WEST VIRGINIA ENVIRONMENTAL QUALITY BOARD
CHARLESTON, WEST VIRGINIA

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SURFACE MINE BOARD

THE COURTLAND COMPANY,

Appellant,

v.

Appeal No. 25-05-EQB

DIRECTOR, DIVISION OF WATER AND WASTE MANAGEMENT, DEPARTMENT OF ENVIRONMENTAL PROTECTION,

Appellee.

UNION CARBIDE CORPORATION'S MOTION TO INTERVENE IN THE COURTLAND COMPANY'S APPEAL OF THE GRANTING OF GENERAL PERMIT REGISTRATION NO. WVG612841 TO UNION CARBIDE CORPORATION

Pursuant to regulations promulgated by West Virginia Department of Environmental Protection ("WVDEP"), Union Carbide Corporation ("UCC") hereby moves to intervene in the Courtland Company's ("Courtland") appeal of UCC's General Permit No. WVG612841, as of right. Under WVDEP regulations, "[t]he holder of the permit shall be considered a party in interest in the appeal proceedings and shall have the right to intervene in the appeal."[1] UCC is the holder of the permit and its interests and ongoing work on site in compliance with the permit requirements would be significantly prejudiced by an adverse ruling in this matter. As such, UCC has a right to intervene to defend its permit and its interests alongside WVDEP.

In the related federal case, the Court found UCC liable under the Clean Water Act because Courtland's expert, Dr. Simonton, personally observed stormwater discharging to the Southern Boundary Ditch via a shallow ditch on one occasion. *See* Memorandum Opinion and Order dated

[1] Appeal Process, WVDEP (last accessed on May 2, 2025), https://dep.wv.gov/smb/appealprocess/Pages/default.aspx

Sep. 28, 2023 ("2023 Order"), Dkt 567, Civil 2:19-cv-00894, at pp. 361-362, 402, Attached as Exhibit A. Notably, the District Court also found Dr. Simonton's testimony to be "minimally descriptive, being devoid of details such as when Dr. Simonton saw the discharge or what the weather conditions were like, and is unaccompanied by any documentary evidence such as photographs and videos of the same." *See* 2023 Order, at p. 362. Dr. Simonton did not conduct any sampling or study of the alleged discharges. Therefore, the Court found UCC to be in violation of CWA as this one discharge the former Filmont Landfill was not permitted under CWA NPDES in accordance with 33 U.S.C. § 1342. *see also* Memorandum Opinion and Order dated September 27, 2024 ("2024 Order"), Civil 2:19-cv-00894, at p. 57, attached as Exhibit B. Further, as part of UCC's work under the West Virginia Voluntary Remediation Program, the offending discharge has been completely eliminated by the installation of a berm which does not allow the discharge of stormwater.

After trial, UCC filed a notice to the Court that it submitted applications for NPDES Industrial Permits for Massey and Filmont. *See* 2024 Order at pp. 58-59. Courtland agreed that obtaining necessary discharge permits under the CWA would render UCC in compliance of CWA. *See* 2024 Order at p. 59. Therefore, the Court ordered UCC to obtain necessary NPDES permits for these stormwater discharges identified thereto and denied a permanent injunction for Courtland because there is no basis to find any irreparable harm to Courtland. *See* 2024 Order at pp. 59-61.

UCC has conducted necessary sampling and testing on the former Filmont Landfill as required under WVDEP's CWA permitting process. Working with WVDEP, UCC diligently finalized the application for Filmont and completed all necessary sampling. The completed permit application for the NPDES permit for Filmont was submitted to WVDEP on October 24, 2024 and a permit was issued on March 27, 2025. Because Filmont is a historical solid waste landfill

properly closed in 1987, it predates the enactment of RCRA, WVSWMA and WVHWMA. Therefore, Filmont is not a hazardous waste site under RCRA or WVHWMA, or an open dump under WVSWMA, as explicitly ruled by the Court. A general permit is thus consistent with the Court's ruling and is the only necessary NPDES permit for the single stormwater discharge associated with the former Filmont Landfill.

For the above and foregoing reasons, UCC respectfully requests that this Board grant its request to intervene in this appeal as a matter of right to respond to the appeal position and defend WVDEP's proper issuance of UCC's General Permit No. WVG612841.

UCC has also attached as Exhibit C to this Motion to Intervene a Motion to Dismiss The Courtland Company's Appeal of the Granting of General Permit Registration No. WVG612841 to Union Carbide Corporation and would request that the same be docketed following ruling by this Board on UCC's Motion to Intervene.

UNION CARBIDE CORPORATION

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WEST VIRGINIA ENVIRONMENTAL QUALITY BOARD
CHARLESTON, WEST VIRGINIA

THE COURTLAND COMPANY,

Appellant,

v.

Appeal No. 25-05-EQB

DIRECTOR, DIVISION OF WATER AND WASTE MANAGEMENT, DEPARTMENT OF ENVIRONMENTAL PROTECTION,

Appellee.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 16th day of May, 2025, the foregoing ***UNION CARBIDE CORPORATION'S MOTION TO INTERVENE IN THE COURTLAND COMPANY'S APPEAL OF THE GRANTING OF GENERAL PERMIT REGISTRATION NO. WVG612841 TO UNION CARBIDE CORPORATION*** was served on the following counsel of record by U.S. Mail and electronic mail as follows:

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EXHIBIT A

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF WEST VIRGINIA
AT CHARLESTON

THE COURTLAND COMPANY, INC.,

Plaintiff,

v.

Civil Action No. 2:18-cv-01230
Civil Action No. 2:19-cv-00894
Civil Action No. 2:21-cv-00101
Civil Action No. 2:21-cv-00487

UNION CARBIDE CORPORATION,

Defendant.

MEMORANDUM OPINION AND ORDER

Beginning on July 6, 2022, and through August 3, 2022, the court conducted an eighteen-day bench trial on the plaintiff's claims asserted against the defendant in the above-styled actions and the defendant's counterclaims asserted against the plaintiff.

The following represents the court's findings of fact, made by a preponderance of the evidence, and conclusions of law.

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I. OVERVIEW: THE PARTIES & THE CLAIMS AT ISSUE

Plaintiff, The Courtland Company, Inc. ("Courtland"), is a West Virginia corporation owning a 13.8-acre parcel of land (the "Courtland Property") in South Charleston, which it purchased on January 7, 1980. See Jt. Ex. 89 (Courtland Deed). Defendant, Union Carbide Corporation ("UCC"), is a New York corporation owning the three properties at issue herein. The first of the three properties, known as the Technical Center ("Tech Park"), was acquired by UCC between 1947 and 1974. See Jt. Ex. 29 (2012 Corrective Action Permit) at 013660. The second and third properties, known as the Filmont Landfill ("Filmont") and the Massey Railyard (sometimes "Massey"), are two separate sites located on the same parcel of land, which UCC acquired in 1946. See Tr. Tran. 534:6-8 (Cibrik: July 8, 2022).

The map below, provided to the court by the parties and displayed at trial, sets forth the relevant positioning of the Courtland Property, Tech Park, Filmont, and Massey. Of the four properties, Tech Park (labeled "Technical Center") is the larger tract outlined by a black line and is, in effect, separated from the other properties (Courtland, Massey, and Filmont) by the CSX Railroad and the old Kanawha Turnpike. See Tr. Tran. 3713:10-18 (Simonton: Aug. 2, 2022); Tr. Tran. 2878:12-24 (MacPherson: July 26, 2022). Tech Park includes the

Greenhouse Area above the Courtland Property as well as Ward Hollow and the three landfills -- inactive since 1973 -- named Ward A Landfill, Ward B Landfill, and Lower Ward Landfill. See Jt. Ex. 29 (2012 Corrective Action Permit) at 013661. Tech Park is the subject of Courtland's claims in Courtland I (2:18-cv-

01230). Filmont and Massey are the subject of Courtland's claims in Courtland II (2:19-cv-00894), and its Clean Water Act claims in Courtland III (2:21-cv-00101) and Courtland IV (2:21-cv-00487).

It is noted that Davis Creek is not well depicted on the above map but is located near the left or western edge of Tech Park shown thereon. Davis Creek runs in a northerly

direction as it descends, in sequence, from near the western line of Tech Park and continuing on the western line of Courtland and Filmont on its way to the Kanawha River. The Southern Drainage Ditch ("Southern Boundary Ditch"), depicted between the Courtland Property and Filmont and Massey on the map (though it is very largely only on Courtland), is a tributary of Davis Creek. The Northern Drainage Ditch ("Northern Boundary Ditch"), depicted on the northernly side of Filmont and Massey, is a tributary of Ward Branch, which is a tributary of Davis Creek. Filmont and Massey, on their northern lines, abut Interstate 64.

Broadly speaking, in Courtland I and Courtland II, Courtland alleges that UCC has over the years conducted activities on the UCC properties that have polluted both UCC's properties and the Courtland Property. UCC counterclaims in Courtland II that the Courtland Property has been polluted by Courtland's own activities. In Courtland III and Courtland IV, Courtland contends that UCC continues to discharge pollutants from Filmont and Massey into nearby navigable waters, namely, Ward Branch and Davis Creek, without a permit.

In Courtland I (Tech Park), Courtland maintains the following causes of action: (1) recovery of response costs and declaratory relief under the Comprehensive Environmental

Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. §§ 9607(a), 9613(g), and (2) citizen suit relief for violations of § 7002(a)(1)(A) of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6972(a)(1)(A), and the West Virginia Hazardous Waste Management Act ("WVHWMA").[1]

In Courtland II (Filmont and Massey), Courtland maintains the following causes of action: (1) recovery of response costs and declaratory relief under CERCLA; (2) citizen suit relief for violations of § 7002(a)(1)(A) of RCRA, 42 U.S.C. § 6972(a)(1)(A), and the WVHWMA[2]; (3) citizen suit relief for

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[1] At trial, Courtland voluntarily dismissed in Courtland I its RCRA § 7002(a)(1)(B) imminent and substantial endangerment (Count III) claim and all of its remaining state law claims for public nuisance (Count IV), private nuisance (Count V), negligence (Count VI), gross negligence (Count VIII), and strict liability (Count IX). See Trial Transcript (hereinafter "Tr. Tran.") 3364-66 (July 28, 2022). Courtland's negligence per se claim (Count VII) was dismissed by the court on September 29, 2020. See ECF 135 (Courtland I).

[2] Courtland's RCRA § 7002(a)(1)(A) claim in Courtland II is premised on UCC's alleged violations of both Subtitles C (regulating hazardous waste) and D (regulating nonhazardous waste) of RCRA. During opening statements in Courtland II, Mr. Donovan, counsel for Courtland, noted that Courtland was no longer pursuing the theory that UCC had violated Subtitle C of RCRA by failing to comply with RCRA's "initial permitting obligations." Tr. Tran. 19:17-23 (Mr. Donovan: July 6, 2022) ("We originally pled before this [c]ourt - and I want to clarify this for the [c]ourt's benefit - we mentioned at the pretrial conference we had pled and proved through the motion to dismiss stage of this litigation that [UCC] violated the initial permitting obligations of RCRA. Your Honor, we are not pursuing - Courtland is not pursuing those claims in this case at (continued...)

judicial abatement of an imminent and substantial endangerment under § 7002(a)(1)(B) of RCRA, 42 U.S.C. § 6972(a)(1)(B); (4) judicial abatement of a public nuisance; (5) judicial abatement of a public nuisance per se; and (6) relief from a private nuisance.[3] UCC asserts the following counterclaims in Courtland II: (1) contribution from Courtland under Section 113(f) of CERCLA, 42 U.S.C. § 9613(f); (2) declaratory relief under Section 113(g) of CERCLA, 42 U.S.C. § 9613(g); (3) declaratory relief under W. Va. Code § 55-13-11; and (4) equitable indemnity.

In Courtland III, Courtland maintains its cause of action seeking relief based on UCC's alleged ongoing unpermitted discharges of pollutants from Filmont, via the Northern Boundary Ditch and directly from seeps as well as storm water, into nearby navigable waters in violation of Sections 402(a) and 505 of the Clean Water Act ("CWA"). Similarly, in Courtland IV,

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trial."). Instead, Mr. Donovan explained that Courtland would only be pursuing its claim that UCC had violated Subtitle C by failing to comply with (1) the RCRA regulations respecting closure and post-closure requirements, including the failure to obtain a post-closure permit, and (2) the requirements imposed by RCRA Section 310. See id. at 20-21, 24:5-25-11.

[3] At trial, Courtland voluntarily dismissed its claims in Courtland II for negligence (Count VII), gross negligence (Count IX), strict liability (Count X), and recovery of punitive damages. See Tr. Tran. 3370:1-15 (July 28, 2022). Courtland's negligence per se claim (Count VIII) was dismissed by the court on August 26, 2020. See ECF 75 (Courtland II).

Courtland maintains its causes of action seeking relief based on (1) UCC's alleged ongoing unpermitted discharges of pollutants from Filmont/Massey Railyard, via the Southern Boundary Ditch and directly from seeps from Filmont/Massey Railyard, into nearby navigable waters in violation of Sections 402(a) and 505 of the CWA; and (2) UCC's alleged ongoing unpermitted stormwater discharges associated with industrial activity from Filmont/Massey Railyard into nearby navigable waters in violation of Sections 301(a) and 402(p) of the CWA.

II. FINDINGS OF FACT: TECH PARK

Between 1947 and 1974, UCC acquired the land upon which Tech Park is now situated. See Jt. Ex. 29 (2012 Corrective Action Permit) at 013660. As previously mentioned, Tech Park includes the Greenhouse Area, as well as Ward Hollow and the three inactive landfills known as Ward A Landfill, Ward B Landfill, and Lower Ward Landfill. Id. at 013661. In the past, hazardous substances including arsenic, 2-butatone (also known as methyl ethyl ketone), acetone, di-n-butyl phthalate, barium, cadmium, chromium, lead, and selenium were identified as being stored and/or incinerated at Tech Park. See Jt. Ex. 35 (1988 Draft RCRA Facility Assessment) at 5-12 (Table 1); Tr. Tran. 3604:14-3606:9 (Simonton: Aug. 1, 2022). It is undisputed

that such hazardous substances have been released, on certain occasions and from certain locations, at Tech Park. See ECF 288-2 (Courtland II) (UCC's Response to Courtland's Request for Admissions) at ¶¶ 55, 90.

A. Permitting at Tech Park

Since August 5, 1981, and continuing to the present date, UCC has possessed and operated Tech Park under some form of a RCRA permit issued by the United States Environmental Protection Agency ("USEPA") and/or the West Virginia Department of Environmental Protection ("WVDEP"). See, e.g., Def. Ex. 329 (1981 Part A Interim Status Permit); Def. Ex. 201 (1985 Treatment, Storage, Disposal Permit); Def. Ex. 185 (2009 Hazardous Waste Management Renewal Permit); Jt. Ex. 29 (2012 Corrective Action Permit); Jt. Ex. 44 (2019 Revised Corrective Action Permit).

Specifically, in 1981, UCC completed the USEPA RCRA Part A hazardous waste permit application and obtained RCRA interim status. See Def. Ex. 329 (1981 Part A Interim Status Permit); Tr. Tran. 3972:2-20 (Simonton: Aug. 2, 2022). In 1985, UCC subsequently obtained from the USEPA a RCRA treatment, storage, and disposal ("TSD") permit for the storage and incineration of hazardous waste at Tech Park. See Def. Ex. 201 (1985 TSD Permit); Tr. Tran. 3670:1-24 (Simonton: Aug. 2, 2022);

Tr. Tran. 3686:18-25 (Simonton: Aug. 2, 2022). On February 10, 2009, UCC obtained a hazardous waste management renewal permit from the WVDEP, that is, a TSD permit. See Def. Ex. 185 (2009 Hazardous Waste Management Renewal Permit); Tr. Tran. 3673:7-25 (Simonton: Aug. 2, 2022); Tr. Tran. 3675:2-11 (Simonton: Aug. 2, 2022).

Thereafter, on April 9, 2012, UCC acquired a Corrective Action Permit ("CAP") from the WVDEP. See Jt. Ex. 29; Tr. Tran. 3675:16-21 (Simonton: Aug. 2, 2022). The 2012 CAP is a revision of the 2009 hazardous waste management renewal permit, revised by the WVDEP, Division of Water and Waste Management Hazardous Waste Program, in accordance with the provisions of the West Virginia Hazardous Waste Management Regulations, which encompasses the USEPA's 2010 Final Decision and Response to Comments ("Final Decision") as to what the corrective action plan would include at Tech Park. See Jt. Ex. 29 at 13656-81; Tr. Tran. 3676:11-17 (Simonton: Aug. 2, 2022). This corrective action plan included, inter alia, groundwater monitoring studies conducted in 2014 and 2015 in various areas on Tech Park, including the Greenhouse Area, which will be further discussed infra. See Tr. Tran. 3680:19-25 (Simonton: Aug. 2, 2022). The USEPA's 2010 Final Decision was incorporated

into the 2012 CAP. See Jt. Ex. 34 (2015 Groundwater Monitoring Report) at 031441.

On July 8, 2019, Tech Park's 2012 CAP was renewed by the WVDEP for a ten-year period. See Jt. 44 (2019 Corrective Action Permit); Tr. Tran. 3683:3-13 (Simonton: Aug. 2, 2022). Tech Park is currently operating pursuant to the 2019 CAP, which will remain effective until July 7, 2029. See Tr. Tran. 3683:18-20 (Simonton: Aug. 2, 2022); Jt. 44 at 4. Like the 2012 CAP, the 2019 CAP is based upon the information contained in the USEPA's 2010 Final Decision. See Jt. 44. Accordingly, the court finds that UCC has operated the Tech Park since 1981 pursuant to some form of RCRA permit.

B. Regulatory History and Oversight

Beginning in 1988 and through 2010, numerous environmental investigations, approved by the USEPA, were completed by UCC to determine the nature and extent of the contamination related to Tech Park. See Jt. Ex. 29 (2012 Corrective Action Permit) at 13662-63. In 1988, a RCRA Facility Assessment ("RFA") was conducted at Tech Park, during which the USEPA identified and evaluated a total of seventy (70) solid waste management units ("SWMUs") and grouped them into four priority categories: A - High Priority; B - Low Priority; C - No Further Action; and D - Not a SWMU. Id. at 13662.

In 1990, UCC entered into a Facility Lead Agreement with the USEPA in order to conduct corrective action to address contamination at Tech Park with the USEPA's oversight. See Jt. Ex. 18 (1999 Facility Lead Assessment). Thereafter, multiple environmental investigations pertaining to soil, groundwater, surface water, sediment, and waste material were conducted at the seventy identified SWMUs, including two RCRA Facility Investigations ("RFIs") completed in 2001 and 2005. See Jt. 29 at 13662. Such investigations included assessments of both the Greenhouse Area and Ward Hollow: the two known discrete areas of groundwater contamination at Tech Park. See generally, Jt. Ex. 29 (2012 Corrective Action Permit) at 13662-67. Of the two, the Courtland Property is downgradient of only the Greenhouse Area.

While contaminated groundwater was determined to be migrating off-site from the Ward Hollow area of Tech Park to two downgradient properties therefrom -- the West Virginia Department of Transportation ("WVDOT") property (essentially, Interstate 64) and the CSX Transportation property -- no such determination of off-site migration has ever been made with respect to the Greenhouse Area of Tech Park. See Tr. Tran. 3681:24-3682:1-19 (Simonton: Aug. 3, 2022). In fact, as part of the RFIs conducted at Tech Park, the Greenhouse Area was recommended for "No Further Action," and such recommendation was

approved by the USEPA. See Tr. Tran. 3931:1-3932:2 (de Haven: Aug. 3, 2022); Tr. Tran. 3687:20-3688:2 (Simonton: Aug. 3, 2022). During his testimony, UCC's expert, Mr. de Haven, explained the meaning of the USEPA's "No Further Action" determination as follows:

> That means that [US]EPA and [WV]DEP are satisfied that sufficient site characterization has occurred. They have a sufficient understanding of the Site Conceptual Model, and that the potential for unacceptable risks are -- either they are not demonstrated at all, there's, you know, there's no unacceptable risk, or it's been sufficiently addressed, and that at this point there is no need for any further active remediation. And something like, for example, continued monitoring and perhaps institutional controls may be a sufficient way to close out the issue.

Tr. Tran. 3931:8-17 (de Haven: Aug. 3, 2022). The USEPA's 2010 Final Decision, incorporated into the CAPs, directed that long-term groundwater monitoring pursuant to a USEPA approved groundwater monitoring plan continue at Tech Park. See Jt. Ex. 74 (2014 Groundwater Monitoring Report) at 026391; see also Tr. Tran. 3688:3-5 (Simonton: Aug. 3, 2022).

UCC has continued to monitor the groundwater in both the Greenhouse Area and Ward Hollow in accordance therewith. See Jt. Ex. 74 (2014 Groundwater Monitoring Report); Jt. Ex. 34 (2015 Groundwater Monitoring Report); Pl. Ex. 451-2 (Mr. de Haven's chart containing UCC groundwater monitoring data in wells located in both the Ward Hollow and Greenhouse Area of

Tech Park from 2007, 2008, 2014, 2015, 2016, 2017, and 2018); Jt. Ex. 77 (Greenhouse Area monitoring well data spanning from November 2005 through December 2016).

C. Ward Hollow Groundwater Investigations

Beginning with the Ward Hollow area of Tech Park, the geological, hydrogeological, and groundwater sampling investigations conducted since the 1980s by UCC with USEPA oversight have determined that the groundwater contamination in Ward Hollow is a result of the three inactive landfills and a former brine well located on Tech Park. See Jt. Ex. 29 at 13666. As previously mentioned, it has further been determined that the contaminated groundwater plume in the Ward Hollow area is migrating downgradient, approximately 300 feet to the northwest therefrom, onto the West Virginia Department of Transportation ("WVDOT") property (I-64) and potentially to the CSX Transportation property. Id.

The most prominent constituents of concern above the USEPA maximum contaminant level ("MCL") or the adjusted USEPA tap water regional screening level ("RSL") in the Ward Hollow area groundwater are (1) 1,4 dioxane, (2) benzene, (3) bis (2-

chloroisopropyl)ether, and (4) barium.[4] See Tr. Tran. 3581:12-15 (Simonton: Aug. 1, 2022); Jt. Ex. 74 (2014 Groundwater Monitoring Report) at 026395; see also, Jt. Ex. 34 (2015 Groundwater Monitoring Report) at 031444; Jt. Ex. 29 (2012 Corrective Action Permit) at 013666.[5] Given the USEPA's belief and subsequent determination that groundwater contamination emanating from the Ward Hollow area of Tech Park is migrating offsite to the locations specified above, the USEPA required UCC to notify the adjoining landowners, the WVDOT and CSX, of the same, which was done. See Tr. Tran. 3682:4-14 (Simonton: Aug. 2, 2022). The WVDOT and CSX properties and the concerns related

[4] RSLs are used as a "bright line" level when collecting data. If the detection is at or below the RSL it indicates that there is no risk involved and thus no need to take further action. See Tr. Tran. 502:5-19 (Cibrik: July 8, 2022). If a detection is above the RSL, it signals that additional steps need to be taken to evaluate the potential risks involved. See id. at 502:20-22. MCLs, on the other hand, are exclusively used to determine risks associated with drinking water. See id. at 503:4-8. If a detection is below the MCL, it indicates that the water is safe for drinking, and if a detection is above the MCL, it signals that there is a potential harm and further action needs to be taken. See id. at 502:23-503:2.

[5] It is noted that the USEPA's 2010 Final Decision contained in the 2012 CAP and the 2015 Groundwater Monitoring Report for Tech Park also include arsenic as being a prominent constituent of concern in Ward Hollow. See Jt. Ex. 29 (2012 Corrective Action Permit) at 013666; Jt. Ex. 34 (2015 Groundwater Monitoring Report) at 031444. The 2015 report explains, however, that while arsenic had been detected in various monitoring wells exceeding the screening level, the arsenic concentrations in Ward Hollow -- as explained in previous reports -- "are most likely representative of naturally occurring levels." Jt. Ex. 34 at 031445.

thereto regarding offsite contamination from Tech Park are discussed in UCC's 2012 CAP, UCC's 2019 renewed CAP, and in the USEPA's 2010 Final Decision incorporated into both CAPs. See Jt. Ex. 29 (2012 Corrective Action Permit) at 013661, 013666; Jt. Ex. 44 at 7 (2019 Corrective Action Permit).

Significantly, and most relevant here, both UCC's expert, Mr. Peter de Haven, and Courtland's expert, Dr. Scott Simonton, agree that, as a matter of hydrogeology, groundwater contamination emanating from the Ward Hollow area of Tech Park cannot impact the Courtland Property. See id. at 3682:14-19 (Simonton) (Q. "You are not stating that you believe that there are impacts from monitoring well groundwater found in Ward Hollow to the Courtland site; correct? A. That is correct, yes."); Tr. Tran. 3574:8 (Simonton: Aug. 1, 2022) ("Ward Hollow . . . wouldn't affect Courtland."); Tr. Tran. 3850:7-3851:4 (de Haven: Aug. 3, 2022). In other words, the Courtland Property is not downgradient from the Ward Hollow area of Tech Park, and, as explained by Mr. de Haven, given the topography and groundwater elevation in Ward Hollow, "[i]t defies physics that any of the contamination from Ward Hollow could flow uphill into the center of Tech Park and then on over to Courtland." Tr. Tran. 3851:2-4 (de Haven: Aug. 3, 2022). Accordingly, the court finds that groundwater contamination emanating from Ward Hollow cannot flow

uphill and then subsequently impact or affect the Greenhouse Area of Tech Park or the Courtland Property.

D. Greenhouse Area Groundwater Investigations

Unlike Ward Hollow, the Greenhouse Area of Tech Park presents a more involved set of circumstances inasmuch as it is undisputed that the Courtland Property is downgradient of the Greenhouse Area, meaning groundwater flows in the direction of the Courtland Property therefrom. See Tr. Tran. 3817:17-23 (de Haven: Aug. 2, 2022); Tr. Tran. 3558:6-15 (Simonton: Aug. 1, 2022); Jt. Ex. 34 (2015 Groundwater Monitoring Report) at 031464 (Figure 4-2 Potentiometric Surface Map depicting by way of the middle arc in the curved blue lines the direction of groundwater flow from the Greenhouse Area in a north/northwestern direction toward the Courtland Property).

Groundwater monitoring investigations conducted by UCC with USEPA oversight spanning over many years in the Greenhouse Area demonstrate that groundwater in the Greenhouse Area is contaminated, with the key constituents of concern therein being (1) tetrachloroethylene ("PCE"), (2) trichloroethylene, and (3) chloroform. See, e.g., Jt. Ex. 29 (2012 Corrective Action Permit) at 013666-67; Jt. Ex. 74 (2014 Groundwater Monitoring Report) at 026396; Jt. Ex. 34 (2015 Groundwater Monitoring Report) at 031446; Jt. Ex. 77 (Greenhouse Area monitoring well

data spanning from November 2005 through December 2016); Tr. Tran. 3583:10-17 (Simonton: Aug. 1, 2022); Tr. Tran. 3586:23-24 (Simonton: Aug. 1, 2022).

For example, as testified by Dr. Simonton, the 2014 Groundwater Monitoring Report summation respecting the Greenhouse Area of Tech Park lists three key constituents of concern: (1) tetrachloroethylene ("PCE"), (2) trichloroethylene, and (3) chloroform, and further reports that only PCE exceeded the MCL screening level of 5 µg/l (micrograms per liter[6]) in monitoring well WVU-MW04 located in the Greenhouse Area in the 2014 sampling. See Tr. Tran. 3583:10-17 (Simonton: Aug. 1, 2022); Jt. Ex. 74 (2014 Groundwater Monitoring Report) at 026396. The 2014 report also notes that monitoring well WVU-MW04 "exhibited a decreasing trend for chloroform," and that "[a]ll other key constituents for the Greenhouse Area showed stable trends or no trends." Jt. Ex. 74 at 026396. As indicated by Dr. Simonton's testimony, the source of the chlorinated solvents (i.e., PCE and trichloroethylene) in the Greenhouse Area is unknown. See Tr. Tran. 3585:14-17 (Simonton: Aug. 1, 2022).

[6] Micrograms per liter (µg/l) are also referred to as parts per billion. See Tr. Tran. 1634:14-17 (Simonton: July 14, 2022).

Figure 4-7 attached to the 2014 report, labeled "September 2014 Greenhouse Area Groundwater Detections and Exceedances," depicts the entirety of the screening results discussed in the 2014 report's summary for monitoring wells WVU-MW04 and MW-104A in the Greenhouse Area of Tech Park. Jt. Ex. 74 at 026417. As stated by Dr. Simonton, figure 4-7 demonstrates detections not discussed in the summary portion of the report. See Tr. Tran. 3584:19-25 (Simonton: Aug. 1, 2022). For instance, in monitoring well WVU-MW04, acetone at 5.71 µg/l, tetrachloroethylene at 7.12 µg/l, and trichloroethylene at 1.36 µg/l were all detected. Jt. Ex. 74 at 026417. Consistent with the 2014 report's findings, however, only tetrachloroethylene exceeded the MCL screening level of 5 µg/l in monitoring well WVU-MW04. Id. Although detected, acetone at 5.71 µg/l and trichloroethylene at 1.36 µg/l were below the respective screening levels. Id. Indeed, the RSL screening level for acetone is 1400 µg/l, and the MCL screening level for trichloroethylene is 5 µg/l. Id.

There is no evidence in the record indicating that acetone has ever been designated as a key constituent of concern in the Greenhouse Area of Tech Park. When asked where the acetone in the Greenhouse Area may have come from, Dr. Simonton speculated that it either "could have been" (1) from a tank that

once stored acetone on Tech Park that at some undefined point had a leak, or (2) from the general use and unspecified spillage of acetone at Tech Park. Tr. Tran. 3585:10-24 (Simonton: Aug. 1, 2020). When asked by the court where this acetone tank was located on Tech Park, Dr. Simonton was unable to provide a definitive answer, conceding that he could not remember. Id. at 3585-86:25-3. Presumably, the summation in the 2014 report did not specifically discuss the acetone and trichloroethylene detections inasmuch as neither exceeded their respective screening levels.

Similarly, in monitoring well MW-104A, there were detections of cis1,2-Dichloroethene at 1.27 µg/l and tetrachloroethylene at 1.77 µg/l, but neither exceeded their respective MCL screening levels of 70 µg/l and 5 µg/l. See Jt. Ex. 74 (2014 Groundwater Monitoring Report) at 026417. There is no evidence in the record indicating that cis1,2-Dichloroethene has ever been a key constituent of concern in the Greenhouse Area of Tech Park.

Dr. Simonton also provided testimony as to the findings of the 2015 Groundwater Monitoring Report respecting the Greenhouse Area of Tech Park. See Tr. Tran. 3586-87:5-15 (Simonton: Aug. 1, 2022). The 2015 report lists the two key constituents of concern in the Greenhouse Area as PCE and

trichloroethene but does not list chloroform. See Jt. Ex. 34 (2015 Groundwater Monitoring Report) at 031446; Tr. Tran. 3586:23-24 (Simonton: Aug. 1, 2022) (stating that the 2015 report showed generally the same constituents of concern as the 2014 report). The report goes on to state that these two key constituents "showed stable/and or decreasing trends." Jt. Ex. 34 at 031446. As pointed out by Dr. Simonton, the 2015 report also states that 1,4 dioxane was detected for the first time in the Greenhouse Area in the 2015 sampling event, slightly above its RSL. See Tr. Tran. 3586-87:24-1 (Simonton: Aug. 1, 2022); Jt. Ex. 34 at 031445.

Figure 4-7 to the 2015 report, labeled "June 2015 Greenhouse Area Groundwater Detections and Exceedances," depicts the entirety of the screening results discussed in the 2015 report's summary for monitoring wells WVU-MW04 and MW-104A in the Greenhouse Area of Tech Park. See Jt. Ex. 34 at 031469. The figure is similar to the 2014 figure, the only significant difference being that acetone was not detected in the 2015 sampling event, while 1,4 dioxane at 1.13 J[7] µg/l was detected in

[7] The "J" designation indicates that while the constituent was detected, the concentration reported is an estimate inasmuch as the concentration is so close to the method detection limit. See Tr. Tran. 3751:3-16 (Simonton: Aug. 2, 2022).

MW-104A above its RSL of 0.46 µg/l. See Tr. Tran. 3587:10-15; Jt. Ex. 34 at 031469.

E. The Courtland Property[8]

In January 1980, Courtland acquired the Courtland Property due to its zoned industrial location and for investment purposes. See Tr. Tran. 2447:25-2448:1, 2458:11-19, 2455:14-2456:4 (Truslow: July 21, 2022). Prior to Courtland's ownership, the property was used to store coal piles in the 1950s through the early-1970s. See Tr. Tran. 2492:16-22 (Truslow: July 21, 2022); Tr. Tran. 2856-2858 (MacPherson: July 26, 2022); Def. Ex. 32 (Historical Aerial Photos). Courtland's designated corporate representative and vice president, John A. Truslow, testified that given the Courtland Property's historic use as a coal storage property, it has always been referred to as the "coal yard." See Tr. Tran. 2428:2-2429:5 (Truslow: July 20, 2022).

When Courtland purchased the property in 1980, a railroad switch and spur -- previously used by the C&O Railway to bring coal onto the property for storage -- were present

[8] The facts respecting the Courtland Property set forth in this subsection are also relevant to Courtland II, III, and IV and are incorporated by reference into the findings of fact related to Filmont and Massey and the Clean Water Act set forth in Sections III and V at pages 59 and 326 of this memorandum opinion and order.

thereon, beginning in the northwest corner of the property and extending into the middle of the property where the spur ended. See id. at 2481:22-2483-14; 2492:13-22 (Truslow: July 21, 2022); see also id. at 2548:13-2549:25 (the court discussing the location of the railroad spur with Mr. Truslow using Def. Ex. 60, which is an aerial photograph of the Courtland Property). According to Mr. Truslow, the railroad crossties and spur remain on the Courtland Property today but have been covered due to the elevation of the Courtland Property being raised with fill material by one of Courtland's prior lessees. See Tr. Tran. 2491:2-17, 2505:2-2056:24.

Since Courtland acquired the property in 1980, it has been leased to at least two separate entities and utilized as a storage, staging, and waste site for various construction equipment, debris, and materials. See Tr. Tran. 2495:21-2496:5, 2501:22-2502:7 (Truslow: July 22, 2022); see also Def. Ex. 24 (Ahern Lease & Waste Agreement); Jt. Ex. 118 (Raynes Lease). Courtland has also received oil and gas royalties since 2015 from a natural gas well located on the property. See Def. Ex. 158; Tr. Tran. 2510:3-7 (Truslow: July 21, 2022).

Most recently, in 2008, Courtland leased the Courtland Property to Raynes and Sons Excavation, LLC ("Raynes"). See Jt. Ex. 118 (Raynes Lease). Since 2008 and continuing to the

present date, Raynes has utilized the Courtland Property for recycling operations and for the storage of dirt, asphalt millings, concrete, asphalt chunks, wood chips, barriers, pipes, metals, rebar, and other steel materials, and various pieces of heavy equipment. See Tr. Tran. 2453:6-2454:1, 2502:6-11, 2522:8-2531:17 (Truslow: July 22, 2022); Def Ex. 60 (2018 Aerial Photo of Raynes Operation on Courtland Property); Def. Exs. 136-A through 136-E (Photographs of Materials on Courtland Property). A 1,000-gallon diesel tank, as well as various 5-gallon buckets containing hydraulic oil and motor oil scattered around the property are also present thereon. See Tr. Tran. 2502:12-14, 2527:1-15, 2528:14-21; see also Def. Exs. 136-A through 136-E. Raynes possesses a CWA permit for stormwater discharges associated with its operations on the Courtland Property. See Tr. Tran. 1747:14.

While Mr. Truslow expressed fear of future legal liabilities resulting from any environmental contamination and a fear that Courtland's ability to acquire future tenants for the Courtland Property could potentially be "ruined" due to its common boundary with the contaminated Filmont landfill, he conceded that the revenue produced to Courtland from the Courtland Property by way of rent from the current lessee and royalties from the oil and gas lease, as well as the overall use

of the Courtland Property, have been unaffected by the entirety of this litigation. See Tr. Tran. 2456:5-21, 2458:20-2459:5, 2510:3-2511:4, 2469:2-2470:12 (Truslow: July 21, 2022).

Mr. Truslow also expressed a fear that the value of the Courtland Property "might be zero or negative," in terms of Courtland's ability to market the property for future leases or future developments but conceded that he had never conducted an appraisal of the property, had never tried to sell the property, and admitted that he does not intend to sell the property because "that's not what we do." See id. at 2456:22-2457, 2508:2-22.

F. August 2017 Sampling by Courtland

In or around 2016, Mr. Truslow was contacted by an individual from UCC whom inquired with Mr. Truslow about installing monitoring wells on the Courtland Property but never followed up on the request. See Tr. Tran. 2434-35: 7-12 (Truslow: July 20, 2022); Tr. Tran. 3556:13-25 (Simonton: Aug. 1, 2022). Mr. Truslow raised this conversation with his attorney, Mr. Callaghan, whom in turn reached out to and retained Dr. Simonton to look into Courtland's concern that contamination from Tech Park had possibly migrated or was migrating to the Courtland Property. See Tr. Tran. 3556:13-25 (Simonton: Aug. 1, 2022).

After conducting research on Tech Park and reviewing publicly available documents related thereto, as well as those obtained by a Freedom of Information Act ("FOIA") request, Dr. Simonton was able to determine that (1) groundwater at Tech Park was contaminated and (2) groundwater flow, at least on the western side of Tech Park, was flowing right in the direction of the Courtland Property. See Tr. Tran. 3557-58 (Simonton: Aug. 1, 2022). These determinations prompted Dr. Simonton, in August of 2017, to install three, one-inch temporary piezometer borings in the most upgradient, southeast portion of the Courtland Property where groundwater from the Greenhouse Area of Tech Park would flow as indicated by UCC groundwater flow maps. See Tr. Tran. 3560-62, 3712:5-11.

The three piezometer borings were installed roughly ten to twelve feet apart in this location and screened at three different depths: fifteen (15) feet, thirty (30) feet, and forty-five (45) or fifty (50) feet. See Tr. Tran. 3562:3-7, 3590:4-9 (Simonton: Aug. 1, 2022). The results of Dr. Simonton's 2017 groundwater sampling results revealed the presence of groundwater contamination on the Courtland Property. See Pl. Ex. 268-1 (2017 Courtland Groundwater Sampling Results); Tr. Tran. 3601:6-24, 3602:6-13, 3602:16-22 (Simonton: Aug. 2, 2022) (discussing 2017 sampling results as reported in Pl. Ex.

268-1). Dr. Simonton characterized his review of the UCC Tech Park data and the 2017 groundwater sampling as a "preliminary assessment" of the groundwater on the Courtland Property existing downgradient of a known source of contamination. See Tr. Tran. 3603-04:23-8 (Simonton: Aug. 2, 2022).

In response to Courtland's concern that contamination from Tech Park had possibly migrated or was migrating downgradient to the Courtland Property, Courtland has incurred $36,916.25 as a result of Dr. Simonton's preliminary investigation described above. See Pl. Ex. 85 (Simonton 2017 Invoice); see also Tr. Tran. 3556:10-3569:23 (Simonton: Aug. 1, 2022) (describing the work listed on the 2017 invoice). The results of Dr. Simonton's 2017 sampling event are set forth below.[9]

During the first grab sample, the following constituents were detected in the southeast portion of the

[9] It is undisputed between the parties that the constituents detected in the 2017 groundwater sampling on the Courtland Property could not have emanated from Filmont or Massey. See Tr. Tran. 2874:16-24 (Mr. Donovan, counsel for Courtland, acknowledging that 2017 samples are only related to Tech Park). The Dr. Simonton and UCC results in this area of Courtland are also used in Courtland III and IV to indicate Courtland may be responsible for the contaminants elsewhere on Courtland and Southern Boundary Ditch as explained in the findings of fact related to Courtland III and IV herein. See Section V. at pages 326-385.

Courtland Property: (1) mercury at 0.0018 mg/L (milligrams per liter), (2) arsenic at 0.52 mg/L, (3) barium at 6.4 mg/L, (4) cadmium at 0.0094 mg/L, (5) chromium at 0.86 mg/L, (6) lead at 1.0 mg/L, (7) selenium at 0.12 mg/L, (8) silver at 0.0016 mg/L, (9) di-n-butyl phthalate at 16 µg/l (micrograms per liter), and (10) acetone at 4.7 µg/l. See Pl. Ex. 268-1 at 5-7; Tr. Tran. 3601:6-24 (Simonton: Aug. 2, 2022).

During the second grab sample, the following constituents were detected at the same location on the Courtland Property: (1) mercury at 0.000088 mg/L, (2) arsenic at 0.056 mg/L, (3) barium at 2.3 mg/L, (4) cadmium at 0.00055 mg/L, (5) chromium at 0.24 mg/L, (6) lead at 0.19 mg/L, (7) selenium at 0.026, and (8) acetone at 5.2 µg/l. Id. at 9-11; Id. at 3602:6-13. Unlike the first sample, neither silver nor di-n-butyl phthalate were detected during the second sample.

Lastly, during the third grab sample, the following constituents were detected at the same location on the Courtland Property: (1) arsenic at 0.0030 mg/L, (2) barium at 0.098 mg/L, (3) chromium at 0.054 mg/L, (4) lead at 0.0013 mg/L, (5) selenium at 0.0055 mg/L, (6) 2-Butanone (also known as methyl

ethyl ketone) at 3.6 J[10] µg/l, and (7) acetone at 41 µg/l. Id. at 13-15; Id. at 3602:16-22. Unlike the first two samples, neither mercury nor cadmium were detected during the third sample, and 2-Butanone was detected for the first time.[11] In sum, eleven total constituents were detected during the 2017 sampling: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, di-n-butyl phthalate, 2-butanone (or methyl ethyl ketone), and acetone.

Prior to conducting the 2017 sampling, and of some concern, Dr. Simonton conceded that he did not create a written scope of work, develop a field-sampling plan, prepare any report describing the methodology he employed during this sampling, or conduct any testing or sampling to account for existing baseline

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[10] As previously mentioned, the "J" designation indicates that while the constituent was detected, the concentration reported is an estimate inasmuch as the concentration is so close to the method detection limit. See Tr. Tran. 3751:3-16 (Simonton: Aug. 2, 2022).

[11] It is noted that the main constituents of concern detected in Dr. Simonton's 2017 sampling focused on by the parties in relation to Tech Park both at trial and in their post-trial submissions to the court are: (1) arsenic; (2) barium; (3) chromium; (4) cadmium; (5) lead; (6) selenium; (7) acetone; (8) 2-Butanone (also known as methyl ethyl ketone); and (9) di-n-butyl phthalate, as these were the nine constituents identified in Courtland's complaint in Courtland I. See ECF 1 (Complaint in Courtland I) at ¶ 31; ECF 497 (Courtland's Proposed Findings of Fact and Conclusions of Law); Tr. Tran. 3813:23-3814:3 (de Haven: Aug. 2, 2022). They will thus be the focus of the court's findings herein.

conditions on the Courtland Property. See Tr. Tran. 3716:13-18, 3725:13-3726:17 (Simonton: Aug. 2, 2022). Nor did he perform any sampling or testing to rule out other potential sources of the constituents existing thereon, despite acknowledging that there are multiple potential sources of contamination, both historic and current, to the Courtland Property. Id. at 3716:13-18, 3772:14-23 (Q: I don't want to belabor the point, but you have testified previously, and you agree now that there are multiple sources of contamination, historic and current, to the Courtland Property; yes? A: There are multiple pathways of contribution of contaminants to the Courtland Property, yes.).

Additionally, and of equal concern, Dr. Simonton acknowledged that one of his trip blanks from the 2017 sampling was contaminated with 1.2 µg/l of acetone, despite the fact that trip blanks are designed to contain only de-ionized water. See Tr. Tran. 3750:16-3751:2. While Dr. Simonton conceded that the presence of the acetone in the trip blank calls into question the detections for acetone in his first two grabs, he further testified that the contaminated trip blank would not cast doubt on the detection for acetone in the third grab given the high concentration at which it was detected. Id. at 3753-3754. Notably, despite being aware since 2017 that contamination on the Courtland Property exists, Courtland has taken no action,

nor has it made any plans to remediate or clean up the same. Id. at 3777:8-3779:2.

G. December 2020 Soil Sampling by UCC[12]

In December 2020, UCC conducted a soil investigation on the Courtland Property in efforts to determine whether the activities occurring on the Courtland Property could be a source of the impacts to Courtland's own groundwater. See Tr. Tran. 2803:3-5 (MacPherson: July 25, 2022). The investigation was comprised of drilling twelve soil borings and digging four test pits in various locations on the Courtland Property as shown on page three of Def. Ex. 38.[13] Id. at 2804:1-20; see also Def. Ex. 38 at 3 (MacPherson Figures); Tr. Tran. 2829:3-2830:16 (MacPherson: July 26, 2022). UCC expended a total of $199,942.52 on costs associated with its soil investigation on

[12] The facts respecting UCC's December 2020 soil investigation on the Courtland Property set forth in this subsection are also relevant to Courtland II, III, and IV and are incorporated by reference into the findings of fact related to Filmont and Massey set forth in Sections III and V at pages 59 and 326 of this memorandum opinion and order.

[13] The third page of Def. Ex. 38 depicts the locations where all twelve soil borings and all four test pits on the Courtland Property were installed or dug. See Def. Ex. 38 at 3. It is noted that soil boring "A1" is the closest boring to the location where Dr. Simonton conducted the August 2017 groundwater sampling in the southeast corner of the Courtland Property. See Tr. Tran. 2868:13-15, 2879:18-25 (MacPherson: July 26, 2022).

the Courtland Property, which Mr. MacPherson avers such costs were both reasonable and necessary in order to determine if Courtland could be a source of the contamination detected thereon. See Tr. Tran. 3047:17-3049:23 (MacPherson: July 26, 2022); see also Def. Ex. 49; Def. Ex. 51.

During the digging of the test pits, solid materials such as metal, rebar, and concrete were encountered, as well as remnants of coal or coal-like residue. See Tr. Tran. 2805:24-2806:4 (MacPherson: July 25, 2022); see also Tr. Tran. 2838:23-2839:2 (MacPherson: July 26, 2022); Def. Ex. 136-F (Compilation of Photos on Courtland Property from December 2020) at 0022549.

The results of the soil samplings revealed the presence of an array of constituents, including various metals, volatile organic compounds ("VOCs"), and semi-volatile organic compounds ("SVOCS") in various locations at various concentrations in the soil on the Courtland Property.[14] See Def.

[14] For instance, metals detected included aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, selenium, sodium, thallium, vanadium, zinc, and mercury. VOCs detected included 1,1,2-trichloroethane; 1,2-dibromethane; 1,2-dichloroethane; acetone; methyl ethyl ketone; benzene; carbon tetrachloride; chloroform; ethylbenzene; methyl acetate; trichloroethene; and xylene. SVOCs detected included 1,1-biphenyl; 2-methylnaphthalene; benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(k)fluoranthene; (continued…)

Ex. 79. Mr. MacPherson testified that the SVOCs detected are typically associated with things like diesel fuel, asphalt, and railroad cross ties, all of which are used or exist on the Courtland Property. See Tr. Tran. 3026:11-14, 3028:4-13 (MacPherson: July 26, 2022); see also Def. Exs. 136-A through 136-E (Photographs of Materials on Courtland Property); Def. Ex. 136-F at 0022548, 0022569, 0022575 (same).

Relevant to the matters at issue herein, nine of the eleven hazardous substances detected in Dr. Simonton's August 2017 Courtland groundwater sampling were also detected in UCC's December 2020 soil sampling on the Courtland Property.[15] Those nine substances detected in Courtland's soil being arsenic, barium, cadmium, chromium, lead, mercury, selenium, methyl ethyl ketone (or 2-Butanone), and acetone. See Tr. Tran. 2880:5-9, 3039:15-20 (MacPherson: July 26, 2022); see also Def. Ex. 79. It is noted that all such constituents, with the exception of chromium, methyl ethyl ketone (or 2-Butanone) and acetone, were

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dibenz(a,h)anthracene; dibenzofuran; indeno(1,2,3-c,d)pyrene; and naphthalene. See Def. Ex. 79.

[15] Silver and di-n-butyl phthalate are the two constituents that were not detected in Courtland's soil but were detected in Courtland's groundwater.

detected at levels exceeding one or more of the soil screening levels[16] set forth in Def. Ex. 79.

H. Comparison of Constituents

Some of the same constituents detected in Dr. Simonton's 2017 groundwater sampling in the southeast corner of the Courtland Property have likewise been detected, albeit on limited and sporadic occasions and in relatively low concentrations, in the monitoring wells located upgradient of the Courtland Property on the Greenhouse Area of Tech Park. See Tr. Tran. 3631:13-3633:21 (Simonton: Aug. 2, 2022); see also Jt. 77 (Greenhouse Area monitoring well data spanning from November 2005 through December 2016); Pl. Ex. 451-2 (Mr. de Haven's chart containing UCC groundwater monitoring data in wells located in both the Ward Hollow and Greenhouse Area of Tech Park from 2007, 2008, 2014, 2015, 2016, 2017, and 2018).

For instance, groundwater monitoring data depicted in Jt. Ex. 77 from two of the monitoring wells located in the Greenhouse Area of Tech Park -- monitoring wells MW-104A and WVU-MW04 -- ranging in date from November 2005 through December

[16] These screening levels include the EPA Industrial Soil RSL, the WV Industrial Soil De Minimis standard, the EPA Residential Soil RSL, the WV Migration to Water standard, the EPA MCL-Based Soil Screening Level ("SSL"), and the EPA Risk-Based SSL. See Def. Ex. 79.

2016, show detections for arsenic, barium, selenium, and acetone. In monitoring well MW-104A, barium was detected on April 2, 2007, at 0.01 mg/L; July 13, 2007, at 0.02 mg/L; and June 20, 2015, at 0.02 mg/L, and selenium was detected on June 20, 2015, at 0.00158 mg/L. Jt. Ex. 77 at 066975, 066977. In monitoring well WVU-MW04, arsenic at 0.01 mg/L, barium at 0.06 mg/L, and selenium at 0.005 J mg/L were detected on July 12, 2007; barium at 0.08 mg/L and selenium at 0.000271 mg/L were again detected on June 19, 2015; and acetone was detected on September 10, 2014, at 5.71 µg/l. Id. at 066978, 066980.

It is noted that while such constituents were detected on these occasions in the Greenhouse Area, none were detected in levels exceeding their designated MCL or RSL screening level on these dates in these two monitoring wells. See Jt. Ex. 77. Nor is there any evidence in the record that such constituents have ever been designated as "key constituents of concern" in the Greenhouse Area. See, e.g., Jt. Ex. 74 (2014 Groundwater Monitoring Report) at 026396 (designating PCE, trichloroethylene, and chloroform as the key constituents of concern in the Greenhouse Area); Jt. Ex. 34 (2015 Groundwater Monitoring Report) at 031446 (designating PCE and trichloroethylene as the key constituents of concern in the Greenhouse Area).

In addition to arsenic, barium and selenium, chromium has been detected on two occasions and methyl ethyl ketone (also known as 2-Butanone) and di-n-butyl phthalate have been detected on one occasion in monitoring wells upgradient of the Courtland Property in the Greenhouse Area of Tech Park and in Dr. Simonton's 2017 groundwater sampling on the Courtland Property. See Pl. Ex. 451-2[17] (showing detections for chromium, methyl ethyl ketone, and di-n-butyl phthalate, in monitoring wells upgradient of the Courtland Property in addition to arsenic, barium, selenium, and acetone, and the results of Dr. Simonton's 2017 groundwater sampling (C1, C2, and C3) for these same constituents); see also Tr. Tran. 3637:7-20 (Simonton: Aug. 2, 2022); Tr. Tran. 3821:12-15 (de Haven: Aug. 2, 2022); Def. Ex.

[17] Pl. Ex. 451-2 is a table prepared by UCC's expert Mr. de Haven, which compiles and compares Greenhouse Area groundwater monitoring data with the 2017 Courtland groundwater data -- designated as C1, C2 and, C3 on the chart -- collected by Dr. Simonton. It is noted that Pl. Ex. 451-2 depicts data from monitoring wells all across Tech Park, not just those in the Greenhouse Area or upgradient of the Courtland Property. See Tr. Tran. 3636:16-22 (Simonton: Aug. 2, 2022). The monitoring wells in the Greenhouse Area, or upgradient of the Courtland Property, and thus relevant to the discussion herein depicted on Pl. Ex. 451-2, are TCF-MW104A, TCF-MW104B, TCF-WVU02, TCF-WVU03, TCF-WVU04, TCF-WVU05, and TCF-WVU06. See id. at 3637:7-20; see also Tr. Tran. 3736:20-3737:1 (Simonton: Aug. 2, 2022). The chart also sets forth the 2017 groundwater data collected by Dr. Simonton from the Courtland Property, labeled as C1, C2, and C3. See Pl. Ex. 451-2.

72 (Arsenic Map); Def. Ex. 74 (Chromium Map); Def. Ex. 76 (Selenium Map); Def. Ex. 93 (Barium Map).[18]

Indeed, Pl. Ex. 451-2 depicts groundwater monitoring data from the following wells sampled on the following dates in the Greenhouse Area of Tech Park: (1) TCF-MW104A on June 20, 2015; (2) TCF-MW104B on July 13, 2007; (3) TCF-WVU02 on July 13, 2007; (4) TCF-WVU03 on July 13, 2007; TCF-WVU04 on June 19, 2015; (5) TCF-WVU05 on July 12, 2007; and (6) TCF-WVU06 on July 12, 2007. See Pl. Ex. 451-2. In monitoring well TCF-MW104A, barium at 0.02 mg/L and selenium at 0.00158 mg/L were detected. In monitoring well TCF-MW-104B barium at 0.15 mg/L and chromium at 0.0036 mg/L were detected. Id. In monitoring well TCF-

[18] The arsenic, chromium, selenium, and barium maps (i.e., Def. Exs. 72, 74, 76, and 93) illustrate the groundwater monitoring results shown in P's Ex. 451-2 in their precise locations on Tech Park and the Courtland Property. Again, with respect to Tech Park, only the data related to monitoring wells TCF-MW104A, TCF-MW104B, TCF-WVU02, TCF-WVU03, TCF-WVU04, WVU-MW05, and WVU-MW06 are relevant to the discussion herein, as those are the wells located upgradient of the Courtland Property in the Greenhouse Area. These wells are depicted on the left-hand side of the constituent maps or in the northwest portion of Tech Park. See Def. Exs. 72, 74, 76, and 93. The Courtland Property detections are labeled on the constituent maps as "C1, C2, and C3" and are depicted thereon in the southeast corner of the Courtland Property where the 2017 samples were taken. See id. For ease of reference, red and yellow dots on the maps indicate a concentration in exceedance of the constituent's RSL or MCL screening level, green dots indicate the constituent was detected but below the screening level, and white dots indicate the constituent was non-detect. See Tr. Tran. 3841:24-3842:5 (de Haven: Aug. 3, 2022).

WVU02, arsenic at 0.01 mg/L, acetone at 12.1 µg/l, methyl ethyl ketone at 10.6 µg/l, and di-n-butyl phthalate at 5.84 µg/l were detected. Id. In monitoring well TCF-WVU03, arsenic at 0.02 mg/L and barium at 0.14 mg/L were detected. Id. In monitoring well TCF-WVU04, barium at 0.08 mg/L was detected. Id. In monitoring well TCF-WVU05, barium at 1.99 mg/L, selenium at 0.01 mg/L, chromium at 0.0027 mg/L, and acetone at 12.6 µg/l were detected. Id. Lastly, in monitoring well TCF-WVU06, arsenic at 0.0082 mg/L and barium at 0.09 mg/L were detected. Id.

It is again noted that while these constituents were detected in the Greenhouse Area on these occasions, none were detected above their corresponding MCL or RSL screening level, with the exception of arsenic. See Pl. Ex. 451-2; Tr. Tran. 3821:12-17 (de Haven: Aug. 2, 2022); Def. Ex. 72 (Arsenic Map); Def. Ex. 74 (Chromium Map); Def. Ex. 76 (Selenium Map); Def. Ex. 93 (Barium Map). The arsenic detected in monitoring well TCF-WVU03 on July 13, 2007, at 0.02 mg/L, exceeded its MCL screening level of 0.01 mg/L. See Def. Ex. 72 (Arsenic Map). Notably, however, while arsenic was detected above its MCL in monitoring well TCF-WVU03, it was not detected at all in the shallow and deep monitoring wells (TCF-WVU104A, TCF-WVU104B, and TCF-WVU04) located downgradient and northwest of TCF-WVU03 in the

Greenhouse Area. See Def. Ex. 72 (Arsenic Map); Tr. Tran. 3851:13-3852:20 (de Haven: Aug. 3, 2022).

In sum, the court finds that four metals: arsenic, barium, chromium, and selenium, and three organic compounds: acetone, di-n-butyl phthalate, and methyl ethyl ketone (also known as 2-Butanone) have been detected on both the Courtland Property and in the Greenhouse Area of Tech Park. See Pl. Ex. 451-2; Pl. Ex. 268-1. As previously mentioned, all of these constituents have likewise been identified as being stored and/or incinerated at Tech Park in the past. See Jt. Ex. 35 (1988 Draft RCRA Facility Assessment) at 5-12 (Table 1); Tr. Tran. 3604:14-3606:9 (Simonton: Aug. 1, 2022).

I. Source of Contamination

While the constituents identified in the immediately preceding paragraph have been detected on both the Greenhouse Area of Tech Park and the southeast corner of the Courtland Property, UCC's expert, Mr. de Haven, testified that, based on several lines of evidence, it is highly improbable that the constituents detected on the Courtland Property are emanating from the Greenhouse Area of Tech Park. See Tr. Tran. 3813:23-3814:22 (de Haven: Aug. 2, 2022).

First, Mr. de Haven explained that while groundwater does flow from the northwest portion of Tech Park (i.e., the Greenhouse Area) toward the Courtland Property, there is a possibility that a lot of that groundwater may not even reach the Courtland Property. See Tr. Tran. 3819:24-3820:6 (de Haven: Aug. 2, 2022). Mr. de Haven explained that this is so given that before the groundwater traveling through the bedrock from the Greenhouse Area would meet the alluvial groundwater valley flowing under the Courtland Property, a lot of that groundwater emerges as a seepage face on the bedrock outcrop and could thus either evaporate or get caught in various ditches and be diverted away from the Courtland Property via surface water. See Tr. Tran. 3819:13-17, 24-25, 3820:1-6 (de Haven: Aug. 2, 2022). As acknowledged by Dr. Simonton, the three organic compound constituents -- acetone, di-n-butyl phthalate, and methyl ethyl ketone (or 2-Butanone) -- detected in both the Courtland Property and the Greenhouse Area groundwater are subject to natural attenuation and evaporation. See Tr. Tran. 3749:17-3750:7 (Simonton: Aug. 2, 2022).

Second, and even more importantly, Mr. de Haven testified, that even assuming that all of the groundwater flowing from the Greenhouse Area joins into the alluvial groundwater on the Courtland Property, a "significant factor of

dilution" would occur as the groundwater flow from the Greenhouse Area of Tech Park merges into the alluvium given the vastly different groundwater flow systems between the two properties. See Tr. Tran. 3819:13-23 (de Haven: Aug. 2, 2022).

As Mr. de Haven explained, the groundwater in the Greenhouse Area of Tech Park flows through bedrock, and the flow is limited to "occasional fractures." Tr. Tran. 3818:10-17 (de Haven: Aug. 2, 2022). In contrast, on the Courtland Property, the groundwater flow is in alluvium, -- a mixture of sand, silt, gravel, and clay -- which permits the groundwater to pass through and absorb more easily. Id. Thus, as the groundwater flows from one flow system into the other, the groundwater would be significantly diluted. Id. at 3819:13-23. Mr. de Haven explained the significance of this dilution process as follows:

> And that is directly relevant here because we know that there is a little bit of presence of some of the constituents of interest named in the complaint on the Greenhouse -- on the Greenhouse portion of the site, not very much. But if we were to take that constituent presence, those concentrations, and dilute it by the amount that we're talking about, it would be undetectable on the Courtland [P]roperty. That's really a key point because what that means is even, even if you assume the contaminants, those contaminants, those low levels of contaminants that we have in the Greenhouse area moving to Courtland, you could never detect those contaminants [on the Courtland Property], which means that the contaminants that were detected on the Courtland [P]roperty must have gotten there for some other reason.

Tr. Tran. 3820:12-3821:1 (de Haven: Aug. 2, 2022). Reduced to its essence, Mr. de Haven testified that if groundwater from the Greenhouse Area of Tech Park was carrying contaminants to the Courtland Property groundwater, the low level of contaminants would be significantly diluted as Tech Park groundwater merged into the Courtland alluvium and would thus render the constituents undetectable on the Courtland Property. Id. at 3819:4-3821:1.

Here, as Mr. de Haven explained, the differing flow systems between the properties and the groundwater data from the Greenhouse Area and the Courtland Property fail to support the conclusion that the Greenhouse Area is the source of the constituents detected on the Courtland Property. See Tr. Tran. 3913: 10-16, 3921:5-3922:14 (de Haven: Aug. 3, 2022). Instead, the groundwater data generally shows that the constituents detected on both properties were detected in higher concentrations on the Courtland Property than on the Greenhouse Area of Tech Park.[19] See, e.g., P's Ex. 451-2 (de Haven chart

[19] It is noted that the only constituent detected at an overall higher concentration in the Greenhouse Area of Tech Park than on the Courtland Property is methyl ethyl ketone (or 2-Butanone). See Pl. Ex. 451-2. Methyl ethyl ketone was detected on one occasion in one monitoring well in the Greenhouse Area in 2007 at 10.6 µg/l and detected on the Courtland Property in 2017 at 3.6 J µg/l. Id. Such discrepancy is of little moment, however, given Mr. de Haven's testimony regarding evaporation as (continued…)

comparing 2007 and 2015 groundwater data from Greenhouse Area of Tech Park with 2017 groundwater data from the Courtland Property). Indeed, Mr. de Haven illustrated this point by comparing the sampling data from the 2017 sampling on the Courtland Property with the sampling data from the Greenhouse Area depicted in Pl. Ex. 451-2. See Tr. Tran. 3841:18-21, 3901:3-3903:2 (de Haven: Aug. 3, 2022); see also P's Ex. 451-2; Def. Ex. 72 (Arsenic Map); Def. Ex. 74 (Chromium Map); Def. Ex. 76 (Selenium Map); Def. Ex. 93 (Barium Map).

Moreover, as Mr. de Haven pointed out, two of the constituents of concern detected in the Courtland Property groundwater, cadmium and lead, have never been detected in the Greenhouse Area groundwater at Tech Park, yet were detected in some of the 2017 samples on the Courtland Property as exceeding the MCL screening level. See Tr. Tran. 3821:2-5 (de Haven: Aug. 2, 2022); Tr. Tran. 3844:9-11, 3901:9-15, 3902:4-11 (de Haven: Aug. 3, 2022); see also Pl. Ex. 451-2 (de Haven chart comparing 2007 and 2015 groundwater data from Greenhouse Area of Tech Park with 2017 groundwater data from the Courtland Property); Def. Ex. 73 (Cadmium Map); Def. Ex. 75 (Lead Map). According to Mr.

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the groundwater outcrops, and his ultimate conclusion that the significant dilution process would render such low levels of contaminants undetectable on the Courtland Property if they were emanating from the Greenhouse Area of Tech Park.

de Haven, this is another "strong indication" that "whatever is observed in the Courtland [P]roperty is not derived from Tech Park." Tr. Tran. 3901:9-15, 3902:4-11 (de Haven: Aug. 3, 2022).

In a similar vein, what have been identified as the "key constituents of concern" in the Greenhouse Area of Tech Park -- PCE, trichloroethylene, and chloroform -- were not detected in the 2017 sampling on the Courtland Property. See Pl. Ex. 268-1 (2017 Courtland Groundwater Sampling Results); Pl. Ex. 451-2 (de Haven chart comparing 2007 and 2015 groundwater data from Greenhouse Area of Tech Park with 2017 groundwater data from the Courtland Property).

Based on all of the foregoing, Mr. de Haven definitively testified that Tech Park could not be a source of the constituents detected in Courtland's groundwater "if only for the reason of the topic of major difference in flow systems between Tech Park and Courtland." Tr. Tran. 3922:8-14.

Third, Mr. de Haven testified that it was much more likely that the Courtland Property itself is the source of the constituents detected in its groundwater based upon the past and current uses of the Courtland Property discussed above, and the results of UCC's December 2020 soil sampling performed thereon. See Tr. Tran. 3925-3928 (de Haven: Aug. 3, 2022). Respecting the soil sampling results, Mr. de Haven testified as follows:

> Q. Okay. And based on this soil sampling data in this chart, what was your opinion with regard to what the impact of the detections in the soil were?
>
> A. My opinion of these soils data are, are several, most significant of which is that the soils data present a credible source of these -- of many of these constituents of interest to the groundwater on the Courtland property, which is to say for many of the constituents, five out of the six metals, I believe it is, there are soil concentrations that are higher than soil screening levels that you use to estimate what is a soil concentration that could lead to an MCL exceedance in groundwater.
>
> Q. Okay. Were, were all of the metal constituents of interest that were found in the 2017 sampling by Dr. Simonton, were those represented - well, were they found in this sampling?
>
> A. Yes, they were.

Id. at 3925:13-3926:4; see also Def. Ex. 79 (2020 Courtland Property Soil Sampling Results). As to the historic and current uses of the Courtland Property, Mr. de Haven testified that he was aware that the property had been used in the past to store coal for many years and has been used as a staging and storage area for construction materials, demolition debris, mulch, and other various materials, which could result in impacts to the groundwater and soil thereon. Id. at 3926:5-3927:23; see also Def. Exs. 136-A through 136-E (Photographs of Materials on Courtland Property); Def. Ex. 136F (Compilation of Photos from December 2020 on Courtland Property); Def. 32 (Historical Aerial Photos). Ultimately, Mr. de Haven offered the following opinion:

> Q. In your opinion, do -- what, what is your opinion with respect to whether or not there's any correlation between what was later found in the soils and what was found in 2017 in groundwater?
>
> A. Well, given that so many of the metals observed in the soil concentrations are above screening levels that will give you an indication as to whether they can cause unacceptable levels in groundwater, there certainly seems to be that correlation, yes.
>
> Q. Okay. And, in your opinion, what does that tell us with respect about whether Tech Park is the cause of the impacts to groundwater?
>
> A. It adds another major layer of doubt as to that assertion. We've already -- I've already gone through all the other lines of evidence, you know, based on looking at Tech Park data in its own right and the flow systems moving from Tech Park to Courtland to address that question. Now you have this additional line of evidence showing that it's quite likely that Courtland is its own source of constituents to groundwater that in my mind makes it even more unlikely, even more implausible that Tech Park would be the source of the constituents to Courtland.

Tr. Tran. 3928:2-23.

While Dr. Simonton testified that he took his 2017 groundwater samples in a location on the Courtland Property that would be unimpacted by any of the ongoing operations thereon, he offered no explanation as to why this was so. See Tr. Tran. 3560:9-13 (Simonton: Aug. 1, 2022) (describing the 2017 sampling point as "the most upgradient point on the Courtland [P]roperty, so the one basically closest to Tech Park and the one least likely to be impacted by operations on Courtland."); see also id. at 3717:6-16 (Simonton: Aug. 2, 2022). Moreover, as

previously mentioned, Dr. Simonton conceded at trial that "there are multiple pathways of contribution of contaminants to the Courtland Property" and, specifically, that "there are other sources of contamination in Courtland's soil" other than UCC. Tr. Tran. 3772:14-23, 3776:22-3 (Simonton: Aug. 2, 2022).

Lastly, the fact that the Greenhouse Area was approved for "No Further Action" by the USEPA only bolsters Mr. de Haven's opinion that the contaminants in the Greenhouse Area are not migrating to the Courtland Property. Indeed, Mr. de Haven testified to this point as follows:

> Q. Okay. And what does [the No Further Action determination] mean?
>
> A. That means that EPA and DEP are satisfied that sufficient site characterization has occurred. They have a sufficient understanding of the Site Conceptual Model, and that the potential for unacceptable risks are -- either they are not demonstrated at all, there's, you know, there's no unacceptable risk, or it's been sufficiently addressed, and that at this point there is no need for any further active remediation. And something like, for example, continued monitoring and perhaps institutional controls may be a sufficient way to close out the issue.
>
> Q. Okay. And how does that impact your opinions that you've rendered so far?
>
> A. It certainly helps because EPA and DEP agree that the degree of characterization that's been performed in the Greenhouse Area is sufficient. Nothing more needs to be done. So, you know, if there were some incredible source of constituents that they were concerned were flowing off to the site north headed

> towards Courtland, they had their chance to say that and they did not.

Tr. Tran. 3931:7-3932:2 (de Haven: Aug. 3, 2022).

Conversely, Dr. Simonton testified that just because concentrations of constituents may be higher on a down-gradient property does not necessarily mean that the upgradient property is not the source of the contamination. See Tr. Tran. 3739-3741 (Simonton: Aug. 2, 2022). Specifically, he explained,

> If it's a constant source, then, yes, concentrations at the source are going to be a higher concentration generally than down-gradient of the source, because of the various reasons things dilute: Advection, dispersion, diffusion that we've talked about before. However, if your source isn't constant, and, in fact, the introduction was in the form of what's called a slug, then the slug will move away from the source, the concentration will be higher in the slug, and over time, will be higher in the slug than it is in the source.

Id. at 3740:2-11. Dr. Simonton further testified that given the years of corrective action on Tech Park he was "assuming that whatever sources have contaminated groundwater at Tech Park have stopped" and thus any contamination remaining in the Greenhouse Area of Tech Park "is the residual of those slugs." Id. at 3740:15-25. Dr. Simonton's testimony in this respect, however, appeared to be entirely based on assumptions and generalizations, and he never directed the court to any actual evidence that would support such a "slug" theory.

For instance, he was unable to identify the sources of any of the constituents detected on the Greenhouse Area of Tech Park, and he conceded that he had done no fate and transport modeling to determine whether those constituents were actually introduced into the environment in the form of a slug. See Tr. Tran. 3741:6-18, 3742:13-25, 3743:12-13. Moreover, Mr. de Haven testified that the majority of the metal constituents detected on the Greenhouse Area, with the only exception being arsenic, are attributable to background conditions. See Tr. Tran. 3842:22-3844:8 (de Haven: Aug. 3, 2022). In other words, such constituents were detected in the Greenhouse Area groundwater at concentrations indicating that they are naturally occurring in the geologic media. Id.

Additionally, Dr. Simonton attempted to discredit Mr. de Haven's opinions in two ways: (1) by testifying that Mr. de Haven compiled and relied upon an incomplete dataset (i.e., Pl. Ex. 451-2) regarding the Greenhouse Area groundwater samplings to support his opinions, and (2) by testifying that one could not compare samplings for total metals, which were the subject of testing during Dr. Simonton's 2017 sampling, and dissolved metals,[20] which were tested for by UCC in the Greenhouse Area of

[20] Dr. Simonton described dissolved metals as "everything under . . . .46 micrometers in diameter." Tr. Tran. 3747:20-(continued...)

Tech Park. See Tr. Tran. 3634:7-20, 3636:10-22, 3747:2-11 (Simonton: Aug. 2, 2022).

As to the first contention, Dr. Simonton alluded to Mr. de Haven having cherry-picked sampling data from the Greenhouse Area to support his position that higher concentrations of the constituents of interest exist on the Courtland Property than in the Greenhouse Area and testified that there are "probably many other datasets" from the upgradient monitoring wells in the Greenhouse Area than those depicted in Pl. Ex. 451-2. See id.

Notably, however, no such datasets that would contradict Mr. de Haven's testimony or reasonably call the same into question were ever furnished by Dr. Simonton or Courtland

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3748:6. When asked if he agreed that dissolved metals move more easily in the soils than total metals, Dr. Simonton circuitously answered as follows:

> Well, total - I hate to do this. It's just not that simple. For example, dissolved is everything under .46 micrograms - or, I'm sorry -- .46 micrometers in diameter. Well, certainly if something is .5, it's still pretty small and is going to move pretty easily versus, you know, 20 microns. So it's not that simple. There is [sic] components, parts, that may end up, certainly the suspended stuff. The bigger the particle, the less mobile it's going to be, let's put it that way.

Id.

at trial. Moreover, Mr. de Haven convincingly explained that the data sets from the upgradient monitoring wells in the Greenhouse Area exhibited in Pl. Ex. 451-2 were chosen "because those were the last data that [UCC] had for those wells when all of the [constituents of interest] were sampled in those wells." Tr. Tran. 3856:17-19 (de Haven: Aug. 3, 2022). Mr. de Haven further elaborated on this point as follows:

> Q. Okay. Now, in choosing the, the most recent data points to build your data set, I think is what you were calling it, are you cherry-picking the data or why do you choose those?
>
> A. We're trying to do -- I'm trying to do the best I can to provide apples to apples comparisons. The Courtland data were collected in 2017. At the time that I was first working on this, this was 2019 time frame. So we're talking about relatively recent data from Courtland. So what I tried to do was to pull the most recent data that I could from around Tech Park to provide as equitable of an analysis as possible.

Id. at 3900:5-16.

As to the second contention, while Dr. Simonton testified that it was not possible to make a comparison between samplings for total and dissolved metals, he again provided no explanation as to why this is so. On the other hand, it is noteworthy that Dr. Simonton had no issue comparing the same samplings when reaching his conclusion that the constituents detected on the Courtland Property are, for the most part, the

same as those that have been detected on the Greenhouse Area of Tech Park and are claimed by him to be emanating therefrom.

In conclusion, the court credits Mr. de Haven's testimony with respect to these issues over that of Dr. Simonton's. The demeanor of Mr. de Haven was forthright, and his explanations were informative and overall consistent with the data and evidence presented. Additionally, Mr. de Haven appeared highly knowledgeable in the areas in which he provided opinions, and he was direct and non-evasive irrespective of which party was eliciting his testimony.

While Dr. Simonton provided contrary opinions, the court finds the same to be lacking in clarity and unsupported by anything other than generalities and assumptions. The concerns discussed above with respect to Dr. Simonton's 2017 groundwater sampling on the Courtland Property, that is, his failure to create a written scope of work, develop a field-sampling plan, prepare any report describing his employed methodology, and conduct any testing or sampling to account for existing baseline conditions on the Courtland Property also give the court some pause. Although such concerns may not be of the degree to render the entirety of the 2017 sampling results wholly unreliable, they certainly present enough apprehension to cut against Dr. Simonton's overall credibility regarding his

opinions offered with respect to constituents said by him to be emanating from the Greenhouse Area of Tech Park onto the Courtland Property.

As to Dr. Simonton's demeanor on the witness stand during this portion of the trial, he was at times circuitous, hard to follow, and conclusory in his responses. For all of these reasons, the court finds the opinions offered by Mr. de Haven to be more credible than those contrary opinions offered by Dr. Simonton.

Accordingly, the court finds that UCC has established that the Greenhouse Area of Tech Park is not the source of constituents detected in Courtland's groundwater.

J. Notice of Off-Site Contamination

Courtland's Complaint in Courtland I, its Notice of Violation pursuant to 42 U.S.C. § 6972(b)(1)(A)[21] accompanied therewith, and the parties' Integrated Pretrial Order all grounded Courtland's RCRA § 7002(a)(1)(A) claim (Count II) on the contention that UCC lacked a permit for the treatment,

[21] Title 42 U.S.C. § 6972(b)(1)(A) pertinently provides that a RCRA subsection (a)(1)(A) claim may not be commenced prior to "60 days after the plaintiff has given notice of the violation to . . . (i) the Administrator, (ii) the State in which the violation occurs; and (iii) to any alleged violator of such permit, standard, regulation, condition, requirement, prohibition, or order[.]"

storage, or disposal of hazardous waste with respect to Tech Park. See ECF 1 (Courtland I Complaint); ECF 9 (Courtland I Notice of Violation); ECF 444 in Courtland I (Operative Integrated Pretrial Order).

Indeed, Count II of Courtland's Complaint pertinently alleged as follows:

> 58. Both RCRA and the West Virginia Hazardous Waste Management Act prohibit the treatment, storage, and disposal of any hazardous waste listed or identified under RCRA Subtitle C at any facility which does not have a permit for such treatment, storage, or disposal. 42 U.S.C § 6928 and W. Va. Code § 22-18-8(a).
>
> 59. Both RCRA and the West Virginia Hazardous Waste Management Act also prohibit the operation or closure of any facility or site for the treatment, storage, or disposal of a hazardous waste listed or identified under RCRA Subtitle C without obtaining a permit for such activity.
>
> 60. RCRA § 1004(3), 42 U.S.C. § 6903(3), defines the term "disposal" as follows: Disposal means the discharge, deposit, injection, dumping, spilling, leaking, or placing any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters. 40 C.F.R. § 260.10.
>
> 61. Accordingly, UCC['s] . . . discharge, deposit, dumping, spilling, or leaking of such hazardous wastes to environmental media at and under the UCC [Tech Park] and onto the Courtland Property, was, in fact and at law, the "disposal" of such hazardous wastes. In view of the fact that the UCC [Tech Park] did not then have, and never has had, a permit for such activities, such disposal was and is a violation of

> RCRA Subchapter III, including 42 U.S.C. §§ 6924 and 6928 and W. Va. Code § 22-18-8(a). Such violations began in or about 1980 and continue to the date of this complaint.
>
> 62. Moreover, UCC['s] . . . operation or closure of a facility for the treatment, storage or disposal of such hazardous wastes without obtaining a permit for such activity was also a violation of Subchapter III, including 42 U.S.C. § 6928 and W. Va. Code § 22-18-8(a). Such violations began in or about 1980 and continue to the date of the filing of this complaint.

ECF 1 at ¶¶ 58-62 (emphasis added). The Notice of Violation contains this same exact language with respect to the RCRA § 7002(a)(1)(A) claim. See ECF 9 at 12. Additionally, the Integrated Pretrial Order also notes that Courtland must prove that UCC "treated, stored, or disposed of any hazardous waste listed or identified under RCRA Subtitle C at its Tech Park facility without a permit for such treatment, storage, or disposal." ECF 444 (Operative Integrated Pretrial Order) at 7.

During opening statements in the Tech Park phase of the trial, however, Courtland's counsel wholly changed the theory of its RCRA § 7002(a)(1)(A) claim, which was neither pled in its Complaint nor Notice of Violation. Specifically, Courtland's counsel represented to the court that UCC had violated RCRA § 7002(a)(1)(A) by violating the terms of its Corrective Action Permit due to its purported failure to notify the USEPA and WVDEP of Tech Park's off-site releases of hazardous substances impacting the Courtland Property. See Tr.

Tran. 3545:18-3546:19 (Till: Aug. 1, 2022); see also Tr. Tran. 3947:12-16 (Donovan: Aug. 3, 2022) ("And our statement and our representation and our [RCRA] claim before the court is that Union Carbide Corporation has failed to disclose to [WV]DEP and USEPA that a hazardous substance released on their facility has been found at the Courtland [P]roperty.").

Courtland's Complaint, Notice of Violation, and Integrated Pretrial Order are entirely devoid of any discussion respecting any term or provision of UCC's Corrective Action Permit alleged to have been violated and at no point explicitly alleges or discernably suggests this "failure to notify" theory. See ECF 1 (Courtland I Complaint); ECF 9 (Courtland I Notice of Violation); ECF 444 (Operative Integrated Pretrial Order). It is well-established that a party may not proceed on an unpled theory of recovery absent the express or implied consent of the parties to try the same. See Dan Ryan Builders, Inc. v. Crystal Ridge Development, Inc., 783 F.3d 976, 983 (4th Cir. 2015) (citing Fed. R. Civ. P. 15(b)(2)).

At trial, counsel for UCC defended against the RCRA § 7002(a)(1)(A) as pled in the Complaint, offered into evidence some of the various RCRA permits issued to UCC for Tech Park as evidence that it possessed the requisite permits, and raised the procedural improperness of Courtland's new, unpled RCRA §

7002(a)(1)(A) theory during its closing arguments. See Tr. Tran. 3548:15-3551:14 (Masterson: Aug. 1, 2022); Tr. Tran. 3670-3674 (Aug. 2, 2022); Tr. Tran. 3968:8-3969:9 (Bello: Aug. 3, 2022). The court thus finds that Courtland's failure to notify theory was neither properly pled in the Complaint, Notice of Violation, or Integrated Pretrial Order, nor tried by UCC's express or implied consent.

