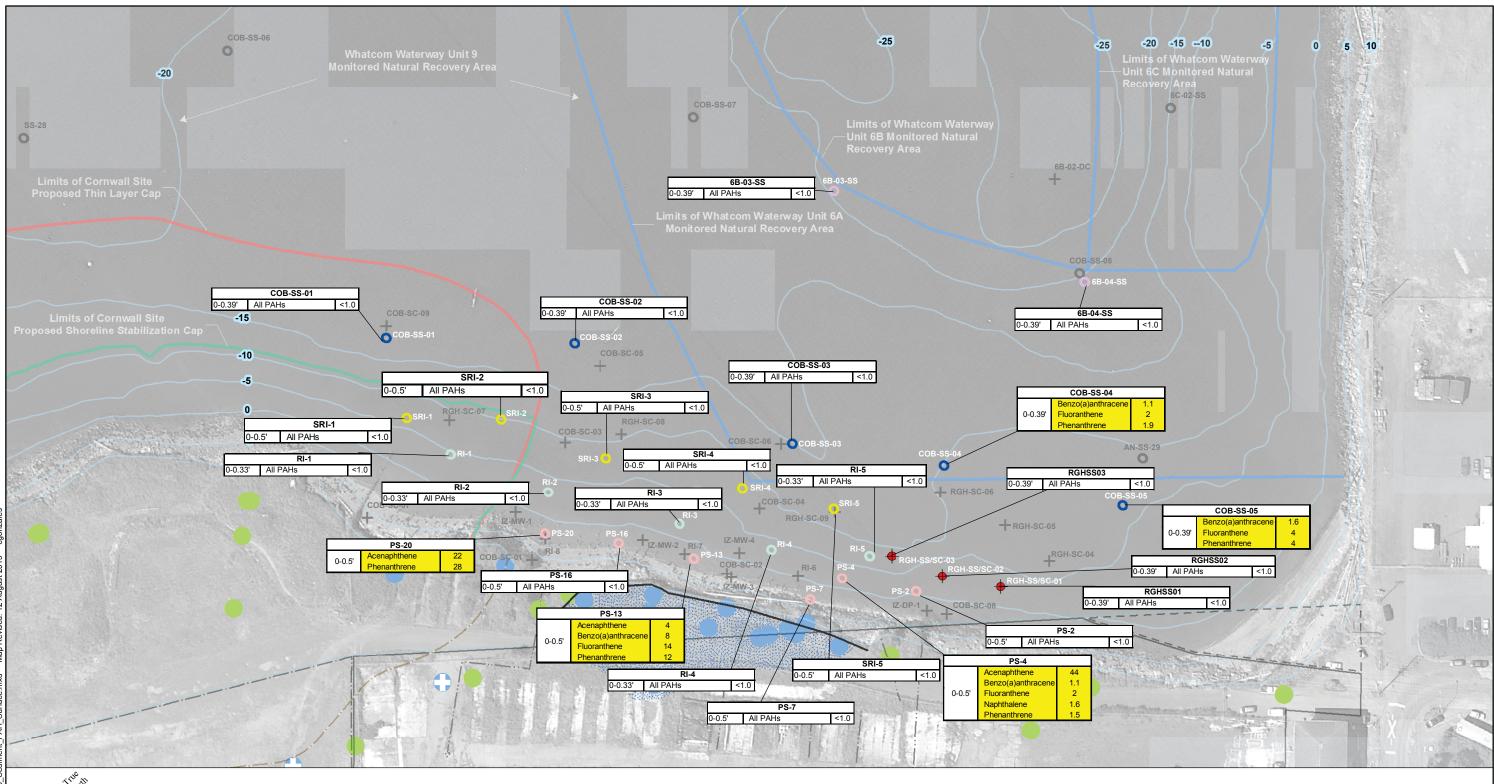
### Sample Source (study, consultant, sampling date)

- RG Haley Supplemental Investigation Sample Location, GeoEngineers, 2012
- RG Haley Supplemental Remedial Investigation Sample Location, GeoEngineers, 2005
- RG Haley Remedial Investigation Sample Location, GeoEngineers, 2004
- RG Haley Preliminary Screening Study Sample Location, GeoEngineers, 2003

Whatcom Waterway Pre-remedial Design Investigation Sample Location, Anchor QEA, 2010

- RG Haley and Bellingham Bay Piling Study Sample Location, Hart Crowser, 2008
- Whatcom Waterway Pre-Remedial Design Evaluation Sample Location, Anchor, 2002
- Whatcom Waterway Remedial Investigation Sample Location, Anchor and Hart Crowser, 1996

**Total Petroleum Hydrocarbon Results for Subsurface Sediment** R.G. Haley Site Bellingham, Washington GEOENGINEERS Figure 6-45





- Notes:
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### Polycyclic Aromatic Hydrocarbon Results

### Location Depth below mud line (ft) Analyte factor (EE)

 mud line (ft)
 Analyte factor (EF)

 Exceedance factors calculated relative to SCO or LAET, depending on sample organic carbon content.

 Results for individual compounds are shown only for IHSs with EF > 1.0

Indicates Exceedances of Screening Level

# Sample Type

- Surface Sediment Sample Location
- + Subsurface Sediment Sample Location
- Surface and Subsurface
   Sediment Sample Location

