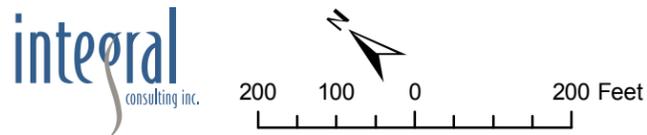
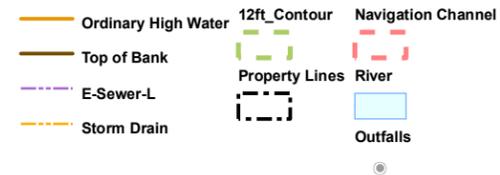


Map Document: (O:\Projects\Arkema-01\MapDocs\ArkemaSW\_DotMap\_Screened\_20060622.mxd) 6/23/2006 - 6:06:12 PM



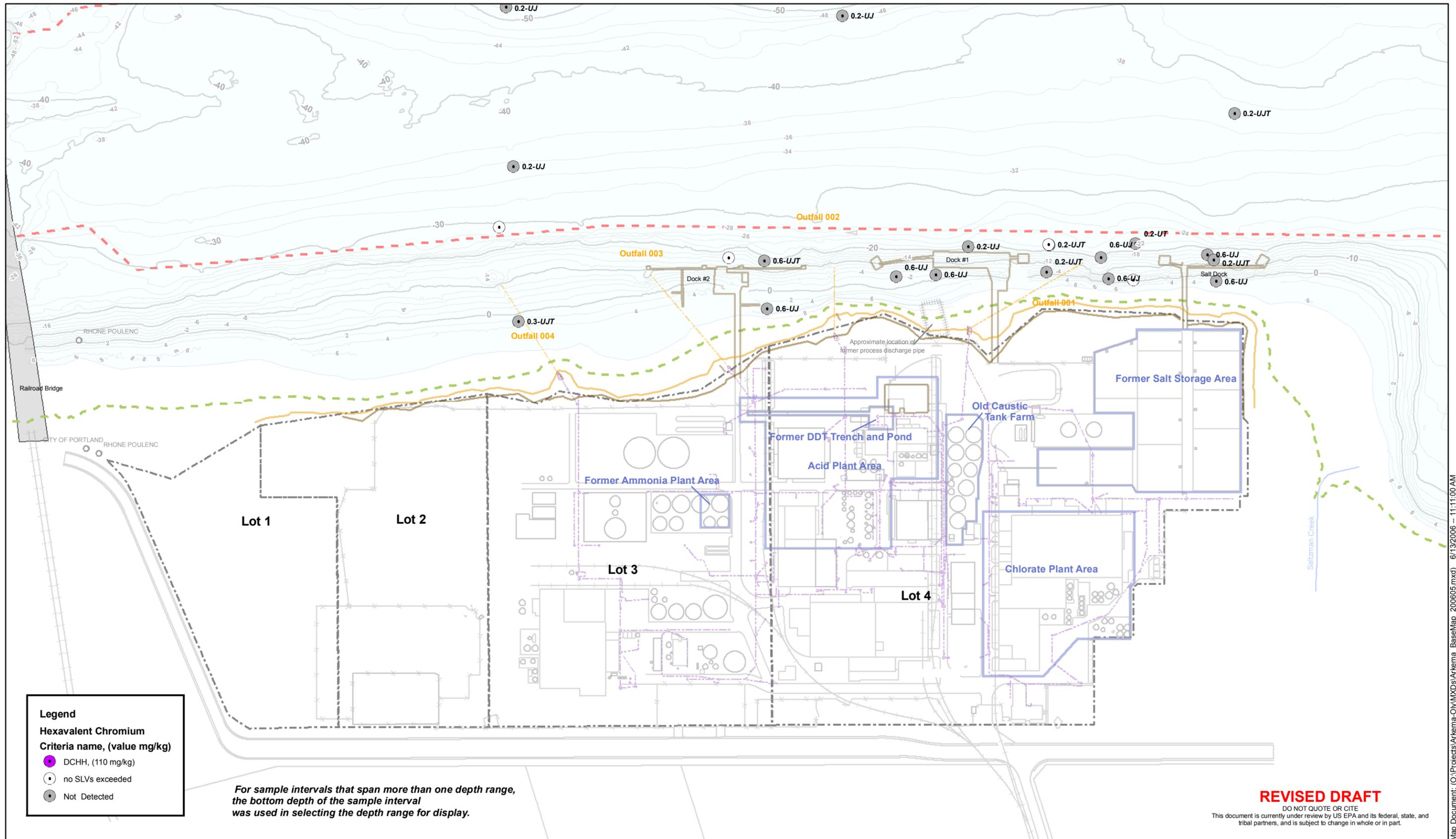
**FEATURE SOURCES:**  
 Bathymetric Information: Multibeam bathymetric survey conducted by David Evans and Associates, Inc. from February 6 - March 6, 2004.  
 Contours were derived from a Digital Terrain Model (DTM) based on a three-foot grid of multibeam data.  
 Vertical Datum: North American Vertical Datum of 1988 (NAVD88).  
 Horizontal Datum: North American Datum of 1983 - 91 adjusted (NAD83/91), State Plane Coordinate System (SPCS), Oregon North Zone.  
 Units: International Feet.  
 Basemap: Basemap features updated in 2006 by David Evans and Associates. Ordinary high water line, top of bank, and other site features surveyed in April 2006.



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**Notes:**  
 1) If both Total and Dissolved values occur coincidentally at a sampling location, the dissolved value will appear on top.

**Map-70**  
**Arkema Site**  
**Surface Water, Transition Zone Water,**  
**and Groundwater Samples**  
**Hexavalent Chromium**



**Legend**

**Hexavalent Chromium**

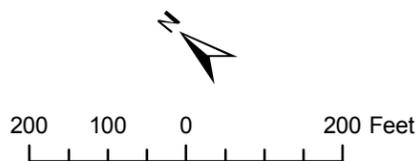
**Criteria name, (value mg/kg)**

- DCHH, (110 mg/kg)
- no SLVs exceeded
- Not Detected

*For sample intervals that span more than one depth range, the bottom depth of the sample interval was used in selecting the depth range for display.*

**REVISED DRAFT**

DO NOT QUOTE OR CITE  
 This document is currently under review by US EPA and its federal, state, and tribal partners, and is subject to change in whole or in part.

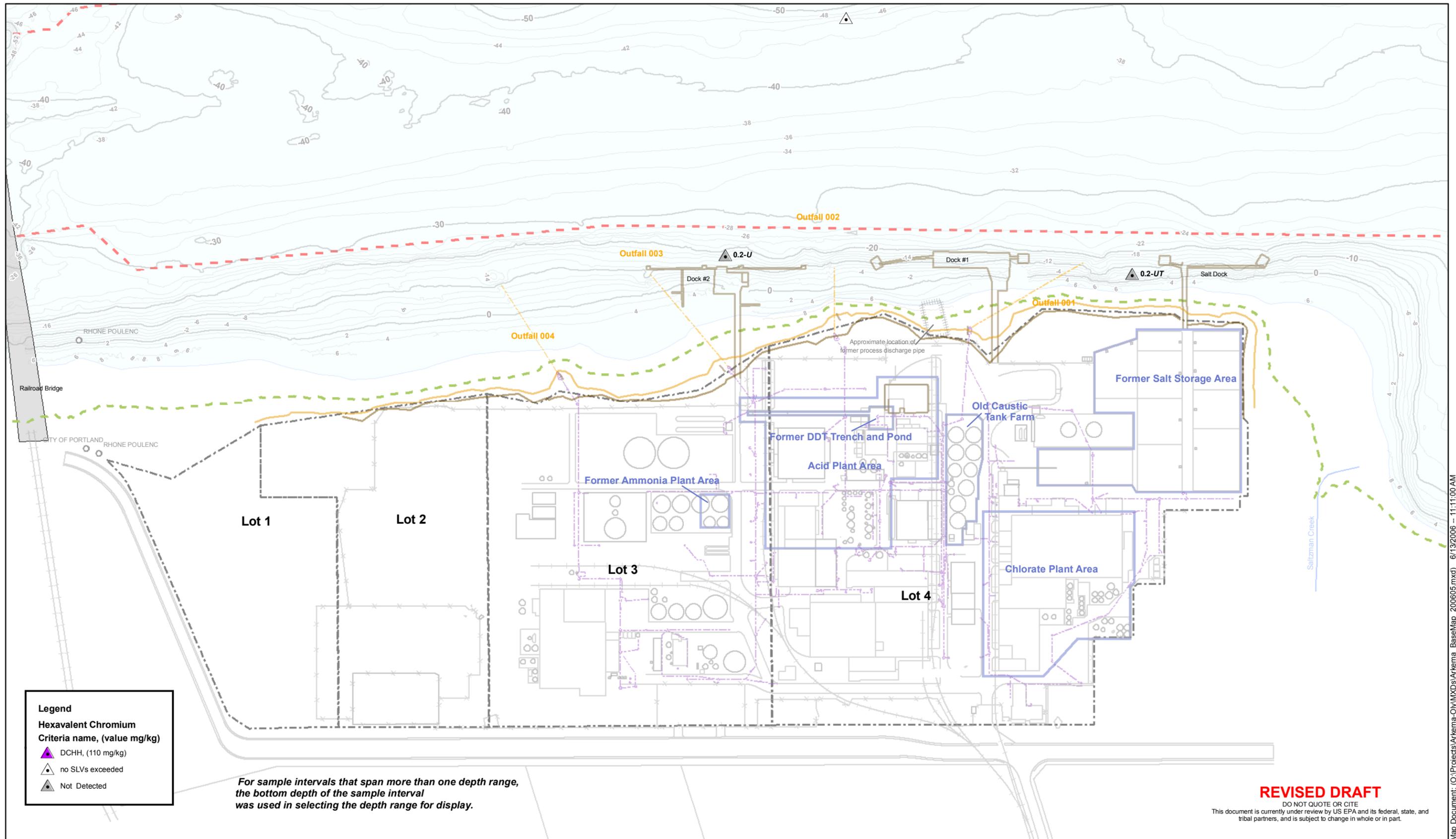


**FEATURE SOURCES:**  
 Bathymetric Information: Multibeam bathymetric survey conducted by David Evans and Associates, Inc. from February 6 - March 6, 2004. Contours were derived from a Digital Terrain Model (DTM) based on a three-foot grid of multibeam data.  
 Vertical Datum: North American Vertical Datum of 1988 (NAVD88).  
 Horizontal Datum: North American Datum of 1983 - 91 adjusted (NAD83/91), State Plane Coordinate System (SPCS), Oregon North Zone.  
 Units: International Feet.  
 Basemap: Basemap features updated in 2006 by David Evans and Associates. Ordinary high water line, top of bank, and other site features surveyed in April 2006. Most buildings and structures on the Arkema site have been demolished or removed.  
 OHW and Top of Slope lines were created from the April 2006 DEA survey, the +12ft contour line was derived from the combined lidar/bathymetry grid.  
 Lot Lines: Created by importing pdf file from ERM, georeferencing to CAD lines (RMS error = 2.3042) and heads-up digitizing the lot lines.