Even assuming, however, that Courtland had properly pled this "failure to notify" theory or that UCC had expressly or implicitly consented to trial of the same, the court finds that such claim fails given the court's finding that Tech Park is not the source of the contamination found on the Courtland Property. Indeed, to direct UCC to provide the USEPA and the WVDEP with written notice that offsite contamination emanating from Tech Park has been detected at the Courtland Property -- the exact relief Courtland seeks under this unpled theory -- would be entirely inconsistent with the court's previous finding herein. See Tr. Tran. 3946:20-25 (Donovan: Aug. 3, 2022) (stating Courtland's request for relief is that UCC "should be required to fulfill [its] obligations under [its] permit and under federal law to make [the] report that hazardous substances from Tech Park facility have been detected on the Courtland

[P]roperty."); see also id. at 3948:8-12; ECF 497 (Courtland's Proposed Findings of Fact and Conclusions of Law) at 22.

In light of the foregoing, the court finds that Courtland's newly contrived RCRA § 7002(a)(1)(A) is meritless.

III. FINDINGS OF FACT: FILMONT AND MASSEY RAILYARD

A. Operational History of the Massey Railyard

In 1946, UCC acquired the property upon which Filmont and the Massey Railyard are located. See Tr. Tran. 534:6-8 (Cibrik: July 8, 2022). At some point in the 1960s, and no later than 1971, UCC began railyard operations at Massey, which has primarily been utilized by UCC for the staging, storage, and maintenance of railcars coming in and out of the UCC South Charleston Plant. See id. at 529:10-18; see also Def Ex. 32 (Historical Aerial Photos) at 4; Tr. Tran. 425:8-23 (Cibirk: July 7, 2022). Before Massey became a railyard, the only other active use of the Massey portion of the property was for the storage of a coal pile, which existed on the property from the 1950s through the 1960s. See id. at 529:22-530:1, 548:24-550:2; see also Def Ex. 32 (Historical Aerial Photos). There is no evidence demonstrating that any portion of Massey has ever been utilized as a landfill. See id.; see also Tr. Tran. 617:10-

618:6 (Cibrik: July 8, 2022) (explaining that the CH2MHill Filmont site map depicting the yellow "landfill extent" boundary line on page 5 of Def. Ex. 271 is incorrect where it is shown to cross a portion of Massey given that UCC later confirmed that no landfill waste was ever deposited on Massey).

Given its rail car maintenance work on site, Massey is designated as a Very Small Quantity Generator[22] ("VSQG") and possesses a USEPA identification number of WVR000532036. See id. at 530:2-16; see also Def. Ex. 30 (Massey RCRA Source Record). Because of its VSQG status, Massey is not required to have a RCRA permit. See id.; see also 40 C.F.R. § 270.1(c)(2)(iii).

B. Operational History of the Filmont Landfill

As for Filmont, it began operations as a landfill in approximately 1950 until its ultimate cap and closure in 1987. See Jt. Ex. 1 (UCC VRP Application) at 023690; Tr. Tran. 2727:22-2728:2 (Hanshew: July 25, 2022). Filmont has no manmade liner, leachate collection system, or leachate detection system inasmuch as there were no requirements for such measures from

[22] As a VSQG, Massey is permitted to generate a certain amount of hazardous waste from its maintenance operations that is considered to be "a very small quantity" under RCRA. See Tr. Tran. 530:6-13 (Cibrik: July 8, 2022).

the time it began operations in the 1950s until its closure in 1987. See ECF 503-1 (West Virginia Solid Waste Management Plan)[23] at 2-1, 2-2; Tr. Tran. 410:2-9, 411:8 (Cibrik: July 7, 2022) ("I would also like to point out that all of those things you're asking about [liners, leachate collection systems, leachate detection systems] were not requirements for landfills - when it was built in the '50s. That was normal practice back then."). Indeed, prior to the mid-1970s solid waste disposal in West Virginia was "largely uncontrolled." ECF 503-1 in Courtland II (West Virginia Solid Waste Management Plan) at 2-1.

In 1977, the state Department of Health began issuing permits to established landfills in West Virginia, and landfills were not required to have liners in order to receive such permits. See id. Emergency West Virginia Solid Waste Management ("SWM") Rules issued in response to Subtitle D of RCRA were not promulgated until November 1988, which instituted requirements such as liners, leachate collection systems, and post-closure monitoring requirements for landfills. See ECF 442-1 in Courtland I (West Virginia Solid Waste Management Plan) at 2-1, 2-2.

[23] The court took judicial notice of this document and its contents at trial. See Tr. Tran. 3360:12-3364:8 (July 28, 2022).

During its early active life, Filmont was associated with and operated as a disposal landfill for UCC's South Charleston Plant ("SCP") for a number of years, which is a chemical manufacturing facility that was a major generator of hazardous wastes. See Tr. Tran. 58:15-24 (Cibrik: July 6, 2022); Def. Ex. 299 (1979 USEPA NEIC Compliance Evaluation & Wastewater Characterization) at 1 (noting that UCC's SCP "produces about 400 different specialty-type chemicals and mixtures" and "operates as one of the largest petro-chemical plants in the world.").

Before converting to an inert solid waste landfill sometime between 1971 and 1974, industrial waste from the SCP was disposed of at Filmont. See Evid. Depo. Tran. 16:18-21 (Worstell) ("When I came in '74, Filmont landfill was being operated as an inert landfill. It had been operating as an inert landfill for a number of years prior to my coming on scene."); Tr. Tran. 560:10-14 (Cibrik: July 8, 2022) ("[T]he inert waste was after the berm was installed[,]" which the testimony demonstrates was sometime after 1971); Tr. Tran. 542:15-21 (Cibrik: July 8, 2022) ("It is our understanding [Filmont] was used from the '50s up through about '86, maybe '87, when it was closed and covered. Initially, for industrial

waste. And then later what we would term as inert waste, like concrete, steel, that kind of thing.").

There is no UCC record definitively documenting the specific types of industrial wastes that were sent from the SCP to Filmont between 1950 and 1970 and whether the same were inherently hazardous. See Tr. Tran. 121:13-16 (Cibrik: July 6, 2022). It is known, however, that UCC utilized another landfill, known as Goff Mountain, to dispose of all hazardous waste from its SCP after Goff Mountain began operations in 1965. See Tr. Tran. 823:21-824:14 (Simonton: July 11, 2022); see also Evid. Depo. Tran. 17:5-17:17 (Worstell); Tr. Tran. 123:1-20 (Cibrik: July 6, 2022); Def. Ex. 8 (1983 SCP Audit) at 14 ("Plant 514[24] has been shipping chemical wastes to Goff Mountain at Institute on an almost daily basis for about fifteen years."); Def. Ex. 299 (1979 USEPA NEIC Compliance Evaluation & Wastewater Characterization) at 8 ("Hazardous chemical wastes and toxic substances are hauled to the Goff Mountain landfill" while UCC SCP "non-chemical solid wastes (lumber, paper, scrap polymer, etc.) are disposed of in the Fillmont [sic] landfill.").

[24] The SCP is also referred to as Plant 514 in this Audit. See Def. Ex. 8 (1983 SCP Audit).

Prior to the creation of Goff Mountain in 1965, it is not conclusively known where the SCP disposed of its hazardous waste. Nevertheless, it can be inferred from the evidentiary record that at least some hazardous waste, whether from the SCP or elsewhere, was disposed of at Filmont during its early operations from approximately 1950 to the early 1970s.

For instance, an October 1983 Comprehensive Environmental Audit[25] of the SCP noted that "[s]everal areas in the [South Charleston] Plant have been used in the past to bury hazardous materials (such as mercury at North Charleston, chemical drums at Filmont, etc.)." Def. Ex. 8 (1983 SCP Audit) at 12 (emphasis added); see also Pl. Ex. 745 (UCC & PC Groundwater Investigation Interviews of Bill Bott & Bob Roberts) (noting that "[s]ome chemicals and contaminated waste" were dumped at Filmont). Additionally, on May 15, 1981, Jack Wortsell, UCC's Environmental Protection Coordinator for the SCP from 1974 to 1993, filled out a USEPA Notification of Hazardous Waste Site, also known as a CERCLA 103(c) Notice, noting that UCC had disposed of chemical waste, namely organics, in the Filmont landfill in underground drums from the early 1950s until

[25] It is noted that while the cover letter attached to the Audit is dated May 17, 1984, the Audit itself took place on October 25-31, 1983. See Def. Ex. 8 (1983 SCP Audit).

about 1970.[26] See Jt. Ex. 1a (Attachment Proof of Legal Right to Perform Work) at 023882-023883; see also Evid. Depo. 12:3-12:18 (Worstell). The 103(c) Notice goes on to state that "[t]he [Filmont] site is currently used to store coal and as an inert landfill. In the past, some drums were buried while others were dumped. Exact contents are unknown. Flyash was also used as fill." Id. at 023883.

When testifying about the contents of the 103(c) Notice, Mr. Worstell explained as follows:

> Q. On the third page, it has your signature from 1981 that we discussed before, right?
>
> A. Right.
>
> Q. And so the second page, Section E . . . it says "waste type and choose the option you prefer to complete." In the left-hand column, "organics" is checked. Do you see that?
>
> A. I see that.
>
> Q. And in the right hand column "chemical, general" is checked. Do you also see that?
>
> A. I see that.
>
> Q. So is that referring to organic chemicals being disposed of at Filmont?
>
> . . .

[26] The court notes that while the CERCLA 103(c) Notice form was undoubtedly filled out and signed by Mr. Worstell on May 15, 1981, the parties heavily disputed at trial whether or not such form was subsequently sent and received by the USEPA, which will be more fully discussed infra.

> A. It's asking to describe the type of waste put in Filmont. Prior to my tenure in 1974, at some point in the past prior to that, there were anecdotal reports of chemical waste in Filmont. I recall no written records of that nature, but the anecdotal information given to us, and based on that, we checked the box "organic." After '74 and perhaps starting a few years prior to '74, no chemical wastes were put in Filmont according to my view of what chemical wastes are. Notwithstanding, the Dynel was put there, and it's technically a chemical, but I don't think anyone considered Dynel harmful.
>
> Q. Okay. And on the next page, there's the description that Ms. Bello read with you earlier in sort of the middle bottom half that says the site is currently used to store coal and as an inert landfill. Do you see that section?
>
> A. Yes.
>
> Q. And the next sentence says, "In the past, some drums were buried while others were dumped." So when you signed this, what was your understanding of how many drums were buried and how many were dumped?
>
> A. We didn't have information with that level of detail. They had information that some drum-type waste was put in Filmont in previous years. We had no information of its competition [sic, composition?], quantity, et cetera.

Evid. Depo. Tran. 110:18-112:10 (Worstell). Indeed, if UCC believed that no hazardous waste had ever been disposed of at Filmont prior to the early 1970s, there would have been no need to fill out the CERCLA 103(c) "Notification of Hazardous Waste Site" form. Based on this evidence, the court finds that hazardous wastes were more likely than not disposed of at Filmont sometime between 1950 and the early 1970s, although the

precise types of hazardous wastes cannot be established with any discernable certainty. Additionally, the court finds that these early disposals would have occurred on the top eastern corner of the Filmont landfill just north of Massey, which was ultimately filled in and covered sometime prior to 1971, as evidenced by the historical aerial photograph depicting coal piles sitting on that location of the Filmont landfill on April 15, 1971. See Def. Ex. 32 at 4 (April 15, 1971, aerial photo); Tr. Tran. 549:21-550:12 (Cibrik: July 8, 2022) (explaining that the 1971 photograph depicts that the coal pile once existing on Massey had been relocated just north of Massey on the top eastern corner of the Filmont landfill by this time); Tr. Tran. 1496:5-1497:6 (Simonton: July 14, 2022) (explaining initial disposals of waste at Filmont occurred on the eastern corner thereof and would have been covered prior to the coal pile being moved onto that location); see also id. at 1497:3-6 (Dr. Simonton agreeing that no more disposal of waste occurred on the top eastern corner of Filmont after the coal pile existed thereon in 1971 and "by that point, waste disposal had moved to the west" on Filmont).

As previously mentioned, from at least 1974 until its closure in 1987, Filmont operated as an inert waste landfill. See Evid. Depo. Tran. 16:18-21 (Worstell); Def. Ex. 299 (1979

USEPA NEIC Compliance Evaluation & Wastewater Characterization) at A-34 ("Solid wastes are placed in the Fillmont [sic] Landfill Goff Mountain Chemical Landfill, and Holz pond. Non-chemical (lumber, paper, scrap polymer, etc.) solid wastes are disposed of in the Fillmont [sic] Landfill. The waste is put into the landfill covered daily with bottom ash from the boilers."); Jt. Ex. 21 (1984 USEPA NEIC Overview of Environmental Pollution in the Kanawha Valley) at VII-9 ("In 1977, non-chemical solid wastes (lumber, paper, scrap polymer) were landfilled in the 'Fillmont' area or were sent to an undefined landfill operated by Kanawha County."); Def. Ex. 8 (1983 SCP Audit) ("Emptied and washed broken glass bottles are a non-hazardous waste. Disposal is at Filmont.").

In fact, although UCC was unable to locate and produce the actual permit, circumstantial evidence produced at trial demonstrates that UCC possessed and operated Filmont pursuant to a state permit, issued by the state Department of Health, that allowed for the disposal of inert, solid waste during this same time frame until Filmont's ultimate closure in 1987. See Evid. Depo. Tran. 33:19-23, 34:10-34:13 (Worsetll); Tr. Tran. 2720:7-22 (Hanshew: July 25, 2022); Def. Ex. 8 (1983 SCP Audit) at 13 ("Disposal of chemical wastes, either inadvertently by UCC or deliberately by the public could violate the landfill permit or

constitute unpermitted hazardous waste disposal."); Def. Ex. 299 (1979 USEPA NEIC Compliance Evaluation & Wastewater Characterization) at A-34 (referring to the Filmont Landfill as "State approved"); Jt. Ex. 127 (1984 Meeting Minutes with West Virginia Department of Natural Resources ("WVDNR")) at 31408 ("The existing permit for the Fillmont [sic] (held by 514) does not allow the disposal of industrial waste.").

Despite operating as an inert waste landfill from at least 1974 until its closure in 1987, there is evidence indicating that UCC disposed of unpermitted wastes at Filmont during this time period. For instance, in the 1970s, all process industrial wastewater from the SCP was discharged via a redwood flume to the South Charleston Sewage Treatment Company ("SCSTC") for treatment. See Jt. Ex. 22 (1979 USEPA NEIC Compliance Evaluation & Wastewater Characterization South Charleston Sewage Treatment Company) at 7-8; Jt. Ex. 21 (1984 USEPA NEIC Overview of Environmental Pollution in the Kanawha Valley) at VII-12. Preliminary treatment of this wastewater included, inter alia, grit removal via a grit chamber designed to remove larger and harder materials such as cobbles, sand, and gravel-sized material to prevent damage to the pumps within the treatment system. See Tr. Tran. 805:5-806:5 (Simonton: July 11, 2022); Jt. Ex. 22 (1979 USEPA NEIC Compliance Evaluation &

Wastewater Characterization South Charleston Sewage Treatment Company) at 7-8.

Record evidence demonstrates that this "industrial grit" was disposed of at Filmont in the late 1970s. See Jt. Ex. 22 (March 1979 USEPA NEIC Compliance Evaluation & Wastewater Characterization South Charleston Sewage Treatment Company)[27] at 8 ("The industrial grit is buried at the Filmont landfill which is owned and operated by Union Carbide."); Jt. Ex. 21 (1984 USEPA NEIC Overview of Environmental Pollution in the Kanawha Valley) at VII-12 ("Industrial grit was landfilled in Union Carbide's 'Fillmont' [sic] area in 1977."); see also Tr. Tran. 806:6-17 (Simonton: July 11, 2022). Importantly, as conceded by Dr. Simonton, there is no evidence that UCC buried industrial grit at Filmont from any source, including the SCSTC, after 1979. See Tr. Tran. 1560:23-1561:10 (Simonton: July 14, 2022).

In April of 1978, the USEPA National Enforcement Investigations Center ("NEIC") conducted an inspection of the SCSTC, which included sampling of the industrial grit at the SCSTC facility. See Jt. 22 at 24, 33. Results of that 1978

[27] It is noted that while this USEPA Compliance and Wastewater Characterization South Charleston Sewage Treatment Company report is dated March 1979, the inspection of the SCSTC that led to the information contained in the report occurred in April of 1978. See Jt. Ex. 22 at 4.

sampling show detections for the following organic compounds: (1) biphenyl at 120 µg/l; (2) 2,6 Di-tert-Butyl-p-Cresol at 20 µg/l; (3) isophorone at 120 µg/l; and phyenl ether at 260 µg/l. See Jt. Ex. 22 at 24; see also Tr. Tran. 873:21-874:13 (Simonton: July 11, 2022). Of these constituents, the report notes that only isophorone is a "priority pollutant." Jt. Ex. 22 at 24, 33.

According to the report, the industrial grit was also sampled for metals, of which the following were detected: (1) arsenic at 6 µg/l; (2) aluminum at 4,100 µg/l; (3) chromium at 180 µg/l; (4) copper at 570 µg/l; (5) nickel at 2,500 µg/l; (6) lead at 370 µg/l; (7) zinc at 290 µg/l; and (8) mercury at 5.7 µg/l. See id. at 33; see also Tr. Tran. 878:2-880:2 (Simonton: July 11, 2022). The report notes that all of these metals, with the exception of aluminum, are priority pollutants. Id. The report further states that "[t]he domestic sludge and industrial grit are buried in the South Charleston landfill and Filmont landfill respectively. These landfills are not approved for receipt of soil wastes containing priority pollutants." Id. at 33-34 (emphases added).

It is noted that although the 1978 sampling of the grit at the SCSTC detected the above constituents, there is nothing in the evidentiary record indicating that this

particular sample of contaminated grit was then subsequently disposed of at Filmont. Nonetheless, one can infer that if the industrial grit at the SCSTC was contaminated with "priority pollutants" in 1978, it is more likely than not that any industrial grit disposed of at Filmont prior to that time contained the same or similar contaminants given that the industrial grit was a product of the same waste stream, that is, the process industrial wastewater emanating from the SCP through the redwood flume to the SCSTC for treatment.

Even so, Courtland has offered no evidence explaining how or why this industrial grit would constitute hazardous waste for purposes of RCRA. Notably, the concentrations of arsenic (6 µg/l or 0.006 mg/L), chromium (180 µg/l or 0.18 mg/L), lead (370 µg/l or 0.37 mg/L), and mercury (5.7 µg/l or 0.2 mg/L) detected within the grit are well below the toxicity characteristic concentrations listed for those substances that would render the same hazardous under RCRA. See 40 C.F.R. § 261.24.[28] Assuming arguendo that the grit could be classified as hazardous waste, as previously mentioned, there is no evidence in the record that

[28] Under RCRA, the toxic characteristic regulatory levels for arsenic, chromium, and lead are 5.0 mg/L, and the regulatory level for mercury is 0.2 mg/L. 40 C.F.R. § 261.24(b). Concentrations for the remaining contaminants designated as "priority pollutants" in the grit -- aluminum, copper, nickel, zinc, and isophorone -- are not listed in this regulation.

UCC continued to intentionally dispose of any industrial grit, contaminated or otherwise, at Filmont after 1979. See Tr. Tran. 1560:23-1561:10, 1562:8-10 (Simonton: July 14, 2022). This fact is of import given that "only facilities where hazardous waste is intentionally placed into land or water after November 19, 1980" constitute hazardous waste disposal facilities requiring a RCRA disposal permit. 53 Fed. Reg. 31, 149 (Aug. 17, 1998); see also 40 C.F.R. § 270.2 (defining "disposal facility" as "a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure") (emphases added).

The only evidence of unpermitted waste disposal at Filmont in the 1980s is the disposal of fly ash, which was classified by the West Virginia Division of Natural Resources ("WVDNR") as being "industrial" waste rather than "inert" solid waste in 1984. Jt. Ex. 127 (1984 Meeting Minutes with WVDNR) at 031408; see also Tr. Tran. 1561:11-1562:21 (Simonton: July 14, 2022); Evid. Depo. Tran. 86:15-86:19 (Worstell). Indeed, on August 23, 1984, UCC personnel met with the WVDNR regarding Tech Park's National Pollutant Discharge Elimination System ("NPDES") permit. See Jt. Ex. 127 (1984 Meeting Minutes with WVDNR). While notes from this meeting appear to be largely related to issues surrounding Tech Park, Filmont was also discussed. See

id. at 031408. Specifically, the meeting minutes state as follows:

> Regarding disposal of our flyash at the Fillmont [sic] landfill, [WV]DNR stated that flyash is classified as an "industrial" waste rather than an "inert" waste. The existing permit for Fillmont [sic] (held by 514) does not allow the disposal of industrial wastes. -- In subsequent discussions with Jack Worstell, he has confirmed this and will proceed with obtaining the necessary permits from [WV]DNR.

Id. UCC did not receive another permit that would have allowed it to continue to dispose of fly ash at Filmont; however, the record evidence suggests that UCC stopped disposing of fly ash at Filmont after being informed by the WVDNR that the same was unpermitted. See Evid. Depo. Tran. 130:11-18 (Worstell); Tr. Tran. 1567:17-1568:9 (Simonton: July 14, 2022). Specifically, Mr. Worstell testified that the most probable solution after receiving this information from the WVDNR was that the fly ash disposed of at Filmont was subsequently diverted to disposal at Holz impoundment:

> Q: I believe you told us - and I just want to confirm - that it's your belief that after receiving this information related to fly ash from [WV]DNR, fly ash would have been diverted and sent to Holz impoundment; is that correct?
>
> A: That would have been the likely - the most probable solution. I'm sure that happened. Remember, at that time, Filmont was being very low use anyway.

Evid. Depo. Tran. 130:11-18 (Worstell). Moreover, Dr. Simonton conceded that there was no evidence indicating that UCC

continued to dispose of fly ash at Filmont after its 1984 meeting with the WVDNR:

> Q. Do you have any evidence that Union Carbide did not listen to what the [WV]DNR told them and start disposing of fly ash somewhere else?
>
> A. They were told to stop or get a permit for it. They never got a permit for it, so I would like to think that they stopped.
>
> Q. Do you have any evidence that they did not stop?
>
> A. I don't think there is any evidence that they didn't stop.
>
> Q. This is the time. Do you have any that you can think of?
>
> A. Not that I recall, no.
>
> Q. Okay. And, so, the -- and you recall that fly ash was stored in the Holz spot?
>
> A. Yeah, fly ash has been everywhere but, yes, including Holz.

Tr. Tran. 1567:17-1568:12 (Simonton: July 14, 2022).

Overall, the record evidence appears to reflect that UCC worked actively with the WVDEP to ensure its compliance with its inert waste landfill permit for Filmont. Importantly, fly ash, and other coal combustion residuals such as bottom ash and slag waste, are not classified as hazardous waste under Subtitle C of RCRA and the WVHWMA.[29] And, even more importantly, the

[29] In 1980 via the Bevill Amendment, "Congress effectively prevented the [US]EPA from regulating certain mining wastes (continued...)

evidentiary record is wholly devoid of any evidence that UCC intentionally disposed of hazardous waste at Filmont from 1980 onward. Indeed, Dr. Simonton conceded as much during his testimony:

> Q. All right. And, so, what I want to ask you is from 1980, or whenever -- from March 1979 until the landfill closed in 1987, have you seen any evidence of the intentional disposal of hazardous waste by Union Carbide in the Filmont landfill?
>
> A. After 1980, no.
>
> Q. So no intentional or unintentional that you've seen?
>
> A. Not that I've seen, no, not hazardous waste.

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under Subtitle C [of RCRA], including 'fly ash waste, bottom ash waste, slag waste, and fuel gas emission control waste generated primarily through the combustion of coal or other fossil fuels.'" AES Puerto Rico, L.P. v. Trujillo-Panisse, 133 F. Supp. 3d 409, 422 (D.P.R. 2015) (quoting Appalachian Voices v. McCarthy, 989 F. Supp. 2d 30, 39 (D.D.C. 2013) (quoting 42 U.S.C. § 6921(b)(3)(A)(i)). "The Amendment provided the [US]EPA with a timeline for the completion and submission of a study to Congress to determine whether the enumerated mining wastes constituted 'hazardous waste,' warranting Subtitle C regulation." Id. In 1993 and 2000, the USEPA completed regulatory determinations concluding "that regulation of [these mining wastes] as 'hazardous waste' under Subtitle C was inappropriate, while indicating that it would continue to assess the need for increased regulation." Id. In 2015, the USEPA published a final rule addressing the disposal of [these mining wastes], which the Agency decided to regulate pursuant to Subtitle D" of RCRA. Id. at 423 (citing 80 Fed. Reg. 21, 302 (April 17, 2015)); see also Sierra Club v. Virginia Electric & Power Co., 903 F.3d 403, 411-12 (4th Cir. 2018) ("[T]he [US]EPA classifies coal ash and other coal combustion residuals as nonhazardous waste governed by RCRA"); W. Va. Code § 22-18-6(A)(i).

Tr. Tran. 1570:6-13 (Simonton: July 14, 2022). Accordingly, the court finds that there is no evidence that hazardous wastes were intentionally disposed of by UCC in the Filmont landfill from 1980 until its ultimate closure in 1987. The Filmont landfill thus cannot be deemed a hazardous waste disposal facility.

C. 1987 Closure of Filmont

While no hazardous wastes were disposed of at Filmont from 1980 onward, Filmont continued to accept and dispose of inert solid waste during this time until its final cap and closure in 1987. See Tr. Tran. 2727:6-2728:2 (Hanshew: July 25, 2022); see also Tr. Tran. 424:23-425:7 (Cibrik: July 7, 2022). Dennis Hanshew, an engineer with UCC's SCP Environmental Department from 1986 until approximately 1990, was the individual responsible for Filmont's closure project in 1987. See Tr. Tran. 2718:1-21, 2720:7-11, 2722:8-10 (Hanshew).

As Mr. Hanshew testified at trial, he was directed by his bosses at UCC to coordinate and oversee the project surrounding Filmont's closure given that the landfill's permit issued by the state Department of Health was nearing expiration. See id. at 2720:10-22. According to Mr. Hanshew, the closure project involved only the western portion of the landfill, which was the only remaining active portion of the Filmont landfill at that time. See id. at 2721:16-22, 2722:19-25; see also Tr.

Tran. 1496:5-1497:6 (Simonton: July 14, 2022) (explaining the eastern portion of Filmont would have been covered prior to the coal pile being moved onto that location sometime in 1971; thereafter, waste disposal moved to the west). In coordinating the project, Mr. Hanshew testified that he worked with a WVDNR or WVDEP inspector who had facilitated the procurement of the dirt used to cover and cap the landfill. See id. at 2723:13, 2724:19-2725:1. He also testified that the state inspector was on-site at Filmont during the closure project to ensure Filmont was being closed in accordance with its permit. See id.

Mr. Hanshew further described the closure project as taking approximately two to three weeks and estimated that the cap placed on Filmont was approximately three to five feet deep. See id. at 2723:1-3, 2724:12:18. As for the source of the dirt used to cap and cover Filmont, Mr. Hanshew testified that the dirt was excavated from a mountainside at the Institute facility, on a nonactive portion of the site, as Institute was making way to expand its operations. See id. at 2726:10-21. When asked whether any manifests were generated relative to the dirt used for the capping of Filmont, Mr. Hanshew explained: "No. Manifests are for wastes and, it was a clean fill. So no manifests were required." Id. at 2726:22-2727:1.

Having no reason to discredit Mr. Hanshew's testimony, the court finds that the western portion of Filmont -- the last active portion of the landfill at that time -- was closed in 1987 prior to the expiration of Filmont's state Department of Health permit, was closed in accordance with such permit, and no solid waste was accepted and disposed of at Filmont thereafter. Today, Filmont is a wholly inactive facility and "consists of an open, grassy field with some forested areas primarily located around the perimeter of the site." Jt. Ex. 9 (2015 & 2016 Filmont Groundwater Monitoring Report) at 000788; see also Pl. Ex. 748.3-12 at Photo 9 (depicting the Filmont landfill on March 20, 2022, at the top of the photo in the distance behind the brush in the foreground).

It is noted that in 2014, excavated soil from Tech Park's Building 730 sump improvement project was utilized and placed at Filmont "to provide additional cover around sample locations FLF-0018 and FLF-0026 where 2007 surface soil sampling results exhibited exceedances of ecological screening values for metals." Jt. Ex. 66 (Construction Completion Report, Building 730 Sump Improvement) at 013837; see also Tr. Tran. 1644:10-19 (Simonton: July 14, 2022); Tr. Tran. 1774:22-1775:15 (Simonton: July 18, 2022). While Dr. Simonton testified that characterization samples conducted on the excavated soil prior

to its use at Filmont detected a few organic compounds, namely, acetone, 2-methylnaphthalene, naphthalene, and phenanthrene, at "fairly low levels,"[30] he ultimately conceded that the placement of the soil at Filmont (1) served a purpose other than waste, and (2) did not constitute hazardous waste. See Tr. Tran. 1770:7-12, 1773:19-25, 1925:4-25 (Simonton: July 18, 2022); see also id. at 1912:25-1913:13 (Simonton: July 18, 2022) (noting that the soil "has some contamination, but it is not hazardous waste."). Specifically, Dr. Simonton testified as follows:

> Q. The dirt that was taken from the pump, analyzed, and it was used, it was used to fill those two areas we described and it was graded, right?
>
> A. Yes.
>
> Q. All right. It, it served a purpose other than waste. Yes?
>
> A. Well, it was used to, yeah, to thicken the, the cover of the - the daily cover of, of the landfill and it was used to cover up areas of higher contaminant concentrations, yes.

---

[30] Indeed, all four organic compounds detected in the soil -- acetone at 16 ug/kg; 2-methylnaphthalene at 591 ug/kg; naphthalene at 455 ug/kg; and phenanthrene at 362 ug/kg -- were well below their respective West Virginia Residential Soil RSLs of 6,100,000 ug/kg (acetone); 23,000 ug/kg (2-methylnaphthalene); 3,600 ug/kg (naphthalene); and 890 ug/kg (phenanthrene). See Jt. Ex. 66 (Construction Completion Report, Building 730 Sump Improvement). Additionally, any metals detected were within the West Virginia background range for metals in soil and did not exceed the Toxicity Characteristic Leaching Procedure ("TCLP") limits. See id; see also Tr. Tran. 1914:12-24 (Simonton: July 18, 2022); Tr. Tran. 1648:18-1650:7 (Simonton: July 14, 2022).

> Q. What - - waste disposed of, throw away, use, put it in certain sections for a purpose, and grade it to help do something; right?
>
> A. Yes.
>
> Q. Okay. Still, still not hazardous, still not toxic; right?
>
> A. Correct.
>
> Q. Okay. Still not ignitable?
>
> A. Right.
>
> Q. Still not corrosive?
>
> A. Right.
>
> Q. And still not reactive?
>
> A. Right.

Tr. Tran. 1925:4-25 (Simonton: July 18, 2022). Furthermore, UCC's 2015 Ecological Risk Evaluation provides that the soil generated from the 730 sump improvement project "was considered a clean source of soil." Jt. Ex. 100 (2015 Ecological Risk Evaluation) at 0012372. The court finds that the excavated soil from Tech Park was neither disposed of or discarded as waste at Filmont inasmuch as it was used in 2014 for the purpose of providing additional fill cover, nor can the same be classified as hazardous waste.

D. CERCLA 103(c) Notice (Notification of Hazardous Waste Site)

In 1981, UCC's corporate office received a request from the USEPA asking UCC to identify hazardous waste sites

affiliated with the company in accordance with the requirements of Section 103(c) of CERCLA. See Evid. Depo. 21:14-23 (Worstell); Jt. Ex. 1a (Attachment Proof of Legal Right to Perform Work) at 023881. According to Mr. Worstell, UCC's Environmental Protection Coordinator for the SCP from 1974 to 1993, the USEPA's request was received by UCC's corporate environmental group and then subsequently forwarded to all UCC locations, including the SCP, directing that information be compiled on any relevant sites in accord with the USEPA's request. See id.

In response, and as previously mentioned, on May 15, 1981, Mr. Worstell filled out and signed a USEPA Notification of Hazardous Waste Site for Filmont, also known as a CERCLA 103(c) Notice, noting that Filmont had disposed of chemical waste, namely organics, in the landfill in underground drums from the early 1950s until about 1970. See Jt. Ex. 1a (Attachment Proof of Legal Right to Perform Work) at 023882-023883; see also Evid. Depo. 12:3-12:18 (Worstell).

Mr. Worstell explained that while his department was responsible for compiling the information contained in the 103(c) Notice, the Notice was then sent back to UCC's corporate office for review before presumably being sent from UCC corporate to the USEPA. See Evid. Depo. 23:10-16, 24:22-25:1,

47:18-48:2 (Worstell). Nonetheless, Mr. Worstell could not definitively verify that the 103(c) Notice respecting Filmont was actually sent to the USEPA by UCC corporate, although it was his belief that the same had occurred. See id. at 48:3-49:10.

A June 9, 1981, cover letter seemingly enclosing the CERCLA 103(c) Notice respecting Filmont signed by F.M. Charles, UCC's Corporate Director of Environmental Affairs, appears to comport with Mr. Worstell's belief. See Jt. Ex. 1a (Attachment Proof of Legal Right to Perform Work) at 023881. The first two paragraphs of the letter read as follows:

> Dear Sir:
>
> Enclosed are notification forms submitted by Union Carbide Corporation pursuant to the requirements of Section 103(c) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("Superfund"), and in accordance with the "interim interpretative notice and policy statement" issued by [US]EPA on April 15, 1981 (46 Fed. Reg. 22144 et seq.). Union Carbide is making this submission on behalf of itself and its subsidiaries that are subject to the § 103(c) notification requirements.
>
> Subject to the expectations and limitations in § 103(c) and the EPA notice of April 15, Union Carbide is notifying the EPA of the existence of the following classes of hazardous waste facilities: (1) facilities presently owned and/or operated by Union Carbide; (2) facilities formerly owned and/or operated by Union Carbide, at the time of hazardous waste treatment, storage, or disposal; (3) facilities selected by Union Carbide and to which Union Carbide itself transported hazardous waste; (4) facilities selected by Union Carbide and to which independent contractors transported the waste and Union Carbide verified that the waste reached the selected destination; and (5)

> facilities of independent owners or operators who also accepted Union Carbide's wastes for transport to their own facilities.

Id. Although the recipient of the signed cover letter appears to be the USEPA as indicated by the second paragraph thereof, the letter itself contains no recipient address, is only addressed to "Dear Sir," and contains no accompanying indication, such as an addressed and stamped envelope, that the letter and the 103(c) Notice were actually mailed and delivered to the USEPA. See id.

It can be inferred from the remainder of the evidentiary record, however, that the June 9, 1981, correspondence along with the 103(c) Notice respecting Filmont were, in fact, submitted by UCC and received by the USEPA. Indeed, two Freedom of Information Act ("FOIA") requests sent to the WVDEP, one by a third party and another by UCC, returned, inter alia, a document entitled USEPA Potential Hazardous Waste Site Identification and Preliminary Assessment ("Preliminary Assessment form") regarding Filmont.[31] See Def. Ex. 321 at 4-7;

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[31] It is noted that prior to the third party and counsel for UCC sending FOIA requests to the WVDEP that returned this document, counsel for Courtland submitted a subpoena to the WVDEP for any documents related to Filmont, to which the WVDEP responded it had no responsive records. See Pl. Ex. 418 (Wandling Certification Under Oath). Presumably, this document was not located by the WVDEP until after Courtland's subpoena request. See Tr. Tran. 2559:9-11 (Mr. Callaghan: July 21, 2022) (continued...)

see also Tr. Tran. 2558:18-2559:11 (Mr. Callaghan, counsel for Courtland, explaining the subpoena and FOIA requests). The first page of the Preliminary Assessment form notes in the boxes designated as "A," "J," and "K" that the Filmont site was identified via a CERLCA notification in June of 1981, i.e., the same date reflected on the cover letter addressed to "Dear Sir." See Def. Ex. 321 at 4; Jt. Ex. 1a (Attachment Proof of Legal Right to Perform Work) at 023881.

UCC's expert, Charles MacPherson, who worked at the USEPA's Atlanta Region IV office for approximately six years beginning in 1980, testified that he had experience working with these USEPA Preliminary Assessment forms during his early tenure with the agency. See Tr. Tran. 2771:5-15, 2776:2-13 (MacPherson: July 25, 2022). Specifically, Mr. MacPherson explained that in the early 1980s the USEPA began receiving, in bulk, CERCLA 103(c) Notices identifying suspected hazardous waste sites from entities across the region. See id. at 2776:5-2777:4. According to Mr. MacPherson, the standard practice at the USEPA at that time was for USEPA personnel to fill out a Preliminary Assessment form respecting these identified sites upon receipt of the 103(c) Notice. See id. at 2776:5-18,

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("I don't doubt they're authentic documents from [the] [WV]DEP that were found after the first subpoena. I don't doubt that.").

2777:5-13; see also Tr. Tran. 2997:23-2998:14 (MacPherson: July 26, 2022).

The court notes that the Preliminary Assessment form respecting Filmont that was produced to the parties by the WVDEP as a result of the FOIA requests mentioned above appears somewhat incomplete. See Def. Ex. 321 at 4-7. For instance, while some portions of the form have been manually filled in, other portions remain blank. See id. It is also worth noting that on November 14, 2019, Courtland issued a FOIA request to the USEPA "requesting information on the Filmont Landfill, owned and operated by the Union Carbide Corporation, and located in South Charleston, West Virginia," to which the USEPA responded that "no records were found responsive to [Courtland's] request." Pl. Ex. 872 (USEPA FOIA Request). While such discrepancies create some question, the court ultimately concludes that the weight of the evidence supports a finding that the 103(c) Notice respecting Filmont was sent to and received by the USEPA.

Indeed, based upon the circumstantial evidence produced at trial, namely, the signed CERCLA 103(c) Notice respecting Filmont bearing the signature of Mr. Worstell, the cover letter dated June 9, 1981, signed by Mr. Charles, appearing to accompany the same, the Preliminary Assessment form

regarding Filmont produced to the parties by the WVDEP, and in connection with the credible testimony of Mr. Worstell and Mr. MacPherson, the court finds that it is more likely than not that the CERCLA 103(c) Notice was sent to and received by the USEPA in June of 1981.

E. Environmental Monitoring & Sampling Performed by UCC

Beginning in 2005 and continuing until 2019, UCC, on its own accord, has conducted monitoring and sampling of groundwater, surface water,[32] and soil at and near Filmont and Massey. See, e.g., Tr. Tran. 96:25-97:4 (Cibrik: July 6, 2022); Pl. Ex. 317 (2006 Technical Memorandum for Filmont Landfill); Pl. Ex. 725 (Groundwater Monitoring & Sampling Results spanning from 2006 to 2018); Jt. Ex. 1A-1 (Site Sampling Location Maps); Jt. Ex. 1A-2 (Groundwater & Soil Sampling Results).

A total of thirteen (13) groundwater monitoring wells related to Filmont and Massey have been installed on or near the Filmont property: MW-01S; MW-02S; MW-02D; MW-03S; MW-03D; MW-04D; MW-05D; MW-06D; MW07S; MW-07D; MW-11; MW-12; and MW-13.[33]

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[32] An overview of UCC's sampling of the surface water bodies surrounding Filmont and Massey is set forth infra in the factual findings respecting Courtland's Clean Water Act claims. See Section V.B.1.ii at pages 356-360.

[33] "MW" stands for monitoring well, "S" indicates that the well screened is in the shallow alluvial groundwater above the (continued…)

See Jt. Ex. 1A-1 at 1 (Site Sampling Location Maps)[34]. Three of these wells, MW-11, MW-12, and MW-13, are located across Davis Creek on the side opposite of Filmont.[35] See id.; see also Tr. Tran. 1351:2-7 (Simonton: July 13, 2022). Additionally, groundwater sampling has taken place at locations on both Filmont and Massey in 2006 and 2010. See Jt. Ex. 1A-1 (Site Sampling Location Maps) at 1; Pl. Ex. 725.

It is evident from the data collected by UCC over the years that hazardous substances such as arsenic, acetone, di-n-butyl phthalate, barium, benzene, cadmium, chromium, lead, selenium, 1,4 dioxane, bis (2-chloroethyl) ether, bis (2-

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natural clay layer of the landfill, and "D" indicates that the well is screened in the deep alluvial groundwater at approximately thirty-five to fifty-five feet in the sandier formation beneath the clay layer. See Tr. Tran. 201:9-21 (Cibrik: July 6, 2022) ("[T]here's waste material. There's a clay layer. And then there's more of a sandy area that's underneath the clay. So the deeper wells are screened in that sandier formation."); see also Tr. Tran 576:6-11 (Cibrik: July 8, 2022).

[34] Figure 2, or page one, of Jt. Ex. 1A-1 depicts the precise locations of each of these monitoring wells, as well as locations where groundwater samples, soil samples, surface water samples, etc., have been collected by UCC over the years. See Jt. Ex. 1A-1 at 1.

[35] It is noted that MW-11 and MW-13 are located on city property, while MW-12 is located across Davis Creek, where the creek forms the westerly line of Filmont, on other UCC property. See Jt. Ex. 1A-1; Tr. Tran. 1350:23-1351:7 (Simonton: July 13, 2022).

chloroisopropyl) ether, vinyl chloride, and bis (2-ethylhexyl) phthalate[36] have been released from the Filmont facility and have emanated into the environment as evidenced by the presence of the same in the groundwater monitoring wells located on Filmont and the western side of Davis Creek. See Pl. Ex. 725[37] (Groundwater Monitoring & Sampling Results spanning from 2006 to 2018); Jt. Ex. 53 (Filmont Landfill 2010/2011 Investigation Summary); Jt. Ex. 1A-1 (Site Sampling Location Maps) at Figures 4 & 5; Jt. Ex. 7 (2012 & 2013 Filmont Groundwater Monitoring Report); Jt. Ex. 8 (2014 Filmont Groundwater Monitoring Report); Jt. Ex. 9 (2015 & 2016 Filmont Groundwater Monitoring Report); Jt. 10 (2017 Filmont Groundwater Monitoring Report); Jt. Ex. 11 (2018 Filmont Groundwater Monitoring Report); Jt. Ex. 12 (2019 Filmont Groundwater Monitoring Report).

Prior to setting forth the constituents exceeding their MCL or RSL screening level in these monitoring wells and samplings, it is pertinent to note the screening level for each

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[36] Inasmuch as these constituents appear to be the focus of the parties, they will also be the focus of the court's findings herein.

[37] It is noted that the cells highlighted in orange on Pl. Ex. 725 indicate that the detection for the particular constituent in groundwater exceeded its screening level, while those highlighted in yellow indicate that the constituent was detected, but at a concentration below its screening level.

of the constituents at issue in the chart below, which continues briefly onto the following page:

Constituent	MCL	RSL
Arsenic[38]	0.01 mg/L[39]	
Barium	2 mg/L	
Benzene	5 µg/l	
Cadmium	0.005 mg/L	
Chromium	0.01 mg/L	
Lead	0.015 mg/L	
Selenium	0.05 mg/L	
Vinyl Chloride	2 µg/l	
Acetone		1400 µg/l
Di-n-butyl phthalate[40]		90 µg/l

[38] As of 2006, the current and correct MCL for arsenic under the Safe Drinking Water Act ("SDWA") is 0.01 mg/L. See Nebraska v. E.P.A., 331 F.3d 995, 997 (D.C. Cir. 2003) (citing National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring, 66 Fed. Reg. 6976, 6981, 6989 (Jan. 22, 2001) (noting that in 2001, the USEPA "duly initiated a rulemaking proceeding and, after receiving comments on a proposed rule, published a final regulation setting the [MCL] for arsenic at [0].01 mg/L, effective after 2006."). However, the MCL for arsenic set forth in 40 C.F.R. pt. 257, App. I -- which is applicable only to a portion of Courtland's RCRA open dumping claim -- has yet to be amended and still reports the MCL for arsenic under the SDWA as 0.05 mg/L. Thus, as noted infa in footnote 62, the court will use the 0.05 mg/L only in relation to Courtland's open dumping claim where the same becomes relevant but utilize the 0.01 mg/L MCL elsewhere in this opinion.

[39] As previously mentioned, "mg/L" refers to milligrams per liter, while "µg/l" refers to micrograms per liter.

[40] There is a discrepancy in the RSL screening level listed for di-n-butyl phthalate in Jt. Ex. 9 (Filmont 2015 & 2016 Groundwater Monitoring Report) and Pl. Ex. 725 (Groundwater Monitoring & Sampling Results spanning from 2006 to 2018). Jt. Ex. 9 lists the RSL screening level as 90, while Pl. Ex. 725 lists the screening level as 900. Inasmuch as Jt. Ex. 9 is the actual groundwater monitoring report and Pl. Ex. 725 is an excel spreadsheet curated by the plaintiffs taking the data from the (continued...)

Constituent	MCL	RSL
1,4 dioxane		0.46 µg/l
Bis (2-chloroethyl) ether[41]		0.014 µg/l
Bis (2-ethylhexyl) phthalate		6 µg/l
Bis (2-chloroisopropyl) ether[42]		Unknown

multiple groundwater monitoring reports and furnishing that data into one document, the court notes the RSL as it appears in the actual groundwater monitoring report.

[41] The 2012 & 2013 Filmont Groundwater Monitoring Report lists the RSL for bis (2-chloroethyl) ether as 0.012 µg/l, while the 2015 & 2016 and 2018 Groundwater Monitoring Reports list the RSL as 0.014 µg/l. See Jt. Ex. 7 (2012 & 2013 Filmont Groundwater Monitoring Report at 024591; Jt. Ex. 9 (2015 & 2016 Filmont Groundwater Monitoring Report) at 000797-801; Jt. Ex. 11 (2018 Groundwater Monitoring Report) at 001985-1986. Pl. Ex. 727, a compilation of the data prepared by Courtland from the Filmont Groundwater Monitoring Reports spanning from 2007 through 2018 in an excel spreadsheet, appears to mistakenly list the RSL for bis (2-chloroethyl) ether as 0.014 µg/l for all data entries. See Pl. Ex. 727. Presumably, the RSL for bis (2-chloroethyl) ether from 2007 through 2013 was 0.012 µg/l, until it was changed to 0.014 µg/l in 2015. Nonetheless, the discrepancy is of little moment inasmuch as all exceedances of bis (2-chloroethyl) ether detected in the Filmont groundwater plume, which are accurately highlighted in orange on Pl. Ex. 727, are well above both screening levels. The chart above reflects the most recent RSL.

[42] The only constituent with an unclear RSL screening level is bis (2-chloroisopropyl) ether. It is noted that the Filmont 2012 & 2013 Groundwater Monitoring Report lists the RSL screening level for bis (2-chloroisopropyl) as 0.31 µg/l, while the 2015 & 2016 Groundwater Monitoring Report lists the RSL screening level as 71 µg/l. See Jt. Ex. 7 (Filmont 2012 & 2013 Groundwater Monitoring Report) at 024592; Jt. Ex. 9 (Filmont 2015 & 2016 Groundwater Monitoring Report) at 000797. Pl. Ex. 725, the excel spreadsheet reflecting the Filmont/Massey groundwater monitoring data spanning from 2006 to 2018, does not provide a screening level for bis (2-chloroisopropyl) at all and reports all detections for this substance as below the screening level. The court is thus unable to determine the requisite RSL for this constituent on the existing record.

See Jt. Ex. 7 (Filmont 2012 & 2013 Groundwater Monitoring Report) at 024592; Jt. Ex. 9 (Filmont 2015 & 2016 Groundwater Monitoring Report) at 000797; see also Pl. Ex. 725 (Groundwater Monitoring & Sampling Results spanning from 2006 to 2018).

As previously mentioned, outside of the installation of monitoring wells, groundwater sampling has also been conducted by UCC in November 2006 and September 2010, at sample locations FLF-17 towards the southeastern corner of Filmont, FLF-73 towards the southwestern corner of Massey, FLF-74 in the middle of Massey, and FLF-75 towards the southeastern corner of Massey. See Jt. Ex. 1A-1 (Site Sampling Location Maps) at 1; Pl. Ex. 725.

At sample location FLF-17 (southeastern corner of Filmont) on November 9, 2006, the following constituents were detected at concentrations exceeding their MCL or RSL screening level: arsenic dissolved at 0.041 mg/L; 1,4 dioxane at 11.6 µg/l; vinyl chloride at 12.8 µg/l; and bis (2-ethylhexyl) phthalate at 1440 µg/l. See Pl. Ex. 725. Constituents such as barium, acetone, and benzene were also detected at sample location FLF-17, but at concentrations below their screening levels. See id.

At sample location FLF-73 (southwestern corner of Massey) on September 9, 2010, the following constituents were

detected at concentrations exceeding their MCL or RSL screening level: arsenic at 0.0422 mg/L; barium at 4.49 mg/L; arsenic dissolved at 0.0478 mg/L; benzene at 6.96 µg/l; bis (2-chloroethyl) ether at 7.02 L µg/l; bis (2-ethyhexyl) phthalate at 10 L µg/l; and 1,4 dioxane at 1.86 J µg/l. See id. Constituents such as barium (dissolved), selenium, acetone, and vinyl chloride were also detected at sample location FLF-73, but at concentrations below their screening levels. See id.

At sample location FLF-74 (middle of Massey) on September 9, 2010, the following constituents were detected at concentrations exceeding their MCL or RSL screening level: arsenic at 0.0492 mg/L; cadmium at 0.00881 mg/L; lead at 0.136 mg/L; arsenic dissolved at 0.0469 mg/L; and 1,4 dioxane at 4.08 µg/l. See Pl. Ex. 725. Constituents such as barium (total and dissolved), chromium (total and dissolved), cadmium (dissolved), selenium, acetone, benzene, and bis (2-chloroisopropyl) ether were also detected at sample location FLF-74, but at concentrations below their screening levels. See id.

At sample location FLF-75 (southeastern corner of Massey) on September 9, 2010, the following constitutes were detected at concentrations exceeding their MCL or RSL screening level: arsenic at 0.0359 mg/L; arsenic dissolved at 0.0106 mg/L; and 1,4 dioxane at 243 L µg/l. See id. Constituents such as

barium (total and dissolved), cadmium, chromium, lead, selenium (total and dissolved), acetone, benzene, and bis (2-chloroisopropyl) ether were also detected at sample location FLF-75, but at concentrations below their screening levels. See id.

Turning to the groundwater monitoring wells installed elsewhere on or around Filmont, an example is MW-01S, located on Filmont just north of the near center of Massey, where the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on May 29, 2007, 1,4 dioxane at 134 L[43] µg/l and bis (2-chloroethyl) ether at 33.1 µg/l; on December 4, 2007, arsenic at 0.0785 mg/L; chromium at 0.177 mg/L; lead at 0.0811 mg/L; 1,4 dioxane at 2000 R[44] µg/l; vinyl chloride at 98.8 µg/l; and bis (2-chloroethyl) ether at 49.8 µg/l; on October 14, 2008, arsenic at 0.011 mg/L and 0.027 mg/L; vinyl chloride at 70.1 µg/l and 62.9 µg/l; 1,4

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[43] "L" indicates that "[t]he analyte was positively identified, but the associated numerical value may be biased low." Jt. Ex. 7 (2012 & 2013 Filmont Groundwater Monitoring Report) at 024591. "J," as earlier noted, means estimated.

[44] "R" indicates that "[t]he sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet the quality control criteria. The presence or absence of the analyte cannot be verified." Jt. Ex. 53 (Filmont Landfill 2010/2011 Investigation Summary) at Table 3. Thus, moving forward, the court will not note any detection flagged with the "R" notation.

dioxane at 12.9 µg/l and 12.5 µg/l; and bis (2-chloroethyl) ether at 64.8 µg/l and 60.4 µg/l; on September 14, 2011, arsenic at 0.0376 mg/L; arsenic dissolved at 0.0316 mg/L; vinyl chloride at 179 µg/l; bis (2-chloroethyl) ether at 12.5 L µg/l; and 1,4 dioxane at 4.3 µg/l; on June 5, 2012, vinyl chloride at 32.1 µg/l; 1,4 dioxane at 11.2 µg/l; and bis (2-chloroethyl) ether at 37.8 µg/l. See Pl. Ex. 725. Constituents such as barium (total and dissolved), chromium (total and dissolved), lead (dissolved), benzene, bis (2-chloroisopropyl) ether, and selenium have likewise been detected in MW-01S, but at concentrations below their screening levels. See id.

Respecting MW-11, the first of the three groundwater monitoring wells located on the west side of Davis Creek, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on September 14, 2011, arsenic at 0.0543 mg/L; lead at 0.0717 mg/L; arsenic dissolved at 0.0285 mg/L; and 1,4 dioxane at 0.581 J µg/l; on October 5, 2011, arsenic at 0.0393 mg/L; arsenic dissolved at 0.0389 mg/L; and 1,4 dioxane at 1.62 µg/l; on March 26, 2012, arsenic at 0.0352 mg/L; and 1,4 dioxane at 1.89 µg/l; on June 4, 2012, arsenic at 0.0313 mg/L; and 1,4 dioxane at 1.78 µg/l; on September 27, 2012, arsenic at 0.0318 mg/L; and 1,4 dioxane at 1.95 L µg/l; on December 5, 2012, arsenic at 0.0347

mg/L; and 1,4 dioxane at 2.16 µg/l; on May 21, 2013, arsenic at 0.0275 mg/L; and 1,4 dioxane at 1.12 µg/l; on April 22, 2014, arsenic at 0.0287 mg/L; and 1,4 dioxane at 2.42 J µg/l; on January 13, 2015, arsenic at 0.0247 mg/L; 1,4 dioxane at 2.25 µg/l; and bis (2-ethylhexyl) phthalate at 7.16 B[45] µg/l; on October 6, 2015, arsenic at 0.0217 mg/L; and 1,4 dioxane at 1.55 µg/l; on July 22, 2016, arsenic at 0.028 mg/L; and 1,4 dioxane at 1.74 L µg/l; on July 21, 2017, arsenic at 0.0155 mg/L and 0.0171 mg/L; and 1,4 dioxane at 4.07 µg/l and 4.15 µg/l; and on July 26, 2018, arsenic at 0.0198 mg/L; and 1,4 dioxane at 5 µg/l. See Pl. Ex. 725. Constituents such as barium (total and dissolved), chromium (total and dissolved), lead (total and dissolved), selenium (total and dissolved), acetone, bis (2-ethylhexyl) phthalate, and di-n-butylphthalate have also been detected in MW-11, but at concentrations below their screening levels. See id.

The remaining wells located elsewhere on or around Filmont, namely, MW-02D, MW-02S, MW-03D, MW-03S, MW-04D, MW-06D, MW-07D, MW-07S, and the remaining wells located on the west side

[45] "B" indicates that "[t]he analyte was detected in the associated method and/or detection calibration blank." Jt. Ex. 9 (Filmont 2015 & 2016 Groundwater Monitoring Report) at 000800.

of Davis Creek, MW-12 and MW-13, are detailed in the Appendix at pages 407-416.

While all such constituents have been detected in Filmont's groundwater at some point, UCC has identified 1,4 dioxane, bis (2-chloroisopropyl) ether[46], and arsenic as being the most prominent constituents of concern in the Filmont groundwater plume. See, e.g., Jt. Ex. 7 (2012 & 2013 Filmont Groundwater Monitoring Report) at 024584; Jt. Ex. 8 (2014 Filmont Groundwater Monitoring Report) at 000041; Jt. Ex. 10 (2017 Filmont Groundwater Monitoring Report) at 024683; Tr. Tran. 211:2-22 (Cibrik: July 6, 2022). It is undisputed that the groundwater in the Filmont alluvial groundwater formation is

[46] It is noted that there appears to be a discrepancy amongst the Filmont groundwater monitoring reports, with the two later reports from 2018 and 2019 noting bis (2-chloroethyl) ether as being one of the three most prominent constituents of concern in the groundwater plume, as opposed to bis (2-chloroisopropyl) ether. See, e.g., Jt. Ex. 11 (2018 Filmont Groundwater Monitoring Report) at 001976; Jt. Ex. 12 (2019 Filmont Groundwater Monitoring Report) at 025156. The court notes that while bis (2-chloroisopropyl) ether has been detected in the Filmont groundwater plume, it has not been detected above its screening level; whereas, bis (2-chloroethyl) ether has been detected above its screening level. Nonetheless, the parties focused on bis (2-chloroisopropyl) ether at trial inasmuch as the same has been detected in the Filmont groundwater plume and on the Courtland Property. Thus, bis (2-chloroisopropyl) ether will be treated as being one of the three main constituents of concern in the Filmont groundwater plume as stated in UCC's 2012, 2013, 2014, and 2017 groundwater monitoring reports.

hydrologically connected and discharges to Davis Creek. See Tr. Tran. 211:23-212:5 (Cibrik: July 6, 2022).

The 2014 Filmont Groundwater Monitoring report notes that "[t]he primary source [of the constituents detected in the Filmont groundwater plume] appears to be the material in the landfill that has leached[47] to groundwater" and that "[d]eep groundwater at the site is impacted with a subset of the constituents that are observed in the monitoring wells screened in the saturated landfill material." Jt. Ex. 8 (2014 Filmont Groundwater Monitoring Report) at 000041; see also Tr. Tran. 81:9-17 (Cibrik: July 6, 2022); Tr. Tran. 668:12-18 (Cibrik: July 8, 2022). The saturated landfill material is the waste located above the clay layer of the landfill that sits saturated in the Filmont groundwater. See Tr. Tran. 90:11-20 (Cibrik: July 6, 2022); see also id. at 213:19-5 (Cibrik recognizing that saturated landfill material has been encountered in shallow monitoring wells (MW-02S and MW-03S)).

The 2019 Filmont Groundwater Monitoring Report, the most recent report, evaluated the Filmont groundwater plume's

[47] West Virginia's Solid Waste Management Rule defines leachate as "any liquid that has come into contact with, passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste." See W. Va. Code R. § 33-1-2.66; see also Tr. Tran. 71:23-72:3, 77:11-18 (Cibrik: July 6, 2022).

stability to determine if the constituent concentrations in the groundwater were increasing, decreasing, or stable based upon the detections in the monitoring wells located on the western side of Davis Creek. See Jt. Ex. 12 (2019 Filmont Groundwater Monitoring Report). The 2019 report concluded as follows:

> Analytical data collected in 2019 show that 1,4 dioxane, bis (2-chloroethyl) ether, and arsenic have a similar distribution to historical data. Monitoring well MW-12 exhibits a statistically increasing trend for arsenic; however, this is most certainly affected by the high turbidity during sampling in 2019. The arsenic concentration in MW-12 prior to 2019 appears stable. The concentrations of the other constituents show some variability over time, but overall are stable or decreasing.

Id. at 025159; see also Tr. Tran. 238:11-239:2 (Cibrik: July 6, 2022). This conclusion is consistent with Mr. Cibrik's testimony at trial, where he explained that his last review of the most recent Filmont site conditions demonstrated as follows:

> So for groundwater, everything is essentially stable or decreasing, which you would expect after something that's been around for that many years. So it's kind of in a stable condition. And so we're still doing some periodic monitoring to make sure it doesn't change, even though we don't expect any changes, other than staying the same or getting better.

Tr. Tran. 635:10-18 (Cibrik: July 8, 2022).

On January 29, 2021, UCC applied for Filmont and Massey (collectively "the site") to be accepted into the West Virginia Voluntary Remediation Program ("VRP"). See Jt. Ex. 1 (VRP Application). On September 23, 2021, the WVDEP formally

accepted Filmont and Massey into the VRP. See Def. Ex. 57 (WVDEP Letter of Acceptance); see also Tr. Tran. 2580:5-19 (Carpenter: July 21, 2022).

David Carpenter, a licensed remediation specialist in West Virginia and the environmental consultant retained by UCC to assess Filmont and Massey's eligibility for the VRP, completed UCC's VRP application based upon the available historical information and environmental data related to the site, including the data spanning from 2005 to 2019 that UCC had compiled from its own environmental investigations of the groundwater, soil, and surface water at and near Filmont and Massey. See Tr. Tran. 2574:4:9, 2579:14-2580:19, 2584:4-2585:11, 2594:16-17 (Carpenter: July 21, 2022). To help guide future investigations of the site, all environmental information related thereto was also attached to UCC's VRP application submitted to the WVDEP. See id. at 2585:9-21; see also Jt. Ex. 1a (Attachment Proof of Legal Right to Perform Work).

Based, in large part, on the environmental data gathered by UCC and its consultants over the last fifteen years, the VRP application notes that there are both known and suspected contamination of soil, groundwater, surface water, sediments, and air at the site. See Jt. Ex. 1 (VRP Application) at 023691. The VRP further notes that the known or suspected

source of the contamination to the environmental media at the site is the burial or dumping of wastes, such as industrial wastes deposited in the landfill that includes drummed waste, with the primary transport mechanism of such contamination noted as leaching from the landfill. Id. at 023691, 023693.

Mr. Carpenter testified that the environmental data relied upon to fill out the VRP application and submitted therewith was not offered as a final determination of the current conditions existing at the site. See Tr. Tran. 2586:19-16, 2590:20-25 (Carpenter: July 21, 2022). Specifically, he testified that given how dated much of the environmental data was, he assumed the same was far from representative of the current conditions at the site. Id. at 2590:20-25 (Q: "Would it be correct that the data that you submitted didn't necessarily represent current conditions on the site?" A: "No. Especially, in this case, given how old the data was, it's far from what its current conditions are, I would assume.").

Such testimony, however, does not provide a basis for the court to turn a blind eye to the contents of UCC's VRP application or the years of environmental sampling and monitoring data collected by UCC attached thereto. Indeed, the 2019 Filmont Groundwater Monitoring Report, prepared by UCC's consultants in 2020, demonstrates that the Filmont groundwater

plume remains contaminated. See Jt. Ex. 12 (2019 Filmont Groundwater Monitoring Report). While the 2019 report ultimately concludes that the concentrations of the constituents detected in the groundwater plume are overall stable or decreasing, it is well-nigh certain that such contamination has not since vanished altogether. See id. Thus, the court declines to wholly disregard the contents of the VRP application and the available environmental data gathered by UCC and its consultants, while at the same time recognizing that the VRP application does not alone establish UCC's liability on any of Courtland's asserted claims.

F. September 2020 Sampling of Ward Branch by Dr. Simonton

Cognizant of the surface water data collected by UCC and its consultants and UCC's identification of widespread seepage along the northern toe of the landfill where Filmont borders Ward Branch, Dr. Simonton took a kayak trip on September 11, 2020, to observe the Filmont site and its potential impacts on Davis Creek and Ward Branch. See Tr. Tran. 1301:19-1302:17 (Simonton: July 13, 2022). During this kayak trip, Dr. Simonton observed, what he opined to be, orange iron hydroxide deposits/sludges lining the bank of Davis Creek and Ward Branch emanating from Filmont. See Pl. Ex. 78 at Photo 1, 2, 3, and 9; see also Pl. Ex. 574 (video depicting orange deposits on the

eastern side of Davis Creek downstream of Southern Boundary Ditch where Filmont borders the creek); Tr. Tran 1090:14-23 (Simonton: July 12, 2022).

Additionally, Dr. Simonton took three grab samples on his kayak expedition: two of surface water and one of sediment in or near Ward Brach not far from the point at which Ward Branch turns west to Davis Creek after crossing under I-64 in a culvert. See Tr. Tran. 2302:6-12 (Simonton: July 20, 2022); Pl. Ex. 78 at 2 (figure depicting location of all three grab samples in red); see also Pl. Ex. 500 (September 2020 Sampling Results). This approximate location, where Ward Branch turns west to Davis Creek, is referred to as the "elbow" of Ward Branch in trial testimony.

The first sample, Grab One,[48] was taken of the surface water discharging directly from the groundwater seep coming from the base of Filmont into Ward Branch (sometimes referred to as

[48] It is noted that one of UCC's expert witnesses, Dr. Brian Wellington, who provided testimony with respect to Courtland's CWA claims, dismissed the validity of Dr. Simonton's Grab One sample as being an accurate representation of the surface water because the same contained sediment. See Tr. Tran. 3266:21-3267:6 (Wellington: July 27, 2022). The court, however, is satisfied with Dr. Simonton's Grab One sample. Indeed, inasmuch as the Grab One sample represents that which flows out of the groundwater seep at the base of Filmont, the court finds the same to be a representative sample of the substances being discharged to Ward Branch therefrom.

"Ward Branch Seep").[49] See Tr. Tran. 2307:17-24 (Simonton: July 20, 2022) (describing Grab One's location as the "seep coming off of Filmont that's discharging directly to Ward Branch. The sample is prior to its entering Ward Branch."); see also Pl. Ex. 78 at 11 (image depicting location of the water sampled in Grab One); Pl. Ex. 575 (video depicting the seep from which Grab One was taken). The Grab One surface water sample revealed the presence of the following metals: (1) aluminum at 1.1 mg/L; (2) arsenic at 0.049 mg/L; (3) beryllium at 0.00020 J mg/L; (4) cadmium at 0.00017 J mg/L; (5) chromium at 0.0091 mg/L; (6) copper at 0.0097 mg/L; (7) iron at 92 mg/L; (8) lead at 0.013 mg/L; (9) manganese at 1.4 mg/L; (10) nickel at 0.0073 mg/L; (11) selenium at 0.00065 J mg/L; and (12) zinc at 0.086 mg/L. See Pl. Ex. 177 at AR Page 1 of 3.

The second sample, Grab Two, was taken of surface water in Ward Branch itself, roughly eight to ten feet upstream of the location of Grab One and approximately in the elbow (sometimes referred to as "Ward Branch Elbow"). See Tr. Tran. 2309:8-18 (Simonton: July 20, 2022); Pl. Ex. 78 at Photo 11 (image depicting location of Grab Two sample). The Grab Two sample reveled the following metals: (1) aluminum at 0.28 mg/L;

[49] Once the groundwater from the seep daylights at this point, it becomes surface water. See Tr. Tran. 2318:20-25 (Simonton: July 20, 2022).

(2) arsenic at 0.024 mg/L; (3) chromium at 0.0024 J mg/L; (4) copper at 0.0053 mg/L; (5) iron at 4.5 mg/L; (6) lead at 0.0040 J mg/L; (7) manganese at 0.67 mg/L; (8) nickel at 0.0063 mg/L; (9) selenium at 0.0048 J mg/L; and (10) zinc at 0.043 mg/L. See Pl. Ex. 177 at AR page 2 of 3. All of these metals, aside from aluminum and iron, are classified as hazardous substances under CERCLA. See 40 C.F.R. § 302.4.

At trial, Dr. Simonton was unable to provide testimony as to whether the concentrations of these detected metals in Grabs One and Two exceeded either West Virginia or USEPA surface water quality standards. See Tr. Tran. 2305:23-24; 2306:4-20; 2308:6-18. Instead, he merely referred to the concentrations of arsenic and lead in Grabs One and Two and the manganese in Grab Two as "elevated" over background levels (i.e., naturally occurring levels) in the area. See Tr. Tran. 1117:3-12; 1120:16-1121:3. Dr. Simonton also referred to the non-hazardous substance, iron, as being "very high" in Grab One and "elevated" in Grab Two, and the non-hazardous substance, aluminum, as "not something . . . normally see[n] in water" and "elevated" in Grab Two. Id.

The last sample, Grab Three, is a sediment sample taken within the orange deposit located on the bank of Ward Branch at the base of Filmont, directly to the left of Grab One

and between Grabs One and Two. See Pl. Ex. 78 at Photo 9 (image depicting location of sediment sampled in Grab Three); see also Pl. Ex. 575 (video depicting the seep from which Grab One was taken and the sediment from which Grab Three was taken); Tr. Tran. 2404:11-23 (Simonton: July 20, 2022) (describing the area depicted in Pl. Ex. 575 where the sediment sample was taken). The Grab Three sediment sample contained the following constituents: (1) mercury at 0.50 mg/Kg (milligrams per kilogram); (2) aluminum at 6,100 mg/Kg; (3) antimony at 2.3 mg/Kg; (4) arsenic at 91 mg/Kg; (5) beryllium at 0.85 mg/Kg; (6) cadmium at 0.55 mg/Kg; (7) chromium at 44 mg/Kg; (8) copper at 45 mg/Kg; (9) iron at 160,000 mg/Kg; (10) lead at 61 mg/Kg; (11) manganese at 1,400 mg/Kg; (12) nickel at 29 mg/Kg; (13) selenium at 1.3 J mg/Kg; (14) silver at 1.2 J mg/Kg; and (15) zinc at 400 mg/Kg.

Again, all of these constituents, aside from aluminum and iron, are hazardous substances under CERCLA. Dr. Simonton explained that while there are no screening levels for sediment samples, the general practice is to look to soil screening levels when determining exceedances. See Tr. Tran. 2409:15-24 (Simonton: July 20, 2022). However, Dr. Simonton provided no testimony respecting the soil screening levels for these constituents or whether any of these constituents exceeded the

same. Instead, he referred to the two non-hazardous substances, iron and aluminum, as "very high" and "fairly high," and the detections of selenium and silver as "low concentrations." See Tr. Tran. 1115:4-16 (Simonton: July 12, 2022).

On September 12, 2020, the day after the kayak trip, Dr. Simonton conducted a field observation of Davis Creek from the Courtland Property where he made observations respecting the point at which Southern Boundary Ditch enters Davis Creek from the Courtland Property. See Pl. Ex. 78 at 2 (depicting the location where photos 4, 5, 6, and 7 were taken during this field observation); see also id. at Photos 4, 5, 6, and 7. The field observation revealed the presence of orange iron hydroxide deposits, in Southern Boundary Ditch where it meets Davis Creek, along the eastern bank of Davis Creek approximately 20 feet upstream of where Southern Boundary Ditch enters the creek, and along the eastern bank of Davis Creek downstream of Southern Boundary Ditch. See, e.g., Tr. Tran. 1096:21-1098:13 (Simonton: July 12, 2022) (describing his observations depicted in Photo 4 of Pl. Ex. 78); Pl. Ex. 78 at Photo 4 (image of orange deposits in Davis Creek roughly 20 feet upstream of Southern Boundary Ditch looking upstream in Davis Creek); Photo 5 (same but looking downstream in Davis Creek); Photo 6 (image depicting orange deposit in Southern Boundary Ditch where it meets Davis

Creek); Photo 7 (image depicting orange deposits in Davis Creek downstream of Southern Boundary Ditch).

Dr. Simonton indicated he had not observed these orange deposits any further than this point upstream in Davis Creek. See Tr. Tran. 1090:6-9 (Simonton: July 12, 2022); see also Pl. Ex. 78 at Photo 4 (image depicting orange deposits in Davis Creek roughly 20 feet upstream of Southern Boundary Ditch and clear water further upstream of this point); Tr. Tran. 1102:12-13 (Simonton: July 12, 2022). Dr. Simonton opined that these orange iron hydroxide deposits are emanating from groundwater seeps from Filmont into Southern Boundary Ditch. See Tr. Tran. 1088:20-1093:12 (Simonton July 12, 2022). Importantly, as mentioned above, iron is not deemed a hazardous substance under CERCLA. See 40 C.F.R. § 302.4.

In all, Dr. Simonton expended a total of $7,802.50 on his work related to the September 11, 2020, kayak trip sampling and his observations of Davis Creek from the Courtland Property on September 12, 2020.[50] See Pl. Ex. 500 (Simonton Invoices) at

[50] One of Dr. Simonton's invoices billed a total of $3,237.50 for "kayak access Davis Creek and Ward Branch" and "overland access via Courtland" on September 11 and 12, 2020. See Pl. Ex. 500 at 2; see also Tr. Tran. 1300:4-9 (Simonton: July 13, 2022) (describing page 2 of Pl. Ex. 500 as an "invoice for [his] time and costs for the September 2020 sampling event both at - on the kayak and the next day at . . . the Courtland (continued...)

1-2; see also Tr. Tran. 1298:19-1299:23 (Simonton: July 13, 2022) (explaining the contents of Pl. Ex. 500 as it relates to the September 2020 sampling). Per Dr. Simonton, the September 2020 kayak trip and observations were "critical" in assisting with his understanding of what was happening at the Filmont site and revealed that the "Ward Branch seep" was leaching hazardous substances from Filmont into Ward Branch. See Tr. Tran. 1305:21-1306:16 (Simonton: July 13, 2022).

Despite Dr. Simonton's testimony that these costs were "critical" in his overall evaluation of Filmont, the court finds that the costs associated with the September 2020 kayak trip/sampling in Ward Branch ultimately do not constitute "necessary" costs of response under CERCLA. Importantly, Courtland's CERCLA claim in Courtland II seeks to recover costs incurred by Courtland in response to releases from Filmont and/or Massey that have migrated to the Courtland Property. See ECF 1 (Courtland II Complaint) at 46 ¶ A. Costs incurred investigating releases from Filmont into Ward Branch have no bearing on uncovering potential impacts to the Courtland

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property."). It is unclear from the record what portion of this $3,237.50 relates to the kayak trip and what portion relates to the site visit.

Property from migrating contamination via groundwater from Filmont and/or Massey.

In other words, while investigatory costs can constitute necessary costs of response that are recoverable under CERCLA, such costs must be incurred in direct response to Courtland's underlying concern herein, that contamination from Filmont and/or Massey has migrated to the Courtland Property via groundwater. A sampling investigation of surface water in Ward Branch -- located significantly downstream of Courtland -- is in no way "necessary to enable subsequent measures to ensure a CERCLA-quality cleanup" of the Courtland Property. Von Duprin, 12 F.4th at 771.

The court thus finds that the September 2020 kayak trip sampling of Ward Branch and related site visit to observe Davis Creek is limited in scope to Courtland's CWA claims in Courtland III and IV and its RCRA imminent and substantial endangerment claim in Courtland II.[51] Only those costs incurred by Courtland in direct response to potential contamination of

[51] To the extent that the court's summary judgment opinion can be interpreted as definitively concluding that the September 2020 costs constitute necessary costs of response under CERCLA, that determination was made prematurely on a muddled record and in error, which the court now rectifies herein with the benefit of a complete and clear evidentiary record established at trial.

the Courtland Property from Filmont and/or Massey will be assessed for CERCLA purposes.

G. June/July 2021 Sampling on Courtland by Dr. Simonton

Mindful of the data from UCC and its consultants evidencing that groundwater at Filmont is contaminated, and, what Dr. Simonton interprets to be, a component of groundwater flow towards the Courtland Property from Filmont, Dr. Simonton conducted in June and July 2021, a limited investigation on the northern portion of the Courtland Property, lying between the Southern Boundary Ditch and the property line with Filmont but near the property line. See Tr. Tran. 1302:18-1303:11, 1309:14-1310:1 (Simonton: July 13, 2022); Pl. Ex. 293-1 (July 2021 Courtland Sampling & Analysis Report) at 3. Dr. Simonton testified that the purpose of this limited investigation was "to identify any contamination or if contamination of any kind was coming onto the Courtland [P]roperty" from Filmont, but was not meant to fully delineate the same. Tr. Tran. 1311:20-1310:1; see also id. at 1303 (Simonton: "I endeavored to help further define and confirm what the data was already showing, which was there is contamination coming onto the Courtland [P]roperty" from Filmont); Pl. Ex. 293-1 (July 2021 Courtland Sampling & Analysis Report) at 7 ("This limited investigation does not and was not meant to determine the nature and extent of

contamination at and emanating from the Filmont open dump. An NCP-compliant Remedial Investigation remains necessary"). A total of $27,142.50 was expended by Courtland on this preliminary groundwater investigation. See Pl. Ex. 500 (Simonton Invoices) at 3-5; Tr. Tran. 1300:24-1301:18 (Simonton: July 13, 2022).

This preliminary investigation was comprised of the installation of four temporary piezometer wells, installed via direct-push drilling rig, located on the northern portion of the Courtland Property adjacent to the Courtland/Filmont boundary. See Pl. Ex. 293-1 (July 2021 Courtland Sampling & Analysis Report) at 3, Figure 1; Tr. Tran. 1308:14-16 (Simonton: July 13, 2022). Specifically, in relation to the monitoring wells located on Filmont, the four temporary piezometer wells were installed in an area of the Courtland Property located between a projection of MW-05D to the west and MW-02D and MW-02S to the east on Filmont. See Tr. Tran. 1307:8-15 (Simonton: July 13, 2022); see also Jt. Ex. 1A-1 (Site Sampling Location Maps) at 1 (depicting the location of the monitoring wells on Filmont); Pl. 293-1 (July 2021 Courtland Sampling & Analysis Report) at Figure 1 (depicting the location of the temporary wells on Courtland).

Three of the four temporary piezometer wells installed by Dr. Simonton on the Courtland Property were placed in a

straight line, with the fourth well installed "further to the south to aid in delineating groundwater flow." Pl. Ex. 293-1 (July 2021 Courtland Sampling & Analysis Report) at 5. All four wells were installed utilizing "1-inch PVC risers and screens placed inside a 3.5' boring." Id.

Samples were taken on three separate occasions from the first three wells, but with no samples taken from the fourth. See Tr. Tran. 1404:16-18 (Simonton: July 13, 2022). A total of the groundwater samples taken from the first three wells revealed the presence of three VOCs and eight SVOCs, as well as fifteen metals.[52] As testified by Dr. Simonton and reflected in his 2021 Sampling and Analysis Report, the three most notable constituents detected in the Courtland Property groundwater sampling were (1) 1,4 dioxane at 2.4 µg/L in the

[52] The three VOCs detected were (1) chloroform at 1.3 µg/L and 0.046 µg/L; 1,2-dichloroethane at 1.5 µg/L; and 1,4 dioxane at 2.4 µg/L. See Pl. Ex. 293-1. The eight SVOCs detected were (1) butyl benzyl phthalate at 6.7 µg/l, 3.6 µg/L, and 3.1 µg/L; (2) dimethyl phthalate at 0.67 J µg/L; (3) 2,2`-Oxybis (1-chloropropane) (also known as bis (2-chloroisopropyl) ether) at 5.7 µg/L; (4) 3&4-methylphenol at 0.65 J µg/L; (5) bis (2-ethylhexyl) phthalate at 0.48 J µg/L; (6) naphthalene at 0.12 J µg/L; (7) methylphenol at 0.65 J µg/L; and (8) di-n-butyl phthalate at 0.71 J µg/L. Id. The metals detected included arsenic (total and dissolved), selenium (total and dissolved), thallium (total), nickel (total and dissolved), zinc (total and dissolved), chromium (dissolved), barium (total), calcium (total), cobalt (total), iron (total), magnesium (total), manganese (total), potassium (total), sodium (total), and vanadium (total). Id. In all, twenty-six constituents were detected.

first well; (2) bis (2-chloroisopropyl) ether (also referred to as 2,2`-Oxybis (1-chloropropane)) at 5.7 µg/L in the second well; and (3) arsenic total at 0.016 mg/L in the third well, 0.077 mg/L in the second well, and 0.021 mg/L in the third well, and arsenic dissolved at 0.016 mg/L in the third well, 0.74 mg/L in the second well, and 0.020 mg/L in the third well.[53] See Tr. Tran. 1310:22-1311:14 (Simonton: July 13, 2022); Pl. Ex. 293-1 (July 2021 Courtland Sampling & Analysis Report).[54]

As previously mentioned herein, the MCL screening level for arsenic is 0.01 mg/L, the USEPA tap water RSL screening level for 1,4 dioxane is 0.46 µg/L, and, as explained in detail in footnote 42, the RSL screening level for bis (2-chloroisopropyl) ether is not definitively known. See Tr. Tran. 1344:24-1345:7 (Simonton: July 13, 2022); see also Pl. Ex. 725; Jt. Ex. 9 (Filmont 2015 & 2016 Groundwater Monitoring Report) at 000797. Notably, however, in Dr. Simonton's 2021 Sampling and Analysis Report, the only hazardous substance detected in the

[53] The third well was sampled twice on June 4, 2021, once at 7:40 A.M. and again at 12:25 P.M.

[54] It is noted that UCC's expert, Mr. MacPherson, was critical of Dr. Simonton's sampling methodology in relation to his 2021 samplings. The court, however, is satisfied with Dr. Simonton's 2021 groundwater sampling and finds no basis to render the same unreliable. Indeed, unlike his 2017 samplings, Dr. Simonton developed a field-sampling plan and prepared a sampling and analysis report describing his employed methodology and findings. See Pl. Ex. 295; Pl. Ex. 293-1.

2021 Courtland groundwater samplings that he describes as being high is arsenic. See Pl. Ex. 293-1 at 7 (noting that 1,4 dioxane and bis (2-chloroisopropyl) ether "were found in the Courtland groundwater" and that "arsenic was also found at very high concentrations."). It is also noteworthy that despite detecting contaminants in Courtland's groundwater, Dr. Simonton testified that he has never opined that the same automatically means a cleanup of the Courtland Property is necessary:

> Q. You're saying just because you find something in one sample at a level above the screening level, that doesn't mean necessarily that you need to clean it up?
>
> A. No. I said, I think from the beginning, I said that it certainly needs investigation. I think that the evidence is clear that Union Carbide contamination may be or is probably on Courtland property, and therefore needs an investigation. I've never said automatically that [it] needs remediation.
>
> Q. Before - - or a clean up, right?
>
> A. Remediation, clean up, yes.

Tr. Tran. 3722:3-14 (Simonton: Aug. 2, 2022).

