



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7**

11201 Renner Boulevard
Lenexa, Kansas 66219

FINAL REMEDY DECISION AND RESPONSE TO COMMENTS

John Deere Des Moines Works

EPA ID #: IAD069624500

825 SW Irvinedale Drive

Ankeny, Iowa

INTRODUCTION

This Final Remedy Decision and Response to Comments (FRD-RTC) is issued by the U.S. Environmental Protection Agency Region 7 as part of its responsibilities under the Resource Conservation and Recovery Act (RCRA). This FRD-RTC describes the final remedy selected for the John Deere Des Moines Works (Facility) facility located at 825 SW Irvinedale Drive in Ankeny, Iowa. The proposed remedy decision was described in the Statement of Basis that was placed on public notice (i.e., made available and public comment requested).

SELECTED REMEDY

The final remedy selected to address contaminated soil and groundwater at the Facility consists of the following:

Soil:

- In the area of the Former Department of Defense Powerhouse (Other DOD Area PH), existing cover in the form of concrete/crushed rock will be maintained to mitigate for direct contact of subsurface soil and debris containing contaminant of concern (COC) concentrations greater than applicable media cleanup standards.

Groundwater:

- Implement monitored natural attenuation (MNA) to remediate groundwater (throughout the contaminant plumes) until concentrations of all groundwater COCs are below media cleanup standards for a period of at least three years at the co-located Area of Contamination (AOC) C/AOC B24/AOC B25/Other Unit 2/Other Unit 3;
- Implement a groundwater monitoring program to:
 - ensure that the migration of facility related COCs at concentrations greater than media cleanup standards do not occur beyond the boundaries of AOC C, and that the plume remains stable;

- monitor the effectiveness of natural attenuation of COCs in groundwater; and, enact contingency actions that may be required if MNA proves to be ineffective or COCs at concentrations greater than media cleanup standards appear to be migrating beyond AOC boundaries.

Drainage Ditch and Catch Basin at SWMU-25:

- Excavation and off-site disposal of soil/sediment at the Solid Waste Management Unit (SWMU) 25 North Area containing polynuclear aromatic hydrocarbons (PAHs) at concentrations that exceed applicable media cleanup standards;
- Implementation of phytoremediation at the SWMU 25 Central Area consisting of the targeted removal of undesirable plants and shrubs with low phytoremediation value, retainment and encouragement of dispersal of species with high phytoremediation value, and phytoremediation maintenance and monitoring; and,
- The Facility will utilize and maintain existing engineering controls in the form of a soil/vegetated cover to stabilize and to mitigate direct contact exposure with already excavated and consolidated PAH-containing soil located at the SWMU 25 South Area.

Institutional Controls:

- Institutional controls will be implemented throughout the facility by the use of an environmental covenant in accordance with the Uniform Environmental Covenants Act (Iowa Code Chapter 455I) to include the following:
 - restrict land use to non-residential industrial/commercial use only;
 - prohibit the use of groundwater as a source of potable water and prohibit the installation of groundwater drinking water wells on the property; and,
 - implement focused activity and land use limitations, and a Soil Management Plan, that direct the appropriate management of excavated soils or materials, direct maintenance and inspection of engineered barriers and cover, and EPA notification prior to excavations in known contaminated areas at the following three specific areas at the Facility:
 - the “Other DOD Area PH” (Former DOD Powerhouse);
 - SWMU No. 25 South Area; and,
 - “Co-Located AOCC/AOCB24/AOC B25/Other Unit 2/Other Unit 3” (AOC C area).
- To ensure the protectiveness of the remedy – maintain, inspect and repair engineering controls while soil and groundwater contamination remains above media cleanup standards at the Former DOD Powerhouse, SWMU No. 25 South Area and AOC C.

PUBLIC PARTICIPATION ACTIVITIES

A 30-day public comment period was held from June 13 through July 13, 2022. A public notice announcing the availability of the Statement of Basis and the associated Administrative Record documents were published in the Ankeny Press Citizen – Des Moines Register newspaper on June 13, 2022. Fact sheets were mailed to community and business members within the near vicinity of the facility and local, State and congressional contacts on June 3, 2022. The Statement of Basis and Administrative Record were available throughout the public comment period at the Ankeny Kirkendall Public Library, Ankeny, Iowa and at the EPA Region 7 Records Center, Lenexa, Kansas.

PUBLIC COMMENTS AND THE AGENCY'S RESPONSE

On July 12, 2022, comments were received from the Facility addressing the proposed remedial actions and concerns regarding groundwater cleanup action levels. Below is the agency's response to comments received during the public comment period. EPA carefully reviewed the comments in preparing this response to comments. EPA's review of the comments and other information received during the public comment period have led to certain changes that will be reflected in the final remedy decision. The EPA does not consider these changes to be a major modification and therefore, is not providing a second public notice or comment period. The discussion below identifies such changes.

