From:	MCCLINCY Matt
To:	Chip Humphrey/R10/USEPA/US@EPA; Eric Blischke/R10/USEPA/US@EPA
Cc:	Kristine Koch/R10/USEPA/US@EPA; ANDERSON Jim M
Subject:	Round 2 Report DEQ Comments Champter 11
Date:	06/04/2007 03:14 PM

Chip & Eric,

DEQ project managers (PMs) reviewed = Chapter 11 of the LWG Round 2 Report. The focus of their review was to = evaluate the conceptual release models presented for the various upland = and overwater activities and sites for consistency with DEQ's = conceptual understanding. PMs were specifically asked to look for and = highlight any discrepancies that would impact Round 3B data collection. = PM review comments generally fell into three categories:

- o Comments that are important for Round 3B data gap = identification.
- o Questions or uncertainty regarding the contaminant risk = screening process and why certain contaminants of interest or of = potential concern screened out and were not carried forward into Round = 3B site characterization data quality objectives.

- o Factual errors in the site summaries or conceptual models or = upland status updates=A0=A0

You should be aware that DEQ = remains=A0concerned with the screening level risk assessment & RD2 = risk assessment=A0the LWG conducted=A0for the RD2 SCSR as described in = our General Comment below.=A0 Our major concern with the LWG's risk = assessment process is that they reduced several hundred COIs to 17 = iCOCs.=A0 Two major problems arise from this culling of COIs to a very = limited set of iCOCs.=A0 1st, the iAOPCs are largely defined by these = iCOCs.=A0 There may be=A0COIs=A0(in addition to the iCOCs the LWG = identified) that contribute to risk inside the iAOPCs, but those COIs = may have been improperly excluded from further consideration thru the = LWG risk assessment.=A0 We have tried to identify these other potential = risk-driving COIs in the iAOPCs in our comments below.=A0 2nd, there may = be areas outside the LWG-defined iAOPCs that pose unacceptable risk, but = have not been identified because that unacceptable risk is based on COIs = that have been=A0excluded as iCOCs thru the LWG risk assessment = process.=A0 Our comments do not address this concern.=A0 We understand = the EPA/partners' benthic risk identification effort (led largely by Rob = N, Ben S, Joe G, Burt S, & Eric) will help identify risk outside the = iAOPCs, but this effort is restricted to=A0benthic toxicity.

Comments that are important = for Round 3B data gap = identification=A0

iAPOC 1- OSM

In Section 12 of the report, the LWG = concluded that several additional surface sediment=A0& cores samples = were needed to better refine the margins of the iAOPC.=A0 However, the = LWG only identified PCBs as iCOCs & Zn & DBP as potential = iCOCs.=A0 The LWG should include these other likely risk-driving COIs in = the analyte list: Cr, Pb, & PAHs.

iAOPC 2- OF-53A & = OSM

In Section 12 of the report, the LWG = concluded that..., since this iAOPC is based only on a = single-station PCB hit..., this iAOPC may disappear based on = analysis of additional site-wide data. They further concluded that if = this iAOPC is retained..., several RD3B surface & subsurface = sediment samples would be collected to fill data gaps. 4 surface = sediment & 2 core stations exist in this iAOPC. Several additional = surface & subsurface sediment samples & bioassays in both the = vicinity of the iAOPC would help draw a more complete, more detailed = picture of sediment contamination, but=A0we don't think they=A0are = needed to complete the risk assessments & FS.

iAOPC 4- PEO & Schnitzer = Steel
In Section 12 of the report, the LWG = concluded that several additional surface sediment samples were needed, = but no additional cores were needed. The question of whether a complete = GW contaminant pathway exists=A0=A0at the=A0PEO site is still = unresolved.=A0=A0The LWG=A0should=A0conduct a TZW sampling effort at = PEO. The TZW effort should be conducted along most of the PEO riverfront = from the downstream dock into the mouth of the International Slip. The = TZW effort should focus on petroleum hydrocarbons & = HVOCs.=A0=A0

iAOPC 5- Schnitzer Steel/T4 Slip = 1
In Section 12 of the report, the LWG = concluded that several additional surface sediment samples (but no cores = samples) should be collected to refine PCB distribution.=A0 The LWG = should collect these samples, but also analyze the samples for other = likely risk-driving COIs such as dioxin, pesticides, & PAHs.=A0 = Perhaps the best location of these additional samples would be = channel-ward of existing samples.

iAOPC 6- Arco/BP
iAPOC 6=A0is based solely on the = results of a bioassay.=A0 In Section 12 of the report, the LWG concluded = that only 1 additional core was needed to better refine the extent of = contamination in iAOPC 6.=A0 The LWG identifed Hg, Ag, & DRH as = iCOCs.=A0 PAHs=A0are also likely risk-drivers at the site.=A0 The extent = of sediment contamination in the vicinity of the Arco/BP site is likely = adequate to support the risk assessments & FS.=A0 Any additional = sediment sampling should include PAHs as an analyte.

=A0**iAOPC 7 Marcom North and South**
1. Visible sandblast grit is present along the exposed beach area. The = Marcom South responsible parties are in the planning stages of an = upland/beach area removal action to address sandblast grit. The in-water = nature and extent is a data gap which needs to be addressed to delineate = the distribution of grit in-water and the future boundary of the pending = upland action.=A0

The LWG identfied PCBs as the iCOC, = and Ag & DRH as potential iCOCs for iAOPC 7. =A0In=A0Section 12 of = the report, the LWG concluded that several additional surface sediment = & core samples were needed to better refine the margins of=A0iAOPC = 7.=A0 The LWG should collect these samples, but also analyze the samples = for other likely risk-driving COIs such as=A0PAHs, metals and TBT.=A0 = Perhaps the best location of these additional samples would be = channel-ward of existing samples.

iAOPC 8- former Marine = Finance
The LWG identified PCBs as the iCOC = for iAOPC 8.=A0 In Section 12 of the report,

the LWG concluded that only = 1 additional core sample was needed to better refine the volume = estimate.=A0The lateral extent of contamination=A0appears to be = adequately defined to support the risk assessments & FS.=A0 However, = any additional sediment sampling in=A0iAOPC=A08 should include TBT & = hexachlorobenzene as analytes.=A0 It appears PAHs at iAOPC 8 may be = sourced from Gasco & pesticides at iAOPC 8 may be sourced from Rhone = Poulenc &/or Arkema.=A0 Additional sampling should also iclude PAHs = & pesticides and dioxin as analytes.

