Copper Concentration Surface PPM

- Non-Detect (DL< TEC)
- Non-Detect (TEC<DL<PEC)
- Non-Detect (DL>PEC)
- < TEC (31.6)
- TEC-PEC
- >PEC (149)

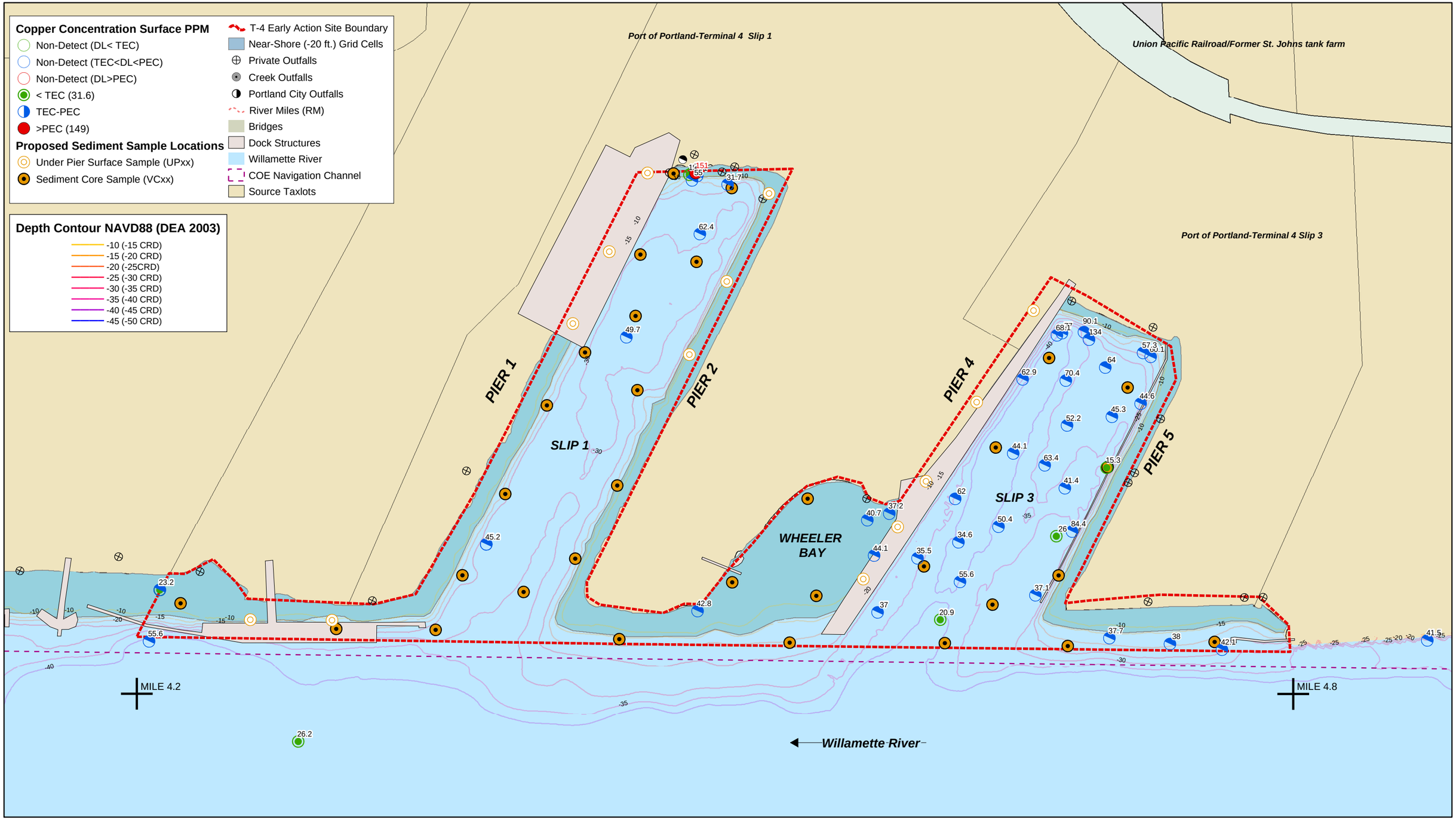
Proposed Sediment Sample Locations

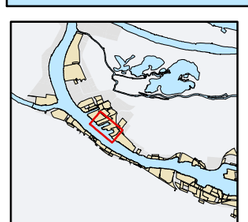
- Under Pier Surface Sample (UPxx)
- Sediment Core Sample (VCxx)

- T-4 Early Action Site Boundary
- Near-Shore (-20 ft.) Grid Cells
- Private Outfalls
- Creek Outfalls
- Portland City Outfalls
- River Miles (RM)
- Bridges
- Dock Structures
- Willamette River
- COE Navigation Channel
- Source Taxlots

Depth Contour NAVD88 (DEA 2003)

- -10 (-15 CRD)
- -15 (-20 CRD)
- -20 (-25CRD)
- -25 (-30 CRD)
- -30 (-35 CRD)
- -35 (-40 CRD)
- -40 (-45 CRD)
- -45 (-50 CRD)





T4 Sample Coordinates from BBL Inc. 01/22/04
Oregon State Plane North, NAD83/91 Intl. Feet

Contaminant Data from NOAA Query Manager (09.24.03)
Source: Striplin E.A.

Suface Data = 0 - 30 cm
Subsurface Data = Max per location

Consensus Based Freshwater Sediment Quality Guidelines:
Threshold Effect Concentration (TEC)
Probable Effect Concentration (PEC)

