

Conducting Contained-In Determinations For Environmental Media



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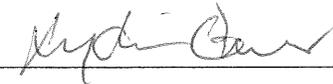
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1. Intent/Purpose/Statement of Need

In an effort to encourage remediation at contaminated cleanup sites, the U.S. Environmental Protection Agency developed a series of regulations and policies for situations involving hazardous waste in environmental media (e.g., soil, sediment, water). Examples of such regulations and policies include the Area of Contamination (AOC) policy, the contained-in policy, the regulations for Corrective Action Management Units (CAMU's), and temporary units.¹

Importantly, EPA determined contaminated environmental media are not considered solid wastes in the sense of being abandoned, recycled or inherently waste-like as defined in the Resource Conservation and Recovery Act (RCRA) regulations. However, environmental media containing listed hazardous wastes or exhibiting a hazardous waste characteristic must be managed as hazardous waste because, and only as long as, they contain listed wastes or exhibit a hazardous waste characteristic.

This Contained-in Determination Internal Management Directive (IMD) is intended to clarify DEQ's application of RCRA hazardous waste regulations to contaminated environmental media for the purpose of determining whether or not media contain hazardous waste.

EPA regions and authorized states may apply the contained-in policy to determine site-, media- and contaminant-specific levels, such that if the concentration of the hazardous constituents in the environmental media fall below these levels, the environmental media may be determined to no longer contain hazardous waste. The "Contained-in Determination" is based on the environmental media contaminated and may be made before or after treatment of the contaminated media occurs. However, treatment of the media is not a requisite for conducting "contained-in determinations."

EPA has not issued any definitive guidance or regulations for determining appropriate contained-in levels; however, EPA regions and states have been advised that conservative, health-based levels derived from direct-exposure pathways would clearly be acceptable as "contained-in" levels. Historically, the practice of EPA and many states has been to specify conservative, risk-based levels calculated with standard conservative exposure assumptions, and/or use site-specific risk assessments.

Once DEQ makes a determination the environmental media no longer contains a hazardous waste, RCRA does not generally pose a barrier to decision making at the site. Permitting requirements and Minimum Technology Requirements (MTR's) do not apply to media that does not contain hazardous waste. Other requirements related to management of the environmental media as Oregon solid waste may apply.

¹ 61 FR 18780, 18782 (April 29, 1996), memorandum from Michael Shapiro, Director, Office of Solid Waste, Stephan D. Luftig, Director, Office of Emergency and Remedial Response, and Jerry Clifford, Director, Office of Site Remediation Enforcement, EPA to RCRA Branch Chiefs and CERCLA Regional Managers, (March 13, 1996); 55 FR 8666, 8758-8760 (March 8, 1990); and 58 FR 8658 (February 16, 1993).

2. Applicability

DEQ RCRA and Cleanup staff will use this IMD when evaluating whether contaminated environmental media contains a hazardous waste. Sites which may generate contaminated environmental media include, but are not limited to:

- RCRA generators that have had releases to the environment;
- Environmental cleanup sites under DEQ oversight;
- Emergency Response cleanup sites;
- RCRA corrective action sites; and
- Anyone wishing to dispose of wastes in Oregon, such as out-of-state RCRA generators, environmental cleanup sites or RCRA corrective action sites.

This IMD does not address contaminated debris. Examples of contaminated debris include, but are not limited to: Manufactured objects, plant or animal matter, and natural geologic material. Traditionally, the same contained-in policy for environmental media governed hazardous waste-contaminated debris. In 1992, EPA codified certain aspects of the contained-in policy for debris in the definition of hazardous waste regulations in §261.3(f). In particular, EPA included a regulatory passage explaining the process by which handlers of debris contaminated with listed hazardous waste can demonstrate the debris is non-hazardous. This passage also references certain treatment technologies for decontaminating listed debris so it no longer contains a listed waste. This IMD recommends that Cleanup staff consult with DEQ RCRA staff for assistance with contaminated debris.

This IMD also does not apply to wastestreams generated during normal industrial or manufacturing operations (i.e., “as-generated” wastes), such as:

- Concentrated spent chemicals;
- Discarded, unused commercial chemical products and formulations;
- Industrial wastewaters; and
- Pollution control/treatment residues such as sludges.

