UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE ADMINISTRATOR

In the Matter of:	)	
	)	
Chem-Solv, Inc., formerly trading as	)	
Chemicals and Solvents, Inc.,	)	
	)	
and	)	**Docket No. RCRA-03-2011-0068**
	)	
Austin Holdings-VA, L.L.C.,	)	
	)	
Respondents	)	

INITIAL DECISION

DATED: June 5, 2014

PRESIDING OFFICER: CHIEF ADMINISTRATIVE LAW JUDGE SUSAN L. BIRO

APPEARANCES:

For Complainant:
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Introduction

This proceeding arises under Section 3008(a)(1) and (g) of the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984 (collectively referred to as "RCRA"), 42 U.S.C. § 6928(a)(1) and (g), and is governed by the Consolidated Rules of Practice Governing the Administrative Assessment of Civil Penalties and the Revocation/Termination or Suspension of Permits (the "Consolidated Rules"), codified at 40 C.F.R. Part 22. The Director of the Land and Chemical Division of the United States Environmental Protection Agency's ("EPA") Region 3 (the "Region") (collectively "Complainant") alleges in seven counts that Chem-Solv, Inc.,[1] formerly trading as Chemicals and Solvents, Inc. ("Chem-Solv"), and Austin Holdings-VA, L.L.C. ("Austin Holdings") (collectively "Respondents") violated Subtitle C of RCRA, 42 U.S.C. §§ 6921–6939e, and the Commonwealth of Virginia's federally authorized hazardous waste management program codified as Title 9 of the Virginia Administrative Code ("Va. Admin. Code") §§ 20-60-260 to 20-60-279, enforceable by EPA pursuant to 42 U.S.C. § 6928(a). Compl. at 2, 5–13.

After considering the documents, testimony, and other evidence in this proceeding, and examining the arguments of the parties,[2] Complainant is found to have met its burden and proven by the preponderance of the evidence that Respondents Chem-Solv and Austin Holdings are jointly and severally liable for the violations alleged in Counts I, III, IV, V, VI, and VII, and Respondent Chem-Solv is solely liable for the violation alleged in Count II. In light of the seriousness of the violations, Respondents' good faith or lack thereof, the evidence in the record, and the guidance provide by EPA's RCRA Civil Penalty Policy, a penalty of $597,026.28, assessed against Respondents Chem-Solv and Austin Holdings jointly and severally, and an additional penalty of $15,312.50, assessed against Respondent Chem-Solv individually, are appropriate. Further, Respondents are ordered to prepare and submit a closure plan prepared pursuant to 9 Va. Admin. Code § 20-60-264(A), incorporating by reference 40 C.F.R. §§ 264.112 and 264.197, as described in further detail herein.

I. Procedural History

Complainant initiated this proceeding on March 31, 2011, by filing an Administrative

[1] The Complaint originally named "Chemsolv, Inc.," formerly trading as Chemicals and Solvents, Inc., and Austin Holdings-VA, L.L.C., as respondents in this matter. In the Joint Stipulation of Facts, Exhibits and Testimony, submitted on February 21, 2012, the parties requested that references to Respondent Chemsolv, Inc., be changed to Chem-Solv, Inc. The presiding Administrative Law Judge approved this change and amended this matter's caption in the Corrected Order on Respondents' Motion to Take Depositions Upon Oral Questions, issued February 29, 2012.

[2] Citations to Complainant's and Respondents' exhibits are abbreviated as "CX" or "RX," respectively. Each party's exhibits are paginated by continuous Bates numbering, not by each exhibit's internal pagination. Citations to the five-volume transcript are abbreviated as "Tr.," followed by the transcript volume number. Each volume of the transcript is paginated separately.

Complaint, Compliance Order and Notice of Opportunity for a Hearing ("First Complaint") against Respondents. Before filing the First Complaint, the Region gave the Commonwealth of Virginia notice in accordance with RCRA Section 3008(a)(2), 42 USC § 6928(a)(2). First Jt. Stip. ¶ 6. In the First Complaint, Complainant alleged that Respondents accumulated and stored hazardous waste in a manner such that Respondents were by law operating an unpermitted hazardous waste storage facility. Further, Respondent Chem-Solv was accused of storing that hazardous waste in an unlawful manner.