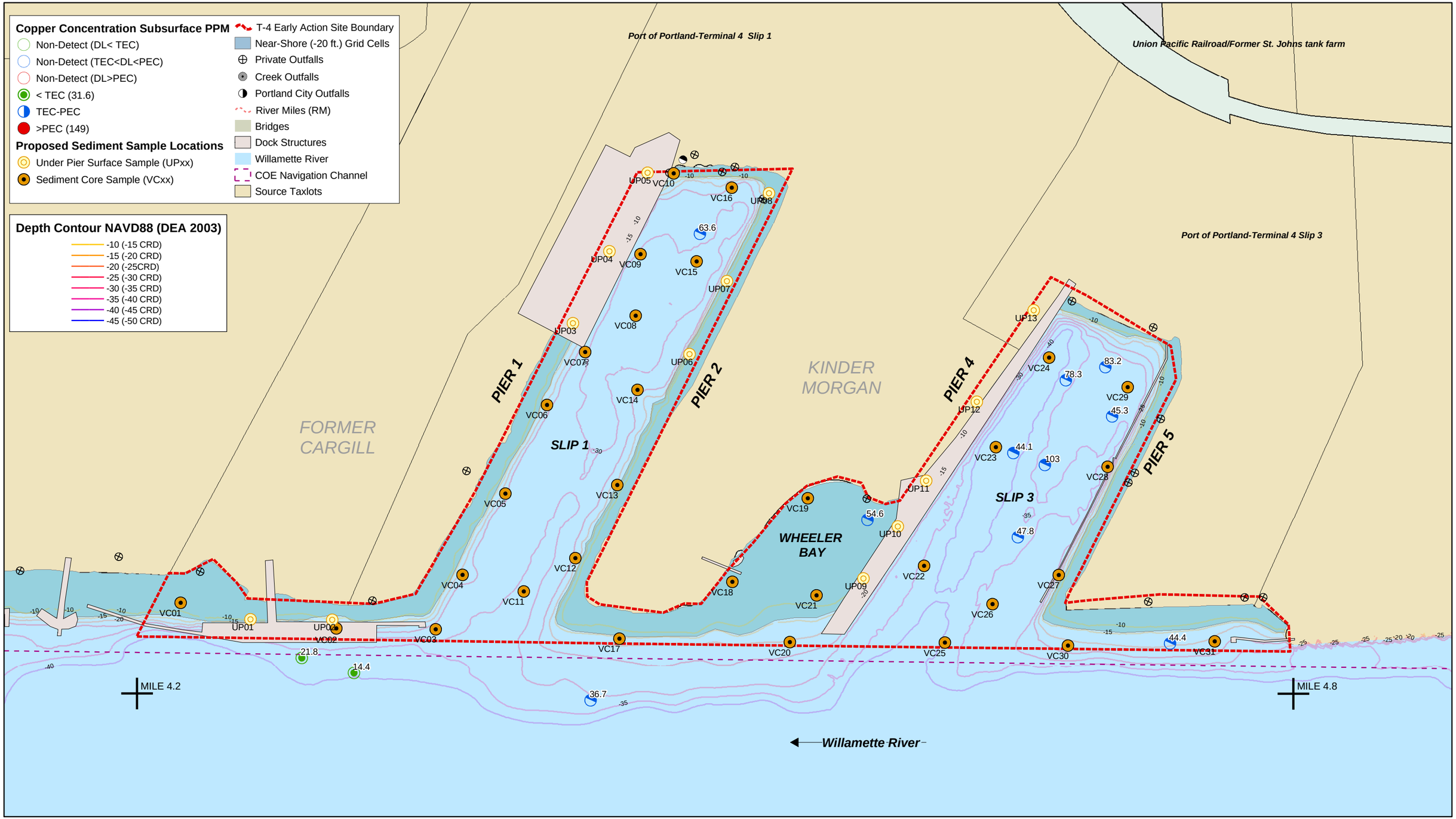
0 500 1,000 Feet

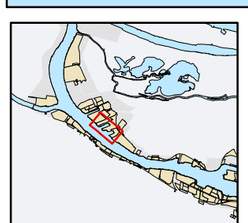
Copper Concentration Surface PPM

Portland Harbor: T-4 Early Action Site
Category 1 Sediment Chemistry Data &
Proposed T4 Sediment Sampling Locations

Figure 1a

Map: c:\gis\projects\portlandharbor\ph_020204_t4.mxd
Plot Date: 02.03.2004 B. Shorr NOAA CPRD





T4 Sample Coordinates from BBL Inc. 01/22/04
Oregon State Plane North, NAD83/91 Intl. Feet

Contaminant Data from NOAA Query Manager (09.24.03)
Source: Striplin E.A.

Suface Data = 0 - 30 cm
Subsurface Data = Max per location

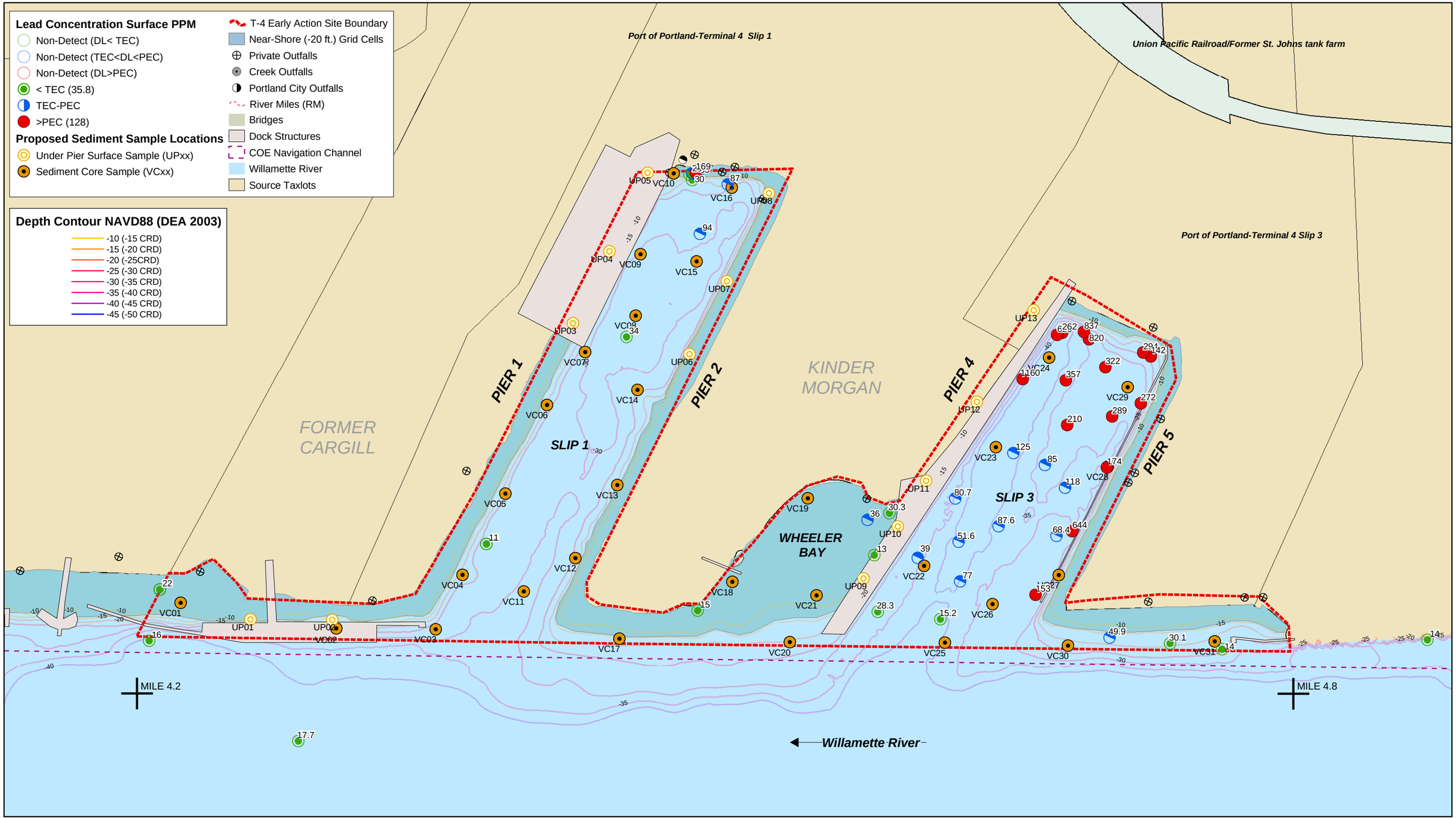
Consensus Based Freshwater Sediment Quality Guidelines:
Threshold Effect Concentration (TEC)
Probable Effect Concentration (PEC)

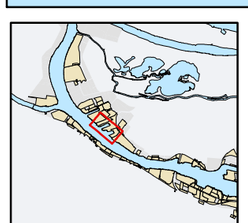
0 500 1,000 Feet

Map: c:\gis\projects\portlandharbor\ph_020204_t4.mxd
Plot Date: 02.03.2004 B. Shorr NOAA CPRD

Figure 1b
Copper Concentration Subsurface PPM

Portland Harbor: T-4 Early Action Site
Category 1 Sediment Chemistry Data &
Proposed T4 Sediment Sampling Locations





T4 Sample Coordinates from BBL Inc. 01/22/04
Oregon State Plane North, NAD83/91 Intl. Feet

Contaminant Data from NOAA Query Manager (09.24.03)
Source: Striplin E.A.