3. Summary

DEQ staff will use this IMD to determine whether contaminated environmental media contains hazardous waste. For each individual case, DEQ will consider contaminated environmental media to no longer contain hazardous waste when: 1) They no longer exhibit a characteristic of hazardous waste; and 2) concentrations of hazardous constituents from listed hazardous waste are below Risk Based Concentration levels approved by DEQ in this IMD.

DEQ Cleanup Project managers will consult with Hazardous Waste program staff on contained-in determinations by routing a memo (Appendix A) to the regional Hazardous Waste program through the appropriate Hazardous Waste staff person and their manager. Hazardous Waste staff will consider Land Disposal Restriction issues and will coordinate with the Cleanup Project Manager that routed the memo. Once approved by Hazardous Waste staff, the memo will be routed to both the appropriate Cleanup and Hazardous Waste managers for signature and approval.

The Responsible Party must act in compliance with conditions prescribed in the approval memo for managing contaminated media as non-hazardous material . In situations involving long-term disposal and or disposal of large volumes material, Cleanup and Hazardous Waste staff and the RP should consult with the solid waste permit manager to make sure that the solid waste landfill being considered for disposal of the environmental media has sufficient capacity and is approved to accept the environmental media either as an authorized waste or through a special waste management plan and to ensure that the terms of the contained-in determination are met in full. In the event environmental media contains hazardous waste, the RP will manage the material consistent with Oregon state hazardous waste regulations.

4. Background

EPA's contained-in policy is not codified in rule, however, it is a longstanding policy for applying RCRA Subtitle C requirements to mixtures of environmental media (e.g., soils, groundwater, sediments) and hazardous wastes. Two rules subject environmental media to Subtitle C requirements. Under 40 CFR 261.3(c)(1) a "hazardous waste will remain a hazardous waste" unless and until certain specified events occur. Under 40 CFR 261.3(d)(2) a "waste which contains" a listed hazardous waste remains a listed waste until it is delisted. Together these regulations provide for continued regulation of hazardous wastes even after they are released to the environment and mingled with media.

The contained-in concept has been discussed in several Agency directives and in several RCRA rulemakings. 58 FR 48092, 48127 (September 14, 1993). In addition, EPA has explained the policy and its regulatory basis in numerous preambles and letters, including 53 FR 31138, 31142, 31148 (August 17, 1988); 57 FR 21450, 21453 (May 20, 1992); memorandum from Marcia E. Williams, Director, EPA Office of Solid Waste to Patrick Tobin, EPA Region IV (Nov 15, 1986); letter from Jonathan Z. Cannon, EPA Acting Assistant Administrator, Office of Solid Waste and Emergency Response, to Thomas Jorling, Commissioner, New York Department of Environmental Conservation (June 19, 1989); letter from Sylvia K. Lowrance, Director, EPA Office of Solid Waste, to John Ely, Enforcement Director, Virginia Department of Waste Management (March 26, 1991); and a detailed discussion in HWIR-Media proposal preamble, 61 FR 18795 (April 29, 1996).

In addition, EPA provides a description of the policy in *Management of Remediation Waste Under RCRA*, EC-G-2002-096, which can be found at:
http://www.epa.gov/waste/hazard/correctiveaction/resources/guidance/remwaste/pspd_mem.pdf

5. Definitions

Administratively Complete: This definition refers to the Responsible Party's formal request. The request must have the following information: Requester's name and address; Site Name, location and ECSI and/or Generator number, if issued, a list of applicable waste codes, and sufficient test results to support a determination.

Area of Contamination Policy: In what is typically referred to as the area of contamination (AOC) policy, EPA interprets RCRA to allow certain discrete areas of generally dispersed contamination to be considered RCRA units (usually landfills). Because an AOC is equated to a RCRA land-based unit, consolidation and *in situ* treatment of hazardous waste within the AOC does not create a new point of hazardous waste generation for purposes of RCRA. This interpretation allows wastes to be consolidated or treated *in situ* within an AOC without triggering land disposal restrictions or minimum technology requirements. The AOC interpretation may be applied to any hazardous remediation waste (including non-media wastes) that is in or on the land. Note that the AOC policy only covers consolidation and other *in situ* waste management techniques carried out within an AOC. For *ex situ* waste management or transfer of wastes from one area of contamination to another, see discussion of corrective action management units, below. The AOC policy was first articulated in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). See 53 FR 51444 for detailed discussion in proposed NCP preamble; 55 FR 8758-8760, March 8, 1990 for final NCP preamble discussion. See also, most recent EPA guidance, March 13, 1996 EPA memo, "Use of the Area of Contamination Concept During RCRA Cleanups."