Specifically, Complainant alleged in Count I that Respondents owned or operated a hazardous waste storage facility without a permit or interim status in violation of 9 Va. Admin. Code § 20-60-270(A); 42 U.S.C. § 6925(a) and (e); and 40 C.F.R. Part 270. In Count II, Complainant alleged Respondent Chem-Solv failed to make waste determinations in violation of 9 Va. Admin. Code § 20-60-262(A) and 40 C.F.R. § 262.11. In Count III, Complainant alleged Respondent Chem-Solv operated a tank system without secondary containment in violation of 9 Va. Admin. Code § 20-60-264(A) and 40 C.F.R. § 264.193. In Count IV, Complainant alleged Respondent Chem-Solv failed to obtain or maintain records of a tank assessment in violation of 9 Va. Admin. Code § 20-60-264(A) and 40 C.F.R. §§ 264.192 and 270.11(d). In Count V, Complainant alleged Respondent Chem-Solv failed to conduct or document inspections of a tank system in violation of 9 Va. Admin. Code § 20-60-264(A) and 40 C.F.R. 264.195(b) and (d). In Count VI, Complainant alleged Respondent Chem-Solv failed to control air pollutant emissions in violation of 9 Va. Admin. Code § 20-60-264(A), and 40 C.F.R. §§ 264.1080, 264.1082 through 264.1087. In Count VII, Complainant alleged Respondent Chem-Solv failed to comply with the closure and post-closure requirements applicable to a regulated tank system in violation of 9 Va. Admin. Code § 20-40-264(A), 40 C.F.R. §§ 264.111, 264.112, 264.193, 264.197. In the First Complaint, Complainant characterized each violation's potential for harm and extent of deviation from the regulatory norm as minor, moderate, or major, but Complainant did not propose specific civil penalty amounts.

On May 2, 2011, Respondents, acting through counsel, filed the Answer of Chemsolv, Inc., and Austin Holdings-VA, L.L.C. ("Answer"), in which Respondents denied Complainant's allegations and requested a hearing. On May 20, 2011, Administrative Law Judge Barbara A. Gunning was designated to preside in this proceeding. On May 31, 2011, a Prehearing Order was issued directing the parties to file prehearing exchanges of information, and directing Complainant to "file a document specifying a proposed penalty and explaining in detail how the proposed penalty was determined." Prehearing Order at 3. Each party filed a timely prehearing information exchange. On September 29, 2011, Complainant filed a Proposed Civil Penalty, proposing a total civil penalty of $669,665.00 for the violations alleged. In the Proposed Civil Penalty, Complainant amended its characterization of each violation's potential for harm and extent of deviation. Complainant also proposed that Respondent Chem-Solv be assessed penalties for Counts I through VII, and that Respondent Austin Holdings be assessed a separate penalty for Count I only.

On November 29, 2011, after completion of the prehearing information exchange process, Complainant filed a Motion for Partial Accelerated Decision as to Liability ("Motion"). The Motion was accompanied by written declarations from EPA employee Kenneth Cox, an environmental engineer and inspection team leader, and EPA employee Peggy Zawodny, an

environmental scientist. Complainant argued that there were no genuine disputes of material fact concerning Respondent Chem-Solv's liability for the violations alleged in Counts III through VII. In particular, Complainant argued that the record demonstrated Chem-Solv had stored hazardous waste in a tank system, that the tank system did not meet the construction or inspection standards required by law, and that the tank system had been improperly closed, as alleged in the Complaint.

Respondents filed a Response to Complainant's Motion for Partial Accelerated Decision as to Liability ("Motion Response") on December 14, 2011. Respondents contended, inter alia, that there were genuine questions about the reliability of EPA's sampling and analysis of the materials in the tank system, the construction and history of that tank system, whether any material in the tank system was regulated as a solid waste, and therefore whether the tank system was subject to the hazardous waste storage tank provision under RCRA. Respondents' Motion Response was accompanied by a Second Affidavit of Jamison G. Austin, Chem-Solv's Vice President and General Manager, and an Affidavit of Scott E. Perkins, Professional Engineer. It was also supported in part by reference to a first Affidavit of Jamison G. Austin that had been previously submitted as Exhibit 2 of Respondent's Prehearing Exchange.