Suface Data = 0 - 30 cm
Subsurface Data = Max per location

Consensus Based Freshwater Sediment Quality Guidelines:
Threshold Effect Concentration (TEC)
Probable Effect Concentration (PEC)

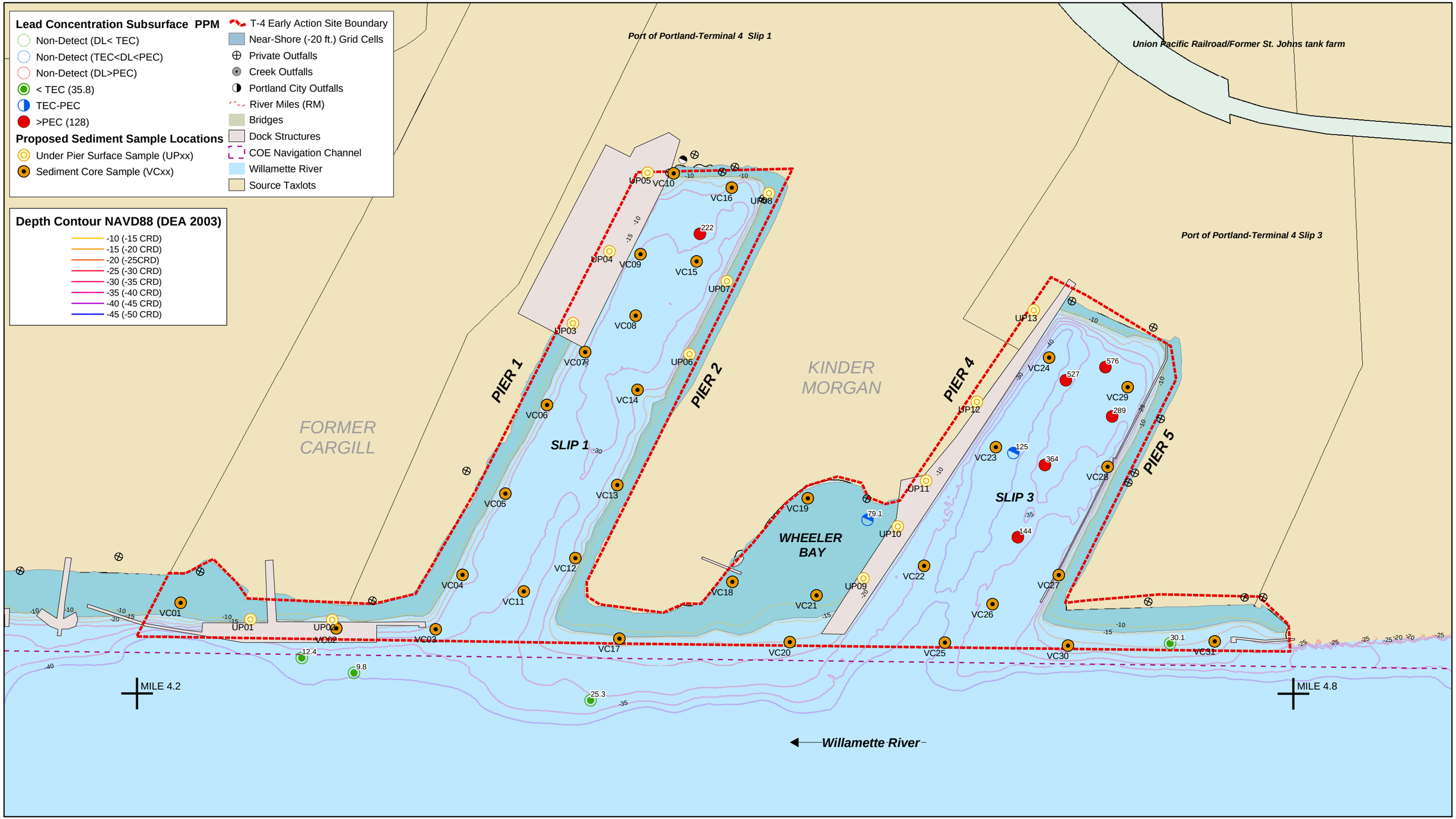
0 500 1,000 Feet

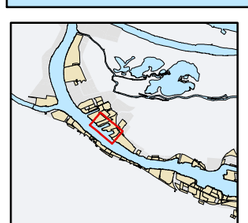
Map: c:\gis\projects\portlandharbor\ph_020204_t4.mxd
Plot Date: 02.03.2004 B. Shorr NOAA CPRD

Figure 2a

Lead Concentration Surface PPM

Portland Harbor: T-4 Early Action Site
Category 1 Sediment Chemistry Data &
Proposed T4 Sediment Sampling Locations





T4 Sample Coordinates from BBL Inc. 01/22/04
Oregon State Plane North, NAD83/91 Intl. Feet

Contaminant Data from NOAA Query Manager (09.24.03)
Source: Striplin E.A.

Suface Data = 0 - 30 cm
Subsurface Data = Max per location

Consensus Based Freshwater Sediment Quality Guidelines:
Threshold Effect Concentration (TEC)
Probable Effect Concentration (PEC)

0 500 1,000 Feet

Map: c:\gis\projects\portlandharbor\ph_020204_t4.mxd
Plot Date: 02.03.2004 B. Shorr NOAA CPRD

Figure 2b
Lead Concentration Subsurface PPM

Portland Harbor: T-4 Early Action Site
Category 1 Sediment Chemistry Data &
Proposed T4 Sediment Sampling Locations

Zinc Concentration Surface PPM

- Non-Detect (DL< TEC)
- Non-Detect (TEC<DL<PEC)
- Non-Detect (DL>PEC)
- < TEC (121)
- TEC-PEC
- >PEC (459)