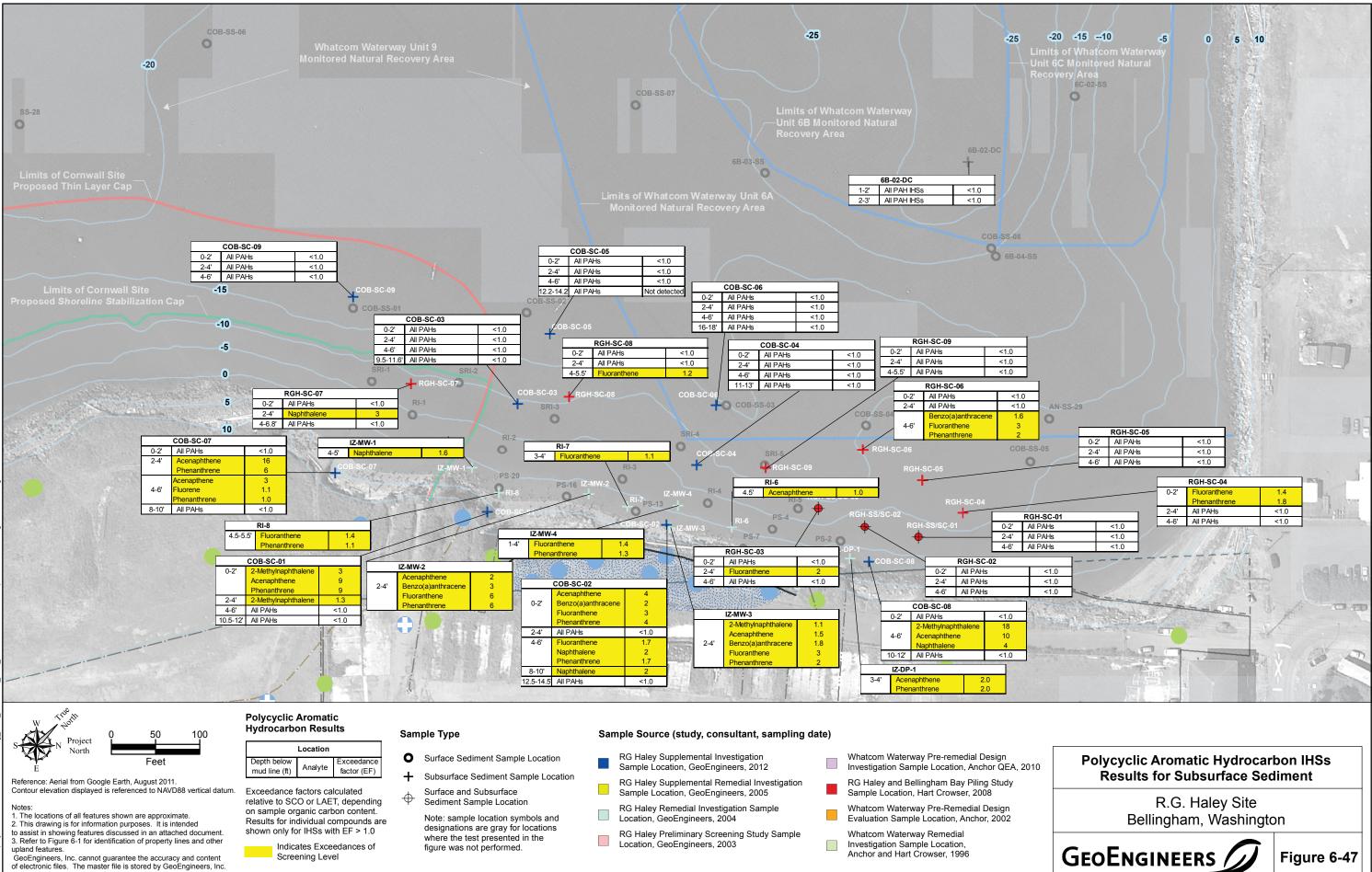
Note: sample location symbols and designations are gray for locations where the test presented in the figure was not performed.

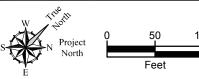
## Sample Source (study, consultant, sampling date)

- RG Haley Supplemental Investigation Sample Location, GeoEngineers, 2012
- RG Haley Supplemental Remedial Investigation Sample Location, GeoEngineers, 2005
- RG Haley Remedial Investigation Sample Location, GeoEngineers, 2004
- RG Haley Preliminary Screening Study Sample Location, GeoEngineers, 2003
- Whatcom Waterway Pre-remedial Design Investigation Sample Location, Anchor QEA, 2010
- RG Haley and Bellingham Bay Piling Study Sample Location, Hart Crowser, 2008
- Whatcom Waterway Pre-Remedial Design Evaluation Sample Location, Anchor, 2002 Whatcom Waterway Remedial
- Investigation Sample Location, Anchor and Hart Crowser, 1996

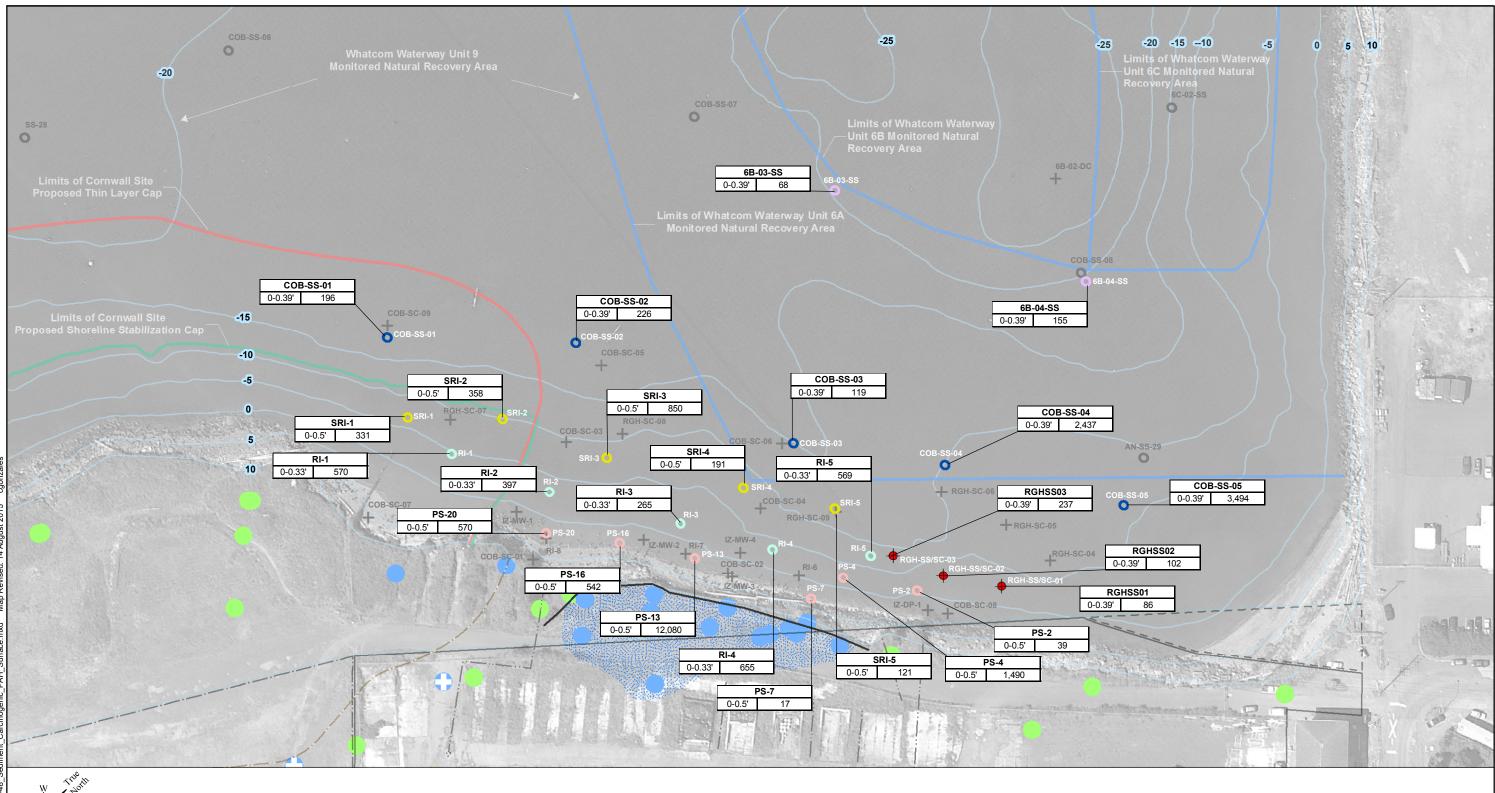
Polycyclic Aromatic Hydrocarbon IHSs Results for Surface Sediment R.G. Haley Site Bellingham, Washington