Nevertheless, the three constituents -- arsenic, 1,4 dioxane, and bis (2-chloroisolpropyl) ether -- are identified as the most notable constituents and the focus of Dr. Simonton's 2021 sampling on the northern edge of the Courtland Property inasmuch as they have been recognized by UCC as being the most prominent constituents of concern in the Filmont groundwater plume and have been detected in the monitoring wells, namely MW-

02S, MW-02D, and MW-05D, located on Filmont closest to the Courtland Property boundary. See Tr. Tran. 1310:22-1311:14, 1322:8-11, 1337:9-1339:11 (Simonton: July 13, 2022); see also Pl. Ex. 293-1 at 7; Pl. Ex. 725 (Groundwater Monitoring & Sampling Results on Filmont/Massey spanning from 2006 to 2018). All three of these constituents are classified as hazardous substances for CERCLA purposes. See Pl. Ex. D8 (USEPA Lists of Lists) at 1 (Haloethers), 16 (1,4 dioxane), 28 (arsenic), and G-4 (noting Haloethers include bis (2-chloroisopropyl) ether); see also 40 C.F.R. § 302.4 (CERCLA List of Hazardous Substances and Reportable Quantities Table).

While it is apparent that these three hazardous substances have been detected on Filmont, Massey, and a small portion of the Courtland Property near the border with Filmont, such determination is of little moment unless Courtland has produced adequate evidence demonstrating a plausible migration pathway from Filmont and/or Massey for those hazardous substances to reach the Courtland Property.[55] As will be further

[55] The court notes that past Filmont site maps created by UCC's consultants, CH2MHill, incorrectly depict the yellow "landfill extent" boundary line crossing onto the Courtland Property. See, e.g., Def. Ex. 271 at 013856. As explained by Mr. Cibrik at trial, UCC has determined this representation to be incorrect as UCC's subsequent investigations confirmed that no waste material was ever deposited onto or crossed onto Courtland's property. See Tr. Tran. 617:6-22 (Cibrik: July 8, 2022); see also id. at; 604:25-605:19, 697:25-698:10.

seen from the findings that follow, the court finds that Courtland has adduced evidence minimally sufficient in establishing that contamination detected on the southwestern edges of Filmont and the upper western portion of Massey could have travelled onto the Courtland Property via groundwater.

In addition to the monitoring and sampling conducted by UCC and its consultants over the years at the site, UCC has also studied the direction of groundwater flow thereon. See, e.g., Jt. Ex. 7 (2012 & 2013 Filmont Groundwater Monitoring Report) at 024584, 024598; Jt. Ex. 8 (2014 Filmont Groundwater Monitoring Report) at 000043, 000053; Jt. Ex. 9 (2015 & 2016 Filmont Groundwater Monitoring Report) at 000790, 000804; Jt. Ex. 11 (2018 Filmont Groundwater Monitoring Report) at 001978, Figure 4-1.

The results of the groundwater flow studies conducted by UCC and its consultants over the years have consistently shown that groundwater at the site flows predominantly to the northwest towards Davis Creek, while the groundwater west of Davis Creek, where MW-13 is located, flows east/northeast towards the creek. See Jt. Ex. 11 (2018 Filmont Groundwater Monitoring Report); see also Tr. Tran. 517:20-519:8 (Cibrik: July 8, 2022). Indeed, MW-13, located roughly 150 feet from Davis Creek's western bank, is referred to by UCC as the

"leading edge" of the groundwater plume inasmuch as groundwater contamination is not believed to migrate beyond MW-13's location given that the direction of groundwater flow on the west side of the creek flows "back in[to] the creek" to the east/northeast. Tr. Tran. 637:4-6 (Cibrik: July 8, 2022); see also Jt. Ex. 11 (2018 Filmont Groundwater Monitoring Report) at Figure 4-1; Tr. Tran. 319:12-13 (Cibrik: July 7, 2022); Tr. Tran. 675:8-10 (Cibrik: July 8, 2022). Such determinations were made by measuring groundwater elevation levels from the monitoring wells located on Filmont and the western side of Davis Creek to create a potentiometric surface map,[56] which is used to illustrate the

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[56] Mr. Cibrik described the basics of a potentiometric surface map as follows:

> Q. Could you tell the court what a potentiometric map is?
>
> A. It's a - - within the monitoring wells, you measure the water level in the wells and calculate an elevation. You then draw lines to where - - of equal - - it's called potentiometric head. You're measuring that head and you're drawing lines that kind of connect that same elevation. And then that allows you then to determine which way groundwater is flowing. It's generally to the perpendicular to those flow lines.
>
> Q. So in English, this is a map of which way groundwater flows, right?
>
> A. Correct.

Tr. Tran. 517:8-19 (Cibrik: July 8, 2022).

direction of groundwater flow. See Jt. Ex. 11 (2018 Filmont Groundwater Monitoring Report) at Figure 4-1 (July 2018 - Potentiometric Surface Map).

UCC's July 2018 potentiometric surface map illustrates the direction of groundwater flow at Filmont, with the blue arrows depicted thereon representing the groundwater flow directions. See Jt. Ex. 11 (2018 Filmont Groundwater Monitoring Report) at Figure 4-1 (July 2018 - Potentiometric Surface Map); see also Tr. Tran. 517:20-519:8.

Nevertheless, as Dr. Simonton testified at trial, the Filmont contaminated groundwater plume has not been defined to the southwest toward the Courtland Property. See Tr. Tran. 2401:4-9 (Simonton: July 20, 2022). In other words, while UCC and its consultants have established that groundwater from Filmont predominantly flows in a northwest direction toward Davis Creek, they have not definitively established one way or the other whether there is a component of groundwater flow along the southwestern edges of the site towards a portion of the Courtland Property, although the UCC map noted above indicates the flow from Filmont at that point is to the west which may cross the most northerly portion of Courtland while on the way to Davis Creek. While Dr. Simonton avers that his 2021 groundwater samplings on the Courtland Property confirmed that a

component of groundwater from Filmont does flow thereto, neither his testimony at trial nor his report explain in any detail how he reached this conclusion.

For instance, Dr. Simonton's 2021 Sampling and Analysis Report simply states, in conclusory fashion, that "groundwater elevation data indicated flows to the south (toward South Boundary Ditch) and west (toward Davis Creek). The data confirms UCC data in that flow is from Filmont . . . onto and across Courtland. Data indicates groundwater in [temporary wells] 2, 3, and 4 is at roughly the same elevation, with a sharp drop in elevation at [temporary well] 1 compared to the other [temporary wells]." Pl. Ex. 293-1 at 7. This "groundwater elevation data" is not set forth in the report and, when asked about the elevation data at trial, Dr. Simonton testified that he could not remember any of the elevation data readings from any of his four temporary wells. See Tr. Tran. 1404:16-1405:4 (Simonton: July 13, 2022).

Instead, Dr. Simonton testified that those elevation readings would have been set forth in his field notes, which were never made part of the evidentiary record at trial, nor discussed with Dr. Simonton in any helpful detail. Moreover, Dr. Simonton conceded that he never compared the groundwater elevation data from his four 2021 wells on the Courtland

Property with any of the existing groundwater wells on Filmont. See Tr. Tran. 1413:1-1414:6 (Simonton: July 13, 2022). Thus, the court finds the statement made in Dr. Simonton's 2021 Sampling and Analysis Report to be of little evidentiary value in assessing whether groundwater could flow from Filmont to the Courtland Property.

Notwithstanding this fact, Dr. Simonton further testified at trial that given the general principle that groundwater flows in the direction of surface water, there would necessarily be a component of groundwater flowing from the southwestern boundary of Filmont towards the bottom half of the Southern Boundary Ditch, which is located on the northern portion of the Courtland Property before it terminates into Davis Creek. See Tr. Tran. 1089:10-1090:5 (Simonton: July 12, 2022). Specifically, Dr. Simonton testified as follows:

> So I believe the data, you know, clearly shows, you know, groundwater flow. All right. I have said, and I think the data is clear, that there is a component [of groundwater] that comes, you know, south, south - - this makes sense. Groundwater flows toward surface water. Surface water is North Boundary Ditch and Ward Branch, surface water at Davis Creek, surface water at South Boundary Ditch. So groundwater from Filmont would flow in those directions. However, groundwater is represented - - or takes up more space than just the, just the channel of the stream. Groundwater is wider than the stream. And as it gets closer to the stream, it flows with the stream. So I think the data is pretty clear and obviously the groundwater science is, is pretty clear . . . that groundwater would flow, at least in a portion, from a portion of Filmont, down

> into what I refer to as the bottom or the creek bottom at South Boundary Ditch. And, so, that groundwater flow here would be along but a little bit wider than South Boundary Ditch. Right. So groundwater flow is here and to Davis Creek.

Id. Notably, none of UCC's witnesses at trial ever challenged this general principle that groundwater flows toward surface water. Also, UCC's potentiometric surface map definitively demonstrates components of groundwater flow towards three of the four surface water features surrounding the site: the Northern Boundary Ditch, Ward Branch, and Davis Creek. See Jt. Ex. 11 (2018 Filmont Groundwater Monitoring Report) at Figure 4-1.

Dr. Simonton interprets this same potentiometric map as supporting his assertion that a component of groundwater would likewise flow towards the Southern Boundary Ditch (and Courtland as a result) as it does with all other surface water features surrounding the site. See Tr. Tran. 1084:17-1085:2 (Simonton: July 12, 2022). In the absence of evidence definitively negating that groundwater could flow from the southwestern edges of Filmont toward the bottom half of the Southern Boundary Ditch located on the northern portion of the Courtland Property, the court cannot rule out the possibility that a component of contaminated groundwater from Filmont reaches a portion of the groundwater underlying the Courtland Property.

Additionally, Mr. Cibrik conceded at trial that he could not conclusively state that it was impossible for groundwater flowing from the southwestern edges of Filmont to reach the Courtland Property:

> **Q. And with regard to direction of groundwater flow, if you're standing at the southwestern corner of Massey near the Courtland property, some amount of groundwater from Massey would go onto the Courtland property; correct?**
>
> **A. I think from the southern part of Massey, some of that could potentially go underneath.**
>
> **Q. Right. And if you look at, at the sample point that follows along the lines there, let's say FLF-0059, again, some portion of groundwater from that location would still end up at Courtland; correct?**
>
> **A. I think you would have to further - - I would agree perhaps when you're down near DP-28, in that location, it would catch that corner [of the Courtland Property] with a more northwesterly flow. I don't, I don't know whether the area of [FLF-00]59 would catch Courtland or not.**
>
> **Q. Do you believe that you actually have enough information as far as an investigation to determine what you just indicated, that there is no groundwater flow from Filmont that comes to [the] Courtland property? No possibility?**
>
> **A. Saying no possibility is different than what the evidence generally supports. So we clearly felt that we had sufficient information or we would have went - - clearly weren't afraid to go on and approach other parties to put wells like we did in South Charleston. So our decision and our thinking clearly at that time was that we felt we had data where it was flowing and we tracked it up to the northwest and off across Davis Creek. So that was - - that's all I can say is that was what the data led us to and the conclusions we made. I can't change what those conclusions were.**

Tr. Tran. 686:20-687:24 (Cibrik: July 8, 2022).

A mere possibility that groundwater carrying contaminants could migrate to the Courtland Property is all that Courtland is required to show in order to satisfy its burden under CERCLA. See Westfarm, 66 F.3d at 681 (holding that a CERCLA plaintiff must show "only that contaminants which were once in the custody of the defendant could have travelled onto the plaintiff's land, and that subsequent contaminants (chemically similar to the contaminants once existing in defendant's custody) on the plaintiff's land caused the plaintiff to incur cleanup costs," but "[t]he plaintiff need not produce any evidence that the contaminants did flow onto its land from the defendant's land.") (emphasis added)).

Again, Dr. Simonton's 2021 groundwater samplings on the northern portion of Courtland Property where it abuts the southwestern edge of Filmont revealed the presence of hazardous substances such as 1,4 dioxane, bis (2-chloroisopropyl) ether, and arsenic in Courtland's groundwater. See Pl. Ex. 293-1 at 7. Each of these three substances have likewise been detected in groundwater monitoring wells MW-05D, MW-02D, and MW-02S located near the southwestern edge of Filmont, and two of the three substances -- arsenic and 1,4 dioxane -- have been detected at groundwater sampling point FLF-73, located adjacent to DP-28 in

the southwestern corner of Massey. See, Pl. Ex. 725 (Groundwater Monitoring & Sampling Results spanning from 2006 to 2018); Jt. Ex. 1A-1 (Site Sampling Location Maps) at 1 (depicting the location of the monitoring wells and sampling points on Filmont and Massey); Pl. 293-1 (July 2021 Courtland Sampling & Analysis Report) at Figure 1 (depicting the location of the temporary wells on Courtland).

Accordingly, the court finds that Courtland has satisfied its minimal burden under CERCLA and has demonstrated by a preponderance of the evidence that contaminated groundwater in the southwestern portion of Massey and a confined component of the groundwater along the southwestern edge of Filmont could reach the small northern portion of the Courtland Property at the point where Dr. Simonton's 2021 sampling point is located. Courtland has furnished no evidence, however, that would allow the court to find that Filmont and/or Massey are contributing to any potential groundwater contamination on the Courtland Property beyond this small portion thereon.

To be clear, the court does not find that Courtland has conclusively established that Filmont and Massey are the sole cause of all of the hazardous substances detected in Courtland's contaminated groundwater. This is so inasmuch as Dr. Simonton's limited 2021 groundwater sampling on the

Courtland Property failed to exclude other plausible sources of the groundwater contamination detected in the 2021 sampling results, including, the historical use of the Courtland Property as a coal storage yard and the current use of Courtland's property for recycling operations and for the storage of dirt, asphalt millings, concrete, asphalt chunks, wood chips, barriers, pipes, metals, rebar, and other steel materials, and various pieces of heavy equipment all by its current lessee Raynes.

As to historic uses, coal piles were stored on the Courtland Property in the 1950s through the early 1970s. See Tr. Tran. 2492:16-22 (Truslow: July 21, 2022); Tr. Tran. 2856-2858 (MacPherson: July 26, 2022); Def. Ex. 32 (Historical Aerial Photos). The coal piles sat in the same location where Raynes now conducts its operations on the southern portion on the Courtland Property. See Def. Ex. 32. Dr. Simonton conceded that arsenic -- the substance detected at the highest concentration in Dr. Simonton's 2021 groundwater sampling -- is a hazardous substance that can be released from coal piles stored on the ground into groundwater when the same come into contact with rain and/or snow. See Tr. Tran. 1422:1-11 (Simonton: July 13, 2022) ("Q. All right. When chemical reactions happen in coal, including just rain or snow being on

coal, it can release constituents of coal into the groundwater where the coal is sitting? A. Yes. Q. No doubt in your mind? A. That is generally correct. Q. One of those constituents is arsenic? A. Well, it can be -- Q. All right. A. -- if it's in the parent rock, yes."); see also Tr. Tran. 1603:10-18 (Simonton: July 14, 2022) (conceding that constituents such as arsenic, beryllium, cadmium, low levels of mercury, lead, selenium, and zinc have been found in studies of groundwater leachate near the storage of coal); Tr. Tran. 3717:17-3718:8 (Simonton: Aug. 2, 2022) ("Q. [C]oal pile runoff in the presence of coal can lead to heavy metals being in the soil? A. Without going too deeply into that, yes, we've discussed it. Q. And is that still true? A. That coal pile runoff under the right geochemical conditions can leach -- or that runoff can leach certain inorganics from coal, yes, that's true. Q. We've been through this. Arsenic is one of them? A. I know.").

More recently, the WVDEP's boring logs from the 2016 installation of the oil and gas well on the southeastern portion of the Courtland Property show that fly ash, a byproduct produced from the burning of coal which would presumably leach the same constituents as coal itself, was encountered on the property from the surface to fifty feet below ground. See Def. Ex. 173 (2016 Boring Log) at 3 (reporting "FlyAsh/River Sand"

from zero to fifty feet); see also Tr. Tran. 3014:17-3015:12, 3024:22-3026:3. Also, in December 2020, remnants of coal or coal-like residue were encountered on the Courtland Property during the digging of test-pits to sample Courtland's soil. See Tr. Tran. 2805:24-2806:4 (MacPherson: July 25, 2022); see also Tr. Tran. 2838:23-2839:2, 3013:22-10 (MacPherson: July 26, 2022); Def. Ex. 136-F (Compilation of Photos on Courtland Property from December 2020) at 0022549.

As to current uses of the Courtland Property, photographs presented at trial show that various materials including asphalt millings, concrete, asphalt chunks, wood chips, barriers, pipes, metals, rebar, and other steel materials and discarded trash from the Raynes operations lie exposed and scattered across the southern portion of the Courtland Property, which provoked Courtland's own vice president, Mr. Truslow, to express dissatisfaction with the same. See Def. Exs. 136-A through 136-E (Photographs of Materials on Courtland Property); Tr. Tran. 2526:3-10 (Truslow: July 21, 2022) ("I know that this right here, this picture [Def. Ex. 136-B] was taken of the property, but, you know, I, I - me myself, I don't like to see stuff like that. I think that there's a better, appropriate way to handle that, whether it be a dumpster or something like that."). As previously discussed in detail herein, UCC

conducted soil samplings on the Courtland Property in December 2020, predominantly in the area on and surrounding where Raynes conducts its current operations thereon, which revealed the presence of an array of hazardous substances, including various metals, VOCs, and SVOCs, in Courtland's soil. See Def. Ex. 38 at 3 (depicting locations where all twelve soil borings and all four test pits were installed or dug); Def. Ex. 79 (Soil Sampling Results).

Mr. MacPherson, UCC's expert witness, testified that the SVOCs detected in Courtland's soil are typically associated with things like diesel fuel, asphalt, and railroad cross ties, all of which are used and/or exist on the Courtland Property. See Tr. Tran. 3026:11-14, 3028:4-13 (MacPherson: July 26, 2022); see also Def. Exs. 136-A through 136-E (Photographs of Materials on Courtland Property); Def. Ex. 136-F at 0022548, 0022569, 0022575 (same).

Dr. Simonton conceded that the constituents detected in the December 2020 soil samplings did not emanate from any of the UCC properties and thus were either the result of the historic or current uses of the Courtland Property or could be naturally occurring in the soil media. See, e.g., Tr. Tran. 2121:20-24 (Simonton: July 19, 2022) ("Q: The Courtland Company has constituents of concern found on their property unrelated to

Union Carbide from coal or whatever industrial activity that has been identified and provided to you; right? A: Yes."); see also id. at 3716:5-12, 3721:11-15, 3733:19-3734:19 (Simonton: Aug. 2, 2022).

Notably, seventeen[57] of the twenty-six constituents detected in Dr. Simonton's 2021 groundwater sampling along the northern border of the Courtland Property were also detected in UCC's December 2020 soil investigation at soil sampling points located, inter alia, on the southeastern portion[58] of the Courtland Property. Compare Pl. Ex. 293-1 with Def. Ex. 79. Mr. MacPherson opined that the soil contamination detected on Courtland's property is caused by the current operations occurring thereon, along with its historic uses, and could thus be a source of Courtland's groundwater contamination. See Tr. Tran. 3043:7-20 (MacPherson: July 26, 2022). To an extent, Dr. Simonton appeared to concede this point:

[57] These seventeen constituents detected in Courtland's soil were chloroform, naphthalene, arsenic, selenium, thallium, nickel, zinc, chromium, barium, calcium, cobalt, iron, magnesium, manganese, potassium, sodium, and vanadium. See Def. Ex. 79. All of these constituents, aside from calcium, iron, magnesium and potassium, qualify as CERCLA hazardous substances. See Pl. Ex. D8 (USEPA Lists of Lists).

[58] These specific sampling points being A1, A2, A3, A4, and A5. See Def. Ex. 38 at 3.

> **Q. Did you do any analysis or science of the operations of the lessees of the Courtland Company in the [southern portion of the Courtland Property].**
>
> **A. I don't know what you mean by science. I'm very aware of the activities at the site. I've been there a lot of times.**
>
> **Q. Well, I thought we got to science -- I understand you might read and you might plan and prepare. Did you do any sampling or analysis of the, of that sampling in the active industrial part of the Courtland property?**
>
> **A. Okay. Just to reiterate that science is more than sampling, much more, I have not done any sampling at Courtland. Again, I took that into consideration when I took -- when I picked my sampling locations both in 2017 and 2021. I recognized that there may be contributions from those activities, which is why I put my sampling locations where I did.**
>
> **Q. Well, did you say you recognized that there might be contributions to the groundwater contamination?**
>
> **A. Potentially, sure.**
>
> **Q. But you have not done the analysis to see what the relative contribution is?**
>
> **A. No. That's why I put my locations where they were so any contributions wouldn't affect my sampling locations.**

Tr. Tran. 1428:13-1429:11 (Simonton: July 13, 2022).

Simply put, while Dr. Simonton conceded that the ongoing and historic activities on the Courtland Property could be a source of its groundwater contamination, he maintained that his 2021 groundwater sampling point would be unaffected by the same. But as with his 2017 sampling point, Dr. Simonton never

offered any explanation as to why this was so. Notably, further testimony from Dr. Simonton on the direction of groundwater flow at the Courtland Property appears to be in conflict with his assertion that his 2021 sampling point would be unaffected by any potential groundwater contamination emanating from the Raynes operations thereon.

Indeed, although conceding that he did no potentiometric study of groundwater flow across the entirety of the Courtland Property, Dr. Simonton testified that his general understanding of groundwater flow as a scientist and engineer, coupled with the surface features, allows him to discern what groundwater flow looks like across Courtland. See Tr. Tran. 1490:4-1491:4, 1492:3-11 (Simonton: July 14, 2022). Dr. Simonton explained that groundwater flows north/northwest toward Courtland from the Greenhouse Area of the Tech Park, the Kanawha Turnpike, and the CSX rail line, all located south of the Courtland Property. See Tr. Tran. 1486:14-25.

As with Filmont and Massey, Dr. Simonton testified that the general flow of groundwater on the Courtland Property would run in a north/northwest direction, with a component of the same flowing along with the Southern Boundary Ditch. See id. at 1486:21-25 (Simonton discussing groundwater flow in the southeastern portion of the Courtland Property where his 2017

sampling point is located: "You're asking about the groundwater flow immediately adjacent to south boundary ditch, it would probably be towards and downstream with the ditch, at least in that immediate area of the ditch. General groundwater flow is going to be north.").

Based on this explanation then, at least a component of groundwater in the southeastern portion[59] of the Courtland Property, where industrial activity from the Raynes operation occurs and where exposed coal piles once sat, could conceivably flow toward the north/northwest and reach the lower, more northern portion of the Courtland Property in the general vicinity of Dr. Simonton's 2021 sampling point. In the absence of any actual potentiometric study conclusively disproving the same, the court cannot rule out the possibility that historic and current uses of the Courtland Property could be contributing to the groundwater contamination existing not only in the southeastern part of the property where the 2017 groundwater samples were taken, but also in the northern portion of the property where the 2021 groundwater samples were taken.

In sum, the court finds that soils in the south and southeastern portion of the Courtland Property are known to be

[59] This portion would encompass UCC's soil sampling points located at A1, A2, A3, A4, and A5. See Def. Ex. 38 at 3.

contaminated with an array of hazardous substances, most likely from the historic and current uses of the property, which, in turn, could be a contributing source to Courtland's groundwater contamination. In fact, based off of Dr. Simonton's 2017 groundwater samplings, it is known that groundwater in the southeastern portion of the Courtland Property is contaminated with hazardous substances that could not have originated from Filmont or Massey, a point that is not disputed by the parties, and which the court has concluded could not have been caused by contamination existing in the Greenhouse Area of the Tech Park located further to the south.

The most plausible source of the groundwater contamination in the southeastern portion of the Courtland Property is thus the historic and current industrial activities thereon.[60] And, as explained above, it is not implausible that

[60] It is noted that Dr. Simonton also acknowledged that rainwater running off of the CSX rail line -- a portion of which is located south and upgradient of the Courtland Property -- is capable of contributing contaminants, such as VOCs, SVOCs, and other "nasty stuff," into the environment. See Tr. Tran. 1468:15-1470:11 (Simonton: July 19, 2022). He further acknowledged that portions of this contaminated stormwater runoff that fails to make its way into a ditch running parallel to the rail line, which eventually connects to the Southern Boundary Ditch, would infiltrate the surface and that groundwater from the CSX rail line flows toward the Courtland Property. See id. at 1468:15-1469:1. He also testified that he had seen the ditch that collects the stormwater runoff from the CSX rail line flood, carrying those waters across the Old (continued…)

the same historic and current activities could also be a contributing source of the groundwater contamination detected in the small northern portion of the Courtland Property in the vicinity of Dr. Simonton's 2021 sampling point. Despite acknowledging the existence of other potential sources of Courtland's groundwater contamination, Dr. Simonton failed to conduct more extensive sampling of Courtland's groundwater in efforts to exclude the Courtland Property itself as a source of the contamination detected thereon. See Tr. Tran. 1428:20-1429:11 (Simonton: July 13, 2022); Tr. Tran. 3723:1-5 (Simonton: Aug. 2, 2022) ("Q. [H]ave you performed any other sampling of the contamination of groundwater on Courtland's property in areas where the coal was stored or there was more recent activity related to Ahern and Raynes? A. No."). The court thus finds that both the historic and current industrial operations on the Courtland Property have and are contributing to the groundwater contamination thereon.

Kanawha Turnpike, which forms the southern boundary of the Courtland Property. See id. at 1484:1-8. While the court ultimately finds this alternate source of contamination to be more attenuated than Courtland's own historic and current uses, Dr. Simonton conceded that he had done no sampling or analysis to rule out potential contamination sources emanating from the CSX rail line runoff to the Courtland Property. See Tr. Tran. 3724:23-3725:12.

Nonetheless, the fact remains that two of the hazardous substances -- 1,4 dioxane at 2.4 µg/L and bis (2-chloroisopropyl) ether at 5.7 µg/L - each detected in a single well in Dr. Simonton's 2021 groundwater sampling on northern Courtland Property and, in the past, nearby on Filmont were not detected in his 2017 groundwater samplings or in the 2020 UCC soil samplings conducted on Courtland, and thus far have not been found on other Courtland Property, which leads to the finding that these two hazardous substances could have travelled from the southwestern edges of Filmont to Courtland via groundwater. See Pl. Ex. 268-1 (2017 Groundwater Sampling Results); Def. Ex. 79 (2020 Soil Sampling Results); Tr. Tran. 3148:15-3149:14 (MacPherson: July 27, 2022).[61]

H. Open Dumping

1. Groundwater

As demonstrated above, arsenic -- identified as one of the prominent constituents of concern -- has been detected in

[61] Respecting 1,4 dioxane and UCC's 2020 soil sampling on the Courtland Property, Mr. MacPherson testified that due to "the high concentrations of [VOCs], we weren't able to lower our detection limit low enough to detect [1,4 dioxane]. It could be present. But in the samples that we collected, no, we did not detect it." Tr. Tran. 3149:1-4.

the Filmont groundwater plume beyond the landfill boundary as evidenced by the detections thereof in the monitoring wells on the western side of Davis Creek. See Jt. Ex. 8 (2014 Filmont Groundwater Monitoring Report) at 000041; Pl. Ex. 725 (Groundwater Monitoring & Sampling Results spanning from 2006 to 2018) at 14-18. For instance, arsenic has been detected in MW-12 exceeding its MCL of 0.05 mg/L[62] on numerous occasions from September 2011 to at least July 2018. See Pl. Ex. 725 (detecting concentrations of arsenic in MW-12 on September 14, 2011, at 0.143 mg/L; on October 5, 2011, at 0.134 mg/L; on March 26, 2012, at 0.133 mg/L and 0.136 mg/L; on June 4, 2012, at 0.114 mg/L; on September 27, 2012, at 0.169 mg/L; on December 6, 2012, at 0.16 mg/L and 0.154 mg/L; on May 21, 2013, at 0.201 mg/L; on April 24, 2014, at 0.198 mg/L; on January 13, 2015, at 0.206 mg/L; on October 8, 2015, at 0.197; on July 26, 2016, at 0.199 mg/L; on July 21, 2017, at 0.213 mg/L; and on July 26, 2018, at 0.233 mg/L).

[62] There is a discrepancy between the current Safe Drinking Water Act ("SDWA") MCL for arsenic (0.01 mg/L), and the MCL for arsenic (0.05 mg/L) as set forth in 40 C.F.R. pt. 257, App. I, which contains the relevant MCLs for the groundwater open dumping criteria in 40 C.F.R. § 257.3-4, of which Courtland alleges UCC to be in violation. Inasmuch as the court is tasked with determining if UCC has violated 40 C.F.R. § 257.3-4, the court will utilize the 0.05 mg/L MCL for purposes of this inquiry as explicitly set forth in Appendix I to section 257.3-4.

Filmont was used for the disposal of solid waste from at least 1974 until its ultimate closure in 1987. See Def. Ex. 299 (1979 USEPA NEIC Compliance Evaluation & Wastewater Characterization) at 8 (noting that "non-chemical solid wastes (lumber, paper, scrap polymer, etc.) are disposed of in the Fillmont [sic] landfill"); Tr. Tran. 2727:6-2728:2 (Hanshew: July 25, 2022); see also Tr. Tran. 424:23-425:7 (Cibrik: July 7, 2022). Additionally, there is evidence that "industrial" solid waste, such as fly ash and bottom ash, were disposed of at Filmont and/or used as fill material during its active operations. See Jt. Ex. 127 (1984 Meeting Minutes with WVDNR) at 031408 (discussing unpermitted fly ash disposal); Def. Ex. 299 (1979 USEPA NEIC Compliance Evaluation & Wastewater Characterization) at A-30-31 (noting that "bottom ash" from the SCP boilers used to burn coal and natural gas "is collected and used as fill cover at the Fillmont [sic] landfill"); see also id. at A-34 (noting that non-chemical solid waste "is put into the [Filmont] landfill and covered daily with bottom ash.").

The 2014 Filmont Groundwater Monitoring Report, prepared by UCC's own consultant, CH2MHill, concludes that "the primary source" of the constituents detected in the Filmont groundwater plume, which includes arsenic, "appears to be the material in the landfill that has leached to groundwater." Jt.

Ex. 8 (2014 Groundwater Monitoring Report) at 000041; see also Tr. Tran. 81:3-17 (Cibrik: July 6, 2022) (agreeing that waste materials in the Filmont landfill are "the likely source of some of the constituents in the groundwater"); Tr. Tran. 668:12-18 (Cibrik: July 8, 2022) (stating that he has "no reason to believe [that the saturated waste material deposited in the Filmont landfill is] not the source of the groundwater contamination"). The court thus finds, in accord with the 2014 Filmont Groundwater Monitoring Report, that the primary source of the arsenic detected in the Filmont groundwater plume, which includes MW-12 on the western side of Davis Creek, is more likely than not the solid waste disposed of in the landfill, which has leached therefrom.

Moreover, the arsenic that is continuously leaching from the solid waste in the landfill has contaminated the aquifer underlying and beyond the northwesterly landfill boundary of Filmont, which, based on the testimony presented at trial, contains less than 10,000 mg/L total dissolved solids[63]. Mr. Cibrik testified respecting this point as follows:

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[63] According to the United States Geological Survey ("USGS"), total dissolved solids "is the sum of all substances, organic or inorganic, dissolved in water" and that "salinity is another term commonly used to describe the [total] dissolved solids content of water." Water Resources Mission Area, Chloride, Salinity, and Dissolved Solids, USGS, (continued…)

Q. You're familiar - obviously, with 30 years of experience in hydrogeology involving the Kanawha Valley, you're familiar with the general chemical properties of groundwater in the Kanawha Valley; is that correct?

A. Yes. I'm - from a natural background or natural conditions, yes.

. . . .

Q. You would know the general total dissolved solids present in the uppermost aquifer?

A. I don't know that number off the top of my head, no.

Q. Is it 2,000?

A. I don't know that number off the top of my head, no.

Q. You know what 10,000 micrograms per liter[64] of total dissolved solids is?

A. It would not be that level.

Q. And that level is, in fact, close to or approximated sea water, isn't it?

A. It's indicating saline conditions, yes.

Q. It's very brackish; would that be correct?

A. Yes.

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https://www.usgs.gov/mission-areas/water-resources/science/chloride-salinity-and-dissolved-solids (last visited March 22, 2023).

[64] Considering the entirety of the testimony on this issue, it appears Courtland's counsel misspoke and meant 10,000 milligrams per liter (mg/L), as opposed to micrograms per liter. Compare Tr. Tran. 65:7-8 (counsel using "micrograms per liter"), with id. at 65:18 (counsel using "milligrams per liter"); see also Tr. Tran. 1031:7-1034:17 (Dr. Simonton testifying in terms of "milligrams per liter" rather than "micrograms per liter").

Q. And that does not describe the upper level of groundwater in the Kanawha Valley, does it?

A. No it doesn't.

Tr. Tran. 64:6-10, 65:2-17 (Cibrik: July 19, 2022).

While Mr. Cibrik was unable to provide a precise level of total dissolved solids present in the aquifer, he nevertheless definitively testified that the level would not be as high as 10,000 mg/L inasmuch as that would be representative of salt water. See id. When pressed further on the point, Mr. Cibrik was asked whether the level is less than 5,000 milligrams per liter, to which Mr. Cibrik again reiterated that he was unable to recall the normal level off the top of his head but testified that 5,000 mg/L "kind of" still seemed high to him. See Tr. Tran. 65:18-23.

Mr. Cibrik's testimony further demonstrates that the measurement of total dissolved solids is representative of the general chemistry of the water contained in the aquifer, not a measurement of any contaminants contained therein. See Tr. Tran. 67:7-13 (Cibrik) ("Q: Well, you would agree with me that total dissolved solids is general chemistry of the water, right? A. Yes. Q: It's not measuring contaminants or affected by anything, it's just the general chemical property of the water, right? A. I'll agree, yes.").

Mr. Cibrik explained that he would not need to recall the precise level of total dissolved solids off of the top of his head given that he could "look it up" if needed from sources such as the United States Geological Survey ("USGS") or the West Virginia Geological Survey given that such general information is readily available therein. See id. at 67:14-68:5. Simply put, total dissolved solids does not appear to be a measurement for which one would need to sample inasmuch as it is a part of the general chemistry of the water and such measurement is readily available via public sources.

Dr. Simonton's testimony aligns with that of Mr. Cibrik's with respect to the amount of total dissolved solids present in the aquifer at issue. Indeed, he pertinently testified as follows:

> Q. In part – in your practice of environmental engineering regarding waste management facilities, is it necessary and appropriate as an engineering matter, Dr. Simonton, for you to determine what the total dissolved solids within a given aquifer or underlying a given facility to make that determination?
>
> A. Yes. I mean, that is one of the ways that a drinking water source is defined is total dissolved solids.
>
> Q. Have you made the determination with regard to the Filmont facility?
>
> A. Yes. Certainly, total dissolved solids in West Virginia background, natural waters are generally known to be in the 2 to 300 milligram per liter range.

> **Q. And from what source do you derive that information, Doctor?**
>
> **A. Well, that's my own experience with sampling of -- I don't know -- hundreds and hundreds of wells across the state. But also my knowledge of -- you know, a big part of what I do is understanding what the environment is supposed to look like, the undisturbed environment. So certainly total dissolved solids, things like iron, et cetera, a lot of the things we talk about here are part of that. So I have a vast experience in understanding that. And we can also look at USGS, for example, documents.**
>
> **. . . .**
>
> **A. And so they regularly - a report that they have specific to groundwater in West Virginia, comparing between un-mined and mined areas, for example. And there is a lot of data there that I often turn to. We can also turn to DEP monitoring, surface water monitoring, especially, USGS groundwater monitoring wells. They have a system across the entire country. So that data is available. And so, yes, I have a really strong understanding, but, generally, we are going to see total dissolved solids in groundwater of about 2 to 300 milligrams per liter. If it's much above that, certainly, 800, 900, you're starting to see -- those are probably impacted wells from some anthropogenic human-caused pollution. So certainly - I think Mr. Cibrik said, you know, 2,000 would probably be contaminated. I agree. And 10,000 is - I mean, 10,000 is brackish salt water. That is not something you would see normally in West Virginia.**

Tr. Tran. 1031:7-6, 1031:12-1032:3 (Simonton: July 12, 2022).

Dr. Simonton further testified that he had reviewed the publicly available information from the USGS groundwater monitoring wells located in Kanawha County and those USGS wells close to the Filmont Site. See id. at 1033:17-1034:1. Based on this review, Dr. Simonton opined that the level of total dissolved solids in

the aquifer underlying Filmont is "certainly under 10,000 milligrams per liter." Id. at 1034:2-7. He further opined that the total dissolved solids in the aquifer at issue is generally "going to be in the 3 [to] 400 range . . . except in the impacted area" and that "[t]he natural water would be 2 to 300." Id. at 1034:7-9. Based upon the combined testimony of Mr. Cibrik and Dr. Simonton, the court finds that the aquifer at issue contains less than 10,000 mg/L of total dissolved solids.

It is also pertinent to note that the groundwater aquifer underlying Filmont and in the general vicinity thereof is not utilized for drinking water via human consumption given that there are high concentrations of naturally occurring iron and manganese within the alluvial materials. See Tr. Tran. 505: 19-506 (Cibrik: July 8, 2022). Indeed, a local ordinance known as City of South Charleston Ordinance 1351.01, of which the court took judicial notice, prohibits the potable use or other uses of this groundwater[65] without treatment to meet applicable state standards. See S. Charleston City Ord. Art. 1353.01(a);

[65] The ordinance is applicable to any property located within the "Restricted Use District," which is defined as the "area bounded by the Kanawha River on the north; corporate limits of the City of South Charleston on the east; southerly right-of-way line of Kanawha Turnpike on the south; and westerly right-of-way of Chestnut Street on the west." S. Charleston City Ord. Art. 1353.01(c); see also Jt. Ex. 1a (Attachment to VRP) at 023785-86. Both the Filmont and Courtland Property are located with this "Restricted Use District."

Tr. Tran. 1598:6-9. In other words, the groundwater may not be used for human consumption absent treatment to ensure it is of adequate quality for drinking purposes. Additionally, as part of its onsite investigations of Filmont, UCC performed a drinking water well survey to evaluate whether there are drinking water wells within a mile radius of the site. See Tr. Tran. 505:5-13 (Cibrik: July 8, 2022). This survey concluded that there were no drinking water wells nearby. See id. at 505:14-18. Dr. Simonton, Courtland's sole expert, conceded that he was unaware of any private drinking water wells off-site of the area surrounding Filmont. See Tr. Tran. 2275:6-22 (Simonton: July 20, 2022).

2. Floodplain

Sometime between 1971 and the mid-1970s, UCC constructed an earthen berm around the Filmont landfill. See Tr. Tran. 191:8-10 (Cibrik: July 6, 2022); see also Def. Ex. 311 (1971 Site Plan for Berm Construction). According to Mr. Cibrik, prior to the berm's construction, UCC was seeking to expand the landfill area that originally consisted of the property just north of Massey. See id. at 198:8-12. Mr. Cibrik explained that the portion of the property further north of the original landfill area was merely low ground and when the

Department of Highways relocated Davis Creek[66] to its current location, UCC decided to expand the landfill up to this more northern location. See id. at 198:12-15. In order to fill in this area to match the grade of the original landfill area, UCC had to construct a berm to contain the landfill material that would be placed in this more northern portion of the property. See id. at 198:15-21; see also Tr. Tran. 1035:1-19 (Simonton: July 12, 2022); Tr. Tran. 197:16:-23 (Cibrik).

Prior to the berm's construction in the mid-1970s, it appears a large majority of the Filmont property -- excluding the portion upon which Massey is situated but including the landfill area where solid waste was deposited -- may have been located within the 100-year floodplain. See Pl. Ex. 856[67] (Map

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[66] In the 20th century, Davis Creek was re-routed several times. See Pl. Ex. 839-1. From approximately 1938 through 1960, Davis Creek's channel bisected present-day Filmont. Id. Davis Creek was re-directed in the 1960s, assuming its present location in 1971. Id.

[67] Courtland offered two conflicting exhibits demonstrating the location of the floodplain. Compare Pl. Ex. 856 (Map Depicting Old UCC Boundary Line & Floodplain) with Pl. Ex. 857 (2008 WV FEMA Flood Tool Map). While Pl. Ex. 856 appears to be a document submitted with the Tech Park's RCRA Part B Permit Renewal in 2007 and depicts a majority of the Filmont property, including the landfill area, within the floodplain, Mr. Cibrik testified that the document failed to indicate what year the floodplain map was pulled from. See Tr. Tran. 249:5-22 (Cibrik: July 7, 2022). Mr. Cibrik explained that if the floodplain map depicted in Pl. Ex. 856 was pulled prior to the filling/berm's construction, he agreed "that the area [shown] there[on] was (continued...)

Depicting Old UCC Boundary Line & Floodplain); see also Tr. Tran. 190:17-20 (Cibrik: July 6, 2022) (testifying that the Filmont landfill, prior to the berm, would have "been in the floodplain at one point"). Once the berm was installed, however, the grade of the Filmont landfill was elevated, resulting in the removal of the majority of the landfill portion of the property out of the 100-floodplain but leaving a portion of the contiguous Filmont property[68] and the berm within the 100-year floodplain. See Pl. Ex. 857 (2008 WV FEMA Flood Tool Map) (depicting the Filmont property outlined in blue, and the 100-year floodplain in the red shaded area); Tr. Tran. 195:3-196:10 (Cibrik: July 6, 2022) (describing the floodplain area as encompassing the "base of the berm outside the landfill"); Tr.

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probably within the floodplain, as opposed to now that it's elevated 30 or 40 feet." Id. at 9-12. Plaintiff's Exhibit 857, which depicts the FEMA floodplain map as of February 6, 2008, is consistent with Mr. Cibrik's testimony inasmuch as it demonstrates a smaller portion of the Filmont property within the 100-year floodplain as a result of the berm's construction, which elevated the grade of the landfill, removing the landfill portion itself from the 100-year floodplain. See Pl. Ex. 857. Simply stated, the court finds Pl. Ex. 857 to be the most recent floodplain map and thus utilizes the same for the floodplain inquiry. Furthermore, the court notes that the legend on Pl. Ex. 856 merely identifies the cross shaded portion as the "floodplain" as opposed to the "100-year floodplain."

[68] UCC's property line runs to the western side of Davis Creek: the side opposite of the landfill and the berm. See Jt. Ex. 1a (Attachment to VRP Application) at 023781-82 (survey of the Filmont property). Thus, a portion of the contiguous Filmont property itself lies within the 100-year floodplain. See Pl. Ex. 857.

Tran. 1859:25-1860:6 (Simonton: July 18, 2022) (agreeing that for most of the berm area, the berm itself is the delineation between the 100-year floodplain and the Filmont landfill primary waste area). Today, the vast majority of the landfill portion of the Filmont property, -- referred to as "Zone X" in the trial testimony -- from the top of the berm back towards Massey, sits within the 500-year floodplain, as opposed to the 100-year floodplain and during a 100-year flood event would be inundated by less than a foot of water. See Tr. Tran. 1857:4-1858:23 (Simonton: July 18, 2022); id. at 1810:6-1811:23.

Nonetheless, it appears that a small portion of the southwest corner of the landfill area itself, located near monitoring well 2, sits within the 100-year floodplain as well as the berm, which is a part of the Filmont facility. See Pl. Ex. 857 at 1-2; Tr. Tran. 1792:9-1796:7 (Simonton: July 18, 2022). The court thus finds that portions of the Filmont facility are located within the 100-year floodplain.

Today, the berm surrounding the landfill runs approximately 600 feet along the east bank of Davis Creek, with the berm itself being roughly twenty to thirty feet tall and ten to fifteen feet wide. See Tr. Tran. 1133:5-1135:14 (Simonton: July 12, 2022). The berm is enclosed by a fence, which is approximately twenty to thirty feet from Davis Creek. See id.

at 1109:18-1110:3; see also Tr. Tran. 1538:5-19 (Simonton: July 14, 2022); Pl. Ex. 78 at Photo 1 (depicting fence line and Davis Creek). The base of the berm is estimated to be two to three feet behind the fence line. See Tr. Tran. 1110:4-9; 1538:20-23.

The elevation at the top of the berm is around 600 feet above sea level, with the bank of Davis Creek being approximately 570 feet above sea level and the creek bed being roughly 565 to 568 feet above sea level. See id. at 1539:1-3; 1540:24-1541:16; 1541:17-1542:2. There is a thirty-foot rise from the bank of Davis Creek to the top of the berm. See id. at 1541:6-16. Directly behind the top of berm is where the solid waste has been deposited in the Filmont landfill. See id. at 1144:13-16. The area of the landfill consisting of the deposited waste is approximately ten to fifteen feet from across the top of the berm. See id. at 1539:4-10. The waste material contained within the landfill is estimated to be fifty to sixty feet from Davis Creek. See id. at 1144:20-25; see also Tr. Tran. 1540:15-17.

The berm, enclosed by the fence, also runs along Ward Branch for approximately 300 feet. See id. at 1145:1-14. The berm itself varies in distance from the waters of Ward Branch, with some portions of the berm being zero feet from Ward Branch and others being twenty to thirty feet therefrom. See id. at

1145:15-24; see also Pl. Ex. 78 at Photo 3 (depicting base of the berm roughly zero feet from Ward Branch); Pl. Ex. 748-12 (same). The solid waste contained behind the landfill's berm is approximately thirty to fifty feet from Ward Branch. See id. at 1146:3-6.

It is not definitively clear what earthen materials, aside from soil, were used to construct the berm. See Tr. Tran. 189:25-199:9 (Cibrik: July 6, 2022). Photographs presented at trial, however, do appear to show evidence of some solid waste materials within the berm itself including, large pieces of concrete, rebar and/or other construction type debris, rusted metal drums, and tires. See, e.g., Pl. Ex. 748-25 (photo depicting twisted rebar or other metal material inside berm and protruding out from under the fence line); Pl. Ex. 748-12 (photo depicting concrete debris within the berm); Pl. Ex. 748-36 (same); Pl. Ex. 748.3-12 at 3 (photo depicting rusted metal drums and a tire within the berm of the landfill); see also Tr. Tran. 363:11-364:3 (Cibrik: July 7, 2022) (describing the concrete debris within the berm depicted in Pl. Ex. 748-12); Tr. Tran. 1236:25-1238:5 (Simonton: July 13, 2022) (describing the depictions in photo three contained in Pl. Ex. 748.3-12); Tr. Tran. 1035:20-1036:13 (Simonton: July 12, 2022) (explaining that he has viewed solid waste within the berm during his site visits

to the property). The photographs also depict portions of the base of the fence enclosing the berm, where it is located approximately zero feet from Ward Branch, that have eroded away. See e.g., Pl. Ex. 748-36; Tr. Tran. 361:17-25, 362:12-23 (Cibrik: July 7, 2022) (describing erosion at base of the fence line depicted in Pl. Ex. 748-36); Pl. Ex. 748-12; Tr. Tran. 363:11-25.

Importantly, although the berm was constructed to contain the solid waste deposited in the landfill, the berm is not impermeable, meaning that it does not prevent the washout of landfill leachate from escaping into the environment. See Tr. Tran. 1035:7-19 (Simonton: July 12, 2022). In other words, while the berm would, in effect, prevent floodwaters from rising over the top of the berm and pulling out any pieces of solid waste previously disposed of in the landfill, the berm does not prevent landfill leachate -- a byproduct of the solid waste contained therein -- from washing out of the landfill. See Tr. Tran. 1860:15-1861:11 (Simonton: July 18, 2022) (conceding that the berm is, for the most part, a separation/barrier between the 100-year floodplain areas and the landfill portion of the property).

This fact is evident inasmuch as UCC's own documents confirm the existence of widespread seepage of leachate along

the northern toe of the landfill at the base of the berm into Northern Boundary Ditch, which feeds into Ward Branch, which feeds into Davis Creek. See Pl. Ex. 317 (2006 Technical Memorandum for Filmont Landfill) at 006544 ("The initial site reconnaissance included observations of a large groundwater seep at the base of the landfill into a tributary of Davis Creek"); id. at 006548 (photographs of the seep at the base of the berm); Jt. Ex. 81 (2009 UCC Presentation to WVDEP) at 013882 ("Groundwater seep seen in [N]orth [B]oundary [Ditch]"); Tr. Tran. 597:13-598:18 (Cibrik: July 8, 2022) (describing location of the seep as approximately 100 feet east of where Ward Branch comes under the interstate and bends toward Davis Creek); see also Tr. Tran. 1231:1-10 (Simonton: July 13, 2022) (describing the seepage as "fairly continuous from just before [N]orth [B]oundary [D]itch enters Ward[] Branch, all the way up to almost MW03 D, and S" depicted on Jt. Ex. 1A-1).

The total length of this seepage is approximated to be 200 to 300 feet long, with the eastern most point being near monitoring well three's location, and the western most point being almost up to the bend of Ward Branch itself. See Tr. Tran. 1233:10:1234:8 (Simonton: July 13, 2022); see also Jt. Ex. 9 (2015 & 2016 Filmont Groundwater Monitoring Report) at 000803

(site map depicting location of monitoring well three (MW-03S and MW03D) on the site map, and the bend of Ward Branch).

Photographs taken by Dr. Simonton in March 2022 confirm that this widespread seepage, which is orange in color, continues along the eastern base of the landfill's berm today. See, e.g., Pl. Ex. 748.3-12 at Photo 4 (depicting the orange seep of leachate at the base of the landfill towards the east end thereof, looking toward the west); id. at Photo 5 (depicting the seep further to the west behind the UCC fence at the base of the berm); id. at Photo 7 (depicting beginning of the east end of the seep area in the distance behind the UCC fence); see also Tr. Tran. 1236: 6-1248:6 (Simonton: July 13, 2022) (describing the contents and locations of the nine photographs contained in Pl. Ex. 748.3-12).

Video footage also taken by Dr. Simonton further confirms the presence of this seepage. See Pl. Ex. 748.3-22 (video showing east end of the seep, approximately 300 feet east of the Ward Branch bend); Pl. Ex. 748.3-26 (video showing same seep as previous video but taken roughly 100-150 feet west of that location); Pl. Ex. 748.3-29 (video depicting the flow of the seep from east to west along the UCC fence line); Pl. Ex. 748.3-29 (video of seep discharging directly into Northern Boundary Ditch from the base of the landfill berm); Pl. Ex.

748.3-36 (video depicting Northern Boundary Ditch, orange in color, entering into Ward Branch); see also Tr. Tran. 1260:22-1269:23 (Simonton: July 13, 2022) (describing the locations of the four videos and their depictions). Furthermore, as set forth in detail in Section III.F. at pages 102-111 herein, Dr. Simonton's September 2020 kayak trip confirms seepage of landfill leachate containing hazardous substances directly into Ward Branch from the Ward Branch seep located at the base of the Filmont berm. See Tr. Tran. 1272:4-10 (Simonton: July 13, 2022); see also Tr. Tran. 2307:17-24 (Simonton: July 20, 2022); Pl. Ex. 78 at 11 (image depicting location of the water sampled from Ward Branch seep); Pl. Ex. 575 (video depicting the Ward Branch seep).

Given the berm's permeability and its location in the 100-year floodplain, in the event of a 100-year flood, Dr. Simonton explained that there would be an increase in the washout of landfill leachate already being discharged from Filmont. Dr. Simonton explained this occurrence as follows:

> Q. What happens from an . . . engineering perspective, what would happen to the waste inside the Filmont facility, given its present location, in the event of a 100-year flood?
>
> A. Several things. As, as have been discussed before, obviously, the, the flood waters would be in contact with the facility itself, mostly the berm which consists of, at least in part, by waste

> material. But as Mr. Cibrik correctly described last week, groundwater flow under normal conditions is from the Filmont facility to Davis Creek. And the, the physics behind that are the same as surface water. It just happens a little more slowly in the subsurface because of hydraulic conductivity. So when the flood waters come up, the groundwater will respond by coming up with it because the groundwater, surface water interface are the same elevation. That's, that's what happens. So as the flood water comes up, the groundwater interface, the groundwater will have to come up with it and there will be a backwards flow into the, the Filmont facility during those times of flooding. And then as the water recedes, that same water that has now been in contact with waste and so, therefore, is leachate will flow back out with it. So that's, that's a component that was talked about last week with Mr. Cibrik. And, again, those flood waters are also in direct contact with the waste material that makes up the berm.
>
> Q. Thank you for that explanation. Do I understand from that explanation, Dr. [Simonton], in the event of a 100-year flood, there would be a significant increase as the flood recedes and leachate being released from the Filmont facility?
>
> . . . .
>
> A. Yes, it would. I mean, that, that flood water has now been in effect converted to leachate and is coming back out, so --
>
> Q. And, so, there would be a significant increase in leachate being released as the flood -- the 100-year flood event recedes?
>
> A. There would certainly be an increase. It depends on -- as Mr. Cibrik talked about, it would be the, you know, the frequency, the duration, et cetera would, would all come into play. But certainly there would be an increase, yes.

Tr. Tran. 1069:9-1070:16; 1070:23-1071:7 (Simonton: July 12, 2022); see also id. at 1075:17-1077:13. Dr. Simonton, however,

failed to provide any affirmative evidence beyond mere conjecture regarding how this washout of leachate during a 100-year flood event would pose a hazard to human life, wildlife, or land or water resources. When questioned on this point, Dr. Simonton testified as follows:

> Q. Would the - based on your review of, of the data produced and your investigation of the site and its surrounding and the information that you have reviewed from all of UCC's consultants and their sworn testimony, do you have an opinion about whether in the event - the presence of the Filmont facility in that floodplain would pose a risk of damage or danger to property in the event of a 100-year flood?
>
> A. Certainly the potential is there because, again, you're, you're bringing out leachate. And we have a fairly good idea what the leachate looks like at the facility, as well as - for example, in North Boundary [Ditch] we can see where a lot of the, some of the sludges and waste material on that side are washed out during, during flood events on Ward Branch and then goes to Davis Creek. So, yes, the potential is - certainly, there's going to be contaminants from the Filmont facility carried from the Filmont facility and put into the environment. That hasn't been quantified, but it certainly would happen, yes.
>
> . . . .
>
> Q. Dr. Simonton . . . I'm asking you as an environmental engineer, would there be an increased risk of adverse impact on the environment resulting from the presence of the Filmont facility in this floodplain in the event of a 100-year flood?
>
> . . .
>
> A. Yes. You're increasing - you've already got under - under average, normal conditions it's easy to calculate, just based on rainfall, and if only rainfall were, were part of the consideration -- as,

> as Mr. Cibrik pointed out last week, and, and we all know and it's commonly understood that rain, some rain soaks into the, the Filmont facility and comes out as leachate, mostly into Davis Creek but in other places too. The math is easy to understand, and I would calculate that at about 17,000 gallons a day of leachate coming out of the Filmont facility. And that's just based on rainfall data and the area of the landfill itself. So any time you have -- and, so, and we understand the, the concentrations of contaminants in that leachate, et cetera. So flooding would increase that. The flooding would also introduce a lot of the, the solids that have been deposited along the edges of the facility in different places. That becomes mobile and is washed into the environment, as well as any waste that's coming out -- that's being -- for example, eroded out of the, of the facility structure itself, for example, like at Ward Branch. So, yes, all of those would increase potential impact, the adverse effects. They're already present. It would be additive to that.

Tr. Tran. 1071:8-1072:1; 1072:13-1073:18. Absent factual support for these vague and conclusory assertions, the court is not required to accept Dr. Simonton's testimony that Filmont's presence in the 100-year floodplain poses a hazard to human health and/or the environment by way of the leachate washing out therefrom.

Indeed, while Dr. Simonton's testing of the Ward Branch seep indicated the presence of hazardous substances in the leachate emanating from Filmont, namely, arsenic, beryllium, cadmium, chromium, copper, lead, manganese, nickel, selenium, and zinc, Dr. Simonton provided no evidence that these substances at the concentrations in which they were detected

pose any type of hazard to human health or the environment. In fact, as explained above, Dr. Simonton could not even provide testimony as to whether any of the same exceeded West Virginia or USEPA water quality standards. See Tr. Tran. 2305:23-24; 2306:4-20; 2308:6-18. Without more, the court is simply unable to find, by a preponderance of the evidence, that the potential increase in the release of leachate from Filmont during flood events poses any sort of human health or environmental hazard.

Dr. Simonton further opined at trial, albeit again in a vague and conclusory manner, that Filmont's presence in the 100-year floodplain (1) impairs the flow of the base flood and (2) temporarily reduces the storage capacity of the floodplain.[69] See Tr. Tran. 1065:20-1069:8 (Simonton: July 12, 2022). With respect to the former, Dr. Simonton testified that the construction of the Filmont landfill and its berm have eliminated the floodplain that once existed on the east side of Davis Creek and flood waters can no longer flow in that direction and are thus redirected from the 100-year floodplain. See Tr. Tran. 1065:20-1067:7. Nonetheless, on cross examination, Dr. Simonton conceded that the berm's presence does

[69] According to Dr. Simonton, a floodplain's storage capacity is designed by nature and refers to where flood waters flow when streams overflow their banks. See Tr. Tran. 1067:8-23.

not act as a dam on Davis Creek or stop its flow during a flood event. See id. at 1550:19 - 1556:1.

Regarding the storage capacity of the floodplain, Dr. Simonton testified that because the floodplain on the eastern side of Davis Creek has essentially been eliminated by Filmont and its berm, the storage capacity of the floodplain has, in turn, been reduced. See id. at 1068:6-1069:8. Importantly, however, RCRA's open dumping criteria does not serve as a wholesale prohibition on the construction of landfills in floodplains. See 44 Fed. Reg. 53442 (Sept. 13, 1979) ("Some commenters misinterpreted the criteria as a prohibition against locating facilities in floodplains. While areas other than floodplains are often preferable locations for disposal facilities, the proposed criteria did not provide such a prohibition. Certainly, that point is even clearer in the floodplain criterion issued today.").

Instead, the floodplain criterion is only violated if the landfill's construction "will pose a threat to human health and the environment." Jeffrey M. Gaba & Donald Stever, Law of Solid Waste, Pollution Prevention and Recycling § 3:20 (2022). More specifically, the purpose of the floodplain criterion requiring "that a facility not restrict the flow of the base flood nor reduce the temporary water storage capacity of the

floodplain" is to "prevent increased flooding upstream or downstream resulting from the base flood." 44 Fed. Reg. 53442 (Sept. 13, 1979).

Thus, even if the court were to credit Dr. Simonton's conclusory testimony on this point, the record is entirely devoid of any evidence that Filmont's purported restriction on the flow of the base flood and the reduction of the floodplain's storage capacity results in any hazard to human health or the environment. Indeed, Dr. Simonton offered no opinions with respect to any increased flooding upstream or downstream caused by the Filmont facility's location nor is there any other evidence in the record which would support such a finding.

Accordingly, the court finds that Courtland has failed to meet its burden in establishing that UCC has violated RCRA's floodplain open dumping criterion.

I. Imminent & Substantial Endangerment

The conditions at Filmont and Massey (collectively referred to as "the site" within this section) can be reduced to primarily affecting two main environmental media that were the central focus at trial: groundwater and surface water. At trial, Courtland relied entirely upon the testimony of its only expert witness, Dr. Simonton, in an attempt to establish that

the groundwater contamination at Filmont and Massey, as well as the presence of constituents in the surrounding surface water bodies, present an imminent and substantial endangerment to both human health and the environment. However, the entirety of Dr. Simonton's testimony with respect to any potential endangerment to human health and/or the environment arising from the contamination existing in these environmental media consists of nothing more than vague conclusions based upon mere speculation, broad generalities, and sweeping conjecture.

The totality of Dr. Simonton's direct testimony in relation to this claim can be surmised into one overarching contention: because hazardous substances have been detected at levels exceeding screening levels in the groundwater at Filmont and Massey, in the surface water surrounding the site, and in some sediment within the surface water, an endangerment to human health and/or the environment is automatically present. See, e.g., Tr. Tran. 2026:12-2027:12; 2076:21-2078:10 (Simonton: July 20, 2022).

At the same time, Dr. Simonton maintained that until a full remedial investigation at the site is conducted, the existing sampling data that has been gathered to date does not allow the degree of risk associated with the site to be evaluated. See, e.g., Tr. Tran. 2001:9-2002:6; 2077:18-10.

Thus, according to Dr. Simonton, the mere presence of contamination warrants the court to compel UCC to conduct a formal site remedial investigation and risk assessment so the degree of risk present at and stemming therefrom can be assessed. See Tr. Tran. 2155:5-24; 2116:24-2117:13. These assertions cannot support a finding that an imminent and substantial endangerment is or may be present.

With respect to groundwater, there is no denying that the groundwater beneath Filmont and Massey are contaminated with an array of constituents that qualify as hazardous substances and that such substances have been found on numerous occasions, spanning from 2005 to 2019, in exceedance of their respective screening levels. See supra Section III.E. at pages 87-102. On Massey, these substances include arsenic; 1,4 dioxane; bis (2-ethylhexyl) phthalate; barium; benzene; bis (2-chloroethyl) ether; cadmium; and lead. On Filmont these substances include 1,4 dioxane; bis (2-chloroethyl) ether; arsenic; chromium; lead; vinyl-chloride; bis (2-ethylhexyl) phthalate; barium; and benzene.

It is also evident that a smaller subset of these substances is known to be emanating from Filmont via the groundwater given that the same have been detected, in exceedance of their drinking water screening values, in UCC

monitoring wells across from Davis Creek. These substances include arsenic; lead (on a single occasion in 2011); 1,4 dioxane; and bis (2-chloroethyl) ether. It is also plausible, as previously explained herein, that at least 1,4 dioxane; bis (2-chloroisopropyl) ether; and arsenic[70] could be emanating from Filmont and/or Massey via groundwater to a small portion of the Courtland Property.

Nevertheless, of critical import in this matter, the record is entirely devoid of any evidence that the groundwater existing on-site or off-site is being utilized for drinking water; a point Dr. Simonton conceded on cross examination:

> Q. And in terms of drinking, no one is drinking on-site groundwater?
>
> A. That is correct. Even though there's no real restriction from that, no, nobody is on-site drinking that water.
>
> Q. No one is drinking off-site groundwater?
>
> A. I, I believe there's been surveys that, that would suggest that, correct. But I don't know for sure.
>
> Q. All right. You're not aware of any personal drinking wells or private drinking wells. You certainly haven't seen any in this area; correct?
>
> A. No. Again, but that would require a survey. I'm not aware of any.

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[70] The court notes, as previously explained in detail, that other plausible sources could be contributing to the arsenic detected in the groundwater on the Courtland Property.

> Q. Okay. That's what I'm asking you. Do you have any evidence that anybody is drinking the water through a private well or anywhere in this area?
>
> A. No, I have no evidence of it.

See Tr. Tran. 2275:6-22 (Simonton: July 20, 2022). Notably, unlike Dr. Simonton, UCC has -- during its prior investigations of the site -- performed a drinking water well survey to determine the presence of drinking water wells within a mile radius of the site. See Tr. Tran. 505:5-13 (Cibrik: July 8, 2022). This survey concluded that no such wells existed. See id. at 505:14-18.

It is also significant that while the groundwater contamination extends off-site to the western side of Davis Creek, once the groundwater reaches the western side of the creek where MW-13[71] is located, the groundwater flow reverts back

[71] There are three UCC monitoring wells located across Davis Creek (MW-11; MW-12; and MW-13). MW-13 is the well located the furthest west out of the three. See Jt. Ex. 11 at Figure 4-1. As previously mentioned, the location of MW-13 has been referred to by UCC as the groundwater plume's "leading edge" inasmuch as groundwater contamination is not believed to migrate beyond this point given the direction of groundwater flow toward the creek therefrom. See, e.g., Tr. Tran. 319:12-13 (Cibrik: July 7, 2022) (describing MW-11 as being near the "leading edge of the plume."). The court notes that it is Dr. Simonton's belief that, despite UCC's designation of MW-13 as the leading edge of the plume, the groundwater plume has not been fully defined on the western side of the creek. See, e.g., Tr. Tran. 2401:1-9 (Simonton: July 20, 2022). Yet, Dr. Simonton offered no factual support for this conclusion.

toward the creek. See Tr. Tran. 518:15-17 (Cibrik: July 8, 2022); see also Jt. Ex. 11 (2018 Filmont Groundwater Monitoring Report) at Figure 4-1. Such fact is of import because Jefferson Park, the only known residential area near this site, is located further west of MW-13. See Tr. Tran. 533:23-534:5 (Cibrik: July 8, 2022); Jt. Ex. 11 at Figure 4-1. Presumably then, even assuming there was evidence of private wells within that residential area, the record is equally devoid of evidence suggesting that contaminated groundwater emanating from the site could or would reach the same given that the groundwater does not continue to flow in a westerly direction but instead flows in a northeast direction once it reaches MW-13's location on the opposite side of the creek.

Moreover, as mentioned prior, a large portion of the South Charleston area encompassing Filmont, Massey, Courtland, and all surrounding properties in the general vicinity thereof, lie within what has been dubbed a "Restricted Use Area" via local ordinance. See S. Charleston City Ord. Art. 1353.01(a); Tr. Tran. 1598:6-9. This ordinance prohibits the potable use of groundwater for consumption without treatment to meet applicable state standards. See id. The purpose of this ordinance is to ensure that groundwater within this "Restricted Use Area" is of adequate quality before it is utilized for drinking purposes

given that there are high concentrations of naturally occurring iron and manganese within the alluvial materials in this area. See Tr. Tran. 505: 19-506 (Cibrik: July 8, 2022).

The court recognizes that Dr. Simonton attempted to aver that the ordinance fails to truly "prohibit" groundwater use for consumption; thus, in evaluating potential risk, one should "assume the possibility" that an individual somewhere could consume the contaminated groundwater without treatment. See Tr. Tran. 2275:22-2277. But, again, Dr. Simonton admitted he was unaware of any private groundwater wells in the area and that no one on-site or off is consuming the water. See id. at 2275:6-22. To find the presence of a risk based upon an assumption that someone, somewhere could potentially ingest contaminated groundwater from a non-existent well before treating the groundwater as required is speculation magnified beyond reasonableness.

Succinctly stated, the record evidence fails to demonstrate any viable exposure pathway[72] by which any receptor could come into contact with the contaminated groundwater

[72] An exposure pathway is how a contaminant comes into contact with a receptor. See Tr. Tran. 448:13-16 (Cibrik: July 9, 2022); Tr. Tran. 1977:14-20 (Simonton: July 19, 2022). The receptor can be a person or an ecological receptor. See id. at 1977:14-20.

existing beneath the surface on-site or off, whether through ingestion or otherwise, which effectively eliminates any potential cause for concern to human health. To the extent Courtland takes the position that contaminated groundwater in and of itself demonstrates an endangerment to the environment, even absent any secondary effects, the court declines to find an endangerment in this respect. Indeed, it is difficult to reconcile the existence of an endangerment that is both imminent and substantial when the contamination present threatens no actual harm to someone or something.

As for surface water, there is no dispute that the groundwater from Filmont is hydrologically connected and discharges to Davis Creek.[73] See, e.g., Tr. Tran. 211:23-212:5 (Cibrik: July 6, 2022). It has also been established that landfill seepage containing contaminants is present both directly into Ward Branch from Filmont, as well as along the eastern toe of Filmont into the Northern Boundary Ditch, which eventually enters Ward Branch, a tributary of Davis Creek. Dr. Simonton also opines that landfill seepage is occurring into the Southern Boundary Ditch.

[73] Once the groundwater hits the surface, it becomes surface water at that point and is thus analyzed as such for purposes of an exposure to any given receptor.

Based on their features, Davis Creek and Ward Branch are suitable bodies of water for some aquatic life, such as fish, and some recreational activities such as fishing and kayaking. See Jt. Ex. 1 at 023693; Jt. Ex. 100 at 0012373. The Northern Boundary Ditch, however, is nothing more than an intermittent stream with an average width of two feet and an average depth ranging from one to four inches. See Jt. Ex. 100 at 0012373. It is thus unlikely that the Northern Boundary Ditch could sustain any viable fish community but could likely support some limited species such as aquatic worms and midges. Id.

The features of the Southern Boundary Ditch are similar; it is an intermittent stream with an average width of three feet and average depths ranging from three to six inches. Id. at 0012374. Like the Northern Boundary Ditch, it is unlikely the Southern Boundary Ditch could sustain any viable fish community but could likely support some of the same limited species identified above. Id.

Given Davis Creek's hydrological connection with the Filmont groundwater plume and the existing landfill seepage, Dr.

Simonton opines that it is apparent that a "toxic soup"[74] of contaminants is making its way into these surface water bodies, which creates an endangerment for human and ecological receptors. But, again, the entirety of Dr. Simonton's testimony on this point is highly generalized, speculative, and ultimately, useless, and can hardly amount to "evidence" of an imminent and substantial endangerment to human health and/or the environment arising therefrom.

During the four years of this litigation, Dr. Simonton has not once sampled Davis Creek, the Northern Boundary Ditch, or the Southern Boundary Ditch. See, e.g., Tr. Tran. 2203:24-2204:7 (Simonton: July 20, 2022) (admitting that he has taken no samples of Davis Creek, while at the same time criticizing UCC's lack of sampling of Davis Creek during its own investigations). The only surface water samplings Dr. Simonton has conducted in this case are his 2020 samplings taken from Ward Branch and the

[74] Despite the use of this creative catchphrase, Dr. Simonton was unable to explicitly confine a subset of specific contaminants he believed to be contained within this "toxic soup." See, e.g., Tr. Tran. 2261:23-2264:12; 2278:9-13. Nonetheless, he appeared to name a few specific contaminants throughout his testimony such as arsenic; 1,4 dioxane; iron; aluminum; manganese; lead; and barium. His ultimate position, however, appeared to be that if it had been detected in the groundwater at any point in time at Filmont, it was also in the surface water; yet another broad and sweeping generalization lacking any specific factual support. See, e.g., Tr. Tran. 2387:1-2392:7 (using all groundwater monitoring well data to name additional contaminants he believed to be in this "soup").

Ward Branch seep, which, combined, detected the following contaminants: aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, lead, manganese, nickel, selenium, and zinc.

As explained in detail in Section III.F. at pages 102-111 herein, Dr. Simonton failed to provide testimony as to whether the concentrations of these contaminants exceeded either West Virginia or USEPA surface water quality standards. See supra Section III.F. at pages 102-111. Instead, he referred to the detections of arsenic and lead, and the detection of manganese in Ward Branch, as "elevated" over background levels. Id. He also referred to iron, a non-hazardous substance, as being "very high" and "elevated," and aluminum, a non-hazardous substance, as "elevated" in Ward Branch. Id.

Even assuming "high" and/or "elevated" detections of these substances, Dr. Simonton could not opine on any toxicological effects associated with any of these contaminants at trial and repeatedly testified on cross-examination that such information had been set forth in his expert reports, which he did not have memorized:

> **Q. Have you looked at the IRIS database - first, all what is the IRIS database?**
>
> **A. It's the Integrated Risk Information System database kept by the USEPA.**

> **Q. Okay. And why does EPA keep an IRIS database? Do you know?**
>
> **A. Well, for toxicity information, especially for risk assessments, for example.**
>
> **Q. Did you say toxicity information for risk assessments, for example?**
>
> **A. Yes.**
>
> **Q. Okay. And did you consult the IRIS database and do any kind of analysis of - let's just start with arsenic for dermal exposure or some other type of exposure.**
>
> **A. I would go to the IRIS database - I'm not sure - I'm sorry. I think I understand the question. I would consult the IRIS database where I - for performing a risk assessment.**
>
> **Q. So have you done it now?**
>
> **A. I have not performed a risk assessment.**
>
> **Q. I think we've established that. But my question is have you looked at the IRIS database for toxicity information on arsenic?**
>
> **A. I - as I discussed yesterday, my early reports have, have specific toxicity discussions for several or - well, several, many of the contaminants at issue on these sites. I discussed that yesterday. I don't remember - I mean, that's why it's [in] the report. I wrote it down. I didn't memorize that report.**

Tr. Tran. 2264:24-2266:2 (Simonton: July 20, 2022). Even during Dr. Simonton's direct testimony, he spoke only in generalities and was unable to provide any useful testimony with respect to the toxicological effects of any specific contaminant, let alone at the level in which any specific contaminant has been detected in the surface water in this case:

> Q. Dr. Simonton, as part of your work in this case, did you review information concerning toxicological effects of arsenic?
>
> A. I have. And I believe that I list many of those toxicological effects for - not, of course, not the universe of contaminants that we're talking about here, but in one of my early reports, I believe that I - I'm fairly - nearly certain that I talked about toxicological effects, both to human health and ecological, for a handful of representative contaminants involved in these cases.
>
> So I have done that. Again, this in-depth analysis - and I certainly also have an understanding of contaminants and how - with many of them, for example, arsenic, is a known human carcinogen, and it has a toxic impact to the central nervous system, et cetera. So I know those kind of things. But, again, usually I'm going back to the data. You know, arsenic is, again, an example, because I just have a lot of experience dealing specifically with arsenic, but with many of these contaminants - I certainly don't have them memorized, but I have discussed in-depth - in some depth in some of my reports specific to the different contaminants, and it includes ecological impacts for many of those contaminants, but certainly don't have them memorized.

Tr. Tran. 1993:20-1994:19 (Simonton: July 19, 2022).

In a second attempt to elicit helpful testimony from Dr. Simonton, albeit to no avail, Courtland's counsel again asked him during direct testimony as follows:

> Q. And with regards to arsenic, what, what analysis have you done with regards to toxicity concerning arsenic?
>
> A. Well, first thing we're going to do, as we've talked about already, we're going to look at the screening levels for arsenic. The screening level is not a health-based screening level, but it is the MCL. So that's what we screen against in groundwater for arsenic. So that's informative from a toxicity

> standpoint. Arsenic is not a great example to use because the MCL isn't health-based. But still it's, it's the number that we're going to use. And, so, that informs us. You know, these are pretty significantly high arsenic numbers. But on - you know, that we see across these sites.
>
> Q. And when you say "these sites," which sites do you mean?
>
> A. Well, for today we're talking about Massey and Filmont and those off-site areas impacted by Filmont.
>
> Q. And what about barium? Have you done an analysis as to the toxicity for barium?
>
> A. Same answer. I mean, we're comparing it against the screening levels for barium and aquatic life. I did go a little bit deeper, as I talked about earlier, looking at some of the literature on, on toxicity data for aquatic life and, and barium.
>
> Q. And do you remember what the toxicity was for aquatic life related to barium?
>
> A. I do not. There were various studies that were specific to specific organisms.

Tr. Tran. 2041:19-2042:22 (Simonton: July 19, 2022).

When pressed further on the point during cross-examination, Dr. Simonton again failed to give any beneficial testimony respecting any toxicological effects associated with any specific contaminant present in any of the surface water bodies surrounding the site on any given human or ecological receptor:

> Q. My only question is, before coming and testifying here in court about imminent and substantial endangerment, did you consult the IRIS database and determine whether or not, for example, if somebody

> sticks their foot into Davis Creek, whether that exposure dermally will present some sort of increased risk of harm?
>
> A. I have discussed toxicity, both human health and ecological receptors, in my reports. Those reports are two or three years old now. I'd like to refer to my reports.
>
> Q. Okay. Let me ask you this. Does dermal exposure, if you put your foot in or you wade into Ward Branch or Davis Creek, does dermal exposure to arsenic at the levels that have been detected . . . in the surface water, do those levels present an increased risk of any harm to somebody just from dermal exposure?
>
> A. Well, again, that would be – I mean, the only way to know that would be a risk assessment to quantify that. That's what you're asking me.
>
> Q. Okay. So the level of taking any of these things in your soup, as you call it, and trying to make a determination whether if a person comes down to Davis Creek and wades out there to get a football and stands there for five minutes and then leaves, you've not undertaken, even at that duration or that frequency, to figure out at this point whether or not that presents an increased health risk to that person?
>
> A. Well, if the, if the concentrations are certainly . . . above a screening level, I mean, the mere presence requires a look at it. But certainly if it's above the screening level, the screening level – being above the screening level implies an increased risk of an adverse effect. The only way you can quantify that is, again, the risk assessment process. And, no, I have not performed a risk assessment[.]

Tr. Tran. 2266:3-2267:11 (Simonton: July 20, 2022).

The closest Dr. Simonton came to providing testimony with even a minimal degree of specificity, yet still lacking in any real support beyond his own conjecture, was in relation to

the orange iron hydroxide deposits he observed in the bed of Davis Creek and along its eastern bank abutting the Filmont landfill. Specifically, Dr. Simonton testified that he believed the iron deposits, irrespective of their contents, are "very problematic for aquatic life" inasmuch as the deposits "basically blanket the stream bed material," thus "potentially suffocating any benthic organisms that are there." Tr. Tran. 2033:15-25 (Simonton: July 19, 2022). The court, however, declines to accept and credit such conclusory testimony absent any factual support for the same.[75]

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[75] While Dr. Simonton was obviously very keen on offering his opinions on the existence of a potential endangerment, he never supported the same with anything other than his own bare assertions, which, the court notes, does not appear to be an uncommon or isolated occurrence. See, e.g., Lovejoy v. Amcox Oil and Gas, LLC, Civil Action No. 2:20-cv-00537, 2022 WL 17566235, at *12 (S.D.W. Va. Dec. 9, 2022) (Goodwin, J.) (declining to accept Dr. Simonton's "vague conclusions" that the mere presence of contaminants detected on plaintiff's property established a risk of harm and thus an imminent and substantial endangerment absent "factual support" for the same); see also Cooper v. Meritor, Inc., No. 4:16-CV-52-DMB-JMV, 2019 WL 545187, at *31 (N.D. Miss. Feb. 11, 2019) (excluding numerous opinions offered by Dr. Simonton, including his opinion attributing the groundwater contamination at issue to the defendants because "he took no steps to investigate the history of any of the surrounding properties"); Campbell v. W.W. McDonald Land Company, No. 12-C-68, (W. Va. Cir. Ct. Oct. 23, 2017) (granting the defendant's motion to exclude Dr. Simonton's expert opinions after receiving no response from plaintiffs and finding that Dr. Simonton "did not employ any scientific method to develop his opinions, and lacked the proper factual basis to assist the jury in determining the facts in issue.").

It should also be noted that the court went to great lengths in an attempt to elicit useful testimony from Dr. Simonton on the potential presence of an endangerment existing on or from these sites. During trial, Dr. Simonton testified respecting various "equations" one could utilize to determine the degree of risk associated with any given receptor's exposure to a contaminated media at the dose in which the contaminant is present therein (also referred to as the "exposure point concentration"). See Tr. Tran. 2195:2-2197:13 (Simonton: July 20, 2022). After hearing Dr. Simonton's testimony respecting the same, the court requested that Dr. Simonton complete one of these equations using the sampling data existing in this case:

> (The court speaking): I want you, before you leave the witness stand, to come up with the components of a given equation that would be applicable to any one of these several things you've mentioned, and tell me what evidence you have with respect to any one of those, and what evidence you don't have. And I want it on a strict A, B, C basis. I don't want a lot of wondering [sic, wandering]. I want you to tell me specifically when you try to apply that in any given instance.

Tr. Tran. 2197:14-22. Despite the court's direction that Dr. Simonton refrain from wandering and generalities, his response to the court's inquiry amounted to nothing more than just that. See id. at 2410:20-2421:16. Indeed, after a long-winded and circuitous response about what goes into assessing risk, no beneficial testimony was ultimately gained from Dr. Simonton

from which the court could find a reasonable prospect of future harm that is near-term and potentially serious as a result of the current conditions at and/or originating from Filmont and Massey.

Furthermore, using the data that UCC had gathered during its extensive environmental investigations at the site from 2005 until 2014 and 2015, UCC's consultants, CH2MHill, performed a Human Health Risk Assessment ("HHRA") in February 2014, and an Ecological Risk Evaluation ("ERE") in January 2015, in order to determine whether the conditions at the site were creating any on-site or off-site risks to human health or the environment via all complete and existing exposure pathways. See Jt. Ex. 41 (2014 Human Health Risk Assessment); Jt. Ex. 100 (2015 Ecological Risk Evaluation).

The HHRA assessed potential risks to human exposures associated with all complete exposure pathways existing on and off-site to soil, groundwater, surface water, sediment, and soil gas. See Jt. Ex. 41 at 00853. The HHRA (1) identified the most prominent constituents of concern found at the site, which were expected to contribute the most to the total risks associated therewith; (2) identified the potential pathways of human exposure to these constituents, "estimating the magnitude, frequency, and duration of these exposures"; (3) assessed "the

potential adverse effects" arising from these prominent constituents and compiled "the toxicity values used for developing numerical risk estimates"; (4) integrated "the results of the exposure and toxicity assessments to develop numerical estimates of health risks, and characterize[d] the potential health risks associated with potential exposure to site-related contamination"; and (5) identified and discussed "sources of uncertainty" existing within the process. Jt. Ex. 41 at 855.

Ultimately, the report concluded that no human health risks were present on-site or off warranting further action by UCC. See id. at 00875; Tr. Tran. 633:24-634:14 (Cibrik: July 8, 2022) (explaining in detail the final conclusions of the HHRA and their meanings).