Corrective Action Management Units (CAMUs): The corrective action management unit rule created a new type of RCRA unit – a Corrective Action Management Unit or CAMU -- specifically intended for treatment, storage and disposal of hazardous remediation waste. Under the CAMU rule, EPA and authorized states may develop and impose site-specific design, operating, closure and post-closure requirements for CAMUs in lieu of Minimum Technology Requirements (MTRs) for land-based units. Although there is a strong preference for use of CAMUs to facilitate treatment, remediation waste placed in approved CAMUs does not have to meet LDR treatment standards. The main differences between CAMUs and the AOC policy (discussed above) are that, when a CAMU is used, waste may be treated *ex situ* and then placed in a CAMU, CAMUs may be located in uncontaminated areas at a facility, and wastes may be consolidated into CAMUs from areas that are not contiguously contaminated. None of these activities are allowed under the AOC policy, which, as discussed above, covers only consolidation and *in situ* management techniques carried out within an AOC.

Environmental Media: Soil, sediment, and water in the environment (surface water, stormwater, groundwater).

Debris: Solid material exceeding a 60 mm particle size that is intended for disposal and that is: a manufactured object; or plant or animal matter; or natural geologic material. However, the following materials are not debris: any material for which a specific treatment standard is provided in Subpart D, Part 268, namely: lead acid batteries, cadmium batteries and radioactive lead solids; process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by §268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris by volume, based on visual inspection.

6. Acronyms Used in This Directive

AOC – Area of Contamination

CAMU – Corrective Action Management Units

CERCLA - Comprehensive Environmental Response Compensation and Liability Act

CWA – Clean Water Act

DEQ – Department of Environmental Quality

EPA – Environmental Protection Agency

ECSI - Environmental Cleanup Site Information

IMD – Internal Management Directive

LDR - Land Disposal Restriction

MTR – Minimum Technology Requirements

QAPP – Quality Assurance Project Plan

POTW – Publicly Owned Treatment Works

SAP – Sampling and Analysis Plan

RBC - Risk Based Concentration

RCRA - Resource Conservation and Recovery Act

RP – Responsible Party

WWTP – Waste Water Treatment Plant

7. Directive

7.1 Applicability: This IMD applies only to environmental media (soil, sediment and water). Hazardous waste contaminated debris management can be found under 40 CFR 261.3(f)(2) and 40 CFR 268.45(a).

7.2 Steps for making the No-longer Contains Determination:

7.2.1. A formal request for a no-longer contains determination must be received by DEQ to initiate the process. Initial review by DEQ staff should verify that:

1. Cleanup sites are under current DEQ oversight. This would include the site being a current participant in one of the following programs: Voluntary Cleanup Program, Independent Cleanup Pathway, Site Response Program, Orphan Program or Dry Cleaner Program.
2. Independent Cleanup sites not in one of the programs listed in 7.2.1.1 that come to the Department to request a No-longer Contains Determination must volunteer for or be willing to enter a cost recovery program for the determination process contained in this IMD or join one of the programs.
3. A contained-in request from a RCRA hazardous waste generator performing a cleanup or corrective action will use the RCRA generator compliance cost centers.
4. The request contains sufficient analytical information to demonstrate that the environmental media no longer contains a hazardous waste because any listed hazardous waste has been treated and is below health and environmental risk based values or is not characteristic. Sample results are representative of the media as determined by DEQ-approved media characterization plan using accepted established protocols (SW-846) or through site sampling conducted per DEQ-approved SAP/QAPP.
5. The request is administratively complete. The request should include the Requester's name and address; Site Name, location and ECSI and/ or Generator number, if issued; a list of applicable waste codes; site history and background; and sufficient test results to support a determination.
6. If a site has both an ECSI and a hazardous waste generator number both should be noted on the memo so that both programs can track through their respective systems and file the completed results in the appropriate facility or location files.