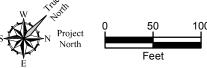






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### cPAH Results Location

Depth below Concentration ud line (ft) (µg/kg) Concentrations are expressed

as the toxic equivalent (TEQ) of benzo(a)pyrene

Natural background (21 µg/kg)

# Sample Type

- 0 Surface Sediment Sample Location
- + Subsurface Sediment Sample Location
- Surface and Subsurface  $\oplus$ Sediment Sample Location

Note: sample location symbols and designations are gray for locations where the test presented in the figure was not performed.

## Sample Source (study, consultant, sampling date)

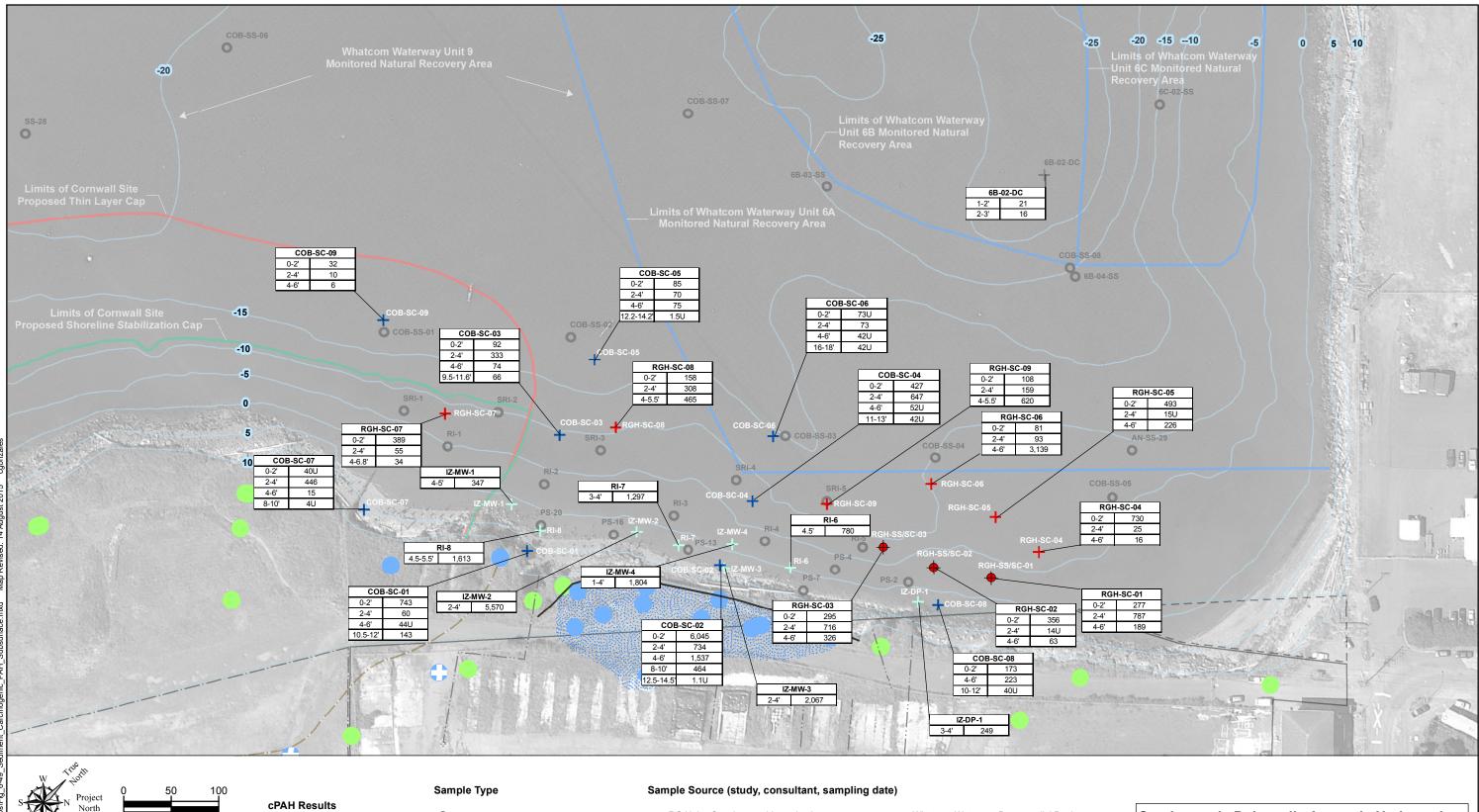
- **RG Haley Supplemental Investigation** Sample Location, GeoEngineers, 2012
- RG Haley Supplemental Remedial Investigation Sample Location, GeoEngineers, 2005
- RG Haley Remedial Investigation Sample Location, GeoEngineers, 2004
- RG Haley Preliminary Screening Study Sample Location, GeoEngineers, 2003
- Whatcom Waterway Pre-remedial Design Investigation Sample Location, Anchor QEA, 2010
- RG Haley and Bellingham Bay Piling Study Sample Location, Hart Crowser, 2008
- Whatcom Waterway Pre-Remedial Design Evaluation Sample Location, Anchor, 2002 Whatcom Waterway Remedial
- Investigation Sample Location, Anchor and Hart Crowser, 1996

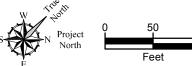
was used as screening level

Carcinogenic Polycyclic Aromatic Hydrocarbon **TEQ Results for Surface Sediment** 

> R.G. Haley Site Bellingham, Washington







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Location

Depth below Concentration

of benzo(a)pyrene

(ug/kg)

Concentrations are expressed

as the toxic equivalent (TEQ)

Natural background (21 µg/kg)

was used as screening level

nud line (ft)

- Surface Sediment Sample Location
  - Subsurface Sediment Sample Location +
  - Surface and Subsurface  $\oplus$ Sediment Sample Location

Note: sample location symbols and designations are gray for locations where the test presented in the figure was not performed.