iAOPC 10- Crawford St & City = Water Lab
The LWG identified PCBs & As as = iCOC for iAOPC 10.=A0 In Section 12 of the report, the LWG concluded = that additional surface sediment & core samples were needed to = better define this iAOPC.=A0 The LWG should collect these samples, but = also analyze the samples for other likely risk-driving COIs such = as=A0metals (Zn in particular), TBT, pesticides, & PAHs.

iAOPC 11 – includes the = Siltronic and Gasco sites
1. The indentation in the iAOPC boundary off-shore of the northern = corner of the Siltronic facility should be removed (i.e., the AOPC = should be roughly rectangular in shape) to ensure that TCE contamination = “Area 2” is fully contained with the area.

2. The boundary of this iAOPC may need = to be adjusted pending the results of the in-water Phase 2 Offshore = Field Sampling Approach that will be conducted by NW Natural beginning = in July 2007=A0

iAOPC 12 - Nav Channel of = Willamette Cove
The LWG identified PCBs as iCOC for = iAOPC 12.=A0 In Section 12 of the report, the LWG concluded that = additional surface sediment samples were needed to better define this = iAOPC.=A0=A0The LWG should collect these samples, but also analyze the = samples for other likely risk-driving COIs such as dioxin.

iAOPC 13 (Willamette Cove, = downstream of M&B)
1.=A0 The basis for extending the area of iAOCP13 over the McCormick = & Baxter Site (M&B) sediment cap is questioned. Rather, it may = be more appropriate to terminate iAOCP13 at the edge of the sediment cap = and to extend this iAOCP to include all of the area between the sediment = cap and the current downstream boundary of iAOCP13. This boundary = revision would result in iAOCP13 being segregated from iAOCP12. =

2.=A0 The footprint of the M&B = sediment cap is incorrectly shown on the folio maps. The maps should be = updated with as-built drawings of the M&B sediment cap. (The = difference is very significant along the shoreline where the sediment = cap extends several hundred feet further into Willamette = Cove.)

3.=A0 Volume II=A0of the report = provides various references to sources of contamination originating or = potential originating from the M&B site but does not clarify that = these releases occurred prior to implementation of the M&B remedial = actions. Furthermore,=A0Volume II=A0of the=A0report does not = adequately distinguish between pre- and post-RA sampling results (e.g., = sediment sample locations which have since been covered by the sediment = cap). Also,=A0Volume II=A0does not provide or reference M&B data = collected since remedy implementation. For example, the Oregon DEQ has = collected surface water and sediment pore water samples from within the = sediment cap footprint in Willamette

Cove in fall-2002, fall-2003, = fall-2005, spring-2006, fall-2006 and spring-2007. By excluding these = data and focusing on historic, pre-RA conditions, the CSM raises undue = uncertainty about the nature, extent and source of iCOPs in IAOPC13. =

4.=A0 The iAOCP13 CSM presentation = should identify and discuss the potential for hazardous substances to be = associated with the submerged barge located along the Willamette Cove = shoreline, in the vicinity of the historic dry docks, as shown in the = figure below. This barge is located close to several of the highest = sediment PCB sample locations. This barge should not be confused with = the barge incorrectly shown on Folio Map 11.3.10-1, which was removed in = 2004.

3D"Picture
November 2004 Multibeam bathymetric = survey performed by DEQ following construction of the M&B sediment = cap.=A0=A0
5. Surface water and tissue = data from the cove suggest an active PCB source which is not consistent = with the sediment data. Additional investigation is needed to = identify the PCB source suggested by the high surface water and tissue = detections.

6.=A0 The iAOCP13 CSM presentation = does not adequately describe the petroleum contamination located along = the shoreline in the northeastern corner of Willamette Cove (Section = 11.3.10.3.4 downplays its nature and extent). This contamination was = discovered during construction of the M&B sediment cap and was = confirmed to be a separate and discrete source from the M&B site. = Although contaminated sediments located above Ordinary Low Water (OLW) = were removed by DEQ's construction contractor, under an = interagency agreement with Metro, substantial contamination remains = below OLW. The nature and extent of the remaining contamination should = to be characterized.

7.=A0 Section 11.3.10.3.3, Overwater = Discharge, Page 11-175, 1st full paragraph – The text = should also identify as a potential overwater source the transformers = which were historically located overwater on the former dry = docks.=A0=A0

8. The LWG identified PCBs, = dioxin, & pesticides=A0as iCOC &=A0Hg & TPH as potential = iCOCs for iAOPC 13.=A0 In Section 12 of the report, the LWG concluded = that additional surface sediment & core samples were needed to = better define this iAOPC.=A0=A0The LWG should collect these samples, but = also analyze the samples for other likely risk-driving COIs such as TBT = &=A0PAHs.

iAOPC 14 Rhone = Poulenc=A0=A0
=A01. Despite the availability of = transition zone water data, intermediate/deep groundwater discharges = into or below the river and has not been fully characterized. Given that = the contaminant levels in the intermediate/deep groundwater zone may = exceed levels observed in shallower transition zone data, = characterization of the Rhone Poulenc groundwater discharge is = considered a data gap.

2.=A0 The Round 2 Report focuses on = chloroform and TCE as being the primary concern for the groundwater = pathway. Other VOCs such as chlorobenzenes and vinyl chloride are = present. Arsenic, dioxins/furans, pthalate and silvex are also concerns. = While upland groundwater plumes may generally not be expected to be a = significant source of dioxins, dioxin transport via the groundwater = pathway is a concern for the Rhone Poulenc groundwater plume and is = currently being

evaluated. Note that the dioxin plume at Rhone Poulenc = extends farther north on the Siltronic property than is shown. The Rhone = Poulenc 1,2-Dichlorobenzene plume extends farther north than shown, = almost to the boundary between Siltronic and NW Natural. Benzene and TCE = extends from the Rhone Poulenc facility to the river and south to Arkema = Lots 1 & 2 and north to the BNSF railroad. Also, a petroleum plume = originates from the Rhone Poulenc facility which is not shown on the = summary groundwater figures.