7.2.2. Subsequent to confirming that the criteria for Section 7.2.1 have been met, DEQ completion of the contained-in determination will include determining whether the environmental media: 1) contains a listed hazardous waste below risk based levels, or 2) exhibits a characteristic of hazardous waste (i.e., toxicity, ignitability, corrosivity, or reactivity). To accomplish No. 1), DEQ staff (typically HW staff, in coordination with Cleanup staff) should use the current DEQ Risk Based Concentrations for Individual Chemicals found at: <http://www.deq.state.or.us/lq/pubs/docs/RBDMTable.pdf>, as health-based levels for comparison with hazardous constituent levels in

water and soil. Water that contains concentrations of hazardous contaminants lower than the construction & excavation worker levels under the “Groundwater in Excavation” heading and soil that contains concentrations of hazardous constituents lower than the occupational levels under the “Soil Ingestion, Dermal Contact and Inhalation” heading will be determined to not contain hazardous waste.

In the case of media that exhibit a characteristic of hazardous waste, the media are considered to “contain” hazardous waste for as long as they exhibit a characteristic. Once the characteristic is eliminated (e.g., through treatment), the media are no longer considered to “contain” hazardous waste. Since this determination can be made through relatively straightforward analytical testing, no formal “contained-in” determination by DEQ is required. (Note: If the media is characteristic before treatment, then LDRs would be applicable.)

- 7.2.3. LDR considerations: LDRs are applicable and must be met in two situations:
1. If the waste is generated (removed from the land or AOC) prior to the contained-in determination and the media has been contaminated by a listed hazardous waste, LDRs would apply; and,
 2. If the waste is a hazardous waste and has to be treated to meet the RBCs.

In the event that LDRs are applicable and must be met, use the alternative LDR treatment standards for contaminated soil found in 40 CFR 268.49.

Please note that contaminated environmental media determined not to contain **any** (chemical analytical results are non-detect) waste (i.e., it is just media, it does not contain solid or hazardous waste) would not be subject to any RCRA Subtitle C requirements, including the LDRs, regardless of the time of the “contained-in” determination and as such the RP would not need to consult with the Department.

- 7.2.4. Disposal Restrictions: Environmental media subject to a contained-in determination that concludes the material no longer contains a hazardous waste, although not a hazardous waste may still be considered a solid waste with concentrations of contaminants that may pose a threat. Therefore, additional non-HW restrictions on re-use, placement, or disposal may apply as outlined in Section 7.3. DEQ’s contained-in determination approval should require soil to be managed at a Subtitle D landfill and water to be disposed of at a Clean Water Act (CWA) permitted wastewater treatment system. Deviation from these requirements should be evaluated on a case-by-case basis. Because the RBC levels used to determine that the environmental media no longer contains a hazardous waste are based on occupational values, case specific evaluations should make sure that the media is not used beneficially where residential exposures may occur.

- 7.3 Documenting the Approval: The Cleanup Project Manager will provide the Hazardous Waste program with an approval memo and cover sheet (See approval

memo Appendix A). The cover sheet will include the site name, the media involved, the approved disposal and then signature lines for the Hazardous Waste staff who reviews the request and the Hazardous Waste and Cleanup Program managers who will provide review and final approval.

The Hazardous Waste Manager of the Hazardous Waste staff person reviewing the memo has 5 business days to review and sign the memo once it has been routed to them. If they have not reviewed and signed the memo within this time frame, the Hazardous Waste staff will sign the memo on their behalf and return the memo to the Cleanup Project Manager unless they specifically request an extension.

The body of the memo should include; a brief description of site background; a discussion of why the contained-in determination was needed; analytical results listed in a table; a discussion of the data review; and a paragraph describing limitations and DEQ's conclusions. Also in the body of the memo will be the requirements for re-use, placement, and disposal of soil and/or water indicated in Section 7.2.4, and a list of supporting documents, including the No Longer Contained-In Determination submitted by the RP, if applicable.

This memo is the basis to support non-hazardous disposal options prescribed in the approval memo, including soil managed at a Subtitle D landfill and water disposed of at a WWTP. Disposal alternatives that DEQ may consider based on site-specific considerations include using material as "clean fill" if the soil meets DEQ clean fill criteria, or placing media back into the on-site excavation(s) with the approval of DEQ's Cleanup Program. The environmental media may also be evaluated for a beneficial use under OAR 340-093-0260 through OAR 340-093-0290.

Once the memo is approved and signed, a copy should be placed in both the hazardous waste and cleanup files for future reference.