The ERE assessed potential impacts to ecological receptors such as terrestrial animals, fish, vertebrae, biota, and other various ecological species to determine if there was an unacceptable risk of harm to those species stemming from site related conditions. See, generally, Jt. Ex. 100; see also Tr. Tran. 627:8-628:1 (Cibrik: July 8, 2022). Specifically, the ERE "compare[d] detected constituents in selected soil, surface water, and sediment samples to ecological screening values (ESVs) on a sample-by-sample basis," in order to identify the

most prominent constituents concern, which were subsequently "evaluated to determine if there was [an] unacceptable risk" to any of the identified ecological receptors. Id. at 0012375.

After undertaking a comprehensive assessment of all the available data in existence at that time, the ERE ultimately concluded that no unacceptable risks to any ecological receptors were present and thus no further action was needed "to address ecological resources at the site." Id. at 0012386; Tr. Tran. 630:12-632:8 (Cibrik: July 8, 2022) (explaining in detail the final conclusions of the ERE).

While Dr. Simonton urged that both risk assessments amounted to nothing more than "pretend" evaluations inasmuch as (1) no third party, such as the WVDEP, was involved in executing the same to ensure the public's interests were adequately represented; (2) the amount of data that had been collected over a nine to ten year process was insufficient to evaluate any potential risks that could be associated with the site; (3) with respect to surface water, the ERE only relied upon the 2011 surface water data and no other existing data; and (4) the HHRA failed to account for risks associated with potential groundwater ingestion. See Tr. Tran. 1972:15-1978:11 (Simonton: July 19, 2022). All of these assertions are unavailing.

Dr. Simonton fails to acknowledge that (1) the WVDEP was aware that both assessments were being undertaken without their oversight; (2) he relies extensively upon the same sampling data -- presumably to make up for the lack of his own -- in order to demonstrate the mere presence of contaminants at and emanating from the site, which he insists is enough to show the existence of an endangerment standing alone; (3) the 2011 surface water data consisted of UCC's most extensive surface water sampling at that time, and UCC thoroughly and convincingly explained its reasoning for only utilizing the same in the ERE; (4) because no one on-site or off-site is consuming the groundwater and restrictions now exist to prevent consumption of the same without treatment, any potential exposure pathway thereto is effectively eliminated. See Def. Ex. 271 (2012 UCC PowerPoint Presentation to WVDEP) at 013866 (noting UCC's intent to "[c]omplete an HHRA and ER[E] to further evaluate groundwater and surface water" at the site and "[a]pply institutional controls (where necessary) to prevent unacceptable risks"); Tr. Tran 2077:21-12 (Simonton: July 19, 2022) (explaining his reliance on the "universe of data" and how the same, standing alone, could demonstrate a present risk); Tr. Tran. 2166:17-19 (Simonton: July 19, 2022) (stating that his "opinion has been mostly based on the data that's been generated by Union Carbide"); Jt. Ex. 100 (ERE) at 0021376 (explaining why the 2011

surface water samples were utilized over other data); Tr. Tran. 633:10-19 (Cibrik: July 8, 2022) (explaining that groundwater ingestion risks were not addressed in the HHRA because there was no complete pathway due to no one drinking the water, and the restrictions put in place by the local ordinance).

The court recognizes that both of UCC's risk assessments are somewhat dated at this point, but a review of the limited sampling conducted by Dr. Simonton since the filing of this matter does not show that the contamination at or emanating from the site has since worsened. In fact, Dr. Simonton insisted at trial that conditions at the site have not changed, and UCC's most recent groundwater monitoring report indicates that constituent concentrations are overall stable or decreasing. See Tr. Tran. 2094:3-2095:1 (Simonton: July 19, 2022); Jt. Ex. 12 (2019 Filmont Groundwater Monitoring Report) at 025159; Tr. Tran. 238:11-239:2 (Cibrik: July 6, 2022).

Accordingly, the court finds no basis to discredit the contents of the risk assessments performed by UCC and its consultants or the conclusions reached therein, especially in the absence of evidence brought forth by Dr. Simonton that would reasonably appear to contradict the same.

Finally, in an effort to rescue its imminent and substantial endangerment claim, Courtland posited at trial that

UCC had essentially admitted liability on the same in Section 5 of its VRP application. See Jt. Ex. 1 at 023693; see also Tr. Tran. 442:18-449:17 (Cibrik: July 7, 2022) (Mr. Till, Courtland's counsel, walking though Section 5 of the VRP with Mr. Cibrik). The court rejects this assertion. While the VRP application does identify, inter alia, contaminated media at the site and existing exposure pathways thereto, these are the same contaminated media and exposure pathways that UCC and its consultants comprehensively evaluated and assessed in the HHRA and ERE, both of which found no unacceptable risk to any existing human or ecological receptor arising therefrom. See Jt. Ex. 100 (ERE); Jt. Ex. 41 (HHRA); Tr. Tran. 448:17-449:17 (Cibrik: July 7, 2022).

With all of that being said, the court recognizes that, at first blush, the amount of sampling data identifying an array of contaminants existing beneath the site, the photographs and videos of the site seepage, and the presence of leachate discharging from the site is discomforting. Nevertheless, it is Courtland's burden to demonstrate, by a preponderance of the evidence, that these conditions can be linked to a reasonable risk of future harm to which someone or something may be exposed in the event that remediation is not taken. Critically, such

risk of harm cannot be based on pure speculation, generalities, and the mere presence of contamination alone.

The evidentiary record is entirely devoid of any link between the contaminants present in the environmental media at and surrounding the site, any toxicological data associated with those specific contaminants at the levels in which they have been detected, and the potential effect of their toxicity, if any, on any potential human or ecological receptor. While the court is not of the opinion that plaintiffs must undertake a full scale, cost-prohibitive risk assessment in order to meet their burden, they surely must do more than what has been done by Courtland here.

Indeed, to accept Dr. Simonton's speculative conclusions offered in this case "would impermissibly enlarge the scope of RCRA to include any speculative prospect of future harm, thereby effectively eliminating the requirement that an endangerment be 'imminent and substantial.'" Lovejoy, 2022 WL 17566235, at *12. Accordingly, the court discredits the testimony of Dr. Simonton on this issue in its entirety and finds that Courtland has failed to meet its evidentiary burden with respect to this claim.

IV. CONCLUSIONS OF LAW

A. Tech Park

1. CERCLA Claims

"Congress enacted CERCLA to address the increasing environmental and health problems associated with inactive hazardous waste sites." Nurad, Inc. v. William E. Hooper & Sons Co., 966 F.2d 837, 841 (4th Cir. 1992). Section 107 of CERCLA provides for strict liability for responsible parties. See United States v. Monsanto, 858 F.2d 160, 167 (4th Cir. 1988). Indeed, "CERCLA encourages private individuals to clean up environmental hazards by permitting them to recover specified costs of cleanup from parties defined by CERCLA to be responsible for the hazards." Westfarm Assocs. Ltd. P'ship v. Wash. Suburban Sanitary Comm'n, 66 F.3d 669, 677 (4th Cir. 1995).

A private-party plaintiff establishes a prima facie case for cost recovery under CERCLA by establishing that (1) the defendant is a potentially responsible person ("PRP"); (2) the site is a CERCLA "facility"; (3) a hazardous substance has been released or threatens to be released from the defendant's facility; and (4) the release or threatened release has caused

the plaintiff to incur response costs that are "necessary" and "consistent with the National Contingency Plan." See PCS Nitrogen Inc. v. Ashley II of Charleston, LLC, 714 F.3d 161, 167-68 (4th Cir. 2013); see also, Westfarm, 66 F.3d at 677 (noting cost-recovery elements and stating the claimant must show it incurred necessary response costs).

"Contrary to the rule followed in most areas of the law, the burden of proof as to causation in a CERCLA case lies with the defendant." Westfarm, 66 F.3d at 681. As our Court of Appeals has stated, "[t]he plaintiff must prove only that contaminants which were once in the custody of the defendant could have travelled onto the plaintiff's land, and that subsequent contaminants (chemically similar to the contaminants once existing in defendant's custody) on the plaintiff's land caused the plaintiff to incur cleanup costs." Id.; see also Castiac Lake Water Agency v. Whittaker Corp., 272 F. Supp. 2d 1053, 1066 (C.D. Cal. 2003) (concluding that "in a two-site CERCLA case, the plaintiff meets its burden . . . if it (a) identifies [a] contaminant at its site, (b) identifies the same (or perhaps a chemically similar) contaminant at the defendant's site, and (c) provides evidence of a plausible migration pathway by which the contaminant could have traveled from the defendant's facility to the plaintiff's site."). The presence

of "any detectable amount" of a hazardous substance, without regard to concentration, is sufficient. HRW Sys., Inc. v. Wash. Gas Light Co., 823 F. Supp. 318, 340 (D. Md. 1993); see also Amoco Oil Co. v. Borden, Inc., 889 F.2d 664, 669 (5th Cir. 1989).

The plaintiff need not, however, "produce any evidence that the contaminants did flow onto its land from the defendant's land. Rather, once plaintiff has proven a prima facie case, the burden of proof falls on the defendant to disprove causation." Id.; see also Castiac Lake Water Agency, F. Supp. 2d at 1067 (concluding that plaintiffs had satisfied their CERCLA causation burden by providing sufficient evidence "to establish that transport through surface water . . . upstream of [p]laintiffs' wells, combined with subsequent infiltration through the [aquifers and formations] near [p]laintiffs' wells, is a plausible migration pathway for [the contamination] to travel from the [defendant's] site to the wells."). Inasmuch as "the defendant bears the burden of proof as to causation," the defendant must demonstrate by a preponderance of the evidence that "the defendant was not the source of the contamination" to defeat liability. Id. (emphasis in original).

"CERCLA Section 113(g)(2) requires that, once a party is found liable, the court 'shall enter a declaratory judgment on liability for response costs or damages that will be binding on any subsequent action or actions to recover further response costs or damages.'" United States v. Godley, 572 F. Supp. 3d 171, 182 (W.D.N.C. 2021) (quoting 42 U.S.C. § 9613(g)(2)).

At the summary judgment stage, the court concluded that Courtland had proven a prima facie case as to its CERCLA cost recovery claim in relation to Tech Park and that UCC had adduced evidence from which a trier of fact could find that UCC's Tech Park was not the source of contamination found on the Courtland Property. The only issue remaining is thus whether the evidence presented by UCC at trial demonstrates that Tech Park was not the source of the contamination detected on Courtland Property in the August 2017 sampling conducted thereon. Nonetheless, the court will address each element of the CERCLA claim in accord with the evidence presented at trial.

i. PRP and Facility

CERCLA sets forth four categories of PRPs liable for costs incurred in response to a release of hazardous substances: "(1) the current 'owner' or 'operator' of a 'facility'; (2) any 'person' who 'owned' or 'operated' the 'facility' at the time of

disposal of a hazardous substance; (3) any 'person' who 'arranged for disposal or treatment' of hazardous substances at the 'facility'; and (4) any 'person' who accepts hazardous substances 'for transport to disposal or treatment facilities, incineration vessels or sites.'" PCS Nitrogen, 714 F.3d at 172 (quoting 42 U.S.C. § 9607(a)(1)-(4)). "The statutory definition of 'owner and operator' refers to 'any person owning or operating [a] facility.'" Ashley II of Charleston, LLC v. PCS Nitrogen, Inc., 791 F. Supp. 2d 431, 477 (quoting 42 U.S.C. § 9601(20)(A)). The term person includes a corporation. See 42 U.S.C. § 9601(21).

A CERCLA "facility" is defined as:

> (A) any building, structure, installation, equipment, pipe, or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come[s] to be located; but does not include any consumer product in consumer use or any vessel.

42 U.S.C. § 9601(9); see also Westfarm, 66 F.3d at 678. "The term 'hazardous substance' is defined . . . as any substance that appears on any one of six statutory lists of substances." Ashley II, 791 F. Supp. 2d at 480 (citing 42 U.S.C. § 9601(14)).

UCC is the current owner and operator of Tech Park, and Tech Park is a CERCLA facility inasmuch as it is a site

where hazardous substances, such as arsenic, 2-butatone (also known as methyl ethyl ketone), acetone, di-n-butyl phthalate, barium, cadmium, chromium, lead, chloroform, tetrachloroethylene, trichloroethylene, and selenium, have been stored or otherwise come to be located. See Jt. Ex. 35 (1988 Draft RCRA Facility Assessment) at 5-12 (Table 1); Jt. Ex. 74 (2014 Groundwater Monitoring Report); Jt. Ex. 34 (2015 Groundwater Monitoring Report); Jt. Ex. 77 (Greenhouse Area monitoring well data spanning from November 2015 through December 2016); 40 C.F.R. § 302.4 (listing arsenic, 2-butatone, acetone, di-n-butyl phthalate, barium, cadmium, chromium, lead, chloroform, tetrachloroethylene, trichloroethylene, and selenium as hazardous substances); see also ECF 21 (UCC's Answer) (Courtland I) at 22 ¶ 48 (admitting Tech Park constitutes "a facility within the meaning of CERCLA § 101(9), 42 U.S.C. § 9601(9)").

The court thus concludes that UCC is a PRP, and Tech Park is a CERCLA facility.

ii. Release of Hazardous Substances

Courtland must next demonstrate that a "'hazardous substance' has been 'released' (or threatens to be released) from" Tech Park. Ashley II, 791 F. Supp. 2d at 479. Under CERCLA, a "release" is pertinently defined as follows:

> any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant) . . . .

42 U.S.C. § 9601(22). The term "environment" includes groundwater. See id. at § 9601(8)(B).

It is undisputed that the hazardous substances have been released, on certain occasions and from certain locations, at Tech Park. See ECF 288-2 (Courtland II) (UCC's Response to Courtland's Request for Admissions) at ¶¶ 55, 90. Indeed, the trial record confirms as much as evidenced by the detections of hazardous substances, namely, arsenic, 2-butatone (also known as methyl ethyl ketone), acetone, di-n-butyl phthalate, barium, cadmium, chromium, lead, chloroform, tetrachloroethylene, trichloroethylene, and selenium in the groundwater monitoring wells in the Greenhouse Area of Tech Park. See Pl. Ex. 451-2; Jt. Ex. 74 (2014 Groundwater Monitoring Report); Jt. Ex. 34 (2015 Groundwater Monitoring Report); Jt. Ex. 77 (Greenhouse

Area monitoring well data spanning from November 2015 through December 2016).

Accordingly, the court concludes that hazardous substances have been released from Tech Park into the environment.

iii. Response Costs

CERCLA provides a private right of action for the recovery of "necessary costs of response incurred by any other person consistent with the national contingency plan." 42 U.S.C. § 9607(a)(4)(B). The National Contingency Plan ("NCP") is a set of regulations that "establish procedures and standards for responding to releases of hazardous substances, pollutants, and contaminants[.]" 42 U.S.C. § 9605(a)(7). While our court of appeals has not addressed what constitutes "necessary" response costs, courts appear to apply two separate requirements with no apparent cohesion or consistency.

For instance, some courts are generally in agreement that "[c]osts are 'necessary' if incurred in response to a threat to human health or the environment." Reg'l Airport Auth. of Louisville v. LFG, LLC, 460 F.3d 697, 703 (6th Cir. 2006) (collecting cases); see also Carson Harbor Vill. Ltd. v. Unocoal

Corp., 270 F.3d 863, 871 (9th Cir. 2001) (en banc) (collecting cases and noting courts have "generally agreed that [the 'necessary'] standard requires that an actual and real threat to human health or the environment exist before initiating a response action"); Ashley II, 791 F. Supp 2d at 480 (stating "costs are 'necessary' if incurred in response to a threat to human health or environment"). Additionally, courts have concluded that -- relying on CERCLA's broad definition of "removal[76]" -- investigatory costs such as "environmental studies of a facility undertaken to 'monitor, assess, and evaluate' the release of hazardous substances'" qualify as necessary response costs (emphasis added). Northwestern Mut. Life Ins. Co. v. Atlantic Research Corp., 847 F. Supp. 389, 396 (E.D. Va. 1994)

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[76] CERCLA defines "response" as "remove, removal, remedy, and remedial action" including "enforcement activities related thereto." 42 U.S.C. 9601(25). The terms "remove" and "removal," in turn, are pertinently defined as follows:

> [T]he cleanup or removal of released hazardous substances from the environment, such actions as may be necessary taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release.

42 U.S.C. § 9601(23) (emphasis added).

(concluding "[u]nder CERCLA's expansive definition of 'removal,' it follows that a 'response' includes environmental studies of a facility undertaken to 'monitor, assess, and evaluate' the release of hazardous substances[;] thus, "costs incurred for purposes of evaluation and investigation . . . qualify as 'response costs'"); see also HRW Sys., Inc. v. Wash. Gas Light Co., 823 F. Supp. 318, 341 (D. Md. 1993) (concluding the plaintiff's investigation of the contaminated property fell "under the rubric of 'necessary costs'").

Other courts, however, have concluded that for a response cost to be considered "necessary," there must be "some nexus" between the alleged response cost and "an actual cleanup of hazardous releases." Young v. United States, 394 F.3d 858, 864 (10th Cir. 2005) (emphasis in original); see also Ellis v. Gallatin Steel Co., 390 F.3d 461, 482 (6th Cir. 2004)[77]; Gussack

[77] The Sixth Circuit appears to have utilized both standards depending upon the factual situation presented. In Reg'l Airport Auth. of Louisville, the court recognized that "[c]osts are 'necessary if incurred in response to a threat to human health or environment," ultimately concluding that "no reasonable jury could conclude that prior to the construction process [at issue therein], the contamination on site posed an actual and real threat to the environment or to public health." 460 F.3d at 703, 706. In Ellis, the court noted that "only work that is closely tied to the actual cleanup . . . may constitute a necessary cost of response," and [e]ven if the monitoring time spent by the [plaintiffs] constitute[d] proper costs incurred under the statute (which [defendants] dispute), these costs were (continued…)

Realty Co. v. Xerox Co., 224 F.3d 85, 92 (2d Cir. 2000); Redland Soccer Club, Inc. v. Dep't of Army, 55 F.3d 827, 850 (3d Cir. 1995); Amoco Oil Co. v. Borden, Inc., 889 F.2d 664, 669-70 (5th Cir. 1989).[78] In other words, the view is that "costs cannot be deemed 'necessary' to the containment and cleanup of hazardous releases absent some nexus between the alleged response cost and an actual effort to respond to environmental contamination." Young, 394 F.3d at 863 ("costs for initial investigation and monitoring might be compensable if linked to an actual effort to contain or cleanup an actual or potential release of hazardous substances").

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not closely tied to an actual cleanup but in the end were unrelated to any cleanup at all." 390 F.3d at 482.

[78] The court notes that the Ninth Circuit has stated that its analysis "focus[es] . . . on . . . whether the response action is addressed to" a "threat to human health or the environment." Carson Harbor Vill., 270 F.3d at 872. It appears that some district courts in the Ninth Circuit have understood this requirement to mean that "'[n]ecessary costs are costs that are necessary to the containment and cleanup of hazardous releases,'" City of Spokane, 237 F. Supp. 3d at 1094 (internal quotation marks omitted) (quoting United States v. Iron Mountain Mines, Inc., 987 F. Supp. 1263, 1271 (E.D. Cal. 1997)). In a more recent opinion, the Ninth Circuit noted in dicta that it had "never interpreted the term 'necessary' as requiring a nexus solely between recoverable costs and on-site cleanup activities," noting that "[w]e instead read CERCLA's cost recovery provisions as making no distinction between cleanup and investigatory costs." Pakootas v. Teck Cominco Metals, Ltd., 905 F.3d 565, 581 (9th Cir. 2018).

In addition to being "necessary," response costs are also required to be "consistent with the [NCP]." 42 U.S.C. § 9607(a)(4)(B). "A private party response action will be considered 'consistent with the NCP' if the action, when evaluated as a whole, is in substantial compliance with the applicable requirements in [40 C.F.R. § 300.700(c)(5)-(6)], and results in a CERCLA-quality cleanup." 40 C.F.R. § 300.700(c)(3)(i). In turn, § 300.700(c)(5)-(6) sets forth an array of requirements "potentially applicable to private party response actions" regarding, inter alia, worker health and safety; documentation and cost recovery; permit requirements; reports of releases to the National Response Center ("NRC"); removal site evaluation and actions; remedial site evaluation; selection of a remedy; and providing an opportunity for public comment concerning the selection of a response action. 40 C.F.R. § 300.700(c)(5)-(6).

As recognized by the district court in Weyerhaeuser Corp. v. Koppers Co., Inc., however, "[t]he bulk of the NCP guidelines appear to apply to actual removal and remedial procedures but do not logically appear applicable to the initial assessment aspects of a cleanup." 771 F. Supp. 1406, 1414 (D.

Md. 1991)[79]; see also Artesian Water Co. v. New Castle Cnty., 659 F. Supp. 1269, 1294 (D. Del. 1987), aff'd, 851 F.2d 643 (3d Cir. 1988)(noting the defendant's concession "that the detailed NCP provisions governing other response actions cannot reasonably be applied to preliminary monitoring and evaluation of a release of hazardous substances," therefore granting partial summary judgment to plaintiff on plaintiff's CERCLA cost recovery claim with respect to its "claim for recovery of monitoring and evaluation expenses").

Cognizant of this fact, "many courts have held that initial investigation, site-assessment, and monitoring costs are recoverable under § 107(a) of CERCLA irrespective of compliance

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[79] The court notes that the court in Weyerhaeuser held that "in order to prove a prima facie case of CERCLA liability, the plaintiff must prove that it has incurred at least some costs which are in compliance [with the NCP] and hence recoverable." 771 F. Supp. at 141. Recognizing that requirements of the NCP were inapplicable to the initial investigative costs sought, however, the court explained:

> CERCLA defines "response" as "remove, removal, remedy, and remedial action." 42 U.S.C. § 9601(25). "Remove" or "removal" includes "such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances." 42 U.S.C. § 9601(23). Thus, testing for hazardous material qualifies as a "removal" cost under the statute.

The court thus concluded that the investigative costs incurred by the plaintiff were "recoverable response costs consistent with the NCP." Id.

with NCP requirements." CNH America, LLC v. Champion Environmental Services, Inc., 863 F. Supp. 2d 793, 809 (E.D. Wis. 2012) (collecting cases); see also Von Duprin LLC v. Major Holdings, LLC, 12 F.4th 751, 771 (7th Cir. 2021) (finding "no legal infirmity in the district court's observation that § 107(a) permits a company to recover due diligence costs incurred in connection with the investigation of a contaminated site" and that the court could not "conclude that the preliminary assessment and investigatory costs - those not expressly addressed by the NCP - were not incurred consistent with the NCP."); Donahey v. Bogle, 687 F.2d 1250, 1255 (6th Cir. 1993), vacated on other grounds, 512 U.S. 1201 (1994) (concluding "[a]lthough consistency with the NCP is a necessary element for recovery of remedial costs, it does not necessarily follow that consistency with the NCP is required for recovery of monitoring or investigative costs")[80]; Bowen Engineering v. Estate of Reeve, 799 F. Supp. 467, 477 (D.N.J. 1992) (concluding that "the detailed NCP provisions governing other response actions cannot

[80] In a more recent decision, the Sixth Circuit cited its holding in Donahey "that consistency with the NCP is not required to recovery of monitoring and investigation costs." Village of Milford v. K-H Holding Corp., 390 F.3d 926, 934 (6th Cir. 2004). It is noted, however, that the court added in a footnote therein that it "found nothing in CERCLA that exempts such costs from the requirements of the NCP" but that it was nonetheless bound by its previous decision in Donahey. Id. at 934 n. 1.

reasonably be applied to preliminary monitoring and evaluation of a release of hazardous substances.") (internal quotations and citations omitted)); Carlyle Piermont Corp. v. Federal Paper Board Co., 742 F. Supp. 814, 821 (S.D.N.Y. 1990) (concluding plaintiff's "substantial investigatory and response costs in determining the scope of the contamination of the soil" were recoverable "irrespective of" NCP compliance"); Lovejoy, 2022 WL 17566235, at *8 (finding the "weight of authority" persuasive "that investigatory sampling costs incurred in direct response to concerns of contamination constitute 'necessary' costs of response 'that are consistent with the NCP, irrespective of any literal compliance therewith.") (internal citations omitted)); Palmisano v. Olin Corp., No. C-03-01607 RMW, 2005 WL 6777560, at *19 (N.D. Cal. June 24, 2005) (noting that "it is well-established that the detailed NCP provisions governing other response action cannot reasonably be applied to preliminary monitoring and evaluation of a release of hazardous substances. Thus, investigatory costs are generally recoverable irrespective of their consistency with the NCP.") (internal citations omitted); LaSalle Nat'l Trust, N.A. v. Schaffner, No. 91 C. 8247, 1993 WL 499742, at *4 (N.D. Ill. Dec. 2, 1993) (collecting cases recognizing that "[t]here is a growing body of support for the narrow premise that consistency with the NCP need not be

shown to recovery very initial investigatory and monitoring costs.").

Nor is it necessary that actual, on-site cleanup costs be incurred in addition to preliminary investigatory costs in order to deem the latter costs recoverable. See Wickland Oil Terminals v. Asarco, Inc., 792 F.2d 887, 892 (9th Cir. 1986) (concluding costs of testing and investigation were recoverable even where on-site cleanup costs were not sought); Artesian Water Co. v. Gov't of New Castle Cnty., 851 F.2d 643, 651 (3rd Cir. 1988) (same).

It has likewise been concluded that these preliminary investigatory costs are "necessary," inasmuch as "[i]t stands to reason . . . that such initial inquiries are necessary to enable subsequent measures to ensure a CERCLA-quality cleanup, as CERCLA and the NCP both contemplate." Von Duprin, 12 F.4th at 771; see also CNH America, 863 F. Supp. 2d at 809 (concluding "because any clean-up proposal and, consequently, any clean-up of a contaminated site must first be preceded by an investigation of the nature and extent of contamination, such investigative and assessment costs need not be incurred in compliance with the NCP and are 'necessary'"); HRW Sys., Inc., 823 F. Supp. at 345 (recognizing that "[t]he goals of CERCLA include the discovery and removal of hazardous substances[,]"

and "[w]hen viewed in this context, any investigation which could lead to the discovery of hazardous substances at a site, or the extent to which the site is polluted, could be considered 'necessary' in order to accomplish the goals of the statute.") (emphasis in original)).

On the other hand, there is case law supporting the opposing view that preliminary monitoring and investigatory costs are not exempt from NCP compliance. See, e.g., Bd. of Trs. of the Leland Stanford Junior Univ. v. Agilent Techs., Inc., 573 F. Supp. 3d 1371, 1374-75 (N.D. Cal. Dec. 2, 2021) (concluding that CERCLA's text "does not differentiate between initial assessment and evaluation costs and other kinds of costs" and that the NCP "seems to include requirements that come into play in incurring assessment or evaluation costs"); Bd. of Cty. Comm'rs v. Brown Grp. Retail, Inc., 768 F. Supp. 2d 1092, 1115 (D. Colo. 2011) (concluding "that the plain language of CERCLA dictates that NCP consistency is a prerequisite to the recovery of investigatory costs associated with the release of a hazardous substance"); Angus Chem. Co. v. I M C Glob. Operations, Inc., No. 3:95-295, 1997 WL 280740, at *1 (W.D. La. Mar. 4, 1997) (holding that "[t]o distinguish investigative and monitoring costs from the standards applicable to other types of response costs, and allow their recovery regardless of

compliance with the NCP or the recovery of other response costs, directly contravenes the plain language of the Act.").

While the opposing view is not without some force, the court ultimately finds persuasive the litany of authority - including two appellate decisions - standing for the proposition that preliminary investigatory costs are "necessary" costs of response and are recoverable irrespective of their overall consistency with the NCP. See, e.g., Von Duprin, 12 F.4th at 771 ("[W]e cannot conclude that the preliminary assessment and investigative costs - those not expressly addressed by the NCP - were not consistent with the NCP. We therefore see no error in the district court's finding that the [costs plaintiff] spent on preliminary investigative measures and site-assessment w[ere] recoverable under § 107(a).").

The court thus concludes that the $36,916.25 Courtland has incurred as a result of Dr. Simonton's August 2017 preliminary investigation of the Courtland Property groundwater constitute necessary costs of response that are consistent with the NCP. See Pl. Ex. 85 (Simonton 2017 Invoice); see also Tr. Tran. 3556:10-3569:23(Simonton: Aug. 1, 2022) (describing the work listed on the 2017 invoice).

Indeed, such costs were incurred in direct response to Courtland's concern that contaminants from Tech Park were

migrating to the Courtland Property groundwater and were thus a "necessary" prerequisite to enable any potential "subsequent measures to ensure a CERCLA-quality cleanup, as CERCLA and the NCP both contemplate." Von Duprin, 12 F.4th at 771.

iv. Causation

Again, this matter involves the claimed migration of hazardous substances from the Greenhouse Area of Tech Park to the groundwater underlying the Courtland Property. To reiterate, "the burden of proof as to causation in a CERCLA case lies with the defendant." Westfarm, 66 F.3d at 681. In matters involving two contaminated sites such as this, the plaintiff must only prove "that contaminants which were once in the custody of the defendant could have travelled onto the plaintiff's land, and that subsequent contaminants (chemically similar to the contaminants once existing in defendant's custody) on the plaintiff's land caused the plaintiff to incur cleanup costs." Id. In order to defeat CERCLA liability then, the defendant is tasked with demonstrating by a preponderance of the evidence that it "was not the source of the contamination." Id. (emphasis in original).

Here, Courtland has satisfied its limited burden to produce evidence that contaminants once in the custody of UCC at

its Tech Park facility could have travelled onto the Courtland Property inasmuch as it is undisputed that groundwater flows downgradient from the Greenhouse Area of Tech Park to Courtland. See Tr. Tran. 3817:17-23 (de Haven: Aug. 2, 2022); Id. at 3558:6-15 (Simonton: Aug. 1, 2022); see also Jt. Ex. 34 (2015 Groundwater Monitoring Report) at 031464 (Figure 4-2 Potentiometric Surface Map depicting the direction of groundwater flow from the Greenhouse Area in a north/northwestern direction toward the Courtland Property). In other words, Courtland has demonstrated that the groundwater flowing from Tech Park to Courtland is a "plausible migration pathway" for the contamination at Tech Park to reach Courtland's property.

Courtland has also demonstrated that contaminants chemically similar to the contaminants once existing in UCC's custody, namely, arsenic, barium, chromium, selenium, acetone, di-n-butyl phthalate, and 2-Butanone, were likewise detected in the August 2017 groundwater sampling on the Courtland Property, which resulted in Courtland expending $36,916.25 on such preliminary investigation. See Pl. Ex. 451-2; Pl. Ex. 268-1; Jt. Ex. 35 (1988 Draft RCRA Facility Assessment) at 5-12 (Table 1); Tr. Tran. 3604:14-3606:9 (Simonton: Aug. 1, 2022); Pl. Ex. 85 (Simonton 2017 Invoice).

Nevertheless, consistent with the findings and credibility determinations made with respect to the opinions of Mr. de Haven and Dr. Simonton set forth in Section II.I. at pages 40-54 herein, and in viewing the entirety of the evidentiary record, the court concludes that UCC has demonstrated, by a preponderance of the evidence, that Tech Park is not the source of the constituents detected in Courtland's groundwater. See supra Section II.I. at pages 40-54.

Accordingly, Courtland's CERCLA §§ 107(a) and 113(g)(2) claims asserted in Count I of Courtland I (Tech Park) are DISMISSED, and Courtland bears the responsibility for the entirety of the $36,916.25 expended on its August 2017 groundwater sampling investigation.

2. RCRA Section 7002(a)(1)(A) Claim

Section 7002(a)(1)(A) of RCRA authorizes suit "against any person . . . who is alleged to be in violation of any permit, standard, regulation, condition, requirement, prohibition, or order which has become effective pursuant to [RCRA]." 42 U.S.C. § 6972(a)(1)(A). The West Virginia Hazardous Waste Management Act ("WVHWMA") -- approved by the USEPA on May 15, 1986, thus operating in lieu of RCRA -- prohibits the operation or closure of any facility for the

treatment, storage, or disposal of hazardous waste without a permit. See W. Va. Code § 22-18-8(a); West Virginia: Final Authorization of State Hazardous Waste Management Program, 51 Fed. Reg. 17739-01 (May 15, 1986); Safety-Kleen, Inc. (Pinewood) v. Wyche, 274 F.3d 846, 863 (4th Cir. 2001) ("RCRA authorizes the states to develop and implement their own hazardous waste management scheme 'in lieu of the Federal program.'") (quoting 42 U.S.C. § 6926)).

As explained in Section II.J. at pages 54-59 above, Courtland originally premised its RCRA Section 7002(a)(1)(A) claim in its Complaint, Notice of Violation, and in the operative Integrated Pretrial Order on UCC's purported failure to have a permit for the treatment, storage, or disposal of hazardous waste at Tech Park. See ECF 1 (Courtland I Complaint) at ¶ 61 ("In view of the fact that the UCC [Tech Park] did not then have, and never has had, a permit for such activities, such disposal was and is a violation of RCRA Subchapter III, including 42 U.S.C. 6924 and 6928 and W. Va. Code 22-18-8(a)."); ECF 9 (Courtland I Notice of Violation) at 12 (same); ECF 444 (Operative Integrated Pretrial Order) at 7.

However, the evidentiary record clearly demonstrates that UCC has operated the Tech Park pursuant to a RCRA and/or a WVDEP permit since 1981 and is currently operating under a

Corrective Action Permit ("CAP") acquired from the WVDEP. See, e.g, Def. Ex. 329 (1981 Part A Interim Status Permit); Def. Ex. 201 (1985 Treatment, Storage, Disposal Permit); Def. Ex. 185 (2009 Hazardous Waste Management Renewal Permit); Jt. Ex. 29 (2012 Corrective Action Permit); Jt. Ex. 44 (2019 Revised Corrective Action Permit). Simply put, Courtland's RCRA Section 7002(a)(1)(A) claim, as alleged in its Complaint, Notice of Violation,[81] and in the Integrated Pretrial Order fails in light of UCC's possession of such permits.

Seemingly cognizant of this fact, Courtland's counsel wholly changed the theory of its Section 7002(a)(1)(A) claim during opening statements in the Tech Park phase of the trial. Instead of asserting that UCC lacked a permit for Tech Park as pled and noticed, Courtland's counsel contended that UCC had

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[81] Pursuant to Section 6972(b)(1) of RCRA, a citizen suit may not be commenced under subsection (a)(1)(A) "until 60 days after the citizen has notified the [US]EPA, the State in which the alleged violation occurred, and the alleged violator[,]" and "[a]ctions commenced prior to 60 days after notice are 'prohibited.'" Hallstrom v. Tillamook Cnty., 493 U.S. 20, 26 (1989); see also 42 U.S.C. § 6972(b)(1). This pre-suit notice is a "mandatory, not optional, condition precedent." Id. at 31. RCRA's implementing regulations require that the notice should include, inter alia, "sufficient information to permit the recipient to identify the specific permit, standard, regulation, condition, requirement, or order which has allegedly been violated" and "the activity alleged to constitute a violation." 40 C.F.R. § 254.3(a). The Notice of Violation referred to herein is Courtland's pre-suit notice filed pursuant to Section 6972(b)(1).

violated the terms of its CAP due to its purported failure to notify the USEPA and WVDEP of Tech Park's off-site releases of hazardous substances alleged to be impacting the Courtland Property. See Tr. Tran. 3545:18-3546:19 (Till: Aug. 1, 2022); see also Tr. Tran. 3947:12-16 (Donovan: Aug. 3, 2022).

First, Courtland's Complaint, Notice of Violation, and the operative Integrated Pretrial Order are entirely devoid of any allegation that UCC was in violation of its CAP. There is no mention of any of the terms or provisions of the CAP, nor at any point do the allegations set forth therein explicitly allege or discernably suggest any "failure to notify" theory. Again, it is well-established that a party may not proceed on an unpled theory of recovery absent the express or implied consent of the parties to try the same. See Dan Ryan Builders, Inc. v. Crystal Ridge Development, Inc., 783 F.3d 976, 983 (4th Cir. 2015). Inasmuch as the court has found that this theory of recovery was neither pled, nor tried by UCC's express or implied consent at trial, the court concludes that Courtland's newly fashioned claim must fail.

Second, even assuming that Courtland had properly alleged UCC to be in violation of its CAP by failing to notify the USEPA or WVDEP of the purported off-site releases from Tech Park impacting the Courtland Property or that UCC had expressly

or implicitly consented to trial of the same, such claim could not be rescued in light of the court's findings. As previously explained, to grant Courtland the relief it seeks by directing UCC to notify the USEPA and WVDEP that offsite contamination emanating from Tech Park has been detected on the Courtland Property is illogical given the court's conclusion that Tech Park is not the source of the contamination on Courtland.

Accordingly, Courtland's RCRA § 7002(a)(1)(A) claim asserted in Count II of Courtland I (Tech Park) is DISMISSED.

3. Voluntarily Dismissed Claims

As mentioned in footnote one herein, at trial, Courtland voluntarily dismissed its RCRA § 7002(a)(1)(B), 42 U.S.C. § 6972(a)(1)(B), imminent and substantial endangerment claim, as well as the entirety of its asserted state law claims in Courtland I. See Tr. Tran. 3364-66 (July 28, 2022). Accordingly, Counts III (RCRA § 7002(a)(1)(B)), IV (Public Nuisance), V (Private Nuisance), VI (Negligence), VIII (Gross Negligence), and IX (Strict Liability) in Courtland I (Tech Park) are DISMISSED.

B. Filmont & Massey

1. Courtland's CERCLA Claims

i. Cost Recovery: CERCLA Section 107(a)

As previously mentioned, in order to establish liability on a cost recovery claim brought pursuant to section 107(a) of CERLCA, a private-party plaintiff must establish the following elements: (1) the defendant is a potentially responsible person ("PRP"); (2) the site is a CERCLA "facility"; (3) a hazardous substance has been released or threatens to be released from the defendant's facility; and (4) the release or threatened release has caused the plaintiff to incur response costs that are "necessary" and "consistent with the National Contingency Plan." See PCS Nitrogen, 714 F.3d at 167-68; see also, Westfarm, 66 F.3d at 677 (noting cost-recovery elements and stating the claimant must show it incurred necessary response costs).

"A claim for response costs may 'be established entirely through circumstantial evidence.'" Lovejoy, 2020 WL 17566235, at *3 (quoting Tosco Corp. v. Koch Indus., 216 F.3d 886, 892 (10th Cir. 2000)). "The plaintiff need not 'prove its case with mathematical precision . . . or scientific

certainty.'" Id. (quoting Kalamazoo River Study Grp. v. Rockwell Int'l Corp., 355 F.3d 574, 590 (6th Cir. 2004)); see also Acushnet v. Mohasco Corp., 191 F.3d 69, 76 (1st Cir. 1999) (explaining that CERCLA does not "cast the plaintiff in the impossible role of tracing particular waste to particular sources . . . a task that is often technologically infeasible due to the fluctuating quantity and varied nature of the pollution at a site over the course of many years.").

Nonetheless, the plaintiff must present "sufficient evidence from which a reasonable and rational approximation of each defendant's individual contribution to the contamination can be made." In re Bell Petroleum Servs., 3 F.3d 889, 903 (5th Cir. 1993).

Again, in a case involving the migration of contaminants from one site to another, the plaintiff must show "only that contaminants which were once in the custody of the defendant could have travelled onto the plaintiff's land, and that subsequent contaminants (chemically similar to the contaminants once existing in defendant's custody) on the plaintiff's land caused the plaintiff to incur cleanup costs." Westfarm, 66 F.3d at 681. The plaintiff need not, however, "produce any evidence that the contaminants did flow onto its land from the defendant's land. Rather, once plaintiff has

proven a prima facie case, the burden of proof falls on the defendant to disprove causation." Id.

The court has already set forth in detail herein the applicable caselaw interpreting each element of a cost recovery action under CERCLA and need not recite the same here. It is undisputed that UCC is the current owner and operator of Filmont and Massey (collectively referred to as "the site"), and that hazardous substances, such as 1,4 dioxane, arsenic, and bis (2-chloroisopropyl) ether, have come to be located at the site as evidenced by the groundwater contamination thereon. See, e.g., ECF 304 in Courtland II (UCC's Answer) at 6, ¶ 14.

The evidentiary record presented at trial also confirms that a release or threatened release of hazardous substances has occurred or threatens to occur at the site via leaching, as evidenced by the detections of hazardous substances, namely, arsenic, 1,4 dioxane, and bis (2-chloroisopropyl) ether, in the groundwater monitoring wells and groundwater sampling points thereon. See, e.g., Pl. Ex. 725. Courtland has further established that these same three constituents detected in the groundwater at the site could have travelled onto the northern portion of the Courtland Property where Dr. Simonton's 2021 groundwater sampling point is located

and where all three constituents were likewise detected. See supra Section III.G. at pages 111-136.

UCC has adduced evidence, and the court has found, that historic and current activities that have occurred and continue to occur on the Courtland Property are more likely than not a contributing source to Courtland's groundwater contamination in the northern portion thereof. See id. Under CERCLA, however, merely pointing to a plausible alternate or contributing source alone does not foreclose a finding that hazardous substances were released or threatened release from Filmont and Massey absent independent facts that would conclusively disprove causation. See Lovejoy, 2020 WL 17566235, at *5 (citing Artesian Water, 659 F. Supp. at 1281-82).

While UCC offered such evidence by way of the expert testimony of Mr. de Haven regarding contamination emanating from the Tech Park to Courtland in the Tech Park phase of the trial, no such evidence was offered with respect to the contamination emanating from Filmont and Massey to Courtland. Indeed, UCC's expert, Mr. MacPherson, merely testified that Courtland could also be a source of the groundwater contamination detected on the Courtland Property, not that Filmont and Massey could not. The court thus concludes that UCC has not met its burden in

disproving causation for CERCLA purposes in the Filmont phase of the trial.

Lastly, as a result of Courtland's reasonable concern that hazardous substances could have migrated onto the Courtland Property from Filmont and Massey via groundwater, Courtland conducted a preliminary groundwater investigation on the northern portion of the Courtland Property in June and July 2021, expending a total of $27,142.50. See Pl. Ex. 500 (Simonton Invoice) at 3-5; Tr. Tran. 1300:24-1301:18 (Simonton: July 13, 2022). Inasmuch as these were preliminary investigatory costs, which were incurred in direct response to Courtland's reasonable concern that its property had been impacted by the site, the court concludes such costs constitute necessary costs of response that are consistent with the NCP.

Based on the foregoing, Courtland has satisfied its burden in establishing each of the four elements of a CERCLA cost recovery action under section 107(a). Accordingly, the court concludes that UCC is liable to Courtland for the costs incurred by Courtland on its June and July 2021 preliminary groundwater investigation on the Courtland Property. Should UCC wish to challenge any portion of the $27,142.50 total, on grounds other than NCP compliance, such as excessiveness, it may do so forthwith in the damages phase of this trial.

To the extent that Courtland also seeks recovery of the costs incurred by Dr. Simonton related to his September 2020 kayak trip and surface water sampling of Ward Branch, and the next day inspection of Davis Creek from the Courtland Property, the court concludes the same do not constitute necessary costs of response inasmuch as such costs are wholly unrelated to any concern of Courtland's that contamination could be migrating from Filmont and Massey via the groundwater to the Courtland Property. See supra Section III.F. at pages 102-111. Courtland thus bears total responsibility for the $7,802.50 expended on the same.

ii. Declaratory Relief: CERCLA Section 113(g)(2)

Pursuant to section 113(g)(2) of CERCLA, "[i]n any such action described in this subsection, the court shall enter a declaratory judgment on liability for response costs or damages that will be binding on any subsequent action or actions to recover further response costs or damages." 42 U.S.C. § 9613(g)(2). "As this statutory language makes clear, under § 113(g)(2), '[t]he entry of declaratory judgment as to liability is mandatory.'" Dent v. Beazer Materials and Services, Inc., 156 F.3d 523, 531 (4th Cir. 1998) (quoting Kelley v. E.I. DuPont de Nemours & Co., 17 F.3d 836, 844 (6th Cir. 1994)).

The award of declaratory judgment pertains only to the fact of liability, not the amount, and thus "the speculative nature of . . . future costs is no bar to a present day declaration of liability." United States v. Fairchild Indus., Inc., 766 F. Supp. 405, 415 (D.Md. 1991)). Indeed, "[p]ermitting prompt declaratory judgments encourages prompt remedial action." Dent, 156 F.3d at 532.

Inasmuch as UCC is liable under CERCLA 107(a) for at least some of the groundwater contamination detected on the northern portion of the Courtland Property, declaratory judgment against UCC for any future remediation costs Courtland may choose to incur in efforts to remediate the same is proper. This imposition of future liability does not prevent UCC from challenging any actual future costs incurred by Courtland as unnecessary, inconsistent with the NCP, or unreasonable. Nor does it preclude UCC from seeking an equitable allocation of such costs from Courtland.

2. UCC's CERCLA Counterclaims

i. Contribution: CECLA Section 113(f)

"CERCLA provides two mechanisms that allow potentially responsible parties ("PRPs") to recover costs they have expended to decontaminate a polluted site: § 107(a) cost recovery claims and § 113(f) contribution claims." Agere Systems, Inc. v. Advanced Environmental Tech. Corp., 602 F.3d 204, 216 (3d Cir. 2010). "The first option, § 107(a), provides that PRPs are liable for "any . . . necessary costs of response incurred by any other person" consistent with CERCLA. Id. (quoting 42 U.S.C. § 9607(a)(4)(B)). "Section 107(a) thus allows private parties to bring cost recovery suits against other PRPs[,]" allowing "for complete cost recovery under a joint and several liability scheme." Id. (citing N.J. Tpk. Auth. v. PPG Indus., Inc., 197 F.3d 96, 104 (3d Cir. 1999)).

"Initially, '[w]hen CERCLA was first enacted, [§ 107 cost recovery] was the only remedy available, and [c]ourts struggled with whether PRPs (themselves liable for some of the cleanup) could invoke 107 for contribution from other PRPs for their proportionate share of the costs as opposed to full cost recovery.'" Id. (quoting Nigara Mohawk Pwr. Corp. v. Chevron U.S.A., Inc., 596 F.3d 112, 121 (2d Cir. 2010)). Upon passage

of the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), "Congress ultimately provided the language necessary to authorize contribution under CERCLA when it added § 113 to the statutory scheme[.]" Id. "Section 113(f) specifically is a second means of recouping cleanup costs, and it, in turn, provides two avenues of relief." Id. Relevant here, "[u]nder § 113(f), a PRP can seek contribution from another PRP during or following a CERCLA suit brought against the first PRP." Id. (citing 42 U.S.C. § 9613(f)(1)); see also United States v. Atl. Research Corp., 551 U.S. 128, 139 (2007) (explaining that "[s]ection 113(f)(1) authorizes a contribution action to PRPs with common liability stemming from an action instituted under [CERCLA]").

In short, the distinction between section 107(a) and 113(f) has been summarized as follows:

> [T]he remedies available in §§ 107(a) and 113(f) complement each other by providing causes of action to persons in different procedural circumstances . . . Section 113(f)(1) authorizes a contribution action to PRPs with common liability stemming from an action instituted under . . . § 107(a). And § 107(a) permits cost recovery (as distinct from contribution) by a private party that has itself incurred cleanup costs.

Atl. Research Corp., 551 U.S. at 139. Simply put, section 113(f) grants any person liable under section 107(a) a right to "seek contribution from any other person who is liable or potentially liable" under section 107(a). 42 U.S.C. 9613(f)(1).

"In resolved contribution claims, the court may allocate response costs among liable parties using such equitable factors as the court determines are appropriate." Id. "This plain language grants a court significant discretion to choose which factors to consider in determining equitable allocation of liability." PCS Nitrogen, 714 F.3d at 186.

"Contribution is defined as the 'tortfeasor's right to collect from others responsible for the same tort after the tortfeasor has paid more than his or her proportionate share, the shares being determined as a percentage of fault.'" Atl. Research Corp., 551 U.S. at 138 (quoting Black's Law Dictionary 353 (8th ed. 2004)). Therefore, as is the case here, "PRPs who find themselves sued under § 107(a) often file a counterclaim [under § 113(f)] against the original plaintiff on the basis that the party is itself a PRP who caused part of the harm and thus should contribute to any ultimate remediation liability." Von Duprin, 12 F.4th at 758; see also Atl. Research Corp., 551 U.S. at 140 (explaining that "a defendant PRP in . . . a § 107(a) suit could blunt any inequitable distribution of costs by filing a § 113(f) counterclaim[,]" and "[r]esolution of a § 113(f) counterclaim would necessitate the equitable apportionment of costs among the liable parties, including the PRP that filed the § 107(a) action.").

Importantly, as a remedial statute, CERCLA "must be given a broad interpretation to effect its ameliorative goals." First United Methodist Church of Hyattsville v. U.S. Gypsum Co., 882 F.2d 862, 867 (4th Cir. 1989). Thus, CERCLA necessarily "reaches far more than hazardous waste sites" and, "in fact, it has been said that through CERCLA, 'Congress sought to deal with every conceivable area where hazardous substances come to be located[.]'" Id. (quoting State of N.Y. v. General Elec. Co., 592 F. Supp. 291, 296 (N.D.N.Y. 1984)).

Here, there is no question that hazardous substances have come to be located in the groundwater on the Courtland Property -- of which Courtland is the owner and operator -- as evidenced by the results of Dr. Simonton's June and July 2021 groundwater sampling thereon. It is also evident that both historic uses of and ongoing industrial operations at the Courtland Property are contributing sources to its groundwater contamination as explained in detail in Section III.G. at pages 111-136 herein.

Simply stated, UCC and Courtland are both contributing to the same harm at issue in this action: the contamination of groundwater on the Courtland Property. Thus, to hold UCC 100% liable for the costs Courtland expended on its 2021 groundwater investigation, which revealed the presence of multiple hazardous

substances in the groundwater on the northern portion of the property, would produce an inequitable result given the court's finding that Courtland is also a contributing source.

The equitable allocation respecting the amount of response costs for which each party in this matter is responsible is an issue to be resolved after the conclusion of the damages phase of this trial.[82]

ii. Declaratory Relief: CERCLA Section 113(g)(2)

To reiterate, section 113(g)(2) of CERCLA requires the court to "enter a declaratory judgment on liability for response costs or damages that will be binding on any subsequent action or actions to recover further response costs or damages." 42 U.S.C. § 9613(g)(2).

It is noted that there has been some discussion as to whether declaratory judgment is permitted in connection with a section 113(f) contribution claim, with some litigants contending such relief is only permissible in connection with a section 107(a) cost recovery claim.

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[82] This includes a decision as to whether UCC will be permitted to recover from Courtland any of the $199,942.52 UCC expended on its December 2020 soil investigation of the Courtland Property.

Most courts, however, appear to have rejected this contention, concluding that declaratory judgment is permissible in connection with a section 113(f) contribution claim. See, e.g., GenCorp, Inc. v. Olin Corp., 390 F.3d 433, 450 (6th Cir. 2004) (concluding "that requests for declaratory judgments concerning future response costs in § 107(a) and § 113(f) suits must be treated alike."); United States v. Davis, 261 F.3d 1, 46 (1st Cir. 2001) (taking "the position . . . that § [113](g)(2), the declaratory judgment provision of CERCLA, applies to § [113](f) contribution actions for both past and future response costs."); Boeing Co. v. Cascade Corp., 207 F.3d 1177, 1191 (9th Cir. 2000) (noting that while section 113(g)(2) "is silent on whether declaratory judgments are authorized in contribution actions" the statute "does not prohibit them."); Tosco Corp. v. Koch Indus., 216 F.3d 886, 897 (10th Cir. 2000) (concluding declaratory judgment in connection with a section 113(f) contribution claim was appropriate). The court finds this line of cases persuasive.

Just as it would be inequitable to hold UCC liable for the entirety of the response costs that Courtland has already incurred, it would likewise be inequitable to hold UCC 100% liable for any future response costs Courtland may choose to

incur in efforts to remediate its groundwater contamination when Courtland itself is a contributing source.

Accordingly, in the event that Courtland chooses to incur further response costs associated with remediating the groundwater contamination at the Courtland Property, UCC will be entitled to an equitable allocation of such costs.

3. RCRA Claims

"RCRA is a comprehensive environmental statute that governs the treatment, storage, and disposal of solid and hazardous waste." Goldfarb v. Mayor and City Council, 791 F.3d 500, 504 (4th Cir. 2015). The primary purpose of RCRA is "to reduce the generation of hazardous wastes and to ensure the proper treatment, storage, and disposal of that waste which is nonetheless generated, so as to minimize the present and future threat to human health and the environment." Meghrig v. KFC W., Inc., 516 U.S. 479, 483 (1996). Despite this noble purpose, RCRA and its implementing regulations are the paradigm of an obscure and complex enigma.

Within RCRA's regulatory scheme "are a set of twin citizen suit mechanisms." Lovejoy v. Jackson Resources Co., 2:20-cv-00537, 2021 WL 3025454, *5 (S.D.W. Va. July 16, 2021).

As previously mentioned, the first authorizes suit "against any person . . . who is alleged to be in violation of any permit, standard, regulation, condition, requirement, prohibition, or order which has become effective pursuant to [RCRA]." 42 U.S.C. § 6972(a)(1)(A). "In such an action, the plaintiff must allege that the defendant's violation of either a state or federal standard that became effective pursuant to RCRA is current and ongoing." 307 Campostella, LLC v. Mullane, 143 F. Supp. 3d 407, 413 (E.D.Va. 2015) (citing Goldfarb, 791 F.3d at 504).

The second provision permits citizen suits to be commenced "against any person . . . including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility, who has contributed or is contributing to the past or present handling, storage, treatment, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment." 42 U.S.C. § 6972(a)(1)(B). These claims are commonly referred to as "imminent and substantial endangerment" claims. "[C]laims under subsection (a)(1)(B) may be brought regardless of whether the plaintiff can demonstrate that the defendant's actions violated a specific RCRA-based permit." Goldfarb, 791 F.3d at 505.

In Courtland II, Courtland has brought both subsection (a)(1)(A) and subsection (a)(1)(B) claims against UCC. Regarding Courtland's subsection (a)(1)(A) claims respecting Filmont,[83] Courtland alleges violations of both Subtitle C, which regulates hazardous waste, and Subtitle D, which regulates non-hazardous solid waste. See United States v. Waste Industries, Inc., 734 F.2d 159, 164 (4th Cir. 1984) (noting that "[t]he regulatory scheme for hazardous waste appears in Subtitle C of the Act; the scheme for solid wastes, in Subtitle D."); see also Environmental Defense Fund v. U.S.E.P.A., 852 F.2d 1309, 1310 (D.C. Cir. 1988) (same). The court will address Courtland's subsection (a)(1)(A) claims, brought pursuant to both subtitles

[83] To the extent Courtland alleges its RCRA Subtitle C (regulating hazardous waste) and D (regulating nonhazardous waste) claims are applicable to Massey, such claims fail inasmuch as the record is devoid of any evidence that any portion of Massey has ever been utilized as a landfill where solid and/or hazardous wastes are or have been disposed. Aside from its designation as a RCRA Very Small Quantity Generator ("VSQG"), with USEPA identification number WVR000532036, the operations at Massey fall outside of the provisions of RCRA relevant herein. See 40 C.F.R. § 262.14 ("Provided that the very small quantity generator meets all the conditions for exemption listed in this section, hazardous waste generated by the very small quantity generator is not subject to the requirements of parts 124, 262 (except 262.10 through 262.14) through 268, and 270 of this chapter, and the notification requirements of section 3010 of RCRA and the very small quantity generator may accumulate hazardous waste on site without complying with such requirements"). Courtland has never alleged that Massey is not in compliance with its RCRA VSQG status. The court thus concludes that the alleged Subtitle C and D violations brought pursuant to section 7002(a)(1)(A) of RCRA pertain to Filmont alone.

C and D of RCRA, before turning to Courtland's subsection (a)(1)(B) claim.

i. RCRA § 7002(a)(1)(A) Claims

(a) Subtitle C (Regulating Hazardous Waste)

Subchapter III, or Subtitle C, of RCRA concerns the management of hazardous waste and directs the USEPA to promulgate federal standards and permit requirements for its storage, treatment, and disposal. See 42 U.S.C. §§ 6921-6934 (emphasis added). Subtitle C also grants states the authority to establish their own hazardous waste management programs, subject to the review and approval of the USEPA. See 42 U.S.C. § 6926(b); see also 40 C.F.R. §§ 271.1-271.27 (detailing requirements for state programs). Where a state has an approved program, it is authorized to carry out its program in lieu of the federal program. 42 U.S.C. § 6926(b); see also Safety-Kleen, Inc., 247 F.3d at 863 ("RCRA authorizes the states to develop and implement their own hazardous waste management scheme 'in lieu of the Federal program.'") (quoting 42 U.S.C. § 6926)).

The USEPA approved West Virginia's hazardous waste program, implemented through the WVHWMA, on May 15, 1986, and granted the State the "primary enforcement responsibility" for permitting treatment, storage, and disposal facilities within its borders and carrying out the other aspects of the RCRA program. See West Virginia: Final Authorization of State Hazardous Waste Management Program, 51 Fed. Reg. 17739-01 (May 15, 1986); see also W. Va. Code § 22-18-1 et seq. Thus, pursuant to USEPA authorization, West Virginia implemented its own hazardous waste program and promulgated regulations governing, inter alia, the operation and management of hazardous waste treatment, storage, and disposal facilities. See generally, W. Va. Code § 22-18-6 (directing the director to promulgate rules, which "shall be consistent with but no more expansive in coverage nor more stringent in effect than the rules and regulations promulgated by the federal environmental protection agency pursuant to [RCRA]"); W. Va. Code St. R. § 33-20-1 et seq.

The vast majority of the regulations implementing West Virginia's hazardous waste management program are incorporated by reference from the USEPA regulations implemented pursuant to RCRA, with some minor modifications, exceptions, and additions largely inapplicable herein. See, e.g., W. Va. Code St. R. §

33-20-7.2 ("The provisions of 40 C.F.R. Part 264 are hereby adopted and incorporated by reference with the modifications, exceptions, and additions set forth in this section."). In other words, the West Virginia regulations relevant to this action are "substantially identical to the [US]EPA's regulations, such that analysis of the federal scheme can overlay and define" that of West Virginia's. U.S. v. Power Engineering Co., 191 F.3d 1224, 1228 (10th Cir. 1999).

In its Complaint in Courtland II, Courtland alleges that UCC has committed various violations of RCRA Subtitle C and the WVHWMA. Specifically, Courtland alleges that (1) UCC's disposal of hazardous waste at its Filmont facility and its operation[84] or closure of its hazardous waste disposal facility without a permit violates RCRA and the WVHWMA; (2) UCC's failure to put into place the financial assurance instruments for the

[84] The court recognizes that at trial, Courtland's counsel made clear that it was no longer pursuing the theory that UCC had violated Subtitle C of RCRA in Courtland II (Filmont) by failing to comply with RCRA's "initial permitting obligations." Tr. Tran. 19:17-23 (Mr. Donovan: July 6, 2022) ("We originally pled before this [c]ourt - and I want to clarify this for the [c]ourt's benefit - we mentioned at the pretrial conference we had pled and proved through the motion to dismiss stage of this litigation that [UCC] violated the initial permitting obligations of RCRA. Your Honor, we are not pursuing - Courtland is not pursuing those claims in this case at trial."). Nonetheless, the court addresses the claim herein inasmuch as analysis of the same is beneficial to understanding the remaining theories of violation on which Courtland bases its Subtitle C violations.

closure and post-closure care of its hazardous waste disposal facility violates 40 C.F.R. §§ 264.143 to 264.145 and W. Va. Code St. R. § 33-20-7.5; and (3) UCC's failure to provide the preliminary notice required by Section 310 of RCRA, 42 U.S.C. § 6930(a), is a violation thereof. See ECF 1 (Courtland II Complaint) at ¶¶ 69-75. The court will address each of these contentions in turn.

Both RCRA and the WVHWMA prohibit the disposal of hazardous waste and the operation or closure of any facility or site for the treatment, storage, and disposal of hazardous waste listed or identified in these statutes without a permit for such activity. See 42 U.S.C. § 6925(a) (prohibiting anyone from owning or operating a "facility for the treatment, storage, or disposal of hazardous waste" without a permit and the disposal of hazardous waste after November 19, 1980,[85] without such a permit); W. Va. Code § 22-18-8(a) ("No person may own, construct, modify, operate, or close any facility or site for the treatment, storage or disposal of hazardous waste . . . nor shall any person store, treat, or dispose of any such hazardous waste without first obtaining a permit"); see also Envtl. Def. Fund, Inc. v. Lamphier, 714 F.2d 331, 335 (4th Cir. 1983)

[85] November 19, 1980, is the date section 6925 of RCRA came into effect. See Lamphier, 714 F.2d at 335.

("Under 42 U.S.C. § 6925, anyone 'owning or operating a facility for the treatment, storage, or disposal of hazardous waste' as of November 19, 1980, must obtain operating permits from the [US]EPA.").

The regulations promulgated pursuant to section 6925's permitting requirements for hazardous waste treatment, storage, and disposal facilities (commonly referred to as "TSD facilities"[86] or "TSDFs") are found in 40 C.F.R. parts 270 and 124, the bulk of which have been incorporated by reference into the West Virginia Code of State Rules. See 40 C.F.R. § 270.1(a)(2); W.Va. Code St. R. § 33-20-11.1 ("The provisions of 40 C.F.R. Part 270, 40 C.F.R. 267, and 40 C.F.R. Part 124, Subpart G are hereby adopted and incorporated by reference with the modifications, exceptions, and additions set forth in this section."). These regulations define "disposal facility" as "a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure" and excludes "a corrective action management unit into which remediation wastes are placed." 40 C.F.R. § 270.2 (emphases added); W. Va. Code St. R. § 33-20-11.1. "Hazardous waste" is defined by RCRA and the WVHWMA as:

[86] See 40 C.F.R. § 270.1(b) (referring to treatment, storage, and disposal facilities as "TSDs").

> [A] solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may - (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

42 U.S.C. § 6903(5); W. Va. Code § 22-18-3(6) (using "waste" as opposed to "solid waste" in the same definition). The term "disposal" is defined as:

> [T]he discharge, deposit, injection, dumping, spilling, leaking or placing of any hazardous waste into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment or be emitted into the air, or discharged into any waters, including groundwaters.

W. Va. Code § 22-18-3(2); 42 U.S.C. § 6903(3) (including solid waste, as well as hazardous waste, within this definition). RCRA's narrow definition of "disposal facility," in conjunction with its broad definition of "disposal," was litigated in Westfarm Associates Ltd. Partnership v. International Fabricare Institute, 846 F. Supp. 422 (D. Md. 1993), aff'd, 66 F.3d 669 (4th Cir. 1995).

In Westfarm, the plaintiff brought a RCRA § 7002(a)(1)(A) claim against the defendant upon discovering the groundwater beneath its land -- adjacent to the defendant's site -- was contaminated with a hazardous substance. Id. at 426. Inasmuch as the state of Maryland had implemented its hazardous

waste program in lieu of RCRA, the plaintiff alleged various violations of the Maryland program, including regulations applicable to owners and operators of hazardous waste treatment, storage, and disposal facilities. Id. at 434-35. In efforts to avoid liability, the defendant contended that its site was not a "disposal facility" as defined by the Maryland regulations. Id. at 435.

Observing that the regulations broadly define the term "disposal" to encompass "both active and passive human activity[,]" the district court noted that "those same regulations define a 'disposal facility' narrowly as 'a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.'"[87] Id. (internal citations omitted).

Based upon these regulatory definitions, the district court held that although the defendant had admittedly poured hazardous wastes down the drain and placed the same in its dumpster, the court could not "conclude that [the defendant] intended the [hazardous wastes] to leak into the ground or

[87] Like the regulations promulgated pursuant to the WVHWMA, Maryland's hazardous waste program regulations define disposal and disposal facility in accord with the RCRA regulatory definitions of those terms.

groundwater" at the site. Id. Accordingly, the district court determined that the defendant's site was not a "disposal facility" as defined by Maryland's hazardous waste program.[88] Id.

The district court's reasoning in Westfarm aligns with the USEPA's explanation of the definition of "disposal facility" found in 40 C.F.R. §§ 260.10 and 270.2 and the purpose it serves. Indeed, in the late 1990s, the USEPA received public comments expressing concern that because RCRA's definition of "disposal" encompasses leaching, "then units from which leachate is leaking are thereby Subtitle C management units subject to all of the RCRA requirements." 53 Fed. Reg. 31, 149 (Aug. 17, 1998). In response to this concern, the USEPA clarified as follows:

> This reading is not correct. The permitting requirement under RCRA section 3005(a) [, 42 U.S.C. 6925(a),] applies to new and existing disposal facilities. "Disposal facility" is defined in the rules as "a facility . . . at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure" (see § 260.10). Section 3005(a) prohibits the operation of such facilities without a permit after the effective date of the permitting regulations, November 19, 1980. Thus, only facilities where hazardous waste is

[88] Notwithstanding this conclusion, the district court ultimately found that the defendant's site constituted a hazardous waste treatment facility and was thus subject to, and in violation of, the Maryland regulations applicable to treatment, storage, and disposal facilities. See Westfarm, 846 F. Supp. at 435-36.

> intentionally placed into land or water after November 19, 1980 require a RCRA disposal permit.

Id.; see also 45 Fed. Reg. 33068 (May 19, 1980) ("The Agency's intent is not to regulate under Subtitle C portions of facilities closed before the effective date of the regulations"); 45 Fed. Reg. 12, 747 (Feb. 26, 1980) ("RCRA Subtitle C Regulations do not cover . . . abandoned sites.").

The USEPA has further expressed that "the purpose of the intent element in the definition of 'disposal facility' is to 'indicate the [USEPA's] intent that the term does not apply to activities involving truly accidental discharges of hazardous waste,' because the [US]EPA posits that 'permits logically can only be required for intentional disposal of hazardous waste.'" Power Engineering, Co., 191 F.3d at 1232 (quoting 45 Fed. Reg. 33066, 33068 (May 19, 1980)). The agency's interpretation is, of course, entitled to substantial deference, and the court must defer to the agency's intent unless it finds that interpretation is in direct conflict with the express intent of Congress or is irrational. See Chemical Mfrs. Ass'n v. NRDC, 470 U.S. 116, 125 (1985); Chevron U.S.A. Inc. v. NRDC, 470 U.S. 837, 843-44 (1984). The court concludes that this interpretation is reasonable and is not in conflict with any congressional intent.

Moreover, our Court of Appeals has acknowledged in passing that "[t]he term 'disposal'. . . is used throughout Subtitle C in the sense that the Administrator can regulate current disposal of hazardous waste. In this way, the Act regulates current conduct of would-be polluters." Waste Industries, 734 F.2d at 164 (emphases added).

Here, as explained in detail in Section III.B. at pages 60-77 above, while hazardous wastes were likely disposed of in the Filmont landfill from 1950 to the early 1970s, the record is devoid of any evidence that UCC intentionally disposed of any hazardous waste at Filmont from 1980 onward. Courtland's only expert witness, Dr. Simonton, conceded as much on cross-examination. See Tr. Tran. 1570:6-13 (Simonton: July 14, 2022).

Additionally, the eastern corner of the landfill, where hazardous wastes were likely disposed of during this early timeframe, had been covered by 1971 and was thus inactive at the time the RCRA regulations came into effect in 1980, which, again, was acknowledged by Dr. Simonton at trial. See Tr. Tran. 1496:5-1497:6 (Simonton: July 14, 2022) (explaining the eastern portion of Filmont would have been covered prior to the coal pile being moved onto that location sometime in 1971; thereafter, waste disposal moved to the west); see also Tr. Tran. 2721:8-22 (Hanshew: July 25, 2022) (explaining that

Filmont's 1987 final closure project involved only the western portion of the landfill, which was the only remaining active post-1980 portion of the landfill at that time, which received only non-hazardous waste).

Further, it has been established that Filmont operated as a permitted, inert solid waste landfill from at least 1974 until it stopped receiving solid waste and was permanently closed in 1987. While there is evidence of unpermitted disposals of industrial solid waste at Filmont in the 1980s, namely, flyash, such waste is not classified as hazardous under RCRA Subtitle C or the WVHWMA. See Sierra Club v. Virginia Electric & Power Co., 903 F.3d 403, 411-12 (4th Cir. 2018) ("[T]he [US]EPA classifies coal ash and other coal combustion residuals as nonhazardous waste governed by RCRA"); W. Va. Code § 22-18-6(A)(i).

Lastly, as in Westfarm, while hazardous substances have been found to be leaching into the groundwater under Filmont and the surrounding surface water bodies, the court is unable to find that UCC intended for such leaching to occur, as no such evidence was even offered by Courtland on this point. 846 F. Supp. at 435; see also Interfaith Cmty. Org. v. AlliedSignal, Inc., 928 F. Supp. 1339, 1350-1 (D.N.J. 1996) (rejecting plaintiff's contention that defendants had disposed of hazardous waste after November 19, 1980, because such waste "at the Site leaches into groundwater and the Hackensack River" given that "[t]he [US]EPA only requires RCRA permits at facilities where hazardous waste is intentionally placed into land or water after 19 November 1980."); Ascon Properties, Inc., v. Mobil Oil Co., 866 F.2d 1149, 1158-59 (9th Cir. 1989) (concluding that RCRA § 7002(a)(1)(A) does not impose retroactive liability and is inapplicable to facilities at which the disposal of hazardous waste ceased in the 1970s); McClellan Ecological Seepage Situation v. Cheney, 763 F. Supp. 431, 432 (E.D.Cal. 1989), vacated on other grounds, 47 F.3d 325 (9th Cir. 1995) (concluding that "a RCRA permit is not required with respect to treatment, storage, or disposal of hazardous wastes that occurred prior to November 19, 1980" and that the USEPA "does not require a RCRA permit with respect to leaking associated with a disposal unit where no treatment, storage, or

disposal has occurred since November 19, 1980, unless the material is itself actively [managed][89] in some way").[90]

Accordingly, the court concludes that UCC is not a hazardous waste disposal facility as that term is defined in RCRA and the WVHMA's implementing regulations and thus is not in violation of the permitting requirement for such facilities set forth in 42 U.S.C. § 6925(a) and W. Va. Code § 22-18-8(a).

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[89] The USEPA has defined "active management" as "physically disturbing the accumulated wastes within a management unit or disposing additional hazardous wastes into existing waste management units containing previously disposed wastes." 57 Fed. Reg. 37298 (Aug. 18, 1992). With regard to leachate potentially derived from hazardous wastes disposed of prior to RCRA's enaction or prior to the listing of such wastes as hazardous, the leachate only becomes subject to RCRA Subtitle C regulation if it is actively managed. See 53 Fed. Reg. 17578, 17586 (May 17, 1988); 53 Fed. Reg. 31138, 31148 (Aug. 17, 1988); 63 Fed. Reg. 42190, 42191 (Aug. 6, 1998). The USEPA's interpretation on this point was upheld in Chemical Waste Management, Inc. v. EPA, 869 F.2d 1526 (D.C. Cir. 1989). Here, the record is devoid of any evidence that UCC has "actively managed" the leachate detected at Filmont.

[90] To be clear, the court does not hold that the continued presence of hazardous wastes left unremedied in a landfill that ceased hazardous waste disposal operations after November 1980 could never constitute an "ongoing violation" of RCRA's Subtitle C or the WVHWMA's permitting requirements. The court's holding herein is limited to the fact that because hazardous wastes were only intentionally disposed in the landfill prior to November 1980, and have not since been actively managed, Filmont does not meet RCRA's or the WVHWMA's definition of "disposal facility." Nor does it preclude liability for imminent and substantial endangerment to heath or environment under § 7002(a)(1)(B), which is dealt with in Section IV.B.3.ii. at pages 280-294 infra.

The reasoning supporting this conclusion would presumably extend to RCRA's post-closure permit requirement for owners and operators of hazardous waste management units, which during their active life (including the closure period), "received waste after July 26, 1982, or that certified closure (according to § 265.115 of this chapter) after January 26, 1983." 40 C.F.R. § 270.1(c); W. Va. Code. St. R. § 33-20-11.1 (incorporating 40 C.F.R. Part 270 by reference). The purpose of promulgating the post-closure permit requirement was to ensure that all TSD facilities having hazardous waste management units, "which at one time had received a RCRA permit or interim status and operated under it[,]" maintained adequate post-closure care to prevent threat to human health or the environment arising from hazardous waste disposal even after active operations had ceased. 45 Fed. Reg. 33154, 33198 (May 19, 1980) (emphasis added).

Thus, the USEPA promulgated 40 C.F.R. § 270.1 pursuant to 42 U.S.C. § 6925, to reach owners and operators of closed hazardous waste TSD facilities that were once subject to RCRA's permitting scheme, whether via past possession of a RCRA disposal permit or operation under interim status,[91] and to

[91] RCRA "interim status" allowed pre-existing hazardous waste treatment, storage, or disposal facilities in existence on (continued...)

require those owners and operators to receive a post-closure permit. See id. (noting that as to owners and operators of inactive sites, which were once covered by a RCRA permit and are still "storing" or "disposing" of hazardous wastes once buried in land, as those terms are defined in RCRA section 1004, "it follows that they must get a [post-closure] permit under Section 3005.").

Simply stated then, to be covered by RCRA's post-closure permit requirement, the TSD facility in question must first have been subject to, at some point, RCRA's initial permitting scheme. For hazardous waste disposal facilities, as clarified by the USEPA as set forth above, hazardous waste must have been intentionally placed into land or water after November 19, 1980, in order to bring those facilities within the grasp of RCRA's permitting requirements. Accordingly, because Courtland has furnished no evidence that UCC intentionally disposed of

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November 19, 1980 -- the date of RCRA's enactment -- or existing facilities that became newly covered by a change in the RCRA regulations to continue operating without a permit until their RCRA permit applications were approved. See 42 U.S.C. 6925(e). Hazardous waste disposal facilities with interim status are subject to the regulations governing the treatment, storage, and disposal of hazardous wastes set forth in 40 C.F.R. Part 265. Again, inasmuch as UCC was not intentionally disposing of hazardous waste at Filmont on or after November 19, 1980, there would have been no reason for UCC to apply for interim status under RCRA given that it was not subject to RCRA's permitting requirement under 42 U.S.C. § 6925(a).

hazardous waste at Filmont after November 19, 1980, which would bring it within the ambit of RCRA's permitting scheme, the court concludes Filmont is not required to have a post-closure permit pursuant to 40 C.F.R. § 270.1(c) and W. Va. Code. St. R. § 33-20-11.1.

Second, Courtland alleges UCC has failed to put into place the financial assurance instruments for the closure and post-closure care of Filmont as required by 40 C.F.R. §§ 264.143 to 264.145 and W. Va. Code St. R. § 33-20-7.5, which incorporates these RCRA regulations by reference, with exceptions not herein applicable. However, the requirements of § 264.143 apply only to "owners and operators of all hazardous waste facilities," meaning the owners and operators of all hazardous waste treatment, storage, and disposal facilities, while the requirements of §§ 264.144 and 264.145 are applicable only to owners and operators of disposal facilities.[92] 40 C.F.R. §§ 264.140(a)-(b)(1).

As explained above, Filmont cannot be classified as a hazardous waste "disposal facility" inasmuch as the record is

[92] It is noted that the requirements of §§ 264.144 and 264.145 also extend to certain piles and surface impoundments, tank systems, and containment buildings, none of which are applicable to this case. See 40 C.F.R. § 264.140(b)(2)-(4).

devoid of any evidence that UCC intentionally disposed of hazardous waste at Filmont after such regulations became effective on November 19, 1980. See 45 Fed. Reg. 33154 (May 19, 1980). Nor has Courtland alleged that UCC treated or stored hazardous waste at Filmont after November 19, 1980. Accordingly, the court concludes that UCC is not in violation of the financial assurance requirements set forth in 40 C.F.R. §§ 264.143 to 264.145 and W. Va. Code St. R. § 33-20-7.5.

Third, Courtland alleges UCC to be in violation of 42 U.S.C. § 6930, which pertinently provides:

> Not later than ninety days after promulgation of regulations under 6921 of this title identifying by its characteristics or listing any substance as hazardous waste subject to this subchapter, any person generating or transporting such substance or owning or operating a facility for the treatment, storage, or disposal of such substance shall file with the Administrator (or with States having authorized hazardous waste permit programs under section 6926 of this title) a notification stating the location and general description of such activity and the identified or listed hazardous wastes handled by such person.

42 U.S.C. § 6930(a). On August 19, 1980, RCRA's notification requirements set forth in 42 U.S.C. § 6930 became effective. Lamphier, 714 F.2d at 334. As of that date, owners and operators of hazardous waste treatment, storage, and disposal facilities were required to notify the USEPA of any activities involving the treatment, storage, or disposal of hazardous

waste. Id. Stated differently, after August 19, 1980, no hazardous waste could be lawfully disposed of at a hazardous waste disposal facility unless such notification had been given to the USEPA or States having authorized hazardous waste programs. Id.; see also 45 Fed. Reg. 12746, 1247 (Feb. 26, 1980) ("It should be emphasized that the notification process applies in general to persons handling hazardous waste at the time of promulgation or amendment of the Section 3001 regulations.") (emphases added); Id. ("Hazardous waste management units which are no longer in operation are not required to notify because it is EPA's view that the intent of Congress was that the Notification process was to be a snapshot of current hazardous waste management practices.").

Again, inasmuch as Filmont cannot be classified as a "disposal facility" and the record is devoid of any evidence that UCC was handling hazardous waste on or after August 19, 1980, the court concludes that UCC cannot be in violation of 42 U.S.C. § 6930(a). It is also pertinent to note that while Filmont is not reached by RCRA's notice requirements, UCC was required to submit, and did submit, a Notification of Hazardous Waste Site, also known as a CERCLA 103(c) Notice, to the USEPA in June 1981 respecting Filmont and its suspected past hazardous waste disposals. Indeed, section 103(c) of CERCLA, enacted in

November 1980 and implemented via rule in April 1981, pertinently provides:

> [A]ny person who owns or operates or who at the time of disposal owned or operated . . . a facility at which hazardous substances (as defined in section 9601(4)(C) of this title) are or have been stored, treated, or disposed of shall, unless such facility has a permit issued under, or has been accorded interim status under, Subtitle C of [RCRA], notify the Administrator . . . of the existence of such facility[.]

42 U.S.C. § 9603(c). In other words, CERCLA 103(c) Notices covered those facilities which RCRA 3010 Notices did not: facilities where hazardous wastes had been disposed of prior to November 19, 1980, and were no longer actively handling such wastes. See 53 Fed. Reg. 31138, (Aug. 17, 1988) (noting that "by the terms of [CERCLA section 103(c)], the provision applies only to hazardous wastes at inactive facilities – facilities with the waste which ceased managing the waste before it was identified or listed [as hazardous by RCRA] – because any facility with interim status or a permit is explicitly exempted from the CERCLA notification requirement.").

Finally, the court notes that in Courtland's Proposed Findings of Fact and Conclusions of Law, Courtland also broadly asserts that UCC's Filmont facility is in violation of all of the monitoring and corrective action requirements set forth in 40 C.F.R. Part 264, Subpart F, and the closure and post-closure

care requirements set forth in 40 C.F.R. Part 265, Subpart G. See ECF 554 at 52. References and allegations pertaining to these specific regulations, however, do not appear in Courtland's complaint or its Notice of Violation in Courtland II, nor in the operative Integrated Pretrial Order. See ECF 1 at ¶¶ 67-75; ECF 1-1 at 17; ECF 444 at 11.

Even assuming such allegations had been properly alleged, they yet fail as a matter of law inasmuch as "[t]he permitting program and the facility management standards in 40 C.F.R. Parts 264 and 265" largely govern RCRA hazardous waste disposal facilities and "apply prospectively to treatment, storage, or disposal of hazardous waste that occurs after the effective date of the implementing regulations." McClellan Ecological Seepage Situation, 763 F. Supp. at 435.

While RCRA's corrective action requirements, added to RCRA through the Hazardous and Solid Waste Amendments of 1984, govern releases of hazardous waste irrespective of when such waste was disposed, these requirements are only triggered for facilities required to have a RCRA permit or those facilities seeking the same. See 42 U.S.C. § 6924(u) ("Standards promulgated under this section shall require, and a permit issued after November 8, 1984, by the Administrator or a State shall require, corrective action for all releases of hazardous

waste or constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit under this subchapter, regardless of the time at which waste was placed in such unit"); see also U.S. v. Rohm and Haas Co., 2 F.3d 1265, 1269-70 (3d Cir. 1993), overruled on other grounds, 432 F.3d 161 (3d Cir. 2005) ("The RCRA corrective action program . . . is designed to identify and remedy environmental contamination at all facilities that hold [, and are required to have,] hazardous waste permits under RCRA."); 50 Fed. Reg. 28,702,28,712 (July 15, 1985) ("Section 3004(u) does not appear to contemplate that its terms apply to solid waste management units located at facilities that are not required by regulation to obtain a Subtitle C permit."). Again, the court concludes that these regulations are inapplicable to Filmont given that it did not intentionally dispose of hazardous waste after November 19, 1980, and is thus not required to have a RCRA permit.