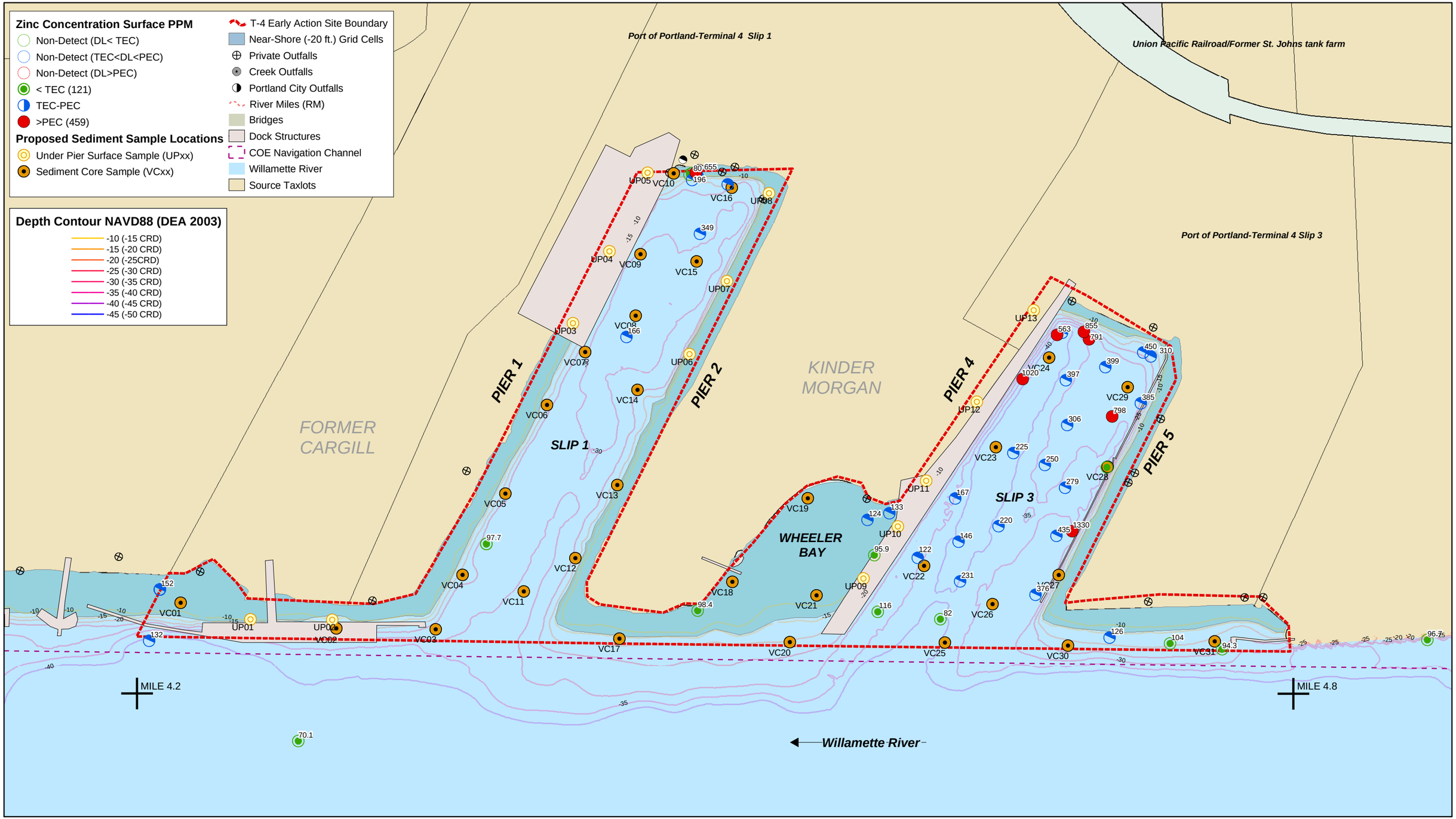
Proposed Sediment Sample Locations

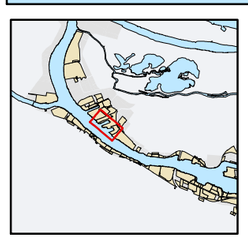
- Under Pier Surface Sample (UPxx)
- Sediment Core Sample (VCxx)

- T-4 Early Action Site Boundary
- Near-Shore (-20 ft.) Grid Cells
- Private Outfalls
- Creek Outfalls
- Portland City Outfalls
- River Miles (RM)
- Bridges
- Dock Structures
- COE Navigation Channel
- Willamette River
- Source Taxlots

Depth Contour NAVD88 (DEA 2003)

- -10 (-15 CRD)
- -15 (-20 CRD)
- -20 (-25CRD)
- -25 (-30 CRD)
- -30 (-35 CRD)
- -35 (-40 CRD)
- -40 (-45 CRD)
- -45 (-50 CRD)





T4 Sample Coordinates from BBL Inc. 01/22/04
Oregon State Plane North, NAD83/91 Intl. Feet

Contaminant Data from NOAA Query Manager (09.24.03)
Source: Striplin E.A.

Suface Data = 0 - 30 cm
Subsurface Data = Max per location

Consensus Based Freshwater Sediment Quality Guidelines:
Threshold Effect Concentration (TEC)
Probable Effect Concentration (PEC)

0 500 1,000 Feet

Map: c:\gis\projects\portlandharbor\ph_020204_t4.mxd
Plot Date: 02.03.2004 B. Shorr NOAA CPRD

Figure 3a
Zinc Concentration Surface PPM

Portland Harbor: T-4 Early Action Site
Category 1 Sediment Chemistry Data &
Proposed T4 Sediment Sampling Locations

Zinc Concentration Subsurface PPM

- Non-Detect (DL< TEC)
- Non-Detect (TEC<DL<PEC)
- Non-Detect (DL>PEC)
- < TEC (121)
- TEC-PEC
- >PEC (459)