- Ordinary High Water
- Top of Bank
- E-Sewer-L
- Storm Drain
- 12ft Contour
- Bridges
- Property Lines
- Navigation Channel
- River
- Outfalls

**Map-71**  
**Arkema Site**  
**Surface & Sub-Surface Sediment Samples**  
**Depth Range: Surface (0-1 ft)**  
**Hexavalent Chromium**

Map Document: (O:\Projects\Arkema-01\MXDs\Arkema\_BaseMap\_200605.mxd) 6/13/2006 11:11:00 AM



**Legend**

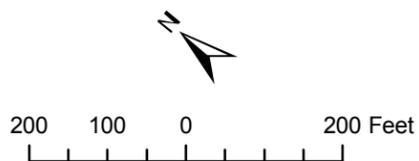
**Hexavalent Chromium**  
Criteria name, (value mg/kg)

- DCHH, (110 mg/kg)
- no SLVs exceeded
- Not Detected

*For sample intervals that span more than one depth range, the bottom depth of the sample interval was used in selecting the depth range for display.*

**REVISED DRAFT**

DO NOT QUOTE OR CITE  
This document is currently under review by US EPA and its federal, state, and tribal partners, and is subject to change in whole or in part.

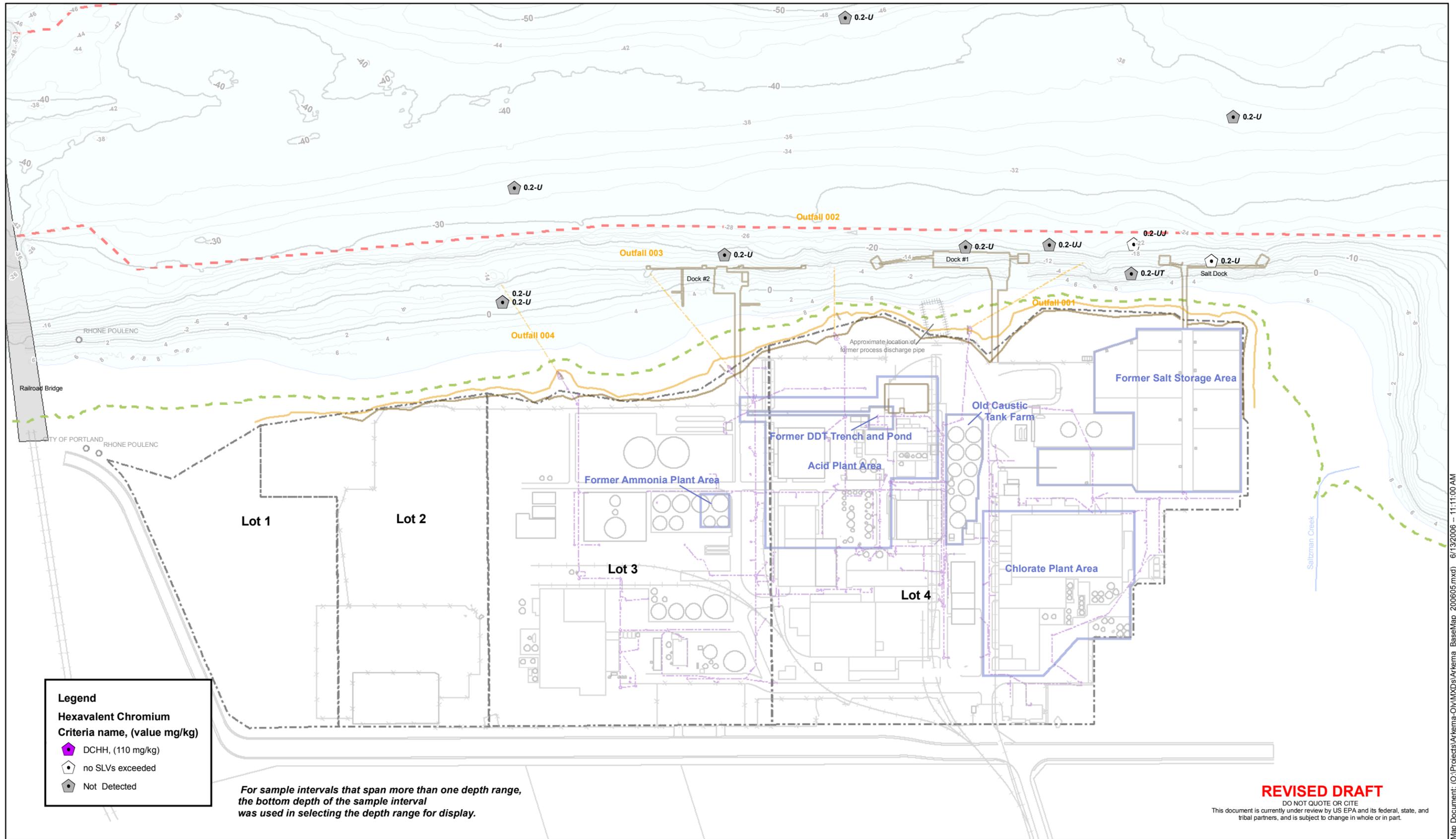


**FEATURE SOURCES:**  
 Bathymetric Information: Multibeam bathymetric survey conducted by David Evans and Associates, Inc. from February 6 - March 6, 2004. Contours were derived from a Digital Terrain Model (DTM) based on a three-foot grid of multibeam data.  
 Vertical Datum: North American Vertical Datum of 1988 (NAVD88).  
 Horizontal Datum: North American Datum of 1983 - 91 adjusted (NAD83/91), State Plane Coordinate System (SPCS), Oregon North Zone.  
 Units: International Feet.  
 Basemap: Basemap features updated in 2006 by David Evans and Associates. Ordinary high water line, top of bank, and other site features surveyed in April 2006. Most buildings and structures on the Arkema site have been demolished or removed.  
 OHW and Top of Slope lines were created from the April 2006 DEA survey, the +12ft contour line was derived from the combined lidar/bathymetry grid.  
 Lot Lines: Created by importing pdf file from ERM, georeferencing to CAD lines (RMS error = 2.3042) and heads-up digitizing the lot lines.

Ordinary High Water	12ft Contour	Navigation Channel
Top of Bank	Bridges	River
E-Sewer-L	Property Lines	Outfalls
Storm Drain		

**Map-72**  
**Arkema Site**  
**Surface & Sub-Surface Sediment Samples**  
**Depth Range: Shallow Subsurface (1-4 ft)**  
**Hexavalent Chromium**

Map Document: (O:\Projects\Arkema-01\MapDocs\Arkema\_BaseMap\_200605.mxd) 6/13/2006 - 11:11:00 AM



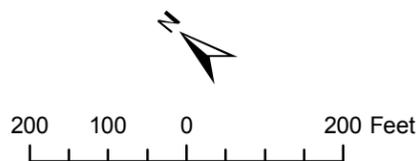
**Legend**

**Hexavalent Chromium**  
Criteria name, (value mg/kg)

- ◆ DCHH, (110 mg/kg)
- ◆ no SLVs exceeded
- ◆ Not Detected

*For sample intervals that span more than one depth range, the bottom depth of the sample interval was used in selecting the depth range for display.*

**REVISED DRAFT**  
DO NOT QUOTE OR CITE  
This document is currently under review by US EPA and its federal, state, and tribal partners, and is subject to change in whole or in part.