- RG Haley Supplemental Investigation Sample Location, GeoEngineers, 2012
- RG Haley Supplemental Remedial Investigation Sample Location, GeoEngineers, 2005
- RG Haley Remedial Investigation Sample Location, GeoEngineers, 2004
- RG Haley Preliminary Screening Study Sample Location, GeoEngineers, 2003

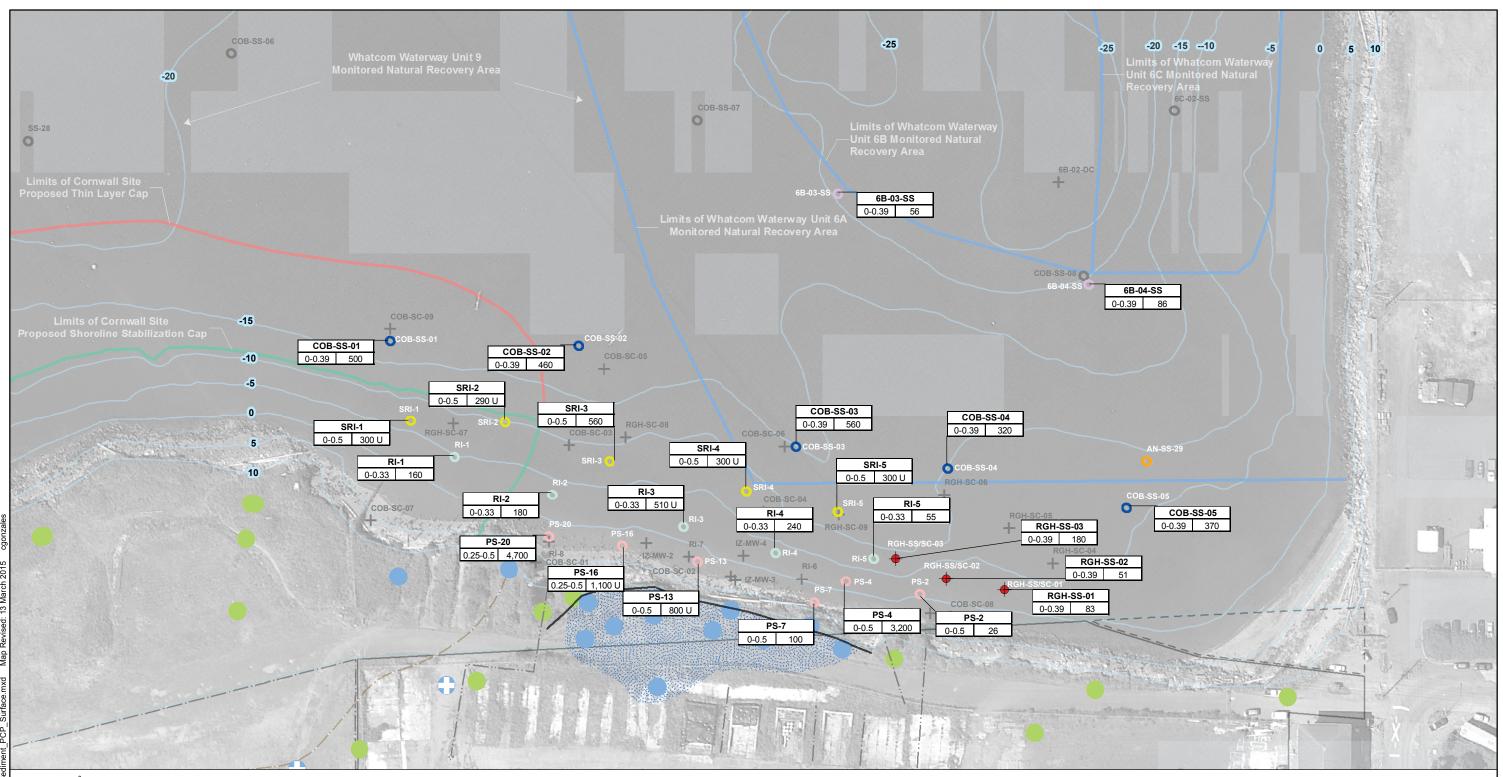
Whatcom Waterway Pre-remedial Design Investigation Sample Location, Anchor QEA, 2010

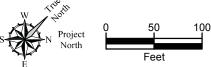
- RG Haley and Bellingham Bay Piling Study Sample Location, Hart Crowser, 2008
- Whatcom Waterway Pre-Remedial Design Evaluation Sample Location, Anchor, 2002
- Whatcom Waterway Remedial Investigation Sample Location, Anchor and Hart Crowser, 1996

Carcinogenic Polycyclic Aromatic Hydrocarbon **TEQ Results for Subsurface Sediment** 

> R.G. Haley Site Bellingham, Washington







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### Pentachlorophenol Results

U indicates chemical not detected

PQL (100 µg/kg) was used as the

at identified detection limit

Depth below

mud line (ft)

screening level

# Location

Result (µg/kg)

Sample Type

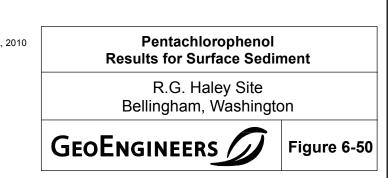
Surface and Subsurface
 Sediment Sample Location