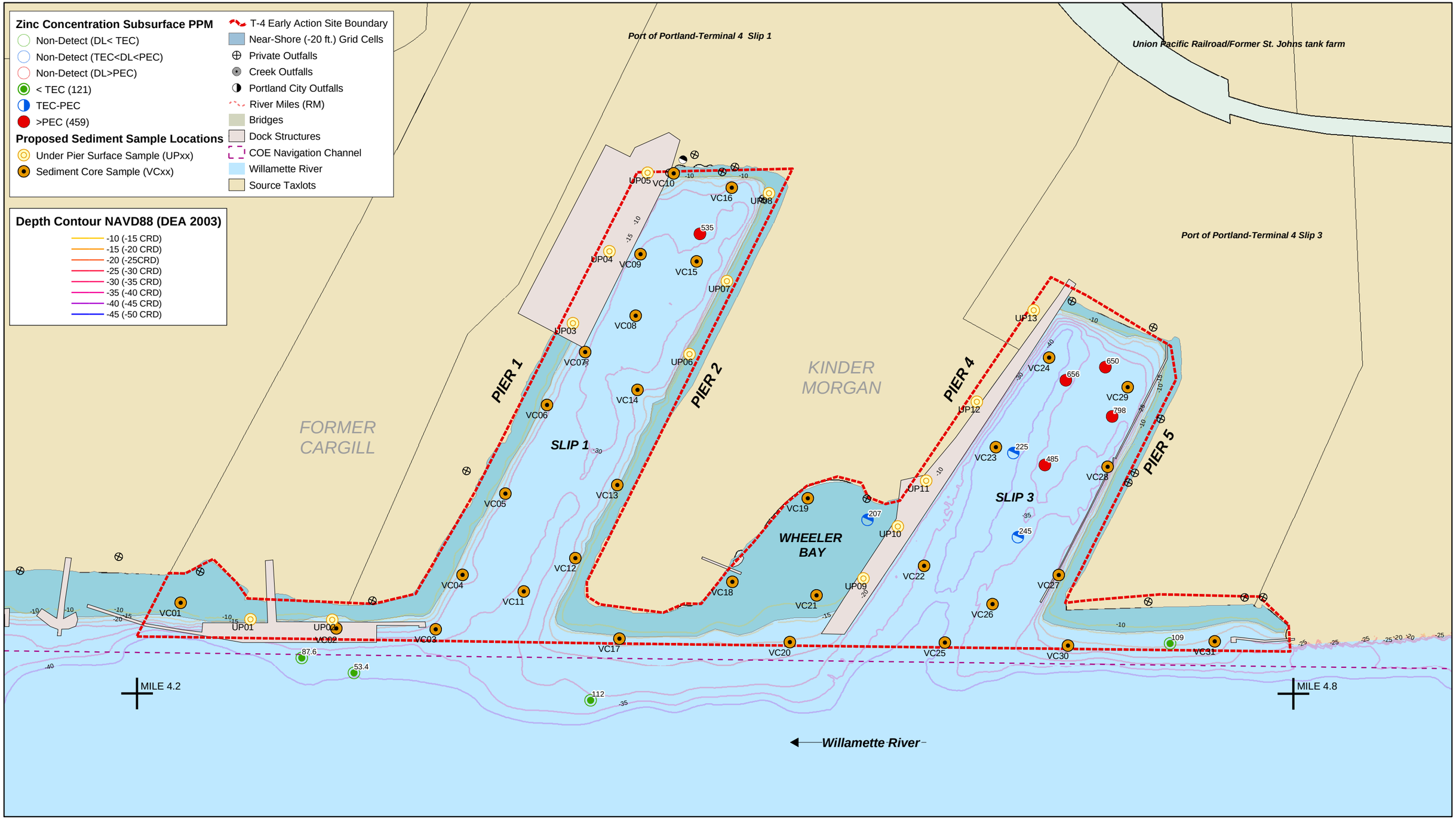
Proposed Sediment Sample Locations

- Under Pier Surface Sample (UPxx)
- Sediment Core Sample (VCxx)

- T-4 Early Action Site Boundary
- Near-Shore (-20 ft.) Grid Cells
- Private Outfalls
- Creek Outfalls
- Portland City Outfalls
- River Miles (RM)
- Bridges
- Dock Structures
- COE Navigation Channel
- Willamette River
- Source Taxlots

Depth Contour NAVD88 (DEA 2003)

- -10 (-15 CRD)
- -15 (-20 CRD)
- -20 (-25CRD)
- -25 (-30 CRD)
- -30 (-35 CRD)
- -35 (-40 CRD)
- -40 (-45 CRD)
- -45 (-50 CRD)



T4 Sample Coordinates from BBL Inc. 01/22/04
Oregon State Plane North, NAD83/91 Intl. Feet

Contaminant Data from NOAA Query Manager (09.24.03)
Source: Striplin E.A.

Suface Data = 0 - 30 cm
Subsurface Data = Max per location

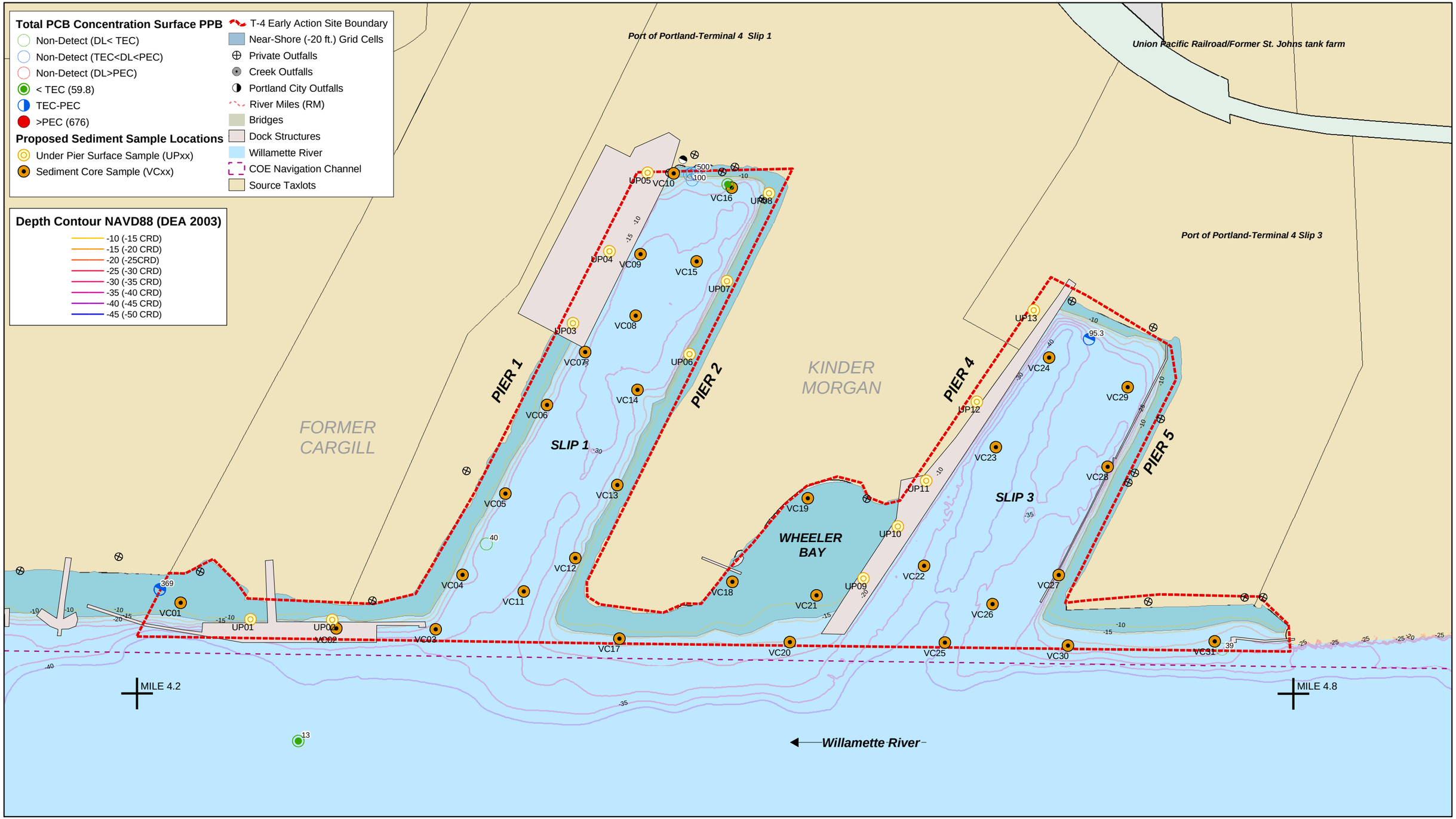
Consensus Based Freshwater Sediment Quality Guidelines:
Threshold Effect Concentration (TEC)
Probable Effect Concentration (PEC)