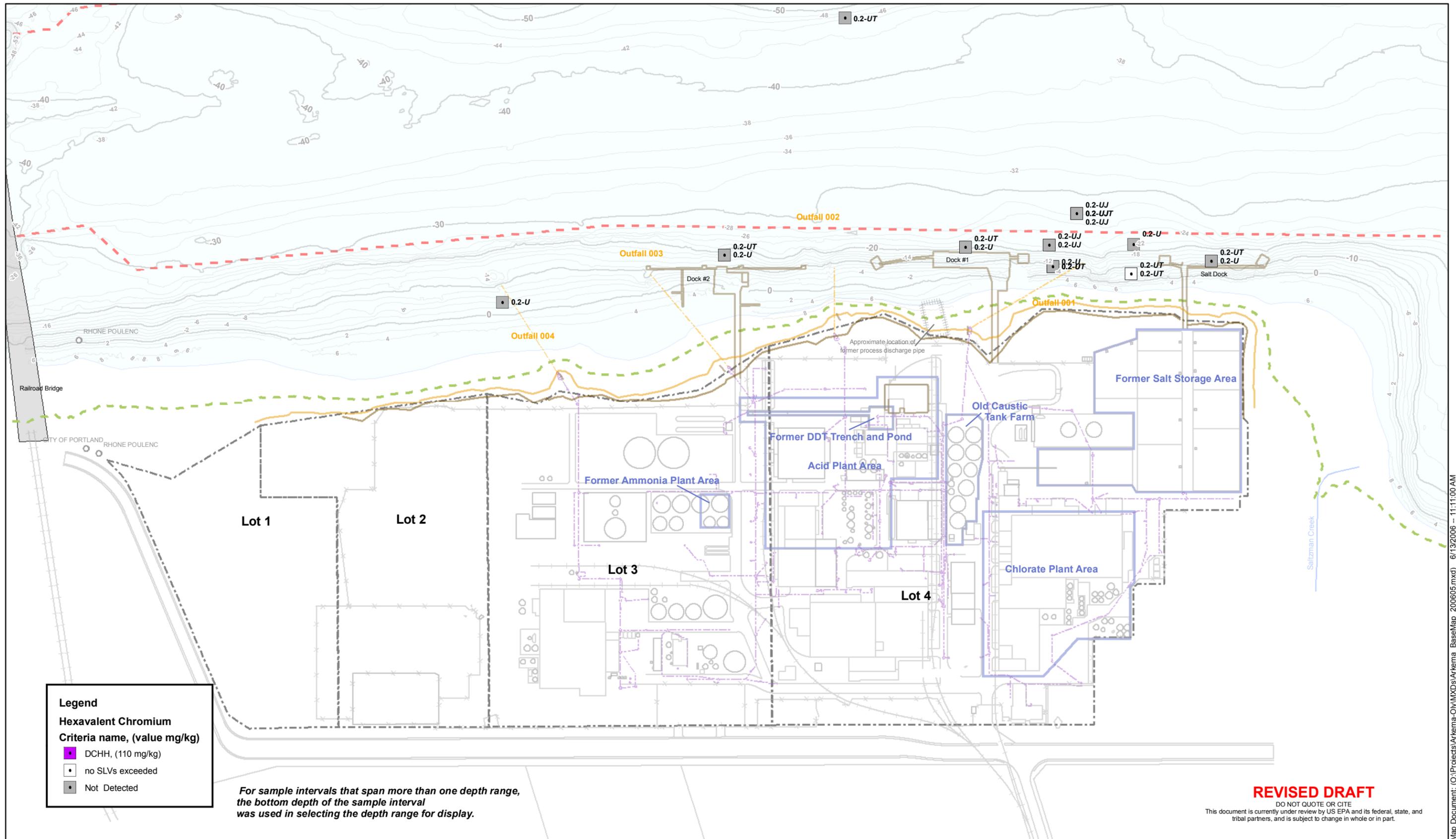


**FEATURE SOURCES:**  
 Bathymetric Information: Multibeam bathymetric survey conducted by David Evans and Associates, Inc. from February 6 - March 6, 2004. Contours were derived from a Digital Terrain Model (DTM) based on a three-foot grid of multibeam data.  
 Vertical Datum: North American Vertical Datum of 1988 (NAVD88).  
 Horizontal Datum: North American Datum of 1983 - 91 adjusted (NAD83/91), State Plane Coordinate System (SPCS), Oregon North Zone.  
 Units: International Feet.  
 Basemap: Basemap features updated in 2006 by David Evans and Associates. Ordinary high water line, top of bank, and other site features surveyed in April 2006. Most buildings and structures on the Arkema site have been demolished or removed.  
 OHW and Top of Slope lines were created from the April 2006 DEA survey, the +12ft contour line was derived from the combined lidar/bathymetry grid.  
 Lot Lines: Created by importing pdf file from ERM, georeferencing to CAD lines (RMS error = 2.3042) and heads-up digitizing the lot lines.

<span style="color: orange;">—</span> Ordinary High Water	<span style="color: green;">- - -</span> 12ft Contour	<span style="color: red;">- - -</span> Navigation Channel
<span style="color: brown;">—</span> Top of Bank	<span style="color: grey;">■</span> Bridges	<span style="color: blue;">—</span> River
<span style="color: purple;">- - -</span> E-Sewer-L	<span style="color: black;">—</span> Property Lines	<span style="color: blue;">●</span> Outfalls
<span style="color: orange;">- - -</span> Storm Drain	<span style="color: black;">- - -</span> Property Lines	<span style="color: grey;">●</span>

**Map-73**  
**Arkema Site**  
**Surface & Sub-Surface Sediment Samples**  
**Depth Range: Intermediate Subsurface (4-8 ft)**  
**Hexavalent Chromium**

Map Document: (O:\Projects\Arkema-01\MapDocs\Arkema\_BaseMap\_200605.mxd) 6/13/2006 11:11:00 AM



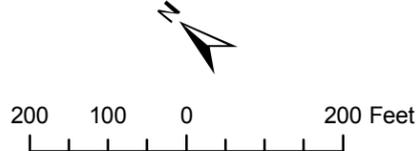
**Legend**  
**Hexavalent Chromium**  
**Criteria name, (value mg/kg)**

- DCHH, (110 mg/kg)
- no SLVs exceeded
- Not Detected

*For sample intervals that span more than one depth range, the bottom depth of the sample interval was used in selecting the depth range for display.*

**REVISED DRAFT**

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**FEATURE SOURCES:**  
 Bathymetric Information: Multibeam bathymetric survey conducted by David Evans and Associates, Inc. from February 6 - March 6, 2004. Contours were derived from a Digital Terrain Model (DTM) based on a three-foot grid of multibeam data.  
 Vertical Datum: North American Vertical Datum of 1988 (NAVD88).  
 Horizontal Datum: North American Datum of 1983 - 91 adjusted (NAD83/91), State Plane Coordinate System (SPCS), Oregon North Zone.  
 Units: International Feet.  
 Basemap: Basemap features updated in 2006 by David Evans and Associates. Ordinary high water line, top of bank, and other site features surveyed in April 2006. Most buildings and structures on the Arkema site have been demolished or removed.  
 OHW and Top of Slope lines were created from the April 2006 DEA survey, the +12ft contour line was derived from the combined lidar/bathymetry grid.  
 Lot Lines: Created by importing pdf file from ERM, georeferencing to CAD lines (RMS error = 2.3042) and heads-up digitizing the lot lines.

- Ordinary High Water
- Top of Bank
- E-Sewer-L
- Storm Drain
- 12ft Contour
- Bridges
- Property Lines
- Navigation Channel
- River
- Outfalls

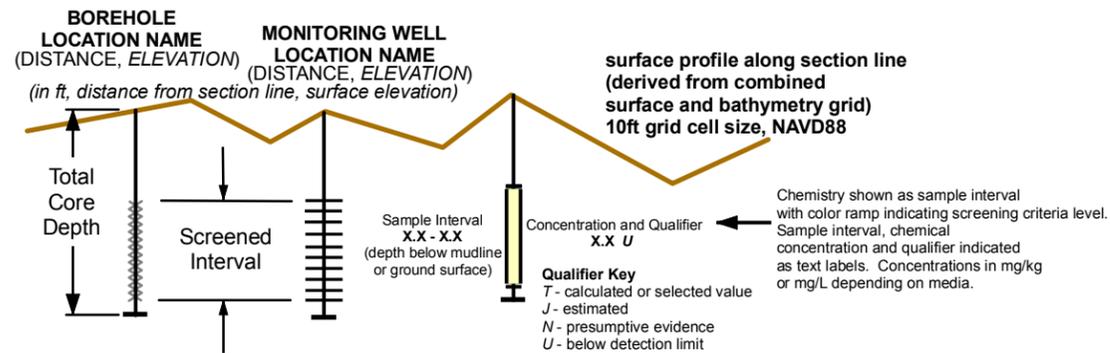
**Map-74**  
**Arkema Site**  
**Surface & Sub-Surface Sediment Samples**  
**Depth Range: Deep Subsurface (> 8 ft)**  
**Hexavalent Chromium**

Map Document: (O:\Projects\Arkema-01\MapDocs\Arkema\_BaseMap\_200605.mxd) 6/13/2006 11:11:00 AM



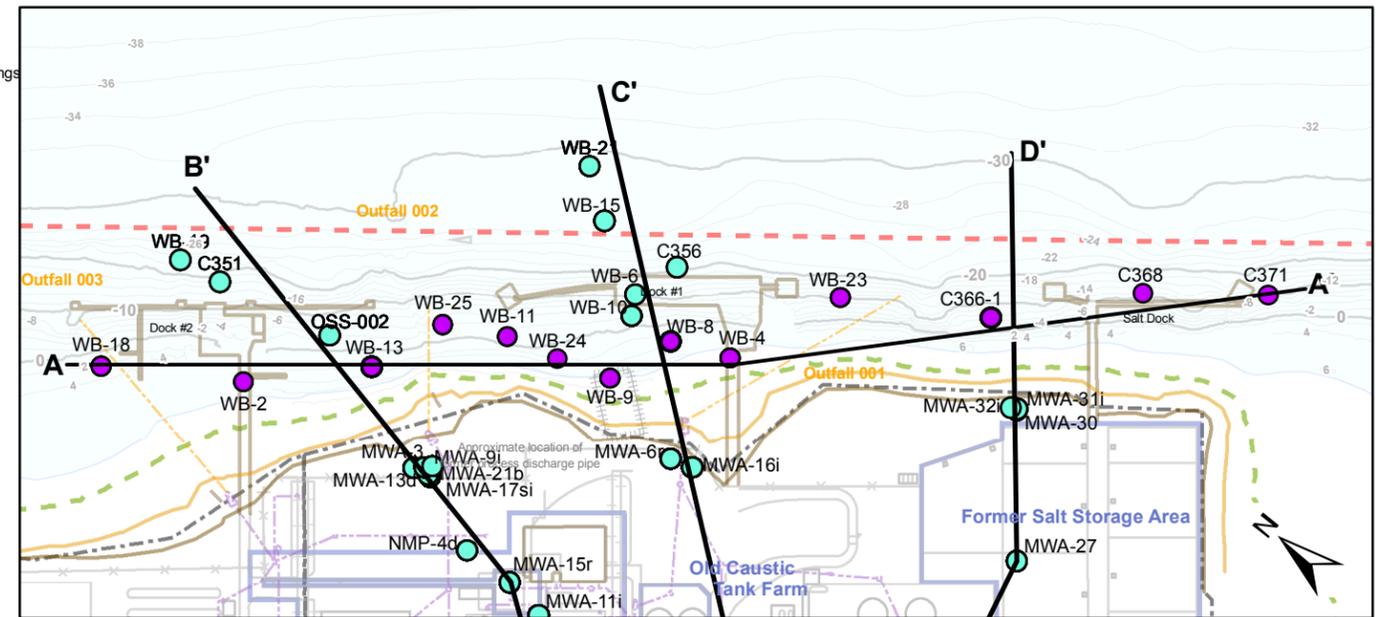
Notes:

- 1) Due to projection onto the section line, lithology was estimated at some well and borehole stations based on best professional judgment
- 2) Groundwater samples were not filtered. Reconnaissance groundwater sample concentrations may be biased high since they are generally more turbid than monitoring well groundwater samples.