On December 23, 2011, Complainant filed a Reply Brief in Further Support of Complainant's Motion for Partial Accelerated Decision ("Motion Reply"). The Motion Reply was accompanied by written declarations from the following individuals: Kenneth Cox; Peggy Zawodny; EPA employee George Houghton, an inspector in the Enforcement and Compliance Assistance Branch in the Office of Enforcement, Compliance, and Environmental Justice in Region 3; EPA employee Dr. Joe Lowry, Chief Scientist and National Technical Expert at EPA's National Enforcement Investigations Center; Elizabeth Lohman, Environmental Program Planner in the Division of Land Protection and Revitalization of the Virginia Department of Environmental Quality ("VADEQ"); and EPA employee Jose Reyna, III, a physical scientist in the Enforcement and Compliance Assistance Branch in the Office of Enforcement, Compliance, and Environmental Justice in Region 3.

On February 7, 2012, the presiding Administrative Law Judge issued an Order denying Complainant's Motion. In the Order, the Judge found "that several genuine issues of material fact and several practical considerations remain, [making] an accelerated decision on Counts 3–7 inappropriate." Order on Complainant's Mot. for Part. Accel. Dec. as to Liability at 10. The Judge wrote:

> As Complainant implicitly concedes, the conflicting affidavits and declarations offered by each party on the various issues, including the purpose of the Pit/Rinsewater Storage Tank, the characterization of its contents, the quantity of its contents, and the ultimate disposition of those contents, concern the credibility of multiple individuals (including expert witnesses). Such issues of credibility are best addressed in the context of an evidentiary hearing.

Id.

On February 13, 2012, in response to a motion by Complainant, Respondent filed a document declaring that neither Respondent intended to claim an inability to pay a civil penalty.

On February 21, 2012, the parties submitted a Joint Stipulation of Facts, Exhibits and Testimony ("First Joint Stipulation"). On March 2, 2012, Chief Administrative Law Judge Susan L. Biro was re-designated as the presiding Administrative Law Judge in this proceeding in anticipation of Judge Gunning's retirement. On March 16, 2012, the parties submitted a Second Joint Set of Stipulations ("Second Joint Stipulation").

An evidentiary hearing in this matter was held in Roanoke, Virginia, beginning on March 20, 2012, and continuing through March 24, 2012. At the hearing, Complainant presented forty-one exhibits and the oral testimony of five witnesses: Elizabeth A. Lohman, George Houghton, Peggy Zawodny, Kenneth J. Cox, and Complainant's expert, Dr. Joe Lowry. Respondents presented twenty-three exhibits and the oral testimony of three witnesses: Chem-Solv employee Donald Tickle, Jamison G. Austin, and Respondents' expert, Scott Perkins, P.E.

The transcript of the hearing was filed on April 19, 2012, and was extensively corrected and conformed by order dated June 26, 2012, issued in response to motions filed by both parties.

Complainant filed its Initial Post-Hearing Brief ("Complainant's Brief") on June 29, 2012, and its Post-Hearing Reply Brief ("Complainant's Reply Brief") on October 1, 2012. Respondents filed their Initial Post-Hearing Brief ("Respondents' Brief") on August 31, 2012, and their Post-Hearing Reply Brief ("Respondents' Reply Brief") on November 1, 2012. With those filings, the record closed.

II. Preliminary Matters

A. Complainant's Motion to Amend the Complaint

i. Background

In the First Complaint, filed March 31, 2011, Complainant named both Chem-Solv and Austin Holdings as respondents in this matter, but only sought to hold Austin Holdings liable under Count 1 for its partial ownership of an alleged hazardous waste storage facility without a permit. Compl. ¶¶ 3–13. Complainant alleged that Austin Holdings owned Tax Parcels 4170102 and 4240103 in Roanoke, Virginia, that Chem-Solv owned Tax Parcel 4240104, and that each Respondent was part-owner of a facility spanning those Tax Parcels. Compl. ¶¶ 2–3. Complainant further alleged that hazardous waste had been stored in an unlawful manner in a tank located within the facility on Tax Parcel 4240104. *See* Compl. ¶ 2, 13.

In their Motion Response filed December 14, 2011, Respondents asserted that in fact "Austin Holdings is the owner of the real property on which [the tank] is located," and that "Chem-Solv leases such real property from Austin Holdings." Mot. Resp. ¶ 10 (citing Austin Second Aff. ¶ 8). Complainant, in its Motion Reply, stated that it did "not dispute" Respondents' assertion, and requested the Court enter an Order granting "Partial Accelerated Decision as to Count III–VII of the Administrative Complaint," conforming the pleadings to the

facts as against both Respondents. Mot. Reply ¶¶ 22–23. When the presiding Administrative Law Judge denied Complainant's Motion for Accelerated Decision, she did not address Complainant's request to conform the pleadings, instead noting in a footnote that "[w]hile Respondent [Chem-Solv] and Respondent [Austin Holdings] are jointly represented by counsel and have jointly filed and responded to motions, the substantive allegations that are the subject of the Motion identify Respondent [Chem-Solv] only." Order on Complainant's Mot. for Part. Accel. Dec. as to Liability at 2 n.1.