3.=A0 Section 11.1.3.3.3 With only = three surface water samples, the LWG concludes that “loads = generally increase through the Study Area to RM 6.3”. It is more = likely the middle data point at RM 6.3 reflects a spike in = concentrations of pesticides related to Rhone Poulenc and Arkema rather = than a study area trend. This is an important distinction and additional = characterization may be necessary to clarify the need for remedial = measures.

iAOPC 15 (City outfall 048, = upstream of M&B)

1.=A0 The basis for extending the area of iAOCP15 over the M&B = sediment cap is questioned. Rather, it may be more appropriate the = terminate iAOCP15 at the edge of the sediment cap and extend this iAOCP = to include all of the area between the sediment cap, Triangle Park and = the riverward edge of the historic dock discussed in the specific = comment below.

2.=A0 Potential impacts from the = former dock structure as well as historic operations over the dock = should be discussed as a potential data gap for iAOCP15.

3.=A0 The footprint of the M&B = sediment cap is incorrectly shown on the folio maps. The maps should be = updated with as-built drawings of the sediment cap. (Although, the = deviation is minor for iAOPC15, the difference is very significant for = iAOPC13 where the sediment cap extends several hundred feet further into = Willamette Cove.)

4.=A0 The Volume II report provides = various references to sources of contamination originating or potential = originating from the M&B site but does not clarify that these = releases occurred prior to implementation of the M&B remedial = actions. Furthermore, the Volume II report does not adequately = distinguish between pre- and post-RA sampling results (e.g., sediment = sample locations which have since been covered by the sediment cap). = Also, the Volume II report does not provide or reference M&B data = collected since remedy implementation. For example, the Oregon DEQ has = collected surface water and sediment pore water samples from within the = sediment cap footprint in Willamette Cove in fall-2002, fall-2003, = fall-2005, spring-2006, fall-2006 and spring-2007. By excluding these = data and focusing on historic, pre-RA conditions, the CSM raises undue = uncertainty about the nature, extent and source of iCOPs in IAOPC15. =

6.=A0 Section 11.3.12.1.1, In-River, = Page 11-207, 3rd paragraph – The statement that most = structures have been removed is not entirely correct. A very large dock = historically separated the Triangle Park and M&B properties. This = dock extended into the river forming a “T”. The Triangle = Park property was filled landward of the dock. The portion of the dock = extending in front of the M&B property appears to have mostly = collapsed into the river by the early 1970s. Several hundred pilings of = this dock were removed in 2004 as a conservation measure of the = Endangered Species Act Biological Opinion. During these removal = operations, construction workers reported substantial debris, presumable = the dock’s surface decking,

littering the river bottom. =

3D"Picture 3D"Picture
1951 Aerial photo of large wooden dock = located between Triangle Park and McCormick & Baxter.=A0=A0
7. The LWG identified dioxin as = an iCOC=A0& As as a potential iCOC for iAOPC 15.=A0 In Section 12 of = the report, the LWG concluded that additional surface sediment samples = were needed to better define this iAOPC.=A0=A0The LWG should collect = these samples, but also analyze the samples for other likely = risk-driving COIs such as Zn & PAHs.

iAOPC 16- Triangle Park
The only iCOC the LWG identified thru = their risk screening & RD2 risk assessment for iAOPC 16 is PCBs.=A0 = iAOPC 16 is restricted to the downstream corner of the embayment at = Triangle Park.=A0 The upstream corner of the embayment contains elevated = concentrations of metals, TBT, PCBs, PAHs,=A0TPH, & possibly = pesticides.

In Section 12 of the report, the LWG = identified the need for additional RD3B surface & subsurface = sediment samples in iAOPC 16.=A0 Additional surface & subsurface = sediment samples & perhaps bioassays in both the iAOPC & = sediments in the embayment would help draw a more complete, more = detailed picture of seidment contamination, but I'm not sure much more = data is needed to support the BRAs & FS. The lab program = should be expanded to include the expanded list noted above should = additional testing be conducted.

iAOPC 17- Willbridge
The only iCOCs the LWG = identified=A0thru their risk screening & RD2 risk assessment for = iAOPC 17 =A0were PCBs, pesticides, & dioxin.=A0 In Section 12 of the = report, the LWG identified the need for additional surface & = subsurface sediment samples in iAOPC 17.=A0 Any additional surface & = subsurface samples should also be analyzed for=A0these other potential = risk-driving chemcials: PAHs & TPH.

iAOPC 18- Shaver = Transportation/Front Ave LP, OF 19
The only iCOCs the LWG identified = thru their risk screening & RD2 risk assessment for iAOPC 18 were = PCBs Amonia was identfiied as a potential iCOC based on bioassay).=A0 In = Section 12 of the report, the LWGidentified the need for additional = surface & subsurface sediment samples to better define hte margins = of=A0iAOPC 18.=A0 Any additional surface & subsurface samples should = also be anlayzed for these other potential risk-driving chemicals: = metals (specifically As, Hg, & Zn), dioxin, pesticides, PAHs, DBP, = & TPH.=A0 Likely sources of iAOPC sediment =A0contamination include = OF 19, & Shaver's overwater operations.=A0 Other possible upland = sources of iAOPC 18 sediment contamination include bank erosion, = overland runoff, & several private &/or public OFs that = discharge in the vicinity of iAOPC 18.

iAOPC 20- OFs S5 & = 163=A0(riverside of Swan Island)
The only iCOCs the LWG = identified=A0thru their risk screening & RD2 risk assessment for = iAOPC 20=A0were PCBs.=A0 In Section 12 of the report, the LWG identified = the need for additional surface & subsurface sediment samples in = iAOPC 20.=A0 Any additional surface & subsurface samples should also = be analyzed for=A0pesticides, another=A0potential risk-driving = chemical.