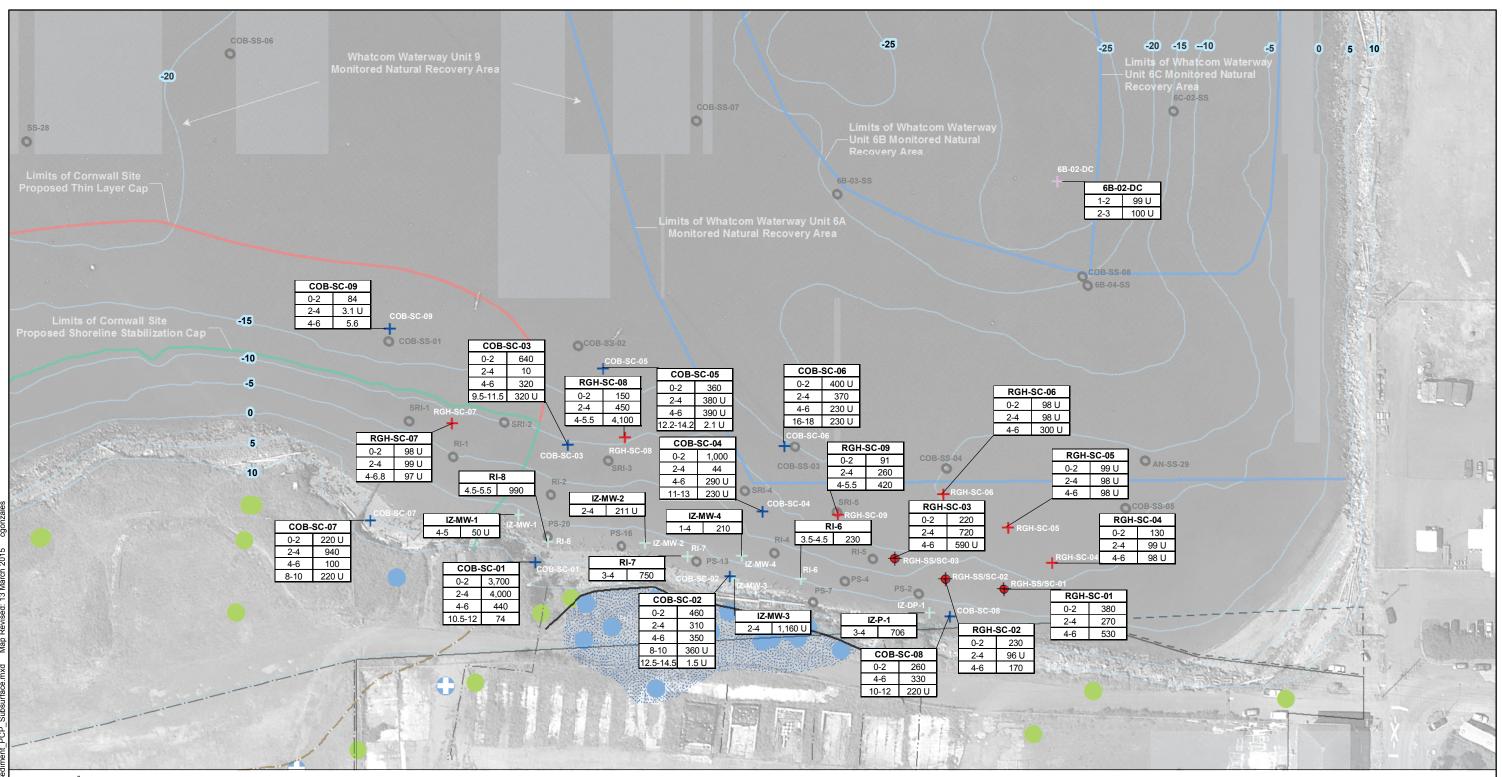
O Surface Sediment Sample Location

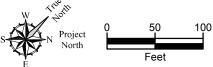
Note: sample location symbols and designations are gray for locations where the test presented in the figure was not performed.

### Sample Source (study, consultant, sampling date)

- RG Haley Supplemental Investigation Sample Location, GeoEngineers, 2012
- RG Haley Supplemental Remedial Investigation Sample Location, GeoEngineers, 2005
- RG Haley Remedial Investigation Sample Location, GeoEngineers, 2004
- RG Haley Preliminary Screening Study Sample Location, GeoEngineers, 2003
- Whatcom Waterway Pre-remedial Design Investigation Sample Location, Anchor QEA, 2010
- RG Haley and Bellingham Bay Piling Study Sample Location, Hart Crowser, 2008
- Whatcom Waterway Pre-Remedial Design Evaluation Sample Location, Anchor, 2002
- Whatcom Waterway Remedial Investigation Sample Location, Anchor and Hart Crowser, 1996







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### Pentachlorophenol Results

# Location

Depth below mud line (ft) Result (µg/kg)

U indicates chemical not detected at identified detection limit PQL (100 µg/kg) was used as the

screening level

# Surface and Subsurface Sediment Sample Location

+

Sample Type

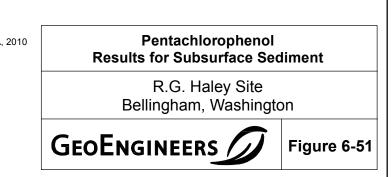
Note: sample location symbols and designations are gray for locations where the test presented in the figure was not performed.