In the First Joint Stipulation submitted on February 21, 2012, Respondents stipulated, among other things, that "[t]his action concerns Chem-Solv's and Austin Holdings' chemical distribution business located at a facility in Roanoke, Virginia," that "Respondent Austin Holdings is and, at all times relevant to the violations alleged in the Complaint, was the owner of a portion of the real property on which the Chem-Solv Facility is located," that "Chem-Solv is the owner and operator of a facility within the meaning of [the Virginia hazardous waste program ("VHWMP")] and RCRA," and that "Austin Holdings is the owner of a facility within the meaning of VHWMP and RCRA." First Jt. Stip. ¶¶ 3, 9–13.

During the hearing, on March 22, 2012, after Complainant finished presenting its case-in-chief, Respondents moved to strike certain evidence and to dismiss Austin Holdings from this matter. Tr. III 105, 116–17. Respondents argued in part that Complainant had "presented no evidence to establish any liability of Austin Holdings, L.L.C., and [had] not calculated a penalty as to Austin Holdings, L.L.C." Tr. III 116. Complainant responded by citing paragraph 22 of Respondents' Motion Response and arguing that on the basis of Respondents' written statements, Complainant "believe[d] Austin Holdings is responsible for all of the violations in this case." Tr. III 118. Complainant then clarified, in response to questioning, that it sought to hold both Chem-Solv and Austin Holdings liable, jointly and severally. Tr. III 122–23. Respondents' counsel did not object or otherwise voice opposition to Complainant's request. *See* Tr. III 118–25. The undersigned denied Respondents' motions, stating:

> On the issue of Austin Holdings, as [Complainant's counsel] cited in [Respondents'] Answer and in the Stipulations, the part[ies] stipulated that the action concerns [Chem-Solv] and Austin Holdings['] chemical distribution business, located in a facility in Roanoke, Virginia. It associated both companies as co-owners and operators of the facility. . . . [Complainant is] going for a joint and several penalty against [Chem-Solv] and Austin Holdings, and on [that] basis, both the evidentiary Admissions and the Stipulations, Austin Holdings is in this case and the Motion to Dismiss Austin Holdings is denied.

Tr. III 122–23.

Following the hearing, Complainant acknowledged in its Brief that "the Court [had] recognized that Complainant now is seeking a 'joint and several penalty against [Chem-Solv] and Austin Holdings' for each of the violations alleged in the Complaint." C's Br. at 9 n.2. However, Complainant also stated: "*In the event*, however, *that the Court deems it necessary* or

appropriate for the Complaint to be formally amended, then Complainant renews its prior request." *Id.*

Respondents, in their Initial Post-Hearing Brief, argue that the "Court should deny the Complainant's request to amend its Complaint." Rs' Br. at 53. Respondents contend that "[t]his Court denied the Complainant's request for leave to amend when it entered the Order on Complainant's Motion for Partial Accelerated Decision as to Liability" on February 2, 2012, and argue "[n]o new facts or evidence have come to light that warrant reconsideration of this ruling." *Id.* at 54. Respondents further argue "[t]he Court's 'recognition' at trial that the Complainant now seeks joint and several liability is not the same as granting leave to amend," and that "[a]mending the Complaint . . . is not a mere formality, but instead requires a full evaluation by this Court of the propriety of granting leave to amend under the rules and regulations governing this proceeding." *Id.* Respondents claim that amending the First Complaint to allege joint and several liability against Austin Holdings for Counts II through VII now would unduly prejudice Austin Holdings because it "has had no reason or opportunity to prepare individualized responses to [the Counts] on issues of either liability or penalty." *Id.* at 56. Respondents further contend that "Complainant's new claims would require additional fact-finding, which is not feasible in this post-hearing phase." *Id.*