iAOPCs- 21, 22, & 23 Portland = Shipyard & Swan Island Lagoon
The only iCOCs the LWG identified = thru their risk screening & RD2 risk assessment for the 3 iAOPCs = were PCBs.=A0 The LWG also identified As, Zn, DBP, & TPH as = potential iCOCs for iAOPC 21 (shipyard).=A0 In Section 12 of the report, = the LWG did not identfiy the need for additional surface samples, but = identified the need for several additional cores.=A0 We agree that the = iAOPCs are generally sufficiently characterized to support the BRAs = & FS.=A0 However, any additional sampling should also include the = following likely risk-driving chemicals: metals (particualrly As in = iAOPC 22, Hg in iAOPCs 22 & 23, Zn in all 3 iAOPCs); TBT in all 3 = iAPOCs; possibly dioxin in all 3 iAOPCs; possibly pesticides in all 3 = iAOPCs; PAHs in all 3 iAOPCs; DBP in iAOPCs 22 & 23; & TPH in = iAOPCs 22 & 23.

iAOPC 24- Fire Boat Cove
The only iCOC the LWG identified thru = their risk screening & RD2 risk assessment for iAOPC 24 were = PCBs.=A0 In Section 12 of the report, the LWG identified the need for = additional 1 surface & 1 subsurface sediment sample in iAOPC 24.=A0 = Any additional surface & subsurface samples should also be analyzed = for=A0these other potential risk-driving chemcials: metals (particualrly = Zn), dioxin, pesticides, possibly PAHs, DBP, & possibly TPH. = Zn is specifically called out as DEQ has documentation of discharge of = Zn-containing galvanizing process wastes to the storm line discharging = to the cove.

iAOPC 26- Sulzer Pump/OF = 15
The only iCOC the LWG identified thru = their risk screening & RD2 risk assessment for iAOPC 26 were = PCBs.=A0 In Section 12 of the report, the LWG identified the need for = several additional surface & subsurface sediment samples in iAOPC = 26.=A0 Any additional surface & subsurface samples should also be = analyzed for=A0other potential risk-driving COIs like pesticides, metals = & PAHs.

iAOPC 27- WR 282, WR 282, WR 291 = & OF 45
The only iCOC the LWG identified thru = their risk screening & RD2 risk assessment for iAOPC 27 were = PCBs.=A0 In Section 12 of the report, the LWG identified the need for 1 = additional surface & 1 subsurface sediment samples in iAOPC 27.=A0 = Any additional surface & subsurface samples should also be analyzed = for=A0other potential risk-driving COIs like TPH=A0& = PAHs.

=A0*COI Screening*
iAOPC 3, 4 and 5 Schnitzer = Steel and Burgard Industrial Park
Section 11.3 - Not clear why many of the upland COIs (metals, in = particular Pb) didn't make risk screening cut for iAOPCs 3, 4 and 5 = (PCBs, DRH, RRH, ZN, DBP and Endrin Ketone). RRH and Zn are listed as = part of iAOPC3 but not discussed in text.

iAOPC 7 Marcom North and South = Parcel
Several upland COIs didn't make it past screening process and are not = listed as iCOCS in sediment for iAOPC 7 (butyltins is an example). Text = discusses disconnect between upland and sediment iCOCs well. iAOPC 7 is = for PCBs and potentially Ag and DRH, upland sources of these Ag and DRH = are not clear, if any, there is some minor PCB contamination in upland = soils not discussed in text. Likely sources are historic and historic = over water activities.

Table 10.5-1 - Several upland COIs = were screened out (Cr, Pb,Cu,Zn, PAHs, butyltins).

iAOPC 10 Crawford Street = Corp./BES Water Lab
Section 11.3.8 - iCOCs include PCBs and arsenic, yet other metals were = detected above PECs in post-excavation beach samples in 2001. =

iAOPC 11 Gasco and = Siltronic
1. The lists of iCOCs and iCOPCs are limited by available data and = should be considered preliminary. NW Natural will be supplementing the = in-water dataset in July 2007. The lists should be reviewed and revised = based on the results of this work, especially for constituents of MGP = waste (e.g., PAHs, cyanide, metals, and BTEX compounds).

2. TCE and its breakdown products, = most notably vinyl chloride, have been detected in TZW at concentrations = that exceed human health criteria. These chemicals should be considered = for inclusion in the lists.

TABLE 10.5-1
Human Health

- Analyte list should be reviewed and revised pending the = results of the in-water Phase 2 Offshore Field Sampling Approach to be = conducted by NW Natural beginning in July 2007

- The presence of NAPL from historic MGP operations observed in = shallow sediments likely overwhelms the direct contact exposure = scenarios involving individual analytes

- Cyanide should be considered an iCOC for the fish consumption = pathway
- Vinyl chloride should be considered an iCOC for the fish = consumption pathway

Ecology

- Analyte list should be reviewed and revised pending the = results of the in-water Phase 2 Offshore Field Sampling Approach to be = conducted by NW Natural beginning in July 2007

- The presence of NAPL from historic MGP operations observed in = shallow sediments likely overwhelms the benthic toxicity associated with = the individual analytes shown

iAOPC 14 Rhone = Poulenc
A number of iCOCs are screened out for the Rhone Poulenc iAOPC. For = example, arsenic is present at the beach near the railroad bridge well = in excess of industrial PRGs and background values. There are a large = suite of organochlorine pesticides upland and in-river than are not = discussed.

iAOPC Arkema
DEQ questions the contaminant screening = results for sediments adjacent to the Arkema site as some significant = COPCs were screened out (e.g., perchlorate, chlorobenzene and = chromium).

iAOPC 14 Calbag
Section 11.3.14 - iCOCs include PCBs, yet elevated metals (cadmium, = chromium,

copper, and lead) and phthalates in storm system catch basin = and piping sediment were encountered during 2005 removal activities = suggesting a historical source of these other iCOCs to the = river.

iAOPC 17 Willbridge Bulk Fuel = Area
Section 11.3 - Surprised that hydrocarbons didn't make risk = screening cut for iAOPC 17 (PCBS, DDx and Dioxin). All interim source = control measures in upland are currently focused on hydrocarbon sources. =

iAOPC 19 – includes Gunderson

Proposed iCOC & iCOPC List
These lists do not correspond with the COPC list currently in use in the = uplands. In addition to the analytes listed in Section 11.3.15; arsenic, = lead, zinc, copper PAHs, nickel, chromium, antimony, dibutyl phthalate, = bis-(2-ethylhexyl)phthalate, selenium, butyltins, dibenzofuran, and = dioxins/furans may be COPCs based on exceedances of sediment SLVs in = sediment samples.