In sum, the court concludes that Courtland has failed to establish, by a preponderance of the evidence, any ongoing violations of RCRA Subtitle C (regulating hazardous waste) that would subject UCC to liability under § 7002(a)(1)(A) or the WVHWMA. The court will now turn to the second prong of Courtland's section 7002(a)(1)(A) claim against UCC, which

involves alleged violations of the open dumping provisions set forth in RCRA Subtitle D (regulating nonhazardous waste).

(b) Subtitle D (Regulating Nonhazardous Waste)

Subtitle D of RCRA regulates the handling of nonhazardous solid wastes in a much more lenient fashion than Subtitle C regulates hazardous wastes. Ashoff v. City of Ukiah, 130 F.3d 409, 410 (9th Cir. 1997) (emphasis added). As clarified by the USEPA, it was Congress's intent to limit the federal government's role in regulating solid waste facilities. Indeed, as explained by the USEPA, under RCRA,

> [solid waste] facility permitting is a state responsibility. [The] EPA's role includes establishing technical design and operating criteria for facilities, determining the adequacy of state permitting programs, and enforcing compliance with [RCRA's] federal revised criteria only after determining that the state program is inadequate.

47 Fed. Reg. 57026, 51029 (Oct. 23, 1998); see also AES Puerto Rico, L.P., v. Trujillo-Panisse, 133 F. Supp. 3d 409, 421 (D.P.R. 2015) ("While acknowledging that 'the collection and disposal of solid wastes should continue to be primarily the function of State, regional, and local agencies,' Congress determined that the country's waste disposal problems 'have become a matter national in scope' and thus 'necessitate Federal action.'") (quoting 42 U.S.C. § 6901(a)(4)).

Congress thus directed the USEPA to promulgate "regulations providing minimum criteria with which all solid waste landfills must comply" in order to assist states in the development of their own solid waste management plans. Ashoff, 130 F.3d at 410. When the Hazardous and Solid Waste Amendments were made to RCRA in 1984, the USEPA "passed revised criteria codified at 40 C.F.R. Part 258." Id. "Congress provided that, within eighteen months of the passage of the new criteria, 'each State shall adopt and implement a permit program or other system [that ensures compliance with the federal criteria.]'" Id. (quoting 42 U.S.C. 6945(c)(1)(B)). "If a state fails to design and implement its own plan accordingly, the state will not be qualified to receive federal financial and technical assistance." Cameron v. Peach Cnty., GA, No. 5:02-cv-41-1(CAR), 2004 WL 5520003, at *19 (M.D. Ga. June 28, 2004); see also AES Puerto Rico, L.P., 133 F. Supp. 3d at 422 (noting that "[p]ursuant to Subtitle D, federal financial and technical assistance are available for states that choose to develop solid waste management plans in accordance with federal guidelines."). West Virginia's Solid Waste Management Act ("WVSWMA"), enacted in 1983, was adopted to satisfy the minimum requirements of

Subtitle D and has been approved by the USEPA.[93] See 61 Fed. Reg. 9451 (March 8, 1996); 65 Fed. Reg. 36792 (June 12, 2000).

Unlike state hazardous waste programs enacted pursuant to Subtitle C, approved state solid waste programs enacted pursuant to Subtitle D do not operate in lieu of RCRA but operate alongside the Federal Subtitle D criteria. See 61 Fed. Reg. 2584, 2587 (Jan. 26, 1996) ("Subtitle D does not provide for State/Tribal requirements to operate 'in lieu of' the Subtitle D Federal revised criteria. Therefore, the Subtitle D Federal revised criteria and State/Tribal requirements operate concurrently regardless of whether a State/Tribal permit program is deemed adequate or inadequate."); see also Ashoff, 130 F.3d at 411-12; Cameron, 2004 WL 5520003 at *19 (explaining that state solid waste management programs are not "intended to operate in lieu of RCRA" and, instead, "operate concurrently with" the federal criteria). Courtland bases the second prong

[93] The WVSWMA was originally codified under W. Va. Code § 20-5F-1, et seq. See Regular Session 1983, Acts of the Legislature of West Virginia, at 902-08, available at https://www.wvlegislature.gov/legisdocs/publications/acts/Acts_1983.pdf (last accessed April 12, 2023) (hereinafter "Regular Session 1983, Acts of the Legislature of West Virginia"). During the 1994 legislative session, the Legislature enacted Chapter 22 in the West Virginia Code, which consolidated, revoked, and renumbered most environmental articles including the WVSWMA. Wetzel Cnty. Solid Waste Auth. v. W. Virginia Div. of Nat. Res., 462 S.E.2d 349, 351 n.1 (W. Va. 1995).

of its section 7002(a)(1)(A) claim against UCC on Subtitle D's prohibition against open dumping and the regulations promulgated pursuant thereto.[94] See 42 U.S.C. § 6945(a).

Title 42 U.S.C. § 6945(a) explicitly provides that any person violating the open dumping standards is subject to citizen suit pursuant to section 7002. See id. Citizen suits premised on federal open dumping violations are authorized even after the USEPA has approved a state's solid waste program. Ashoff, 130 F.3d at 411 n.3; see also Covington v. Jefferson Cnty., 358 F.3d 626, 642 (9th Cir. 2004) (recognizing that "it is . . . a violation of RCRA if a landfill violates the RCRA 'open dump' criteria, and the landfill would be subject to a citizen suit, notwithstanding EPA approval of a state program.").

Courtland contends that UCC has violated RCRA's open dumping criteria set forth in 40 C.F.R. § 257.3-4 respecting groundwater and 40 C.F.R. § 257.3-1 respecting facilities located in floodplains. The court will address each of these contentions in turn, but first sets forth a review of the RCRA

[94] The regulations promulgated pursuant to RCRA's prohibition on the open dumping of solid waste became effective on October 15, 1979. See 44 Fed. Reg. 53438 (Sept. 13, 1979). It is undisputed that UCC continued to actively dispose of solid waste at Filmont until its final closure in 1987.

open dumping statutory prohibition and the regulations promulgated pursuant thereto.

Title 42 U.S.C. § 6945(a) (also known as § 4005(a) of RCRA) pertinently provides as follows:

> Upon promulgation of criteria under section 6907(a)(3) of this title, any solid waste management practice or disposal of solid waste or hazardous waste which constitutes the open dumping of solid waste or hazardous waste is prohibited, except in the case of any practice or disposal of solid waste under a timetable or schedule for compliance established under this section. The prohibition contained in the preceding sentence shall be enforceable under section 6972, [the citizen suit provision,] of this title, against persons engaged in the act of open dumping.

(Emphases added). In turn, section 6907 (a)(3) (also known as § 1008(a)(3) of RCRA), pertinently provides:

> (a) Within one year of October 21, 1976, and from time to time thereafter, the Administrator shall, in cooperation with appropriate Federal, State, municipal, and intermunicipal agencies, and in consultation with other interested persons, and after public hearing, develop and publish suggested guidelines for solid waste management. Such suggested guidelines shall --
>
> . . . .
>
> (2) describe levels of performance, including appropriate methods and degrees of control, that provide at a minimum for . . . (B) protection of the quality of ground waters and surface waters from leachates;"
>
> (3) provide minimum criteria to be used by the State to define those solid waste management practices which constitute open dumping of solid waste or hazardous

> waste and are prohibited under subchapter IV of this chapter.

(Emphasis added). RCRA's statutory definitions define "open dump" as

> [a]ny facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 6944 of this title and which is not a facility for disposal of hazardous waste.

42 U.S.C. § 6903(14) (emphasis added). Section 6944(a) (also known as § 4004(a) of RCRA) grants the USEPA Administrator the authority to

> promulgate regulations containing criteria for determining which facilities shall be classified as sanitary landfills and which shall be classified as open dumps within the meaning of this chapter. At a minimum, such criteria shall provide that a facility may be classified as a sanitary landfill and not an open dump only if there is no reasonable probability of adverse effects on health or the environment from disposal of solid waste at such facility.

42 U.S.C. § 6944(a).

Notwithstanding RCRA's statutory definition of open dump as set forth above in § 6903(14), it has been duly noted that "[a]lthough RCRA prohibits open dumping, and sanctions the filing of citizen suits, RCRA does not specifically define what open dumping is." Hackensack Riverkeeper, Inc. v. Delaware Ostego Corp, 450 F. Supp. 2d 467, 485 (D.N.J. 2006) (emphasis added), amended on reconsideration in part on other grounds, No. CIV A 05-4806 DRD, 2006 WL 3333147 (D.N.J. Nov. 16, 2006).

Rather, as set forth in RCRA §§ 1008(a)(3) and 4004(a), "Congress conferred this task on the [US]EPA Administrator." Id. The USEPA "accomplishes this task via 40 C.F.R. §§ 257.1 through 257.4," that is, the regulatory open dumping criteria.

Indeed, 40 C.F.R. § 257.1 pertinently provides:

> (a) Unless otherwise provided, the criteria in §§ 257.1 through 257.4 are adopted for determining which solid waste disposal facilities and practices pose a reasonable probability of adverse effects on health or the environment under sections 1008(a)(3) and 4004(a) of the Resource Conservation and Recovery Act (The Act).

40 C.F.R. § 257.1(a) (emphasis added). Facilities and practices failing to satisfy any of the criteria set forth in §§ 257.1 through 257.4 are deemed, respectively, open dumps and open dumping in violation of RCRA § 4005(a). See 40 C.F.R. § 257.1(a)(1)-(2).

While the USEPA was given the authority to promulgate regulations defining what constitutes open dumping under both §§ 1008(a)(3) and 4004(a), a distinction exists between the open dumping regulatory criteria promulgated pursuant to each of these sections. Only those regulatory criteria promulgated pursuant to the authority of § 1008(a)(3) define those open dumping practices that are enforceable via citizen suit for violations of § 4005(a). On the other hand, "§ 4004(a) of [RCRA] is not enforceable via citizen suit but exists only to

guide State governments in the development of solid waste management programs," as confirmed by the USEPA in its 1981 final rule. Hackensack, 450 F. Supp. 2d at 487.

Indeed, in 1981, the USEPA added the prefatory language, "[f]or purposes of Section 4004(a) of [RCRA]," to the surface water open dumping criteria set forth in 40 C.F.R. § 257.3-3(a) to make clear it was not an open dumping practice promulgated pursuant to § 1008(a)(3) enforceable via citizen suit for open dumping practices in violation of § 4005(a).[95] See 46 Fed. Reg. 47048, 47050 (Sept. 23, 1981). The 1981 final rule pertinently provides:

> Today's amendments also modify the surface-water criterion of § 257.3-3. As originally promulgated, that standard would have made discharges violating requirements under Section 402 or Section 404 of the Clean Water Act open dumping practices as well. A party causing such a violation could simultaneously be subject to penalties under the CWA and a citizen suit to enjoin "open dumping" under RCRA. Today's amendment eliminates this double liability. However, since the open dump inventory classification for purposes of the State planning program does not impose legal sanctions under RCRA, the Criteria retain the provision that a violation of Section 402 or Section 404 [of the CWA] makes a facility an open dump.
>
> All but one commentator who addresses this issue supported the change. The commentator who opposed argued that the Government should not limit

[95] The Court dismissed Courtland's open dumping claim at summary judgment in Courtland II insofar as it was premised on a violation of the surface water criterion set forth in 40 C.F.R. § 257.3-3 for this same reason. See ECF 448 (Courtland II) at 159-161.

> enforcement options. EPA believes that the CWA enforcement mechanisms are sufficient to handle violations under Section 402 and 404 [of the CWA].

46 Fed. Reg. at 47,050 (emphases added); see also Hackensack, 450 F. Supp. 2d at 486-87 (concluding "Plaintiffs . . . improperly commenced a citizen suit pursuant to RCRA seeking a remedy in violation of § 257.3-3" inasmuch as "the [US]EPA did not intend for the surface water criteria promulgated under section 4004(a) of RCRA (42 U.S.C. § 6944(a)) to authorize citizen suits for open dumping practices in violation of section 4005(a) of RCRA (42 U.S.C. § 6945(a)); Lewis v. FMC Corp., 756 F. Supp. 29 690, 711-12 (W.D. N.Y. 2011) (same); Jones v. E.R. Snell Contractor, Inc., 333 F. Supp. 2d 1344, 1350 (N.D. Ga. 2004) (granting summary judgment in favor of defendants on plaintiff's RCRA open dumping claim inasmuch as the USEPA's "[1981] final version of [RCRA]'s criteria noted that the regulations were designed to eliminate double liability under the [CWA] and [RCRA] . . . [and] the pollution issues in this case are covered by the [CWA]"); ARC Ecology v. U.S. Maritine Admin., No. 2:07-cv-2320-GEB-GGH, 2010 WL 235065, *2-4 (E.D. Cal. Jan. 21, 2010) (agreeing with defendant's contention that plaintiffs were "not authorized to bring a citizen suit for enforcement of EPA's surface water criterion promulgated under Section 4004(a) because this criterion is only enforceable by States" and rejecting plaintiff's contention that the 1996

revision to the "'Scope and purpose' of the EPA's regulations in 40 C.F.R. §§ 257.1(a)(1) and (a)(2)" did not reflect any change in the USEPA's initial position set forth in the 1981 amendments); Long Island Soundkeeper Fund, Inc. v. New York Athletic Club of City of New York, No. 94 Civ. 0436 (RPP), 1991 WL 131863, *11 (S.D.N.Y. Mar. 22, 1996) (explaining "the statutory prohibition in section 4005(a) of RCRA . . . of open dumping is limited to criteria promulgated under section 1008(a) of RCRA . . . nowhere does it include any criteria developed by the EPA under section 4004(a) of RCRA[.]"); Jeffrey M. Gaba & Donald Stever, Law of Solid Waste, Pollution Prevention and Recycling § 3:17 (2022) ("EPA has taken the position that only violation of open dumping criteria promulgated pursuant to § 1008(a)(3) constitute a violation of [the] open dumping prohibition. According to EPA, the state [open dump] inventories included sites failing to meet criteria promulgated under § 4004(a), and were merely planning, as opposed to enforcement, lists.").

In sum, it is the statutory prohibition on open dumps and the regulatory criteria promulgated under the authority of § 1008(a)(3) that form the basis of an enforceable citizen suit claim under § 7002 (a)(1)(A) of RCRA for violations of RCRA's open dumping prohibition set forth in § 4005(a).

Against this backdrop, and turning to Courtland's open dumping claim brought pursuant to § 4005(a) and the open dumping groundwater criterion set forth in 40 C.F.R. § 257.3-4 promulgated pursuant to the authority of § 1008(a)(3), it is next pertinent to observe how courts have addressed alleged violations of RCRA's open dumping regulations in conjunction with section 7002(a)(1)(A)'s requirement that such violations be ongoing.

To reiterate, section 7002(a)(1)(A) of RCRA authorizes a citizen suit "against any person . . . who is alleged to be in violation of any permit, standard, regulation, condition, requirement, prohibition, or order which has become effective pursuant to [RCRA]." 42 U.S.C. § 6972(a)(1)(A). Given the statute's "to be in violation" language, a citizen suit brought pursuant to section 7002(a)(1)(A) must be predicated on an ongoing or current violation. Goldfarb, 791 F.3d at 513. "That is to say, 'to be in violation' does not cover '[w]holly past actions,' but rather requires allegations of a 'continuous or intermittent violation.'" Id. (quoting Gwaltney of Smithfield v. Chesapeake Bay Found., Inc., 484 U.S. 49, 57 (1987)).

In Goldfarb, our Court of Appeals echoed "the Second Circuit's view that the § [7002](a)(1)(A) 'to be in violation of' language does not necessarily require that a defendant be

currently engaged in the activity causing the continuous or ongoing violation." 791 F.3d at 513. Instead, "the proper inquiry centers on 'whether the defendant's actions - past or present - cause an ongoing violation of RCRA.'" Id. (quoting S. Rd. Assoc. v. IBM Corp., 216 F.3d 251, 255 (2d Cir. 2000)). Simply put, "although a defendant's conduct that is causing a violation may have ceased in the past, for § [7002](a)(1)(A) purposes, what is relevant is that the violation is continuous and ongoing[,]" which "'turns on the wording of the [permit, standard, regulation, condition, requirement, prohibition, or order]' the defendant is alleged 'to be in violation of.'" Id. (emphasis in original).

Employing this standard, in South Road Associates, the Second Circuit examined the statutory and regulatory text of RCRA's open dumping prohibitions set forth in 42 U.S.C. § 6945(a) (§ 4005(a) of RCRA) and 40 C.F.R. § 257.3-4 (one of the same regulations Courtland bases its open dumping claim on here) to determine whether current action is required to properly allege an ongoing violation thereof. S. Rd. Assoc., 216 F.3d at 255-57. Beginning with the statutory text of § 4005(a), which pertinently provides that the statute's open dumping prohibition "shall be enforceable under [the citizen suit provision of RCRA] against persons engaged in the act of open dumping," the Second

Circuit determined that in order to sustain an action pursuant to section 4005(a) of RCRA, it must be shown that the plaintiff was engaged in the act of open dumping at the time the case was filed. S. Rd. Assoc., 216 F.3d at 255.

As recognized by the Second Circuit, open dumping is defined in both RCRA's statutory definition set forth in 42 U.S.C. § 6903 and "by virtue of the 'promulgation of criteria under section § 6907(a)(3) [(§ 1008(a)(3) of RCRA).]'" Id. (quoting 42 U.S.C. § 6945(a)). As previously noted, the statute defines "open dump" as "[a]ny facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 6944 of this title [(§ 4004(a) of RCRA)] and which is not a facility for disposal of hazardous waste."[96] 42 U.S.C. § 6903(14). "Solid waste" is pertinently defined as:

> any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or

[96] The court has already concluded that UCC's Filmont facility does not constitute a hazardous waste disposal facility.

> industrial discharges which are point sources subject to permits under [the Clean Water Act.]

Id. at § 6903(27).

"Subsection 6944(a) [(§ 4004(a))] mandates the promulgation of 'regulations containing criteria for determining which facilities shall be classified as sanitary landfills and which shall be classified as open dumps.'" S. Rd. Assoc., 216 F.3d at 256 (quoting 42 U.S.C. § 6944(a)). "Thus[,] both the statutory prohibition on open dumps and dumping [(§ 4005(a))] and the statutory definition (§ 6903(14)) define 'open dump' by reference to regulatory criteria promulgated by the [USEPA]." Id. However, as previously explained, it is only those regulations promulgated pursuant to § 1008(a)(3) that define those open facilities and practices that are enforceable via citizen suits brought for violations of RCRA's statutory prohibition set forth in § 4005(a).

Finding that "the wording of . . . section [4005] (and the statutory provisions implicated thereby)" fail to state "whether an ongoing violation of the open-dumping provisions require ongoing conduct[,]" the Second Circuit proceeded to analyze the text of "the regulatory criteria for classifying solid waste disposal facilities and practices." Id.

"Promulgated on the authority of 42 U.S.C. §§ 6907(a)(3) and 6944(a) [§§ 1008(a)(3) and 4004(a)], 40 C.F.R. pt. 257 lists criteria for determining what is, and what is not, an open dump." Id. Facilities and practices failing to satisfy any of the criteria set forth in §§ 257.1 through 257.4 are deemed, respectively, open dumps and open dumping. See 40 C.F.R. § 257.1(a)(1)-(2). Conversely, facilities that satisfy such criteria are classified as sanitary landfills. See 42 U.S.C. § 6944(a). In other words, inasmuch as "open dumps are prohibited by [4005](a), and because failing any criterion listed in 257.1 through 257.4 automatically renders a facility an open dump, failure to satisfy any one criterion itself violates RCRA." S. Rd. Assoc., 216 F.3d at 256 (emphasis in original). Furthermore, given that non-compliance with any one of these criteria "will cause one to be 'in violation of . . . [a] regulation, condition, requirement, or prohibition' of RCRA and therefore subject to suit under [7002](a)(1)(A), these criteria operate as independent prohibitions under RCRA." Id.

Like the plaintiffs in South Road Associates, Courtland claims Filmont is an open dump in violation of 40 C.F.R. § 257.3-4 inasmuch as "the continued presence — or the present leaching - of contaminants [arising from the solid waste] deposited [by UCC] in the past" have contaminated the

underlying groundwater aquifer. Id. at 252. This regulation pertinently provides that "[a] facility or practice shall not contaminate an underground drinking water source beyond the solid waste boundary[.]" 40 C.F.R. § 257.3-4(a). Pursuant to § 257.3-4(c)(2), the term "'contaminate' means introduce a substance that would cause . . . [t]he concentration of that substance in the ground water to exceed the maximum contaminant level specified in [A]ppendix I, or . . . [a]n increase in the concentration of that substance in the ground water where the existing concentration of that substance exceeds the maximum contaminate level specified in [A]ppendix I." 40 C.F.R. § 257.3-4(c)(2).

Emphasizing that "contaminate," means to "'introduce a substance that would cause M.C.L. exceedances[,]" the Second Circuit concluded that, when read together, "[w]hat is prohibited by the statute [,42 U.S.C. § 6945(a) (§ 4005(a),] and the regulation [,40 C.F.R. § 257.3-4(a),] . . . is the act of introducing a substance that causes M.C.L. exceedances, not the action of M.C.L. exceedances on the environment." S. Rd. Assoc., 216 F.3d at 256 (emphasis in original). The Second Circuit thus held that plaintiff's allegation that the continued presence of pollutants exceeding MCLs in the groundwater

resulting from defendant's prior introduction of solid waste at the site did not constitute open dumping. Id. at 257.

Simply stated, inasmuch as plaintiffs had failed to allege that the defendant continued to introduce contaminating wastes onto the property at the time the complaint was filed, plaintiff's "historical act" of introducing solid wastes at the site, causing the groundwater contamination thereon, failed to "support a claim for violation of 42 U.S.C. § 6945(a) [§ 4005(a)] and 40 C.F.R. § 257.3-4(a)." Id.

It is noted that the D.C. Circuit, in a per curiam opinion, has offered a somewhat differing textual analysis of the definition of "open dump" as set forth in 42 U.S.C. § 6903(14), albeit in an entirely different context, in reaching the conclusion that "inactive sites may qualify as open dumps if they are facilities where waste 'is disposed of,' regardless of whether they are also facilities where more 'disposal' continues to occur." Utility Solid Waste Activities Group v. Environmental Protection Agency, 901 F.3d 414, 442 (D.C. Cir. 2018). Seizing on the definition of "open dump" as "any facility or site where solid waste is disposed of," and the statutory definition of "disposal," the D.C. Circuit offered the following textual analysis of the operative phrase "is disposed of:"

> Importantly, while the "is" retains its active present tense, the "disposal" takes the form of a past participle ("disposed"). In this way, the disposal itself can exist (it "is"), even if the act of disposal took place at some prior time. See Florida Dep't of Revenue v. Piccadilly Cafeterias, Inc., 554 U.S. 33, 39 (2008) (describing a past participle as a "verb form" that reaches "past or completed action") (quoting AMERICAN HERITAGE DICTIONARY 1287 (4th ed. 2000)); Sherley v. Sebelius, 664 F.3d 388, 403 n.4 (D.C. Cir. 2011) (Henderson, J., dissenting) (noting that the statute at issue "combine[d] the present tense 'are' with the past participle 'destroyed' to 'signify conduct that ha[d] already occurred") (citations omitted).
>
> Properly translated then, an open dump includes any facility (other than a sanitary landfill or hazardous waste disposal facility), where solid waste still "is deposited," "is dumped," "is spilled," "is leaked," or "is placed," regardless of when it might have originally been dropped off. See 42 U.S.C. 6903(3), (14). In other words, the waste in inactive impoundments "is disposed of" at a site no longer receiving new waste in just the same way that it "is disposed of" in (sic) at a site that is still operating.

Utility Solid Waste, 901 F.3d at 440.

The substantive issue giving rise to such textual analysis is admittedly inapposite to the case at hand. The question at issue in Utility Solid Waste was "whether the [US]EPA exceeded its statutory authority under [RCRA] . . . by applying its Final Rule . . . to an impoundment that no longer receives coal combustion residuals (CCR) after the effective date of the Rule and thus becomes 'inactive[,]'" not RCRA's

prospective only citizen suit provision in § 6972(a)(1)(A) as applied to the open dumping criteria.

Nevertheless, the D.C. Circuit's decision in Utility Solid Waste and the Second Circuit's decision in South Road Associates do not necessarily exist in tension. Nothing in the holding of South Road Associates stands for the proposition that RCRA's open dumping statutory prohibition and the regulations promulgated pursuant thereto are inapplicable to all inactive solid waste disposal facilities no longer receiving solid waste for disposal. Instead, the Second Circuit simply concluded that a determination as to whether an ongoing violation of any one of the open dumping regulatory criteria is present hinges on both the language of the statutory prohibition set forth in § 4005(a) and the specific regulatory criterion alleged to be violated. While that court ultimately concluded that § 4005(a) and § 257.3-4, when read together, prohibit the continued introduction of contaminating substances that cause or enhance M.C.L. exceedances in groundwater, it did not hold that § 4005(a) alone or all of the open dumping regulatory criteria promulgated pursuant to § 1008(a)(3) require the present active conduct of the defendant or the continued introduction of substances and wastes by the defendant at the time the complaint was filed to constitute an ongoing violation thereof. As explained infra

with respect to Courtland's open dumping claim brought pursuant to the floodplain criterion set forth in 40 C.F.R. § 257.3-1(a), such criterion, unlike 40 C.F.R. § 257.3-4, does not contain language requiring the continued introduction of substances at the time the complaint was filed.

The court concurs with the D.C. Circuit's reading of RCRA's definition of "open dump," in that it encompasses -- in plain and unambiguous language -- the continued migration or leaking of contaminants irrespective of when the solid waste causing such migration was originally disposed of. Indeed, the phrase "is disposed of" must be read in conjunction with RCRA's definition of the term "disposal," which includes the "discharge, deposit, injection, dumping, spilling, leaking, or placing" of solid waste into the environment. 42 U.S.C. § 6903(3) (emphasis added). Thus, a plain reading of RCRA's statutory definition of "open dump" would include a site where solid waste "is disposed of" or "is leaking." Id. at § 6903(14).

Moreover, our Court of Appeals in Waste Industries rejected a "strained reading" of the term disposal which would serve to limit its meaning to include "only disposal by active human conduct." 734 F.2d at 164. The court then explained as follows:

> The inclusion of "leaking" as one of the diverse definitional components of "disposal" demonstrates that Congress intended "disposal" to have a range of meanings, including conduct, a physical state, and an occurrence. Discharging, dumping, and injection (conduct), hazardous waste reposing (a physical state) and movement of the waste after it has been placed in a state of repose (an occurrence) are all encompassed in the broad definition of disposal. "Leaking" ordinarily occurs when landfills are not constructed soundly or when drums and tank trucks filled with waste materials corrode, rust, or rot. Thus "leaking" is an occurrence included in the meaning of "disposal."

Id.; Accord, Nurad Inc. v. William E. Hooper & Sons, Co., 966 F.2d 837, 845 (4th Cir. 1992). While Waste Industries is not directly on point with the instant matter inasmuch as it involved the interpretation of the term "disposal" as it is used in section 7003(a) of RCRA (i.e., the imminent and substantial endangerment provision applicable to suits being brought by the USEPA), as opposed to the term's use in the open dumping provision contained in section 4005(a) of subtitle D of RCRA being enforced via citizen suit under section 7002(a)(1)(A), it is nevertheless analogous and instructive. Notably, in interpreting the term disposal as used in section 7003(a)'s imminent and substantial endangerment provision, our Court of Appeals emphasized that section 7003(a), "does not regulate conduct but regulates and mitigates endangerments." Id.

Much like section 7003(a), the open dump prohibition set forth in Subtitle D of RCRA, and the regulations promulgated

pursuant thereto, seek to abate the environmental hazards and endangerments, specifically, those posed by open dumps and open dumping practices. See 40 C.F.R. § 257.50 (a)("This subpart establishes minimum national criteria for purposes of determining which solid waste disposal facilities and solid waste management practices do not pose a reasonable probability of adverse effects on health or the environment under sections 1008(a)(3) and 4004(a) of [RCRA]."); see also 42 U.S.C. § 6944 ("[A] facility may be classified as a sanitary landfill and not an open dump only if there is no reasonable probability of adverse effects on health or the environment from disposal of solid waste at such facility."); 40 C.F.R. § 257.3 ("Solid waste disposal facilities or practices which violate any of the following criteria pose a reasonable probability of adverse effects on health or the environment"); 44 Fed. Reg. 53438 (Sept. 13, 1979) ("This regulation contains minimum criteria for determining what solid waste disposal facilities and practices pose a reasonable probability of adverse effects on health or the environment.").

It is virtually axiomatic that the disposal of solid waste that results in the continued leaking/leaching of contaminants into an "underground drinking water source," as alleged in this case, would render a site an "open dump" engaged

in "open dumping" and thus constitute an "ongoing violation" of § 4005(a) and 40 C.F.R. § 257.3-4. Further, such interpretation appears to be directly in line with the USEPA's intention respecting the type of contamination 40 C.F.R. § 257.3-4 aims to prevent:

> Contamination occurs when leachate from the disposal activity causes the concentrations of certain pollutants in the ground water to either (1) exceed the maximum contaminant level based on the primary drinking water standards specified for that pollutant, or (2) increase at all where the background concentration of the pollutant already exceeds the applicable maximum contaminant level.

44 Fed. Reg. 53438, 53445 (Sept. 13, 1979) (emphasis added). Simply put, the court concludes that leachate can continue to be introduced into groundwater long after the initial deposit of the solid waste leading to the introduction of the same ceases and can thus constitute an "ongoing violation" for purposes of an open dumping claim brough pursuant to § 4005(a) and 40 C.F.R. § 257.3-4. The court reaches this determination by reading the text of RCRA's statutory prohibition set forth in § 4005(a) and 40 C.F.R. § 257.3-4 together.

As previously mentioned, § 4005(a) pertinently provides that the open dumping prohibition therein "shall be enforceable under [the citizen suit provision of RCRA] against persons engaged in the act of open dumping." 42 U.S.C. § 6945(a). Again, 40 C.F.R. § 257.3-4 provides that "[a] facility

or practice shall not contaminate an underground drinking water source beyond the solid waste boundary[.]" 40 C.F.R. § 257.3-4(a). "Facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste." 40 C.F.R. § 257.2 "Practice means the act of disposal." Id. "Disposal means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters." Id. "Contaminate means introduce a substance that would cause . . . [t]he concentration of that substance in the ground water to exceed the maximum contaminant level specified in [A]ppendix I, or . . . [a]n increase in the concentration of that substance in the ground water where the existing concentration of that substance exceeds the maximum contaminate level specified in [A]ppendix I." 40 C.F.R. § 257.3-4(c)(2).

Thus, under the court's interpretation, what is prohibited by the statute and regulation, when read together, is any act of disposal, including leaking, that contaminates or introduces a substance that would cause or enhance an M.C.L. exceedance in the groundwater that in turn contaminates an

underground drinking water source beyond the solid waste boundary. The court thus concludes that past disposals of solid waste at a facility causing the groundwater contamination thereon can constitute an "ongoing violation" under § 7002(a)(1)(A) of RCRA.

The court now turns to whether Courtland has adduced sufficient evidence to show that UCC has violated the groundwater regulatory criterion set forth in 40 U.S.C. § 257.3-4, which, again, provides as follows "[a] facility or practice shall not contaminate an underground drinking water source beyond the solid waste boundary." "Underground drinking water source" is defined as "[a]n aquifer supplying drinking water for human consumption, or . . . [a]n aquifer in which ground water contains less than 10,000 mg/l total dissolved solids." Id. at § 257.3-4(c)(4)(i)-(ii).

"Aquifer means a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of ground water to wells or springs." Id. at § 257.3-4(c)(1). "Solid waste boundary means the outermost perimeter of the solid waste (projected in the horizontal plane) as it would exist at completion of the disposal activity." Id. at § 257.3-4(c)(5). Lastly, as previously mentioned, the term "contaminate" means introduce a substance that would cause or

enhance Appendix I MCL exceedances in groundwater. 40 C.F.R. § 257.3-4(c)(2).

Appendix I lists the MCLs for various chemicals under the Safe Drinking Water Act ("SDWA"). See 40 C.F.R. pt. 257, App. I. The SDWA directed the USEPA to promulgate national primary drinking water regulations, known as MCLs, which limit the amount of specified contaminants permitted in drinking water from public water systems. See 42 U.S.C. § 300g-1(b). Relevant here, while Appendix I currently lists the MCL for arsenic under the SDWA as 0.05 mg/L, in January 2001, the USEPA "duly initiated a rulemaking proceeding and, after receiving comments on a proposed rule, published a final regulation setting the [MCL] for arsenic at [0].01 mg/L, effective as of 2006." Nebraska v. E.P.A., 331 F.3d 995, 997 (D.C. Cir. 2003) (citing National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring, 66 Fed. Reg. 6976, 6981, 6989 (Jan. 22, 2001) ("Arsenic Rule"); see also Minor Clarification of National Primary Drinking Water Regulation for Arsenic, 67 Fed. Reg. 78, 203 (Dec. 23, 2022)).

Thus, in 2001, the SDWA was amended to lower the MCL for arsenic from 0.05 mg/L to 0.01 mg/L, which became effective in 2006. See 40 C.F.R. § 141.62(b)(16) (listing the MCL for

arsenic as 0.010 mg/L); 40 C.F.R. § 141.60(b)(4) (listing the effective date for § 141.62(b)(16) as January 23, 2006); see also 40 C.F.R. § 141.11(b) ("The [MCL] for arsenic is 0.05 milligrams per liter for community water systems until January 23, 2006."). UCC correctly utilized the 0.01 mg/L MCL as its screening standard for arsenic in its groundwater monitoring samplings from 2006 through 2019 in determining any exceedances thereof, and the court has noted the USEPA MCL for arsenic as being 0.01 mg/L herein.

Despite the discrepancy between the current SDWA MCL for arsenic and the MCL set forth in 40 C.F.R. pt. 257, App. I, the court will utilize the 0.05 mg/L MCL standard as explicitly set forth in Appendix I in determining if UCC has violated 40 C.F.R. § 257.3-4(a). Even assuming the USEPA had intended to amend the open dumping MCL for arsenic to mirror its current MCL under the SDWA, the USEPA would be required to follow specific notice and comment procedures to amend the arsenic MCL listed in Appendix I. See Casa De Maryland v. U.S. Dep't of Homeland Sec., 924 F.3d 684, 701 (4th Cir. 2019) (noting that the Administrative Procedure Act "requires that agencies provide notice of proposals to create, amend, or repeal a rule and an opportunity for interested persons to comment on the proposal.") (citing 5 U.S.C. §§ 551(4)-(5), 553(a)-(c)).

Furthermore, just as it would be improper to draw any inferences from a congressional failure to act, the court declines to draw any inferences from the USEPA's conceivable failure to amend its regulations. See Central Bank of Denver, N.A. v. First Interstate Bank of Denver, N.A., 511 U.S. 164, 187 (1994) (stating "'[c]ongressional inaction lacks persuasive significance because several equally tenable inferences may be drawn from such inaction'") (internal citations omitted)).

Here, Filmont was used for the disposal of solid waste until its ultimate closure in 1987, and the landfill continues to dispose of such waste by virtue of the ongoing leaking/leaching of contaminants, such as arsenic, therefrom. See Jt. Ex. 8 (2014 Filmont Groundwater Monitoring Report) at 000041 (noting that the "primary source" of the constituents detected in the groundwater plume, including arsenic, "appears to be the material in the landfill that has leached to groundwater."); see also Tr. Tran. 81:3-17 (Cibrik: July 6, 2022) (agreeing that waste materials in the Filmont landfill are "the likely source of some of the constituents in the groundwater.").

The disposal of these wastes has led to the introduction of arsenic via leaching, causing the concentrations thereof in the groundwater to exceed the arsenic MCL of 0.05

mg/L as set forth in Appendix I. See 40 C.F.R. pt. 257, App. I; see also Pl. Ex. 725 (detecting concentrations of arsenic in MW-12 on September 14, 2011, at 0.143 mg/L; on October 5, 2011, at 0.134 mg/L; on March 26, 2012, at 0.133 mg/L and 0.136 mg/L; on June 4, 2012, at 0.114 mg/L; on September 27, 2012, at 0.169 mg/L; on December 6, 2012, at 0.16 mg/L and 0.154 mg/L; on May 21, 2013, at 0.201 mg/L; on April 24, 2014, at 0.198 mg/L; on January 13, 2015, at 0.206 mg/L; on October 8, 2015, at 0.197; on July 26, 2016, at 0.199 mg/L; on July 21, 2017, at 0.213 mg/L; and on July 26, 2018, at 0.233 mg/L); see also Jt. Ex. 12 (2019 Filmont Groundwater Monitoring Report) at 025164 (detecting concentrations of arsenic on July 31, 2019, in MW-12 at 0.605 mg/L and 0.508 mg/L).[97]

[97] The 2019 Groundwater Monitoring Report notes that MW-12 exhibited "a statistically increasing trend for arsenic" inasmuch as the concentrations of arsenic therein "were almost three times higher in 2019 compared to previous years." Jt. Ex. 12 at 025158, 025159. The report further notes that this anomaly was "almost certainly related to the high turbidity during sampling[,]" but even [w]ithout considering the 2019 concentration o[f] arsenic in MW-12 . . . the concentration of arsenic in MW-12 appears to be stable." Id. at 025158; see also Tr. Tran. 237:9-239:2 (Cibrik: July 6, 2022). The court interprets "stable" to mean at a concentration consistent with the previous levels of arsenic detected in MW-12 over the last seven years, which as shown above, have been above the MCL of 0.05 mg/L on fifteen occasions. Thus, even without considering the 2019 detections, it is evident that arsenic has been detected in groundwater MW-12 exceeding its MCL of 0.05 mg/L.

Finally, the introduction of arsenic into the groundwater is contaminating an "underground drinking water source"[98] that extends "beyond the solid waste boundary," as those terms are defined in sections 257.3-4 (c)(4)(ii) and (5). Indeed, the aquifer subject to the contamination is an aquifer in which the groundwater contains less than 10,000 mg/L total dissolved solids, and the exceedances of arsenic have been detected in MW-12, located on the western side of Davis Creek and thus beyond the outermost perimeter of the solid waste existing in the Filmont landfill, from which the groundwater flows back to Davis Creek. See infra pg. 117; see also Tr.

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[98] It is recognized that City of South Charleston Ordinance 1351.01 -- of which the court took judicial notice -- prohibits any property located in what is dubbed the "Restricted Use District" from drilling into the groundwater to gain access thereto for potable use or other purposes unless the groundwater has been treated to meet state standards for its intended use prior to such use. See Tr. Tran. 1598:6-9. While it is true that Filmont and the surrounding area is located within the "Restricted Use District," an "underground drinking water source" encompasses not only aquifers supplying drinking water for human consumption, but also aquifers in which the groundwater contains 10,000 mg/L of total dissolved solids. See 40 C.F.R. § 257.3-4(c)(4)(i)-(ii). Simply put, the RCRA groundwater open dumping criterion provides no exception for groundwater aquifers meeting this second prong but ultimately prohibited by a city ordinance from potable or other uses without treatment. While the USEPA recognized "[s]ome commenters questioned the use of the 10,000 mg/L total dissolved solids measure for usable aquifers," it ultimately concluded "[i]t is the Agency's general policy that groundwater resources below that concentration be protected for possible use as a drinking water source" in the future. 44 Fed. Reg. 53438, 53448 (Sept. 13, 1979).

Tran. 65: 2-17 (Cibrik: July 6, 2022); Tr. Tran. 1031:7-1034:17 (Simonton: July 19, 2022); see also Jt. Ex. 1A-1 (Site Sampling Location Maps) at 1 (depicting location of MW-12); Tr. Tran. 1351:2-7 (Simonton: July 13, 2022) (noting MW-12 is located on UCC property, but on the side opposite of the landfill).

Based upon the foregoing, the court concludes that the Filmont facility continues to introduce arsenic into the groundwater as a result of the continued leaking/leaching of the solid waste contained therein, which is contaminating an underground drinking water source beyond the solid waste boundary as those terms are defined and is thus an "open dump" in violation of 42 U.S.C. § 6945(a) (§ 4005(a)) and 40 C.F.R. § 257.3-4(a).

As mentioned, in addition to the groundwater open dumping criteria in 40 C.F.R. § 257.3-4, Courtland alleges UCC to be in violation of the floodplain open dumping criteria set forth in 40 C.F.R. § 257.3-1, which provides:

> Facilities or practices in floodplains shall not restrict the flow of the base flood, reduce the temporary storage capacity of the floodplain, or result in washout of solid waste, so as to pose a hazard to human life, wildlife, or land or water resources.

40 C.F.R. § 257.3-1(a). The term "base flood" is defined as "a flood that has a 1 percent or greater chance of recurring in any year or a flood of a magnitude equalled or exceeded once in 100

years on the average over a significantly long period." Id. at § 257.3-1(b)(1). "Floodplain means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, which are inundated by the base flood." Id. at § 257.3-1(b)(2). "Washout" is defined as "the carrying away of solid waste by waters of the base flood." Id. at § 257.3-1(b)(3).

Unlike the groundwater open dumping standard set forth in 40 C.F.R. § 257.3-4, the wording of 40 C.F.R. § 257.3-1(a), which prohibits restricting "the flow of the base flood," reducing "the temporary storage capacity of the floodplain," and the "carrying away of solid waste by waters," does not require active human conduct to constitute an ongoing violation. See Potomac Riverkeeper, Inc. v. National Capital Skeet and Trap Club, Inc., 388 F. Supp. 2d 582, 587 (D. Md. 2005) (rejecting defendant's contention that the cessation of its operations and previous disposals absolve it from RCRA liability under the floodplain opening dumping criteria inasmuch as the "'carrying away of solid waste by waters' does not require ongoing human conduct.").

Lastly, it is noted "that under this criterion, a solid waste disposal facility may be constructed in a floodplain; a landfill violates the criterion only if its

construction . . . will 'pose a threat to human health and the environment.'" Jeffrey M. Gaba & Donald Stever, Law of Solid Waste, Pollution Prevention and Recycling § 3:20 (2022). Indeed, the purpose of 40 C.F.R. § 257.3-1 is to combat potential adverse impacts resulting from the disposal of solid waste in floodplains, which is why all of its "requirements are linked to an assessment of the hazard to human life, wildlife, land, or water." 44 Fed. Reg. 53442 (Sept. 13, 1979).

Such adverse impacts include, for example, (1) wastes being carried away by floodwaters, "affecting downstream water quality and structures" if such wastes are not adequately protected from washout; (2) restriction of "the flow of flood waters, causing greater flooding upstream;" and (3) reducing "the size and effectiveness of the flood-flow retaining capacity of the floodplain, which may cause a more rapid movement of flood waters downstream, resulting in higher flood levels and greater flood damages downstream." Id. The regulation's demand for the assessment of human and environmental hazards posed by solid waste disposal facilities located in floodplains "is designed to avoid a situation where any increase in flood levels attributable to disposal activities or washout of waste is automatically precluded." Id.

Here, a portion of the Filmont facility, including the southwest corner of the landfill area and the berm surrounding the landfill, lie within the 100-year floodplain. To be clear, the definition of "facility" as used in 40 C.F.R. § 257.3-1(a) encompasses the berm insulating the landfill. The term "facility" is defined as "all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste." 40 C.F.R. § 257.2 (emphasis added). The Filmont landfill was used for the disposal of solid waste, and the berm surrounding the landfill is a part of the landfill itself and contains solid waste materials. The court thus concludes that the term "facility" encompasses all aspects of the Filmont landfill, including its berm, which sits in the 100-year floodplain and contains solid waste.

Notwithstanding this fact, as explained in detail in Section III.H.2. at pages 145-160 herein, the court concludes that Courtland has failed to meet its burden in establishing that Filmont's presence in the 100-year floodplain "pose[s] a hazard to human life, wildlife, or land or water resources" in violation of 40 C.F.R. § 257.3-1(a) and thus fails.

In sum, the court concludes that UCC is in violation of the second prong of Courtland's section 7002(a)(1)(A) claim inasmuch as UCC has violated RCRA's Subtitle D groundwater open

dumping criterion set forth in 40 C.F.R. § 257.3-4(a) but not the floodplain criterion set forth in 40 C.F.R. § 257.3-1(a).

ii. RCRA § 7002(a)(1)(B) Claim

As mentioned, a citizen may bring suit pursuant to RCRA Section 7002(a)(1)(B) "against any person . . . including any . . . past or present owner or operator of a treatment, storage, or disposal facility, who has contributed or is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment." 42 U.S.C. § 6972(a)(1)(B).

A plaintiff must prove the following elements to prevail on its Section 7002(a)(1)(B) claim: "(1) that the defendant is a person, including, but not limited to, one who was or is a generator or transporter of solid or hazardous waste or one who was or is an owner or operator of a solid or hazardous waste treatment, storage, or disposal facility; (2) that the defendant has contributed or is contributing to the handling, storage, treatment, transportation, or disposal of a solid or hazardous waste; and (3) that the solid or hazardous waste may present an imminent and substantial endangerment to health or the environment." Parker v. Scrap Metal Processors,

Inc., 386 F. 3d 993, 1014 (11th Cir. 2004) (quoting Cox v. City of Dallas, 256 F.3d 281, 292 (5th Cir. 2001) (emphasis supplied)).

The first two elements are easily satisfied inasmuch as UCC is the owner and operator of Filmont, which operated as a solid waste disposal facility from at least 1974 until 1987, and UCC disposed of solid waste in the landfill during that time frame and is currently disposing of solid waste by way of the leaching therefrom. The ultimate question is whether Courtland has provided sufficient evidence to demonstrate that such waste may present an imminent and substantial endangerment to human health or the environment.

"The operative word in [§ 7002(a)(1)(B)] is the word 'may.'" Parker, 386 F.3d at 1015. The word "may" is "expansive language that confers upon the courts the authority to grant affirmative equitable relief to the extent necessary to eliminate any risk posed by toxic wastes." Id. (internal quotations omitted). Although broad, "there is a limit to how far the tentativeness of the word may can carry a plaintiff." Crandall v. City and Cnty. Of Denver Co., 594 F.3d 1231, 1238 (10th Cir. 2010) (emphasis in original).

The "term 'endangerment' means a threatened or potential harm, and does not require proof of actual harm."

Parker, 386 F.3d at 1051. "By combining 'probabilistic' words like may and endanger, Congress signified 'a reasonable prospect of future harm is adequate to engage the gears of [an endangerment claim] so long as the threat is near-term and involves potentially serious harm.'" Miller v. City of Fort Myers, 424 F. Supp. 3d 1136, 1143-44 (M.D. Fla. 2020) (quoting Me. People's All. & Nat. Res. Def. Council v. Mallinckrodt, Inc., 471 F.3d 277, 296 (1st Cir. 2006)).

"The endangerment must also be imminent." Id. "An endangerment can only be 'imminent' if it 'threatens to occur immediately.'" Meghrig, 516 U.S. at 485 (internal citations omitted). "[W]aste which 'may present' imminent harm quite clearly excludes waste that no longer presents such a danger." Id. at 485-86. Thus, "the endangerment must be ongoing, but the conduct that created the endangerment need not be." Cox, 256 F.3d at 99. Simply put, "there must be a threat which is present now, although the impact of the threat may not be felt until later." Meghrig, 516 U.S. at 486 (internal citation omitted).

Lastly, the engenderment must also be substantial. "An endangerment is 'substantial' if it is 'serious.'" Cox, 256 F.3d at 300. "Courts seldom quantify the necessary level of harm with any precision." Miller, 424 F. Supp. 3d at 1144

(internal citation omitted). "Instead, substantiality looks to formulations like where 'there is a reasonable cause for concern that someone or something may be exposed to risk of harm by release, or threatened release, of hazardous substances in the event remedial action is not taken.'" Id. (quoting Burlington N. & Santa Fe Ry. v. Grant, 505 F.3d 1013, 1021 (10th Cir. 2007)). "This risk of harm cannot be 'remote in time, completely speculative in nature, or de minimis in degree.'" Id. (quoting Little Hocking Water Ass'n. v. E.I. Du Pont Nemours & Co., 91 F. Supp. 3d 940, 967 (S.D. Ohio 2015)).

"[A]lthough courts consider the totality of the circumstances when evaluating an [imminent and substantial endangerment] claim, evidence regarding the likelihood and degree of human and/or environmental exposure to contamination, along with the risks associated with such exposure, is most likely to assist courts in making endangerment determinations under RCRA." Tri-Realty Co. v. Ursinus College, 124 F. Supp. 3d 418, 444 (E.D. Pa. 2015).

Here, as explained in detail in Section III.I. at pages 160-183 above, Courtland's theory of liability on this claim boils down to the contention that because hazardous substances have been detected at levels exceeding screening levels in the groundwater at Filmont and Massey, in surface

water surrounding the site in years past and present, and in some sediment within the surface water, an endangerment to human health and/or the environment is automatically present. Simply stated, Courtland insists that the presence of contamination alone is enough to demonstrate that site conditions may present an imminent and substantial endangerment to health or the environment.

Such theory, however, does not withstand scrutiny. Indeed, the "mere presence" of contaminants, even at high concentrations, is "alone not enough to constitute an imminent and substantial endangerment" to human health or the environment. Me. People's All. & NRDC v. Mallinckrodt, Inc., 471 F.3d 277, 282 (1st Cir. 2006) (endorsing the district court's use of data to determine the specific risks associated with high mercury concentrations in river sediment); Simbury-Avon Preservation Club, Inc., v. Metacon Gun Club, Inc., 575 F.3d 199, 211-13 (2d Cir. 2009) (affirming summary judgment for defendant given that plaintiff's only evidence of an endangerment was lead detections in soil, sediment, and surface water exceeding state standards); Leister v. Black & Decker (U.S.), Inc., 117 F.3d 1414, at *3 (4th Cir. 1997) (unpublished table decision) (finding that the presence of trichloroethylene and tetrachloroethylene on the plaintiff's property was

insufficient to establish an imminent and substantial endangerment in the absence of evidence "to suggest that the presence of these substances poses a current serious threat of harm."); see also Schmucker v. Johnson Controls, Inc., 477 F. Supp. 3d 791, 810-11 (N.D. Ind. 2020)(concluding that "[a] substance present in the environment but threatens no harm does not pose an imminent and substantial endangerment to the environment."), aff'd, 9F.4th 560, 561 (7th Cir. 2021); Miller, 424 F. Supp. 3d at 1146-47 (explaining that "[t]he mere presence of contamination is alone not enough to constitute an imminent or substantial endangerment. This is true even for groundwater - the simple existence of contaminated groundwater does not automatically impel an endangerment claim. Instead, many courts [have] rejected groundwater endangerment claims with no evidence of anyone potentially drinking contaminated water."); City of Evanston v. N. Ill. Gas Co., 381 F. Supp. 3d 491, 963 (holding that "the mere presence of chemicals, even above background levels" failed to "establish an imminent and substantial risk in the Impacted Area without evidence of an exposure pathway"); Black Warrior River-Keeper, Inc. v. Drummond Company, Inc., 387 F. Supp. 3d 1271, 1305 (N.D. Ala. 2019) (recognizing that "the 'mere presence' of contaminants in the environment 'is alone not enough to constitute imminent and substantial endangerment.'"); Tilot Oil, LLC v. BP Prods. N. Am. Inc., 907 F. Supp. 2d 955,

968 (E.D. Wis. 2012) (rejecting the argument that groundwater contamination constitutes an imminent and substantial endangerment per se); Day, LLC v. Plantation Line Co., 315 F. Supp. 3d 1219, 1242-44 (N.D. Ala. 2018) (concluding that plaintiffs had failed to demonstrate any potential environmental harm arising from (1) defendants' pipeline leak, which had contaminated soil, surface water, groundwater, and wetlands, or (2) the presence of "red orange flocculent" on defendant's property); Lovejoy, 2022 WL 17566235, at *12 (recognizing that the presence of contamination alone is insufficient to sustain an imminent and substantial endangerment claim); Warren v. Matthey, No. 15-01919, 2016 WL 215232, at *7 (E.D. Pa. Jan. 19, 2016) (explaining that "[a] number of courts have found that a contaminated water supply does not pose an imminent and substantial endangerment where plaintiffs are not drinking the contaminated water."); Schmucker v. Johnson Controls, Inc., No. 3:14-cv-1593, 2019 WL 718553, at *27 (N.D. Ind. Feb. 19, 2019) (explaining that "[c]ontamination does not create an endangerment by its mere presence"); Leese v. Lockheed Martin Corp., No. 11-5091, 2014 WL 3925510, at *11 (D.N.J. Aug. 12, 2014 (emphasizing that "[p]roof of the mere detection of some measurable amount of hazardous materials on a property is not enough to maintain a RCRA claim" and granting summary judgment because plaintiffs provided "no evidence and no expert testimony

that [the substances] may pose a substantial risk of harm to health or the environment at levels detected on and around [p]laintiffs' properties.").[99]

To the extent that Courtland takes the position that the existence of contaminated groundwater and/or surface water demonstrates an endangerment to the environment in and of itself, even absent any secondary effects to humans or ecological organisms, the court rejects such a narrow categorical premise. Indeed, to adopt this principle would be akin to holding that because the presence of contamination in any given environmental media inevitably impairs, to some degree, the purity and natural-being thereof, an endangerment to the environment is necessarily present. Endorsement of such a theory, however, "would be to render the word 'substantial' [in section 6972 (a)(1)(B)] superfluous, as practically any addition

[99] The court notes that the Third Circuit, in dicta, has stated that "[p]roof of contamination in excess of state standards may support a finding of liability, and may alone suffice for liability in some cases[.]" Interfaith Cmty. Org. v. Honeywell Intern, Inc., 399 F.3d 248, 261 (3d Cir. 2005) (emphasis added). Even assuming this were so, the court finds that such is not the case here given that the record is devoid of even a scintilla of evidence demonstrating that any of the existing contamination herein involves a potentially serious harm to someone or something at the levels in which the contaminants have been detected.

of a pollutant into the environment would give rise to liability." Tri-Realty, 124 F. Supp. 3d at 475.

RCRA is neither a "cleanup" nor a "strict liability" statute. Schmucker, 477 F. Supp. 3d at 810; Leister, 117 F.3d at *3. An endangerment claim brought pursuant to section 6972 (a)(1)(B) "requires a risk of harm . . . and authorizes injunctive relief only as necessary to prevent [such] harm." Schmucker, 477 F. Supp. at 810 (internal citations and quotations omitted). "It may well be desirable for nature to remain in pristine condition, but an endangerment claim requires some threatened or potential effect beyond the fact that" a foreign substance is present on land, water, or beneath the surface. Id. Simply put, "[a] substance that is present in the environment but threatens no harm does not pose an imminent and substantial endangerment." Id. To conclude otherwise would effectively "contradict the text and structure of the statute." Id. at 812.

As thoroughly explained in Section III.I. at pages 160-183 herein, Courtland has failed to demonstrate, beyond mere speculation, that any existing contamination at or beneath the site, or in the surrounding surface water or sediment, can be linked to a reasonable risk of harm that someone or something may be exposed to in the event that remediation is not taken.

Indeed, Courtland's sole expert was not even able to inform the court of any of the negative toxicological effects to human or ecological receptors associated with any one of these substances, let alone at the concentrations in which they have been detected in the various environmental media in this case.

Moreover, the very nature of the relief sought on this claim (an order compelling UCC to perform a formal site investigation to determine any need for remediation[100]), combined with Dr. Simonton's insistence that a risk assessment must be conducted before the degree of risk associated with the on and off-site contamination can be properly evaluated, "suggests that a finding of an imminent and substantial endangerment would be, at best, premature." Lovejoy, 2020 WL 17566235, at *12; see also Simsbury-Avon Pres. Club, Inc., 575 F.3d at 211-12 (finding no imminent and substantial endangerment where plaintiff's own expert opined that a risk assessment was "necessary to evaluate the degree of risk to humans and wildlife," yet plaintiffs had failed to undertake such an assessment or adduce any evidence

[100] See ECF 552 in Courtland II (Courtland's Brief Regarding "Imminent and Substantial Endangerment Issues") at 17 (noting that the court should impose "remedial liability," requiring UCC to "timely . . . undertake under court supervision the very public process of a full NCP-compliant Remedial Investigation ("RI") of the site and full Risk Assessment"); ECF 554 in Courtland II (Courtland's Proposed Findings of Fact and Conclusions of Law) at 59 ¶ tt; Tr. Tran. 3394:4-15 (Donovan: Aug. 1, 2022).

from which the trier of fact could find that the contamination at issue presented "a reasonable prospect of future harm").

Lastly, the court finds it pertinent to address the potential contention that because Filmont has been found to be an open dump under RCRA, it automatically renders the same an imminent and substantial endangerment to health or the environment under § 7002(a)(1)(B) inasmuch as 40 C.F.R. § 257.3 provides:

> Solid waste disposal facilities or practices which violate any of the . . . [open dumping criteria] pose a reasonable probability of adverse effects on health or the environment[.]

The court rejects such a theory inasmuch as even if Filmont's designation as an open dump based on a violation of 40 C.F.R. § 257.3-4's groundwater criterion demonstrates Filmont "pose[s] a reasonable probability of adverse effects on health or the environment," section 7002(a)(1)(B) still requires a showing that any such "adverse effects" be both "imminent and substantial." The court is also unaware of any caselaw holding facilities constituting open dumps under RCRA and its regulatory criteria are per se imminent and substantial endangerments under section 7002(a)(1)(B).

As noted above, "[a]n endangerment can only be 'imminent' if it 'threatens to occur immediately.'" Meghrig, 516 U.S. at 485 (internal citations omitted). "An endangerment

is 'substantial' if it is 'serious.'" Cox, 256 F.3d at 300. Critically, "substantiality looks to formulations like whether 'there is a reasonable cause for concern that someone or something may be exposed to risk of harm by release, or threatened release, of hazardous substances in the event remedial action is not taken.'" Miller, 424 F. Supp. 3d at 1144 (quoting Burlington N. & Santa Fe Ry. v. Grant, 505 F.3d 1013, 1021 (10th Cir. 2007)). "This risk of harm cannot be 'remote in time, completely speculative in nature, or de minimis in degree.'" Id. (quoting Little Hocking Water Ass'n. v. E.I. Du Pont Nemours & Co., 91 F. Supp. 3d 940, 967 (S.D. Ohio 2015)).

While the court has concluded Filmont is an open dump inasmuch as it is in violation of the groundwater open dumping criterion due to MCL exceedances of arsenic detected in the groundwater aquifer beyond the solid waste boundary, which, under 40 C.F.R. § 257.3 indicates Filmont "pose[s] a reasonable probability of adverse effects on health or the environment," Courtland has yet failed to demonstrate any probable adverse effects arising therefrom are either imminent or substantial for many of the same reasons already outlined above. Specifically, Courtland has failed to show that "there is a reasonable cause for concern that someone or something may be exposed" to the contaminated groundwater "in the event remedial action is not

taken." Miller, 424 F. Supp. 3d at 1144 (internal citations omitted).

Indeed, the record evidence demonstrates that (1) there are no known public or private groundwater wells within a mile radius of Filmont or elsewhere; (2) even assuming there were groundwater wells in Jefferson Park, being the only known residential area near Filmont located further west of MW-13 on the west side of Davis Creek, there is no evidence showing the contaminated groundwater containing arsenic could or would reach that area given that groundwater does not continue to flow in a westerly direction once it reaches the west side of Davis Creek but instead flows in a northeast direction back towards the creek; (3) a large portion of the South Charleston area encompassing Filmont, Massey, Courtland, and all surrounding properties in the general vicinity thereof are subject to the local ordinance prohibiting the use of groundwater without treatment to meet applicable state standards; and (4) it is undisputed that no one on the Courtland Property, Filmont, or Massey is utilizing or planning to utilize the groundwater for any purpose whatsoever.

All of the above findings effectively eliminate any potential exposure pathway to the arsenic contaminated groundwater existing beneath the surface, on-site or off, by

which any receptor could come into contact, whether through ingestion or otherwise, which, in turn, eliminates any "adverse impact" arising therefrom as being either "imminent or substantial." On these facts, if the court were to conclude that an imminent and substantial endangerment automatically exists because Filmont is an open dump in violation of the groundwater open dumping criterion, the court would essentially be concluding an imminent and substantial endangerment exists due to the presence of contaminated groundwater alone. As set forth in detail on pages 283-86 above, that position has been explicitly rejected by an array of courts.

Moreover, the court has credited the findings of the Human Health Risk Assessment ("HHRA") and Ecological Risk Evaluation ("ERE") performed by UCC, which were conducted to determine whether the conditions at the site were creating any on-site or off-site risks to human health or the environment via all complete and existing exposure pathways. As explained in Section III.I. at pages 160-183 herein, both the HHRA and ERE examined the potential risks to human health or the environment associated with the contaminated groundwater and contaminated surface water[101] and concluded no unacceptable risks were

[101] Any risks associated with the contaminated surface water existing around the site would naturally include an assessment (continued...)

present. Courtland offered no evidence to contradict these findings. The court thus concludes that any "reasonable probability of adverse effects on health or the environment" arising from the contaminated groundwater containing arsenic in exceedance of its MCL at Filmont and beyond its solid waste boundary are neither imminent nor substantial.

In sum, because Courtland's evidence fails to establish that the conditions at and emanating from Filmont and/or Massey may present an imminent and substantial endangerment, Courtland's section 7002(a)(1)(B) claim must fail. Accordingly, Count III of Courtland's Complaint in Courtland II is DISMISSED.

4. Public Nuisance Per Se

In West Virginia, "nuisance is a flexible area of the law that is adaptable to a wide variety of factual situations." Sharon Steel Corp. v. City of Fairmont, 334 S.E.2d 616, 621 (W. Va. 1985). Nuisances may be characterized as either a nuisance per se or a nuisance per accidens. "A nuisance per se, or a nuisance at law, has been generally defined as 'an act, occupation, or structure which is a nuisance at all times and

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of the risks associated with the contaminated groundwater once it surfaces and thus becomes surface water at that point.

under any circumstances, regardless of location or surroundings." Cnty. Commission of Fayette Cnty. v. Nat'l Grid NE Holdings 2 LLC, 2:21-cv-00307, 2022 WL 4459475, at *3 (S.D.W. Va. Sept. 21, 2022) (quoting Duff v. Morgantown Energy Assocs., 421 S.E.2d 253, 257 n.8 (W. Va. 1992); Harless v. Workman, 114 S.E.2d 548, 548 (W. Va. 1960)). "There are varying degrees of strictness with which the term 'nuisance per se' may be used." Id. (citing Frye v. McCrory Stores Corp., 107 S.E.2d 378, 382 (W. Va. 1959) (quoting 66 C.J.S. Nuisances § 9 as follows: "The lawful and proper use of property or conduct of business does not ordinarily create an actionable nuisance, and is never a 'nuisance per se' in the strict sense of that term.")).

In this matter, Courtland alleges that UCC's Filmont landfill is a nuisance per se inasmuch as it is said to constitute an open dump in violation of the WVSWMA. As mentioned above, the WVSWMA was enacted in 1983. In enacting the WVSWMA, the West Virginia Legislature found that "[u]ncontrolled, inadequately controlled and improper collection, transportation, processing and disposal of solid waste is a public nuisance and a clear and present danger to people," W. Va. Code § 22-15-1(c), and thus enacted the WVSWMA for the purpose of "establish[ing] a comprehensive program of controlling all phases of solid waste management," id. § 22-15-

1(a). In furtherance of that purpose, like Subtitle D of RCRA, the WVSWMA generally prohibits the establishment and operation of "open dumps." See id. § 22-15-10(a). An "open dump" is defined under the WVSWMA as "any solid waste disposal which does not have a permit under this article, or is in violation of state law, or where solid waste is disposed in a manner that does not protect the environment." W. Va. Code § 22-15-2.

As it exists today, the WVSWMA directs the Secretary of the WVDEP to promulgate rules and regulations to carry out the provisions of the Act, including the Act's open dumping prohibitions. See W. Va. Code § 22-15-5(a); id. at § 22-15-10(h). Such rules and regulations were first promulgated in November 1988 via emergency Solid Waste Management Rules by the WVDNR and are now located in the West Virginia Code of State Rules at Series 33-01 §§ 33-1-1 through 33-1-7. See ECF 503-1 in Courtland II (West Virginia Solid Waste Management Plan) at 2-1; see also ECF 503-5 (1988 Notice of Emergency Rule) at 3 (noting that "the existing Solid Waste Management Rules are today repealed and replaced in their entirety. Today's rules

have also been filed on an emergency basis, effective November 4, 1988.").[102]

Courtland avers that UCC's Filmont landfill is in violation of West Virginia's open dumping prohibition inasmuch as UCC (1) "does not now have and never has had a permit under W. Va. Code [Article] 15," for Filmont, and (2) that Filmont "is a place where solid waste is disposed in a manner that does not protect the environment." ECF 444 (Operative Integrated Pretrial Order) at 45.

First, as explained in detail in Sections II.B and II.C. at pages 12-18 herein, Filmont operated as an inert solid waste landfill from at least 1974 until its final closure in 1987 under a solid waste disposal permit issued by the West Virginia Department of Health. When the WVSWMA was enacted in 1983, the Act transferred "the authority over the management of solid waste from the [D]epartment of [H]ealth to the [WVDNR]" and "required that all persons holding permits for solid waste facilities issued by the Department of Health apply for a solid waste permit from the [WV]DNR before June 10, 1987" if it wished to continue disposal operations. Regular Session 1983, Acts of

[102] The court took judicial notice of both of these documents and their contents at trial. See Tr. Tran. 3360:12-3364:8 (July 28, 2022).

the Legislature of West Virginia, at 902, available at https://www.wvlegislature.gov/legisdocs/publications/acts/Acts_1983.pdf (last accessed January 6, 2023); Wetzel Cnty. Solid Waste Auth. v. W. Virginia Div. of Nat. Res., 401 S.E.2d 227, 229 (W. Va. 1990). Specifically, W. Va. Code § 20-5F-5d[103] provided that

> [a]ll existing permits of the department of health for solid waste facilities under section nine [§ 16-1-9], article one, chapter sixteen of the code shall continue in full force and effect until a permit is issued for that approved solid waste facility under this article: Provided, That all such existing permits of the department of health shall expire within five years of the effective date of this article [June 10, 1983]. Within four years of the effective date of this article, all persons holding such department of health permits shall apply to the chief for a permit under this article: Provided, however, That the chief may require persons holding such existing health department permits to reapply under this section prior to four years from the effective date of this article if persistent violations of this article, any permit term or condition, order or rules promulgated under this article, exist at that facility. Notwithstanding any other provision contained in this subsection, the department of natural resources may enter an extension order for a period of two years while an application for a permit pursuant to this article is pending.

Wetzel Cnty. Solid Waste Auth., 401 S.E.2d at 229 n.1.; see also Regular Session 1983, Acts of the Legislature of West Virginia, at 906-07, available at

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[103] Again, the WVSWMA was originally codified under W. Va. Code § 20-5F-1, et seq., until Chapter 22 of the West Virginia Code was enacted during the 1994 legislative session, which consolidated, revoked, and renumbered most environmental articles including the WVSWMA. See supra note 93.

https://www.wvlegislature.gov/legisdocs/publications/acts/Acts_1983.pdf (last accessed April 12, 2023).

Put simply, W. Va. Code § 20-5F-5d made clear that solid waste disposal permits issued by the West Virginia Department of Health to landfills already in existence in 1983, such as Filmont, were to operate in full force and effect until such permits expired by operation of law on June 10, 1988, five years later. Presumably, then, if landfills operating under Department of Health solid waste permits wished to continue solid waste disposal operations after June 10, 1988, they were required to apply to the chief of the WVDNR for a new permit by June 10, 1987, four years after the statute's enactment.

Instead of applying for a new permit in order to continue disposal operations at Filmont once its Department of Health permit expired, UCC elected to close Filmont in accordance with its valid and enforceable Department of Health permit in 1987 and did so. Therefore, contrary to Courtland's contention, during Filmont's active operations, UCC was never required to operate the landfill under a permit issued pursuant to Article 15 of the West Virginia Code, or to comply with the regulations promulgated pursuant thereto, which did not become effective until November 1988 - after Filmont's closure in 1987.

Today, the Filmont landfill is wholly inactive, and UCC has not disposed of any new solid waste into the landfill since it ceased active operations in 1987. Nevertheless, leaching from the waste previously disposed in the landfill up until 1987 continues to occur as evidenced by the numerous constituents detected in the groundwater thereunder, across Davis Creek, and in water bodies surrounding the site. Thus, the question remains whether the current leaching of contaminants from Filmont, occurring today, constitutes unpermitted "solid waste disposal," which would, in turn, render Filmont an "open dump" under present day West Virginia law as set forth in W. Va. Code § 22-15-10(a). The Supreme Court of Appeals of West Virginia does not appear to have addressed this precise issue.

In interpreting the WVSWMA's prohibition against open dumping codified in section 22-15-10(a), the court begins with the relevant and controlling language therein. "A statutory provision which is clear and unambiguous and plainly expresses the legislative intent will not be interpreted by the courts but will be given full force and effect." Liberty Mutual Ins. Co., v. Morrisey, 760 S.E.2d 863, 872 (W. Va. 2014) (internal quotations and citations omitted).

"Where, however, the statutory language is not plain, its language must be construed before it can be applied[.]" Id. Importantly, "it is not for [the court to] arbitrarily read into [a statute] that which it does not say. Just as courts are not to eliminate through judicial interpretation words that were purposely included, [the court is] obligated not to add to statutes something the Legislature purposely omitted." Id. Two additional, longstanding rules of construction are likewise worth mention.

First, "[a] cardinal rule of statutory construction is that significance and effect must, if possible, be given to every section, clause, word or part of the statute." State v. Tusing, 247 W. Va. 145, 875 S.E.2d 283, 292 (2022) (emphasis added) (quoting Syl. Pt. 3, Meadows v. Wal-Mart Stores, Inc., 207 W. Va. 203, 530 S.E.2d 676 (1999) and Syl. Pt. 2, T. Weston, Inc. v. Mineral Cnty., 219 W. Va. 564, 638 S.E.2d 167 (2006))(cleaned up).

Second, "[t]here is . . . also a well-established principle . . . that where it is possible to do so, it is the duty of the courts, in the construction of statutes, to harmonize and reconcile laws, and to adopt that construction of a statutory provision which harmonizes and reconciles it with other statutory provisions. . . ." Charleston Gazette v.

Smithers, 232 W. Va. 449, 468, 752 S.E.2d 603, 622 (2013) (quoting, in part, State v. Williams, 196 W.Va. 639, 641, 474 S.E.2d 569, 571 (1996) and State ex rel. Pinson v. Varney, 142 W.Va. 105, 109-10, 96 S.E.2d 72, 75 (1956)).

On occasion, harmonization is unfeasible. In such cases -- with specific application here -- the West Virginia Supreme Court of Appeals has emphasized that "when the rules of an agency come into conflict with a statute" it is "the statute [that] must control." Repass v. Workers' Compensation Div., 569 S.E.2d 162, 178 (W. Va. 2002). This is so because

> [a]ny rules or regulations drafted by an agency must faithfully reflect the intention of the Legislature, as expressed in the controlling legislation. Where a statute contains clear and unambiguous language, an agency's rules or regulations must give that language the same clear and unambiguous force and effect that the language commands in the statute.

Id. (quoting Syl. Pt. 4, Maikotter v. University of West Virginia Bd. of Trustees/West Virginia Univ., 527 S.E.2d 802 (W. Va. 1999)). In other words, "[a]lthough an agency may have power to promulgate rules and regulations, the rules and regulations must be reasonable and conform to the laws enacted by the Legislature." Anderson & Anderson Contractors, Inc. v. Latimer, 257 S.E.2d 878, 881 (W. Va. 1979) (internal citations omitted). In sum, "[t]he power of the Legislature is paramount

when a court is faced with a conflict between a statute and a rule[.]" Repass, 569 S.E.2d at 179.

The relevant provision of the WVSWMA at issue in this matter pertinently provides as follows:

> Open dumps are prohibited and it is unlawful for any person to create, contribute to, or operate an open dump or for any landowner to allow an open dump to exist on the landowner's property unless that open dump is under a compliance schedule approved by the director. The compliance schedule shall contain an enforceable sequence of actions leading to compliance and shall not exceed two years.

W. Va. Code § 22-15-10(a).

As previously mentioned, the WVSWMA defines an "open dump" as "any solid waste disposal which does not have a permit under this article, or is in violation of state law, or where solid waste[104] is disposed in a manner that does not protect the environment." W. Va. Code § 22-15-2 (emphasis added). The phrase "solid waste disposal" is defined as follows:

> the practice of disposing of solid waste including placing, depositing, dumping, throwing, or causing any solid waste to be placed, deposited, dumped, or thrown.

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[104] As earlier noted, the term "solid waste" includes, inter alia, "any garbage, paper, litter, refuse, cans, bottles, waste processed for the express purpose of incineration; sludge from a waste treatment plant; water supply treatment plant or air pollution control facility; and other discarded materials, including offensive or unsightly matter, solid, liquid, semisolid, or contained liquid or dissolved material in sewage or solid or dissolved materials in irrigation." W. Va. Code § 22-15-2.

Id.

Notably, unlike RCRA's statutory definition, the WVSWMA does not define the term "disposal" but instead defines the phrase "solid waste disposal." Compare 42 U.S.C. § 6903(3), with W. Va. Code § 22-15-2. The WVSWMA phrase "solid waste disposal" appears, at first blush, narrower than RCRA's broad definition of "disposal." This interpretation holds under closer scrutiny as well. The definition of "solid waste disposal" is tailored to active conduct, given that it does not, like RCRA, encompass subsequent occurrences arising therefrom such as "leaking." See 42 U.S.C. § 6903(3) (defining "disposal" as encompassing "the discharge, deposit, injecting, dumping, spilling, leaking, or placing of any solid waste . . . into or on any land or water so that such solid waste . . . or any constituent thereof may enter the environment or be. . . discharged into any waters, including ground waters."); see also Waste Industries, 734 F.2d at 164 (noting that RCRA's definition of disposal not only encompasses conduct (discharging, dumping, and injection) but also "movement of the waste after it has been placed in a state of repose (an occurrence)" as evidenced by the inclusion of the term "leaking").

The "solid waste disposal" phrase's restriction to active conduct is supported by use of the present participle of

the words contained therein: "the practice of disposing of solid waste including placing, depositing, dumping, throwing, or causing any solid waste to be placed, deposited, dumped, or thrown." W. Va. Code § 22-15-2 (emphases added). In English grammar, "[a] present participle is used to signal present and continuing action." Westchester General Hospital, Inc. v. Evanston Insurance Co., 48 F.4th 1298, 1307 (11th Cir. 2022) (citing Present Participle, MERRIAM-WEBSTER, http://www.merriam-webster.com/dictionary/present% 20participle (last visited Aug. 18, 2022)); see also Shell v. Burlington N. Santa Fe Ry. Co., 941 F.3d 331, 336 (7th Cir. 2019) (explaining that a present participle, such as the word "having," means "presently and continuously," and "does not include something in the past that has ended or something yet to come"); United States v. Balint, 201 F.3d 928, 933 (7th Cir. 2000) (explaining that "use of the present progressive tense, formed by pairing a form of the verb 'to be' and the present participle, or 'ing' form an action verb, generally indicates continuing action."); Al Otro Lado, Inc. v. McAleenan, 394 F. Supp. 3d 1168, 1200 (S.D. Ca. 2019) (noting "[t]he use of the present progressive, like use of the present participle, denotes an ongoing process.").

In other words, the definition of "solid waste disposal" appears limited to active conduct via the disposing, placing, depositing, dumping, or throwing of solid waste or causing the same to be deposited, placed, deposited, dumped, or thrown into a landfill. The plain language of the statute does not appear to encompass occurrences such as the subsequent migration of wastes via leaking or leaching.

In contrast, however, while the statutory definitions of the WVSWMA do not encompass the migration of wastes, the rules promulgated pursuant thereto do. Unlike the statute itself, West Virginia's Solid Waste Management Rule defines the term "disposal." See W. Va. Code St. R. § 33-1-2.43. In fact, the definition given to the term "disposal" therein is identical to that term's definition under RCRA. See id. ("'Disposal' means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that such solid waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwaters."). The rules promulgated pursuant to the WVSWMA further provide that

> [t]he discharge, deposit, injection, spilling, leaking, burning, burying or otherwise placing of any solid waste or leachate into or on any land or water so that such solid waste or any constituent thereof may enter the environment or be emitted into the air, or discharged into any waters, including groundwaters,

> is prohibited unless specifically authorized by a permit or permits from the Department.

W. Va. Code St. R. § 33-1-1.6.a. The rules also provide that "[s]olid waste disposal facilities or activities failing to satisfy this subsection are considered open dumps, as defined in section 2, and will be subject to the actions and penalties outlined in W. Va. Code § 22-15-15." Id. at § 33-1-1.6.b.

Inasmuch as there appears to be a conflict between the phrase "solid waste disposal" in W. Va. Code § 22-15-2 and the term "disposal" under W. Va. Code St. R. § 33-1-1.6.a, the court is first required to attempt a harmonization of the definitions. Mindful of the obligation to give effect to every word in the statute -- as the court has done with the statutory activities discussed in the preceding paragraphs -- one's attention is drawn also to the following underscored language found in the definition of "solid waste disposal" at § 22-15-2: "the practice of disposing of solid waste including placing, depositing, dumping, throwing, or causing any solid waste to be placed, deposited, dumped, or thrown." W. Va. Code § 22-15-2 (emphasis added).

"The practice of" suggests the direct action or intervention of a human agent. Indeed, in the hundreds of instances where the underscored language appears in the West Virginia Code, it connotes direct human agency, from "the

practice of law" to the "practice of massage therapy" to the "practices of debt collectors" and other instances too numerous to recite. See, e.g., W. Va. Code § 30-2-4 (practice of law); W. Va. Code § 30-3-1 (practice of medicine); W. Va. Code § 30-20A-5 (practice of athletic training); W. Va. Code § 30-37-10 (practice of massage therapy); W. Va. Code § 30-16-22 (practice of chiropractic); W. Va. Code § 30-13A-8 (practice of land surveying); W. Va. Code § 39A-4-5 (practices of county clerks); W. Va. Code § 46-1-101 (practices of debt collectors).

From a consistency standpoint, then, W. Va. Code § 22-15-2 is best understood to mean that "solid waste disposal" occurs, if at all, by the active and direct placement of solid waste by an individual or entity. It does not, as noted, contemplate passive migration, such as leakage, over time. And this reading is one that is possible to harmonize with the legislative rule in W. Va. Code St. R. § 33-1-1.6.a. That is, the activities in the legislative rule can be understood in a narrower form to contemplate their direct performance by a human agent, without a future component.

For example, a "discharge" under the regulation would be limited to a direct release by an individual rather than one occurring by chance ten years later due to decay of the container used by the individual. Similarly, the "leaking" of

solid waste would be confined to those instances when an individual is engaged in an active operation, such as transporting waste materials, and they escape their container. Likewise, the rules' reference to "the . . . placing of any . . . leachate into or on any land or water . . ." W. Va. Code St. R. § 33-1-1.6.a., again suggests the direct action or intervention of a human agent, not the subsequent migration of leachate over time after active operations have ceased. For example, the placing of leachate would be confined to those instances where an individual or entity is actively engaged in the placing or depositing of collected leachate from another operation into a landfill.

The difficulty is that this attempted harmonization leaves untouched the potentially very concerning migration and escape of hazardous material over time, as is alleged in this very case. Two observations, however, are in order. First, neither the rule maker nor the court may invade the province of the Legislature in order to arrive at a more environmentally sound and expansive definition. It must instead apply the well-settled interpretive canons in aid of harmonization. Second, despite the foregoing analysis, those individuals disposing of waste that passively migrates years later do not find a safe harbor. Although the West Virginia statute may not, in its

current form, capture the passive conduct here alleged, that language, as noted, is subject to amendment. Until that time, RCRA's imminent and substantial endangerment provision (when supported with adequate evidence), as well as CERCLA's regulatory scheme, captures and condemns the conduct. Afterall, RCRA's imminent and substantial endangerment provision is designed to deal with situations in which hazardous waste programs -- implemented pursuant to RCRA Subtitle C -- and solid waste disposal programs -- implemented pursuant to RCRA Subtitle D -- are circumvented due to gaps created in the regulatory scheme. See Waste Industries, 734 F.2d at 164 (explaining that RCRA's imminent and substantial endangerment provision "does not regulate conduct but regulates and mitigates endangerments" and "is designed to deal with situations in which [RCRA's] regulatory schemes break down or have been circumvented.").