ii. Legal Standard

After an answer has been filed, "the complainant may amend the complaint only upon motion granted by the Presiding Officer." 40 C.F.R. § 22.14(c). The Environmental Appeals Board has "expressly adopted" the liberal policy regarding pleadings and amendments found in Federal Rule of Civil Procedure 15 and described in *Foman v. Davis*, 371 U.S. 178 (1962).[3] *Lazarus, Inc.*, 7 E.A.D. 318, 333 (EAB 1997); *see Carroll Oil Co.*, 10 E.A.D. 635, 649 (EAB 2002) (citing *Asbestos Specialists*, 4 E.A.D. 819, 830 (EAB 1993); *Wego Chem. & Mineral Corp.*, 4 E.A.D. 513, 525 n.11 (EAB 1993); *Port of Oakland*, 4 E.A.D. 170, 205 (EAB 1992)). This policy is rooted in the principle that pleading is not "a game of skill in which one misstep by counsel may be decisive to the outcome," and "the purpose of a complaint is to give adequate notice of the alleged charge so that the charged party has an opportunity to prepare a defense." *Carroll Oil Co.*, 10 E.A.D. at 649 (quoting *Foman*, 371 U.S. at 181–82 (quotation marks omitted)); *Yaffe Iron & Metal Co., Inc.*, 1 E.A.D. 719, 721–22 (JO 1982). Generally, leave to amend should be "freely given" absent "undue delay, bad faith or dilatory motive on the part of the movant, repeated failure to cure deficiencies by amendments previously allowed, [or] undue prejudice to the opposing party by virtue of allowance of the amendments, [or] futility of amendments." *Carroll Oil Co.*, 10 E.A.D. at 649–50 (quoting *Foman*, 371 U.S. at 182).

Though "the Consolidated Rules do not contain a provision explicitly authorizing amendment of pleadings to conform to the evidence, . . . the rules have been interpreted as allowing such amendments." *H.E.L.P.E.R., Inc.*, 8 E.A.D. 437, 449 (EAB 1999) (citing *Wego*

[3] The Federal Rules of Civil Procedure ("Federal Rules") "are not directly applicable to administrative proceedings," but may be used "to aid in the interpretation and application of the part 22 rules." *Carroll Oil Co.*, 10 E.A.D. 635, 649 n.13 (EAB 2002); *see H.E.L.P.E.R., Inc.*, 8 E.A.D. 437, 449 n.20 (EAB 1999) (discussing Federal Rule 15(b)).

Chem. & Mineral Corp., 4 E.A.D. at 523–25; *Port of Oakland*, 4 E.A.D. at 204–06; *Yaffe Iron & Metal Co.*, 1 E.A.D. at 722). Under Federal Rule 15(b), a pleading may be amended during or after trial either "[b]ased on an [o]bjection at [t]rial," or "by the parties' express or implied consent." Fed. R. Civ. P. 15(b). In the first instance, "[i]f, at trial, a party objects that evidence is not within the issues raised in the pleadings, the court may permit the pleadings to be amended," and should freely do so if the amendment "will aid in presenting the merits and the objecting party fails to satisfy the court that the evidence would prejudice that party's action or defense on the merits." Fed. R. Civ. P. 15(b)(1); *see H.E.L.P.E.R., Inc.*, 8 E.A.D. at 449–50 (discussing Rule 15(b)). In the second instance, "[w]hen an issue not raised by the pleadings is tried by . . . consent, it must be treated in all respects as if raised in the pleadings," and "failure to amend does not affect the result of the trial of that issue." Fed. R. Civ. P. 15(b)(2).

Whether an issue was tried by consent depends on "whether the parties recognized that the unpleaded issue entered the case at trial, whether the evidence that supports the unpleaded issue was introduced at trial without objection, and whether a finding of trial by consent prejudiced the opposing party's opportunity to respond." *Portis v. First Nat'l Bank of New Albany, Miss.*, 34 F.3d 325, 332 (5th Cir. 1994) (quoting *United States v. Shanbaum*, 10 F.3d 305, 312–13 (5th Cir. 1994)); *see also* 3 *Moore's Federal Practice*, § 15.8 (Matthew Bender 3d Ed.) (discussing limits of consent). Consent may also "be inferred . . . from the introduction of evidence on [an] issue by the very party opposing the implied amendment." *Joint E. & S. Dist. Asbestos Litig.*, 124 F.R.D. 538, 540 (E.D.N.Y. 1982) (citing *Bradford Audio Corp. v. Pious*, 392 F.2d 67, 73 (2d Cir. 1968)).