TABLE 10.5-1
Human Health

- The "Shellfish Consumption" category should be = reviewed for additional analyte groups (e.g., metals)

Ecology

- Lead should be added to the list of analytes for the = "Benthic Toxicity" category.
- Analyte list for "Benthic Toxicity" should be = reviewed as concentrations of additional COI (e.g., = bis-[2-ethylhexyl]phthalate, chromium, copper, zinc) exceed PECs = &/or SLVs in sediments off-shore of portions of the site (e.g., = marine barge launchways)

iAOPC 22 Freightliner = TMP
Table 10.5-1 - Only PCBs listed. Metals, PAHs, and phthalates must = appear to have been screened out.
Factual errors in the site summaries or conceptual models or = upland status updates
iAOPC 1 (Oregon Steel Mills and adjacent sites):
Volume IV, Map Folio (2 of = 2):
1. Map 10.5-3j – This map is intended to show iAOCPs within River = Mile 10 to 11. Instead, this map shows River Mile 2 to 3.

2.=A0 Section 11.3.1.3.5, Riverbank = Erosion, Page 11-70, 2nd full paragraph, last sentence = – The source control measure currently being evaluated by DEQ = includes bank stabilization, = removal and capping. =

iAOPC 3, 4 and 5 Schnitzer Steel = and Burgard Industrial Park
1. Section 11.3 - Obvious that some some upland COIs (metals, in = particular Pb) didn't make risk screening cut for iAOPCs 3, 4 and 5 = (PCBs, DRH, RRH, ZN, DBP and Endrin Ketone). RRH and Zn are listed as = part of iAOPC3 but not discussed in text. There are known minor sources = of PCBs and hydrocarbons in shallow soil

within the watershed. DRH/RRH = is only iCOC that makes clear sense from uplands standpoint right now. = Upland investigations are ongoing. Multitude of contaminants have been = detected in sediment without direct tie to uplands, stormwater, historic = and over water activities are likely source.

2.=A0 Time Oil (Table 5.1-2) – = Groundwater is a complete pathway (a) but only historic (h) not current = and only because of infiltration of groundwater into the storm drain. = Setting aside groundwater, the stormwater/wastewater pathway has = insufficient data to make a determination (c) Overland transport is not = a complete pathway (d).

T-4
Table 10.5-2 Terminal 4, Slip 3. Overwater discharge COIs should include = metals (7) and are a documented complete pathway historically. =

iAOPC 6 Arco
Section 11.3.5
1.=A0 iCOCs include mercury and silver, which do not appear to be site = related.
2.=A0 Sediment DRH is assumed to come from Arco; Arco has done forensic = evaluation of PAH sources that should be considered.

3.=A0 Near-shore sediment removal = planned for this summer/fall should be incorporated in to the in-water = RI/FS and additional subsurface boring planned for Round 3 (see Section = 12.3.3.6.2).

iAOPC 7 Marcom North and South = Parcel
1. Section 11.3 - Map references are in error and refer to the iAOPC 8 = not 7.
2.=A0 There are some questionable conclusions drawn about outfall 52A = and the private outfall WR-285, there is not enough stormwater data to = support the conclusions.

Table 5.1-2 - Consistent with SC = milestone report, South Parcel also had stained soil and several = sandblast grit piles. Hisotorically, over water and potential over water = sources were probably present.

iAOPC 9 Marine = Finance
1.=A0 Substantial source control work has been conducted at the site, = including excavation of over 1000 cubic yards of surface soil to = eliminate soil concentrations above JSCS levels. COPCs were monitored in = groundwater. All < SLVs in 3 sampling events. Little if any mention = of this is made in Section 11.3. Other source control measures included = capping of the site with asphalt and/or the building, virtually = eliminating the overland flow or storm water pathway as pathways of = concern. Storm water sampling has shown COPCs to be below JSCS criteria. =

2.=A0 The way the site activities are = described (historic versus current) is confusing. Here is a current = description of site activities:

Advanced American Construction, = Inc. (AAC) is a heavy, civil, marine contractor. The 7+ acre site at = 8444 NW St. Helens Road, Portland, Oregon is AAC's headquarters = (and only) site. AAC has owned the site since November 2004, occupied = the new building May 8, 2006, and currently utilizes the entire site. = None of the yard is leased to any other tenant for any other use. Site = operations include barge and tug moorage, on-land and in-building = equipment storage and

maintenance, machine shop, and offices for support = of off-site construction projects throughout the western United States. = Hendren Towboats ceased operations and moved out September 1, = 2005.

3.=A0 Map 11.3.7-1 It should be made = clear in the text that the site has been developed and that virtually = all site structures shown on the map and discussed in the text have been = removed.

4.=A0 Section 11.3.7 This section = states that PCBs were not identified as COIs by DEQ in the upland. This = is incorrect. During the 2000 SI a total of three subsurface and seven = surface soil samples were analyzed for PCBs. PCBs were not detected = above the detection limit of 100 ug/kg. These data are contained in = Appendix D of the October 2000 SI Report.

5.=A0 Section 11.3.7.1.2 As indicated = above, information on site structures should be qualified (e.g., they = should be identified as “former”).

6.=A0 Section 11.3.7.3.1 DEQ did not = identify DDT group compounds during its expanded preliminary assessment = as no source or use at the site was identified. The only evidence for = DDT compounds was a drum labeled “pesticides” observed = during the investigation. DDT was detected at moderate concentration = (272 ug/kg) in one sample collected near the former Hendren Dock. DDT is = an area-wide contaminant in Portland Harbor and there are DDT source = areas immediately upstream.

7.=A0 DEQ has determined that PCBs = were adequately evaluation and they were ruled out as a contaminant of = potential concern at the site.