Map View Legend

- Section\_AA Selected Wells and Borings
- Section\_BB
- Section\_CC
- Section\_DD
- Navigation Channel
- River
- 12ft Contour
- Ordinary High Water
- Top of Bank
- Bathymetry (2, 10 ft)
- Index Contour
- 2' contour



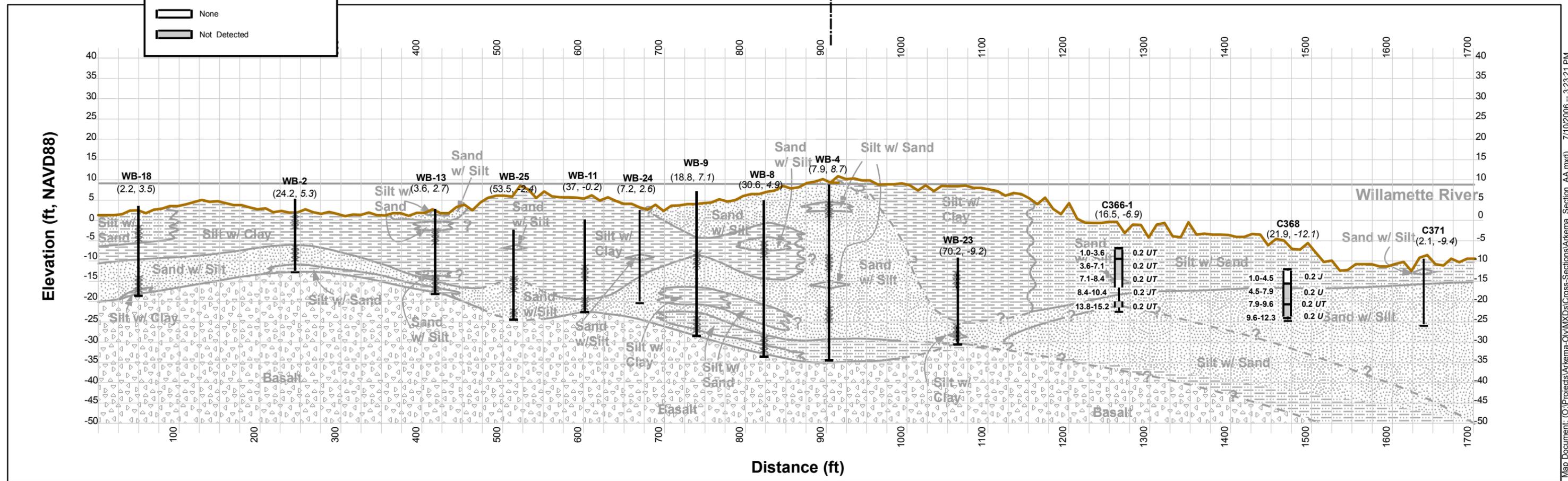
Plant North  
A

Plant South  
A'

**Chemistry Legend**  
Chromium, hexavalent  
Screening Criteria (value mg/kg)

- DCHH (110)
- None
- Not Detected

Section A-A'

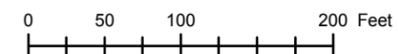


Section View: Vertical Exaggeration: 5X

- Fill
- Silt with some clay and fine sand
- Sand with varying amounts of silt
- Basalt
- Silt with varying amounts of fine sand
- Inferred soil or geologic contact (queried where uncertain)
- Shallow-zone groundwater surface (approximate) June 2003; based on monitoring well data only.

**REVISED DRAFT**

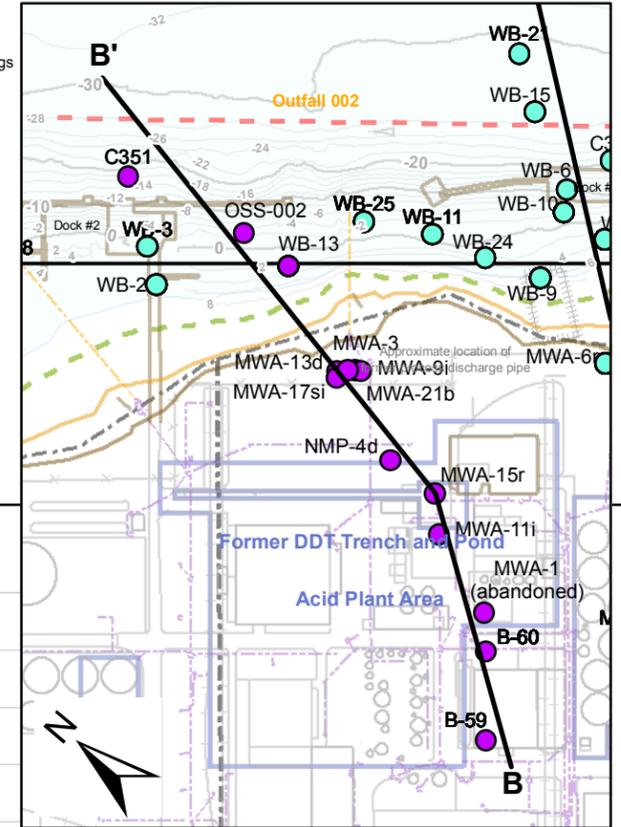
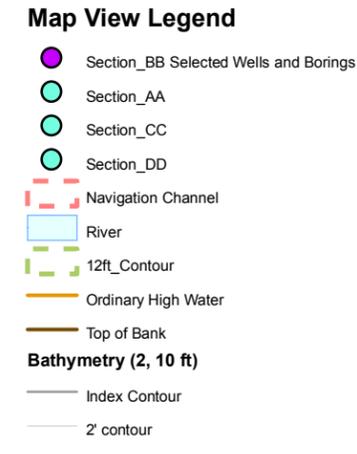
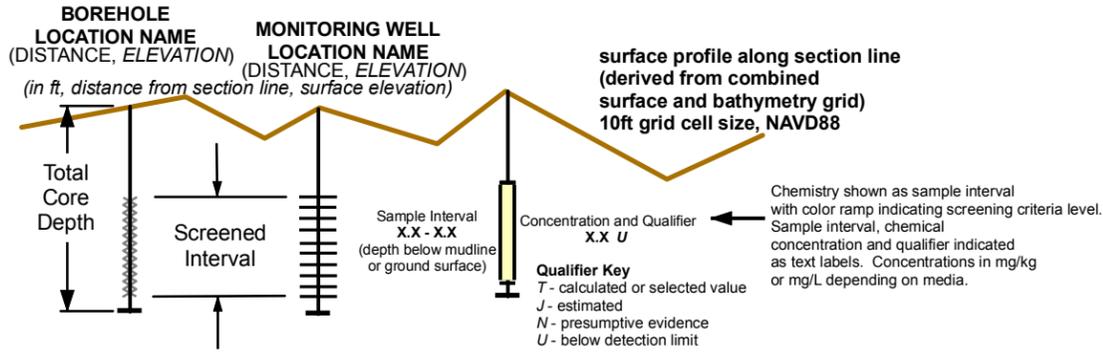
DO NOT QUOTE OR CITE  
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Map-76  
Cross-Section A-A'  
Sediment Chemistry  
Chromium (hexavalent)

Notes:

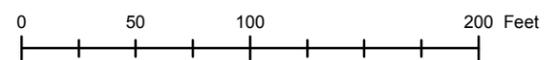
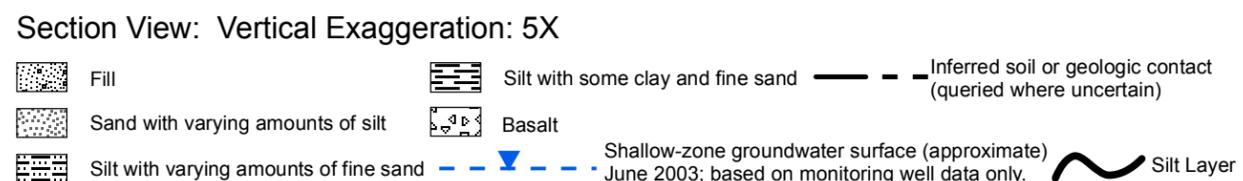
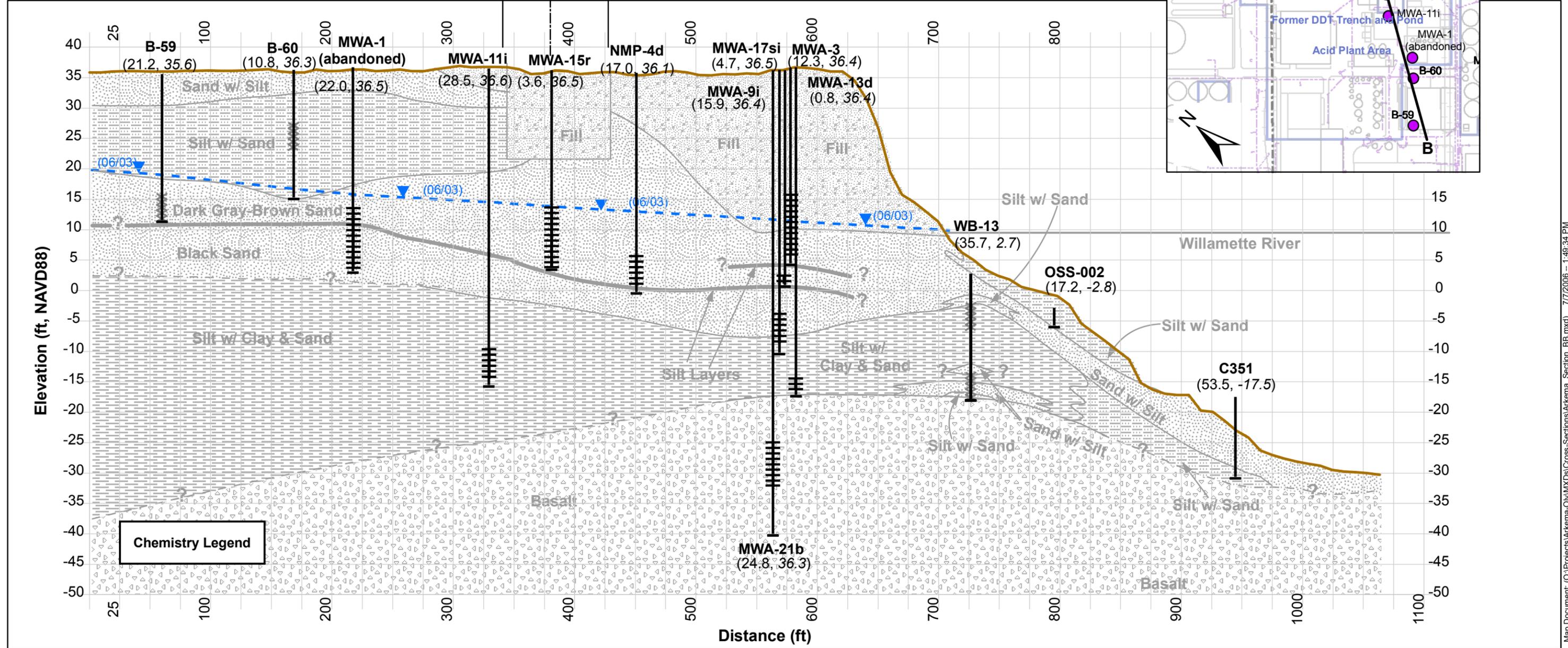
- 1) Due to projection onto the section line, lithology was estimated at some well and borehole stations based on best professional judgment
- 2) Groundwater samples were not filtered. Reconnaissance groundwater sample concentrations may be biased high since they are generally more turbid than monitoring well groundwater samples.