It is thus difficult to imagine how the WVSWMA and the rules promulgated thereunder are not hopelessly in conflict. That being the case, the rules must yield under West Virginia law. The West Virginia Supreme Court of Appeals has made clear that it is ultimately the statute that must control. Inasmuch as UCC's agents have not actively disposed of solid waste in the Filmont landfill since 1987, and the term "solid waste disposal," as that phrase is defined by the WVSWMA, does not

plainly encompass the phenomenon of "leaking" from a wholly inactive site, the court is unable to conclude that the leaching of contaminants from Filmont constitutes "solid waste disposal" requiring a permit. In turn, the court cannot conclude that Filmont constitutes an "open dump" on the ground that UCC is engaged in the practice of solid waste disposal without a permit under the WVSWMA.

Courtland next contends that Filmont is an open dump under the WVSWMA inasmuch as it "is a place where solid waste is disposed in a manner that does not protect the environment." ECF 444 (Operative Integrated Pretrial Order) at 45. In support of this contention, Courtland points to two rules set forth in West Virginia's Solid Waste Management Rule: W. Va. Code St. R. §§ 33-1-3.2, respecting the location standards for landfills, and 33-1-7.2.a.1., respecting the institution of certain protective measures at solid waste disposal sites.

The first rule pertinently provides that "[n]o [Solid Waste Landfill Facility] may be located within three hundred (300) feet of any surface water." W. Va. Code St. R. § 33-1-3.2.a. The second provides that "[m]easures must be taken to prevent the discharge of pollutants from the accumulated waste into the waters of the State (e.g., measures to prevent runoff into surface water bodies or the infiltration of leachates into

local aquifers)." Id. at § 33-1-7.2.a.1. The second rule further provides that "[a]ny site" at which such protective measure has "not been instituted will be classified as an open dump[.]" Id. at § 33-1-7.2.a.

Courtland, however, ignores the applicability section of the West Virginia's Solid Waste Management Rule, set forth in W. Va. Code St. R. §§ 33-1-1 through 33-1-7, which provides:

> Permittees or applicants of solid waste landfills (SWLFs), or portions thereof, that stopped receiving waste before June 2, 1996 must close their SWLF in accordance with the terms and conditions of their solid waste permit, order,[105] and/or the laws, rules and regulations in place on May 1, 1990 unless permit requirements are otherwise required by the Secretary.
>
> Permittees of existing SWLFs, or portions thereof, that initiate, or continue receiving waste after June 2, 1996 must comply with the terms and conditions of

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[105] It is noted that W. Va. Code § 22-15-10(d), provides:

> For existing solid waste landfills which formerly held division of health permits which expired by law and for which complete permit applications for new permits pursuant to § 22-15-1 et seq. of this code were submitted as required by law, the division may enter an administrative order to govern solid waste activities at facilities, which may include a compliance schedule, consistent with the requirements of the division's solid waste management rules, to be effective until final action is taken to issue or deny a permit for the facility pursuant to § 22-15-1 et seq. of this code, or until further order of the division.

Given that UCC elected not to seek a new solid waste disposal permit and, instead, closed Filmont under its valid department of health permit before it expired by law in 1988, Filmont would not have been subjected to any administrative order.

> their existing or renewed solid waste permit, order, and additionally all effective laws, rules and regulations in place, unless said permit is modified by the Secretary to include the requirements of this rule, or unless permit requirements are otherwise modified by the Secretary.

W. Va. Code St. R. §§ 33-1-1.1.a. & 33-1-1.1.b. Here, the Filmont landfill stopped receiving waste long before June 2, 1996. UCC was thus required to close Filmont in accordance with the terms and conditions of its solid waste permit, which had been issued by the West Virginia Department of Health. The court has found herein, based upon the evidentiary record presented at trial, that UCC complied with this requirement. See supra Section III.C. at pages 77-81. Inasmuch as UCC closed the Filmont landfill in 1987, UCC could not have also been required to close Filmont in accordance with "the laws, rules and regulations in place on May 1, 1990[.]" W. Va. Code St. R. §§ 33-1-1.1.a.

Moreover, requirements contained in West Virginia's Solid Waste Management Rule related to the prohibition of open dumps were not first promulgated until 1988; a year after Filmont had closed and ceased operations. Subjecting UCC to such regulations enacted after Filmont's final cap and closure would constitute an unauthorized retroactive application of the same. Indeed, the applicability requirements of West Virginia's Solid Waste Management Rule make clear that only solid waste

landfills that continued to receive waste after June 2, 1996, would be required to comply with not only the terms and conditions of their permit, but also the rules and regulations effective and existing today. Thus, any of Courtland's alleged open dumping violations premised on today's rules and regulations contained in West Virginia's Solid Waste Management Rule fail as a matter of law.

Inasmuch as the court concludes that the Filmont landfill is not an open dump in violation of W. Va. Code § 22-15-10(a), Courtland's public nuisance per se claim premised on any purported violation of the same fails. Accordingly, Count IV of Courtland's Complaint in Courtland II is DISMISSED.[106]

5. Public Nuisance

"A public nuisance is an act or condition that unlawfully operates to hurt or inconvenience an indefinite number of persons." Hank v. Mountain Fork Lumber Co., 34 S.E.2d 348, 354 (W. Va. 1945). A public nuisance differs from a private nuisance in that the former affects the general public,

[106] To the extent that Courtland also alleges that its public nuisance per se claim is applicable to Massey, such contention fails as a matter of law inasmuch as the record is devoid of any evidence that Massey was ever utilized as a solid waste landfill.

while the latter only injures one person or a limited number of persons. Id. "A public nuisance action usually seeks to have some harm which affects the public health and safety abated." State ex rel. Smith v. Kermit Lumber & Pressure Treating Co., 488 S.E.2d 901, 925 (W. Va. 1997).

Ordinarily, it is the duty of the proper public officials to vindicate the rights of the public. Hark, 34 S.E.2d at 354. A private individual cannot maintain a suit to abate a public nuisance unless such individual suffers a "special injury" that differs "not only in degree, but in character" from the injury inflicted upon the general public. See id.; Int'l Shoe Co. v. Heatwole, 30 S.E.2d 537, 540 (W. Va. 1944); Curry v. Boone Timber Co., 105 S.E.2d 263, 264 (W. Va. 1920). The injury must be "serious and permanent" and affect "the substance and value of their property." Curry, 105 S.E. at 264; see also Hark, 34 S.E.2d at 354 (requiring "substantial permanent damages [that] cannot be fully compensated in an action at law").

For the same reasons Courtland's RCRA imminent and substantial endangerment claim fails, so too does Courtland's public nuisance claim. Indeed, Courtland has not established any harm to the general public in need of abatement as a result of any of the contamination emanating from Filmont and Massey.

Even assuming, arguendo, that such a harm existed, Courtland has likewise failed to demonstrate a serious injury to its property affecting its value and substance for the same reasons set forth infra in the court's analysis respecting Courtland's private nuisance claim.

Accordingly, Count V of Courtland's Complaint in Courtland II is DISMISSED.

6. Private Nuisance

"A private nuisance is a substantial and unreasonable interference with the private use and enjoyment of another's land." Syl. Pt. 1, Hendricks v. Stalnaker, 380 S.E.2d 198, 199 (W. Va. 1989). For an interference to qualify as "substantial," the interference must amount to a "real and appreciable invasion of the plaintiff's interests," which means "more than slight inconvenience or petty annoyance." Carter v. Monsanto Co., 575 S.E.2d 342, 347 (W. Va. 2002) (quoting Restatement (Second) of Torts § 821F(c) (1979)). An interference is "unreasonable" "when the gravity of the harm outweighs the social value of the activity alleged to cause the harm." Syl. Pt. 2, Hendricks, 380 S.E.2d at 199.

"Recovery for a private nuisance is limited to plaintiffs who have suffered a significant harm to their property rights or privileges caused by the interference." Hendricks, 380 S.E.2d at 201 (citing Restatement (Second) of Torts §§ 821E, 821F (1979)); see also Bansbach v. Harbin, 728 S.E.2d 533, 538 (W. Va. 2012) (discussing the need to demonstrate a significant harm to prevail on a private nuisance claim). It is well-settled that "liability for nuisance is a species of tort liability" and thus "governed by the rules relating to torts generally." Carter, 575 S.E.2d at 737 (quoting Am.Jur.2d Nuisances § 66 (1989)). "In other words, before one can recover under a tort theory of liability, he or she must prove each of the four elements of a tort: duty, breach, causation, and damages." Id.

An alleged diminution of property value, without more, is insufficient to allow a plaintiff to recover under a theory of private nuisance. See, e.g., Burch v. Nedpower Mount Storm, LLC, 647 S.E.2d 879, 897 (W. Va. 2007) (reviewing diminution of value, as well as noise and unsightliness); Martin v. Williams, 93 S.E.2d 835, 843-44 (W. Va. 1956) (reviewing diminution of value, as well as light, noise, and aesthetic impacts).

Here, Courtland has failed to adduce sufficient evidence demonstrating any interference with the private use and

enjoyment of its property, let alone an interference that is "substantial and unreasonable." Courtland's vice president, Mr. Truslow, testified that the revenue produced to Courtland from the Courtland Property by way of rent from its current lessee and royalties from the oil and gas lease, as well as the overall use of the property has been unaffected by the entirety of this litigation. See Tr. Tran. 2510:3-2511:4, 2469:2-2470:12 (Truslow: July 21, 2022). Although Mr. Truslow expressed fear of future legal liabilities resulting from any contamination on its property, that the value of the Courtland Property might be negatively affected by its common boundary with Filmont and that the same could potentially hinder Courtland's ability to acquire future lessees at the property, it is well established "that under private nuisance, fear alone is not a sufficient basis for recovery." Carter, 575 S.E.2d at 347.

Even if Courtland could establish an interference with the use and enjoyment of its property, the evidentiary record fails to support finding that interference to be "substantial and unreasonable." The facts as they exist now show that the groundwater contamination that may be emanating from Filmont and Massey has affected at most a small portion of the Courtland Property -- a nonresidential property that has been zoned for industrial use where active industrial operations are occurring

-- at its northern border. The court has also found that both the historic and current industrial operations on the Courtland Property have and are contributing to the groundwater contamination in that same location. See supra pg. 140. Additionally, of all of the hazardous substances detected in the groundwater at this location, Dr. Simonton only referred to a single hazardous substance as being high: arsenic.[107]

Be that as it may, the quantity of arsenic detected exceeds its MCL, which is a drinking water standard. The record has conclusively established that there are no drinking water wells on the Courtland Property and that Courtland is not utilizing its groundwater for such a purpose. Nor could the drinking water even be used for human consumption without prior treatment as required by local ordinance. Moreover, the record is devoid of any evidence that any individual working on the property has experienced negative health effects as a result of the contamination thereon. It also appears that the remainder

[107] Although Dr. Simonton does not describe the single detection of 1,4 dioxane in Courtland's groundwater as being "high" in his 2021 Sampling and Analysis Report, the court notes that the same was detected at 2.4 µg/L, which is above its adjusted USEPA tap water RSL, a drinking water standard, of 0.46 µg/L. See Pl. Ex. 293-1 at 7 (noting that 1,4 dioxane and bis (2-chloroisopropyl) ether "were found in the Courtland groundwater" and that "arsenic was also found at very high concentrations.").

of the substances detected[108] -- not all of which are hazardous -- in Dr. Simonton's June and July 2021 sampling exist in relatively small quantities or at a de minimis level, which does not constitute a nuisance. See In re Wildwood Litig., 52 F.3d 499, 503 (4th Cir. 1995). It is also noteworthy that despite detecting contaminants in Courtland's groundwater, Dr. Simonton testified that he has never opined that the same automatically means a cleanup of the property is necessary. See Tr. Tran. 3722:3-14 (Simonton: Aug. 2, 2022).

As previously explained in detail herein, Courtland presents just enough evidence to prevail on its CERCLA claim under the relaxed burdens imposed thereunder. Indeed, "Congress expressly enacted CERCLA to encourage private cleanups and to allocate cleanup costs among potentially responsible parties[,]" and "[in] pursuit of those ends, CERCLA requires [only] minimal showings of injury and causation before imposing liability on a defendant responsible for releasing hazardous substances."

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[108] These substances include chloroform; 1,2-dichloroethane; 1,4 dioxane; butyl benzyl phthalate; dimethyl phthalate; 2,2`-Oxybis (1-chloropropane) (also known as bis (2-chloroisopropyl) ether); 3&4-methylphenol; bis (2-ethylhexyl) phthalate; naphthalene; methylphenol; di-n-butyl phthalate; selenium (total and dissolved); thallium (total); nickel (total and dissolved); zinc (total and dissolved); chromium (dissolved); barium (total); calcium (total); cobalt (total); iron (total); magnesium (total); manganese (total); potassium (total); sodium (total); and vanadium (total). See Pl. Ex. 293-1.

Lovejoy, 2020 WL 17566235, at *13. "Private nuisance, by contrast, is 'a species of tort liability' . . . requir[ing] a more definite showing of harm," which the court concludes Courtland has failed to establish. Id. (quoting Carter, 575 S.E.2d at 347).

However, assuming arguendo that Courtland had demonstrated a substantial and unreasonable interference with the use and enjoyment of its property, its private nuisance claim would yet fail for its failure to furnish any evidence of economic harm or loss. Courtland's prayer for relief seeks "monetary damages, in an amount sufficient to compensate [Courtland] for [UCC's] interference and intrusion upon [Courtland's] reasonable use and enjoyment of [Courtland's] real property, the damage to such real property resulting from [UCC's] acts and omissions, the lost value in such real property resulting from [UCC's] acts and omissions, and such other amounts deemed appropriate by this [c]ourt." ECF 1 in Courtland II at 47-48, ¶ C. Despite such request, Courtland presented no evidence that could have served to demonstrate an economic harm or loss as a result of the contamination. Again, Mr. Truslow conceded that Courtland's revenue from the Courtland Property had been unimpacted, and he also testified that he had never conducted an appraisal of the property, nor did he intend to

sell it. In sum, the court concludes that Courtland's private nuisance claim fails as a matter of law.

Accordingly, Count VI of Courtland's Complaint in Courtland II is DISMISSED.

7. Courtland's Voluntarily Dismissed Claims

As mentioned in footnote three herein, Courtland at trial voluntarily dismissed its claims for negligence, gross negligence, strict liability, and recovery of punitive damages in Courtland II. See Tr. Tran. 3370:1-15 (July 28, 2022). Accordingly, Counts VII (Negligence), IX (Gross Negligence), X (Strict Liability), and Part E of Courtland's Prayer for Relief (Punitive Damages) in Courtland II are DISMISSED.

8. UCC's Remaining State Law Counterclaims

i. Declaratory Relief

Under West Virginia law, before a court "can grant declaratory relief pursuant to the provisions of the Uniform Declaratory Judgment Act ("Act"), [W. Va. Code §§ 55-13-1 to -16], there must be an actual, existing controversy." Hustead v. Ashland Oil, Inc., 475 S.E.2d 55, 61 (W. Va. 1996). "To be

clear, if there is no 'case' in the constitutional sense of the word, then a . . . court lacks the power to issue a declaratory judgment." Id. (quoting Cox v. Amick, 466 S.E.2d 459, 469 (W. Va. 1995)). "The rationale behind the justiciable controversy requirement is that the Act 'is designed to enable litigants to clarify legal rights and obligations before acting upon them.'" Id. (emphasis in original). Indeed, "[t]he purpose of a declaratory judgment is to declare rights not theretofore determined and is not to determine rights previously adjudicated." Id. (internal citations omitted).

In determining "whether a justiciable controversy exists sufficient to confer jurisdiction for purposes of the Act," the following four factors should be considered "in ascertaining whether a declaratory judgment action should be heard: (1) whether the claim involves uncertain and contingent events that may not occur at all; (2) whether the claim is dependent on the facts; (3) whether there is adverseness among the parties; and (4) whether the sought after declaration would be of practical assistance in setting the underlying controversy to rest." Id. at 62 (citing Cox, 466 S.E.2d at 470).

UCC seeks a declaratory judgment from the court that it is not responsible for any portion of the future response costs Courtland may expend on remediating the Courtland

Property. Inasmuch as the court has concluded herein that UCC is at least partially responsible for the same, the declaratory relief UCC seeks is inappropriate. Accordingly, UCC's counterclaim requesting declaratory relief pursuant to West Virginia law is DISMISSED.

ii. Equitable Indemnification

Implied indemnification is an "equitable remedy 'to address the unfairness which results when one defendant, who has committed no independent wrong, is held liable for the entire loss of a plaintiff while another entity, which may or may not be named as a defendant in the plaintiff's suit to establish liability, would be allowed to escape liability even though it actually caused or was responsible for causing the wrongdoing.'" Turnes v. Foremost Indus., No. 3:16-cv-81, 2017 WL 10433832, at *6 (N.D.W. Va. Jan. 18, 2017) (quoting Harvest Capital v. West Virginia Dep't of Energy, 506 S.E.2d 509, 512 (W. Va. 2002) (citing 41 Am.Jur.2d § 1 (1995)).

Thus, "[a]t the heart of the doctrine is the premise that the person seeking to assert implied indemnity — the indemnitee — has been required to pay damages caused by a third party — the indemnitor. In the typical case, the indemnitee is made liable to the injured party because of some positive duty

created by statute or common law, but the actual cause of the injury was the act of the indemnitor." Syl. Pt. 2, Harvest Capital, 560 S.E.2d at 509 (internal citations omitted). Inasmuch as "[i]mplied indeminity is based upon principles of equity and restitution[,] . . . one must be without fault to obtain implied indemnity." Syl. Pt. 2, Sydenstricker v. Unipunch Prods., Inc., 288 S.E.2d 511, 513 (W. Va. 1982).

The contours of an equitable indemnification claim brought pursuant to West Virginia law are wholly inapplicable to the matter herein. Indeed, UCC has not been ordered to pay any damages solely caused by the acts of a third-party entity that has been permitted to escape liability. Accordingly, UCC's equitable indemnification counterclaim is DISMISSED.

V. FINDINGS OF FACT: CLEAN WATER ACT

In Courtland III and Courtland IV, Courtland alleges that UCC has discharged various pollutants from Filmont Landfill and Massey Railyard, without a permit, into Ward Branch and into Davis Creek, waters of the United States, on an ongoing basis beginning no later than January 1, 1990.

Courtland seeks an injunction requiring UCC (1) to cease illegal discharges of pollutants and stormwater associated with industrial activity and (2) "timely and competently to investigate and abate in compliance with the requirement of the National Contingency Plan the ongoing endangerments to Navigable Waters, sediments underlying, adjacent to, and within surface waterways," from UCC's discharges. Courtland also seeks to assess civil penalties and recover an award of reasonable attorney fees and litigation costs.

Courtland III consists of two counts, of which Courtland's claim in Count I, insofar as it related to the Southern Boundary Ditch, and Count II, which dealt with stormwater discharges associated with industrial activity, have been dismissed because adequate pre-suit notice had not been given. Case No. 2:21-cv-00101, ECF No. 44. As a consequence, Courtland IV was filed, after due notice was given, consisting

of two counts similar to the two counts in Courtland III. The case thus proceeds on the basis of Courtland's remaining claims in Count I of Courtland III and on Counts I and II of Courtland IV. Inasmuch as the remaining claims in Count I of Courtland III are covered in Count I of Courtland IV, the court will deem them addressed in its discussion of Courtland IV.

In Courtland IV, in Count I, Courtland maintains its cause of action seeking relief based on UCC's alleged ongoing unpermitted discharges of pollutants from Filmont and the Massey Railyard, via the Northern Boundary Ditch, the Southern Boundary Ditch, and directly from seeps, all into nearby navigable waters in violation of Sections 402(a) and 505 of the CWA; and in Count II Courtland maintains its cause of action based on UCC's alleged ongoing unpermitted stormwater discharges associated with industrial activity from Filmont and the Massey Railyard into nearby navigable waters in violation of Sections 301(a) and 402(p) of the CWA.

A. Clean Water Act: Point Sources

Under the Clean Water Act (the "Act"), it is prohibited to discharge pollutants to the nation's waters from a point source without a permit. Sierra Club v. Virginia Elec. & Power Co., 903 F.3d 403, 406 (4th Cir. 2018) (citing 33 U.S.C. §

1311(a)). A "point source" is defined as "any discernible, confined and discrete conveyance . . . from which pollutants are or may be discharged." 33 U.S.C. § 1362(14); 40 C.F.R. § 122.2. UCC lacks a Clean Water Act permit.

Courtland alleges that UCC is discharging pollutants from what it contends to be three principal point sources: the Southern Boundary Ditch, the Northern Boundary Ditch, and a seep (the "Ward Branch Seep").[109] Each of the three is alleged to be discharging seeping groundwater containing numerous pollutants into waters of the United States, addressed further below, while the Southern Boundary Ditch and the Northern Boundary Ditch are also alleged to be discharging stormwater associated with industrial activity. Utilizing the three alleged point sources as points of reference for Courtland's claims against UCC, the court makes the following findings of fact by a preponderance of the evidence.[110]

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[109] UCC appears not to dispute that the Northern Boundary and Southern Boundary Ditch are point sources. See Tr. Tran. 3507:2-5 (Shelton: "Your Honor already determined point sources that were there. And I think we agree with you, that the south boundary ditch, north boundary ditch can be point sources."). The court understands UCC's counsel to be referring to the court's memorandum and opinion order at summary judgment. ECF No. 274.

[110] The court's factual findings respecting these claims incorporate the factual findings made heretofore, with emphasis on the court's findings on pages 111 to 136.

1. Southern Boundary Ditch

The Southern Boundary Ditch is approximately 1,000 feet long. It originates near the boundary between Massey Railyard and the Courtland Property at a point where it receives the drainage from a culvert under the Old Kanawha Turnpike roadway which is fed primarily by stormwater collected from both sides of the CSX Railroad that is augmented by stormwater from a hilly section of UCC's Tech Park adjacent to and above the CSX Railroad. See Tr. Tran. 571:15-572:1, 1466:14-1467:23, 2851:6-18, 2849:25-2850:9; Def. 136-F at 22634 (depicting the ditch near its beginning); Jt. Ex. 100 at 12374; Pl. Ex. 748.3-89 (photograph depicting (right to left) Massey, two CSX lines, and ditch (bordering woods in the background)); Jt. 48 (property survey map denoting "stream or hollow" running parallel to railroad tracks). From its starting point at the culvert under the Turnpike roadway, the ditch runs on the Courtland side of Massey Railyard's western boundary until it reaches a point about two-thirds of the length of Massey Railyard's western boundary line whereupon the ditch is intersected by two culverts that carry stormwater into it from the western side of Massey Railyard. Tr. Tran. 1176:23-1177:4, 1177:14-21, 1180:20-1181:8. The ditch then turns nearly forty-five degrees to cross the Courtland Property and proceeds for a distance of some 300 feet

to Davis Creek, where it terminates. The ditch is located on the Courtland Property except that, shortly after it makes the turn towards Davis Creek, a short segment of the ditch juts into Filmont and then cuts back to Courtland after which it empties into Davis Creek. See Tr. Tran. 2840:24-2843:21; see also Jt. Ex. 48 (property survey); Def. Ex. 136-F at 22594 (depicting Southern Boundary Ditch on UCC's property).

The Southern Boundary Ditch appears to be an artificial creation. There is no ditch or stream indicated on UCC's deed from 1946, perhaps because it was not created until the Filmont berm was built in the early 1970s to accommodate the landfill, nor is it indicated on Courtland's deed from 1979. Jt. Ex. 89 at 173, 177 (map accompanying deed showing Courtland's parcel); Jt. Ex. 001a at 23703 (map accompanying deed showing UCC's parcel); see Def. Ex. 311. UCC's 1971 site plan for berm construction notes the existence of a "drainage trench," which may correspond to some portion of the ditch today. See Def. Ex. 311.

In the present day, the Southern Boundary Ditch is unpaved and partly lined by trees and other vegetation and resembles a very small creek or stream, winding as it does through wooded areas. See Def. Ex. 136-F at 22594 (Southern Boundary Ditch on UCC's parcel), 22619 (after the Southern

Boundary Ditch crosses back onto Courtland's parcel), 22634 (South Boundary Ditch near Massey); see also Tr. Tran. 2840:24-2841:11, 2848:4-8, 2850:25-2851:23. Its present location insofar as it runs from the two Massey culverts to Davis Creek may be due in part to the fact that land north of the ditch has been raised as a result of the construction of the berm at Filmont and the filling in of the landfill itself with waste and fill materials which together elevated Filmont from approximately 570 feet above sea level to 600 feet. See Tr. Tran. 1144:13-16; see also Def. Ex. 311; see also Tr. Tran. 2846:11-24; Def. Ex. 136-F at 22612 (depicting fill material and berm).

The Southern Boundary Ditch predominately receives stormwater, but it is also augmented by seeps of groundwater near its terminus at Davis Creek. See Jt. Ex. 41; Jt. Ex. 100 ("It receives surface water and discharges to Davis Creek"); Tr. Tran. 1098:15-1099:3, 1466:14-1468:8. The tenant operator on Courtland's property, whose activities are generally limited to the upper portion of the property adjacent to the Turnpike and CSX rail line, has in recent years held a permit for stormwater runoff on the Courtland tract.

Based on the foregoing, the court finds that the Southern Boundary Ditch is a man-made feature, which is

presently understood to function as a ditch. See Def. Ex. 271 at 13856 (UCC presentation to West Virginia Department of Environmental Protection) (referring to a "Southern Boundary Drainage Ditch"); Jt. Ex. 1 (UCC's Voluntary Remediation Program Application) at 23689 ("South Boundary Drainage Channel"). As will be more fully developed below, the court further finds the Southern Boundary Ditch is a discernible, confined, and discrete conveyance that constitutes a point source that receives stormwater flowing through the culvert under the Old Kanawha Turnpike roadway and through the two Massey Railroad culverts, and stormwater flowing off Filmont Landfill and channeled toward the Southern Boundary Ditch as well as the seeps into the ditch at an area not far from the terminus of the ditch at Davis Creek.

Davis Creek originates in the Kanawha State Forest, approximately 10 to 12 miles to the south of Courtland and UCC's properties. See Tr. Tran. 3310:21-25 (estimating 10 miles) (Simonton: July 28, 2022); Jt. Ex. 100 at 12373 (12 miles). From there, Davis Creek flows in a northerly direction, ultimately forming the westerly lines of Courtland and of Filmont. At the northerly end of Filmont, Ward Branch flows into Davis Creek, which eventually intersects with the Kanawha

River approximately 0.3 miles north of its confluence with Ward Branch. See Jt. Ex. 100 at 12373-74.

It is noted that on occasion, Davis Creek "back[s] up," causing its water level to rise slowly due to heavy precipitation. See Tr. Tran. 491:22-492:17 (Cibrik: July 7, 2022). This is caused in part by a rise in the water level of the Kanawha River downstream. Id. 491:22:-492:2. When this occurs, the water in Davis Creek does not "eddy on itself backwards."[111] Id. 492:9-17. Nor is it shown to have backed up to the Courtland Property. Rather, "backwater[s]"[112] merely manifest in Davis Creek at its junction with the Kanawha River and which may extend to the Ward Branch area. See id. 492:3-17; see also id. 507:12-24. That is, water levels in Davis Creek and Ward Branch may rise after heavy precipitation due to "back[ing] up" at the Kanawha River downstream, but the direction of the water flow does not reverse backwards in Davis Creek or Ward Branch. See id. 491:22-492:17.

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[111] An "eddy" is "a current of water . . . running contrary to the main current." Eddy, Merriam Webster, https://www.merriam-webster.com/dictionary/eddy (last accessed April 4, 2023).

[112] A "backwater" is "water backed up in its course by an obstruction, an opposing current, or the tide." Backwater, Merriam Webster, https://www.merriam-webster.com/dictionary/backwater (last accessed April 4, 2023).

2. Northern Boundary Ditch

To the northeast of the Southern Boundary Ditch, on Filmont's opposite side, lies the Northern Boundary Ditch. The Northern Boundary Ditch is an intermittent surface water feature that receives stormwater and water from seeps. Jt. Ex. 41 at 854; Jt. Ex. 100 at 12366; see Tr. Tran. 1232:14-1233:22, 1508:19-1511:7, 1512:23-1513:5, 2606:15-2607:7. It is approximately 1,200 feet in length. Jt. Ex. 100 at 12373. From the ditch's starting point near eastern Massey, the Northern Boundary Ditch proceeds along the eastern and then northern side of Filmont. After gradually sloping downhill from eastern Massey, the ditch crosses a portion of Filmont and then runs at the foot of northern Filmont before terminating in Ward Branch. See Jt. Ex. 48. The Northern Boundary Ditch is located mostly, but not entirely, on property owned by the State of West Virginia Department of Transportation ("DOT") and lies in between Filmont on the ditch's southern edge and the embankment of I-64 on its northern edge. Tr. Tran. 571:5-9; see also Jt. Ex. 48.

Like its southern counterpart, the Northern Boundary Ditch appears to be a manmade structure. There is no mention in UCC's deed from 1946 of a stream or other natural drainage feature where the Northern Boundary Ditch currently is located.

See Jt. Ex. 001a at 23703. The terminal point of the ditch today may correspond to a portion of Davis Creek prior to the creek's re-location to its present course, apparently in 1971, but this is not certain. See Jt. Ex. 003 at 24505; see also Jt. Ex. 001a at 23703 (tract map accompanying deed); Pl. Ex. 839-1; Def. Ex. 311 (1971 site plan for berm construction showing former location of Davis Creek). Two structures - Filmont's berm built in the early 1970s and I-64 built in the late 1960s - appear to have most significantly contributed to the formation, present dimensions, and function of the Northern Boundary Ditch. See Tr. Tran. 489:22-490:4 ("[The Northern Boundary Ditch] starts primarily from the ditch that's been created, the low spot that's been created because of the highway going through.") (Cibrik: July 7, 2022); see also id. 2605:8-11; Def. Ex. 311 (1971 site plan for berm construction). I-64 is located just north of Filmont, runs parallel to it, and I-64 and its embankment form the northern edge of the Northern Boundary Ditch drainage area. See Tr. Tran. 489:22-490:4; see also id. 2605:8-11. The ditch facilitates drainage off of I-64, as a number of culverts from the interstate drain into the ditch. See Pl. Ex. 317 at 6552; see also Tr. Tran. 2605:8-14.

The court finds that the Northern Boundary Ditch is a drainage feature, which fairly may be described as a ditch. See

Jt. Ex. 100 (2015 Ecological Risk Evaluation for the UCC Filmont Landfill) at 12366 ("The ditch drains to the west and discharges into Ward Branch near the I-64 culvert" through which Ward Branch runs as it flows towards the Filmont site); Def. Ex. 316 (Sampling and Analysis Plan) at 2, Figure 1 ("Northern Drainage Ditch"), and the first photograph of sample locations (same); Def. Ex. 271 (2012 Presentation to West Virginia Department of Environmental Protection) ("Northern Boundary Drainage Ditch"); Jt. Ex. 7 (2012 and 2013 Groundwater Monitoring Report) at Figures 1-1, 4-1, 4-2, 4-3, and 4-4 (same). As is developed below, the court further finds that the Northern Boundary Ditch is a point source inasmuch as it functions as a discernible, confined and discrete conveyance of certain pollutants from Filmont into Ward Branch.

Ward Branch runs in a westerly direction on the north or far side of I-64, before Ward Branch turns southward toward Filmont, crossing under I-64 through a culvert. See Jt. Ex. 100 at 12366. Ward Branch then reaches Filmont where it turns 90 degrees to the west at what is called its "elbow." Northern Boundary Ditch connects with Ward Branch at a point between the culvert and the elbow. See Tr. Tran. 476:6-17. The court estimates the distance from the elbow of Ward Branch to the

confluence of Ward Branch and Davis Creek as approximately 400 feet. Ex. 100 at 12373.

3. Ward Branch Seep

The Ward Branch Seep is located at the base of Filmont's berm, along Filmont's northern edge. See Tr. Tran. 1272:4-10, 2307:17-24; Pl. Ex. 78 at 11 (image depicting location of the water sampled from Ward Branch seep); Pl. Ex. 575 (video depicting the Ward Branch seep). The seep sits in or very close to the elbow of Ward Branch. See Pl. Ex. 78 Figure 2. The Ward Branch Seep manifests as a rusty brown discharge that flows directly into Ward Branch. See Tr. Tran. 1272:4-10; see also id. 2307:17-24; Pl. Ex. 78 at Photos 2, 3, 9. The Ward Branch Seep is simply a seep. It is not shown to be a point source.

B. Clean Water Act: Discharges

Courtland alleges that there are ongoing discharges of seepage or leachate[113] from Filmont and Massey to the Southern Boundary Ditch and the Northern Boundary Ditch, both found to be point sources. Aside from stormwater, Courtland has identified contaminated groundwater as the primary transport mechanism for

[113] "Leachate means liquid that has passed through or emerged from solid waste and contains soluble, suspended or miscible materials removed from such wastes." 40 C.F.R. § 257.2

pollution from Filmont and Massey, which then seeps or leaches into the two boundary ditches and the Ward Branch Seep. See Jt. Ex. 100 at 023691, 023693; see also Jt. Ex. 1 (UCC's VRP application). Courtland also alleges that stormwater associated with industrial activity is discharged from the Southern Boundary Ditch and the Northern Boundary Ditch.

Under the Act, "[d]ischarge of a pollutant" means "any addition of any pollutant to navigable waters from any point source." 33 U.S.C. § 1362(12); 40 C.F.R. § 122.2 ("discharge of a pollutant" means, inter alia, "additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man"). "Pollutant" is broadly defined in the Act to include, among other things, "solid waste," "chemical wastes," and "industrial . . . waste discharged into water." 33 U.S.C. § 1362(6); see also id. § 1311(a) (unless permitted under the Clean Water Act, "the discharge of any pollutant by any person shall be unlawful").

1. Southern Boundary Ditch

The Southern Boundary Ditch is predominately on the Courtland Property and receives water from multiple sources. It is incumbent upon Courtland as plaintiff to demonstrate that any pollutants present in the ditch originated from Filmont and/or Massey Railyard. The court begins with the most recent evidence

of discharges involving iron from groundwater seeps in the Southern Boundary Ditch, which empties into Davis Creek, waters of the United States, before turning to discharges involving other substances, principally arsenic and barium, and of stormwater associated with industrial activity from both Filmont and Massey.

i. Groundwater Seeps

Two groundwater seeps exist in the Southern Boundary Ditch. See Tr. Tran. 1189:8-1192:13, 1192:19-1193:5, 1197:10-1198:1. The seeps are not themselves point sources, as the court held at summary judgment and as UCC asserted at trial. Mem. Op. and Order 29-31. Both of these seeps are located at or in the ditch on Courtland's property. See Tr. Tran. 1189:8-1192:13, 1192:19-1193:5, 1197:10-1198:1.

The first seep was observed by Dr. Simonton "right at the mouth of the" Southern Boundary Ditch near its outlet to Davis Creek. See Pl. Ex. 78 at Photo 6; see also Tr. Tran. 1106:5-24, 1189:16-21, 1210:21-1211:3. Because this seep was located at the outlet of the ditch, the court understands it to be near where UCC twice collected surface water samples at FLF-0051 located at the outlet. See Jt. Ex. 1A-1 (sample location FLF-0051 corresponding to the location of the seep). There, in

2008, UCC detected barium (0.115 mg/L) and 1,4-dioxane (2.97 µg/L J), and, in 2011, detected barium (total) (0.0811 mg/L), barium (dissolved) (0.0787 mg/L), and arsenic (0.0122 mg/L). See Pl. Ex. 727; see also Jt. Ex. 1A-1.

A second seep, some 150 feet from the outlet of the ditch, was observed near where UCC collected another surface water sample in the Southern Boundary Ditch in 2007, detecting iron (0.273 mg/L) and barium (0.119 mg/L). Tr. Tran. 1192:19-1193:5; see Jt. Ex. 1A-A (FLF-0036); see also Pl. Ex. 727. This seep "daylight[s]" "on the north bank" of the Southern Boundary Ditch. See Tr. Tran. 1189:22-23, 1192:22-1193:5. Dr. Simonton estimated that this second seep is 5 to 6 feet wide. Id. 1191:5-13. He avers that he has seen seeping from this second seep on two occasions during the life of this litigation. Tr. Tran. 1197:7-16. Specifically, Dr. Simonton testified that he saw seeping "several weeks" before trial and "a few months ago, when I . . . observed this particular seep." Id.

Unfortunately, Courtland elected not to collect samples from either of the groundwater seeps or surface water elsewhere in the Southern Boundary Ditch. See Tr. Tran. 1688:21-1689:22. In lieu of such evidence the court is largely unable to determine what pollutants are currently present in the two groundwater seeps other than iron. Courtland has presented

evidence that iron, visible due to its orange coloring, is present in the two seeps in the ditch. See Tr. Tran. 1189:8-1192:13, 1192:19-1193:5, 1193:13-1193:3, 1197:7-1198:1; see also Pl. Ex. 78 at Photo 6 (depicting runoff from first seep located near the outlet of the ditch). In a photograph taken by Dr. Simonton as he was standing on the Courtland Property south of the outlet of the ditch, that which flows out of the first seep is visibly orange due to iron. Tr. Tran. 1189:16-21; Pl. Ex. 78 at Photo 6 (depicting runoff from first seep located near the outlet of the ditch). Although Dr. Simonton did not provide photographic evidence of the second seep situated some 150 feet east of the first seep, he described seeing a similar orange substance seeping from this second seep. Tr. Tran. 1189:16-1190:1.

Dr. Simonton testified that Filmont is "by far, the most significant source" of the iron in the two seeps in the ditch. See Tr. Tran. 3314:10-23; see also id. 1189:8-1190:5, 1193:13-1193:3. Dr. Simonton stated that while Massey also could be a source of iron, he believed Filmont was a major source of the discharges of iron observed in the Southern Boundary Ditch. Tr. Tran. 1229:23-1230:3. The presence of iron in the ditch, he testified, functioned like a "tracer" pointing to Filmont as the source of iron found there. See Tr. Tran.

1327:4-17. UCC last sampled for and detected high levels of iron on Filmont and Massey in 2007 and 2010.[114] See Pl. Ex. 725. While this groundwater data from Filmont and Massey is more than a decade old, which tends to lessen its weight as an indicator of present day conditions, see Tr. Tran. 2100:24-2101:4, Dr. Simonton opined that the "system" at Filmont is stable, and therefore groundwater results from 2007 and 2010 are still representative, although specific conditions of Filmont's groundwater will vary over time. See id. 1211:4-22, 1212:6-11.

In June/July 2021, Dr. Simonton, on behalf of Courtland, conducted a limited groundwater investigation which

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[114] Iron was detected in two wells - MW-01S and MW-02S - on Filmont on May 29, 2007. MW-01S is several hundred feet northwest of the Courtland/Filmont boundary. MW-02S is approximately 100 feet northeast of the Courtland/Filmont boundary, northeast of where the Southern Boundary Ditch turns northwest to Davis Creek. The concentrations for iron were as follows:

MW-01S: 124 mg/L
MW-02S: 36.6 mg/L

Iron was detected at Massey at two locations - FLF-0073 and FLF-0075 - on September 9, 2010. FLF-0073 is located approximately 150 feet from the southeastern corner of Courtland's property. FLF-0075 is situated 200 feet from Massey Railyard's eastern boundary. The concentrations of iron were as follows:

FLF-0073: 211 mg/L
FLF-0075: 20.8 mg/L

See Jt. Ex. 001a at Fig. 3 (sample locations); see also Pl.'s Ex. 725 (groundwater data); Tr. Tran. 1194:20-1195:21, 1198:21-1199:11.

detected iron and various other substances[115] in three wells located in a confined area of the Courtland Property adjacent to its boundary with Filmont, that is, to the north of the Southern Boundary Ditch after the ditch has briefly crossed into Filmont and returned to the Courtland Property, and situate approximately midway between and opposite from MW-05D (to the west) and MW-02D/MW-02S (to the east) on Filmont. See Pl. 293-1 (July 2021 Courtland Sampling & Analysis Report) at Figure 1 (depicting the location of the temporary wells on Courtland); see also Tr. Tran. 2817:14-28 (MacPherson: July 25, 2022); Def. Ex. Ex. 34.

Dr. Simonton testified that iron detected in TW Grab 1, in one of these three wells, at 3.9 mg/l was "high certainly against what we normally expect as background," and his report similarly states that iron "was elevated." See Tr. Tran.

[115] As more fully recounted in the section entitled, "June/July 2021 Sampling on Courtland by Dr. Simonton" at pages 111-136, the VOCs detected were chloroform, 1,2-dichloroethane, and 1,4 dioxane at 2.4 µg/L. See Pl. Ex. 293-1. The eight SVOCs detected were butyl benzyl phthalate, dimethyl phthalate, 2,2`-Oxybis (1-chloropropane) (also known as bis (2-chloroisopropyl) ether), 3&4-methylphenol, bis (2-ethylhexyl) phthalate, naphthalene, methylphenol, di-n-butyl phthalate. Id. The metals detected consisted of arsenic (total and dissolved), barium (total), calcium (total), chromium (dissolved), cobalt (total), iron (total), magnesium (total), manganese (total), nickel (total and dissolved), potassium (total), selenium (total and dissolved), sodium (total), thallium (total), vanadium (total) and zinc (total and dissolved). Id.

1326:25-1327:17 (Simonton: July 13, 2022); Pl. Ex. 293-1 (July 2021 Courtland Sampling & Analysis Report). Yet, the court notes that the screening level for iron in groundwater is 14 mg/l, indicating either that his finding of "elevated" iron levels is questionable with respect to the screening level, or that he is possibly referring to background or natural levels of iron in groundwater, which he indicated he believed was 0.05 mg/l. See Pl. Ex. 725 (showing screening levels for various substances including iron); Pl. Ex. 293-1; Tr. Tran. 1209:7-25.

Dr. Simonton concluded from his June/July 2021 groundwater investigation that some portion of the groundwater from Filmont flows onto the Courtland Property. See Pl. Ex. 293-1 at 7; see also Tr. Tran. 1404:16-1405:4 (Simonton: July 13, 2022). In particular, the presence of 1,4-dioxane and bis (2-chloroisopropyl) ether in Dr. Simonton's samples - neither of which has been detected in the soil or groundwater or anywhere else at Courtland except for UCC's 2008 finding of 1,4-dioxane at the outlet of the ditch - indicated, according to Dr. Simonton, that some component of Filmont's groundwater flows to the area of the Courtland Property along its boundary with Filmont where Dr. Simonton collected the groundwater samples. See Pl. Ex. 268-1 (2017 Groundwater Sampling Results); Def. Ex. 79 (2020 Soil Sampling Results); Tr. Tran. 3148:15-3149:14

(MacPherson: July 27, 2022). Dr. Simonton also detected "very high concentrations" of arsenic. Pl. Ex. 293-1 at 7. Unlike 1,4-dioxane and bis (2-chloroisopropyl) ether, arsenic has also been shown to be present on the southern operational portion of the Courtland Property. See Def. Ex. 38; Pl. Ex. 268-1. The court notes that this investigation, according to Dr. Simonton, was intended by him to be limited in scope and "was not meant to determine the nature and extent of contamination at and emanating from the Filmont open dump." Pl. Ex. 293-1 at 7. As he furthered elaborated, "[t]his was not meant to delineate contamination . . . it was a very cursory, preliminary type investigation." Tr. Tran. 1309:22:1310:1. As the court has discussed at length in Section III.G at pages 111-136, Courtland has shown that groundwater from Filmont could flow to the limited area of Courtland where Dr. Simonton collected samples in June/July 2021, but it has not shown by a preponderance of the evidence that the groundwater actually does so.

Dr. Simonton concluded that groundwater from Filmont would continue flowing southward beyond where he collected groundwater samples in June/July 2021, in the direction of the Southern Boundary Ditch, whereupon it would flow in the same direction as the ditch towards Davis Creek. See Tr. Tran. 1089:10-1090:5. This conclusion was not based upon any

additional groundwater investigations or a fate and transport study, which may have illuminated whether any pollutants in the groundwater could reach locations of the two seeps in the ditch. See Pl. Ex. 293-1 (July 2021 Courtland Sampling & Analysis Report) at 7; Tr. Tran. 1741:1-17. Rather, Dr. Simonton based this conclusion on a general principle that groundwater flows in the direction of surface water - in this instance, the Southern Boundary Ditch and eventually Davis Creek - such that some groundwater would flow south from Filmont towards the Southern Boundary Ditch at which point it would continue "along but a little bit wider than the Southern Boundary Ditch," meaning the groundwater will flow in the same direction as the course of the ditch but also will occupy a space in the subsurface that is wider than the ditch itself. See Tr. Tran. 1089:10-1090:5 (Simonton: "[G]roundwater is represented - or takes up more space than just the channel of the stream. Groundwater is wider than the stream. And as it gets closer to the stream, it flows with the stream.").

UCC did not contradict this general principle of groundwater flow at trial. According to UCC, its own groundwater data, collected in the course of multiple groundwater investigations, indicates that groundwater from Filmont near its boundary with Courtland flows predominately to

the northwest towards Davis Creek; yet, as the court notes, UCC's map at Figure 4-1 in Joint Exhibit 11, displays an arrow indicating flow at that point would be in a westerly direction towards northern Courtland. See Jt. Ex. 11 at 001978 and at Figure 4-1 (2018 Filmont Groundwater Monitoring Report); see also Tr. Tran. 517:20-519:8 (Cibrik: July 8, 2022). In any event, there is no quantitative evidence supporting Dr. Simonton's conclusion that Filmont's groundwater flows some one hundred feet to the second seep and some 200 feet to the first seep at the outlet of the Southern Boundary Ditch, whereby it emerges in the two seeps in the ditch. See Tr. Tran. 1741:1-17 (Dr. Simonton testifying that he did not conduct a fate and transport study to demonstrate whether and how alleged pollutants flow off from Filmont and emerge via seeps). Nor did he sample the water in the ditch to compare with that which he found in the June/July 2021 sampling.

Rather than conduct surface water sampling or conduct a fate and transport study, Dr. Simonton pointed to the presence of iron in the ditch as evidence that Filmont is the source of the groundwater seeps. See Tr. Tran. 1327:4-17. Dr. Simonton also documented iron deposits along the western boundary of Filmont. These deposits were located downstream of the ditch, extending along the east bank of Davis Creek for several hundred

feet north of the ditch. Tr. Tran. 1098:15-1099:3, 2704:1-11; Pl. Ex. 78 at Photos 4, 5, 6, and 7. Similar looking deposits of iron to those on the bank of Filmont also have been observed for a distance of some 20 feet upstream of the ditch along the east bank (that is, on the Courtland side) of Davis Creek, and on the west bank of Davis Creek opposite Filmont. Tr. Tran. 3215:1-4 (Wellington: July 27, 2022) (stating that he observed orange deposits on "both sides of the creek"); Pl. Ex. 78 at Photos 4 and 5 (images depicting orange deposits on east bank of Davis Creek upstream of the Southern Boundary Ditch).

The substance containing iron thus manifests not only downstream of the Southern Boundary Ditch, which could itself be the source of the deposits given that discharges of iron oxides to Davis Creek have been documented from it, but also on the west bank of Davis Creek, which could indicate another source or combination of sources, as well as on the bank of Davis Creek along the Courtland Property for a distance of some 20 feet upstream of the ditch. This evidence plausibly suggests that Courtland itself could be a source of any iron found in and around the Southern Boundary Ditch and in Davis Creek, particularly inasmuch as iron has been shown in abundance on the upper half of the Courtland Property - referred to as the

southern operational part of Courtland. See Def. Ex. 38; see also Pl. Ex. 293-1.

Iron is common in Davis Creek due to multiple permitted and unpermitted sources, which discharge iron in the watershed of Davis Creek. See Def. Ex. 289 (Total Daily Maximum Load Study from May 2012) Section 5.0; see also Def. Ex. 327 (2010 West Virginia Integrated Water Quality Monitoring and Assessment Report). Consequently, West Virginia has designated the entire length of Davis Creek as an impaired water under section 303(d) of the Clean Water Act, meaning it fails to meet water quality standards due to, inter alia, high levels of iron. See Def. Ex. 289 Section 5.0; see also Def. Ex. 327; Tr. Tran. 3193:17-3194:21, 3333:4-8, 17-20, 3334:12-22, 3335:1-5.

In December 2020, UCC investigated the Courtland Property by drilling twelve soil borings and digging four test pits in various locations on the southern operational portion of the Courtland Property, as shown on page three of Def. Ex. 38.[116] Tr. Tran. at 2804:1-20, 2829:3-2830:16; see also Def. Ex. 38 at 3 (MacPherson Figures). In addition to various other

[116] The third page of Def. Ex. 38 depicts the locations where all twelve soil borings and all four test pits on the Courtland Property were installed or dug. See Def. Ex. 38 at 3.

substances,[117] the investigation showed that iron is present in Courtland's soil in amounts significantly exceeding the West Virginia Migration to Groundwater standard, including in five sample locations immediately adjacent to the western edge of the Southern Boundary Ditch near where it starts. See Def. Ex. 79; Def. Ex. 38 at Figure 1 (showing locations A1-A5).[118]

As the court set forth at length in Section III.G at pages 111-136 (June/July Groundwater Sampling by Dr. Simonton), historical and current uses of the Courtland Property have very probably polluted Courtland's property. Dr. Simonton conceded

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[117] As previously discussed by the court in the section entitled, "December 2020 Soil Sampling by UCC," at pages 32-35, other metals thereby detected on Courtland included aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, lead, magnesium, manganese, nickel, potassium, selenium, sodium, thallium, vanadium, zinc, and mercury. Volatile organic compounds detected included 1,1,2-trichloroethane; 1,2-dibromethane; 1,2-dichloroethane; acetone; methyl ethyl ketone; benzene; carbon tetrachloride; chloroform; ethylbenzene; methyl acetate; trichloroethene; and xylene. Semi-volatile organic compounds detected included 1,1-biphenyl; 2-methylnaphthalene; benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(k)fluoranthene; dibenz(a,h)anthracene; dibenzofuran; indeno(1,2,3-c,d)pyrene; and naphthalene. See Def. Ex. 79.

[118] West Virginia's migration to groundwater standard for iron is 350 mg/kg. In the five soil borings collected nearest to the ditch, iron was present in excess of this standard at A1-6" (12,000 mg/kg); A1-3' (24,000 mg/kg); A2-6" (7,600 mg/kg); A2-6' (9,400 mg/kg); A2-18' (17,000 mg/kg); A3-6" (5,500 mg/kg); A3-11' (19,000 mg/kg); A3-18' (19,000 mg/kg); A4-6" (23,000 mg/kg); A4-10" (56,000 mg/kg); A5-6" (26,000 mg/kg); A5-9' (28,000 mg/kg). See Def. Ex. 79.

that UCC could not be the source of the substances, including iron, detected in the soil in this portion of the Courtland Property. See, e.g., Tr. Tran. 2121:20-24 (Simonton: July 19, 2022) ("Q: The Courtland Company has constituents of concern found on their property unrelated to Union Carbide from coal or whatever industrial activity that has been identified and provided to you; right? A: Yes."); see also id. at 3716:5-12, 3721:11-15, 3733:19-3734:19 (Simonton: Aug. 2, 2022). Testifying for UCC, Mr. MacPherson stated that soil contamination on the southern operational portion of the Courtland Property could impact groundwaters and surface waters. See Tr. Tran. 3043:7-20. Indeed, the court notes that seven substances, namely, calcium, cobalt, magnesium, potassium, sodium, thallium, and vanadium, which were detected in the June/July 2021 groundwater samples along Courtland's boundary with Filmont, have not been shown to exist in the groundwater at Filmont or Massey, but were present in UCC's December 2020 soil samples on the southern operational portion of the Courtland Property. Compare Pl. Ex. 725 with Def. Ex. 79 and Pl. Ex. 293-1.

Consistent with the principle of groundwater flow Dr. Simonton relied upon to conclude that Filmont must be the source of the two seeps in the ditch, Dr. Simonton testified that

Courtland's "groundwater flow immediately adjacent to south boundary ditch . . . would probably be towards and downstream with the ditch, at least in that immediate area of the ditch. General groundwater flow is going to be north." Tr. Tran. at 1486:21-25. Inasmuch as Courtland's groundwater would also flow along the course of the ditch, Courtland's groundwater crosses into UCC's property at the point where the ditch briefly traverses Filmont before turning to the west towards Davis Creek. See id. 1495:1-13 (Simonton: July 14, 2022) (Masterson: "So surface water in the [S]outh[ern] [B]oundary [D]itch goes from Courtland's property to Union Carbide's property, and groundwater flowing in this same general direction as depicted in the [S]outh[ern] [B]oundary [D]itch goes from Courtland's property to Union Carbide's property?" Simonton: "A component will, yes."). Consequently, Courtland's own groundwater would flow in the same direction and course that Dr. Simonton concluded Filmont's groundwater would, that is, along the course of the Southern Boundary Ditch towards Davis Creek. Courtland's own groundwater could thus be the source of iron in the two groundwater seeps in the Southern Boundary Ditch.

It is, then, not clear that the iron detected by Dr. Simonton in his June/July 2021 groundwater investigation came from Filmont alone. Although Dr. Simonton asserted as much,

attributing the substances to Filmont and denying that Courtland could be the source, see Tr. Tran. 1429:8-11, he did not aptly explain why this must be so, and this conclusion is in significant tension with his testimony concerning Courtland's groundwater flow and evidence of pollution on the Courtland Property caused by Courtland itself. See Tr. Tran. at 1486:21-25. Dr. Simonton's June/July 2021 groundwater sample locations were north and downgradient of the southern operational portion of the Courtland Property. Consistent with his testimony on groundwater flow at the Courtland Property, some component of groundwater from this upgradient, operational area of Courtland would flow from south to north, with some component of the groundwater tracking the course of the Southern Boundary Ditch, and potentially in the vicinity of Dr. Simonton's June/July 2021 sampling locations, which were north of the ditch on the Courtland Property. Notably, seventeen of twenty-six constituents, including iron and arsenic, detected by Dr. Simonton in the June/July 2021 groundwater investigation were also present in the soil samples collected by UCC on the southern operational portion of the Courtland Property, which Mr. MacPherson testified could impact "surface waters or groundwaters in that state." Tr. Tran. 3043:14-20; compare Pl. Ex. 293-1 with Def. Ex. 79. And as noted previously, seven substances - calcium, cobalt, magnesium, potassium, sodium,

thallium, and vanadium - were detected in the soil in the southern operational portion of Courtland and in the June/July 2021 groundwater investigation, but have not been shown to be present in groundwater at Filmont or Massey.

In sum, what the evidence shows is that iron discharges from two groundwater seeps in the Southern Boundary Ditch. Iron is present in the groundwater at Filmont and Massey, and some portion of Filmont's groundwater could, in theory, reach the northernmost portion of the Courtland Property near its boundary with Filmont, see Pl. Ex. 293-1 (June/July 2021 groundwater investigation by Courtland), but this has not been proven by a preponderance of the evidence. The evidence also shows significant amounts of iron on the Courtland Property, including in areas immediately adjacent to the Southern Boundary Ditch at its head in the southern operational portion of the Courtland Property, see Def. Ex. 79 (Dec. 2020 soil samples), and in the ditch itself, as evidenced by the existence of the two seeps, as well as the iron found on the eastern bank of Davis Creek extending from a point 20 feet south or upstream of the ditch along the Courtland Property and proceeding north along Filmont.

What has not been shown by Courtland is the source or sources of the two groundwater seeps in the ditch and iron

present therein. Rather than more thoroughly investigating groundwater flow on the Courtland Property or conducting a fate and transport study on pollutants and groundwater from Filmont or sampling the water in the Southern Boundary Ditch, Courtland attempted to use iron as a tracer pointing to Filmont. See Tr. Tran. 1327:4-17. Given the presence of iron at Filmont, this approach is not without worth, but it only gets Courtland so far. Looking at the presence of iron alone just as plausibly points to Courtland as the source of iron in the two groundwater seeps in the Southern Boundary Ditch given the contamination present on its own property and the fact that Courtland's groundwater is expected to flow along and with the course of the ditch where the seeps emerge. Accordingly, the court concludes that Courtland has failed to prove by a preponderance of the evidence that iron in the two groundwater seeps in the Southern Boundary Ditch originates from Filmont rather than Courtland itself. For the same reasons, the court cannot conclude that Massey is the source of iron in the Southern Boundary Ditch.

Under the Clean Water Act, a plaintiff in a citizen suit must prove an ongoing violation. See 33 U.S.C. § 1365(a); Chesapeake Bay Found., Inc. v. Gwaltney of Smithfield, Ltd., 484 U.S. 49, 52 (1987). In the Fourth Circuit, this may be done either "(1) by proving violations that continue on or after the

date the complaint is filed, or (2) by adducing evidence from which a reasonable trier of fact could find a continuing likelihood of a recurrence in intermittent or sporadic violations." Chesapeake Bay Found., Inc. v. Gwaltney of Smithfield, Ltd., 844 F.2d 170, 171-72 (4th Cir. 1988). Inasmuch as Courtland has not proved by a preponderance of the evidence that any pollutants discharging from the two seeps in the Southern Boundary Ditch are attributable to UCC, Courtland has failed to prove the existence of an ongoing violation by UCC with respect to its claim under 33 U.S.C. § 1342(a) in Count I of Courtland IV.

ii. Surface Water Sampling Conducted by UCC

Nor does older surface water sampling conducted by UCC in 2007, 2008, and 2011 indicate that UCC, rather than Courtland or some other source, discharged identified pollutants into the Southern Boundary Ditch in the past.

Inasmuch as UCC did not document the existence of any seeps in the Southern Boundary Ditch when it collected its surface water samples in 2007, 2008, and 2011, the samples may have consisted of stormwater in the Southern Boundary Ditch, but this is not expressly stated in UCC documents. See Jt. Ex. 53; see also Jt. Ex. 100 at 0012366 ("[The Southern Boundary Ditch]

receives surface water runoff and discharges into Davis Creek."). Each of these samples were located on the Courtland Property in the Southern Boundary Ditch and were taken either at the outlet just before emptying into Davis Creek (FLF-0051) or some 150 feet from the outlet (FLF-0036), see Jt. Ex. 1A-1 (sample locations FLF-0036 and FLF-0051), detecting the following:

April 23, 2007 Sample 150 feet from the ditch's outlet			RSL (USEPA 2012)	
Iron	0.273	mg/L	11.0	mg/L
Barium	0.119	mg/L	2.9	mg/L
October 18, 2008 Sample at outlet				
1,4-dioxane	2.97	µg/L	0.67	µg/L
Barium	0.115	mg/L	2.9	mg/L
September 13, 2011 Sample at outlet				
Arsenic	0.0122	mg/L	0.00045	mg/L
Barium (total)	0.119	mg/L	2.9	mg/L
Barium (dissolved)	0.0787	mg/L	2.9	mg/L

UCC also collected surface water samples in Davis Creek along Courtland's western boundary. In 2008, UCC collected surface water samples from Davis Creek downstream of the Southern Boundary Ditch, each of which showed the presence of barium and 1,4-dioxane. Jt. Ex. 1A-1 (samples FLF-0052 and FLF-0053). The first sample (FLF-0052) was collected in Davis Creek approximately 200 feet downstream of the Southern Boundary Ditch and adjacent to the northernmost edge of the Courtland Property but not on the Courtland Property itself, and revealed

barium (0.112 mg/L) and 1,4-dioxane (1.26 µg/L). See id. (location of sample FLF-0052). The second sample (FLF-0053) was located some 600 feet further downstream of FLF-0052 (about 100 feet south of Ward Branch) and adjacent to Filmont but not on Filmont, and also revealed barium (0.111 mg/L) and 1,4-dioxane (2.61 µg/L). See id. (FLF-0053).

In 2011, UCC collected samples from the same two locations in Davis Creek it had in 2008 (that is, FLF-0052 and FLF-0053) as well as from a third location (FLF-0071), which was situate about 150 feet upstream of the Southern Boundary Ditch. See Jt. Ex. 53; see also Pl. Ex. 727. The upstream FLF-0071 sample was along the western boundary of the Courtland Property but not on the Courtland Property itself. See Jt. Ex. 1A-1 (depicting location of sample FLF-0071). Arsenic and barium were detected in similar concentrations at all three locations, that is, both upstream and downstream of the ditch.[119] See Jt. Ex. 53 at Table 2; see also Pl. Ex. 727; Jt. Ex. 1A-1 (samples

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[119] Arsenic was present at each location as follows:
FLF-0071: 0.0127 (mg/L) (total) and 0.0135(mg/L) (dissolved)
FLF-0052: 0.0117 (mg/L) (total) and 0.0108(mg/L) (dissolved)
FLF-0053: 0.0122 (mg/L) (total) and 0.0107(mg/L) (dissolved).

Barium was present at each location as follows:
FLF-0071: 0.0805 (mg/L) (total) and 0.0766 (mg/L) (dissolved)
FLF-0052: 0.089 (mg/L) (total) and 0.0854 (mg/L) (dissolved)
FLF-0053: 0.0865 (mg/L) (total) and 0.0856 (mg/L) (dissolved).

FLF-0071, FLF-0052, FLF-0053). 1,4-dioxane (1.13 µg/L) - detected in the ditch only at the outlet in 2008 - was present in Davis Creek only downstream at FLF-0052. Selenium (total) was detected in small quantities upstream at FLF-0071 (0.00104 mg/L) and downstream at FLF-52 (0.00163 mg/L) and selenium dissolved was detected only downstream at FLF-0052 (0.00125 mg/L).

Courtland has shown the presence of pollutants and the occurrence of discharges on April 23, 2007, October 18, 2008, September 13, 2011, but it has not shown the origin of the pollutants. See Pl. Ex. 727; Jt. Ex. 1A-1. Courtland, CSX, and UCC, all directly or indirectly discharge stormwater to the Southern Boundary Ditch, making each the potential source of pollutants found in the ditch. As previously discussed, arsenic, barium, and iron have been detected on the Courtland Property in years subsequent to 2011 in areas unaffected by UCC. See Def. Ex. 79 (December 2020 soil samples in the southeastern corner of the Courtland Property showing presence of arsenic, barium and iron); Pl. Ex. 268-1 (August 2017 groundwater sampling by Courtland in the most upgradient, southeast portion of the Courtland Property showing detections for arsenic and barium). Consequently, Courtland is at least as likely as UCC to have been the source of the substances detected in surface water

in the Southern Boundary Ditch, namely, iron (2007), barium (2007, 2008, and 2011), and arsenic (2011). As to 1,4-dioxane, excepting the single detection in 2008 at FLF-0051, 1,4-dioxane has not been detected in the ditch though it has been found on Filmont and Massey.

In the absence of evidence tracing those pollutants to UCC and in lieu of any subsequent surface water sampling of the Southern Boundary Ditch since 2011 that would tend to indicate discharges by UCC of arsenic, barium, 1,4-dioxane, or iron into the ditch, Courtland has failed to demonstrate that any such discharges are attributable to UCC or are likely to occur by UCC. See Gwaltney, 844 F.2d at 171-72. Accordingly, the court finds that Courtland has failed to prove an ongoing violation by UCC respecting the discharge of arsenic, barium, 1,4-dioxane, or iron into the Southern Boundary Ditch.

iii. Discharges of Stormwater Associated with Industrial Activity from Filmont into Southern Boundary Ditch

Rain that falls on Filmont "tends to pond on the landfill cap and infiltrates into the cap." Tr. Tran. 3237:23-3238:11, 3241:1-4 (Wellington: July 27, 2022). The berm and the landfill area behind it at Filmont have the potential to divert stormwater in a way that cannot be described as unlocalized,

natural flow. See Tr. Tran. 490:24-491:3. This is so because the "hillside" around much of Filmont and the surface of the landfill are man-made structures rather than natural features. See Def. Ex. 311; see also Tr. Tran. 191:8-10. Their design, placement, height, depth, material, slope, and interplay with the landscape at its base, including the Southern Boundary Ditch, are the product of UCC's decision to construct a berm beginning in 1971 and cap the landfill in 1987 with some three to five feet of soil. See Def. Ex. 311; see also Tr. Tran. 191:8-10, 2723:1-3, 2724:12:18. And so, the contours of Filmont's surface are not natural considering the grade has been raised significantly and a constructed surface - a cap - has been added. See Tr. Tran. 2723:1-3, 2724:12:18. The cap on Filmont influences how much water soaks into the landfill or runs off, as indicated by Dr. Wellington's testimony which described how water may pool and then soak into certain areas of the landfill's surface while running off in other areas. See id. 3238:4-9. The cumulative effect of the modification of the landscape at Filmont is to channel or direct a component of stormwater runoff that lands there.

Dr. Simonton avers that he observed stormwater discharging to the Southern Boundary Ditch via a channel, which he described as a "shallow ditch" collecting stormwater from

Filmont and which runs "along the fence line of Filmont" adjacent to Courtland before reaching the Southern Boundary Ditch after crossing onto the Courtland Property. Tr. Tran. 1187:14-20, 1188:10-18. Although this testimony is minimally descriptive, being devoid of details such as when Dr. Simonton saw this discharge or what the weather conditions were like, and is unaccompanied by any documentary evidence such as photographs and videos of the same, Dr. Simonton undertook to identify the location of the discharge point at trial. See Tr. Tran. 1187:14-1188:12 (indicating the location on Defendant's Demonstrative Exhibit 1). Record evidence indicates that a chain link fence runs along the boundary of Filmont north of the Southern Boundary Ditch at least as far as where Dr. Simonton collected groundwater samples in June/July 2021, although the course of the fence beyond this point is not clear. See Def. Ex. 34 at 9585 (bottom photograph depicting Filmont fence line near Dr. Simonton's June/July 2021 sampling locations) and at 9586 (the same fence line near Southern Boundary Ditch); see also 293-1 at Figure 2 (Courtland July 2021 sampling and analysis report photographs showing sampling locations in foreground and Filmont fence in background); Tr. Tran. 2818:23-24. 2831:10-12. Accordingly, the court finds that stormwater did discharge from Filmont on the occasion testified to by Dr. Simonton, and is apt to do so on a continuing basis by which it

is channeled into the Southern Boundary Ditch from which it empties into Davis Creek. Courtland has thus proved an ongoing violation of the Act. See 33 U.S.C. § 1365(a).

iv. Discharges of Stormwater Associated with Industrial Activity from Massey into Southern Boundary Ditch

As previously discussed in the portion of the court's opinion above, see supra Section III.A at pages 59-60, Massey is a railyard where various industrial activities occur including staging, storing, and maintaining railcars, which supply UCC's South Charleston Plant. Tr. Tran. 425:8-23, 529:10-530:1, 1186:21-1187:2; see also Def Ex. 32 (Historical Aerial Photos) at 4.

Rainwater collects between the rails at Massey, whereupon a portion of it flows into the two Massey culverts, which then empty into the Southern Boundary Ditch. Tr. Tran. 1174:9-19, 1176:23-1177:4, 1177:14-21, 1180:20-1181:8, 1181:10-14, 1181:17-24, 1219:18-25, 3250:23-3251:25, 3252:4-18. Dr. Simonton testified that he observed stormwater discharging from the two Massey culverts into the Southern Boundary Ditch. Id. 1180:20-1181:8. As with his other testimony about stormwater, Dr. Simonton provided little else in the way of details, but the court sees no reason to discredit his testimony. The court

concludes that stormwater has discharged from Massey by way of the two culverts into the Southern Boundary Ditch. Inasmuch as the two Massey culverts channel stormwater collected on Massey Railyard, which then discharges to the Southern Boundary Ditch and Davis Creek for which UCC presently lacks a Clean Water Act permit, and inasmuch further that such discharges have continued after the date this action was initiated and are likely to recur in the future, the court finds that Courtland has thereby proved an ongoing violation. See 33 U.S.C. § 1365(a).

2. Northern Boundary Ditch and Ward Branch Seep

The court considers the Northern Boundary Ditch and Ward Branch Seep in tandem inasmuch as each discharge to Ward Branch. The court first considers evidence of discharges to Ward Branch via seeps located on the northern boundary of the Filmont Landfill before turning to discharges of stormwater associated with industrial activity from Filmont and Massey Railyard.

i. Groundwater Seeps from Filmont

There is extensive seepage along the northern portion of the Filmont Landfill. See Pl. Ex. 748.3-12 at video clips 748.3-22, 748.3-26, 748.3-29, 748.3-36. Since at least 2005 and

as recently as March 2022, seeping has been identified along the base of Filmont's berm alongside the Northern Boundary Ditch. See Pl. Ex. 317 at 006544, 006548-49; see also Tr. Tran. 1233:10-1234:8 (Simonton: July 13, 2022); Pl. Ex. 748.3-12 at video clips 748.3-22, 748.3-26, 748.3-29, 748.3-36. Seepage from the landfill flows into the Northern Boundary Ditch from which it empties into Ward Branch. See Tr. Tran. 1231:15-17. In addition, the Ward Branch Seep, being located in or close to the elbow and along the bank of Ward Branch at the base of Filmont, discharges directly to Ward Branch. See Tr. Tran. 2302:6-12; Pl. Ex. 78 at 2.

An area of seepage has been observed near the outlet of the ditch, that is, near the western end of the Northern Boundary Ditch, manifesting at the base of Filmont's berm approximately 100 feet east of the elbow of Ward Branch. See Jt. Ex. 41 at 00882 (Figure 1 depicting location of a "[l]andfill seep"). UCC first identified this area of seepage during an investigation of Filmont it conducted in 2005. See Pl. Ex. 317. It will be referred to herein as the "Western Seep." In subsequent UCC documents, this seepage is depicted at a discrete point situated approximately 100 feet away from Ward Branch. See Jt. Ex. 41 at 00882 (Figure 1); Pl.'s Ex. 839-1 at 000513 (March 2022 Site Assessment Work Plan Filmont Property).

UCC's 2005 investigation of Filmont and subsequent evidence gathered by Courtland in March 2022 show that seeping occurs in another area to the east of the Western Seep first identified by UCC in 2005. Although subsequent UCC documents refer only to a singular landfill seep located near the western outlet of the ditch, UCC, in its 2005 investigation, also identified an extended area of seepage to the east located in the midsection of the Northern Boundary Ditch. See Pl Ex. 317 (2006 Technical Memorandum for Filmont Landfill) at 006548 (photos depicting a "Seep area along eastern toe of landfill" and "Widespread seepage along the eastern toe of landfill"). This eastern area of seepage is observable over an area of some several hundred feet. See id. (photographs from 2005); see also Tr. Tran. 1233:10-1234:8 (Simonton: July 13, 2022); Pl. Ex. 748.3-22, 748.3-26, 748.3-29, and 748.3-36 (videos from March 2022). It will be referred to herein as the "Eastern Seep." The easternmost point of this seepage almost reaches an area of the Northern Boundary Ditch situated north of MW-03 while the westernmost point was observable 200 to 300 feet to the west, that is, in the direction of Ward Branch. See Tr. Tran. 1233:10-1234:8; see also Jt. Ex. 9 (2015 & 2016 Filmont Groundwater Monitoring Report) at 000803 (site map depicting location of monitoring well three (MW-03) on the site map, and Ward Branch). As shown in four videos taken by Dr. Simonton in

March 2022, this seepage emerges over an extended area at the toe of the berm whereupon it flows along the base of the berm for an indeterminate distance, before crossing under Filmont's fence line on its northern boundary, and then flows away from the berm and into the Northern Boundary Ditch. See Pl.'s Ex. 748.3-22, 748.3-26, and 748.3-36. From there the seepage flows in the ditch until it empties into Ward Branch.

The locations and contours of the foregoing areas of seepage are, to some extent, imprecise. For example, Dr. Simonton described seeping along Filmont's northern boundary as "at times, a continuous seep at the base of the dump," indicating the existence, at least sometimes, of what appears to be a single seep occurring over several hundred feet from MW-03 D/S to near the outlet of the Northern Boundary Ditch to Ward Branch. Tr. Tran. 1231:9-10, 1232:3-13. Dr. Simonton also described multiple seeps in the ditch, a description that comports with the findings from UCC's 2005 investigation and thereafter, which focused primarily on a seep on the western end of the ditch while also documenting the existence of an area where seeping occurred to the east of that. Tr. Tran. 1230:17-24 (Simonton: "What is feeding north boundary ditch, in large part, are the seeps along the toe of the dump."); see also id. 1232:21-22 (noting "several seep areas that discharge directly

into north boundary ditch"); see also Pl. Ex. 317 at photographs 4 ("Widespread seepage along the eastern toe of the landfill.") and 6 ("Concentrated seepage from beneath the landfill.").

Based upon the foregoing, the court concludes that there are two areas of seepage - the Western Seep that emerges 100 feet east of the elbow of Ward Branch and the Eastern Seep in the midsection of the ditch - both of which enter the Northern Boundary Ditch.

The Ward Branch Seep, located at the elbow at the base of Filmont's berm along the landfill's northern edge, is a third seep in this northern area of Filmont. See Tr. Tran. 1272:4-10, 2307:17-24; Pl. Ex. 78 at 11 (image depicting location of the water sampled from Ward Branch seep) and at Figure 2; Pl. Ex. 575 (video depicting the Ward Branch Seep). Dr. Simonton documented this seep on September 11, 2020 and collected samples from it and from the surface water in Ward Branch at a point 8 to 10 feet away from the Ward Branch Seep. See id. at 11; Pl. Ex. 575.

The court finds that Filmont is the source of the seeping along the northern boundary of the landfill, namely, at the locations of the Eastern Seep, the Western Seep, and the Ward Branch Seep. See Tr. Tran. 1116:5-12, 1231:1-10, 1233:10-1234:8, 1240:2-6, 1266:5-7, 1271-73, 2307:13-24; see also Pl.

Ex. 317 at Photographs 3, 4, and 6; Pl. Ex. 177; Pl. Ex. 748.3-12 at Photos 4 and 5; Pl. Ex. 748.3-12 at video clips 748.3-22, 748.3-26, 748.3-29, 748.3-36. It is apparent that seeping from Filmont has occurred periodically from the Eastern Seep since at least 2005, when UCC first identified seeping in this area of Filmont, and as recently as March 2022, when last observed by Dr. Simonton; and from the Western Seep since at least 2005, as identified by UCC during its investigation of Filmont in 2005; and from the Ward Branch Seep since at least September 11, 2020, when Dr. Simonton sampled this seep. Pl. Ex. 317 at 006544; Tr. Tran. 1233:10-1234:8 (Simonton: July 13, 2022); Pl. Ex. 748.3-12 at video clips 748.3-22, 748.3-26, 748.3-29, 748.3-36. Inasmuch as Filmont is the source of this seeping, the substances seeping out of the landfill at each of these three seeps may be characterized as leachate.

ii. The Eastern Seep

The leachate seeping from the Eastern Seep into the Northern Boundary Ditch contains iron. Tr. Tran. 1264:23-25; 1266:23-1267:1-3; see also id. 475:21-476:5. Courtland did not conduct surface water sampling of this seepage from which the court could have determined the presence or absence of other specific pollutants. Nor did UCC specifically collect samples

from seeping in this area of the Northern Boundary Ditch. Based upon direct observation by Dr. Simonton about the appearance of that which seeps out of the Eastern Seep, there is sufficient evidence to conclude that the flow of orange-colored seepage from this seep is indicative of the presence of iron oxide. See Tr. Tran. 3264:8-3265:10. It is clear from Dr. Simonton's testimony, in particular the photographs and videos taken by him on March 20, 2022, that seepage containing iron oxide has flowed from the Eastern Seep into the Northern Boundary Ditch and discharged into Ward Branch. See Tr. Tran. 1231:11-17, 1269:3-9, 3319:1-6, 11-14; Pl. Ex. 748.3-12 at video clips 748.3-22, 748.3-26, 748.3-29, 748.3-36. Accordingly, the court finds that on March 20, 2022 leachate containing iron seeped from the Eastern Seep at Filmont, entered the Northern Boundary Ditch and flowed into Ward Branch.

iii. The Western Seep

Surface water data collected by UCC between 2005 and 2011 indicates that discharges of pollutants from the Northern Boundary Ditch have occurred in prior years and that the Western Seep was more probably than not a source of such discharges. See Pl. Ex. 727; see also Tr. Tran. 487:24-489:15; Pl. Ex. 317. It is at and around the Western Seep that UCC directed much of

its surface water testing from 2005 to 2011. See Pl. Ex. 317 at 006665 (2005 sample locations); see also Tr. Tran. 528:19-529:3 (Cibrik describing UCC's 2005 investigation of Filmont: "We also noticed that kind of seep area there at the north boundary ditch and we wanted to collect some data and see if there was some contamination in that area."), 572:17:23 ("In 2005 . . . we had noticed . . . the seep there on the North Boundary Ditch. So we, we sampled that."), 572:24-573:19 (describing sampling of this seep and surrounding surface water in 2005), 597:13-598:18; Jt. Ex. 1A-1 (depicting UCC surface water samples collected between 2005 and 2011 in the Northern Boundary Ditch).

On June 27, 2005, UCC collected three surface water samples in the Northern Boundary Ditch directly from and around the Western Seep. See Pl. Ex. 317 at 006543, 006665; Tr. Tran. 528:19-529:3, 572:24-573:19. One sample was collected from the Western Seep, while additional surface water samples were collected on either side of the Western Seep. See Pl. Ex. 317 at 006543, 006665; Tr. Tran. 470:18-471:6. Barium and selenium were detected in all three samples, while 1,4-dioxane and bis (2-chloroisopropyl) ether were detected only in the samples collected from either side of the Western Seep. Pl. Ex. 317 at 6543, 6665; see Tr. Tran. 471:7-472:1.

Given the proximity of the samples to Filmont, and particularly the sample collected directly from the Western Seep identified in 2005, the court finds that UCC discharged pollutants from Filmont, in particular barium and selenium, into Northern Boundary Ditch on June 27, 2005, and, as indicated by the samples from either side of the Western Seep, the 1,4-dioxane and bis (2-chloroisopropyl) ether detected in 2005 came from Filmont and discharged to the Northern Boundary Ditch. See Pl. Ex. 317; Pl. Ex. 725.

The 2005 results are largely consistent with surface water sampling in 2007, 2008, and 2011, also conducted in the Northern Boundary Ditch near the Western Seep. In 2007, 1,4-dioxane and barium each were present in three out of three samples collected (at FLF-0035, FLF-0034, and FLF-0033), as was iron, while bis (2-chloroisopropyl) ether was present in two of the three samples (FLF-0034 and FLF-0033). Arsenic was detected in only one of three samples (FLF-0034). In 2008, 1,4-dioxane, barium, and bis (2-chloroisopropyl) ether were each detected at both locations sampled that year (FLF-0055 and FLF-0056), as was selenium, while arsenic was detected in only one of two samples (FLF-0056). Given the prevalence of each of the foregoing substances in the groundwater at Filmont and the proximity of

each sample to a known area of seeping, Filmont more likely than not was the source of such pollutants.

On September 13, 2011, UCC collected additional surface water samples in the Northern Boundary Ditch. One surface water sample was collected west of the Western Seep, while the other sample was collected to the east of the Western Seep. Pl. Ex. 727; see Jt. Ex. 1A-1. Barium, barium (dissolved), 1,4-dioxane, and bis (2-chloroisopropyl) ether were detected at both sample locations.[120] See Pl. Ex. 727.

In sum, surface water sampling conducted by and on behalf of UCC in and around the Northern Boundary Ditch

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[120] For barium (total and dissolved), 1,4-Dioxane, and Bis (2-chloroisopropyl) ether, the concentrations of each substance in the upstream results (sample location FLF-56) and downstream results (sample location FLF-55) in the Northern Boundary Ditch were as follows:

Barium (total) (FLF-0056):	2.09	mg/L
Barium (total) (FLF-0055):	1.52	mg/L
Barium (dissolved) (FLF-0056):	2.96	mg/L
Barium (dissolved) (FLF-0055):	1.44	mg/L
1,4-Dioxane (FLF-0056):	30.2	ug/L
1,4-Dioxane (FLF-0055):	22.6	ug/L
Bis (2-chloroisopropyl) ether (FLF-0056):	13.0	ug/L
Bis (2-chloroisopropyl) ether (FLF-0055):	11.2	ug/L

Although the concentrations of barium, 1,4 dioxane, and bis (2-chloroisopropyl) ether were lower in each downstream sample than in the upstream sample, the court nevertheless concludes it is more probable than not that the Western Seep was a source of the substances detected by UCC in view of the well-documented presence of these same three substances seeping from the groundwater at Filmont.

indicates that discharges of the following pollutants from Filmont have occurred in 2005, 2007, 2008 and 2011:

2005	2007	2008	2011
Barium	Barium	Barium	Barium
Selenium	Arsenic	Arsenic	Arsenic
1,4-dioxane	1,4-dioxane	Selenium	Selenium
bis (2-chloro-isopropyl ether)	bis (2-chloro-isopropyl) ether	1,4-dioxane	1,4-dioxane
	Iron	bis (2-chloro-isopropyl) ether	bis (2-chloro-isopropyl) ether

See Pl. Ex. 727; Jt. Ex. 1A-1. Specifically, the court finds that arsenic, barium, iron, selenium, 1,4-dioxane, and bis (2-chloroisopropyl) ether discharged from Filmont to the Northern Boundary Ditch.