8.=A0 Section 11.3.7.4 DEQ provided = oversight for the groundwater evaluation and concluded this pathways is = not of concern. Metals were the only analytes to exceed JSCS screening = criteria as discussed below.

Chromium copper, lead, mercury, = nickel, silver and zinc were sporadically detected in groundwater = samples. With the exception of silver, only one detected concentration = for each of these metals exceeded screening criteria. Silver exceeded = its screening criteria in two samples. Based on the general low = frequency of detection, and very limited detections above screening = level criteria, discharge of shallow groundwater does not appear to = present a significant threat to the Willamette River for any of these = metals. Arsenic was detected at a higher frequency (6 of 18 samples), = but the reported concentrations are below the applicable screening = criterion. This section should better reflect DEQ’s finding, or = present the rationale for concluding that there is insufficient = information to evaluate this pathway, as indicated on Table = 11.3.7-2.

9.=A0 Table 11.3.7-3 DEQ does not = agree that the site is a “medium” as a potential DDT source. = It appears that this conclusion is based on the fact that a single drum = on site was observed to be labeled “pesticides”, and one = moderately elevated DDT sample collected near the Hendren Dock. =

10.=A0 Table 10.5-1 The DEQ PM doe not = agree with many of the conclusions in this table. The table does not = take into account source control actions and site investigation = findings. The table lists “insufficient information” for a = number of pathways. DEQ is preparing to NFA this site.

iAOPC 11 Gasco and = Siltronic
Contaminant Transport Pathways
1. The groundwater (alluvial water-bearing zone [WBZ[, alluvial WBZ) and = riverbank erodible soils pathways are complete and currently considered = the most significant uplands contaminant transport pathways in the = iAOPC.

2. The storm water conveyance systems = are potentially complete pathways and are currently being evaluated at = both sites.

3. Source control for DNAPL, = groundwater, and riverbank soils is required from the downstream = property of the Gasco site to upstream of the former lowland effluent = pond overflow areas on the Siltronic site. From there to the upstream = property line of the Siltronic site source control is considered = warranted and is being further evaluated during field work scheduled for = this year.

Siltronic = Corporation - DEQ recommends = that following revisions be made to Table 5.1-2

1.=A0 ECSI # Other than Linnton Plywood (two ECSI nos.), Siltronic is = the only site in the table that references multiple ECSI nos. (i.e., = #84, #155, and #183). The actual ECSI no. for the Siltronic site is = #183.

2. Potential Upland and Over-Water = Source
The column should be revised as follows:

§ Replace “north drainage ditch” with = “Doane Creek”
§ Delete “potential disposal area” =

3.=A0 Storm/Wastewater

o COIs – For clarification, Siltronic is currently = evaluating facility storm water conveyance system and has not identified = all COIs shown in table which is more consistent with detections in = Doane Creek.

NOTE: In general, the information = provided in Table 5.1-2 differs from the Milestone Report because the = LWG is compiling information that reflects potential current and = historical sources of impacts to the river located on the Siltronic = property, including those originating from other sites. The Milestone = Report focuses only on those attributable to Siltronic.

NW Natural/Gasco = - DEQ recommends that = following revisions be made to Table 5.1-2

1.=A0 Groundwater

o COIs – list should include “SVOCs” (No. 2) = “TPHs” (No. 4)
o Potentially Complete Pathway – should be = “a” (i.e., Documented evidence of complete pathway)

2.=A0 Storm/Wastewater

o COIs – list should include “SVOCs” (No. 2) = “TPHs” (No. 4)

3.=A0 Riverbank Erosion

- o COIs – list should include “SVOCs” (No. 2) = “TPHs” (No. 4)

4.=A0 Figure 5.1-1c

- o Extent of cyanide plume off-shore of the Siltronic and Gasco = sites is incomplete and limited by available data
- o Figure should be reviewed and revised pending the results of = in-water Phase 2 Offshore Field Sampling Approach to be conducted by NW = Natural beginning in July 2007

5. TCE plume originating from = Siltronic is incomplete, should be depicted as being continuous from the = uplands source (i.e., from former TCE USTs), under the river, and = surrounding the areas of TZW exceedances shown.

- o Extent of VOC plume should be reviewed and revised pending = the results of in-water Phase 2 Offshore FSA to be conducted by NW = Natural beginning in July 2007

6.=A0 Figure 5.1-1g

- o Extent of SVOC plume off-shore of the Siltronic and Gasco = sites is incomplete and limited by available data
- o Figure should be reviewed and revised pending the results of = in-water Phase 2 Offshore Field Sampling Approach to be conducted by NW = Natural beginning in July 2007

7.=A0 Figure 5.1-1h

- o Figure appears to be incomplete as groundwater has been = heavily impacted by constituents of MGP waste (i.e., diesel-range and = residual-range petroleum hydrocarbons)

- o Figure should be reviewed and revised pending the results of = in-water Phase 2 Offshore Field Sampling Approach to be conducted by NW = Natural beginning in July 2007

iAOPC 13

1.=A0 Section 11.3.10, CSM for iAOPCs 12 and 13, Page 11-165, last = paragraph – See general comments. Additionally, PCBs were = determined in the M&B RI not to be a contaminant of concern. =

2.=A0 Section 11.3.1, Chemical = Distribution of iCOCs, Page 11-168 – This section does not = adequately describe the petroleum contamination located along the = shoreline in the northeastern corner of Willamette Cove. .

3.=A0 Section 11.3.10.3.3, Overwater = Discharge, Page 11-175, 1st full paragraph – The text = should also identify as a potential overwater source the transformers = which were historically located overwater on the former dry docks. =

iAOPC 15

1.=A0 Section 11.3.12.1.3, Upland Hydrogeology, Page 11-209, = 5th full paragraph

- The sediment cap was constructed over a = two year period during 2004 and = 2005; the barrier wall = encompasses 18 acres; and the upland cap was placed = over 41 acres. The purpose of the soil cap = is to prevent direct contact = with contaminated soil and help reduce infiltration…

2.=A0 Section 11.3.12.2.1, Sediments, = Page 11-210, 1st full paragraph – The text should = distinguish the sediment samples collected from locations which have = since been covered by the sediment cap.