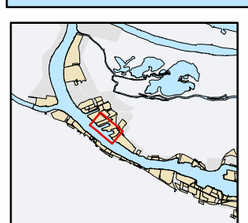
0 500 1,000 Feet

Map: c:\gis\projects\portlandharbor\ph_020204_t4.mxd
Plot Date: 02.03.2004 B. Shorr NOAA CPRD

Figure 3b
Zinc Concentration Subsurface PPM

Portland Harbor: T-4 Early Action Site
Category 1 Sediment Chemistry Data &
Proposed T4 Sediment Sampling Locations





T4 Sample Coordinates from BBL Inc. 01/22/04
Oregon State Plane North, NAD83/91 Intl. Feet

Contaminant Data from NOAA Query Manager (09.24.03)
Source: Striplin E.A.

Suface Data = 0 - 30 cm
Subsurface Data = Max per location

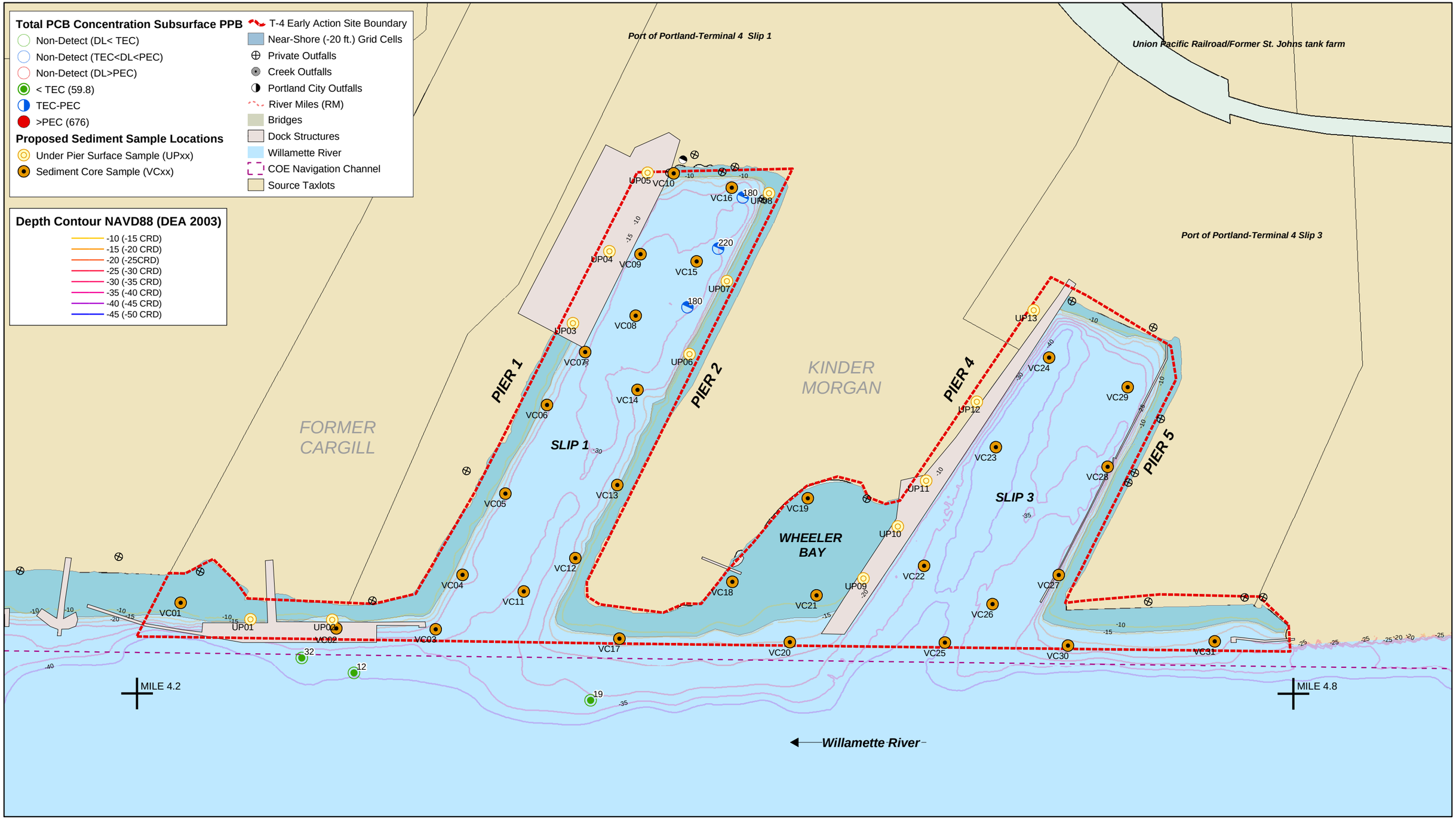
Consensus Based Freshwater Sediment Quality Guidelines:
Threshold Effect Concentration (TEC)
Probable Effect Concentration (PEC)

0 500 1,000 Feet

Map: c:\gis\projects\portlandharbor\ph_020204_t4.mxd
Plot Date: 02.03.2004 B. Shorr NOAA CPRD

Figure 4a
Total PCB's Concentration Surface PPM

Portland Harbor: T-4 Early Action Site
Category 1 Sediment Chemistry Data &
Proposed T4 Sediment Sampling Locations



T4 Sample Coordinates from BBL Inc. 01/22/04
Oregon State Plane North, NAD83/91 Intl. Feet

Contaminant Data from NOAA Query Manager (09.24.03)
Source: Striplin E.A.