Plant West  
B

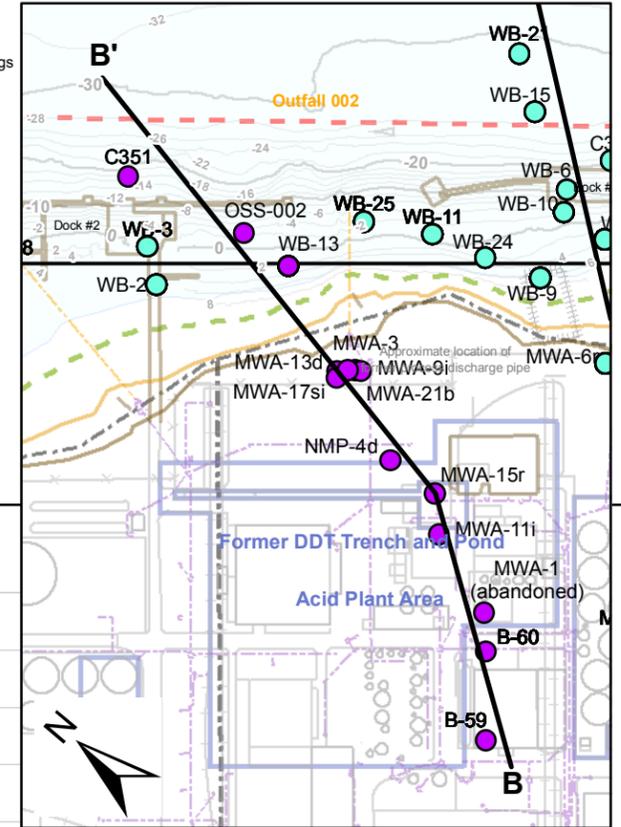
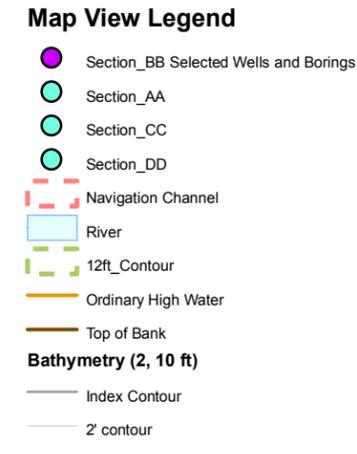
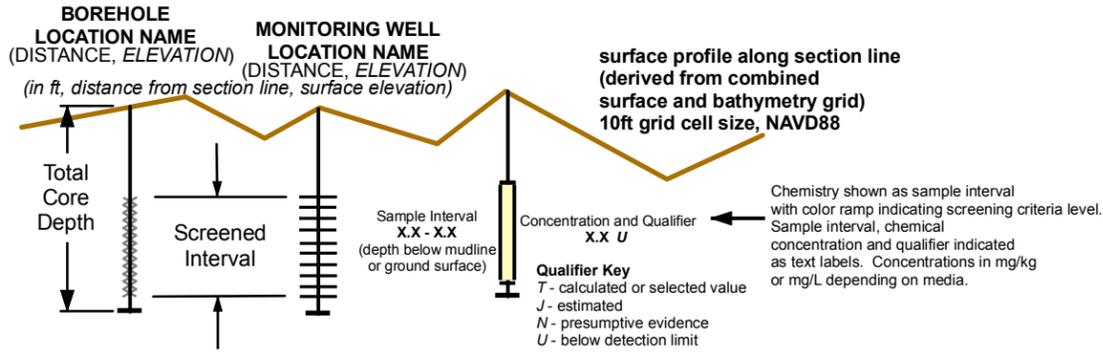
Plant East  
B'

Section B-B'



Notes:

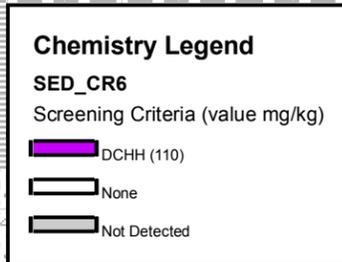
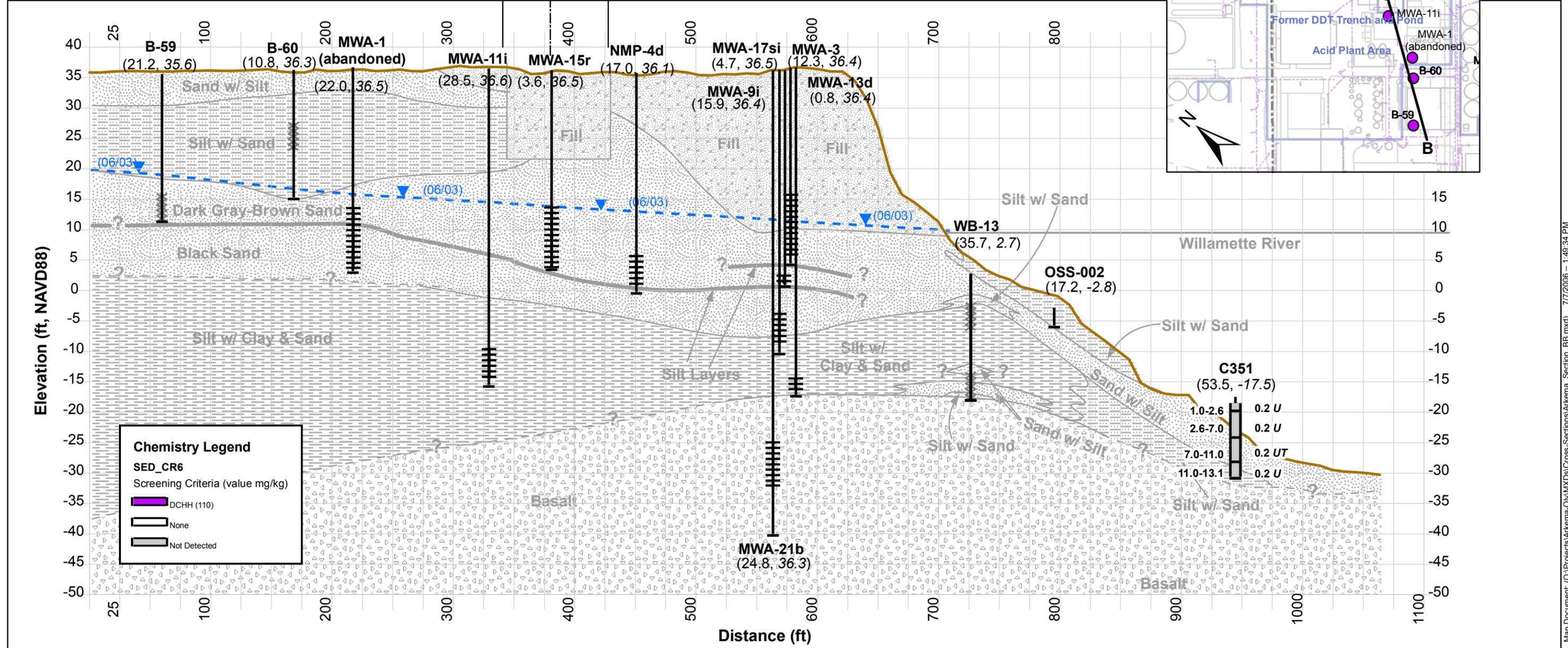
- 1) Due to projection onto the section line, lithology was estimated at some well and borehole stations based on best professional judgment
- 2) Groundwater samples were not filtered. Reconnaissance groundwater sample concentrations may be biased high since they are generally more turbid than monitoring well groundwater samples.