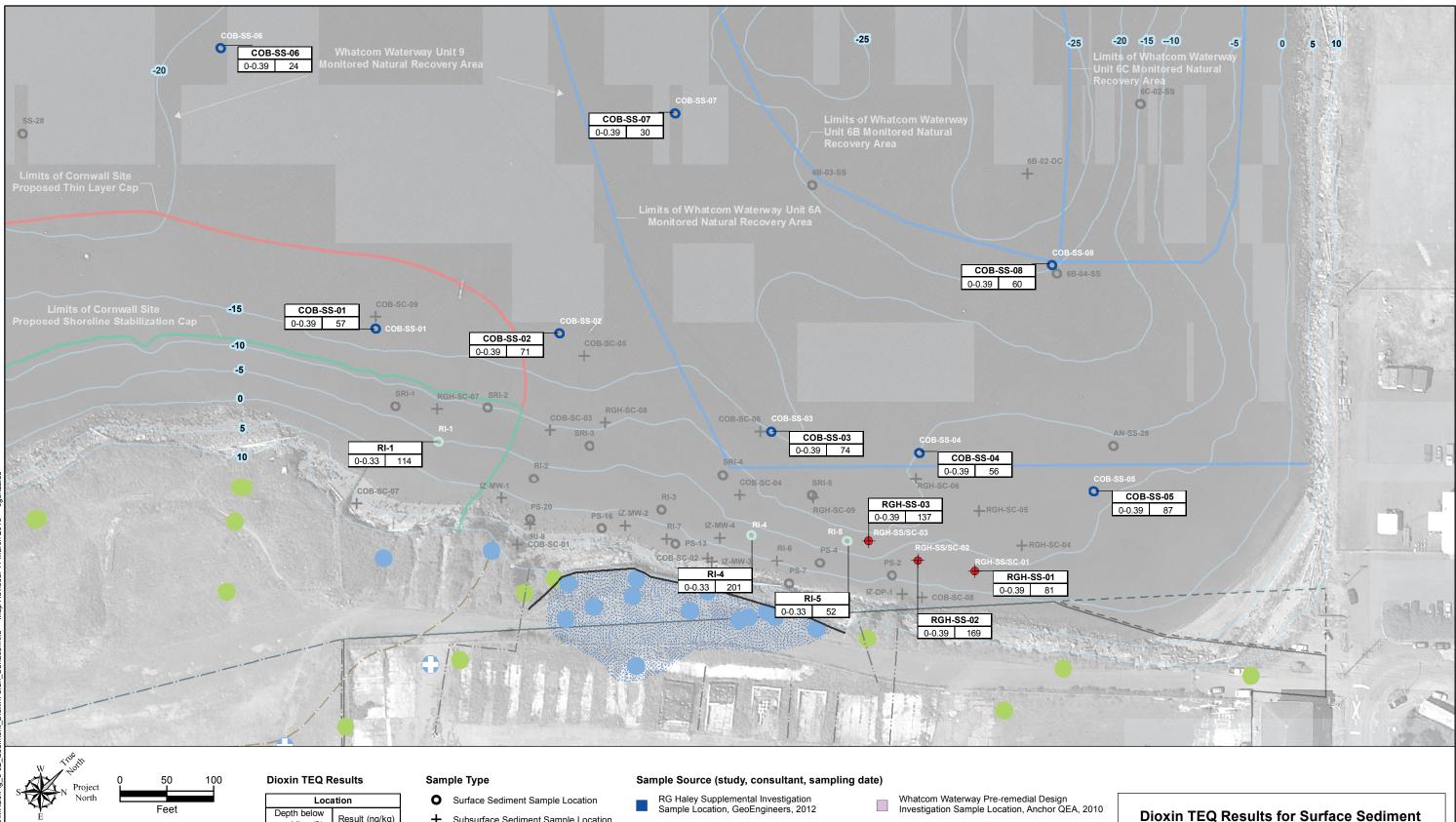
O Surface Sediment Sample Location

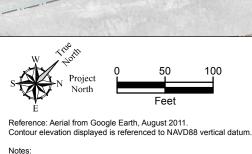
Subsurface Sediment Sample Location

### Sample Source (study, consultant, sampling date)

- RG Haley Supplemental Investigation Sample Location, GeoEngineers, 2012
- RG Haley Supplemental Remedial Investigation Sample Location, GeoEngineers, 2005
- RG Haley Remedial Investigation Sample Location, GeoEngineers, 2004
- RG Haley Preliminary Screening Study Sample Location, GeoEngineers, 2003
- Whatcom Waterway Pre-remedial Design Investigation Sample Location, Anchor QEA, 2010
- RG Haley and Bellingham Bay Piling Study Sample Location, Hart Crowser, 2008
- Whatcom Waterway Pre-Remedial Design Evaluation Sample Location, Anchor, 2002 Whatcom Waterway Remedial
- Investigation Sample Location, Anchor and Hart Crowser, 1996







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Natural background (4 ng/kg)

was used as screening level

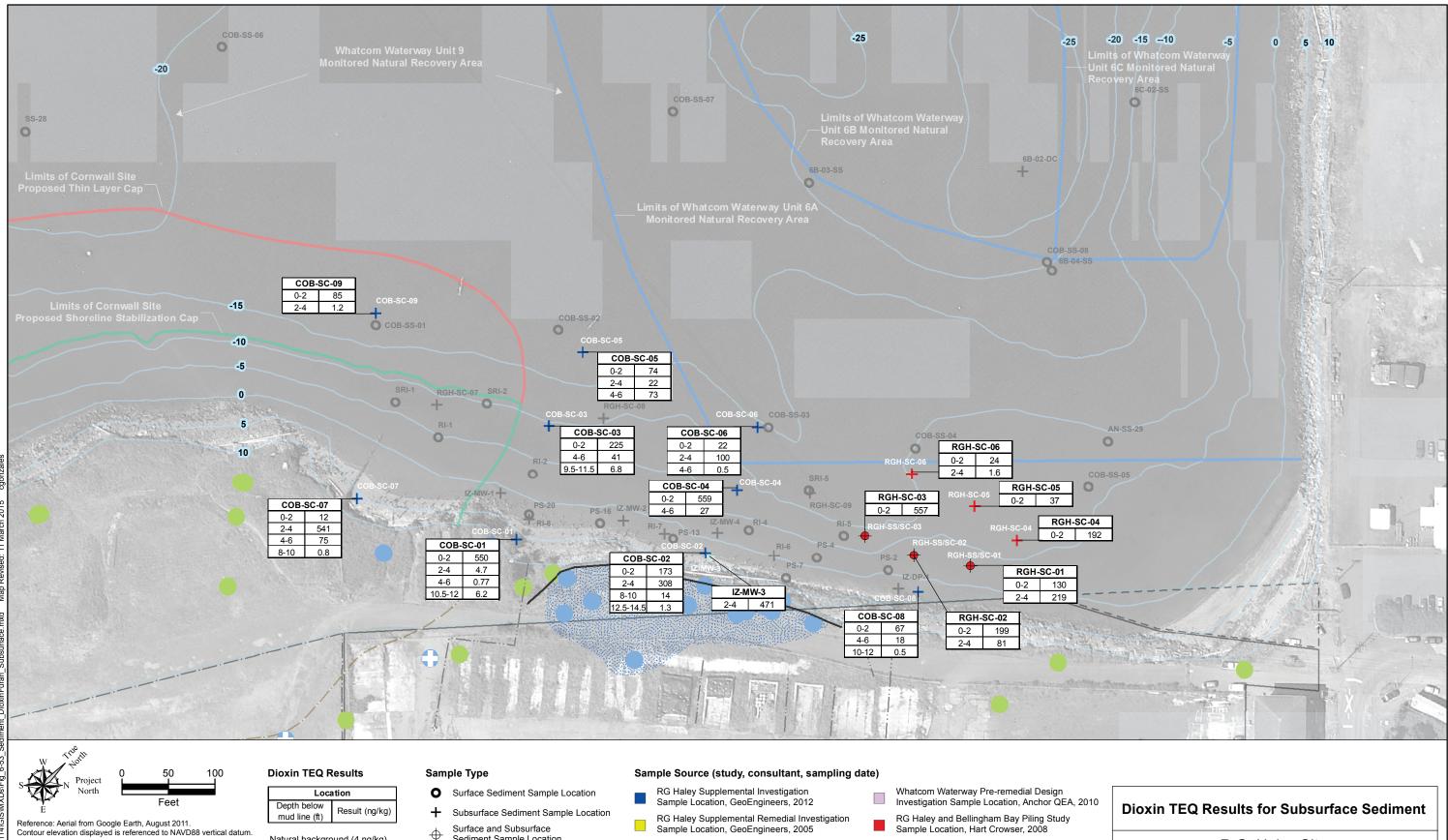
mud line (ft)