8. Appendices

Appendix A - Contained-In Determination Approval Example Memo

Appendix B – Contained-In Example Scenarios

Appendix A - Contained-In Determination Approval Example Memo

State of Oregon

Department of Environmental Quality Memorandum

To: Project File, ZY Mobility, ECSI 1234

Date: 2/10/2015

From: Joe Brown, WR Cleanup Program

Through: Bob Neff, Haz Waste Compliance

Approved: Dave Smith, WR Hazardous Waste Program Manager

Subject: No Longer Contained-In Determination
ZY Mobility Site
Medford, Oregon (ECSI 1234)

The DEQ's Western Region Environmental Cleanup and Hazardous Waste Programs have prepared this No Longer Contained-In Determination for soil cuttings and groundwater investigation derived waste (IDW) and soil generated during a sanitary sewer line replacement project at the ZY Mobility cleanup site. ZY Mobility provides vehicle retrofitting services for people with disabilities and has been in operation in Medford since 1982. Prior to this, the site was occupied by a dry cleaning facility between 1950 and 1981. Releases of Perchloroethylene (PCE) from past dry cleaning practices have contaminated soil and groundwater beneath the site. PCE contamination in environmental media from this site would be considered by DEQ to contain a listed hazardous waste (F002).

This determination is for approximately 8 cubic yards of soil that was excavated in August 2014 during replacement of the facilities onsite sanitary sewer line and for 26 drums (6.5 cubic yards) of soil and 17 drums of water (approximately 935 gallons) generated in September and December 2014 during drilling of soil borings and monitoring wells on the site. The 8 cubic yard soil pile generated from the sanitary sewer excavation is currently covered and stored on the property. The IDW generated during drilling activities is currently stored on site in labeled drums. All of the soil and water are and have been stored in the area of contamination on the site.

Representative samples were collected from the soil pile (soil pile), the drummed IDW soil and the drummed IDW water. Soil analysis was conducted as "totals", not TCLP. Low levels of PCE were detected in the soil pile, the IDW soil and the IDW water samples. The results of the chemical analysis are tabulated below. Only chemicals detected by chemical analysis are shown in the table.

Media	PCE Concentration	PCE RBC Soil Direct Contact (ppm)	PCE RBC Soil Leaching to Groundwater (ppm)	PCE RBC Water (ppb)	20 x TCLP Limit PCE for Soil (ppm)
Soil Pile	0.0004 ppm	940	Occupational: 3.7 Residential: 0.64	Not Applicable	14
IDW Soil	0.00042 ppm	940	Occupational: 3.7 Residential: 0.64	Not applicable	14
IDW Water	0.89 ppb	Not Applicable	Not Applicable	5400	Not Applicable

A No Longer Contained-In Determination is needed to show that the soil and water are not characteristic hazardous waste; and that concentrations of dry cleaning solvent related chemicals are below protective levels, and if applicable, Land Disposal Requirements (LDRs).

To demonstrate that the soil no longer “contains” hazardous waste, the following conditions need to be met:

1. The soil (a solid) must not exhibit a characteristic of hazardous waste (must not be reactive or toxic). The potential for soil containing a waste to exhibit the toxicity characteristic is evaluated through comparison of constituent concentrations in leachate, extracted from the waste, using the Toxicity Characteristic Leaching Procedure (TCLP), with the limits specified at Title 40, Part 261.24 of the Code of Federal Regulations (40 CFR 261.24). Representative (total) chemical concentrations for the soil are compared to a value of 20 times the TCLP limit (to account for the 20 to 1 dilution inherent in the TCLP analysis method) to determine if the limits could potentially be exceeded. If the 20 times TCLP limit for any chemical is exceeded, then the waste may be a characteristic waste. The 20 times TCLP limit for PCE is 14 part per million (ppm) or 14,000 part per billion (ppb). The soil does not fail the toxicity characteristic for PCE. The soil is not a characteristic hazardous waste.
2. The water must not exhibit a characteristic of a hazardous waste (must not be ignitable or corrosive). Based on knowledge of process, DEQ has determined that the water is neither ignitable nor corrosive.
3. Concentrations of hazardous constituents from listed waste must be below health-based levels. Currently it is DEQ policy that if soil is to be taken to a lined Subtitle D facility then concentrations of hazardous constituents should be below the DEQ “Occupational” Risk Based Concentration (RBC) for direct contact. Currently this RBC for PCE is 940 ppm. The concentrations of PCE detected in the soil pile and the IDW soil are well below the occupational direct contact RBC. The concentrations of PCE are also significantly below the residential and occupational leaching to groundwater RBCs 0.64 ppm and 3.70 ppm, respectively, indicating the soil is a good candidate for disposal at a regulated construction and demolition landfill.
4. For water, DEQ’s current policy is that if the water is to be taken to a Clean Water Action (CWA) permitted wastewater treatment facility then concentrations of hazardous constituents should be below the “Groundwater in and Excavation” RBC. Currently this RBC for PCE is 5,400 ppb. The concentration of PCE in the IDW water is well below this RBC.
5. RCRA Land Disposal Restrictions do not apply because the waste was not removed from the Area of Contamination prior to this determination.