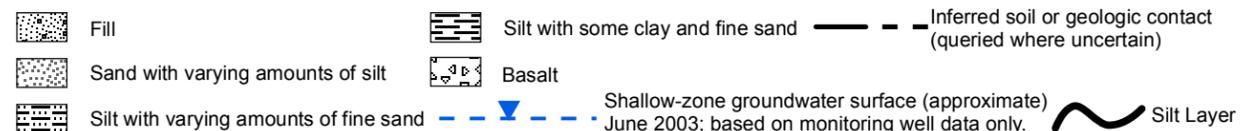
Plant West  
B

Plant East  
B'

Section B-B'

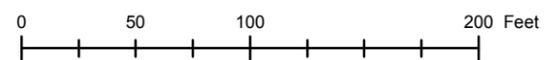


Section View: Vertical Exaggeration: 5X



**REVISED DRAFT**

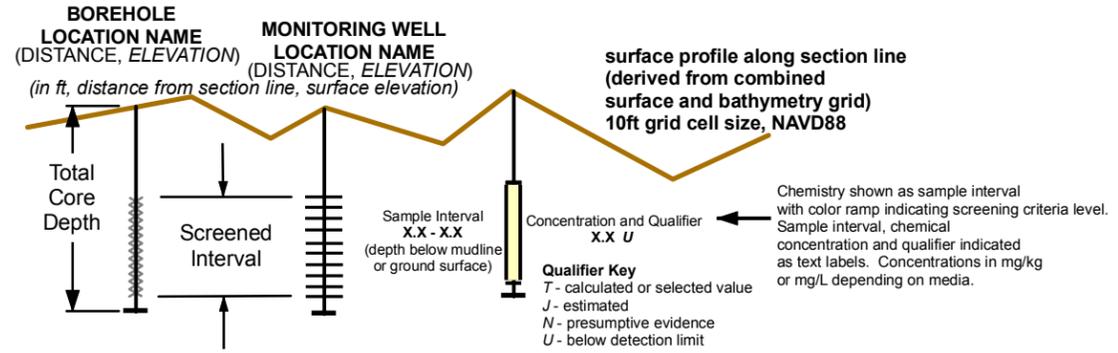
DO NOT QUOTE OR CITE  
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Map-78  
Cross-Section B-B'  
Soil/Sediment Chemistry  
Chromium (hexavalent)

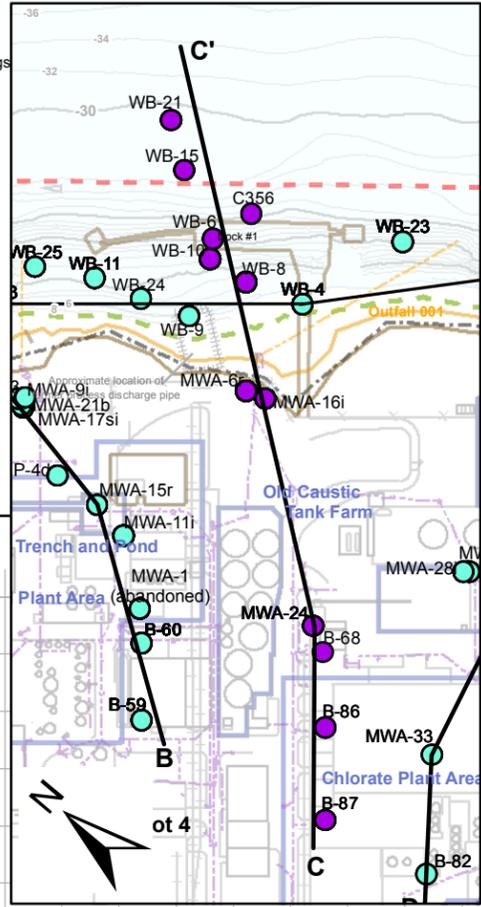
Notes:

- 1) Due to projection onto the section line, lithology was estimated at some well and borehole stations based on best professional judgment
- 2) Groundwater samples were not filtered. Reconnaissance groundwater sample concentrations may be biased high since they are generally more turbid than monitoring well groundwater samples.



Map View Legend

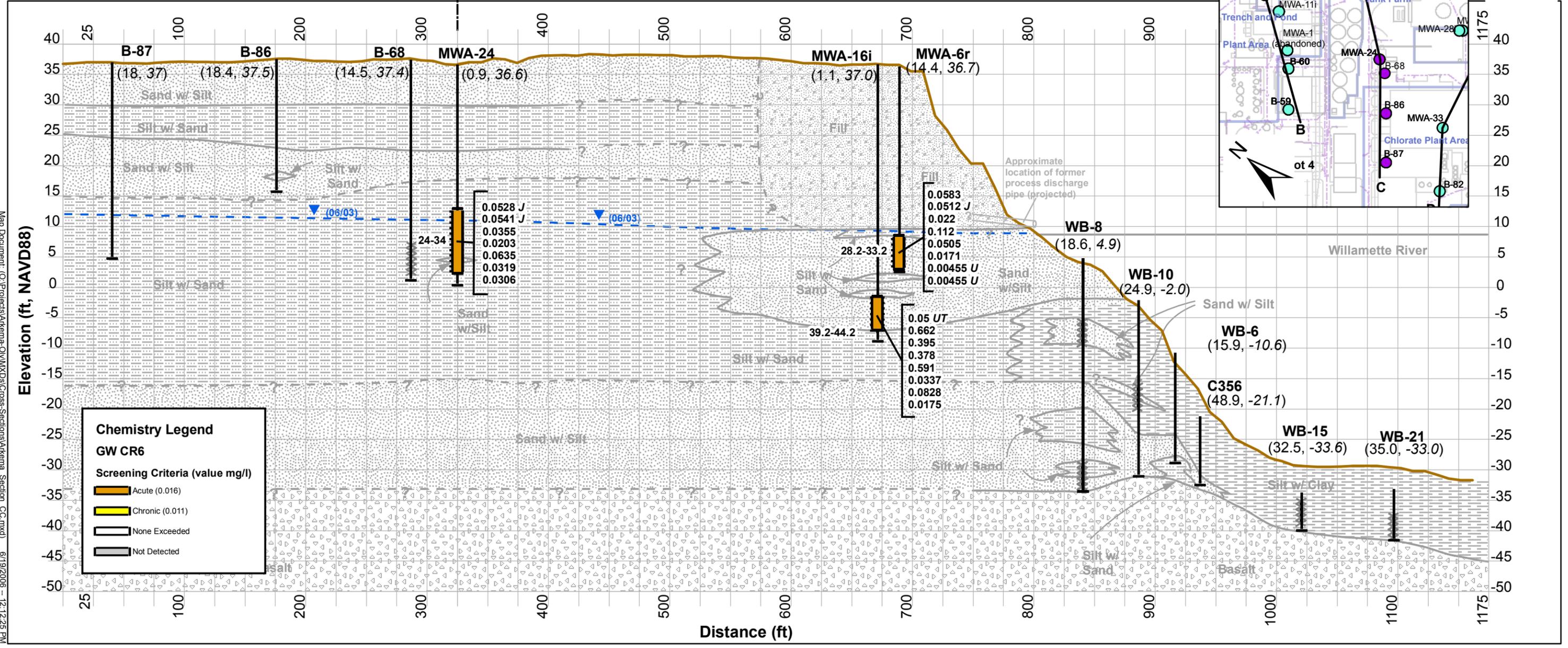
- Section\_CC Selected Wells and Borings
- Section\_AA
- Section\_BB
- Section\_DD
- Navigation Channel
- River
- 12ft Contour
- Ordinary High Water
- Top of Bank
- Bathymetry (2, 10 ft)
- Index Contour
- 2' contour



Plant West  
C

Plant East  
C'

Section C-C'



Map Document: C:\Projects\Arkema-Oily\WMD\SD\Cross-Sections\Arkema\_Section\_CC.mxd 6/19/2006 - 12:12:25 PM



Section View: Vertical Exaggeration: 5X

- Fill
- Sand with varying amounts of silt
- Silt with varying amounts of fine sand
- Silt with some clay and fine sand
- Basalt
- Inferred soil or geologic contact (queried where uncertain)
- Shallow-zone groundwater surface (approximate) June 2003; based on monitoring well data only.

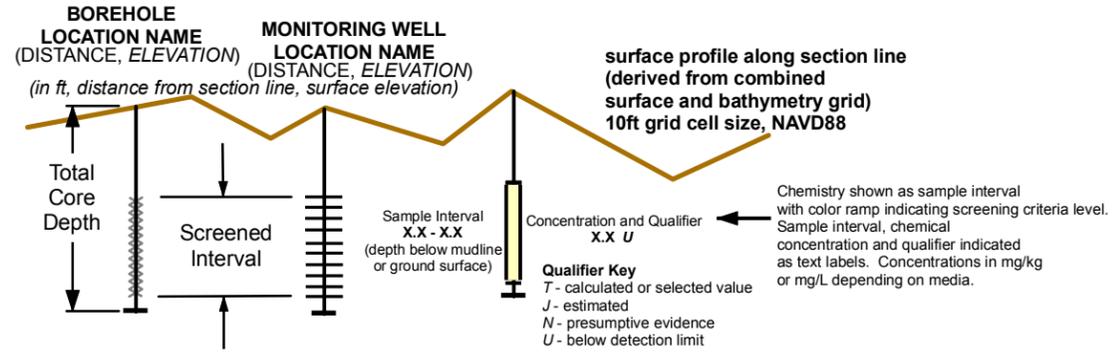
**REVISED DRAFT**  
DO NOT QUOTE OR CITE  
This document is currently under review by US EPA and its federal, state, and tribal partners, and is subject to change in whole or in part.

0 50 100 200 Feet  
1 inch equals 80 feet

Map-79  
Cross-Section C-C'  
Groundwater Chemistry  
Chromium (hexavalent)

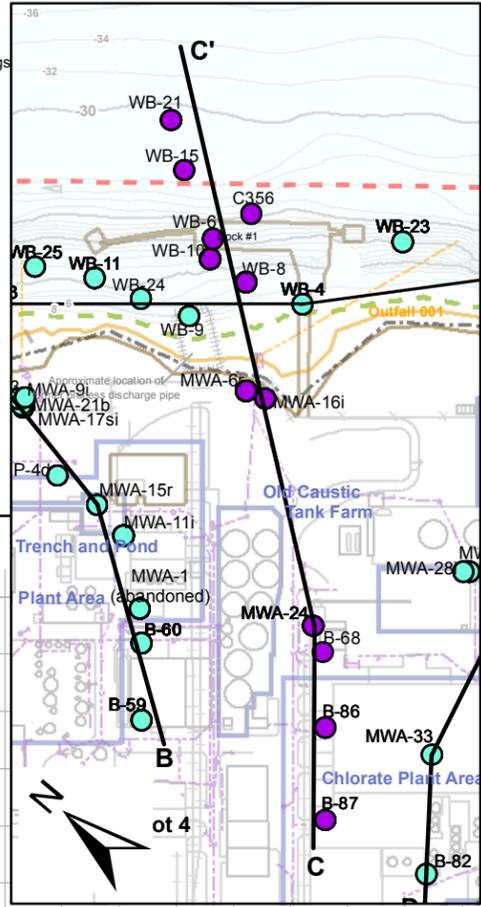
Notes:

- 1) Due to projection onto the section line, lithology was estimated at some well and borehole stations based on best professional judgment
- 2) Groundwater samples were not filtered. Reconnaissance groundwater sample concentrations may be biased high since they are generally more turbid than monitoring well groundwater samples.



