

SEDIMENT ACCEPTANCE CRITERIA MEMORANDUM

3.4.2.3 Drinking Water Guidelines and Criteria

USEPA directed the Port to consider drinking water guidelines and criteria in its evaluation of groundwater releases from the CDF, specifically drinking water maximum contaminant levels (MCLs) and USEPA Region 9 “tap water” preliminary remediation goals (PRGs). Similar to the evaluation of fish consumption criteria, ~~any~~ potential drinking water exposure will be based on ~~a receiving water concentration rather than~~ a groundwater release concentration at the point of compliance 1 ft into the face of the berm.

Drinking water MCLs are ARARs for the T4 early action because drinking water- supply is a designated beneficial use of water the in the Lower Willamette River. Table X compares groundwater modeling results at the face of the CDF berm to the MCLs and PRGs. Results indicate (EXPLAIN).

Several points are relevant to the evaluation of drinking water exposures:

~~•**Drinking Water Not Yet an ARAR.**~~

~~The Safe Drinking Water Act has been determined by USEPA to be potentially relevant and appropriate to the Terminal 4 Removal Action CDF. The exact application of drinking water criteria as an ARAR will not be determined until the Harbor wide ROD. At this point, USEPA has directed the Port to evaluate drinking water exposures to be conservative and to prepare for any and all possibilities that may result from the issuance of the Harbor wide ROD.~~

~~•**Drinking Water Criteria/Guidelines Are Applied at the Tap.**~~

~~Drinking water guidelines and criteria are applied “at the tap” and not at the point of intake. Recent experience upstream in Wilsonville Oregon has shown that the background characteristics of Willamette River water are unsuitable for direct consumption without first subjecting the water to a multi-stage treatment process, including, in this case, sedimentation, ozonation, carbon filtration, sand filtration, and chlorination. Thus drinking water criteria/guidelines should account for water treatment requirements that apply prior to consumption.~~

~~•**Institutional Controls will Preclude Water Intake on Port Property.**~~

~~The Port is in the process of acquiring the land beneath the CDF from the State of Oregon. The Port’s ownership will extend out to the Harbor Line, and the Port will ensure through institutional controls that no drinking water intakes are placed on submerged Portland. Therefore, the closest possible point for a drinking water intake would be at the Harbor Line, between 10 and 50 meters from the face of the berm.~~

With these considerations in mind, Table 3 provides an estimate of receiving water concentrations at the Harbor Line, 10 meters from the berm, and calculated drinking water based discharge criteria at the point of groundwater release necessary to meet "tap water" criteria in the receiving water. In this way, the estimated or modeled groundwater chemical concentrations for sediment proposed for placement in the CDF will be compared to the criteria provided in Table 3.

If sediment proposed for placement in the CDF meets the criteria described above, it will be considered protective of drinking water for the following reasons. Because the groundwater flux (as determined from MODFLOW results; see Appendix I of the DAR) is quite small compared to ambient currents in the river, groundwater releases are rapidly mixed to concentrations below drinking water criteria in the receiving water. Based on these calculations, achieving chronic water quality criteria at the point of groundwater release from the CDF will be implicitly protective of possible drinking water exposures at the Harbor Line. This evaluation is considered conservative because it does not take in to account water treatment that is permitted to occur prior to application of drinking water criteria under state and federal law.

~~DRAFT DOCUMENT: DO NOT QUOTE OR CITE~~ This document has not been reviewed or approved by USEPA and its federal, state and tribal partners and is subject to change in whole or in part. Sediment Acceptance Criteria Technical Memorandum December 2006 Terminal 4 Early Action 14 050332□01