iii. Analysis

Austin Holdings has been a party in this proceeding from the time it was initiated. The First Complaint alleges in Count 1 that Austin Holdings is liable under 42 U.S.C. § 6925 and 40 C.F.R. Part 270, which require "each person owning or operating . . . [a] facility for the treatment, storage, or disposal of hazardous waste . . . to have a permit." 42 U.S.C. § 6925(a). Like Count I, Counts III through VII allege violations in which liability is premised on ownership or operation of a facility that treats, stores, or disposes of hazardous waste, with the added requirement that the facility "use tank systems for storing or treating hazardous waste." 40 C.F.R. §§ 264.190–264.195, 264.197, 264.1080, 264.1082, 264.1084. The First Complaint, as filed, alleged that Austin Holdings owned a facility that used a tank system to store hazardous waste without a permit, but did not allege that Austin Holdings owned the property on which the tank was located or that Austin Holdings was liable under Counts III through VII.

In the Joint Stipulations filed on February 21, 2012, Respondents stipulated that "Austin Holdings is and, at all times relevant to the violations alleged in the Complaint, was the owner of a portion of the real property on which the Chem-Solv Facility is located," and that "Austin Holdings is the owner of a facility within the meaning of VHWMP and RCRA." First Jt. Stip. ¶¶ 11, 13. Regulations promulgated under RCRA define a "facility" as "[a]ll contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or

disposing of hazardous waste."[4] 40 C.F.R. § 260.10; *see Consol. Cos., Inc. v. Union Pac. R.R. Co.*, 499 F.3d 382, 386–88 (5th Cir. 2007) (quoting 42 U.S.C. § 6691b(h)(6)(D)) (explaining the definition of "facility" under RCRA). The only facility at issue in this case is that which is, by stipulation and admission, located at 1111 and 1140 Industry Avenue, S.E., in Roanoke, Virginia, spanning several tax parcels including Tax Parcels 4240104, 4240103, and 4170102. First Jt. Stip. ¶ 9; Answer ¶¶ 4–5, 15; *see* Mot. Resp. ¶¶ 1, 24. Respondent Austin Holdings has stipulated that it owns this facility, and this admission is binding. First Jt. Stip. ¶¶ 9, 11, 13; Answer ¶¶ 4–5, 15; *see Martinez v. Bally's La., Inc.*, 244 F.3d 474, 476–77 (5th Cir. 2001) ("A judicial admission is a formal concession in the pleadings or stipulations by a party or counsel that is binding on the party making them."); *Keller v. United States*, 58 F.3d 1194, 1198 n.8 (7th Cir. 1995) ("Judicial admissions are formal concessions in the pleadings, or stipulations by a party or its counsel, that are binding upon the party making them. They may not be controverted at trial or on appeal."); *see also United States v. Chavez-Hernandez*, 671 F.3d 494, 501 (5th Cir. 2012) (contrasting "judicial admissions" with "evidentiary admissions").

Respondents were aware that Complainant might attempt to hold Austin Holdings liable under Counts III through VII as early as December 22, 2011, when Complainant served its Motion Reply. In that Reply, Complainant expressly indicated that "[b]ased on the admission of Mr. Austin, Vice President and General Manager of [Chem-Solv], . . . Austin Holdings, L.L.C.-VA [sic], is liable as an owner of the Facility."[5] Mot. Reply ¶ 22. Only two months later, Respondents entered into the First Joint Stipulation in which they admitted that Austin Holdings was the owner of a facility within the meaning of RCRA. First Jt. Stip. ¶ 13. Respondents knew, or should have known, that liability under the statutes and regulations identified in Counts III through VII, like Count I, is predicated on "ownership" of a "facility." Later, at hearing, Respondents' counsel moved to have Austin Holdings dismissed from the case. Tr. III 105, 116–17. When Complainant's counsel countered by referring to Respondents' admissions regarding Austin Holdings' ownership of the facility and underlying properties, and arguing that Austin Holdings should be responsible for the violations alleged in the Complaint, Respondents' counsel did not object or argue to the contrary. Based on the foregoing, the undersigned

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[4] In the Second Joint Stipulation, "[t]he parties stipulate[d] that with respect to Paragraphs 12 and 13 in the [First] Joint Stipulations, the term 'facility' is used to describe parcels of real estate that certain regulated activities are alleged to have occurred on and there is no implied admission of liability intended." Second Jt. Stip. ¶ 6. This is interpreted to mean that in Paragraph 13 of the First Joint Stipulation, Respondents stipulated that Austin Holdings owned "[a]ll contiguous land, and structures, other appurtenances, and improvements on the land," which are collectively identified as the "facility," but denied that the facility was used to treat, store, or dispose of hazardous waste.