Mr. Scott Hemesath, Environmental Engineering Manager with John Deere Des Moines Works, provided the following comments (italicized) with EPA's comment response following each comment:

- 1) *Page 2, "Groundwater," second bullet, first sub-bullet: This sub-bullet notes that a groundwater monitoring program will be implemented to "ensure that the migration of facility related COCs at concentrations greater than media cleanup standards do not occur beyond the boundaries of AOC C and AOC E, and that the plumes remain stable." The inclusion of AOC E in this sub-bullet is inconsistent with the media cleanup standards for groundwater in the Statement of Basis and the Remedy Evaluation Report (GHD, 2022). As stated in the "Corrective Action Objectives" section of the Statement of Basis (page 6, item vii), one Corrective Action Objective (CAO) is to "[p]revent human ingestion of groundwater containing contaminant concentrations above appropriate Maximum Contaminant Levels, or tap water Regional Screening Levels at a non-cancer hazard quotient of 0.1 or cancer risk of 1×10^{-5} , whichever is lower, if no MCLs exist for a particular constituent." As presented in the Remedy Evaluation Report (GHD, 2022), the remedy for AOC E, which has had source soil removal, is a site-wide institutional control for groundwater and land-use restrictions. Note that there are no COCs in groundwater that exceed a CAO at AOC E. Therefore, JDDMW requests that AOC E be removed from the groundwater monitoring program requirement on pg. 2, "Groundwater," second bullet, first sub-bullet.*

EPA's Response: The inclusion of AOC E in this sub-bullet is consistent with the corrective action objective provided on the corrective action objective worksheet for AOC-E on Page 12 of the Remedy Evaluation Report. The corrective action objective for naphthalene detected in groundwater at AOC-E above the Tapwater RSL of 0.61 ug/L for resource restoration is to "prevent migration of groundwater containing naphthalene in concentrations greater than the Tapwater RSL beyond the boundary of AOC E". However, based on EPA's response to Comment #7 below, the EPA agrees that concentrations of naphthalene in groundwater at AOC E no longer exceed the groundwater cleanup action level. Therefore, further remedial action for naphthalene in groundwater at AOC E has been removed from the final remedy as this corrective action objective no longer applies.

- 2) *Page 2, "Institutional Controls," first bullet, second sub-bullet: This sub-bullet notes that groundwater use will be prohibited as a source of potable water and the installation of groundwater drinking water wells will be prohibited on the property..." While JDDMW has agreed to implement side-wide [sic] groundwater use limitations, the company notes for the record that the only area of the site that does not meet the CAO for drinking water is a very limited area near AOC C.*

EPA Response: Comment noted.

- 3) *Page 2, “Institutional Controls,” first bullet, third sub-bullet: This sub-bullet summarizes the requirement for a Soil Management Plan as part of the Site’s institutional controls. Specifically, the requirement is described as: “implement a Soil Management Plan directing the appropriate management of excavated soils or materials, directing maintenance and inspection of engineered barriers and cover, and EPA notification prior to excavations in known contaminated areas.” JDDMW understands the Remedy Evaluation Report to require “Site-Wide” institutional controls for only groundwater use restrictions (see prior comment) and the land-use restrictions. Therefore, this sub-bullet should specifically reference those areas summarized in the Remedy Evaluation Report (GHD, 2022) that require a “focused environmental covenant” with a Soil Management Plan. As summarized in Section 7.11 of the Remedy Evaluation Report, there are three (3) areas of the Site with COCs in soils above CAOs that require a focused environmental covenant and a Soil Management Plan: a) the “Other DOD Area PH” (Former DOD Powerhouse); b) SWMU No. 25 South Area; and (c) “Co-Located AOCC/AOCB24/AOC B25/Other Unit 2/Other Unit 3” (AOC C area). These three (3) Site areas are the only locations that would require notification to EPA prior to excavation activities.*

EPA Response: The EPA agrees with this comment and has revised the remedy above to provide additional clarification regarding the three facility areas that will require more focuses activity and land use limitations and a Soil Management Plan.

- 4) *Page 2, “Institutional Controls,” second bullet: As part of the Site’s Institutional Controls, the Proposed Remedy notes that “[t]o ensure the protectiveness of the remedy – maintain, inspect and repair engineering controls, while soil and groundwater contamination remains above media cleanup standards.” For the sake of clarity, JDDMW requests that this requirement references the three (3) areas described above (Former DOD Powerhouse, SWMU No. 25 South Area and AOC C) as the locations where the obligations to “maintain, inspect and repair engineering controls” applies.*

EPA Response: The EPA agrees with this comment and has revised the remedy above accordingly.

- 5) *Page 5, paragraph 1, sentence 3: This sentence, and the following sentence, references that a human health risk assessment was completed at the Former DOD Powerhouse with an existing concrete surface barrier “to ensure that no additional soil removal was necessary to mitigate for this potential exposure pathway, and that existing soil contamination may remain in place.” Although JDDMW agreed to maintain a gravel or concrete cap in the Former DOD Powerhouse area, the Revised Human Health Risk Evaluation conservatively evaluated the human health risk with no surface cover present.*

EPA Response: Comment noted.