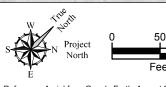
- - Result (ng/kg) + Subsurface Sediment Sample Location
    - Surface and Subsurface  $\oplus$ Sediment Sample Location
      - Note: sample location symbols and designations are gray for locations where the test presented in the figure was not performed.

- Sample Location, GeoEngineers, 2012
- RG Haley Supplemental Remedial Investigation Sample Location, GeoEngineers, 2005
- RG Haley Remedial Investigation Sample Location, GeoEngineers, 2004
- RG Haley Preliminary Screening Study Sample Location, GeoEngineers, 2003
- Investigation Sample Location, Anchor QEA, 2010
- RG Haley and Bellingham Bay Piling Study Sample Location, Hart Crowser, 2008
- Whatcom Waterway Pre-Remedial Design Evaluation Sample Location, Anchor, 2002 Whatcom Waterway Remedial
- Investigation Sample Location, Anchor and Hart Crowser, 1996

R.G. Haley Site Bellingham, Washington







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- Natural background (4 ng/kg)

was used as screening level

- Sediment Sample Location

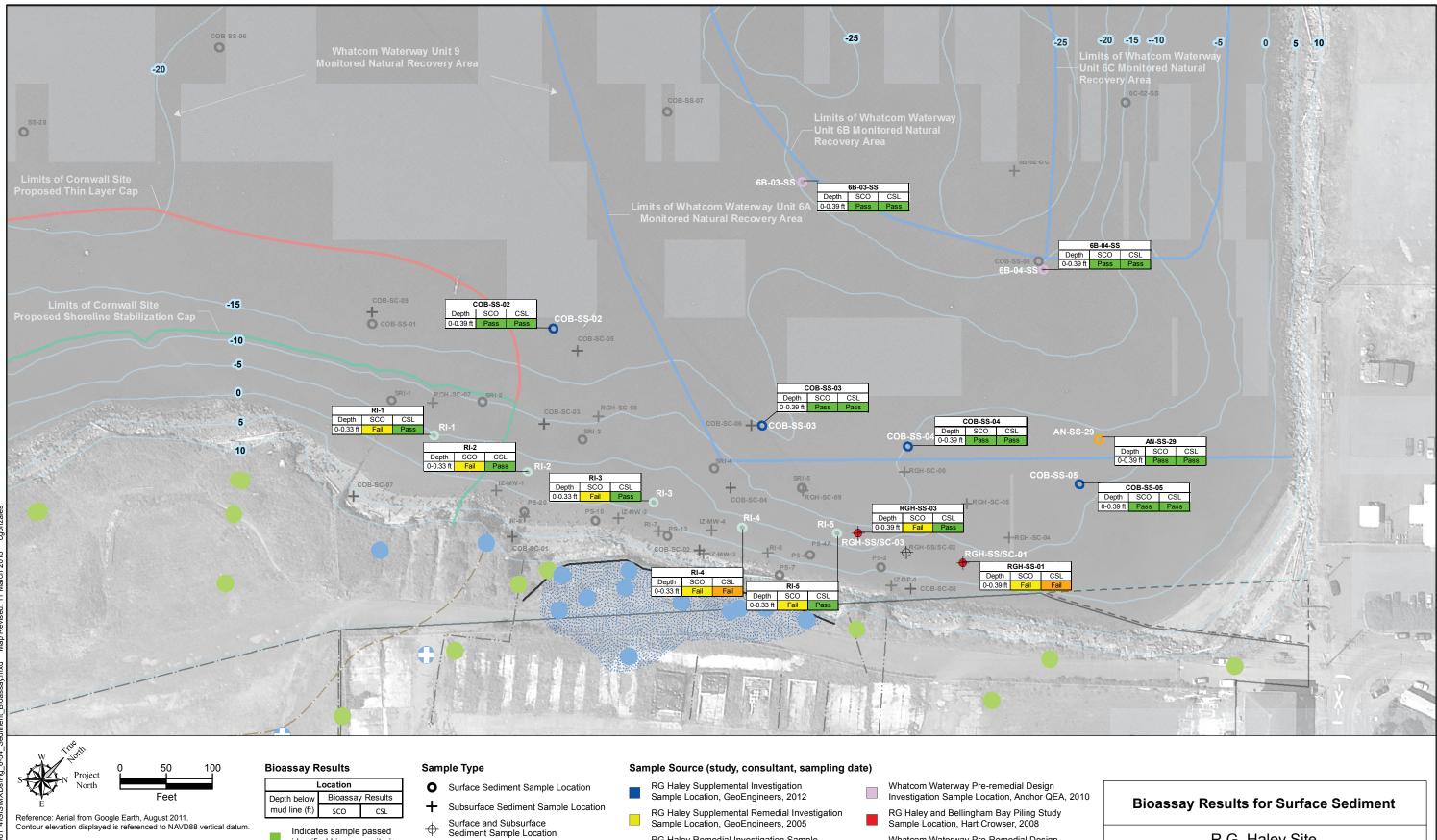
Note: sample location symbols and designations are gray for locations where the test presented in the figure was not performed.