Suface Data = 0 - 30 cm
Subsurface Data = Max per location

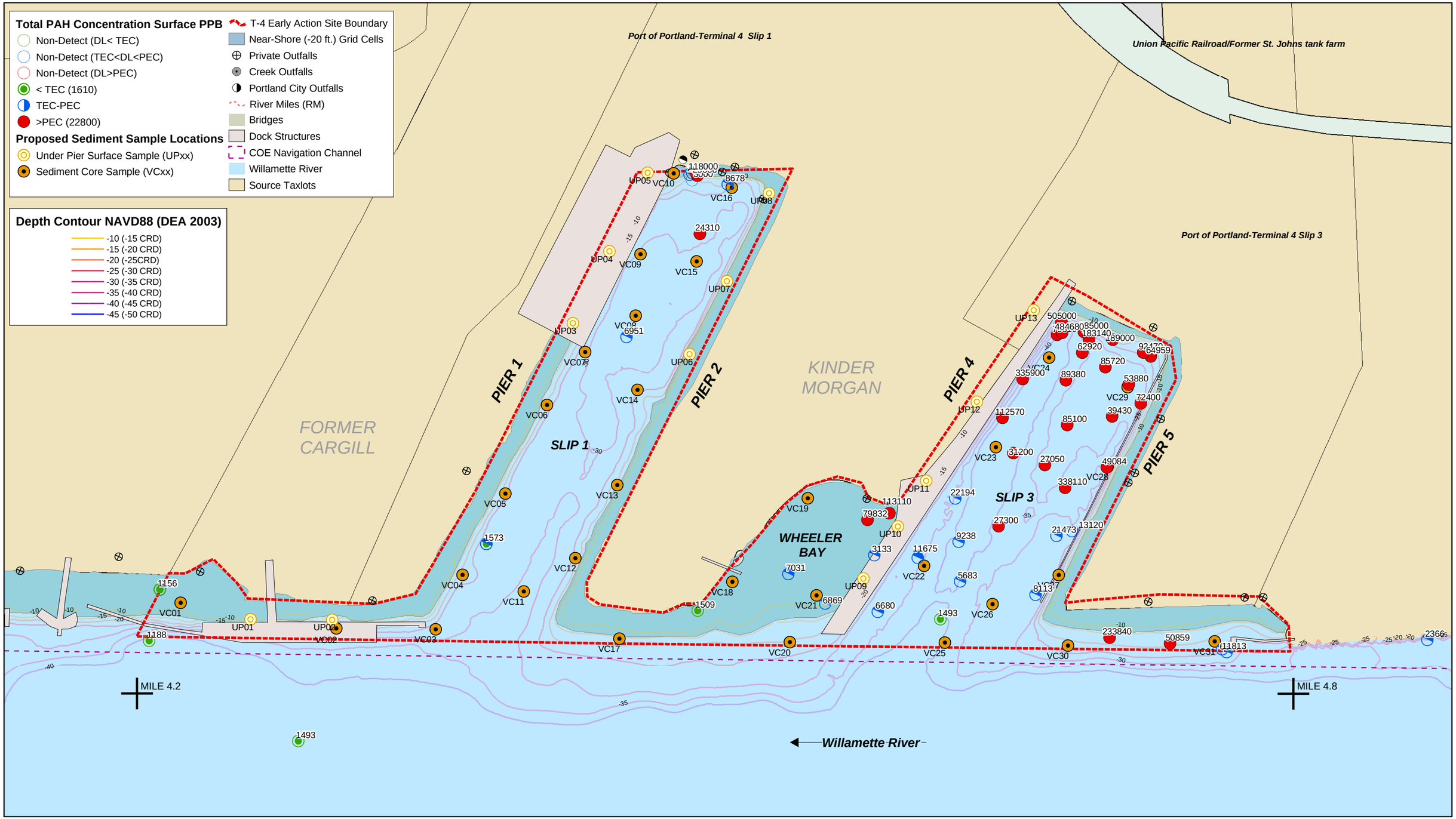
Consensus Based Freshwater Sediment Quality Guidelines:
Threshold Effect Concentration (TEC)
Probable Effect Concentration (PEC)

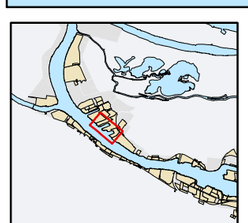
0 500 1,000 Feet

Map: c:\gis\projects\portlandharbor\ph_020204_t4.mxd
Plot Date: 02.03.2004 B. Shorr NOAA CPRD

Figure 4b
Total PCB's Concentration Subsurface PPM

Portland Harbor: T-4 Early Action Site
Category 1 Sediment Chemistry Data &
Proposed T4 Sediment Sampling Locations





T4 Sample Coordinates from BBL Inc. 01/22/04
Oregon State Plane North, NAD83/91 Intl. Feet

Contaminant Data from NOAA Query Manager (09.24.03)
Source: Striplin E.A.

Suface Data = 0 - 30 cm
Subsurface Data = Max per location

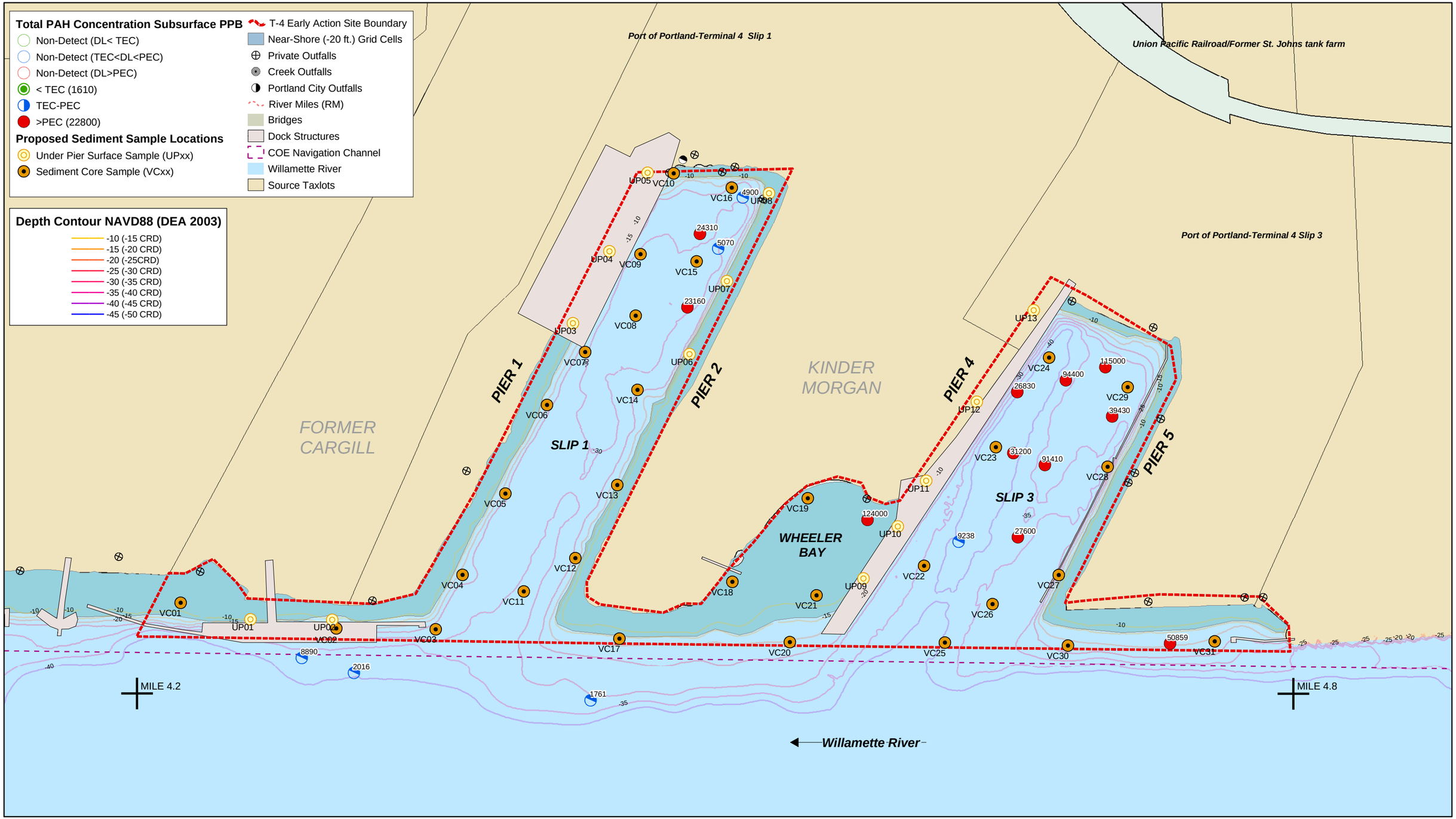
Consensus Based Freshwater Sediment Quality Guidelines:
Threshold Effect Concentration (TEC)
Probable Effect Concentration (PEC)