[5] This issue might have been avoided if Complainant, rather than request that the First Complaint be amended for the first time in a reply brief, had instead filed a formal motion to amend the Complaint prior to hearing. *See* 40 C.F.R. §§ 22.14(c) (after answer has been filed, complaint may be amended only upon motion), 22.16(b) (movant's reply to written response "shall be limited to issues raised in the response"). Better yet, it could have throughly researched and clarified the ownership of the land and facility before the First Complaint was filed.

concluded at hearing, and affirms here, that Respondents consented to have Austin Holdings named as a potential violator under Counts III through VII. *See* Tr. III 122–24.

Even if Respondents did not consent to the amendment, all the factors in this case weigh in favor of allowing Complainant to amend the First Complaint as requested. There is no evidence that Complainant has acted in bad faith, nor is there evidence of undue delay given that Complainant requested to amend the First Complaint as part of its Motion for Accelerated Decision and again at hearing. Most importantly, there is no indication that amending the First Complaint will cause Respondent Austin Holdings undue surprise or prejudice. In this context, prejudice consists of "a lack of opportunity to prepare to meet the unpleaded issue." *Joint E. & S. Dist. Asbestos Litig.*, 124 F.R.D. at 540 (quoting 6 Charles Alan Wright and Arthur R. Miller, *Federal Practice and Procedure* § 1493, 467–68) (quotation marks omitted).

As described above, Austin Holdings was named as a respondent in the First Complaint. At all times during this proceeding, Austin Holdings and Chem-Solv have been jointly represented by counsel, have jointly filed and responded to motions, jointly participated in the hearing, and jointly filed briefs. In this matter the two companies have at all times spoken with a single voice. *See Montana v. United States*, 440 U.S. 147, 154–55 (person who asserts control over litigation to protect own right or interest may be bound by the judgement); *Alman v. Danin*, 801 F.2d 1, 4–5 (1st Cir. 1986) (same). After Complainant initially requested the First Complaint be amended to allege that Austin Holdings was liable under Counts III through VII for ownership of a facility that stores hazardous waste in a non-conforming tank system, Respondents stipulated that Austin Holdings owns the facility in question. When Complainant requested at hearing that Austin Holdings face liability on all counts, Respondents did not object; when Complainant's request was verbally granted, Respondents did not then raise a claim of undue prejudice or request that the hearing be continued to allow them to prepare a defense. *See* Fed. R. Civ. P. 15(b)(1) ("The court may grant a continuance to enable the objecting party to meet the evidence.").

After Complainant's request was granted at hearing, Respondents had the opportunity during their case-in-chief to present evidence regarding Austin Holdings' liability on all counts. There is no indication that Austin Holdings' interests were not fully defended by Respondent Chem-Solv. The factual predicates for holding each entity liable, i.e. ownership or operation of the facility, are almost identical and are beyond dispute. Matters that are in dispute, such as whether the facility stored hazardous waste and the physical characteristics of the tank system in question, were vigorously contested by Chem-Solv at hearing. Austin Holdings has not identified any particular facts or defenses that it might have asserted had the Complaint been amended earlier. *See Hageman v. Signal L.P. Gas, Inc.*, 486 F.2d 479, 484–85 (6th Cir. 1973) (quoting *Green v. Wolf Corp.*, 50 F.R.D. 220, 223 (S.D.N.Y. 1970)) (explaining that the opposing party must show the particular manner in which it is prejudiced and how the prejudice is substantial, and a bare assertion of prejudice is insufficient). Under these circumstances, there is no indication that amending the First Complaint now would cause Respondent Austin Holdings surprise or undue prejudice.[6]

[6] Respondents raise several arguments concerning the separate corporate existence of Austin Holdings and Chem-Solv, and Complainant's failure to pierce the corporate veil. Rs' Br. at 56–

For the foregoing reasons, and to promote clarity in the record, Complainant's Motion to Amend the Complaint to assert joint and several liability against Austin Holdings under Counts II through VII is granted. The amended Complaint will simply be referred to as "the Complaint" in this Initial Decision.