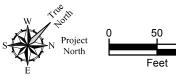
- RG Haley Remedial Investigation Sample Location, GeoEngineers, 2004
- RG Haley Preliminary Screening Study Sample Location, GeoEngineers, 2003

- Whatcom Waterway Pre-Remedial Design Evaluation Sample Location, Anchor, 2002
- Whatcom Waterway Remedial Investigation Sample Location, Anchor and Hart Crowser, 1996

R.G. Haley Site Bellingham, Washington







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- GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

- identified bioassay criteria
- Indicates exceedance of SCO bioassay criteria Indicates exceedance of
- CSL bioassay criteria

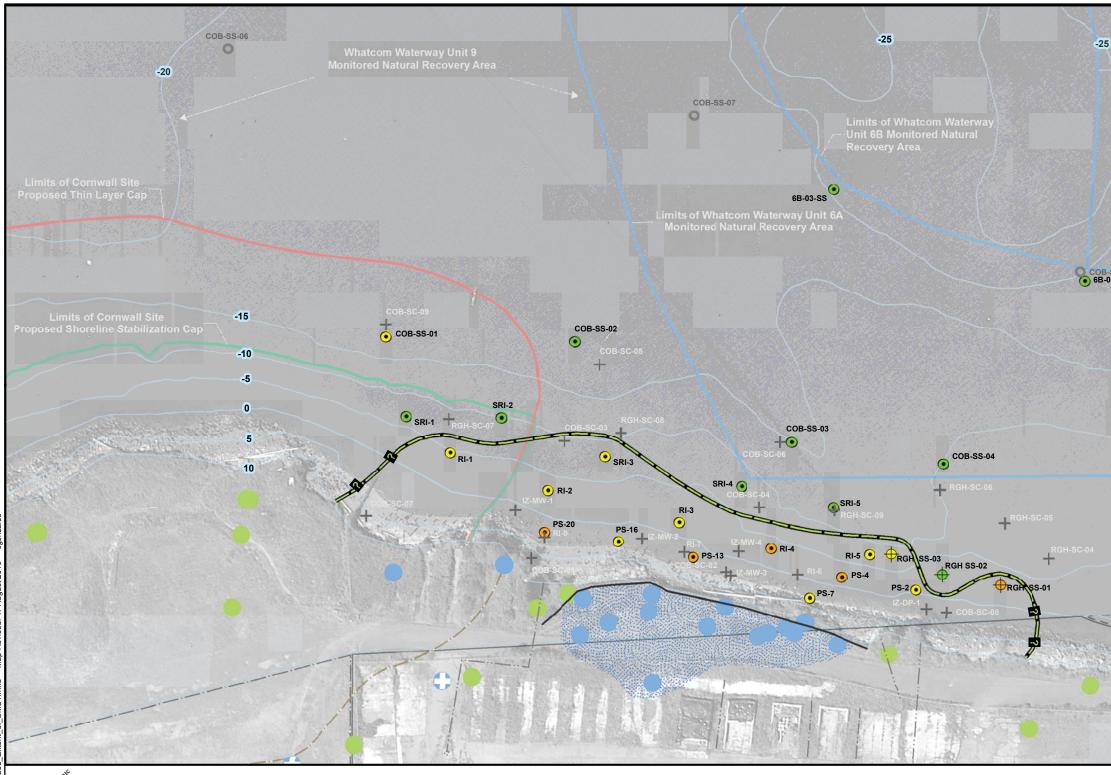
Note: sample location symbols and designations are gray for locations where the test presented in the figure was not performed.

- RG Haley Remedial Investigation Sample Location, GeoEngineers, 2004
- RG Haley Preliminary Screening Study Sample Location, GeoEngineers, 2003

- Whatcom Waterway Pre-Remedial Design Evaluation Sample Location, Anchor, 2002
- Whatcom Waterway Remedial Investigation Sample Location, Anchor and Hart Crowser, 1996

R.G. Haley Site Bellingham, Washington







100 Feet

Reference: Aerial from Google Earth, August 2011. Contour elevation displayed is referenced to NAVD88 vertical datum.

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- upland features. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The matter file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

# Sample Type

- Surface Sediment Sample Location
- + Subsurface Sediment Sample Location
- Surface and Subsurface  $\oplus$ Sediment Sample Location

### Sediment Sample Results

- Exceeds CSL/2LAET Chemical or Biological Criterion for One or More Site Contaminants
- Exceeds SCO/LAET Chemical or Biological Criterion for One or More  $\bigcirc$ Site Contaminants
- Meets SMS Benthic Criteria for Site Contaminants
- Estimated boundary of sediment exceedances for SMS benthic chemical and/or toxicity criteria

1 J. 1	
	Key

	2	Key						
-55-08 04-55	- P		te					
		Conta	minant					
		Concentrations Exceed SMS?		Biological Test Results				
	Sample ID	SCO	CSL	SCO	CSL	Final		
	PS-2	Yes	No			SCO		
	PS-4	Yes	Yes			CSL		
	PS-7	Yes	No			SCO		
	PS-13	Yes	Yes			CSL		
	PS-16	Yes	No			SCO		
	PS-20	Yes	Yes			CSL		
	RI-1	No	No	Fail	Pass	SCO		
	RI-2	No	No	Fail	Pass	SCO		
	RI-3	No	No	Fail	Pass	SCO		
	RI-4	No	No	Fail	Fail	CSL		
AN-SS-29	RI-5	No	No	Fail	Pass	SCO		
COB-SS-05	SRI-1	No	No			Pass		
	SRI-2	No	No			Pass		
	SRI-3	Yes	No			SCO		
	SRI-4	No	No			Pass		
	SRI-5	No	No			Pass		
	RGH-SS-01	No	No	Fail	Fail	CSL		
	RGH-SS-02	No	No			Pass		
	RGH-SS-03	No	No	Fail	Pass	SCO		
	/ 6B-03-SS	No	No	Pass	Pass	Pass		
	- 6B-04-SS	No	No	Pass	Pass	Pass		
	COB-SS-01	Yes	No			SCO		
	COB-SS-02	Yes	No	Pass	Pass	Pass		
hard and	COB-SS-03	Yes	No	Pass	Pass	Pass		
A P SSILL AN ARTEN	COB-SS-04	Yes	Yes	Pass	Pass	Pass		
	COB-SS-05	Yes	Yes	Pass	Pass	Pass		
	AN-SS-29	No	No	Pass	Pass	Pass		
Marthurson and a grander 1	=No Data/	= No Data/Not Tested						
1000 C	SCO = sedime	SCO = sediment cleanup objective						
	CSL = cleanu	CSL = cleanup screening level						
		SMS = Sediment Management Standards						



R.G. Haley Site Bellingham, Washington

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