Surface water sampling in Ward Branch in 2008 and 2011 shows a subset of the substances detected in the ditch were also present in Ward Branch in those years. In 2008 and 2011, UCC collected surface water samples in Ward Branch downstream of its confluence with the Northern Boundary Ditch at the same location (FLF-0054). See Pl. Ex. 727; Jt. Ex. 1A-1. In 2008, arsenic (0.0421 mg/L), barium (0.285 mg/L), selenium (0.00153 mg/L), and 1,4-dioxane (4.24 µg/L) were detected. In 2011, the same four substances were present: arsenic (0.0421 mg/L), arsenic (dissolved) (0.0173 mg/L), barium (0.285 mg/L), barium (dissolved) (0.213 mg/L), selenium (0.00153 mg/L), selenium

(dissolved) (0.00135 mg/L), and 1,4-dioxane (4.24 µg/L). It can be inferred that these same substances, found in Ward Branch above, flowed from the Northern Boundary Ditch into Ward Branch.

iv. ERM's February 23, 2021 Surface Water Sampling and Dr. Simonton's September 11, 2020 Surface Water Sampling

On October 28, 2020 WVDEP personnel inspected Filmont and observed discharges of "industrial waste, or the effluent therefrom . . . directly and indirectly via seeps and pipes from the Filmont Landfill into Ward Branch," whereupon WVDEP issued Notice of Violation W20-20-100701-CEW ("NOV") to UCC for violations of § 22-11-8(b)(1) of the West Virginia Water Pollution Control Act. Def. Ex. 290 (Consent Order No. 9994 issued by DEP); see also Jt. Ex. 001a at 0023789 (top photo showing pipes and bottom photo showing Ward Branch Seep). In accordance with a Unilateral Order issued on December 8, 2020 by WVDEP, Mr. Carpenter of ERM, an environmental consulting firm, acting on behalf of UCC, collected surface water samples at three locations on February 23, 2021. According to the terms of the WVDEP Unilateral Order, ERM tested for total iron, total manganese, aluminum (dissolved and total), and selenium.

Although the sampling conducted by ERM was prompted by the existence of seeping from Filmont, the court notes that ERM

did not directly sample any seeps or seepage, instead electing to sample surface water from one location in the Northern Boundary Ditch that was east of the Eastern Seep (ERM Sample 1) and two locations in Ward Branch, in accordance with WVDEP approval.[121] Tr. Tran. 2605:3-8, 2606:1-9. Samples were collected in Ward Branch upstream of the elbow near the I-64 culvert, between the culvert and the point at which the Northern Boundary Ditch flows into Ward Branch ("ERM Sample 2") and in Ward Branch just upstream of its confluence with Davis Creek but downstream of the Ward Branch Seep ("ERM Sample 3").[122] See Def. Ex. 316 at Figure 1 (depicting sample locations); Tr. Tran. 2633:4-8, 2634:6-14, 2635:9-2637:3.

[121] Mr. Carpenter testified that he was unable to collect samples from the pipes identified in the NOV inasmuch as any water seeping from the pipes soaked into the ground rather than flowing overland as surface water, which could be sampled. See Tr. Tran. 2605:24-2606:11, 2632:11-2633:8. The pipes were later plugged. Id. 2624:25-2625:17.

[122] In Defendant's Exhibit 140, ERM Sample 1 is referred to in ERM's report as "North Ditch Upstream of UCC." This location is, in fact, not upstream of UCC but it is north of Filmont and northeast Massey. ERM Sample 2 is referred to by ERM as "Ward's Branch Upstream from Interstate Culvert." This, too, is a misnomer inasmuch as the sample location was downstream of the culvert crossing underneath I-64 and upstream of where the Northern Boundary Ditch intersects Ward Branch. ERM Sample 3 is "Ward's Branch Downstream," as more particularly described in the text above. Although the parties could not agree as to what these labels meant, the court has undertaken to establish each location as noted.

The order of flow is such that ERM Sample 2 is taken from Ward Branch just after it emerges from the I-64 culvert and flows toward Filmont. This point constitutes the origin of the water tested and was found to contain iron, manganese, and aluminum. Where the waters of Ward Branch originated and its accumulations along the way has not been established. Next would be the relatively small stream from the Northern Boundary Ditch (wherein EMR Sample 1 found iron and manganese), that flows into Ward Branch just before the elbow (in which elbow Dr. Simonton in September 2020 tested the surface water and, some 8 to 10 feet downstream, tested the Ward Branch Seep on the bank of Filmont.) Last would be ERM Sample 3 which is well past the Ward Branch Seep and just upstream of the Ward Branch confluence with Davis Creek, where the ERM sample found, again, iron, manganese, and aluminum.

The court discounts the iron and manganese found in ERM Sample 1. There is little evidence to conclude that UCC is necessarily the source of those pollutants, found in the surface water of the Northern Boundary Ditch east of the Eastern Seep. Courtland has identified leaching as the primary transport mechanism for pollution at Filmont. See Jt. Ex. 100 at 023691, 023693; Tr. Tran. 1240:2-6, 1266:5-7 (Simonton: July 13, 2022). Inasmuch as ERM Sample 1 was collected upstream of the

documented areas of seeping at Filmont, the nearest of which would be the Eastern Seep, it is not shown that Filmont is the source of pollutants detected there. See Def. Ex. 316 at Figure 1; see also Tr. Tran. 1726:22-1727:6, 2634:6-14, 2635:19-21.

In view of the fact that ERM Sample 1 was collected upstream of the Eastern Seep, ERM Sample 1 presumably consisted of surface water runoff rather than seepage. This being the case, Courtland has not sufficiently accounted for potential sources of pollution such as I-64 highway culverts and other runoff that also flows into this area of the Northern Boundary Ditch. See Tr. Tran. 1514:15-1515:3, 1895:9-21. Massey Railyard is one such potential source, as Dr. Simonton contended, but Courtland did not conduct any sampling which may have indicated what pollutants might be present on Massey Railyard that could flow into this area of the Northern Boundary Ditch via surface water runoff. See Tr. Tran. 1744-1-3 (Simonton: July 18, 2022). Without sampling various potential upstream sources that could be responsible for the presence of such pollutants, the source of the manganese and iron detected at ERM Sample 1 is unknown.

Moreover, the presence of aluminum in ERM Sample 3, which was not detected in ERM Sample 1, indicates that there must be another source for that which caused the increase of

pollutants downstream from ERM Sample 2 to ERM Sample 3 besides the Northern Boundary Ditch. The Ward Branch Seep is such a source.

Dr. Simonton's sampling of the Ward Branch Seep on September 11, 2020, discussed by the court at length in Section III.F at pages 102-111("September 2020 Sampling of Ward Branch by Dr. Simonton"), indicates that the Ward Branch Seep is a source of, inter alia, iron, manganese, and aluminum in Ward Branch. Dr. Simonton's Grab One sample represented that which flowed directly out of the Ward Branch Seep at the base of Filmont on September 11, 2020. See Tr. Tran. 2307:17-24; see also Pl. Ex. 78 at 11 (image depicting location of the water sampled in Grab One); Pl. Ex. 575 (video depicting the seep from which Grab One was taken). Grab Two consisted of surface water from Ward Branch itself, approximately eight to ten feet upstream of the location of Grab One and south of where Ward Branch comes out from under the I-64 culvert. See Tr. Tran. 2309:8-18 (Simonton: July 20, 2022); Pl. Ex. 78 at Photo 11 (image depicting location of Grab Two sample). For the purposes of this portion of the court's opinion, Grab Two is referred to as the "Ward Branch Elbow," and in the order of flow, Grab One is referred to as the "Ward Branch Seep."

The following table compares the results of Dr. Simonton's September 11, 2020 sampling with ERM's sampling conducted on February 23, 2021.[123] The court notes that these two sampling events were conducted months apart, and so the comparison is necessarily one to be considered cautiously. The sampling is set forth in the order of flow and includes ERM Sample 1 inasmuch as it affects the accumulation even though its origin is dubious and it has a high level of concentration in a stream that at times is only a trickle, so that it produces a relatively lesser degree of pollution:

Substance (mg/L)	ERM 2	ERM 1	Ward Branch Elbow	Ward Branch Seep	ERM 3
Iron	0.4	14.6	4.5	92.0	0.5
Manganese	0.09	0.8	0.67	1.4	0.1
Aluminum	0.1	*	0.28	1.1	0.4
Selenium	*	*	0.0048 J	0.00065 J	*

"*" denotes "Non-Detect."
"J" indicates that while the constituent was detected, the concentration reported is an estimate inasmuch as the concentration is so close to the method detection limit. See Tr. Tran. 3751:3-16 (Simonton: Aug. 2, 2022).

The results of Dr. Simonton's September 2020 sampling indicate that each of the three substances detected downstream by ERM in ERM Sample 3 - iron, manganese, and aluminum - have discharged from the Ward Branch Seep. See Pl. Ex. 177

[123] In the table below, the court omits the results from Dr. Simonton's Grab Three, which consisted of sediment rather than surface water.

(September 2020 Sampling Results). Inasmuch as that which discharges from the Ward Branch Seep comes directly from groundwater seeping out of the base of Filmont's berm, Courtland has shown by a preponderance of the evidence that Filmont was the source of pollutants discharging to Ward Branch, via the Ward Branch Seep, on September 12, 2020. This being the case, and in view of the presence of iron, manganese, and aluminum at the Ward Branch Seep and, for what it may be worth, the slight increase in the concentration of each of these three substances on February 23, 2021 from upstream ERM Sample 2 to ERM Sample 3 downstream of the Ward Branch Seep, the court believes it is more probable than not that the Ward Branch Seep is a source of the pollutants detected at ERM Sample 3 on February 23, 2021.[124]

Dr. Simonton's Seep Sample further shows that arsenic, beryllium, cadmium, chromium, copper, lead, nickel, and zinc discharged from the Ward Branch Seep on September 12, 2020. See Tr. Tran. 1116:5-12, 1273:11-1274:12; see also Pl. Ex. 177 at AR Page 1 of 3. Dr. Simonton testified that the background, or natural, amount of iron in Ward Branch is 0.25 mg/L. See Tr. Tran. 1731:14-1732:6. Dr. Simonton did not provide specific

[124] The court notes also that iron discharging from the Eastern Seep, documented by Dr. Simonton in March 2022, may be another source for iron detected in Ward Branch at the Ward Branch Elbow Sample and ERM Sample 3.

testimony concerning background levels for manganese, aluminum, and selenium, and was unable to state whether iron, manganese, aluminum, selenium, or any other substances detected were present above either West Virginia or USEPA surface water quality standards. See Tr. Tran. 2305:23-24; 2306:4-20; 2308:6-18. Rather, Dr. Simonton testified that iron was "very high" in the Ward Branch Seep sample and "elevated" in the Ward Branch Elbow sample. See Tr. Tran. 1117:3-12; 1120:16-1121:3. He similarly averred in a general manner that manganese in the Ward Branch Elbow sample was "elevated." Id. Tr. Tran. 1120:19-1121:2.

In sum, the court finds that on September 11, 2020, Filmont discharged, via the Ward Branch Seep, iron, manganese, and aluminum, as well as arsenic, beryllium, cadmium, chromium, copper, lead, nickel, and zinc, and on February 23, 2021, Filmont discharged iron, manganese, and aluminum.

Since the onset of this litigation, UCC has not remediated the Western Seep, the Eastern Seep, or the Ward Branch Seep, nor has it obtained any Clean Water Act permits. The court finds that Courtland has shown an ongoing violation has occurred after the date the complaints were filed in 2021 in Courtland III and IV in that a discharge of iron from the Eastern Seep via the Northern Boundary Ditch was detected by Dr.

Simonton in March 2022. By the same token, there is a continuing likelihood of intermittent or sporadic discharges of iron, manganese, aluminum, as well as arsenic, beryllium, cadmium, chromium, lead, nickel, and zinc from the Ward Branch Seep. Courtland has shown an ongoing violation inasmuch as discharges occurred therefrom on September 11, 2020 and February 23, 2021, and there is a continuing likelihood of a recurrence of intermittent or sporadic violations.

As for the Western Seep, the most recent record evidence of pollutants discharged from there is from UCC's 2011 surface water sampling. In the absence of more recent sampling, the court is unable to determine whether pollutants have discharged from the Western Seep into the Northern Boundary Ditch during the life of the litigation or would be likely to do so on an intermittent or sporadic basis in the future. Accordingly, Courtland has not shown an ongoing violation by UCC with respect to discharges of selenium, 1,4-dioxane, and bis (2-chloroisopropyl) ether, which are last known to have discharged into the Northern Boundary Ditch in 2011.

v. Discharges of Stormwater Associated with Industrial Activity from Filmont into Northern Boundary Ditch

Stormwater may be channeled to the Northern Boundary Ditch through several landscape features around Filmont. The first is a "ditch" or "stormwater swale and conveyance" near MW-03 that runs from the gate at the monitoring well down to the Northern Boundary Ditch. Tr. Tran. 1292:15-18; Pl. Ex. 748.3-12 (Photo 7) (showing a small drainage swale along Filmont's fence line at the base of the facility near the Northern Boundary Ditch). For much the same reasons as those identified in the court's discussion of stormwater discharges into the Southern Boundary Ditch, the berm and the cap potentially can affect the flow of stormwater to the Northern Boundary Ditch. See Tr. Tran. 1292:5-14; see id. 3238:4-9. That is, water must flow either into or down the berm inasmuch as it is a constructed hillside around Filmont, and water either flows into or off of the cap which was placed on the facility. See Tr. Tran. 1292:5-14; see also id. 3238:4-9; Def. Ex. 311 (berm design plan); Tr. Tran. 191:8-10, 2723:1-3, 2724:12:18. Inasmuch as the Northern Boundary Ditch is located at the base of the facility, such stormwater would tend to drain into the ditch.

Although Courtland identified such stormwater drainage features, it did not adduce evidence of stormwater discharges which actually have occurred from Filmont into the Northern

Boundary Ditch. No evidence of direct observation of discharges of stormwater was introduced, nor was there evidence from which the court could conclude that discharges have occurred in the past due to precipitation events. Thus, the court finds that while stormwater drainage features exist at Filmont which could channel stormwater into the Northern Boundary Ditch, no stormwater discharges into the ditch have been documented.

vi. Discharges of Stormwater Associated with Industrial Activity from Massey into Northern Boundary Ditch

As previously discussed, rain that falls on Massey predominately runs across the surface to Filmont, and some amount of runoff also flows towards the Northern Boundary Ditch. Tr. Tran. 3238:4-9. On the eastern edge of Massey, Dr. Simonton testified that he observed a "drainage swale" which could direct stormwater into the North Boundary Ditch. Tr. Tran. 1174:9-14. As with stormwater discharges from Filmont, Courtland did not present evidence that any stormwater discharges have actually occurred from this swale into the Northern Boundary Ditch. Accordingly, the court finds that a stormwater drainage feature exists at Massey, namely, a swale, which may channel stormwater into the Northern Boundary Ditch, but also that Courtland has failed to submit evidence showing that stormwater discharges have actually occurred in this manner in the past.

VI. STANDING: CLEAN WATER ACT CLAIMS

Because standing remains an issue, the court considers whether Courtland has standing for each of its Clean Water Act claims before concluding with the merits of Courtland's claims.

Section 505(g) of the Clean Water Act establishes the statutory standing requirement for citizen suits. Friends of the Earth, Inc. v. Gaston Copper Recycling Corp., 204 F.3d 149, 152 (2000); 33 U.S.C. § 1365(g). Under Section 505(g), "citizen" means "a person or persons having an interest which is or may be adversely affected." 33 U.S.C. § 1365(g). "Congress has indicated that this provision confers standing to enforce the Clean Water Act to the full extent allowed by the Constitution." Gaston Copper, 204 F.3d at 152.

The constitutional standing doctrine is derived from Article III of the United States Constitution, which limits federal courts to the adjudication of "cases" and "controversies." Spokeo, Inc. v. Robins, 578 U.S. 330, 338 (2016). The requirement that a party possess standing is an "irreducible constitutional minimum" intended to "identify those disputes which are appropriately resolved through the judicial process." Lujan v. Defenders of Wildlife, 504 U.S. 555, 560 (1992) (quoting Whitmore v. Arkansas, 495 U.S. 149, 155 (1990)).

A court "may not issue any decision on the merits without confirming that standing exists." PEM Entities LLC v. Cnty of Franklin, -- F.4th --, 2023 WL 105711, *2 (4th Cir. Jan. 5, 2023).

Standing has been held to consist of three prongs: (1) injury in fact, (2) traceability, and (3) redressability. Lujan, 504 U.S. at 560. Although analytically distinct, proof for each prong "often overlaps" and shares "a common purpose -- namely, to ensure that the judiciary, and not another branch of government is the appropriate forum in which to address a plaintiff's complaint." Gaston Copper, 204 F.3d at 154.

In the environmental context, "the standing requirements are not onerous." Am. Canoe Ass'n, Inc. v. Murphy Farms, Inc., 326 F.3d 505, 517 (4th Cir. 2003). The party invoking federal jurisdiction bears the burden of demonstrating the existence of standing. Lujan, 504 U.S. at 561. For the party bearing the burden of proof, the "manner and degree of evidence required at the successive stages of litigation" increases until "at the final stage, those facts (if controverted) must be adequately supported by evidence adduced at trial." Id. (quotation omitted).

An environmental plaintiff may carry its burden of proving injury in fact if it utilizes the "affected area" and

has "reasonable concerns" "about the effects of [] discharges," or those discharges directly affect a legally protected interest, be it recreational, aesthetic, or economic. See Friends of the Earth, Inc. v. Laidlaw Env't Servs. (TOC), Inc., 528 U.S. 167, 183-84 (2000). "Rather than pinpointing the origins of particular molecules, a plaintiff 'must only show that a defendant discharges a pollutant that causes or contributes to the kinds of injuries alleged' in the specific area of concern." Gaston Copper, 204 F.3d at 161 (quoting Natural Res. Def. Council, Inc., 954 F.3d at 980. Finally, redressability requires that "it must be likely, as opposed to merely speculative that the injury will be redressed by a favorable decision." Lujan, 504 U.S. at 561 (citations and internal punctation omitted).

A. Northern Boundary Ditch and Ward Branch Seep

Because the Courtland Property is upstream of any discharges from the Northern Boundary Ditch and the Ward Branch Seep, Courtland's ability to demonstrate standing with respect to the Northern Boundary Ditch and the Ward Branch Seep in Count I of Courtland IV, and in Count II of Courtland IV,[125] insofar as

[125] As previously stated, Count I in Courtland III is covered by the court's discussion of Count I in Courtland IV respecting the Northern Boundary Ditch and Ward Branch Seep.

Count II concerns discharges of stormwater associated with industrial activity from Filmont and Massey into the Northern Boundary Ditch, depends upon an unconventional theory, namely, that Davis Creek's flow sometimes reverses direction from south-north to north-south, which results in pollutants being deposited on the Courtland Property and on the banks of Davis Creek abutting its property.

Far from supporting its theory of reverse flow, the plaintiff has merely shown that Davis Creek can "back[] up" during periods of heavy precipitation. Tr. Tran. 491:22-492:17, 508:21-24. This amounts to nothing more than that Davis Creek's water level rises after heavy precipitation. See id. 507:7-24. There also is evidence that the flow of Davis Creek may be impacted to some extent by the presence of the berm, running along the creek's eastern bank. Id. 490:24-491:3. While such effects on Davis Creek are perhaps noteworthy in some sense, providing as they do a fuller picture of how different conditions impact Davis Creek, such evidence nonetheless skirts the essential issue for the purposes of standing, which is: does Davis Creek transport pollutants discharged to Ward Branch upstream to the Courtland Property? In short, there is no evidence that contaminated water from Ward Branch ever entered

Davis Creek and then flowed backwards to the Courtland Property, nor is there any evidence that this may occur.

Courtland has shown past pollution and virtually present pollution from Filmont into Ward Branch, by direct observation and sampling, but it has failed to demonstrate that these past and present discharges can adversely affect the area of concern, that is, the Courtland Property itself. See Friends of the Earth, Inc. v. Gaston Copper Recycling Corp., 204 F.3d 149, 163 (4th Cir. 2000). Put simply, pollution that enters Ward Branch flows away from the Courtland Property, not towards it, which the court estimates is in excess of 600 feet upstream from where Ward Branch meets Davis Creek. See Jt. Ex. 1A-1. No mechanism transports these pollutants to the Courtland Property, and Courtland has not asserted a broader aesthetic or recreational interest which might be affected by distant discharges. Nor has it shown an affected economic interest. Because the Courtland Property is upstream of these discharges, it simply is not "a citizen who sits squarely in the discharge zone of a polluting facility." Gaston Copper, 204 F.3d at 162.

In so concluding the court is mindful of decisions that have found standing for plaintiffs which may be a significant distance away from discharges. In Gaston Copper, for example, the Fourth Circuit held that standing existed where

the plaintiff's property was four miles away from upstream discharges of pollutants, but pollution from the discharges or the threat of pollution adversely affected the plaintiff's use and enjoyment of his property. 204 F.3d at 152-53, 161-62. Here, the Courtland Property is hundreds of feet away from UCC's discharges into Ward Branch. The difference between this case and cases such as Gaston Copper is simple. While the impacts of UCC's discharges may conceivably be felt by downstream users of Davis Creek and Ward Branch, given that they would presumably be in the path of such discharges, Courtland, as an upstream user, cannot show that "the impacts of the alleged violations are felt in an area with which the plaintiffs have a 'direct nexus.'" Ohio Valley Envtl. Coalition, Inc. v. Maple Coal Co., 808 F.Supp.2d 868, 882 (S.D.W. Va. 2011) (quoting Friends of the Earth, Inc. v. Gaston Copper Recycling Corp., 629 F.3d 387, 397 (4th Cir. 2011)). Although "[a] threatened environmental injury is by nature probabilistic," Gaston Copper, 204 F.3d at 160, where there is no prospect that a discharge can cause injury to the plaintiff, the plaintiff has failed to move its claim from the realm of the "conjectural or hypothetical" to the "actual or imminent." Lujan, 504 U.S. at 560. The court therefore concludes that Courtland has failed to demonstrate an injury-in-fact for the purposes of standing with respect to the Northern Boundary Ditch and the Ward Branch Seep.

For much the same reasons, Courtland cannot demonstrate traceability. The traceability requirement "ensures that there is a genuine nexus between a plaintiff's injury and a defendant's alleged illegal conduct." Gaston Copper, 204 F.3d at 161. While Courtland need not "pinpoint[] the origins of particular molecules" through extensive surface water sampling and laboratory analysis, as UCC insists it must, Courtland at least must "show that a defendant discharges a pollutant that causes or contributes to the kinds of injuries alleged' in the specific area of concern." Id. at 161-62 (quoting Natural Res. Def. Council, Inc., 954 F.3d at 980. Courtland has not demonstrated any nexus between these discharges and any potential adverse effects to its interests inasmuch as there is no evidence to support its improbable theory of reverse flow.

Accordingly, the court finds that Courtland has failed to demonstrate that it has standing with respect to discharges from the Northern Boundary Ditch and Ward Branch Seep. Having failed to do so, Courtland's claims respecting these point sources in Count I of Courtland III and IV and as to Count II of Courtland IV, insofar as it relates to discharges of stormwater from Filmont and Massey into the Northern Boundary Ditch and Ward Branch, are DISMISSED.

B. Southern Boundary Ditch

Courtland's basis for standing with respect to its stormwater claim in Count II of Courtland IV concerning the Southern Boundary Ditch is more straightforward. Courtland has presented ample evidence that stormwater associated with industrial activity discharges into the Southern Boundary Ditch from two sources. Courtland has shown that stormwater emanates from Filmont via a "shallow ditch" which collects stormwater from Filmont and runs "along the fence line of Filmont" adjacent to Courtland's boundary and then onto the Courtland Property and to the Southern Boundary Ditch. Tr. Tran. 1187:14-1188:18. Courtland has also shown that the two Massey culverts collect and discharge stormwater to the Southern Boundary Ditch. Tr. Tran. 1174:9-19, 1176:23-1177:4, 1177:14-21, 1180:20-1181:8, 1181:10-14, 1219:18-25. Insofar as these acts are attributable to UCC, they could injure or threaten to injure the Courtland Property. The economic and property interests identified by Courtland are sufficient forms of injury for standing purposes. See Air Evac. EMS, Inc. v. Cheatham, 910 F.3d 751, 760 (4th Cir. 2018) (threatened or actual "financial harm is a classic and paradigmatic form of injury in fact."). Accordingly, the court concludes that the foregoing discharges, inasmuch as they are

attributable to UCC, are sufficient to constitute an injury-in-fact.

For the same reasons, Courtland has shown traceability. As a general matter, Courtland need not take samples of discharges to demonstrate traceability, as UCC insists, especially where Courtland has presented other sufficient evidence of the source and path of the discharges for standing purposes. See Gaston Copper, 204 F.3d at 161-62. The fact that other sources, including Courtland itself, may also have discharged stormwater associated with industrial activity to Davis Creek "does not negate the fact that the defendant['s] discharges still potentially harmed" Courtland. Am. Canoe Ass'n, 326 F.3d at 520. To show traceability in the environmental context, a plaintiff need not "show to a scientific certainty that defendant's effluent ... caused the precise harm suffered by the plaintiff[].'" Gaston Copper, 204 F.3d at 161 (quoting Natural Res. Def. Council, Inc., 954 F.3d at 980 n.7). To require such proof to establish standing would be "the kind of scientific inquiry neither the Supreme Court nor Congress intended." Gaston Copper, 204 F.3d at 162. The court is satisfied that Courtland has presented sufficient evidence of stormwater discharges by UCC for the purposes of showing traceability.

Concerning redressability, Courtland seeks to enjoin future discharges, clean up waterways and sediments, assess civil penalties, and recover an award of reasonable attorney fees and litigation costs.[126] UCC makes one argument with respect to redressability: inasmuch as most of the Southern Boundary Ditch is on Courtland's Property, Courtland cannot show how its alleged injuries may be redressed. The court need not linger on this argument. UCC owns and controls the Filmont property from which stormwater can be diverted away from Courtland and the Massey property from which the two Massey culverts can be directed elsewhere. The channeling of stormwater from Filmont onto Courtland and from Massey into the Massey stormwater culverts, both of which empty into the Southern Boundary Ditch create conditions for which future such discharges that reach Davis Creek are foreseeable. Courtland may reasonably expect UCC to be able to abate its discharges or obtain a permit. For each alleged discharge, a favorable decision on the merits would redress Courtland's injuries inasmuch as UCC would be required to obtain the necessary Clean

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[126] The Clean Water Act permits a prevailing party to recover reasonable attorney and expert witness fees. The court need not conduct an analysis of whether Courtland has standing for this form of relief inasmuch as "[a] request for attorney's fees or cost cannot establish standing because those awards are merely a 'byproduct' of a suit that already succeeded, not a form of redressability." Uzuegbunam v. Preczewski, 141 S.Ct. 792, 801 (2021).

Water Act permits or cease discharging stormwater into the Southern Boundary Ditch. Gaston Copper, 204 F.3d at 162. Lastly, the assessment of civil penalties would deter future violations. Laidlaw, 528 U.S. at 185-86.

VII. CONCLUSIONS OF LAW: CLEAN WATER ACT CLAIMS

"The Clean Water Act forbids the 'addition' of any pollutant from a 'point source' to 'navigable waters' without the appropriate permit from the Environmental Protection Agency (EPA)" or from a state to which the EPA has delegated its authority Cnty. of Maui, Hawaii v. Hawaii Wildlife Fund, 140 S. Ct. 1462, 1468 (2020) (citing 33 U.S.C. §§ 1311(a), 1362(12)(A)).

Citizens are authorized to bring civil actions to enforce the provisions of the Clean Water Act and its regulations. Decker v. Northwest Env't Def. Ctr., 568 U.S. 597, 607 (2013); 33 U.S.C. § 1365(a). The requirement to obtain a Clean Water Act permit may be enforced by a citizen suit. See 33 U.S.C. §§ 1365(a), (f).

As interpreted by the Supreme Court, section 1365(a) only permits citizen suits to enforce ongoing violations of the

Act rather than "wholly past violations." Gwaltney, 484 U.S. at 57 (1987). An ongoing violation may be demonstrated by

> "(1) [] proving violations that continue on or after the date the complaint is filed, or (2) by adducing evidence from which a reasonable trier of fact could find a continuing likelihood of a recurrence in intermittent or sporadic violations. Intermittent or sporadic violations do not cease to be ongoing until the date when there is no real likelihood of repetition."

Gwaltney, 844 F.2d at 171-72. Having failed to prove an ongoing violation by UCC concerning unpermitted discharges of specific pollutants into and from the Southern Boundary Ditch, Courtland's claims in Count I of Courtland IV are DISMISSED.

To establish liability on its remaining claim in Count II of Courtland IV concerning discharges of stormwater associated with industrial activity into the Southern Boundary Ditch and on to Davis Creek, Courtland must prove that a "person" discharged or added a pollutant to waters of the United States from a point source without a permit. 33 U.S.C. § 1311(a), 1342(a) and (p).

It is undisputed that UCC is a "person" under the Act, 33 U.S.C. § 1362(5), and UCC lacks a permit to discharge stormwater associated with industrial activity from either Filmont or Massey into the Southern Boundary Ditch and on to Davis Creek, which constitutes waters of the United States.

The court concludes that the Southern Boundary Ditch is a point source inasmuch as the ditch functions as a "discernible, confined and discrete conveyance" to which stormwater associated with industrial activity is discharged and from which it empties into Davis Creek. See 33 U.S.C. § 1362(14); see also Virginia Elec., 903 F.3d at 406, 410-11.

Finally, concerning whether Courtland has proved that UCC discharged pollutants, namely, stormwater associated with industrial activity, UCC argues that Courtland's stormwater claims in Count II of Courtland IV must fail inasmuch as Courtland has not tested the stormwater discharges to show that there are pollutants present therein.

In 1987, Congress amended the Clean Water Act by enacting the Water Quality Act. Pub. L. No. 100-4, 101 Stat. 76 (1987). Congress sought to address the "unique problem" presented by stormwater, which is one of the most significant sources of pollution in the United States, but which may be either point source pollution subject to § 1311(a) and the NPDES system, or non-point source pollution, which is not subject to the permitting requirements of the Clean Water Act. Ecological Rights Foundation v. Pacific Gas and Elec. Co., 713 F.3d 502, 506 (9th Cir. 2013).

In recognition of this widespread but challenging problem, Congress, in 1987, elected to regulate some stormwater discharges but not others. The 1987 Clean Water Act amendments exempted discharges composed entirely of stormwater, and states and the federal government were prohibited from requiring permits "for discharges composed entirely of stormwater" prior to October 1, 1994. 33 U.S.C. § 1342(p)(1). Conversely, in these same 1987 amendments to the Clean Water Act, Congress excluded from this exemption stormwater discharges from specific industries or activities. Puget Soundkeeper Alliance v. Whitley Mfg., 145 F. Supp. 3d 1054, 1055-56 (W.D. Wa. 2015). Consequently, the general exemption on discharges composed entirely of stormwater did not apply to "a discharge associated with industrial activity." 33 U.S.C. § 1342(p)(2). The EPA has subsequently defined the term "discharge associated with industrial activity" in regulations to mean a

> "discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant."

40 C.F.R. § 122.26(b)(14). Section 122.26(b)(14) presumptively applies to certain enumerated "categories of facilities" that "are considered to be engaging in 'industrial activity' for the purposes of paragraph (b)(14)." Id.

The upshot of the 1987 amendments to the Clean Water Act and the implementing regulations is that facilities in certain industrial categories are categorically subject to the NPDES program if they discharge stormwater from a point source to a navigable water. For such industries, stormwater is "presumptively dirty," inasmuch as it is "reasonably expected to come into contact with industrial activities." Puget Soundkeeper Alliance, 145 F. Supp. 3d at 1056. In effect, for discharges associated with industrial activity, stormwater is treated as a pollutant per se. Id. at 1057-58 (holding that stormwater is itself a pollutant under § 402(p)); North Carolina Shellfish Growers Ass'n v. Holly Ridge Assoc., LLC, 278 F. Supp. 2d 654 (E.D.N.C. 2003) (holding that stormwater is a pollutant if its discharge is associated with industrial activity); see also Nat. Res. Def. Council, Inc. v. U.S. E.P.A., 966 F.2d 1292, 1304 (9th Cir. 1992) ("It is not necessary that storm water be contaminated or come into direct contact with pollutants; only association with any type of industrial activity is necessary."). If stormwater at such facilities is not actually exposed to industrial materials or activities, a facility can obtain a "conditional no exposure" exemption from the permit requirement. See 40 C.F.R. § 122.26(g); Puget Soundkeeper All. V. Whitley Mfg. Co., 145 F. Supp. 3d 1054, 1056 (W.D. Wash. 2015).

Transportation facilities are subject to the stormwater program. See 40 C.F.R. § 122.26(b)(14)(viii). Rail facilities subject to the stormwater program include "rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility." Id. § 122.26. Covered discharges associated with material handling activities include those from "storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product." Id. § 122.26(b)(14)(viii). Transportation facilities in certain Standard Industrial Classifications ("SIC"), including SIC 40 (railroads),[127] which have "vehicle maintenance shops, equipment cleaning operations," are considered to be engaged in industrial activity. Id. Inasmuch as Massey Railyard is a facility engaged in covered activities, namely, the handling of raw materials and vehicle maintenance, under the stormwater regulations at 40 C.F.R. § 122.26(b)(14)(viii), the court concludes that stormwater discharged from the two Massey culverts into the Southern

[127] The court takes judicial notice of the SIC number for railroads, which includes establishments engaged in freight operations. United States Dep't of Labor, SIC Manual, https://www.osha.gov/sic-manual/4011 (last accessed March 26, 2023).

Boundary Ditch is a pollutant inasmuch as it is associated with industrial activity.[128]

Likewise, "[l]andfills, land application sites, and open dumps that receive or have received any industrial wastes" are among the categories subject to the stormwater permit program. 40 C.F.R. § 122.26(b)(14)(v). Inasmuch as Filmont is a landfill that has received industrial waste, the court concludes that stormwater discharged from Filmont constitutes a pollutant inasmuch as it is associated with industrial activity.

The court thus holds that Courtland has shown, by a preponderance of the evidence, that UCC violated the Clean Water Act inasmuch as UCC discharged stormwater associated with industrial activity by a shallow drainage channel running along the facility's fence line north of Courtland and then across Courtland into the Southern Boundary Ditch as well as by the two Massey culverts into the Southern Boundary Ditch, and on to Davis Creek, without a permit.

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[128] **The court held at summary judgment that the two culverts located at Massey that collect and discharge stormwater did not require a Clean Water Act permit to the extent that the stormwater discharges were not associated with the industrial activities specifically set forth at 40 C.F.R. § 122.26(b)(14)(iv), (v). The court did not address § 122.26 more generally or 122.26(b)(14)(viii) concerning transportation facilities.**

VIII. SUMMARY OF CONCLUSIONS

Based upon the foregoing discussion, and the entirety of the evidentiary record, the court ORDERS as follows:

1. In Courtland I (2:18-cv-01230), Courtland's CERCLA claims (Count I) and RCRA § 7002(a)(1)(A)/WVHWMA claim (Count II) asserted against UCC regarding Tech Park are DISMISSED. Courtland's remaining claims in Courtland I (Counts III, IV, V, VI, VIII, and IX)[129] were voluntarily dismissed by Courtland at trial;

2. In Courtland II (2:19-cv-00894), with respect to Courtland's CERCLA claims (Count I), UCC is liable to Courtland under CERCLA § 107(a) for the June and July 2021 preliminary groundwater investigation on the Courtland Property in a final amount to be determined in the damages phase of this trial. Courtland is likewise entitled to declaratory judgment under CERCLA § 113(g)(2) against UCC for any future remediation costs Courtland may choose to incur in efforts to remediate the Courtland Property, which will be subject to an equitable allocation between the parties as noted below in Paragraph 4;

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[129] Count VII in Courtland I was previously dismissed by the court on September 29, 2020. See ECF 135 in Courtland I.

3. In Courtland II, with respect to UCC's CERCLA § 113(f) counterclaim (Counterclaim Count II),[130] UCC is entitled to contribution from Courtland under CERCLA § 113(f) in a final amount to be determined in the damages phase of this trial;

4. In Courtland II, with respect to UCC's CERCLA § 113(g)(2) counterclaim (Counterclaim Count III), UCC is entitled to declaratory judgment under CERCLA § 113(g)(2) declaring that UCC is entitled to contribution respecting any future response costs Courtland chooses to incur in efforts to remediate the Courtland Property; thus, any such costs will be subject to an equitable allocation between the parties;

5. In Courtland II, with respect to Courtland's RCRA § 7002(a)(1)(A) claim (Count II) premised on a violation of Subtitle D, UCC is in violation thereof inasmuch as Filmont is an open dump. The residue of Courtland's Count II RCRA § 7002(a)(1)(A)/WVHWMA claim premised on a violation of Subtitle C is DISMISSED;

[130] UCC's CERCLA § 107(a) counterclaim (Counterclaim Count I) in Courtland II was previously stricken by the court on October 22, 2021. See ECF 302 in Courtland II.

6. In Courtland II, Courtland's RCRA § 7002(a)(1)(B) claim (Count III) and remaining state law claims (Counts IV, V, VI, VII, IX, and X)[131] asserted against UCC regarding Filmont/Massey are DISMISSED;

7. In Courtland II, UCC's state law counterclaims for declaratory relief (Counterclaim Count V) and equitable indemnification (Counterclaim Count VI) asserted against Courtland are DISMISSED;[132]

8. In Courtland III (2:21-cv-00101), Count I is DISMISSED;[133]

9. In Courtland IV (2:21-cv-00487), Count I is DISMISSED;

10. In Courtland IV, Count II, Courtland's claims against UCC respecting stormwater discharges from Filmont and Massey via the Northern Boundary Ditch are DISMISSED;

11. In Courtland IV, Count II, UCC is violating 33 U.S.C. 1311(a) and 1342(p) by discharging stormwater into waters of the United States without a permit from Filmont through

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[131] Count VIII in Courtland II was previously dismissed by the court on August 26, 2020. See ECF 75 in Courtland II.

[132] UCC's state law negligence counterclaim (Counterclaim Count IV) was previously dismissed by the court on July 1, 2022. See ECF 509 in Courtland II.

[133] Count II in Courtland III was previously dismissed by the court on May 13, 2021. See ECF 44 in Courtland II.

a shallow drainage channel running along the facility's fence line north of the Southern Boundary Ditch and through the two Massey culverts, all of which collects and channels stormwater to the Southern Boundary Ditch;

12. Inasmuch as the court has adjudicated all outstanding claims in Courtland I on the merits herein, UCC's Rule 52(C) Motion for Judgment as a Matter of Law in Courtland I (ECF 496 in 2:18-cv-1230) is DENIED AS MOOT; and

13. Inasmuch as the court has adjudicated all outstanding claims in Courtland II, III, and IV on the merits herein, UCC's Renewed Rule 52(C) Motion in Courtland II (ECF 562 in 2:19-cv-00894), Courtland III (ECF 327 in 2:21-cv-00101), and Courtland IV (ECF 244 in 2:21-cv-00487) are DENIED AS MOOT.

The court will enter a subsequent order setting forth the date and time on which the damages phase of this matter shall commence.

The Clerk is directed to transmit copies of this memorandum opinion and order to all counsel of record and any unrepresented parties.

ENTER: September 28, 2023

John T. Copenhaver, Jr.
Senior United States District Judge

APPENDIX

In MW-02D, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on October 17, 2008, 1,4 dioxane at 130 L µg/l; on September 15, 2011, arsenic at 0.0273 mg/L and 0.0343 mg/L; arsenic dissolved at 0.0358 mg/L and 0.0327 mg/L; 1,4 dioxane at 128 L µg/l and 7.67 J µg/l; and bis(2-ethylhexyl) phthalate at 12.1 µg/l; on June 5, 2012, 1,4 dioxane at 71.7 µg/l; on January 19, 2015, arsenic at 0.0315 mg/L; lead at 0.0217 mg/L; and 1,4 dioxane at 60.6 µg/l; on October 8, 2015, arsenic at 0.0192 mg/L; and 1,4 dioxane at 573 µg/l; on July 26, 2016, lead at 0.0193 mg/L; and 1,4 dioxane at 72 µg/l; and on July 25, 2018, 1,4 dioxane at 84 J µg/l. See Pl. Ex. 725. Constituents such as barium (dissolved and total), chromium, selenium (dissolved and total), bis(2-chloroisopropyl) ether, and di-n-butylphthalate have likewise been detected in MW-02D, but at concentrations below their screening levels. See id.

As for MW-02S, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on May 29, 2007, barium dissolved at 2.26 mg/L; and 1,4 dioxane at 2680 L µg/l; on December 7, 2007, arsenic at 0.0837 mg/L; barium at 2.82 mg/L; chromium at 0.112 mg/L; lead at 0.116 mg/L; and 1,4 dioxane at 2100 L µg/l;

on October 16, 2008, arsenic at 0.048 mg/L; chromium at 0.203 mg/L; lead at 0.0741 mg/L; and 1,4 dioxane at 1920 L µg/l; on September 15, 2011, arsenic at 0.037 mg/L and 0.0345 mg/L; barium at 2.05 mg/L; lead at 0.0313 mg/L and 0.0362 mg/L; arsenic dissolved at 0.0209 mg/L and 0.0204 mg/L; and 1,4 dioxane at 1790 L µg/l and 1250 µg/l; on June 7, 2012, arsenic at 0.0257 mg/L; benzene at 17.7 µg/l; and 1,4 dioxane at 958 µg/l. See id. Constituents such as acetone, benzene, vinyl chloride, bis (2-chloroisopropyl) ether, barium (total and dissolved), selenium, and chromium have likewise been detected in MW-02S, but at concentrations below their screening levels. See id.

Respecting MW-03D, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on October 16, 2008, vinyl chloride at 2.22 µg/l; and 1,4 dioxane at 52.1 µg/l; on September 14, 2011, arsenic at 0.0265 mg/L; arsenic dissolved at 0.0285 mg/L; vinyl chloride at 4.57 µg/l; and 1,4 dioxane at 28.9 L µg/l; on June 4, 2012, vinyl chloride at 2.46 µg/l; and 1,4 dioxane at 37.3 L µg/l; on January 15, 2015, lead at 0.0191 mg/L; vinyl chloride at 3.81 µg/l; and 1,4 dioxane at 33.7 µg/l; on October 7, 2015, vinyl chloride at 4.33 µg/l; and 1,4 dioxane at 15.9 µg/l; on July 26, 2016, vinyl chloride at 4.47 µg/l; and

1,4 dioxane at 18.7 µg/l; on July 25, 2018, vinyl chloride at 3.4 µg/l; 1,4 dioxane at 30 µg/l; and bis (2-chloroethyl) ether at 0.4 J µg/l. See Pl. Ex. 725. Constituents such as barium (total and dissolved), chromium, selenium, bis (2-chloroisopropyl) ether, bis (2-ethylhexyl) phthalate, and di-n-butylphthalate have likewise been detected in MW-03D, but at concentrations below their screening levels. See id.

In MW-03S, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on May 29, 2007, barium dissolved at 2.16 mg/L; and 1,4 dioxane at 263 L µg/l; on December 6, 2007, 1,4 dioxane at 70.9 J µg/l; on October 17, 2008, 1,4 dioxane at 196 L µg/l; and benzene at 15.1 µg/l; on September 14, 2011, arsenic at 0.0215 mg/L; arsenic dissolved at 0.0142 mg/L; and 1,4 dioxane at 107 L µg/l; and on June 6, 2012, 1,4 dioxane at 67.2 µg/l. See id. Constituents such as benzene, bis (2-chloroisopropyl) ether, barium (total and dissolved), chromium, and selenium have likewise been detected in MW-03S, but at concentrations below their screening levels. See id.

As for MW-04D, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on May 29, 2007, 1,4 dioxane at 382 L µg/l; on December 4, 2007, arsenic at 0.0508 mg/L and

0.0512 mg/L; 1,4 dioxane at 339 L µg/l and 353 L µg/l; and bis (2-chloroethyl) ether at 7.12 µg/l and 6.48 µg/l; on October 15, 2008, 1,4 dioxane at 326 L µg/l; and bis (2-chloroethyl) ether at 6.86 µg/l; on September 14, 2011, arsenic at 0.0279 mg/L; arsenic dissolved at 0.0245; and 1,4 dioxane at 204 µg/l; on April 24, 2014, 1,4 dioxane at 120 µg/l; on January 14, 2015, lead at 0.0194 mg/L; 1,4 dioxane at 110 µg/l; and bis (2-chloroethyl) ether at 3.01 µg/l; on October 7, 2015, 1,4 dioxane at 77.3 µg/l; and bis (2-chloroethyl) ether at 2.78 µg/l; on July 25, 2016, 1,4 dioxane at 67.6 µg/l; and on July 25, 2018, 1,4 dioxane at 190 µg/l; and bis (2-chloroethyl) ether at 4 J µg/l. See Pl. Ex. 725. Constituents such as barium (total and dissolved), bis (2-chloroisopropyl) ether, chromium, and selenium have likewise been detected in MW-04D, but at concentrations below their screening levels. See id.

In MW-05D, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on May 29, 2007, 1,4 dioxane at 165 L µg/l; and bis (2-ethylhexly) phthalate at 11.3 J µg/l; on December 6, 2007, 1,4 dioxane at 193 L µg/l; on October 15, 2008, 1,4 dioxane at 169 µg/l; on September 15, 2011, arsenic at 0.0338 mg/L; arsenic dissolved at 0.0342 mg/L; and 1,4 dioxane at 253 L µg/l; on June 6, 2012, 1,4 dioxane at 59.3 µg/l; on May 22,

2013, arsenic at 0.0225 mg/L and 0.0193 mg/L; and 1,4 dioxane at 48.2 L µg/l and 74.7 L µg/l; on April 24, 2014, 1,4 dioxane at 69.3 µg/l and 70 µg/l; on January 15, 2015, lead at 0.0174 mg/L; and 1,4 dioxane at 91.6 µg/l; on October 7, 2015, 1,4 dioxane at 74.6 J µg/l and 109 J µg/l; and bis (2-chloroethyl) ether at 0.578 µg/l; on July 25, 2016, 1,4 dioxane at 57.9 µg/l; and on July 26, 2018, 1,4 dioxane twice at 150 µg/l; and bis (2-chloroethyl) ether twice at 0.4 J µg/l. See id. Constituents such as barium (total and dissolved), bis (2-chloroisopropyl) ether, selenium, lead, di-n-butylphthalate, and arsenic were also detected in MW-05D, but at concentrations below their screening levels. See id.

Respecting MW-06D, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on December 6, 2007, arsenic at 0.0476 mg/L; and lead at 0.0545 mg/L; on October 15, 2008, arsenic at 0.031 mg/L; lead at 0.0309 mg/L; and 1,4 dioxane at 122 L µg/l; on September 14, 2011, 1,4 dioxane at 194 L µg/l; on April 23, 2014, 1,4 dioxane at 1.53 µg/l; on January 14, 2015, 1,4 dioxane at 1.31 L µg/l; and on July 24, 2018, 1,4 dioxane at 1 µg/l. See Pl. Ex. 725. Constituents such as bis (2-ehtylhexyl) phthalate, barium (total and dissolved), chromium,

selenium, and lead were also detected in MW-06D, but at concentrations below their screening levels. See id.

As for MW-07D, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on October 16, 2008, arsenic at 0.0466 mg/L; and 1,4 dioxane at 45.5 µg/l; on September 14, 2011, arsenic at 0.0822 mg/L; lead at 0.0351 mg/L; arsenic dissolved at 0.0599 mg/L; and 1,4 dioxane at 58 µg/l; on June 5, 2012, arsenic at 0.0497 mg/L; and 1,4 dioxane at 30.3 µg/l; on May 22, 2013, arsenic at 0.0498 mg/L; and 1,4 dioxane at 32.2 J µg/l; on April 23, 2014, arsenic at 0.0453 mg/L; and 1,4 dioxane at 28.4 µg/l; on January 14, 2015, arsenic at 0.0318 mg/L and 0.0337 mg/L; lead at 0.0187 mg/L and 0.0169 mg/L; 1,4 dioxane at 25.2 µg/l and 25 µg/l; bis (2-ehtylhexyl) phthalate at 6.58 µg/l; on October 6, 2015, arsenic at 0.0382 mg/L; 1,4 dioxane at 15.6 µg/l; and bis (2-ethylhexyl) phthalate at 11.1 µg/l; on July 22, 2016, arsenic at 0.0295 mg/L and 0.0282 mg/L; 1,4 dioxane at 25.5 L µg/l and 23.4 L µg/l; and bis (2-chloroethyl) ether at 0.564 µg/l; on July 25, 2018, arsenic at 0.0487 mg/L; 1,4 dioxane at 51 µg/l; and bis (2-chloroethyl) ether at 0.4 J µg/l. See Pl. Ex. 725. Constituents such as barium (total and dissolved), chromium, selenium (total and dissolved), bis (2-chloroisopropyl) ether, benzene, and lead have also been

detected in MW-07D, but at concentrations below their screening levels. See id.

In MW-07S, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on October 16, 2008, arsenic at 0.0963 mg/L; and 1,4 dioxane at 135 µg/l; on September 14, 2011, arsenic at 0.199 mg/L; arsenic dissolved at 0.172 mg/L; and 1,4 dioxane at 78.6 µg/l; on June 6, 2012, arsenic at 0.155 mg/L; and 1,4 dioxane at 92.5 µg/l. See id. Constituents such as barium (total and dissolved), selenium (total and dissolved), bis (2-chloroisopropyl) ether, chromium, and lead have likewise been detected in MW-07S, but at concentrations below their screening levels. See id.

As for MW-12, the second of the three groundwater monitoring wells located on the western side of Davis Creek, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on September 14, 2011, arsenic at 0.143 mg/L; arsenic dissolved at 0.142 mg/L; and 1,4 dioxane at 119 J µg/l; on October 5, 2011, arsenic at 0.134 mg/L; arsenic dissolved at 0.132 mg/L; and 1,4 dioxane at 204 L µg/l; on March 26, 2012, arsenic at 0.133 mg/L and 0.136 mg/L; and 1,4 dioxane at 128 J µg/l and 141 J µg/l; on June 4, 2012, arsenic at 0.114 mg/L; and 1,4 dioxane at 121

µg/l; on September 27, 2012, arsenic at 0.169 mg/L; and 1,4 dioxane at 226 µg/l; on December 6, 2012, arsenic at 0.16 mg/L and 0.154 mg/L; and 1,4 dioxane at 179 µg/l and 176 µg/l; on May 21, 2013, arsenic at 0.201 mg/L; and 1,4 dioxane at 72.6 µg/l; on April 24, 2014, arsenic at 0.198 mg/L; and 1,4 dioxane at 126 µg/l; on January 13, 2015, arsenic at 0.206 mg/L; lead at 0.0175 mg/L; 1,4 dioxane at 125 µg/l; and bis (2-chloroethyl) ether at 0.691 µg/l; on July 26, 2016, arsenic at 0.199 mg/L; 1,4 dioxane at 135 µg/l; and bis (2-chloroethyl) ether at 0.646 µg/l; on July 21, 2017, arsenic at 0.213 mg/L; and 1,4 dioxane at 229 µg/l; and on July 26, 2018, arsenic at 0.233 mg/L; 1,4 dioxane at 290 µg/l; and bis (2-chloroethyl) ether at 1 J µg/l. See Pl. Ex. 725. Constituents such as barium (total and dissolved), selenium (total and dissolved), bis (2-chloroisopropyl) ether, bis (2-ethylhexyl) phthalate, lead, cadmium, and di-n-butylphthalate have also been detected in MW-12, but at concentrations below their screening levels. See id.

Finally, in MW-13, the last of the three wells located on the west side of Davis Creek, the following constituents were detected at concentrations exceeding their MCL or RSL screening level on the following dates: on September 27, 2012, arsenic at 0.0114 mg/L; on December 5, 2012, arsenic at 0.0103 mg/L; on July 21, 2017, 1,4 dioxane at 1.17 µg/l; on March 30, 2018, 1,4

dioxane at 1 µg/l; and on July 26, 2018, 1,4 dioxane at 1 µg/l. See Pl. Ex. 725. Constituents such as barium, selenium, di-n-butylphthate, and chromium have likewise been detected in MW-13, but at concentrations below their screening levels. See id.

EXHIBIT B

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF WEST VIRGINIA
AT CHARLESTON

THE COURTLAND COMPANY,

Plaintiff,

v. Civil Action No. 2:19-cv-00894
Civil Action No. 2:21-cv-00487

UNION CARBIDE CORPORATION,

Defendant.

MEMORANDUM OPINION AND ORDER

Beginning on February 13, 2024, and through February 15, 2024, the court conducted a three-day bench trial on the appropriate remedies for plaintiff's claims asserted against the defendant and the defendant's counterclaims asserted against the plaintiff in the above-styled actions.

The court makes the following findings of fact by a preponderance of the evidence, and its conclusions of law.

As will be discussed below, the court made all findings of fact with regard to liability in its Phase I order, which remain applicable as the court addresses the remedial issues posed in this Phase II order. See Courtland Co., Inc. v. Union Carbide Corp., No. 2:18-CV-01230 (Courtland I), et al., 2023 WL 6331069 (S.D.W. Va. Sept. 28, 2023) (hereinafter, "Phase

I Order").[1] Further, unless explicitly otherwise indicated, the court's Phase I conclusions of law shall "continue to govern" in Phase II. TFWS, Inc. v. Franchot, 572 F.3d 186, 191 (4th Cir. 2009); see Castro v. United States, 540 U.S. 375, 124 S. Ct. 786, 157 L. Ed. 2d 778 (2003) (holding the "law of the case doctrine" simply "expresses common judicial practice; it does not limit the court's power.") (internal quotations omitted).

The Phase II issues relate to the remedial measures that are to be imposed with respect to the liability found in Courtland II for violations of Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6972(a)(1)(A), and under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. §§ 9607(a), 9613(g), and 9613(f), and in Courtland IV for violations of the Clean Water Act ("CWA"), 33 U.S.C. §§ 1311(a), 1342(p).

I. RCRA

In Phase I, the court concluded that Union Carbide Corporation ("UCC") was in violation of RCRA, Subtitle D,

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[1] The Phase I Order is also available at ECF No. 567 in Civil Action No. 2:19-cv-00894 (Courtland II) and at ECF No. 393 in Civil Action No. 2:21-cv-00487 (Courtland IV). Herein, the court will cite to the Phase I Order as it appears on the dockets. It is noted that Courtland I and Courtland III have been dismissed.

because the "Filmont facility continues to introduce arsenic into the groundwater as a result of the continued leaking/leaching of the solid waste contained therein, which is contaminating an underground drinking water source beyond the solid waste boundary as those terms are defined and is thus an 'open dump' in violation of 42 U.S.C. § 6945(a) (§ 4005(a)) and 40 C.F.R. § 257.3-4(a)."[2] Phase I Order, at 277.

A. Courtland's Attempt to Invoke WVSWMA Regarding Open Dump

The court also concluded that "Courtland has failed to establish, by a preponderance of the evidence, any ongoing violations of RCRA Subtitle C (regulating hazardous waste) that would subject UCC to liability under § 7002(a)(1)(A) or the [West Virginia Hazardous Waste Management Act, W. Va. Code § 22-18-1, et seq.]." Phase I Order, at 245. Further, the court found that "because Courtland's evidence fails to establish that the conditions at and emanating from Filmont and/or Massey may

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[2] Despite this conclusion, the court also concluded there was no imminent and substantial endangerment to human health or the environment arising from the contaminated groundwater for various reasons set forth in pages 160-183 and 290-294 of the court's Phase I Order, including the fact that "a large portion of the South Charleston area encompassing Filmont, Massey, Courtland and all surrounding properties in the general vicinity thereof, lie within what has been dubbed a 'Restricted Use Area' via local ordinance." Phase I Order, at 165. "This ordinance prohibits the potable use of groundwater for consumption without treatment to meet applicable state standards." Id.

present an imminent and substantial endangerment, Courtland's section 7002(a)(1)(B) claim must fail." Id. at 295.

Courtland also made several state law claims, including that Filmont is an "open dump" in violation of the West Virginia Solid Waste Management Act, W. Va. Code § 22-15-1, et seq. ("WVSWMA"). However, the court found that, under the WVSWMA's specific and active-verb definition of that term, Filmont was not a WVSWMA "open dump" inasmuch as UCC was no longer actively placing material in the Filmont landfill. See Phase I Order, at 315.

Nonetheless, throughout Phase II, Courtland has sought to revive its state law claims under the WVSWMA, arguing that - notwithstanding the court's conclusions in Phase I - Filmont is, indeed, an "open dump" under the WVSWMA. See Pl. Prop. Concl. of Law & Findings of Fact 12-15, ECF No. 647 (Courtland II), 331 (Courtland IV); Prop. Integrated Statement of Issues, at 18, ECF No. 616 (Courtland II), 299 (Courtland IV). Inasmuch as such a conclusion would significantly alter the court's findings as to liability in Phase I and impact the necessary remedies in Phase II, the court will directly address Courtland's argument.

The WVSWMA defined an "open dump" as "any solid waste disposal which does not have a permit under this article, or is in violation of state law, or where solid waste is disposed in a

manner that does not protect the environment." W. Va. Code § 22-15-2. The term "solid waste disposal" is statutorily defined as follows:

> the practice of disposing of solid waste including placing, depositing, dumping, throwing, or causing any solid waste to be placed, deposited, dumped, or thrown.

Id. "Notably, unlike RCRA's statutory definition, the WVSWMA does not define the term 'disposal' but instead defines the phrase 'solid waste disposal.'" Phase I Order, at 304 (Compare 42 U.S.C. § 6903(3), with W. Va. Code § 22-15-2). Of particular moment, the court found that the WVSWMA's definition of "'solid waste disposal' is tailored to active conduct, given that it does not, like RCRA, encompass subsequent occurrences arising" from a "disposal." Id.; see 42 U.S.C. § 6903(3) (defining "disposal" as encompassing "the discharge, deposit, injecting, dumping, spilling, leaking, or placing of any solid waste . . . into or on any land or water so that such solid waste . . . or any constituent thereof may enter the environment or be. . . discharged into any waters, including ground waters."). The parties have not challenged the court's interpretation of the active-conduct limitation of the WVSWMA's definition of "solid waste disposal."

Turning to the WVSWMA's definition of "open dump," Courtland contends that the third prong of the statute's

definition means that there is an "open dump" any place "where solid waste is disposed in a manner that does not protect the environment."[3] See Tr. Trans. 31:13-18; Pl. Prop. Concl. of Law & Findings of Fact 12-15, ECF No. 647 (Courtland II), 331 (Courtland IV); Prop. Integrated Statement of Issues, at 18, ECF No. 616 (Courtland II), 299 (Courtland IV). That interpretation of the statute, however, is incorrect.

"[A] 'cardinal rule of statutory construction is that significance and effect must, if possible, be given to every section, clause, word or part of the statute.'" Syl. Pt. 1, Young v. Apogee Coal Co., LLC, 753 S.E.2d 52 (W. Va. 2013) (citing Syl. Pt. 3, Meadows v. Wal-Mart Stores, Inc., 530 S.E.2d 676 (W. Va. 1999)). Further, statutes must be read as a whole, as "statutory interpretation 'is a holistic endeavor ... and, at a minimum, must account for a statute's full text, language as well as punctuation, structure and subject matter.'" Id. (quoting W. Va. Health Care Cost Review Auth. v. Boone Mem'l Hosp., 472 S.E.2d 411, 423 (W. Va. 1996) (quoting United States

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[3] Of note, the court dismissed the argument that this prong of the definition, in connection with the regulations promulgated thereunder, requires a finding that Filmont is a WVSWMA "open dump." See Phase I Order, 312-315. Insofar as Courtland offers a new linguistic argument with respect to that phrase, the court considers - and finds unpersuasive - its argument.

Nat'l Bank of Or. v. Indep. Ins. Agents of Am., Inc., 508 U.S. 439, 455 (1993))) (emphasis in original).

Here, Courtland's interpretation of the "open dumping" definition would require the court to read its final prong in isolation, which would contravene the rules of statutory interpretation.

Instead, the statutory definition must be read as a whole. It defines an "open dump" by narrowing the types of a "solid waste disposal" that qualify as an "open dump" to three descriptors of a solid waste disposal listed in a series and separated by a comma. Accordingly, each descriptor must be read as a modifier of the term "solid waste disposal" - they should not be read, as Courtland contends, on their own.

The WVSWMA must be interpreted such that each modifying clause in the series modifies "solid waste disposal," the original subject. Framed differently, it must be interpreted as if written as follows: "Open dump" means (1) any solid waste disposal which does not have a permit under this article, or (2) any solid waste disposal which is in violation of state law, or (3) any solid waste disposal where solid waste is disposed in a manner that does not protect the environment. This interpretation gives meaning to the "full text, language as well as punctuation, [and] structure" of the statute, ensuring

that each "or" triggers an alternative and specifically defined modifier of the term "solid waste disposal," which is necessary inasmuch as the second clause of the definition would not make sense unless it (and thus also the third clause) was intended to so modify "solid waste disposal," the initial element of the definition.

Accordingly, the court's original conclusion from the Phase I Order remains: in order for something to be considered an "open dump" under the WVSWMA, it must first involve "solid waste disposal" in a manner which fits one of the three described categories, and "solid waste disposal" is limited to "the active and direct placement of solid waste by an individual or entity" and does not include "passive migration, such as leakage, over time." Phase I Order, at 309. Thus, the Phase I Order's conclusion that Filmont is not an "open dump" under the WVSWMA remains undisturbed, and, as the court found in Phase I, Courtland's claims premised on Filmont being an "open dump" under the WVSWMA must fail.

B. Remedy Under Subtitle D

In Phase I, the court found that "UCC is in violation of the second prong of Courtland's section 7002(a)(1)(A) [42 U.S.C. § 6972(a)(1)(A)] claim inasmuch as UCC has violated RCRA's Subtitle D groundwater open dumping criterion set forth

in 40 C.F.R. § 257.3-4(a) but not the flood plain criterion set forth in 40 C.F.R. § 257.3-1(a)." Phase I Order, at 279-80. UCC is in violation of RCRA Subtitle D, 42 U.S.C. § 6945, inasmuch as "the Filmont facility continues to introduce arsenic into the groundwater as a result of the continued leaking/leaching of the solid waste contained therein, which is contaminating an underground drinking water source beyond the solid waste boundary as those terms are defined and is thus an 'open dump' in violation of 42 U.S.C. § 6945(a) (§ 4005(a)) and 40 C.F.R. § 257.3-4(a)." Phase I Order, at 277.

Subtitle D of RCRA regulates the handling of nonhazardous solid waste, and it does so in a more lenient fashion than that by which Subtitle C regulates hazardous wastes. Phase I Order, at 246 (citing Ashoff v. City of Ukiah, 130 F.3d 409, 410 (9th Cir. 1997)). "As clarified by the USEPA [United States Environmental Protection Agency ("EPA")], it was Congress's intent to limit the federal government's role in regulating solid waste facilities." Id. Indeed, the EPA has acknowledged that, under RCRA, "[solid waste] facility permitting is a state responsibility. EPA's role includes establishing technical design and operating criteria for facilities, determining the adequacy of state permitting programs, and enforcing compliance with [RCRA's] federal revised

criteria only after determining that the state program is inadequate." Id. (quoting 47 Fed. Reg. 57026, 51029 (Oct. 23, 1998)).

Congress directed the EPA to promulgate regulations containing the minimum criteria with which all solid waste landfills must comply in order to assist states in the development of their own solid waste management plans. Id. at 247. States must do so to "qualif[y] to receive federal financial and technical assistance." Cameron v. Peach Cnty., GA, No. 5:02-cv-41-1(CAR), 2004 WL 5520003, at *19 (M.D. Ga. June 28, 2004); see also AES Puerto Rico, L.P., 133 F. Supp. 3d at 422 (noting that "[p]ursuant to Subtitle D, federal financial and technical assistance are available for states that choose to develop solid waste management plans in accordance with federal guidelines."). "West Virginia's Solid Waste Management Act, enacted in 1983, was adopted to satisfy the minimum requirements of Subtitle D and has been approved by the USEPA." Phase I Order, at 248 (citing 61 Fed. Reg. 9451 (March 8, 1996); 65 Fed. Reg. 36792 (June 12, 2000)).

The court must now decide in Phase II what remedy, if any, is warranted under RCRA § 7002(a) (42 U.S.C. § 6972(a)). In any action brought under RCRA § 7002(a), "[t]he district court shall have jurisdiction . . . to enforce the permit,

standard, regulation, condition, requirement, prohibition, or order, referred to in paragraph (1)(A),[4] to restrain any person who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste referred to in paragraph (1)(B),[5] to order such person to take such other action as may be necessary, or both."[6] 42 U.S.C. § 6972(a).

The court notes that "in issuing any final order in any action brought pursuant to [RCRA § 7002(a) or § 7006], [the court] may award costs of litigation (including reasonable attorney and expert witness fees) to the prevailing or substantially prevailing party, whenever the court determines

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[4] "[P]aragraph (1)(A)" permits a civil action "against any person . . . who is alleged to be in violation of any permit, standard, regulation, condition, requirement, prohibition, or order which has become effective pursuant to [RCRA]." 42 U.S.C. § 6972(a)(1)(A).

[5] "[P]aragraph (1)(B)" authorizes a civil action "against any person . . . including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility, who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment." Id. § 6972(a)(1)(B).

[6] The statute also provides that the district court shall have the jurisdiction to issue civil penalties against any party found to have violated RCRA Subtitle C. See id. Inasmuch as the court in Phase I found that Courtland did not establish that UCC violated Subtitle C, civil penalties are unavailable here.

such an award is appropriate." § 6972(e). The court ruled during trial that such fees would be addressed and adjudicated by motion following the conclusion of Phase II. See Tr. Trans. 5:9-14.

Accordingly, the court must determine what, if any, prospective injunctive relief to order. RCRA § 7002(a) gives the court jurisdiction to issue injunctive relief, vesting in the court the discretion to do so, but it does not require that the court issue such relief. See LAJIM, LLC vs. GE, 917 F.3D 933, 944 (7th Cir. 2019) ("[T]he district court correctly held that it has discretion to award injunctive relief under the RCRA and is not required to order relief after a finding of liability."); Gache v. Town of Harrison, N.Y., 813 F. Supp. 1037, 1044 (S.D.N.Y. 1993) ("A violation of RCRA does not mean that a permanent injunction necessarily follows. 'In applying the general equitable standards for the issuance of injunctions in the area of environmental statutes, the Supreme Court has explicitly rejected the notion that an injunction follows as a matter of course upon a finding of a statutory violation.'") (quoting Town of Huntington v. Marsh, 884 F.2d 648, 651 (2d Cir. 1989), cert. denied, 494 U.S. 1004, 110 S.Ct. 1296, 108 L.Ed.2d 473 (1990)); Hanford Challenge, United Ass'n of Plumbers & Steamfitters Loc. Union 598 v. Moniz, No. 4:15-CV-5086-TOR, 2016

WL 11795779, *11 (E.D. Wash. Nov. 15, 2016) ("A violation of the RCRA does not automatically equate to a presumption of irreparable harm, nor require the Court to grant an injunction."); Substation K, Inc. v. Kansas City Power & Light Co., No. 4:19-CV-00031-SRB, 2019 WL 2411439, *4 (W.D. Mo. June 7, 2019) ("Under a plain reading" of RCRA's citizen suit provision, a person can "seek a mandatory injunction, i.e., one that orders a responsible party to 'take action' by attending to the cleanup and proper disposal of toxic waste, or a prohibitory injunction, i.e., one that 'restrains' a responsible party from further violating RCRA.") (quoting Meghrig v. KFC Western, Inc., 516 U.S. 479, 484 (1996)).

In the course of that determination, the court must consider both the objective of the relevant statute and the traditional equitable principles which apply to injunctive relief. See Lajim, LLC, 917 F.3d at 944 ("[C]ommenting directly on RCRA, we have reasoned that '[o]rdinarily, a court is obligated to conduct an equitable balancing of harms before awarding injunctive relief, even under an environmental statute which specifically authorizes such relief'") (quoting United States v. Bethlehem Steel Corp., 38 F.3d 862, 867 (7th Cir. 1994)).

The purpose of RCRA is "to reduce generation of hazardous waste and to ensure the proper treatment, storage, and disposal of that waste which is nonetheless generated, 'so as to minimize the present and future threat to human health and the environment,'" and Courtland's request for an injunction must be examined in that context. Meghrig v. KFC Western, Inc., 516 U.S. 479, 483, 116 S.Ct. 1251, 134 L.Ed.2d 121 (1996) (quoting 42 U.S.C. § 6902(b)); Hodgins v. Carlisle Engineered Prod., Inc., No. 1:02-CV-01454, 2006 WL 721762, *2 (N.D. Ohio Mar. 20, 2006) (quoting the same). The Supreme Court's decision in Amoco Production Company v. Village of Gambell, Alaska, 480 U.S. 531, 107 S.Ct. 1396, 94 L.Ed.2d 542 (1987), is guiding. There, the Court held that courts, in determining the propriety of injunctive relief under environmental statutes, must focus "on the underlying substantive policy the process was designed to effect." 480 U.S. at 544; see also Weinberger v. Romero-Barcelo, 456 U.S. 305, 318 (1982) (discussing injunctive relief under the CWA and the Court's focus on "order[ing] relief that will achieve compliance" while retaining "their traditional equitable discretion").

Additionally, to establish the need for a permanent injunction, Courtland must show that (1) it or the public has suffered an irreparable injury; (2) remedies available at law,

such as monetary damages, are inadequate to compensate for the injury; (3) the remedy is warranted in equity upon consideration of the balance of hardships between plaintiff and defendant; and (4) the permanent injunction being sought would not harm public interest. See, e.g., Monsanto Co. v. Geerston Seed Farms, 561 U.S. 139, 156-57 (2010); Weinberger v. Romero-Barcelo, 456 U.S. 305, 311-313, 102 S.Ct. 1798, 72 L.Ed.2d 91 (1982); Amoco Production Co. v. Gambell, 480 U.S. 531, 542, 107 S.Ct. 1396, 94 L.Ed.2d 542 (1987); see also Prop. Integrated Statement of Issues, at 18, ECF No. 616 (Courtland II), 299 (Courtland IV) (Courtland acknowledging that the court must apply the foregoing four-factor test in issuing the injunction).[7] Indeed, "[a]n injunction should issue only where the intervention of a court in equity is essential in order effectually to protect property rights against injuries otherwise irremediable." Weinberger, 456 U.S. at 312.

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[7] The court notes that, at trial, plaintiff took a different tact, arguing that "because in Section 7002 of RCRA, Congress expressly authorized the issuance of an injunction to enforce any requirement, mandate, or order that has become affected pursuant to RCRA," the "traditional standing showing of irreparable injury and no adequate remedy of law do not apply to statutory injunctions." Tr. Trans. 278:16-279:1. Inasmuch as the court herein concludes that such considerations do, indeed, apply, the court rejects Courtland's contention otherwise at trial.

i. Irreparable Injury

The first equitable factor the court must consider is whether Courtland has established that it or the public has suffered an irreparable injury. In Phase I, the court made several findings as to whether Courtland established that Courtland had suffered an injury and whether the contamination emanating from Filmont may present an imminent and substantial endangerment to human health or the environment under RCRA.

The court concluded that Courtland had failed on both fronts. Specifically, the court concluded that "'any reasonable probability of adverse effects on heath or the environment' arising from the contaminated groundwater containing arsenic in exceedance of its MCL at Filmont and beyond its solid waste boundary are neither imminent nor substantial." Phase I Order, at 294; see also Hanford Challenge, 2016 WL 11795779, at *5 ("A violation of the RCRA does not automatically equate to a presumption of irreparable harm"). Indeed, in reaching this conclusion, the court emphasized the following:

> (1) there are no known public or private groundwater wells within a mile radius of Filmont or elsewhere; (2) even assuming there were groundwater wells in Jefferson Park, being the only known residential area near Filmont located further west of MW-13 on the west side of Davis Creek, there is no evidence showing the contaminated groundwater containing arsenic could or would reach that area given that groundwater does not continue to flow in a westerly direction once it

> reaches the west side of Davis Creek but instead flows in a northeast direction back towards the creek; (3) a large portion of the South Charleston area encompassing Filmont, Massey, Courtland, and all surrounding properties in the general vicinity thereof are subject to the local ordinance prohibiting the use of groundwater without treatment to meet applicable state standards; and (4) it is undisputed that no one on the Courtland Property, Filmont, or Massey is utilizing or planning to utilize the groundwater for any purpose whatsoever.
>
> All of the above findings effectively eliminate any potential exposure pathway to the arsenic contaminated groundwater existing beneath the surface, on-site or off, by which any receptor could come into contact, whether through ingestion or otherwise, which, in turn, eliminates any "adverse impact" arising therefrom as being either "imminent or substantial."

Phase I Order, at 292; see also id. at 160-183.

The court also specifically rejected the possible contention "that because Filmont has been found to be an open dump under RCRA [Subtitle D], it automatically renders the same an imminent and substantial endangerment to health or the environment." Id. at 290; see also id. at 290-294. Further, in dismissing Courtland's public nuisance claim, the court concluded that "Courtland has not established any harm to the general public in need of abatement as a result of any of the contamination emanating from Filmont and Massey," nor had Courtland "demonstrate[d] a serious injury to its property affecting its value and substance." Id. at 315-16. Likewise, while analyzing the CWA claims in this matter, the court

concluded that Courtland failed to establish harm to itself or the public from any unpermitted discharges into Davis Creek from the Northern Boundary Ditch inasmuch as it failed to establish that Davis Creek reversed flow affecting Courtland. Id. at 390.

In denying Courtland's private nuisance claim, the court additionally found that Courtland failed to establish "any interference with the private use and enjoyment of its property, let alone an interference that is substantial and unreasonable." Id. at 317-318. The court based much of its conclusions in this respect on the fact that Courtland's Vice President, Mr. Truslow, testified that Courtland's use of the property and revenues produced to Courtland from its current lessee and royalties based on the property "ha[d] been unaffected by the entirety of this litigation." Phase I Order at 317-18. In Phase II, Truslow again confirmed that little if any activity occurs on the northwestern portion of Courtland where the court concluded contaminated groundwater existed, saying that "[a]ll of our activity would be to the south . . . back towards the railroad tracks." Tr. Trans. 77:7-78:13. Further, Truslow confirmed that the only activity "that was ever done" in the area of the Southern Boundary Ditch is that "the City of South Charleston asked for an easement for a forced sewer main." Id. 78:6-13. Courtland did not offer evidence to challenge these conclusions, choosing instead to argue that the court need not

analyze whether Courtland suffered an irreparable injury, see Tr. Trans. 278:16-279:1 (Callaghan), a position the court has herein rejected, and Courtland has since retracted as explained above.

Accordingly, the court concludes that Courtland has failed to establish an irreparable injury to itself or the public in Phase II, and this factor weighs against injunctive relief. This finding, alone, ensures that Courtland cannot satisfy the "four-factor test" which a plaintiff must satisfy before a court can grant a permanent injunction. Monsanto, 561 U.S. at 156.

ii. Inadequacy of Remedies at Law

To establish the necessity of injunctive relief, Courtland must also establish the inadequacy of remedies at law, such as monetary damages, to compensate for an irreparable injury identified in the first prong. See Monsanto, 561 U.S. at 156-57.

In Phase I, the court found that Courtland established that UCC was and is violating RCRA Subtitle D inasmuch as "the Filmont facility continues to introduce arsenic into the groundwater as a result of the continued leaking/leaching of the solid waste contained therein, which is contaminating an

underground drinking water source beyond the solid waste boundary as those terms are defined" in the statute. Phase I Order, at 276. However, as found in Phase I and affirmed above, Courtland failed to establish any actual irreparable injury suffered due to that contamination. Because this second prong is contingent on the existence of such an injury, the court concludes that Courtland has failed to establish any such injury for which remedies at law would be inadequate compensation.

iii. Additional Considerations

The court notes that a conclusion that injunctive relief is not necessary nor proper to remedy the RCRA Subtitle D violation found in Phase I may appear concerning or incongruous with a violation of federal environmental law. But those concerns are assuaged in three ways inasmuch as UCC has entered into a Voluntary Remediation Program ("VRP") with the West Virginia Department of Environmental Protection ("WVDEP"): the VRP can be expected to result in an NCP-compliant clean up that seeks to prevent offsite migration of contaminants, UCC faces state disciplinary action if it exits the VRP, and permitting the VRP to run its course is consistent with RCRA's goal of enforcing RCRA compliance in conjunction with state programs that have been approved by the EPA.

a. The VRP, Generally

The VRP is a program authorized by West Virginia statute and was established to, among other purposes, "facilitate voluntary remediation activities and brownfield revitalization" of contaminated properties resulting from past activities. W. Va. Code 22-22-1(d)(1). Pursuant to statutory authority, the WVDEP established the Voluntary Remediation and Redevelopment Rule, which "establishes the eligibility, procedures, standards, and legal documents required for voluntary remediation activities and brownfield revitalization." W. Va. Code St. R. § 60-3-1.

Under RCRA, "[a]ny [s]tate which seeks to administer and enforce a hazardous waste program pursuant to this subchapter may develop and, after notice and opportunity for public hearing, submit to the Administrator an application, in such form as he shall require, for authorization of such program." 42 U.S.C. § 6926(b). To that end, the West Virginia Department of Environmental Protection designed the VRP to align with federal requirements, including RCRA, and eventually obtained approval from the EPA to use the VRP's cleanup standards at corrective action sites inasmuch as the EPA concluded that the VRP "meets all of the statutory and regulatory requirements established by RCRA." West Virginia:

Final Authorization of State Hazardous Waste Management Program Revisions, 78 Fed. Reg. 70225 (Nov. 25, 2013); see W. Va. Code St. R. § 60-3-1 (establishing the purpose of the VRP); Def. Ex. 128 (West Virginia Voluntary Remediation Agreement for Investigation and Remediation Activities) (requiring compliance with, inter alia, RCRA and CERCLA). David Long, an Environmental Resources Analyst with the WVDEP, testified that the VRP is designed specifically to accord with federal environmental regulations, including RCRA. See 687:9-23 (Long).

Long described the VRP process as follows:

> There's an application and a fee associated with the application. The application must be completed. And then a project manager is assigned and the project manager reviews the application and makes sure all the information is there and then it's approved to come into the program.
>
> . . .
>
> Once it's in the program, the first thing that we do is negotiate a Voluntary Remediation Agreement with the applicant. And the agreement, among other things, spells out the reports that are to be work plans and reports that are to be submitted to the DEP.

Tr. Trans. 667:2-14 (Long). Then, "once work plans are submitted," WVDEP "review[s] [them]" and "provide[s] feedback." Id. 667:15-17 (Long). Then, "after the agreement, [WVDEP does] a site visit with the [license remediation specialist ("LRS")].

We do a site visit with the license remediation specialist that's employed by the applicant. And we go to the site and try to determine what the sources of contamination are at the site. Once we've done that, we do a public notice also." Id. 667:21-668:2 (Long). Once the public notice is issued, the property owner and WVDEP develop a site assessment work plan, id. 668:14-18, and the property owner develops a remedial action work plan and submits it to the WVDEP, id. 650:25-651:2, and the parties then iterate until the WVDEP approves the remedial action work plan.

Once approved, the property owner then implements the agreed upon remedy, and a remedy report is created. Tr. Trans. 542:1-543:15 (Carpenter). As part of the remedy report, there must also be a "residual risk assessment to ensure the remedy is appropriate and worked." Id. 651:6-7. "Then after the residual risk assessment, there is a final report. That final report sums up everything done in the program . . . because sometimes these programs go on for three or four or five years, the final report, and then a summary of everything that happened in the VRP." Id. 651:6-14 (Carpenter). The final report also presents a "Land Use Covenant, as required by the rule," which is "reviewed by the [WVDEP] along with the final report." Tr. Trans. 543:1-15. "Once [WVDEP] review[s], approve[s] and

agree[s] on the final report, then [the property owner is] allowed to take that land use covenant to the county courthouse and file it with the county courthouse where it runs the deed in perpetuity. [The property owner] receive[s] a court-stamped version of that back. And that court-stamped version of the land use covenant gets attached to the letter that [the property owner] send[s] to the DEP requesting a Certificate of Completion. And if the DEP agrees, they issue [the property owner] a Certificate of Completion, stating that [it] fulfilled all obligations of the VRP program and all other laws and rules that [it is] required to comply with, as required under the Voluntary Remediation Program." Id. (Carpenter).

David Carpenter, UCC's Licensed Remediation Specialist, also made clear that the VRP includes two periods for public comment. The first is a 30-day public comment period when the application is submitted, and the second occurs when the remedial standard has been determined and is required to be published. Tr. Trans. 652:5-13 (Carpenter). For both periods, WVDEP is responsible for publishing the public notice, and a hearing is required if there are comments from the public. Id. 652:19-653:8 (Carpenter). A hearing may also be held if risk levels exceed certain levels. Tr. Trans. 675:4-13 (Long).

iv. UCC and the VRP.