Map View Legend

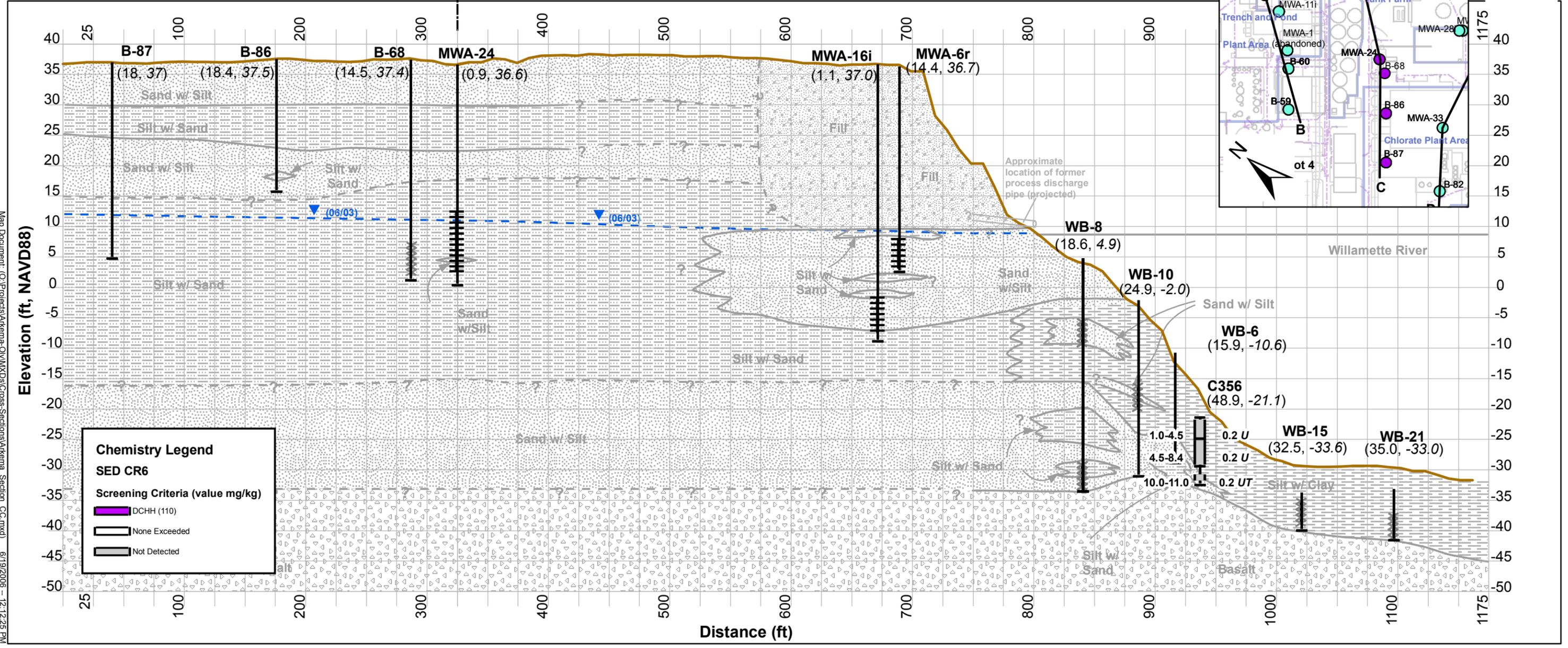
- Section\_CC Selected Wells and Borings
- Section\_AA
- Section\_BB
- Section\_DD
- Navigation Channel
- River
- 12ft Contour
- Ordinary High Water
- Top of Bank
- Bathymetry (2, 10 ft)
- Index Contour
- 2' contour



Plant West  
C

Plant East  
C'

Section C-C'



Map Document: (O:\Projects\Arkema-Oily\WMD\SD\Cross-Sections\Arkema\_Section\_CC.mxd) 6/19/2006 - 12:12:25 PM

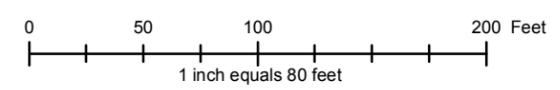


Section View: Vertical Exaggeration: 5X

- Fill
- Sand with varying amounts of silt
- Silt with varying amounts of fine sand
- Silt with some clay and fine sand
- Basalt
- Inferred soil or geologic contact (queried where uncertain)
- Shallow-zone groundwater surface (approximate) June 2003; based on monitoring well data only.

**REVISED DRAFT**  
DO NOT QUOTE OR CITE

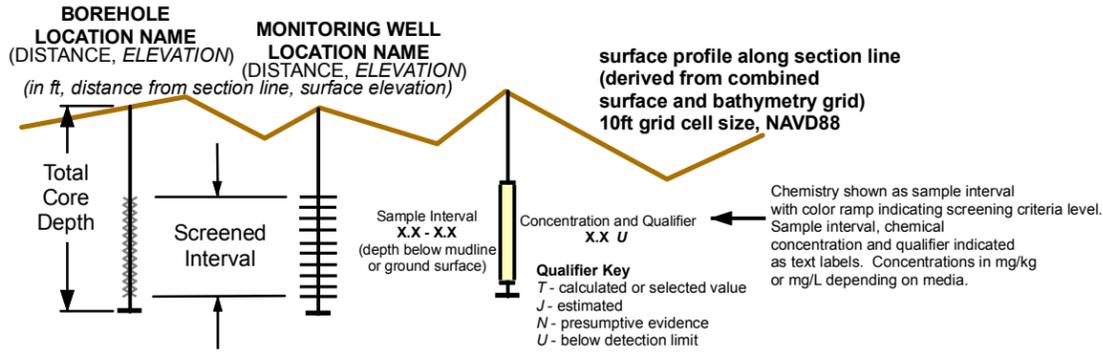
This document is currently under review by US EPA and its federal, state, and tribal partners, and is subject to change in whole or in part.



Map-80  
Cross-Section C-C'  
Soil/Sediment Chemistry  
Chromium (hexavalent)

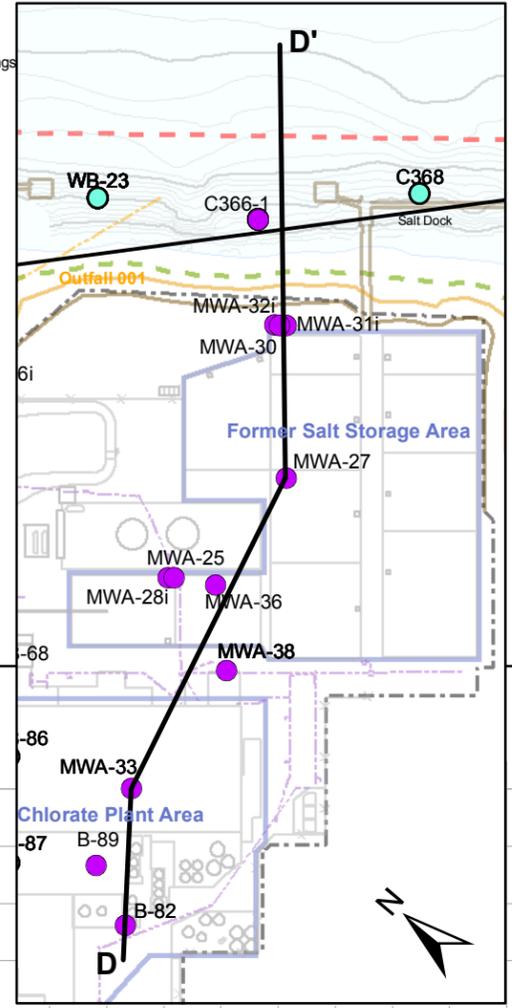
Notes:

- 1) Due to projection onto the section line, lithology was estimated at some well and borehole stations based on best professional judgment
- 2) Groundwater samples were not filtered. Reconnaissance groundwater sample concentrations may be biased high since they are generally more turbid than monitoring well groundwater samples.



Map View Legend

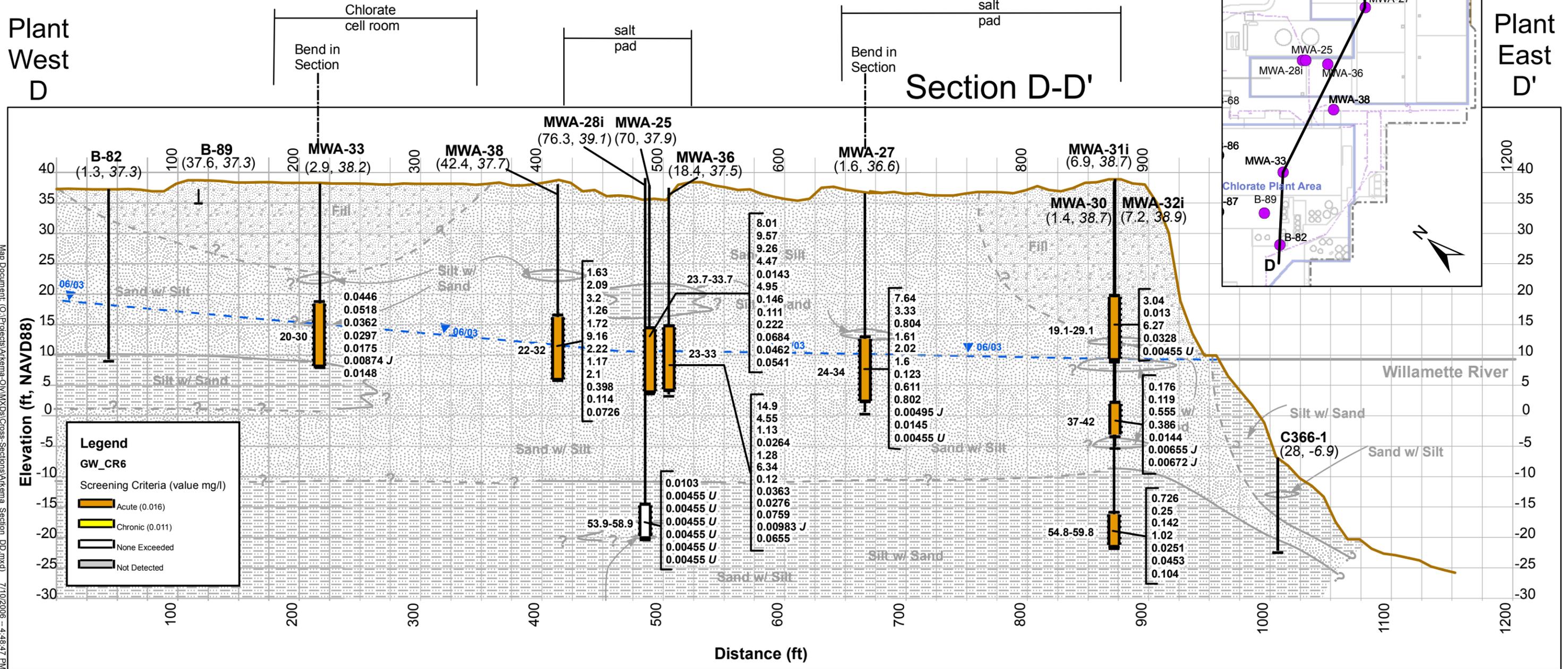
- Section\_DD\_Selected\_Wells and Borings
- Section\_AA
- Section\_BB
- Section\_CC
- Navigation Channel
- River
- 12ft\_Contour
- Ordinary High Water
- Top of Bank
- Bathymetry (2, 10 ft)
- Index Contour
- 2' contour