3.=A0 Section 11.3.12.3.4, Groundwater = Discharge, Page 11-214, Last paragraph – Sampling of monitoring = wells in May 2006 at the M&B site, including MW-3s and MW-59s (a new = well located in the vicinity of MW-3s), for As, Cr, Cu, Zn, PAHs and PCP = indicates low to non-detectable levels of analytes in groundwater. These = data should be used instead of the earlier 2002 sampling data. (Note = that extensive surface water and cap pore water samples have been = collected in the subject area between fall 2002 and spring 2007.) =

4.=A0 Section 11.3.12.3.4, Groundwater = Discharge, Page 11-215, 1st full paragraph – The = purpose of the subsurface barrier wall is to minimize NAPL = migration to the river.

iAOPC 18
Shaver = Transportation
1.=A0 Section 11.3.1.4 Incorrect figure is referenced. It should be = 11.3.14-1.
2.=A0 Section 11.3.14.2.1 While the highest PCB concentrations are = located near the Shaver Dock, it should be noted that most samples in = this area were collections near the docks, in an area of general = sediment accumulation. The dock area is a back eddy. The proximity of = these samples to Outfall 19 also should be noted here.

3.=A0 Section 11.3.14.4 Shaver = Transportation is not included on Table 11.3.14-2.
4.=A0 Table 10.5-1 Although no significant source areas were identified, = a number of pathways are listed as
"insufficient information". The DEQ PM disagrees with the = interpretation in this table.
iAOPC 19 = Gunderson
Contaminant Transport Pathways
1. Based on the information collected at the site to date, the principal = complete uplands contaminant transport pathways identified at the = Gunderson site include; erosion of riverbank soils and storm water = (i.e., erodible soils within 100 feet of catch basins, catch = basin/oil-water separator sediments, and storm water).

2. Section 11.3.15.3.2 discusses = Stormwater/Overland Transport at the site. Storm water is considered an = uplands contaminant transport pathway warranting source control. = Gunderson has collected a large amount of storm water system data, = including a comprehensive catch basin/oil-water separator sediment = sampling effort in the fall of 2006, however there is little discussion = of site-specific data included in the report. Discussions of storm water = emphasize potential sources to the City's Outfall 18 drainage = basin other than Gunderson. Future versions of the document should be = revised to focus on Gunderson's storm water and storm water system = data.

3.=A0 Section 11.3.15.3.5 It should be = noted that the actual riverbank fill material

in Area 3 consists of = debris such as firebrick, friable asbestos, ship engines etc. that may = be wastes related to the former ship dismanteling operations.

TABLE 5.1-2 and MILESTONE = REPORT

DEQ recommends that following revisions = be made to Table 5.1-2

1.=A0 Potential Upland and Over-Water Source

- This column should reference “railcar painting” = and “ship dismantling”

2.=A0 Storm Water

- COIs - column should include “Phthalates” (No. 9) =
- Historic/Current - column should indicate storm water is a = “current” = contaminant transport pathway

3.=A0 Overland Transport

- COIs - column should include “TPHs” (No. 4) =

4.=A0 Riverbank Erosion

- COIs – column should include “TPHs” (No. 4) = and “Other” (No. 10 for dioxins/furans)

iAOPCs 20, 21, 22 and = 23

1.=A0 The DEQ PM is not sure that they agree that the Cascade General = site is a likely current source for the PCB contamination found in iAOPC = 22. The site is paved and the PCB sources were primarily historical and = Cascade Generally cleans the stormwater system on a regular basis. = However, this is something DEQ will consider in developing the work plan = for stormwater evaluation at this site.

2.=A0 On page 11-262, the last dash = refers to Berth 308 indicating that uses are unknown (also referenced in = last bullet on page 11-265). The Port has completed an initial = evaluation of the upland area associated with Berth 308 to support a No = Further Action determination. The Port will be conducting one additional = sampling event at this area to assess any residual contamination = associated with a historical substation. If this sampling does not = indicate contamination above risk-based levels, DEQ will proceed with = the NFA for the upland. There are no current pathways for contamination = migration to the Swan Island Lagoon.

3.=A0 The third bullet on page 11-265 = discusses property associated with Berth 311. DEQ provided an NFA for a = portion of this property owned by the Port in December 2005. The portion = of the property covered by the NFA consists of an approximately 60-foot = wide, 500-foot long, L-shaped driveway that provides access from North = Basin Avenue to the southeast end of a concrete pier/lay berth located = within and on the east side of Swan Island Lagoon. The Uplands site does = not include the Berth itself or the immediate shoreline adjacent to the = Berth and Swan Island Lagoon.

4.=A0 There are a few references = (e.g., page 11-272 last part of first paragraph under iAOPC 21) to = Cascade General discharging treated stormwater from the

ballast water = treatment plant to the river as an option under their NPDES permit. For = the last several years Cascade General has directed this water to the = City's sanitary sewer. Also, under iAOPC 22, 2nd paragraph, they = identify discharge from the ballast water treatment plant as a = potentially complete pathway to the river which is not true under this = current operation.

5.=A0 On page 11-273, 1st paragraph = under iAOPC 23 identifies the N Channel Ave fabrication site as a = potential source - shouldn't this be a potential source to iAOPC 20? = Later in the paragraph the report refers to this area as "this = portion of the Cascade General site." If the reference is referring = to the fabrication site - this is Port property.

6.=A0 In the 3rd paragraph from the = bottom of page 11-279, the statement is made that no riverbank = investigations have been performed at iAOPC 20. In Sept 2006, the Port = collected samples along the shoreline of the N Channel Ave Fabrication = site at three locations corresponding to discharge points of parking lot = drains.

iAOPC 21 USCG

1. Section 11.3.16.3.1-2 incorrectly state that no soil investigations = were conducted at the site; see 2/01 RI Report for soil results from 14 = samples.