UCC applied to enter its Filmont/Massey site into the VRP in February 2021, but that application was initially rejected because the site was subject to a unilateral enforcement order due to seeps from the landfill going into a northern tributary of Ward Branch and on to Davis Creek. Tr. Tran. 671:9-23, 673:19-21 (Long). After negotiation between the WVDEP and UCC, the unilateral order was converted into a consent order, and WVDEP accepted Filmont/Massey into the VRP on July 9, 2021. Tr. Tran. 673:12-16 (Long); see Def. Ex. 290 (Consent Order No. 9994 issued by DEP). UCC and WVDEP entered into a Voluntary Remediation Agreement ("VRA") on October 13, 2021, which governs UCC's participation in the VRP. See Def. Ex. 128. The VRA mandates that "all work" under the VRA "shall be performed in compliance with all applicable federal, state, and local laws," specifically requiring compliance with RCRA. See id. at 5.

As part of the VRP, UCC has conducted extensive sampling and testing, including 56 soil samples, 20 groundwater samples, 18 surface water samples, 17 sediment samples, 8 soil gas samples, and 5 ambient air samples, as well as twice yearly groundwater sampling. See Tr. Trans. 458:1-6, 486 (Carpenter). UCC has tested its samples for a variety of possible

constituents, including "[v]olatile organic compounds, semi-volatile organic compounds, polycyclic aromatic hydrocarbons, herbicides, pesticides, dioxins, furans, PCBs, inorganics," and it was guided by "historical knowledge" of the industrial activity which occurred on that land. Id. 490:10-491:8 (Carpenter).

UCC has also conducted additional borings to investigate historical stream channels and potential seeps. (Tr. Tran. 569:2-574:15 (Carpenter). These borings were not part of the original site assessment work plan - though UCC had invited the WVDEP to observe borings - and were conducted to gather additional information about the site. Tr. Tran. 578:25-579:9. In addition to the boring logs, UCC's remediation specialists also installed thirteen monitoring wells. Tr. Trans. 526:14-21 (Carpenter).

Carpenter testified that after collecting the data, he has completed and submitted with the WVDEP a site assessment work plan. See Tr. Trans. 5331:12. In addition, UCC's remediation specialists prepared and, as of trial were still in the process of finalizing, a preliminary report on the impact of the site on human health and the environment to "help guide the next phase of [their] investigation." Id. (Carpenter).

David Carpenter estimated that the remedial design would be created by the end of 2024, construction to implement the remedy would begin in 2026, and the remedy would be implemented by the end of 2026. Tr. Tran. 650:9-22. However, David Long from WVDEP estimated it would take 4-5 years to complete the entire VRP process. Tr. Tran. 699:11-12. Long testified that more groundwater monitoring wells likely need to be installed to fully characterize the contamination at the site, and estimated that it would take about 6 months to develop a plan for this additional work, carry it out, and submit the results. Tr. Tran. 697:8-699:4.

Long also testified that, even after the VRP is completed, there would likely still be "waste in the groundwater at the Filmont/Massey facility" but that there would not be any offsite migration and that "[t]here would be monitoring associated with that so that we know the contaminants are degrading." Tr. Trans. 680:2-681:20. He made clear that the VRP process would not automatically turn the Filmont/Massey site into a sanitary landfill, as that term is used in RCRA. Id.

v. Simonton's Critiques of the VRP

Dr. Simonton had several critiques of the VRP, all of which come down to the fact that "there are differences" between the VRP and NCP-compliance requirements. See Tr. Trans. 126:22-127:12 (Simonton). Most significantly, Simonton states that "the differences are going to be the level of detail and the remedial investigation itself, what is how far and how deep [] you go," also "the analysis of appropriate standards" is much broader under the NCP than the VRP, and the VRP requires much less public comment and involvement than the NCP. Id.

The first two major critiques are weakened in that the EPA has explicitly approved the VRP as consistent with RCRA's aims, and inasmuch as RCRA, as will be discussed below, does not mandate direct compliance with the NCP. Simonton's critique of public comment is limited inasmuch as one period of public comment has already passed, and Courtland failed to make any public comment related to UCC's participation in the VRP. See Tr. Trans. 694:25-695:5 (Long). Simonton did not rebut Mr. Long's testimony that the VRP would result in a manner that prevents any existing contaminants from migrating offsite. Indeed, when asked if he had any specific critiques of the work done or the result of the VRP, UCC's counsel and Simonton had the following exchange:

Q. Up to now, right, you've reviewed all the reports to date, right?

A. I believe so.

Q. Is there any other criticism that you have of the work done -- or the lack of sampling or work done in the process so far to tell the Court that they shouldn't accept if the Court picks up now where -- where we've gotten to?

A. I've never suggested that the Court disregard the data that's been gathered.

Q. Yeah. That's what I'm saying is, is do you have any criticism that it has failed in some way, right, so that at this point in the process -- forget what's to come -- this point in the process, what should have been done hadn't been done?

A. If we're just talking about site assessment -- well, site assessment, remedial investigation, it's a continued process. There's things -- I have criticisms, but this is a continued process. So -- so, no, I wouldn't -- but, again, this is specific only to the [remedial investigation].

Q. In the end of the day it may satisfy Dr. Simonton and it may not be satisfy Dr. Simonton, right?

A. Well, what -

Q. The remedy. The ultimate outcome.

A. The remedy? Sure.

Q. You don't know right now?

A. I don't know.

Tr. Trans. 249:9-250:6 (Simonton).

vi. The VRP and RCRA

Though the court notes that Courtland argues that UCC has improperly entered the VRP inasmuch as they did so while this litigation was pending, it is clear that Courtland's main concern with the VRP is their position that it will not result in a remedial clean up of the quality required by RCRA, as well as by CERCLA and the National Contingency Plan ("NCP"). As discussed in the Phase I Order, the NCP, see 40 C.F.R. § 300. "is a set of regulations that 'establish procedures and standards for responding to releases of hazardous substances, pollutants, and contaminants[.]'" Phase I Order, at 191 (quoting 42 U.S.C. § 9607(a)(4)(B)); see also 40 C.F.R. § 300.3(b).

Regarding RCRA, there is no specific injunction that the court must issue. Rather, as discussed above, the court "ha[s] jurisdiction" to "order [UCC] to take such action as may be necessary" to achieve compliance with the statute. 42 U.S.C. § 6972(a).

As to CERCLA and the NCP, the court notes that such considerations are not directly relevant to the question of the adequacy of the VRP inasmuch as they are targeted at determining whether a party can recover "response costs" under CERLCA. "A private party response action will be considered 'consistent

with the NCP' if the action, when evaluated as a whole, is in substantial compliance with the applicable requirements in [40 C.F.R. § 300.700(c)(5)-(6)], and results in a CERCLA-quality cleanup." 40 C.F.R. § 300.700(c)(3)(i). "In turn, § 300.700(c)(5)-(6) sets forth an array of requirements "potentially applicable to private party response actions" regarding, inter alia, worker health and safety; documentation and cost recovery; permit requirements; reports of releases to the National Response Center ("NRC"); removal site evaluation and actions; remedial site evaluation; selection of a remedy; and providing an opportunity for public comment concerning the selection of a response action." Phase I Order, at 195 (citing 40 C.F.R. § 300.700(c)(5)-(6)). A "CERCLA-quality" cleanup is achieved "if the response action protects human health and the environment through the utilization of permanent solutions and alternative treatment or resource recovery technologies to the maximum extent possible." Young v. United States, 394 F.3d 858, 864 (10th Cir. 2005). Importantly, "[a]n 'immaterial or insubstantial' deviation, however, will not result in a cleanup that is 'not consistent' with the NCP." ITT Indus., Inc. v. Borgwarner, Inc., 700 F. Supp. 2d 848, 880 (W.D. Mich. 2010).

In light of the foregoing, the court declines to find that the VRP is a wholly insufficient remedy for the RCRA

violation identified in the Phase I Order. Firstly, it is clear that the VRP substantially complies with a CERCLA quality cleanup inasmuch as it is designed to protect human health and the environment, implement permanent solutions, and provides for some - albeit limited - public participation.

Certainly, it is not without its imperfections. Long testified that waste may remain in groundwater, and it has yet to resolve the seep of leachate from Filmont which was the subject of the original unilateral enforcement order. But it does aim to prevent offsite migration and to prevent such seeps.

Inasmuch as Simonton's critiques of the VRP were generalized and unspecific, and to the extent the EPA approved the VRP explicitly to accord with RCRA, and because Courtland did not engage in the public comment period that has already occurred despite arguing that more such periods are necessary, the court declines to find that, as applied in this case, the VRP is an insufficient method of remedying the RCRA Subtitle D violation identified in Phase I.

a. State Disciplinary Action

If, at any point before completion, UCC ends its participation in the VRP, it would become subject to a unilateral enforcement order by the WVDEP. When UCC first filed

its application with the WVDEP to enter Filmont and Massey into the VRP, it was denied "[b]ecause [UCC] w[as] the subject of a unilateral order under" state law. Tr. Trans. 671:6-19 (Long). The underlying basis for the unilateral order "were seeps from the landfill going into Davis Creek and going into [Ward Branch]". Id. 673:17-21 (Long). A unilateral enforcement order is "a written final order issued by a federal or state agency charged with enforcing environmental law, which compels the fulfillment of an obligation imposed by law, rule against a person without their voluntary consent." W. Va. Code § 22-22-2.

That unilateral order was converted to a consent order by the WVDEP, which conversion permitted Filmont and Massey to enter into the VRP. Id. 673:12-16. If UCC "decides to not participate in [the VRP]," the unilateral enforcement order would go back into effect. Id. 677:17-19.

b. Consistency with RCRA

Permitting UCC to continue and complete the VRP while working with the WVDEP is consistent with the remedial goals and structure of RCRA. "RCRA is not principally designed to effectuate the cleanup of toxic waste sites or to compensate those who have attended to the remediation of environmental hazards." Meghrig, 516 U.S. at 483. "RCRA's primary purpose, rather, is to reduce the generation of hazardous waste and to

ensure the proper treatment, storage, and disposal of that waste" to "minimize the present and future threat to human health and the environment." Id. (quotation marks omitted). To that end, Congress sought to "provid[e] technical and financial assistance to State and local governments . . . for the development of solid waste management plans" and empowered the EPA to authorize state programs in accordance therewith. 42 U.S.C. §§ 6902(a), 6926(b).

Pursuant to RCRA, as earlier noted, "West Virginia [] applied to EPA for final authorization of revisions to its hazardous waste program under [RCRA]," including the VRP, and EPA determined that West Virginia's application "meets all of the statutory and regulatory requirements established by RCRA," granting the state "final authorization to operate its hazardous waste program." West Virginia: Final Authorization of State Hazardous Waste Management Program Revisions, 78 Fed. Reg. 70229 (Nov. 25, 2013). EPA's approval "allow[s] the use of the cleanup standards of the VRP at RCRA corrective action sites." Id. at 702230.

The approval additionally relies upon a Memorandum of Agreement ("MOA") between the EPA and the WVDEP to "achieve cleanups that are protective of human health and welfare and the

environment through the appropriate use of the State voluntary remediation program."[8] Def. Ex. 388 (MOA).

Courts have consistently found that where a RCRA defendant is already participating in a mandatory state remedial program, that has been approved by the EPA, to remedy a potential or actual RCRA violation, it is not necessary to issue an injunction under RCRA. See Schmucker v. Johnson Controls, Inc., No. 3:14-CV-1593 JD, 2019 WL 718553, *2 (N.D. Ind. Feb. 19, 2019) (finding that the defendant's participation in Indiana's VRP "does not relieve [defendant] of its RCRA obligations; participating in that program is [defendant's] RCRA obligation") (emphasis in original); LAJIM, LLC v. Gen. Elec. Co., 917 F.3d 933, 948-49 (7th Cir. 2019) (upholding district court's denial of injunctive relief under RCRA where plaintiffs "have not provided the evidence necessary for this Court to second guess [defendant]'s Remedial Action Plan and order relief

[8] The court notes that the MOA's applicability is limited to "contaminated or potentially contaminated properties (brownfields) that are 'eligible response sites,' as defined by CERCLA §101(41)," and that the parties have agreed that Filmont is not a brownfield site. Def. Ex. 388 (MOA); see Tr. Trans. 24:3-8 (Donovan), 240:18-22 (Masterson stipulating that Filmont is not a brownfield). Nonetheless, the court takes it into consideration inasmuch as it helps articulate the purpose and scope of the VRP, which the EPA took into consideration in approving the VRP under RCRA.

in addition to what the [relevant state agency has already required") (internal quotations omitted); McCormick v. Halliburton Co., No. CIV-11-1272-M, 2012 WL 1119493, *2 (W.D. Okla. Apr. 3, 2012) (finding the relevant state department has primary jurisdiction over plaintiff's RCRA claims because though "RCRA clearly contemplates federal judicial intervention," the court's "involvement would likely cause further delay of the investigation of the Site and would result in substantial duplication of the efforts of the" state agency because the defendant was, pursuant to a mandatory consent order, "currently investigating/characterizing and remediating the Site and surrounding areas that may have been impacted under [state] oversight."); Ctr. for Biological Diversity, Inc. v. BP Am. Prod. Co., 704 F.3d 413, 431 (5th Cir. 2013) (finding a plaintiff was not entitled to injunctive relief against a defendant where the Executive Branch was "charged with the responsibility to oversee the cleanup," and where there was no reason to make a determination that the cleanup scheme was deficient or ineffective).

The Third Circuit's case of Trinity Indus., Inc. v. Chicago Bridge & Iron Co., 735 F.3d 131 (3d Cir. 2013), is also guiding. Pennsylvania had initiated enforcement proceedings against Trinity after an investigation regarding the alleged

release of hazardous substances at a facility that it owned. Id. at 133. Those proceedings resulted in "Trinity's entering into an agreement whereby it pleaded nolo contendere to five misdemeanor counts of unlawful conduct." Id. Trinity and the Pennsylvania Department of Environmental Protection entered into a consent order under state law "whereby Trinity agreed to fund and conduct "Response Actions" according to a schedule approved by DEP." Id. By the time the case was in the Third Circuit, Trinity claimed to have undertaken 'preliminary investigative work in anticipation of cleanup,' but 'ha[d] yet to perform shovel-in-the-ground remediation.'" Id. (citing Trinity Br. 55).

After it signed the consent order, Trinity sued defendant Chicago Bridge & Iron Co. ("CB&I"), a prior owner of the site, under RCRA, CERCLA, and state law, claiming CB&I was partially responsible for the contamination and seeking contribution for its share of remediation costs under CERCLA and seeking a mandatory injunction under RCRA requiring CB&I's participation in the cleanup. The district court denied Trinity's injunctive relief under RCRA, holding that the "Consent Order rendered any injunctive relief futile." Id. at 139.

The Third Circuit affirmed the district court's denial of injunctive relief under RCRA. Id. at 139-40. In doing so,

the court cited Meghrig's logic that RCRA's primary purpose is "to reduce the generation of hazardous waste and to ensure the proper treatment, storage, and disposal of that waste" to "minimize the present and future threat to human health and the environment." Id. at 140. The court then concluded that, inasmuch as Trinity has failed to establish that compelling CB&I's participation will aid in the minimization of such threats, the Consent Order appears effective and injunctive relief is not "necessary" under RCRA. Id. The district court's denial of an injunction under RCRA was deemed proper. See id.

Certainly, there are some significant differences between the facts of Trinity and this matter. For example, there, the relevant consent order was binding and in effect prior to the commencement of the suit whereas, here, the VRP is voluntary, was not in effect when Courtland sued, and was entered into during litigation. However, the voluntary nature of the VRP is abated by the fact that, were UCC to back out, it would immediately become subject to a WVDEP unilateral enforcement order and face state enforcement, which would include enforcement of federal laws, including RCRA. Though UCC was not in the VRP when Courtland II was initiated in 2019, by the time the Phase II trial occurred, it had been in the VRP for approximately two years and four months, from October 13,

2021, to February 13, 2024. See Phase I Def. Ex. 128 (Voluntary Remediation Agreement) (dated Oct. 13, 2021). During Phase II, the court heard significant testimony about its purpose, process, and intended effect at trial and found that it is intended to and will comply with RCRA. See, e.g., Tr. Trans. 113:17-115:5 (Simonton) (testifying that the VRP shares the same components as the NCP and is "headed in the right direction" regarding its remedial investigation); Tr. Trans. 537:20-543:17 (Carpenter) (providing an overview of the VRP process); Tr. Trans. 666:23-668:23 (Long) (providing high-level overview of the steps of the VRP and noting that RCRA and CERCLA both "apply" to the VRP); see also 47 Fed. Reg. 57026, 51029 (Oct. 23, 1998).

In sum, the court concludes that because UCC has entered into the WVDEP's Voluntary Remediation Program, being a program which has been approved by the EPA to accord with both RCRA and CERCLA and the purpose of which is, among others, to prevent offsite migration of contaminants, and because UCC's failure to complete the VRP would prompt state environmental enforcement actions under a state statutory and regulatory scheme that includes the requirements of RCRA, a scheme which has also been approved by the EPA, the proper remedy for the

RCRA Subtitle D violation found in Phase I is to permit UCC to complete the VRP without additional injunctive requirements.

II. CERCLA

There are three overarching CERCLA remedy questions to be resolved. First, the court must adjudicate UCC's challenges to the response costs of $27,142.50 Courtland incurred and determine whether UCC is entitled to any contribution with respect thereto from Courtland. Second, the court must determine whether and to what extent UCC can recover its alleged response costs of $199,942.52. And third, the court must determine liability for future response costs incurred by Courtland.

A. UCC's § 113(f) Contribution Claim as to Courtland's Costs

UCC brought a counterclaim against Courtland for contribution under CERCLA § 113(f). See UCC's Answer, Affirmative Defenses, and Counterclaim, at 43 ECF No. 304 (2:19-cv-894). CERCLA § 113(f)(1) enables "[a]ny person to seek contribution from any other person who is liable or potentially liable under [CERCLA § 107(a)], during or following any civil action under [CERCLA § 106 or § 107(a)]." 42 U.S.C. § 9613(f)(1). "A party making a claim under CERCLA § 113(f) bears the burden of proving: 1) that the defendant is a responsible

party under § 107(a) of CERCLA; and 2) the defendant's equitable share of costs." Ashley II of Charleston, LLC v. PCS Nitrogen, Inc., 791 F. Supp. 2d 431, 490 (D.S.C. 2011), aff'd, 714 F.3d 161 (4th Cir. 2013) (citing Minyard Enterprises, Inc. v. Se. Chem. & Solvent Co., 184 F.3d 373, 385 (4th Cir. 1999)).

"In resolving such claims, the court may allocate response costs among liable parties using such equitable factors as the court determines appropriate." Id. The court "has considerable discretion as to what and how many equitable factors it will consider in allocating Response Costs among the responsible parties," Minyard, 184 F.3d at 385, and may use any equitable factor the court deems appropriate. See Carolina Pines I, LLC v. City of Abbeville Pub. Works, 2018 U.S. Dist. LEXIS 240104, at *29 (D.S.C. Nov. 14, 2018) (citing Dent v. Beazer Materials & Servs., Inc., 993 F. Supp. 923, 950 (D.S.C. 1995) (noting the court ""is not limited to any specific equitable factors in deciding how to apportion liability")); see also Kerr-McGee Chem. Corp. v. Lefton Iron & Metal Co., 14 F.3d 321, 326 (7th Cir. 1994) ("CERCLA not only entrusts the district court to make the ultimate equitable allocation of costs, but it also grants the court the authority to decide which equitable factors will inform its decision in a given case."). The resolution of a § 113(f) contribution claim is a "fact-intensive

inquiry [that] is particularly suited to case-by-case analysis." Carolina Pines I, 201 U.S. Dist. LEXIS 240104, at *29 (quoting NCR Corp. v. George A. Whiting Paper Co., 768 F.3d 682, 695 (7th Cir. 2014)).

Prior courts have been guided by six equitable factors known as the "Gore factors," which were derived from the legislative history of CERCLA" and bear relevance to many cases thereunder. Ashley II of Charleston, 791 F. Supp. 2d at 490; see Dent, 993 F. Supp. at 950; see also United States v. R.W. Meyer, Inc., 932 F.2d 568 (6th Cir. 1991) (Guy, J., concurring) (noting that the Gore factors were present in Representative Gore's legislative proposal and that "Congress implicitly retained the essence of the Gore Factors and intended to reject only mandatory legislative standards," supporting the "proposition that Congress intended the court to have flexibility in determining apportionment") (citing 126 Cong. Rec. 26,779, 26,781 (1980)); H.R. Rep. No. 253 (III), 99th Cong., 1st Sess. 19 (1985), reprinted in 1986 U.S. Code Cong. & Admin. News 2835, 3042.). The Gore factors will be addressed below.

"Other courts have also considered: 1) the economic benefit to each party associated with releases of hazardous wastes, and 2) each party's ability to pay its share of the

cost." Id. (citing Weyerhaeuser Co. v. Koppers Co., 771 F. Supp. 1420, 1427 (D. Md. 1991); United States v. Davis, 31 F.Supp.2d 45, 63 (D.R.I.1998)). Additionally, in Phase I of this matter, the court explicitly invited UCC to offer evidence as to excessiveness of Courtland's response costs.

UCC's threshold burden to sustain its CERCLA § 113(f) claim for contribution as to Courtland's response costs incurred during its June and July 2021 sampling of its property next to its northern border with UCC's Filmont is that it must show that Courtland is a responsible party under CERCLA § 107(a).

In the Phase I Order, the court concluded that Courtland established that it was entitled to recover $27,142.50 in response costs against UCC pursuant to CERCLA § 107(a)(1)(B). See Phase I Order, at 404. The court also concluded:

> [T]here is no question that hazardous substances have come to be located in the groundwater on the Courtland Property -- of which Courtland is the owner and operator -- as evidenced by the results of Dr. Simonton's June and July 2021 groundwater sampling thereon. It is also evident that both historic uses of and ongoing industrial operations at the Courtland Property are contributing sources to its groundwater contamination as explained in detail in Section III.G. at pages 111-136 [in the Phase I Order].
>
> Simply stated, UCC and Courtland are both contributing to the same harm at issue in this action: the contamination of groundwater on the Courtland Property. Thus, to hold UCC 100%

> liable for the costs Courtland expended on its 2021 groundwater investigation, which revealed the presence of multiple hazardous substances in the groundwater on the northern portion of the property, would produce an inequitable result given the court's finding that Courtland is also a contributing source.

Phase I Order, at 219-20. Inasmuch as Courtland is an "owner" of its property on which Dr. Simonton found contamination in the groundwater, and the court has already concluded that it is a party responsible for the contamination for which it obtained § 107(a) liability against UCC, UCC has satisfied its initial burden of establishing that Courtland is a responsible party therefor under § 107(a).

UCC seeks to establish three main equitable bases for the court to allocate certain of Courtland's response costs back to Courtland. The court turns to whether UCC has carried its burden of establishing an "equitable share of costs" of the $27,142.50 between UCC and Courtland and will initially consider the three bases urged by UCC. Ashley II of Charleston, LLC, 791 F. Supp. 2d at 490.

First, UCC contends that the costs incurred by Courtland were excessive. UCC's expert, Mr. MacPherson, offered testimony that boiled down to the argument that Dr. Simonton's fees, charged at his $350 per hour rate, were excessive because he performed field work himself instead of delegating such tasks

to people at a lower hourly rate. See Tr. Trans. 290:7-291:6 (MacPherson: Feb. 13, 2024) (discussing Phase I Pl. Ex. 500, ECF No. 258-13 in 2:21-cv-487). Specifically, for example, MacPherson testified that one "would typically use $80 to $85 for an hour for well installation and development. Something similar to that, up to $120 for site oversight." Id. at 291:10-16.

Mr. MacPherson presented his firm's invoices totaling $199,942.52 incurred by UCC for its alleged CERCLA response costs, which UCC also seeks to recover from Courtland via contribution, as an example of non-excessive billing. See Tr. Trans. 291:17-25 (MacPherson). And so, turning to those invoices, MacPherson is correct in that those doing UCC's sampling charged much lower rates - ranging from $85 to $128 an hour - than Dr. Simonton's $350 an hour. See Phase I Def. Ex. 51, ECF No. 260-12, at 3 (PageID #10429). Yet, MacPherson's agency also invoiced costs for travel and oversight for such field work at costs between $200 and $310 per hour. Id. at 9 (PageID 10434). In view of the combined cost of $285 at the low end to $438 at the high end (for which the court lacks sufficient evidence to specify further) - which UCC also seeks to recover via contribution - the court declines to find that Simonton's blanket rate of $350 per hour for his fieldwork is

excessive. The court also declines to find Simonton's rate excessive when overseeing fieldwork, Tr. Trans. 290:7-15 (Simonton), inasmuch at UCC's experts also charged for overseeing fieldwork at rates not dissimilar to Simonton's rate.

Similarly, MacPherson testified that Simonton's $350 per hour rate for "report development" (the development of planning) is excessive inasmuch as he believed a more "typical[]" rate would be about $150 an hour. Tr. Test. 291:12-16 (MacPherson: Feb. 13, 2024). In the same vein as above, the court declines to find Simonton's rate excessive because UCC itself seeks to recover MacPherson's rate of $310 per hour for block bills which included, inter alia, "[d]rafting of initial sampling plan" and reviewing past reports and data. See Phase I Def. Ex. 51, ECF No. 260-12, at 5-12.

In brief summation of those three contentions by UCC, the court declines to equitably allocate UCC's § 107(a) liability to Courtland on the grounds that Courtland's costs were excessive.

Second, UCC offered testimony from MacPherson seeking to argue that Simonton's work was subpar and thus the costs for that work should be allocated such that Courtland pays 95% of those costs. See Tr. Trans. 303:9-304:24 (MacPherson) (arguing that Courtland's quality assurance measures were substandard,

and that Courtland did not follow proper sampling procedure). UCC, however, does not offer any testimony, evidence, or authority to suggest why the cost of Simonton's allegedly subpar work - which work in this context the court has already found credible and relied upon despite UCC's challenges thereto in Phase I - should be allocated so heavily to Courtland. Inasmuch as the court has already found Simonton's work to have been NCP compliant (and explicitly foreclosed a challenge to such costs on NCP compliance grounds, see Phase I Order, at 213), the court declines to equitably allocate associated costs on the grounds that UCC's expert believes such work to be subpar.

Third, UCC elicited testimony from Courtland's corporate representative, John Truslow, that Courtland has not expended any cost or resources on actually cleaning up its property, on which it identified the hazardous substances that form the basis for this action. See Tr. Trans. 83:20-86:17 (Truslow, cross examination). UCC also elicited testimony from Simonton that, other than reports he prepared for Phase II, he has not taken "any other sampling" or developed "any type of site conceptual plan [or] groundwater elevation mapping," Tr. Trans. 154:10-20 (Simonton), which UCC argues indicates that Courtland has not engaged in any cleanup on its property, despite the data collected during Simonton's 2021 sampling, see

UCC Prop. Conl. Law, at 37. The policy of CERCLA, however, does not require that a party incur clean-up fees prior to filing suit or trial inasmuch as § 113 clearly contemplates future clean-up costs, requiring in § 107 actions that a court "enter a declaratory judgment on liability for response costs or damages that will be binding on any subsequent action or actions to recover further response costs or damages." § 113(g)(2). Accordingly, the court declines to find that Courtland's investigatory costs be largely allocated to Courtland simply because it has not yet acted upon the findings thereof.

Nonetheless, the court turns to and rates, parenthetically below, the factors first mentioned as bearing upon the allocation of Courtland's $27,142.50 response costs, beginning with the Gore factors. The factors are (1) "the ability of the parties to demonstrate that their contribution to a discharge, release, or disposal of a hazardous waste can be distinguished" from another party's contribution (neither party established an ability to do so by the preponderance of the evidence); (2) "the amount of hazardous waste involved" (though the court identified three hazardous substances, none were established to pose a risk to human health or the environment, see Phase I Order, at 183-84); (3) "the toxicity of the hazardous waste above" (same as previous); (4) "the degree of

involvement by the parties in the generation, transportation, treatment, storage, or disposal of the hazardous waste, especially waste driving the remediation" (UCC appears to be the primary cause, but Courtland is also a contributing source); (5) "the degree of care exercised by the parties with respect to the hazardous waste concerned, taking into account the characteristics of such hazardous waste" (none); and (6) "the degree of cooperation by the parties with Federal, State, or local officials to prevent harm to the public health or the environment" (none with respect to this issue). Ashley II of Charleston, 791 F. Supp. 2d at 490 (analyzing the Gore factors). In all, the Gore factors generally counsel an even equitable allocation of Courtland's investigatory costs.

As to the other equitable factors that have been addressed, courts have considered the economic benefit to each party associated with the releases of hazardous wastes (UCC benefited from noncompliance by saving costs) and each party's ability to pay its share of the cost (no evidence offered but obvious that UCC has the ability and so, too, does Courtland with respect to the monetary levels contemplated in this case).

The court finds that, because it concluded in Phase I based on a preponderance of the evidence that it was more likely than not that both Courtland and UCC contributed to the

hazardous substance contamination at issue herein, and neither party offered convincing evidence in Phase II in support of how Courtland's response costs should be equitably allocated, the appropriate equitable allocation of CERCLA costs in this matter is generally an even split with a tilt in favor of Courtland.

With respect to Courtland's CERLCA § 107(a)(1)(B) costs of $27,142.50 from Simonton's June and July of 2021 sampling, the court additionally considers that the sampling occurred "on the northern portion of the Courtland Property, lying between the Southern Boundary Ditch and the property line with Filmont but near the property line," which is a different portion of the Courtland property than where much of Courtland's historical and current operations occur. Phase I Order, at 112; id. 110-135 (discussing Courtland's activities and possible contamination in its southern portion). In sum, it appears to the court that UCC must bear the brunt of the costs associated with such sampling and finds that the appropriate allocation for Courtland's June and July 2021 sampling costs be 75% on UCC and 25% on Courtland. The court thus concludes that UCC is entitled

to contribution from Courtland for $6,785.63 under CERCLA § 113(f).[9]

B. UCC's § 113(f) Contribution Claim as to UCC's Costs

UCC additionally seeks an equitable allocation of its own response costs under CERCLA § 113(f). Specifically, UCC seeks an equitable allocation of the $199,942.52 that it

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[9] To the extent Courtland maintains UCC is not entitled to contribution under CERCLA § 113(f) inasmuch as the court has not found that UCC and Courtland share common liability for a common harm, the same is without merit. In the Phase I Order, the court explicitly found that "UCC and Courtland are both contributing to the same harm at issue in this action: the contamination of groundwater on the Courtland Property." Phase I Order, at 219. The court explained in detail in that Order the basis for that conclusion, which it declines to repeat herein. See Phase I Order at 111-136, 216-220.

To the extent Courtland suggests the court should have undertaken an analysis of whether such harm was divisible, such assertion is likewise without merit inasmuch as at no point during the litigation did UCC raise a divisibility or apportionment defense under CERCLA § 107. See, e.g., Burlington Northern and Santa Fe Ry. Co. v. U.S., 556 U.S. 559, 616 n.9 (2009)(internal citations and quotations omitted)(explaining "[a]pportionment . . . looks to whether defendants may avoid joint and several liability by establishing a fixed amount of damage for which they are liable, while contribution actions allow jointly and severally liable [potentially responsible parties] to recover from each other on the basis of equitable considerations."); New York v. Solvent Chemical Co., Inc., 453 F. App'x 42, 46 (2d Cir. 2011) (explaining that "[d]ivisibility (or apportionment) is inapplicable to contribution claims under section 113(f); it is a common law doctrine that may be used to blunt the harshness of joint-and-several liability under section 107(a)."). Instead, UCC brought a counterclaim for contribution, or equitable allocation, under CERCLA § 113(f).

"expended . . . on costs associated with its soil investigation on the southeastern area of the Courtland Property, which MacPherson avers was both reasonable and necessary in order to determine if Courtland could be a source of the contamination detected thereon." Phase I Order, at 31-32. The court reserved for Phase II "a decision as to whether UCC will be permitted to recover from Courtland any of the $199,942.52 UCC expended on its December 2020 soil investigation of the Courtland Property." Id. at 220 n.82.

"Section 113(f)(1) authorizes a contribution action to [potentially responsible parties] with common liability stemming from an action instituted under . . . § 107(a)," while "§ 107(a) permits cost recovery (as distinct from contribution) by a private party that has itself incurred cleanup costs." U.S. v. Atlantic Research Corp., 551 U.S. 128, 139 (2007). Thus, "a [potentially responsible party] that pays money to satisfy . . . a court judgment may pursue § 113(f)(1) contribution." Id. Importantly, however, "by reimbursing response costs paid by other parties, the [potentially responsible party] has not incurred its own costs of response and therefore cannot recover under § 107(a)." Id. "As a result, though eligible to seek contribution under § 113(f)(1), the [potentially responsible party] cannot simultaneously seek to recover the same expenses

under § 107(a)." Id. In other words, in contribution actions, a responsible party, in this case UCC, cannot seek to recover its own response costs but instead can only seek to recover a portion of the response costs it has been found liable for under CERCLA § 107(a) from other parties bearing some responsibility for those same costs on equitable grounds.

Here, the only response costs UCC has been found liable for under CERCLA § 107(a) is with respect to the $27,142.50 Courtland expended on its June and July 2021 groundwater sampling investigation on the Courtland property. The $27,142.50 worth of response costs are thus the only costs eligible for an equitable allocation under CERCLA § 113(f) given the court's finding that Courtland bears some responsibility for the same. Conversely, the $199,942.52 in costs UCC expended on its December 2020 soil investigation on the Courtland property were incurred on its own accord and were not the subject of Courtland's CERCLA § 107(a) claim. Simply put, UCC was not found liable under CERCLA § 107(a) for the $199,942.52 worth of costs associated with its December 2020 soil investigation. Such costs are thus not eligible for an equitable allocation under CERCLA § 113(f).

Accordingly, the court concludes that UCC bears sole responsibility for the $199,942.52 it expended on its December 2020 soil investigation on the Courtland property.

C. Declaratory Judgment Claims under CERCLA § 113(g)(2)

In Courtland II, Courtland, as part of its § 107(a) claim for response costs, maintains a cause of action seeking declaratory relief as to future response costs under CERCLA § 113(g)(2). In the same action, UCC maintains a counterclaim for declaratory relief as to future response costs under CERCLA § 113(g)(2).

In Phase I, as to Courtland's claim for declaratory relief, the court concluded:

> Pursuant to section 113(g)(2) of CERCLA, "[i]n any such action described in this subsection, the court shall enter a declaratory judgment on liability for response costs or damages that will be binding on any subsequent action or actions to recover further response costs or damages." 42 U.S.C. § 9613(g)(2). "As this statutory language makes clear, under § 113(g)(2), '[t]he entry of declaratory judgment as to liability is mandatory.'" Dent v. Beazer Materials and Services, Inc., 156 F.3d 523, 531 (4th Cir. 1998) (quoting Kelley v. E.I. DuPont de Nemours & Co., 17 F.3d 836, 844 (6th Cir. 1994)).
>
> The award of declaratory judgment pertains only to the fact of liability, not the amount, and thus "the speculative nature of . . . future costs is no bar to a present day declaration of liability." United States

> v. Fairchild Indus., Inc., 766 F. Supp. 405, 415 (D. Md. 1991)). Indeed, "[p]ermitting prompt declaratory judgments encourages prompt remedial action." Dent, 156 F.3d at 532.
>
> Inasmuch as UCC is liable under CERCLA 107(a) for at least some of the groundwater contamination detected on the northern portion of the Courtland Property, declaratory judgment against UCC for any future remediation costs Courtland may choose to incur in efforts to remediate the same is proper. This imposition of future liability does not prevent UCC from challenging any actual future costs incurred by Courtland as unnecessary, inconsistent with the NCP, or unreasonable. Nor does it preclude UCC from seeking an equitable allocation of such costs from Courtland.

Phase I Order, at 214-15; see also Phase I Order, at 403 ("Courtland is likewise entitled to declaratory judgment under CERCLA § 113(g)(2) against UCC for any future remediation costs Courtland may choose to incur in efforts to remediate the Courtland Property, which will be subject to an equitable allocation between the parties").

As to UCC's claim for declaratory relief, the court, finding that declaratory relief under CERCLA § 113(g)(2) "is permissible in connection with a [§ 113(f)] contribution claim," Phase I Order, at 221 (collecting cases), concluded:

> Just as it would be inequitable to hold UCC liable for the entirety of the response costs that Courtland has already incurred, it would likewise be inequitable to hold UCC 100% liable for any future response costs Courtland

> may choose to incur in efforts to remediate its groundwater contamination when Courtland itself is a contributing source.
>
> Accordingly, in the event that Courtland chooses to incur further response costs associated with remediating the groundwater contamination at the Courtland Property, UCC will be entitled to an equitable allocation of such costs.

Phase I Order, at 221-22; see also Phase I Order, at 404 ("UCC is entitled to declaratory judgment under CERCLA § 113(g)(2) declaring that UCC is entitled to contribution respecting any future response costs Courtland chooses to incur in efforts to remediate the Courtland Property; thus, any such costs will be subject to an equitable allocation between the parties").

Seeing no reason to disturb these conclusions, the court incorporates them herein. The court concludes that Courtland is entitled to declaratory judgment under CERCLA § 113(g)(2) that UCC is liable to it for future response costs incurred in an effort to remediate the groundwater contamination detected on the northern portion of the Courtland Property, which costs may nonetheless be challenged by UCC in future actions as unnecessary, unreasonable, or inconsistent with the NCP and subject to an equitable allocation between the parties.

III. CLEAN WATER ACT

The court found in Phase I that "UCC violated the Clean Water Act inasmuch as UCC discharged stormwater associated with industrial activity by a shallow drainage channel running along the [Filmont] facility's fence line north of Courtland and then across Courtland into the Southern Boundary Ditch as well as by the two Massey Railyard culverts into the Southern Boundary Ditch, and on to Davis Creek, without a permit." Phase I Order at 402; see 33 U.S.C. § 1311(a); 33 U.S.C. § 1342(p). Accordingly, the court must determine the appropriate relief.

In citizen suits brought under the CWA, the court has jurisdiction to issue an injunction against a violator to enforce an "effluent standard or limitation" of the CWA and to "apply any appropriate civil penalties under" 33 U.S.C. § 1319(d). 33 U.S.C. § 1365(a).

A. Injunctive Relief

As to the proper injunctive relief, the court found UCC to be in violation of the CWA inasmuch as its discharges were not permitted in accordance with 33 U.S.C. § 1342. See Phase I Order at 402. "[A] pollutant may be discharged into United States waters upon receipt of a permit under the National Pollutant Discharge Elimination System ("NPDES")." Ohio Valley

Env't Coalition, Inc. v. Shepard Boone Coal Co., No. 2:15-CV-01488, 2017 WL 662119 (S.D.W. Va. Jan. 30, 2017) (citing § 1342). The NPDES permits the EPA or an authorized state agency to "issue a permit allowing for the discharge of a pollutant if the discharge complies with certain CWA provisions." Id. Under § 1365 of the CWA, the court has jurisdiction to require UCC to comply with the § 1342 permitting scheme in order to "effectuate the stated goals of the Clean Water Act 'to maintain the chemical, physical, and biological integrity of the Nation's waters,' 33 U.S.C. § 1251 (1983)." United States v. Cumberland Farms of Connecticut, Inc., 826 F.2d 1151, 1164 (1st Cir. 1987).

UCC has represented that it is in the process of obtaining an NPDES permit so that its discharges will not be unpermitted. See Tr. Trans. 563:5-21 (Carpenter: Feb. 16, 2024). During trial, when asked whether obtaining such permits for Filmont and Massey would be completed within "roughly" six months of the trial date, Mr. Carpenter testified that he expected it to be "faster than that." Tr. Trans. 179:10-12 (Carpenter: February 13, 2024). After trial, UCC filed a notice to the court that it "submitted an application for a[n NPDES] Industrial Permit for Massey Railyard on June 26, 2024." Defendant's Notice of Submission of NPDES Permit Application, ECF No. 356 in Courtland IV (filed July 3, 2024). Therein, UCC also represents, with respect to the Filmont shallow drainage

channel, that a "separate Application for a NPDES Permit for Filmont Landfill has been substantially completed and is awaiting another required sample for submission." Id.

The parties substantially agree that if UCC were to obtain the necessary discharge permits under the CWA, UCC would no longer be in violation thereof. See Tr. Trans. 38:25-39:5 Proposed Integrated Statement of Issues at 38, ECF No. 299 in Courtland IV (Courtland asking the court to "enjoin UCC to obtain the necessary stormwater discharge permits"); Defendant's Motion for Adoption of Litigation Plan for Phase II of Trial at 5, ECF No. 284 in Courtland IV. Courtland specifically seeks a permanent injunction requiring UCC to (1) cease its unpermitted stormwater discharges from Filmont and Massey, and (2) obtain the necessary NPDES permits for such discharges. See Courtland's Proposed Findings of Fact and Conclusions of Law at 20, ECF No. 331 in Courtland IV.

The CWA "does not require a district court to enjoin all violations of the CWA's permit requirements." Forest Serv. Emps. for Env't Ethics v. United States Forest Serv., 674 F. Supp. 3d 959, 967 (D. Mont. 2023) (citing Weinberger v. Romero-Barcelo, 456 U.S. 305, 320 (1982)). Indeed, as recognized by the Supreme Court, the "grant of jurisdiction to ensure compliance with a statute hardly suggests an absolute duty to do

so under any and all circumstances, and a federal judge . . . is not mechanically obligated to grant an injunction for every violation of the law." Romero-Barcelo, 456 U.S. at 313; see also id. at 320 (concluding the district court did not err in declining to issue a permanent injunction and instead ordering the Navy to apply for an NPDES permit inasmuch as "[t]he District Court did not face a situation in which a permit would very likely not issue, and the requirements of the statute could therefore not be vindicated if discharges were permitted to continue."); Forest Serv. Emps., 674 F. Supp. 3d at 967 (concluding "the objective of the CWA is likely to be achieved here in due course without need for a permanent injunction in the interim" inasmuch as defendant had begun the process of obtaining the requisite NPDES permit.); Stone v. High Mountain Co., LLC, 627 F. Supp. 3d 1211, (D. Colo. 2022), rev'd and remanded on other grounds, 89 F.4th 1246 (10th Cir. 2024) (declining to issue a permanent injunction respecting defendant's CWA violations inasmuch as plaintiffs had failed to show irreparable harm and "an injunction requiring [defendant] to obtain an NPDES permit would constitute an impermissibly vague obey-the-law injunction . . . .").

As mentioned above, UCC established at trial and reiterated thereafter that it is in the process of obtaining the

necessary NPDES permits for the stormwater discharges identified by the court emanating from Filmont and Massey. The estimated timeframe for obtaining these permits is within the next six (6) months and there is no evidence to suggest the permits will not be obtained. Further, for many of the same reasons articulated above, Courtland has again failed to make the requisite showing for a permanent injunction inasmuch as the record is devoid of any evidence that it or the public will suffer irreparable harm unless a permanent injunction should issue. While the court recognizes that stormwater associated with industrial activity constitutes a pollutant under the CWA, at no point during the entirety of the litigation did Courtland sample the stormwater being discharged from the Filmont drainage channel or the two Massey culverts. Nor did Courtland ever sample the Southern Boundary Ditch. Without any such evidence, there is no basis for the court to find any irreparable harm to Courtland, the public, the environment, or otherwise that would warrant issuance of a permanent injunction.

Accordingly, the court finds issuance of a permanent injunction unnecessary under the circumstances in light of UCC's evident commitment to obtaining the necessary permits and concludes Courtland has failed to meet its burden in establishing the necessity of a permanent injunction. However,

the court orders UCC to secure the necessary NPDES permits to remedy the unpermitted stormwater discharges identified herein in violation of the CWA within six (6) months of the date of this memorandum opinion and order. UCC shall likewise submit status reports to the court every two months from entry of this order until the permits have been obtained.

B. Civil Penalties

As to civil penalties, the CWA commands that "[a]ny person who violates section 1311 . . . shall be subject to a civil penalty not to exceed $25,000 per day for each violation." 33 U.S.C. § 1319(d). As of December 27, 2023, for violations of the CWA that occurred after November 2, 2015, where penalties are assessed on or after December 27, 2023, the $25,000 statutory civil penalty has been adjusted upward to $66,712 to account for inflation. See 40 C.F.R. § 19.4, Table 1.[10] The

[10] In their Proposed Findings of Fact and Conclusions of Law, citing Table 1 of 40 C.F.R. § 19.4, the parties assert the maximum penalty when adjusted for inflation is $64,618, as opposed to $66,712. The $64,618 amount, however, arises from a previous version of the regulation that was effective from January 6, 2023, to December 26, 2023. See 40 C.F.R. § 19.4, Table 1 (Jan. 6, 2023) (providing the maximum civil penalty under 33 U.S.C. § 1319(d) for violations of the CWA that "occurred after November 2, 2015, where penalties are assessed on or after January 6, 2023" is $64,618). Effective December 27, 2023, the regulation was amended and now provides that the applicable maximum civil penalty is $66,712 for violations of the CWA that "occurred after November 2, 2015, where penalties

Fourth Circuit has held that the statutory language of section 1319(d) mandates a civil penalty: "This language leaves little doubt that, under the circumstances of this case, a penalty in some form is mandated." Stoddard v. W. Carolina Reg'l Sewer Auth., 784 F.2d 1200, 1208 (4th Cir. 1986); see Foster v. United States Env't Prot. Agency, No. CV 2:14-16744, 2019 WL 4148067 (S.D.W. Va. Aug. 29, 2019); see also Atl. States Legal Found., Inc. v. Tyson Foods, Inc., 897 F.2d 1128, 1142 (11th Cir. 1990) ("This language makes clear that once a violation has been established, some form of penalty is required."). "Courts are afforded broad discretion in setting the penalty amount." Foster, 2019 WL 4148067, at *2; see United States v. Smithfield Foods, Inc., 191 F.3d 516, 526-27 (4th Cir. 1999) ("Because of the difficulty of determining an appropriate penalty in a complex case such as this one, we give deference to the 'highly discretionary calculations that take into account multiple factors [that] are necessary in order to set civil penalties

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are assessed on or after December 27, 2023." See 40 C.F.R. § 19.4, Table 1 (Dec. 27, 2023). Under the current version of the regulation, the $64,618 amount is now applicable to "violations that occurred after November 2, 2015, where penalties were assessed on or after January 6, 2023, but before December 27, 2023." Id. (emphasis added). While the court found UCC liable for CWA violations on September 28, 2023, it is assessing the civil penalty for those violations herein. The $66,712 amount is thus the applicable maximum "per day for each violation" penalty.

under the Clean Water Act.'") (quoting Tull v. United States, 481 U.S. 412, 427 (1987)); Catskill Mountains Chapter of Trout Unlimited, Inc. v. City of New York, 451 F.3d 77, 87 (2d Cir. 2006) ("District courts have broad discretion in calculating civil penalties under the CWA.")).

UCC does not dispute that a civil penalty is an appropriate form of remedy, but the parties disagree as to the number of violations subject to penalty and the impact, if any, of the statute of limitations on the court's determination of the number of violations.

To ascertain the appropriate civil penalty, courts begin with one of two anchor points: either "with the violator's estimated economic benefit from noncompliance (known as the 'bottom-up' method) or with the statutory maximum allowable penalty (known as the 'top-down' method)." Foster, 2019 WL 4148067, at *3 (quoting Catskill Mountains, 451 F.3d at 87); see Smithfield Foods, Inc.,191 F.3d at 528, n.7 ("the CWA does not require the use of either [the bottom-up or the top-down] method, however, courts have applied both.") (collecting cases of application of both methods). Using that anchor point, courts adjust the value provided by either method (upward if using bottom-up, downward if using top-down) by applying the six factors set forth by the CWA: "[(1)]the seriousness of the

violation or violations, [(2)]the economic benefit (if any) resulting from the violation, [(3)]any history of such violations, [(4)] any good-faith efforts to comply with the applicable requirements, [(5)] the economic impact of the penalty on the violator, and [(6)] such other matters as justice may require." 33 U.S.C. § 1319.

Here, Courtland did not set forth sufficient evidence for the court to determine the economic benefit UCC received from its noncompliance with the CWA at Filmont and Massey, which would be necessary input for the bottom-up method. Accordingly, the court finds that it is most appropriate to apply the top-down method, and the court must first determine the statutory maximum allowable penalty.

Again, the parties differ as to the number of violations warranting imposition of a civil penalty. Courtland appears to take the position that the court may assess a civil penalty for each day UCC failed to obtain a stormwater permit, irrespective of whether Courtland presented evidence demonstrating an unpermitted stormwater discharge occurred on those dates. Specifically, Courtland asserts "UCC is liable for violations for each and every day from February 4, 1991, to the present" for unpermitted stormwater discharges to the Southern Boundary Ditch from Filmont and from each of the two Massey

culverts, "totaling three violations per day" throughout that thirty-three-year period. See Plaintiff's Proposed Findings of Fact and Conclusions of Law at 19.

Conversely, UCC contends the court may only assess a civil penalty for the unpermitted stormwater discharges Courtland proved occurred during the liability phase of trial -- -- those being the stormwater discharges Dr. Simonton observed on a single day in 2022 from the Filmont drainage channel and the Massey culverts. In other words, UCC contends it did not violate the CWA every day it did not have a permit, but only violated the CWA "for discharging stormwater without a permit." See Defendant's Final Proposed Findings of Fact and Conclusions of Law for Phase II of Trial ¶ 295 (emphasis in original). Simply put, UCC asserts "[i]f stormwater was never discharged from Filmont [or Massey], then it is irrelevant whether [it] had a CWA permit." Id.

The court agrees with UCC's position that any civil penalty imposed must be based on the actual, unpermitted stormwater discharges Courtland established during the liability phase of trial, as opposed to every day UCC failed to obtain a CWA permit. See Alaska Cmty. Action on Toxics v. Aurora Energy Servs., LLC, No. 3:09-cv-00255-TMB, 2011 WL 13069517, at *11 (D. Alaska Jan. 10, 2011) (concluding "that any civil penalties

imposed under § 1319(d) should be calculated only with respect to days involving actual discharges of pollutants."); see also Kleinman v. City of Austin, 310 F. Supp. 3d 770, 782 (W.D. Tex. 2018) (explaining that "[t]he maximum penalty is calculated according to the number of days on which a violation occurred.")(emphasis added)). This is so inasmuch as UCC's "lack of a permit is not, in and of itself, a violation" of the CWA "absent a discharge of a pollutant," in this case, stormwater associated with industrial activity. Id. Indeed, if the court were to adopt Courtland's position, it would essentially be imposing a penalty for every day from February 1991 to the present, regardless of whether a pollutant (i.e., stormwater associated with industrial activity) was discharged from the Filmont drainage channel or the Massey culverts. A simple observation illustrates why Courtland's position is flawed: in order to establish a discharge of stormwater, rainfall is doubtless necessary, and it is evident that it did not rain every day from 1991 to the present.

In order to properly identify the number of days from 1991 to the present where an unpermitted discharge of stormwater occurred from the locations previously identified, Courtland would have had to present expert testimony or some other evidence during the liability phase of trial establishing (1)

the amount of rainfall necessary to trigger a stormwater discharge from the Filmont drainage channel and the Massey culverts, and (2) rainfall data demonstrating the days from 1991 to the present when that amount of rainfall occurred. Courtland presented no such evidence at any point during the liability phase.[11] Instead, it only elicited testimony from Dr. Simonton

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[11] Presumably recognizing its failure to elicit such expert testimony from Dr. Simonton and produce any relevant rainfall data during the liability phase of trial, Courtland attempted to do so in Phase II, which became the subject of two Motions in Limine filed by UCC seeking to preclude such evidence and testimony as outside Phase II's scope, which was limited to an assessment of damages for the violations of CERCLA, RCRA, and the CWA found in Phase I. See ECF Nos. 614, 615.

On the morning of Phase II of trial, the court granted UCC's two Motions in Limine insofar as they sought exclusion of the the National Oceanic and Atmospheric Administration's ("NOAA") rainfall data from July 1996 – November 2023 and Dr. Simonton's opinions respecting the NOAA records and the amount of rainfall necessary to trigger stormwater discharges from the Massey culverts and Filmont drainage channel as set forth in paragraphs 5-9 of his December 27, 2023, declaration. See Tr. Trans. 5:15-6:13, 6:14-7:16; ECF 615-3 (Simonton Dec. 27, 2023, Declaration); see also the court's Order entered this same date with respect to the parties' pretrial motions.

Although the bench ruling was not elaborated on, the court excluded this evidence and testimony based on the sole fact that the same could have -- and should have -- been presented during the liability phase of trial given that it was during that phase Courtland was tasked with proving UCC's liability with respect to any and all violations of the CWA. Indeed, the publicly available NOAA rainfall data dating back to July 1996 through the close of trial on August 3, 2022, was obviously in existence and thus available to Courtland during Phase I. To permit Courtland to introduce such evidence and testimony during Phase II would have resulted in giving

who testified he observed stormwater discharges occurring from the Filmont drainage channel and the Massey culverts on a single day in 2022.

While it is evident to the court that unpermitted stormwater discharges have likely been occurring from the Filmont drainage channel and the Massey culverts for some time given that it has undoubtedly rained sufficiently to produce stormwater discharges on many occasions since 1991, the court is limited by the evidence presented to imposing a civil penalty for those three unpermitted stormwater discharges Courtland established during the liability phase of trial. To do otherwise would result in the imposition of penalties for days on which no unpermitted stormwater discharges -- and thus no CWA violation -- occurred.

In sum, inasmuch as the court has found UCC liable for a total of three CWA violations, -- the unpermitted stormwater discharges emanating from the Filmont drainage channel and the two Massey culverts observed by Dr. Simonton on a single day in

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Courtland a second opportunity to litigate issues of liability that had already been determined, resulting in prejudice to UCC. The court thus excluded the NOAA rainfall data and opinions from Dr. Simonton related thereto in paragraphs 5-9 of his December 27, 2023, declaration from Phase II of trial.

2022 -- utilizing the $66,712 maximum per day for each violation penalty mandated by 40 C.F.R. § 19.4, the court concludes the maximum civil penalty that can be imposed for such violations is $200,136.

i. Application of Mitigating Factors

Applying the top-down method, once the court has calculated the statutory maximum penalty, it must then determine if a reduction is appropriate by considering the six potentially mitigating factors mandated by section 1319(d). United States v. Smithfield Foods, Inc., 191 F.3d 516, 528 (4th Cir. 1999). As previously mentioned, such factors include: ""[(1)] the seriousness of the violation or violations, [(2)] the economic benefit (if any) resulting from the violation, [(3)] any history of such violations, [(4)] any good-faith efforts to comply with the applicable requirements, [(5)] the economic impact of the penalty on the violator, and [(6)] such other matters as justice may require." 33 U.S.C. § 1319(d).

First, the court considers the seriousness of the violation by analyzing the "frequency and severity of the violations, and the effect of the violations on the environment and the public," as well as the duration of noncompliance. Foster, 2019 WL 4148067, at *3; see also Hawaii's Thousand Friends v. City & Cnty. of Honolulu, 821 F. Supp. 1368, 1384 (D.

Haw. 1993). Again, while the court recognizes that the three unpermitted stormwater discharges observed by Dr. Simonton have likely been occurring for some time, the court declines to speculate as to the frequency of the same given the lack of evidence presented on the matter. Nonetheless, given that it is undisputed UCC has never had a CWA permit for Filmont or Massey, it is axiomatic that its history of noncompliance is substantial.

More importantly to this factor, however, is the court's Phase I finding that Courtland failed to establish that UCC's unpermitted stormwater discharges have caused any actual or potential harm to human health or the environment. See City of Mt. Park, Ga v. Lakeside at Ansley, LLC, 2011 U.S. Dist. LEXIS 162205, at *8 (N.D. Ga. 2011) (affording "great weight" to the extent of harm to human health and the environment)). Indeed, in Phase I, the court credited the Human Health Risk Assessment and Ecological Risk Evaluation performed by UCC's consultants which examined "whether the conditions at the site were creating any on-site or off-site risks to human health or the environment via all complete and existing exposure pathways," and concluded that no such harm existed to human health or the environment. Phase I Order, at 177; see also id. at 167-183. And, again, while the court recognizes stormwater

associated with industrial activity is presumably a pollutant, at no point during the entirety of the litigation did Dr. Simonton sample the stormwater he observed being discharged from the shallow Filmont drainage channel or the two Massey culverts. Nor did he sample the Southern Boundary Ditch. At the end of Phase I, the court was simply left with no evidence that would have permitted it to sustain a finding of harm or potential harm to human health or the environment arising from the unpermitted stormwater discharges.

As in Phase I, Courtland's expert Dr. Simonton has not provided any further evidence upon which the court should discredit its previous conclusions. Accordingly, despite the presumably long duration of noncompliance, the lack of evidence of actual or potential harm to human health or the environment arising from the unpermitted stormwater discharges from Filmont and the Massey culverts into the Southern Boundary Ditch, then on to Davis Creek, tends to mitigate the "seriousness" factor.

Second, as to the economic benefit of the violation to the violator, Courtland failed to adduce any evidence which would permit the court to analyze this factor. Though Courtland's attorney asserted that its "evidence will adduce that the [economic advantage to UCC from the violation] is in the low millions" and there are "compliance costs [UCC has]

escaped by not complying," Tr. Trans. 40:21-41:4, no such evidence was presented. But the court notes that the converse also remains true -- UCC did not adduce any evidence to demonstrate the absence of any economic benefit obtained from not complying with the CWA with respect to the three identified unpermitted stormwater discharges. Accordingly, the factor is neutral.

Third, the court considers the history of violations. As recognized above, it is evident UCC has a substantial history of noncompliance with the CWA that is somewhat mitigated by the fact that the record is devoid of any evidence that such noncompliance has produced any negative effect on human health or the environment. This factor, when considered alongside the first, remains significant.

Fourth, the court considers any good faith efforts by UCC to comply with the applicable regulations by examining whether it "took any actions to decrease the number of violations or made efforts to mitigate the impact of [its] violations on the environment." United States v. Smithfield Foods, Inc., 972 F. Supp. 338, 349-50 (E.D. Va. 1997) (citing Atlantic States Legal Found., Inc. v. Universal Tool & Stamping Co., Inc., 786 F. Supp. 743, 752 (N.D.Ind.1992)). Such actions or efforts include, but are not limited to, attempting to seek a

permit, engaging with the EPA to determine the necessity of a permit, or working with experts to determine necessary steps to achieve compliance with the CWA. Foster, 2019 WL at *4. The record is devoid of any evidence that UCC engaged in efforts to mitigate its CWA violations prior to this litigation. While UCC, on its own accord, hired consultants from 2005 through 2019 to monitor and sample groundwater, surface water, and soil at and near Filmont and Massey (of which the WVDEP was aware), there is no evidence these investigations had anything to do with ensuring UCC was not violating the CWA by way of its unpermitted stormwater discharges.

Nonetheless, since the court issued its Phase I findings, UCC has undertaken significant efforts to remedy the three stormwater discharges identified by the court. Not only has UCC begun the necessary steps to obtain NPDES permits for both Filmont and Massey, it has also repaired erosion of the Filmont berm in an effort to ensure that stormwater remains on site and no longer flows through Courtland into the Southern Boundary Ditch. See Tr. Trans. 561:5-13, 563:5-567:7 (Carpenter). While it is this litigation that appears to have triggered UCC's current good faith efforts to comply with the CWA, those efforts nevertheless would ordinarily tip the scales slightly toward a reduced penalty. However, given UCC's

substantial history of noncompliance with the CWA as highlighted below, those recent good faith efforts carry little, if any, mitigating weight.

Respecting the fifth factor, the court must consider the economic impact of the penalty on UCC. "Where a violator cannot show that a penalty will have a ruinous effect, the economic impact factor . . . will not reduce the penalty." City of Mt. Park, Ga v. Lakeside at Ansley, LLC, 2011 U.S. Dist. LEXIS 162205, *11-12 (N.D. Ga. 2011). The record is devoid of any evidence that imposition of a civil penalty, even at the maximum amount calculated above, would adversely affect the operations of UCC. This factor thus fails to weigh in favor of reduction.

Lastly, in assessing the final penalty to be imposed, the court may consider other matters as justice may require. To reiterate, while Courtland failed to adduce evidence establishing more than the three violations warranting imposition of a civil penalty, the substantial number of violations UCC would be facing had Courtland not failed in its evidentiary burden is not lost on the court. The court accordingly declines to reduce the penalty to a total of the mere $3,000 UCC suggests is appropriate. To reduce the penalty

to such an extent would fail to adequately penalize UCC for its evident history of noncompliance with the CWA.

In light of all of the foregoing, the court concludes that the maximum $200,136 civil penalty is appropriately imposed on UCC despite the lack of evidence demonstrating any harm or potential harm to human health or the environment arising from UCC's unpermitted stormwater discharges. Notwithstanding the few established violations, UCC's evident history of noncompliance with the CWA is an overriding factor that warrants imposition of a sizeable penalty for the three stormwater discharges shown.

IV. CONCLUSION AND SUMMARY

Based on the foregoing discussion, and the entirety of the evidentiary record, the court ORDERS as follows:

1. In Courtland II (2:19-cv-00894), Courtland has failed to establish the requirements for issuance of a permanent injunction with respect to UCC's RCRA Subtitle D violation identified in Phase I, and UCC's continued participation in and completion of the VRP is sufficient to remedy that violation without additional injunctive requirements;

2. In Courtland II, while UCC is liable to Courtland under CERCLA § 107 for the $27,142.50 Courtland expended on its June and July 2021 groundwater sampling investigation on the Courtland property, UCC is entitled to contribution for a 25% portion of those costs from Courtland in the amount of $6,785.63 pursuant to CERCLA § 113(f), with UCC bearing responsibility for the remaining 75%;

3. In Courtland II, UCC is not entitled to contribution from Courtland under CERCLA § 113(f) for the $199,942.52 UCC expended on its December 2020 soil investigation on the Courtland property and thus bears sole responsibility for the same;

4. In Courtland II, Courtland is entitled to declaratory judgment under CERCLA § 113(g)(2) declaring that UCC is liable to it for future response costs it may choose to incur in efforts to remediate the groundwater contamination detected on the northern portion of the Courtland property, which will be subject to an equitable allocation between the parties as noted below in Paragraph 5;

5. In Courtland II, UCC is entitled to declaratory judgment under CERCLA § 113(g)(2) declaring that UCC is entitled to contribution respecting any future response costs Courtland may choose to incur in efforts to remediate the groundwater contamination detected on the northern portion of the Courtland property; thus, any such costs will be subject to an equitable allocation between the parties;

6. In Courtland IV (2:21-cv-00487), Courtland has failed to establish the necessity of a permanent injunction for UCC's CWA violations, but UCC shall obtain the necessary NPDES permits for the unpermitted stormwater discharges identified herein within six (6) months of entry of this Order;

7. In Courtland IV, UCC is directed to update the court every two months from the date of the entry of this Order until its NPDES permits have been obtained;

8. In Courtland IV, UCC shall pay a civil penalty in the amount of $200,136, to the United States Treasury for its CWA violations identified herein; and

9. Inasmuch as the court has adjudicated all outstanding claims in Courtland II and IV with respect to liability in its Phase I Order and with respect to damages on the merits herein, Courtland's Motions for Judgment as a Matter of Law in Courtland II (ECF No. 642, 645) and Courtland IV (ECF No. 326, 329) are DENIED AS MOOT.

The Clerk is directed to transmit copies of this order to all counsel of record and any unrepresented parties.

ENTER: September 27, 2024

John T. Copenhaver, Jr.
Senior United States District Judge

EXHIBIT C

WEST VIRGINIA ENVIRONMENTAL QUALITY BOARD
CHARLESTON, WEST VIRGINIA

THE COURTLAND COMPANY,

Appellant,

v.

Appeal No. 25-05-EQB

DIRECTOR, DIVISION OF WATER AND WASTE MANAGEMENT, DEPARTMENT OF ENVIRONMENTAL PROTECTION,

Appellee.

UNION CARBIDE CORPORATION'S MOTION TO DISMISS THE COURTLAND COMPANY'S APPEAL OF THE GRANTING OF GENERAL PERMIT REGISTRATION NO. WVG612841 to UNION CARBIDE CORPORATION

COMES NOW Intervenor[1], Union Carbide Corporation ("UCC"), by counsel, and respectfully moves this Board to enter an Order dismissing the above-styled Appeal of UCC's General Permit No. WVG6128411. In support of this Motion, UCC states as follows:

UCC is entitled to the General Permit as issued by WVDEP because the former Filmont Landfill is a closed solid waste landfill. Furthermore, the General Permit is consistent with the ruling of the District Court for Southern District of West Virginia in the matter styled *The Courtland Company v. Union Carbide Corporation*, Civil Action No. 2:21-cv-0487, and is a complete relief for the limited single instance of stormwater discharge identified by Courtland in that matter. Courtland's appeal is nothing but an attempt to revive claims that were already denied by the United States District Court in Civil Action No. 2:21-cv-0487 and in the companion matter,

[1] In accordance with the Appeal Process set forth by the regulations of the WVDEP, UCC, as the permit holder has right to intervene in this Appeal. In accordance with that right, UCC filed a Motion to Intervene in this matter on May 16, 2025. Appeal Process, WVDEP (last accessed on May 2, 2025), https://dep.wv.gov/smb/appealprocess/Pages/default.aspx ("The holder of the permit shall be considered a party in interest in the appeal proceedings and shall have the right to intervene in the appeal.").

The Courtland Company v. Union Carbide Corporation, Civil Action Number 2:19-cv-0894, by circumventing that Court's final Orders in those matters (previously attached to UCC's Motion to Intervene as Exhibits A & B) and judicial due process. This appeal must be dismissed.

I. INTRODUCTION

Courtland owns a 13.8-acre property in South Charleston ("Courtland Property"), which is adjacent to the UCC properties known as Massey Railyard ("Massey") and the former Filmont Landfill ("Filmont"). Filmont began operation in or around 1950 and accepted inert and industrial wastes. The United States District Court of West Virginia has established that from the mid-1970s until approximately 1987, Filmont was operated as an inert waste landfill, with hazardous chemical waste sent to a separate landfill. *See* Memorandum Opinion and Order dated Sep. 28, 2023 ("2023 Order"), Dkt 567, Civil 2:19-cv-00894, at p. 235, 297 (previously attached to UCC's Motion to Intervene as Exhibit A). "Filmont operated as a permitted, inert solid waste landfill from at least 1974 until it stopped receiving solid waste and was permanently closed in 1987." *See* 2023 Order at p. 235. The Court affirmed that UCC held a valid permit issued by West Virginia Health Department until it expired in 1987, before the implementation of RCRA, and then underwent final closure under the supervision of the West Virginia Department of Natural Resources. *Id.*; *see also*, West Virginia Solid Waste Management Act (WVSWMA), West Virginia Code § 20-5F-3 and 20-5F-5(d).

Courtland filed lawsuits against UCC in the District Court for Southern District of West Virginia claiming, inter alia, that UCC violated the Clean Water Act ("CWA") by discharging pollutants and stormwater associated with industrial activities into nearby navigable waters.[2] Two

[2] *Courtland v. UCC*, United States District Court Southern District of West Virginia , Civil Action Nos: 2:19-cv-00894 and 2:21-cv-0487.

bench trials were conducted in front of Judge Copenhaver in 2022 and 2024, including a Phase I trial for liability and a Phase II trial for damages. The Court issued two well-versed Orders on liability and damages, which Courtland has appealed to the Fourth Circuit Court of Appeals.

While Courtland asserts here that the former Filmont Landfill was not closed, the District Court has held the exact opposite. *See e.g.* 2023 Order, at p.1 III. C. "1987 Closure of Filmont." The Court ruled that Filmont "began operations as a landfill in approximately 1950 until its ultimate cap and closure in 1987." *See* 2023 Order at p. 60. Similarly, while Courtland's instant appeal attempts to revive its WVSWMA claims by asserting that Filmont is an open dump under WVSWMA, the Court has already twice denied Courtland's state law claims under WVSWMA in its 2023 Order and 2024 Order, holding that Filmont did not violate any state law and thus it is not an open dump under WVSWMA. *See* 2023 Order at p. 237; *see also* Memorandum Opinion and Order dated September 27, 2024 ("2024 Order"), Civil 2:19-cv-00894, at pp. 3-4 (previously attached to UCC's Motion to Intervene as Exhibit B). The Court also found that Filmont is not a hazardous waste site under RCRA or the West Virginia Hazardous Waste Management Act (WVHWMA). *See* 2023 Order at p. 237. Furthermore, the Court found that the Voluntary Remediation Program (VRP) is consistent with RCRA and CERCLA. *See* 2024 Order at p. 33, 39. In short, the Court found that because the purpose of the VRP is to prevent offsite migration of contaminants and, because UCC's failure to complete the VRP would prompt state environmental enforcement actions, the proper remedy under RCRA is for UCC to complete the VRP without any additional injunctive requirement. *See* 2024 Order at pp. 39-40.

With respect to the CWA claims, the Court found that Filmont did not discharge any specific pollutants through the Southern Boundary Ditch. *See* 2023 Order at p. 356, 360, 397. The Court only found UCC liable under CWA for discharging stormwater from the former Filmont

landfill associated with industrial activity on one occasion, citing a single observation by Courtland's expert, Dr. Simonton, of stormwater discharging to the Southern Boundary Ditch via a shallow ditch from the former landfill. *See* 2023 Order at p. 361-362, 402. The Court ordered UCC to obtain an NPDES permit for this stormwater discharge from the former Filmont Landfill and denied a permanent injunction for Courtland because there is no basis to find any irreparable harm to Courtland. *See* 2024 Order at pp. 59-61. A General Permit is consistent with the Court's ruling and is the only necessary NPDES permit for the stormwater discharges currently identified on the site, which was verified by WVDEP.

Therefore, UCC respectfully requests that this Board deny Courtland's appeal and sustain the General Permit No. WV0111457 issued to UCC for the former Filmont Landfill, because it is a well-established fact that it is a closed solid waste landfill and a General Permit is sufficient remedy for the limited stormwater discharge identified on the site .

II. ARGUMENT AND CITATION OF AUTHORITIES

A. Filmont Is A Historical Industrial Landfill that Underwent Final Closure in 1987.

While Courtland alleges in its appeal to this Board that Filmont is not a closed industrial landfill, the District Court has ruled the exact opposite. *See e.g.* 2023 Order, at p.1 III. C. "1987 Closure of Filmont." The Court has established that Filmont was closed in 1987 and a RCRA permit was not required for the Filmont site because Filmont was closed before enactment of RCRA. In addition, UCC did send a CERCLA 103(c) notice in 1980 and thus fulfilled that CERCLA requirement. Therefore, the Court held that the VRP is a sufficient remedy for remedying any RCRA violations on Filmont. *See* 2024 Order at p. 32. Quite simply, it is a well-established fact that Filmont is a historical solid waste landfill closed in 1987.

The Court has further established that "Filmont operated as a permitted, inert solid waste landfill from at least 1974 until it stopped receiving solid waste and was permanently closed in 1987." *See* 2023 Order at p. 235. UCC held a valid permit issued by West Virginia Health Department until it expired in 1987, and then underwent final closure under the supervision of the West Virginia Department of Natural Resources. *See Id.; see also*, West Virginia Solid Waste Management Act (WVSWMA), West Virginia Code § 20-5F-3 and 20-5F-5(d). The Court found that Filmont "began operations as a landfill in approximately 1950 until its ultimate cap and closure in 1987." *See* 2023 Order at p. 60. "From at least 1974 until its closure in 1987, Filmont operated as an inert landfill." *See* 2023 Order, at p. 67. In fact, "as conceded by Dr. Simonton, there is no evidence that UCC buried industrial grit at Filmont from any source, including the SCSTC [South Charleston Sewage Treatment], after 1979." *See* 2023 Order, at p. 70. Moreover, "Courtland has offered no evidence explaining how or why this industrial grit would constitute hazardous waste for the purpose of RCRA. [...] the concentrations of arsenic, chromium, lead and mercury detected within the grit are well below the toxicity characteristic concentrations listed for those substances that would render the same hazardous under RCRA." *See* 2023 Order, at p. 72. Because there is no evidence that UCC continued to intentionally dispose of any industrial grit at Filmont after 1979, and "only facilities where hazardous waste is intentionally placed into land or water after November 19, 1980" requires a RCRA disposal permit, a RCRA permit was not required for Filmont. *See* 2023 Order, at p. 73. In fact, "the evidentiary record is wholly devoid of any evidence that UCC intentionally disposed of hazardous waste at Filmont from 1980 onward." *See* 2023 Order, at p. 76. The Court concluded that "the record evidence appears to reflect that UCC worked actively with the WV DEP to ensure its compliance with it inert waste landfill permit for Filmont." *See* 2023 Order, at p. 75.

In addition, in the early 1980s, the standard practice at the USEPA was for USEPA personnel to fill out a Preliminary Assessment form respecting the identified sites upon receipt of the CERCLA 103(c) Notice. *See* 2023 Order, at p. 85. UCC sent a CERCLA 103(c) Notice to USEPA in June of 1980, and thus complied with the then CERCLA 103(c) requirement. *See* 2023 Order, at p. 87.

As a result of the CERCLA 103(c) notice, and through continued discussion and correspondence with the EPA and WVDEP, environmental investigation and remediation work has continued at Filmont under CERCLA. UCC monitored groundwater, soil and surface water at Filmont and Massey from 2005 until the present. The Human Health Risk Assessment and Ecological Risk Evaluations conducted found no risk of harm to humans or the environment from anything at the Filmont Landfill. *See* 2023 Order at p. 178. While Filmont was found in violation of RCRA Subtitle D Solid Waste, it was limited to arsenic in the groundwater off-site that exceeds the applicable standards promulgated by USEPA, there was no issue or detection of arsenic in stormwater. *See* 2023 Order at pp. 273-274. The Court concluded that there is no imminent or substantial reasonable possibility of endangerment on health or the environment arising from the contaminated groundwater in Filmont. *See* 2023 Order at p. 293-294.

UCC applied to enter its Filmont/Massey sites into the VRP in February 2021, but was initially rejected because the site was subject to a unilateral enforcement order. After negotiation with WVDEP, the unilateral order was converted into a consent order, and WVDEP accepted Filmont/Massey into the VRP on July 9, 2021. *See* 2024 Order at p. 25. The Court has explicitly denied Courtland's persistent argument that UCC has improperly entered the VRP or that the VRP is not a sufficient remedy for the RCRA violation. *See* 2024 Order at p. 30. To the contrary, the Court found the VRP substantially compliant with a CERCLA quality cleanup inasmuch as it aims

to prevent offsite migration and is designated to protect human health and the environment, and implement permanent solutions. *See* 2024 Order at p. 32. Therefore, the proper remedy for the RCRA violation was to permit UCC to complete the VRP without additional injunctive requirements. *See* 2024 Order at p. 40.

Therefore, Courtland's argument in the appeal that Filmont was "never closed" in accordance with RCRA or CERCLA is baseless and has been explicitly denied by the District Court, twice, following the presentation of voluminous evidence in two phases of trial in 2022 and 2024. The former Filmont Landfill simply did not need a RCRA permit because it was closed prior to RCRA, in accordance with a valid and enforceable permit issued by the West Virginia Health Department. Courtland tried in the federal matter and tries again here to expand the limited CWA issues into CERCLA/RCRA issues despite the District Court having already ruled that UCC's completion of the ongoing VRP, with no additional injunctive relief, is the appropriate remedy under RCRA. Courtland's appeal here seeks to have this Board endorse a legal position and request for injunctive relief that is not required by law, was denied by United States District Court Judge Copenhaver, and has little or no bearing on the issuance of the general stormwater permit to UCC here.

B. Filmont Is Not A Hazardous Waste Disposal Facility Under WVHWMA or An Open Dump under WVSWMA.

Courtland's appeal here also asserts another failed theory from its federal lawsuits against UCC. Namely, Courtland argues that UCC committed violations of the West Virginia Solid Waste Management Act, ("WVSWMA") and the West Virginia Hazardous Waste Management Act ("WVHWMA") even though these claims were all denied by the District Court. The District Court concluded that UCC is not a hazardous waste disposal facility as that term is defined in RCRA and WVHWMA. *See* 2023 Order at p. 237.

Courtland also attempted to invoke the WVSWMA regarding open dumping. However, the District Court has already ruled that "Filmont operated as an inert solid waste landfill from at least 1974 until its final closure in 1987 under a solid waste disposal permit issued by the West Virginia Department of Health." *See* 2023 Order at p. 297. WVSWMA made it clear that "solid waste disposal permits issued by the West Virginia Department of Health to landfills already in existence in 1983, such as Filmont, were to operate in full force and effect until such permits expired by operation of law on June 10, 1988." *See* 2023 Order at p. 299. Because UCC chose to close Filmont in accordance with its valid and enforceable permit, UCC was never required to operate the landfill under another permit. *See* 2023 Order at p. 299. Therefore, the Court concluded that Filmont is not an open dump in violation of WVSWMA. *See* 2023 Order at p. 314.

After the Phase I trial, Courtland sought to revive its claims under the WVSWMA by asserting that Filmont is an open dump under WVSWMA again in the Phase II trial. *See* Order at p. 4. The Court ruled again that UCC was not a WVSWMA open dump inasmuch as UCC was no longer actively placing material in the Filmont site. *See* 2024 Order at p. 4.

Similarly, here Courtland tries to revive its WVSWMA and WVHWMA claims here by asserting again that Filmont is an open dump under these statutes. These arguments have been fully discussed in two trials and have twice been denied by the District Court. Courtland is now desperately trying to expand the appeal of the CWA permit into a full-blown remedy of its ill-fated state law claims. Therefore, Courtland's argument in this appeal regarding WVSWMA and WVHWMA must be denied.

C. A General Industrial Permit Is The Proper NPDES Permit for Filmont.

With respect to Courtland's CWA claims, it is worth noting that the Court found that historical and current uses of the Courtland Property itself have also polluted Courtland's Property.

See 2023 Order, at p. 350. Moreover, the Court found that UCC did not discharge any specific pollutants through the Southern Boundary Ditch. *See* 2023 Order at p. 356, 360, 397. Rather, the Court found UCC liable under CWA because Courtland's expert, Dr. Simonton, personally observed stormwater discharging to the Southern Boundary Ditch via a shallow ditch on one occasion. *See* 2023 Order at p. 361-362, 402. Notably, the District Court also found Dr. Simonton's testimony to be "minimally descriptive, being devoid of details such as when Dr. Simonton saw the discharge or what the weather conditions were like, and is unaccompanied by any documentary evidence such as photographs and videos of the same." *See* 2023 Order, at p. 362. Dr. Simonton did not conduct any sampling or study of the alleged discharges. Therefore, the Court found UCC to be in violation of CWA as this one discharge the former Filmont Landfill was not permitted under CWA NPDES in accordance with 33 U.S.C. § 1342. *See* 2024 Order at p. 57.

Courtland agreed that obtaining necessary discharge permits under the CWA would render UCC in compliance of CWA. *See* 2024 Order at p. 59. Therefore, Court ordered UCC to obtain necessary NPDES permits for these stormwater discharges identified thereto and denied a permanent injunction for Courtland because there is no basis to find any irreparable harm to Courtland. *See* 2024 Order at pp. 59-61. After trial, and accordance with the Court's Order, UCC filed a notice to the Court that it had submitted applications for NPDES Industrial Permits for Massey and Filmont. *See* 2024 Order at pp. 58-59.

UCC has conducted necessary sampling and testing on the former Filmont Landfill as required under WVDEP's CWA permitting process. Working with WVDEP, UCC diligently finalized the application for Filmont and completed all necessary sampling. The completed permit application for the NPDES permit for Filmont was submitted to WVDEP on October 24, 2024 and a permit was issued on March 27, 2025. Because Filmont is a historical solid waste landfill

properly closed in 1987, it predates the enactment of RCRA, WVSWMA and WVHWMA. Therefore, Filmont is not a hazardous waste site under RCRA or WVHWMA, or an open dump under WVSWMA, as explicitly ruled by the Court. Therefore, a general permit is consistent with the Court's ruling and is the only necessary NPDES permit for the single stormwater discharge associated with the former Filmont Landfill.

III. CONCLUSION

In conclusion, it is an established fact that Filmont operated as a permitted, inert solid waste landfill and was permanently closed in 1987. It predates the enactment of RCRA, WVSWMA and WVHWMA, and thus is not a hazardous waste site under RCRA or WVHWMA, or an open dump under WVSWMA. While Filmont was found in violation of CWA, it was only for one documented instance of stormwater discharge and no specific pollutants were released. Therefore, a General Permit as issued by WVDEP here is sufficient and consistent with the rulings of the United States District Court of West Virginia. Courtland's appeal is an unlawful attempt to revive its doomed state law arguments and must be dismissed.

UNION CARBIDE CORPORATION

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