- 6) *Page 6, item ix: This CAO is to “[p]revent further migration of COCs in soil to groundwater and surface waters, and prevent further migration of COCs in groundwater beyond the boundary of AOC C and AOC E.” Similar to the above, the inclusion of AOC E in this CAO is inconsistent with the media cleanup standards for groundwater in the Statement of Basis and in the Remedy Evaluation Report (GHD, 2022). As identified in the “Corrective Action Objectives” section (page 6, item vii), one CAO is to “[p]revent human ingestion of groundwater containing contaminant concentrations above appropriate Maximum Contaminant Levels, or tap water RSLs with a non-cancer hazard quotient of 0.1 or cancer risk of 1x10-5, whichever is lower, if no MCLs exist for a particular constituent.” As presented in the Remedy Evaluation Report (GHD,*

2022), the remedy for AOC E, which has had source soil removal, is a site-wide institutional control for groundwater and soil. AOC E does not exhibit COCs in groundwater that exceed a CAO. Therefore, JDDMW requests AOC E be removed from item ix. of the Corrective Action Objectives, pg. 6.

EPA Response: See response to Comment #1 above.

7) Page 8, Table 3 and Note*: The first asterisk under the note for Table 3 states that “MCLs are not available for these particular constituents, thus groundwater media cleanup standards are based on the current tap water RSLs, based on an excess cancer risk of 1E-06 and a non-cancer hazard quotient of 0.1, whichever is lower.” Constituent values listed in Table 3 reflect the 1E-06, however, as documented in the Remedy Evaluation Report (GHD, 2022) and as previously documented in the “Corrective Action Objectives” section of the Statement of Basis, the CAO for groundwater at the Site is based on an excess cancer risk of 1E-05 which is consistent with EPA’s Corrective Action Plan (OSWER Directive 9902.3-2A). Also as presented in the “Evaluation of the Proposed Remedy” section of the Statement of Basis (page 9, paragraph 5) EPA concludes that “[d]ue to the industrial nature of this facility, and the understanding that contaminants are not migrating off-facility, a target cancer risk of 1E-05 (1 in 100,000) and noncarcinogenic hazard quotient of 0.1 were selected by the EPA to compare against any estimated site-related cancer risks from exposures to soil and groundwater.” This conclusion, which is consistent with the other sections of the Statement of Basis and the EPA-approved Remedy Evaluation Report, is also consistent with OSWER Directive 9355.0-30.2 Therefore, JDDMW requests that the following constituent values in Table 3 (highlighted) be updated to reflect an excess cancer risk of 1E-05, as listed below, and the first asterisk in the Note under Table 3 be changed to “MCLs are not available for these particular constituents, thus groundwater media cleanup standards are based on the current tap water RSLs, based on an excess cancer risk of 1E-05 and a non-cancer hazard quotient of 0.1.”

**Table 3.
Groundwater Cleanup Levels**

Analyte	Groundwater Cleanup Levels (ug/L)
Acetone	1,800*
Arsenic	10
<i>Benz(a)anthracene</i>	0.3*
Benzo(a)pyrene	0.2
<i>Benzo(b)fluoranthene</i>	2.5*
Bis(2-ethylhexyl)phthalate (DEHP)	6
Chromium, Total**	100
<i>Dibenzo(a,h)anthracene</i>	0.25*
<i>Indeno(1,2,3-cd)pyrene</i>	2.5*
Lead, Total	15
<i>Naphthalene</i>	0.61*
Methylphenol (cresol)	150*
Propylene glycol	40,000*
1,1,2-Trichloroethane	5
2-Hexanone	3.8*

Note: The EPA RSLs listed within this table are based on those provide in the November 17, 2021 update.

* MCLs are not available for these particular constituents, thus groundwater media cleanup standards are based on the current tap water RSLs, based on an excess cancer risk of 1E-05 and a non-cancer hazard quotient of 0.1.

** The EPA's federal drinking water standard regulation assumes that a measurement of total chromium is 100 percent hexavalent chromium, the more toxic form.

ug/L=micrograms per liter

EPA Response: To remain consistent with the "Evaluation of the Proposed Remedy" section of the Statement of Basis, the EPA hereby revises the footnotes at the bottom of Table 3, *Groundwater Cleanup Levels*, to define those concentrations denoted by a single asterisk, where MCLs are not available for these particular constituents, that the groundwater media cleanup standards are based on the current Tapwater RSLs, based on an excess cancer risk of 1E-05 and a non-cancer hazard quotient of 0.1. Therefore, groundwater cleanup action levels in Table 3 in italics above have been revised accordingly.

FUTURE ACTIONS

In summary, no comments were received from the public requiring modifications to the Statement of Basis, other than what is discussed above, and no significant changes to the Statements of Basis or the proposed remedy has been made. Therefore, the remedy provided in the Statement of Basis and this FRD-RTC is hereby formally selected as the remedy for the Facility.

DECLARATIONS

The EPA Region 7 has determined that the corrective actions being implemented at the John Deere Des Moines Works, Ankeny, Iowa Facility, as specified in the Statement of Basis and FRD-RTC, are appropriate and will be protective of human health and the environment.

DeAndré Singletary, Director
Land, Chemical & Redevelopment Division

Date