2. Sediment in six stormwater catch = basins showed low levels of Aroclor 1254 and 1260; Arclor 1254 (the = dominent Aroclor in this Swan Island iAOPC) concentrations ranged from = 14-1800 ug/kg (PEC =3D 300), and Aroclor 1260 ranged from 31-2200 ug/kg = (PEC =3D 200). It is not clear to what extent the USCG site contributed = to the in-water PCB contamination observed adjacent to their site = compred to potential sediment movement (i.e., prop wash, etc.) from = other Swan Island PCB sources.

iAOPC 22 Fred Devine Diving and = Salvage (FDDS)

1.=A0 Page 11-273. It appears based on plumbing records that the oil = water separator at FDDS was always plumbed to the sanitary sewer, and = there is no indication that it ever discharged to the storm drain or = river. Based on results from the XPA, DEQ has determined that the storm = water pathway is the only pathway of concern to the river requiring = evaluation in the Source Control Evaluation

2.Table 10.5-1 Based on results of PA, = groundwater sampling was not required by DEQ. Table indicates this is = “insufficient information” suggesting this is a potential = pathway. Site waterfront is armored in rip-rap. Therefore bank erosion = is not a complete pathway as determined by DEQ.

Freightliner TMP

1. Section 11.3 Only real connection to river is stormwater pathway via = OF M-1. Aroclor 1254, Bis-2 phthalates, AS, Cd, Cr, CU, Pb and Zn = recently detected in catch basin sediment but not discussed in text. = These should be included as potential COIs for stormwater pathway. =

2 **.** Table = 5.1-2 **-** Generally consistent with SC Milestone report. = Phthalates, PAHs, and possibly PCBs should be added to stormwater = pathway COIs.

3.=A0 Map 5.1-1ah - Not shown on maps = b/c too far upland. Small, low level VOC plume is generally stable and = not determined to be threat to river.

iAOPC 24 GE
Section 11.3.17 While stormwater confirmation data is pending, onsite = legacy sediment is unlikely due to recent extensive SCMs (Section = 11.3.17.3.10)

iAOPC 24 AND GALVANIZERS = COMPANY

1.=A0 Section 11.3.17 discusses iAOPC 24 = (i.e., Balch Creek Cove) which includes the City Outfall 17 (OF 17). The = second paragraph of Section 11.3.17.1 mentions the ECSI sites that = discharge storm water into Outfall 17, including GE Decommissioning = (ECSI #4003) and a portion of the Burlington Northern Railroad Yard = (ECSI #100). Although Galvanizers Company (ECSI #1196) discharges storm = water into the OF 17 sub-basin it is not mentioned.

2.=A0 The Galvanizers Company site is located nearly a mile from the = river. As such, it only connection to the Portland Harbor is via storm = water. Storm water data for the Galvanizers Company facility should be = reviewed and the site considered as a potential source of impacts to = iAOPC 24 for the following reasons.

- Certain site COI have been detected in storm water leaving = the Galvanizers Company site at concentrations exceeding JSCS criteria = (i.e., cadmium, copper, lead, and zinc).

- On-site storm water system sediment detections exceed PECs = (lead, zinc) and default soil background values (cadmium, copper, lead, = and zinc).

- Site COI have been detected in the City's lines at = concentrations that exceed PECs (cadmium, lead, zinc) and soil = background values (cadmium, lead, zinc).

- Analyses of sediment in the iAOPC detected site COI greater = than PECs (zinc) and soil background values (lead, zinc).

3.=A0 Recent sediment data collected = at the site suggest it may also contribute phthalates to the = City's storm lines and ultimately iAOPC 24.

iAOPC 26 Sulzer = Pump
1.=A0 Section 11.3.19 The conclusion that there is an active source = because shallow PCB contamination levels are similar to deeper levels is = questionable. Section 11.3.19.1.1 indicates the area along the site is = in "dynamic equilibrium" for sedimentation accumulation, = defined as sediment moving in or out of the area with no net change. = Therefore it is possible that surficial sediment and associated = contamination may reflects upstream sources. It should be noted that = City outfall15 is located just upstream of the iAOPC.

2.=A0 Section 11.3.19.3.1 Historical = maps show an oil pipeline extending from the PGE Station E northerly = along the eastern site boundary of the Sulzer (now Dolan) property to = the River near current City outfall15. The presence of this pipe was = investigated by PGE through soil borings and test pits. Evidence of the = pipeline (i.e. significant contamination, direct observation) was not = observed, and it was concluded the pipe had been removed. DEQ did not = require additional evaluation of the pipeline.

3.=A0 Section 11.3.19.3.4 There is not = an active groundwater treatment system at the site. The system ws shut = down in the mid 1990s with DEQ approval. The system addressed = gasoline-related constituents. A release of chlorinated hydrocarbons = from a waste oil tank impacted groundwater. A soil removal was conducted = in the mid 1990s and concentrations of chlorinated hydrocarbons in = groundwater were below their respective DEQ Level II Screening Level = Values (SLVs) for aquatic receptors in freshwater.

4.=A0 More recently, PAH = concentrations were detected in direct-push borings, advanced along the = shoreline, near or marginally above screening level values. It should be = noted that PAHs have not been identified as an iCOC in sediment near the = site.

5.=A0 Groundwater occurs at a depth of = approximately 20 feet, well below the depth of the local storm drain = lines. Therefore groundwater migration along a preferential pathway can = be ruled out.

6.=A0 Comments on Table 10.5-1 This = table is speculative when it comes to historic releases, and does little = in the way of presenting a balanced view. DEQ source control evaluations = and actions are aimed at current sources. In many cases DEQ has made = professional judgments on COIs. The report considers this equivalent to = “insufficient information’ to evaluate a source. This is a = common reason for discrepancies in DEQ’s view of the upland sites. =

7.=A0 It would be more useful for this = table to identify COPCs based on upland screening. Many of the COIs do = not carry through as COPCs. The table implies that COIs are present at = actionable levels.

8.=A0 DEQ does not consider = groundwater a significant pathway.
9.=A0 The bank is rip rapped, therefore erosion is not a pathway of = concern.
City CSO Project Table = 10.5-1
Based on the City's preliminary evaluation, the following are COIs = identified for their outfalls that are not listed on the table: =

iAOPC 14: PAHs
iAOPC 17: PAHs
iAOPC 18: PAHs, Bis-phthalate, metals
iAOPC 19: Lead, Zinc
iAOPCs 20, 21, 22, 23: PAHs
iAOPC 24: Zinc
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