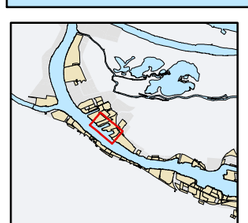
0 500 1,000 Feet

Map: c:\gis\projects\portlandharbor\ph_020204_t4.mxd
Plot Date: 02.03.2004 B. Shorr NOAA CPRD

Figure 5a
Total PAH's Concentration Surface PPM

Portland Harbor: T-4 Early Action Site
Category 1 Sediment Chemistry Data &
Proposed T4 Sediment Sampling Locations





T4 Sample Coordinates from BBL Inc. 01/22/04
Oregon State Plane North, NAD83/91 Intl. Feet

Contaminant Data from NOAA Query Manager (09.24.03)
Source: Striplin E.A.

Suface Data = 0 - 30 cm
Subsurface Data = Max per location

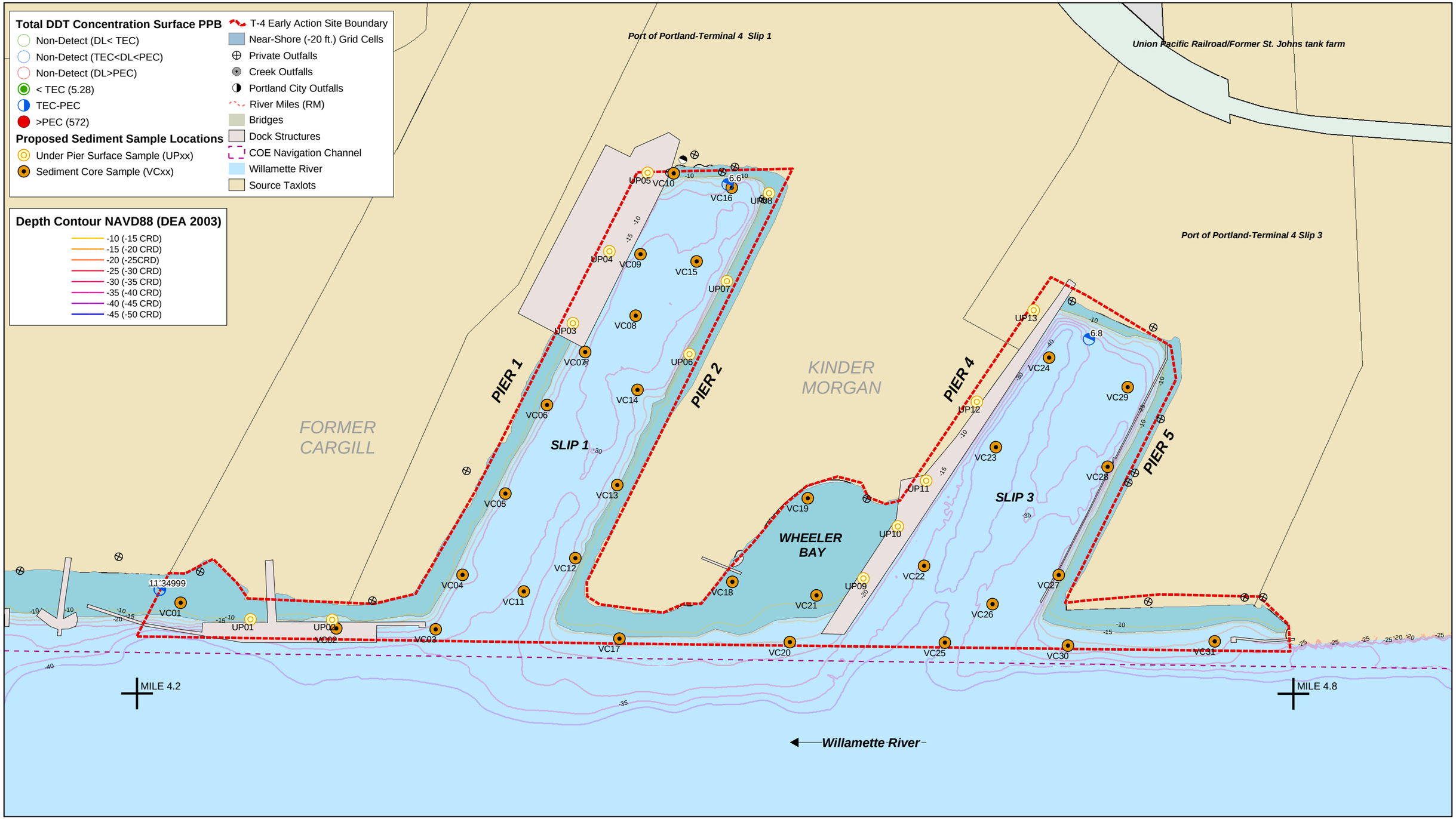
Consensus Based Freshwater Sediment Quality Guidelines:
Threshold Effect Concentration (TEC)
Probable Effect Concentration (PEC)

0 500 1,000 Feet

Map: c:\gis\projects\portlandharbor\ph_020204_t4.mxd
Plot Date: 02.03.2004 B. Shorr NOAA CPRD

Figure 5b
Total PAH's ConcentrationSubsurface PPM

Portland Harbor: T-4 Early Action Site
Category 1 Sediment Chemistry Data &
Proposed T4 Sediment Sampling Locations



T4 Sample Coordinates from BBL Inc. 01/22/04
Oregon State Plane North, NAD83/91 Intl. Feet

Contaminant Data from NOAA Query Manager (09.24.03)
Source: Striplin E.A.

Suface Data = 0 - 30 cm
Subsurface Data = Max per location

Consensus Based Freshwater Sediment Quality Guidelines:
Threshold Effect Concentration (TEC)
Probable Effect Concentration (PEC)

0 500 1,000 Feet

Map: c:\gis\projects\portlandharbor\ph_020204_t4.mxd
Plot Date: 02.03.2004 B. Shorr NOAA CPRD

Figure 6a

DDT (Total 6 isomers) ConcentrationSurface PPM

Portland Harbor: T-4 Early Action Site Category 1 Sediment Chemistry Data & Proposed T4 Sediment Sampling Locations