The table above illustrates the sample results compared to the applicable DEQ RBCs and TCLP.

Underlying constituents of PCE might be present in the soil at concentrations below the minimum reporting levels (MRLs) shown in the laboratory data. Using the MRL concentrations and our knowledge of process, we can assume the following about the soil and water:

- It would not be ignitable, corrosive nor reactive;
- Concentrations of underlying constituents would be below Toxicity Characteristic levels;
- Concentrations of underlying constituents would be below DEQ protective levels (Occupational RBCs);

Based on our review of the data and the above findings, DEQ has determined that the soil pile from the excavated sewer line and the soil and groundwater IDW generated during drilling and sampling activities at the ZY Mobility site do not exhibit characteristics of a hazardous waste. The concentrations of detected dry cleaner solvents in the water and soil samples are below the DEQ’s generic occupational risk based standards. The soil does not contain hazardous waste or pose an unacceptable risk under an occupational scenario. The soil should be disposed of at a permitted solid waste or construction and demolition landfill. The water should be disposed on-site in the publicly owned treatment works (POTW) or taken to another CWA permitted wastewater treatment facility.

Appendix B

Example Scenarios: Conducting Contained-In Determinations

Scenario #1: Contaminated soil excavated from a Cleanup site will be managed at a Subtitle D landfill

A cleanup site at a former dry cleaners is under DEQ oversight in the Voluntary Cleanup Program (VCP). As part of the cleanup, the responsible party excavated 200 tons of soil contaminated with tetrachloroethylene (PCE), which is determined to be an F-002 listed hazardous waste. The soil was stockpiled temporarily on the site and representative soil samples were collected to characterize the levels of contamination in the pile. The consultant for the site submitted a request to DEQ for a No Longer Contained-In Determination for the soil. Soil sample results indicated the soil contained up to 8,000 µg/Kg (8 mg/Kg) PCE. The DEQ Project Manager first determined that the soil was not a characteristic hazardous waste because the total PCE concentration is less than 20 times the TCLP criterion of 0.7 mg/L **OR** because analysis of the samples using the TCLP did not exceed PCE criterion of 0.5 mg/L. The DEQ Project Manager compared the PCE results to the occupational worker RBC to evaluate whether the material contained a listed hazardous waste. The concentrations of PCE in the soil were well below the applicable RBC. The Project Manager also determined that the LDRs were not applicable in this case because the soil has been managed on-site in the area of contamination (the point of generation is when the soil leaves the AOC). Because the levels of contamination in the soil are below the applicable RBC and the material did not exhibit a hazardous waste characteristic, DEQ approved disposal of the soil at a Subtitle D Landfill.

Scenario #2: IDW consisting of 4 drums of water will be managed at a wastewater treatment facility

At the dry cleaner site in Scenario #1, four drums investigation derived waste (IDW) water were collected during the installation and sampling of monitoring wells. A representative sample of the water found it contained PCE at 200 µg/L, making it an F-listed waste. The DEQ Project Manager knew that disposal to the POTW on site was not an option; therefore off-site disposal at a licensed waste treatment facility was selected as the next best disposal option. The concentration of PCE in the water was well below the Occupational Inhalation and Ingestion RBC. Because the levels of contamination in the water were below the applicable RBC, DEQ approved transport and disposal of the wastewater at a licensed treatment facility in Portland.

9. Record of Revisions to IMD

Revision	Date	Changes	Editor