Plant West  
D

Plant East  
D'

Section D-D'



Map Document: (O:\Projects\Arkema-Oil\MapDocs\Cross-Sections\Arkema\_Section\_DD.mxd) 7/10/2006 - 4:48:47 PM

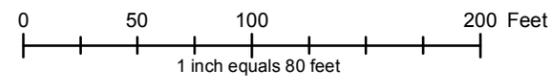


Section View: Vertical Exaggeration: 5X

- Fill
- Silt with some clay and fine sand
- Sand with varying amounts of silt
- Basalt
- Silt with varying amounts of fine sand
- Inferred soil or geologic contact (queried where uncertain)
- Shallow-zone groundwater surface (approximate) June 2003; based on monitoring well data only.

**DRAFT**

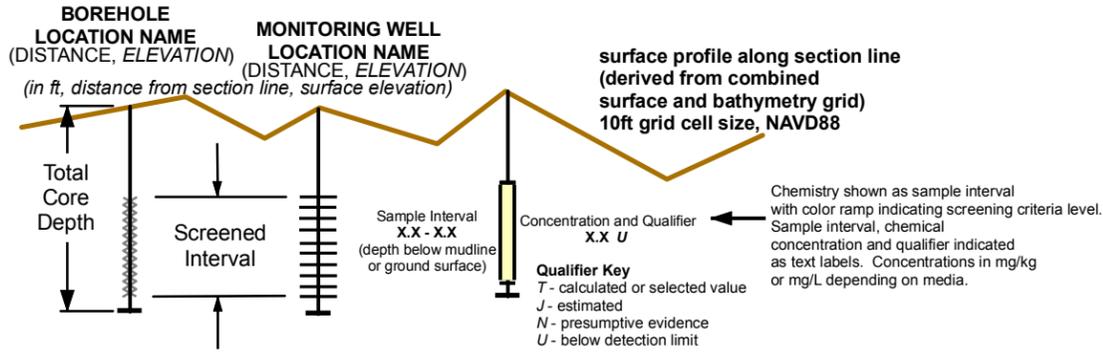
DO NOT QUOTE OR CITE  
 This document is currently under review by US EPA and its federal, state, and tribal partners, and is subject to change in whole or in part.



Map-81  
 Cross-Section D-D'  
 Groundwater Chemistry  
 Chromium (hexavalent)

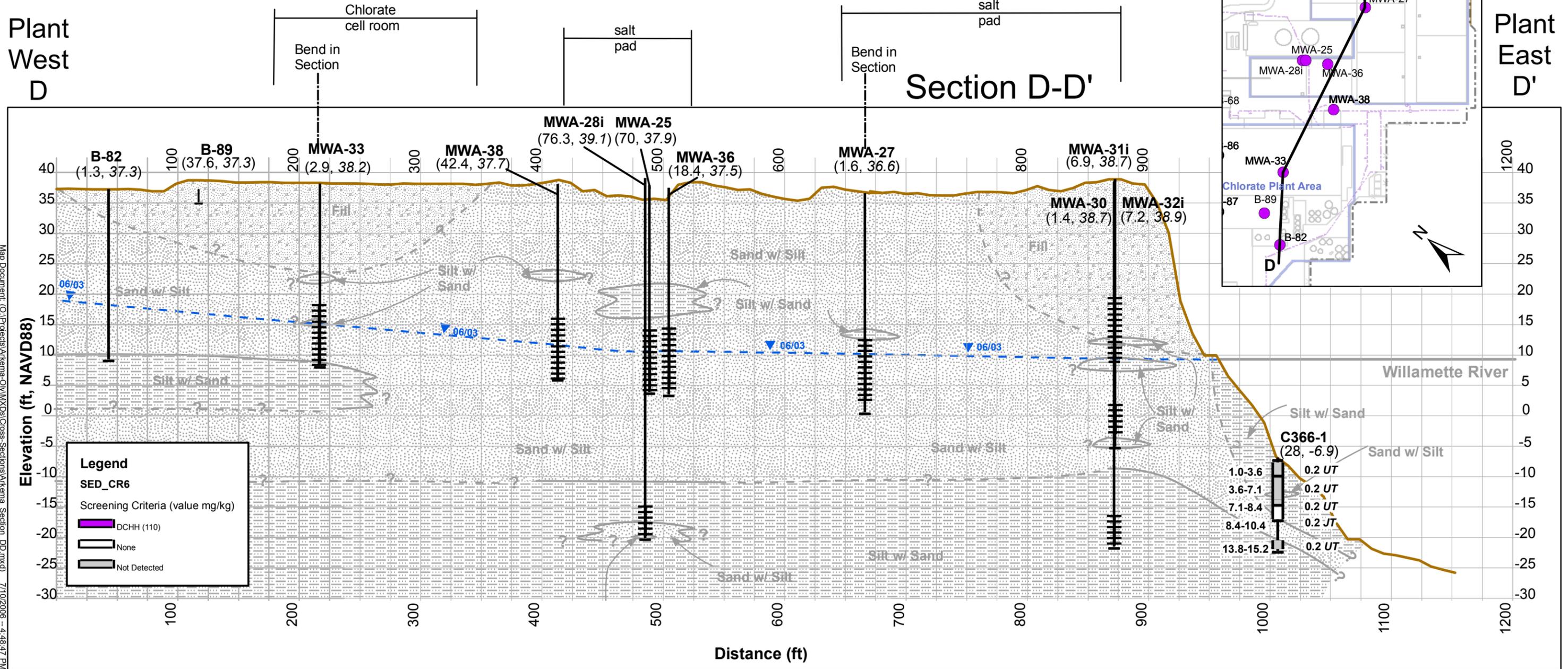
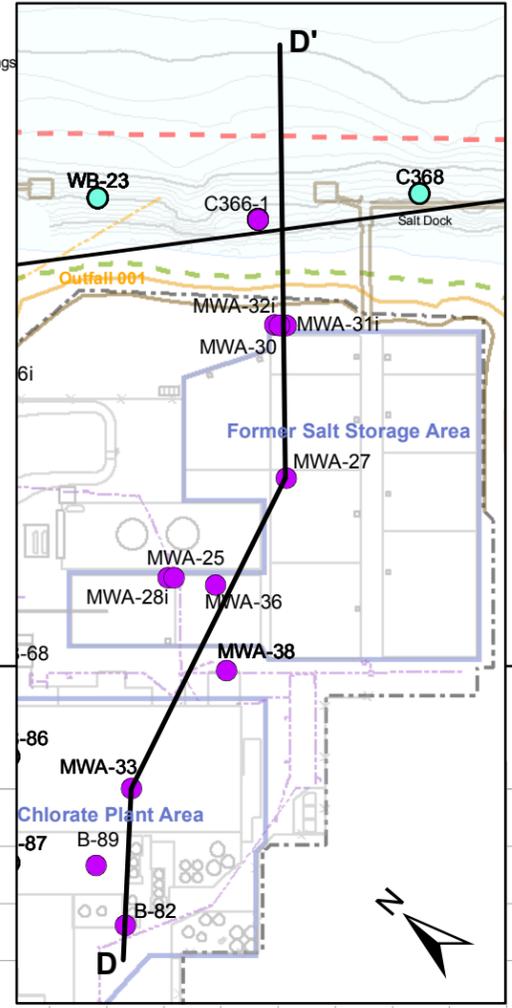
Notes:

- 1) Due to projection onto the section line, lithology was estimated at some well and borehole stations based on best professional judgment
- 2) Groundwater samples were not filtered. Reconnaissance groundwater sample concentrations may be biased high since they are generally more turbid than monitoring well groundwater samples.



Map View Legend

- Section\_DD\_Selected\_Wells and Borings
- Section\_AA
- Section\_BB
- Section\_CC
- Navigation Channel
- River
- 12ft\_Contour
- Ordinary High Water
- Top of Bank
- Bathymetry (2, 10 ft)
- Index Contour
- 2' contour



Map Document: (O:\Projects\Arkema-Oiy\AKD6\Cross-Sections\Arkema\_Section\_DD.mxd) 7/10/2006 - 4:48:47 PM



Section View: Vertical Exaggeration: 5X

**DRAFT**

DO NOT QUOTE OR CITE  
This document is currently under review by US EPA and its federal, state, and tribal partners, and is subject to change in whole or in part.

**Map-82**  
**Cross-Section D-D'**  
**Soil/Sediment Chemistry**  
**Chromium (hexavalent)**