B. So-Called "Cross-Cutting Issues" Identified by Respondents

Respondents identify in their Brief two issues they claim "cut across and diminish the strength of the Complainant's case." Rs' Br. at 22. First, Respondents allege that witness VADEQ Inspector Elizabeth Lohman exhibited bias because she "routinely cast facts and conclusions in a light least favorable to the Respondents, as she built her testimony on hearsay statements and a fundamental misunderstanding of Chem-Solv's business." *Id.* Second, Respondents argue that out-of-court statements made to EPA and VADEQ inspectors by Chem-Solv employee Cary Lester are "hearsay" and should be accorded "little weight" in this proceeding. *Id.* at 22–23.

i. Alleged Bias of Witness Elizabeth Lohman

Respondents contend that Ms. Lohman exhibited an "insistently negative bias" at hearing because she sometimes described pertinent events using terms with negative connotations, "put undue emphasis" on documents in evidence that were not favorable to Respondents, expressed an understanding of the facts that differed from Respondents', and based portions of her testimony on statements made to her by Chem-Solv employee Cary Lester. *Id.* at 23–26. Respondents request that her testimony therefore be given "very little weight." *Id.* at 26. Complainant responds that Respondents' "argument is not at all persuasive" and claims "Ms. Lohman did no more than present facts based upon her observations, documents provided to her by Chem-Solv, and statements (often conflicting) made to her by Chem-Solv employees." C's Reply Br. at 6–7.

Having observed Ms. Lohman's character and demeanor while she testified at hearing, and having reviewed the documents in the evidentiary record while giving due consideration to Respondents' allegation of bias, Respondents' argument that Ms. Lohman's testimony should categorically be given little weight is found to be overbroad and unpersuasive. Ms. Lohman's testimony generally was coherent, and was consistent with the inspection notes and other documentation prepared contemporaneously with the events she recounted. Ms. Lohman gave the impression of one sincerely attempting to accurately recount her personal observations and beliefs. Her testimony is accorded the weight and credit it is due when considered in the context of the entire evidentiary record.

57; Rs.' Reply Br. at 26–27. These arguments are not relevant in the context of this action because the statute and regulations allow each entity to be held directly liable as an owner or an operator of the facility.

ii. Out-of-Court Statements Made by Chem-Solv Employee Cary Lester

Respondents also argue that little weight should be given to statements or information attributed to Cary Lester, "especially insofar as they were tendered through the testimony of Ms. Lohman." Rs' Br. at 27. Respondents criticize Complainant for not subpoenaing Mr. Lester for the hearing, and accuse Complainant of building its case on hearsay. *Id.* Complainant counter-argues "that Mr. Lester's statements are party-opponent statements," and are therefore not hearsay under the Federal Rules of Evidence. C's Reply Br. at 7.

The record shows that during the time relevant hereto, Cary Lester was Chem-Solv's Operations Manager and was the only Chem-Solv "employee with training and authority in the area of hazardous waste."[7] CX 21 at 657, 993–94. Mr. Lester was also "the company coordinator and the keeper of records." *Id.* at 657. Further, Mr. Lester was Chem-Solv's identified and preferred spokesperson during the government inspections that occurred in May 2007. *See* Tr. I 84–85, 88, 93–95, 124–25, 135, 146–49, 178; CX 17 at 296, 298–99; CX 19 at 374, 386. Moreover, Chem-Solv's Vice President and General Manager, Jamieson Austin, deferred to Mr. Lester's work or out-of-court statements several times during his own testimony. Tr. IV 157–58, 214–16, 236–39, 241, 270, 279–80, 284. All the foregoing strongly supports Complainant's assertion that most or all of Mr. Lester's statements in the record were made during the course of his employment with Respondent Chem-Solv, concerned a matter within the scope of his employment, and that he had been authorized to speak on such matters to government officials by Chem-Solv. As such, his statements are admissions of a party-opponent and excluded from the definition of hearsay under the Federal Rules. Fed. R. Evid. 801(d)(2); *see* C's Reply Br. 7–8 (citing CX 21 at 657, 993–94; Tr. I 93). Even if this were not the case, the Consolidated Rules governing this proceeding do not prohibit the admission or consideration of hearsay as such. 40 C.F.R. § 22.22(a)(1).

Respondents' argument that all of Mr. Lester's out-of-court statements should be given little weight is overbroad and unpersuasive. Statements or information attributed to Mr. Lester are accorded the weight and credit they are due when considered in the context of the entire evidentiary record.

III. Factual Background

A. Respondents' Facility

Respondent Chem-Solv, Inc.,[8] operates a chemical blending and distribution business headquartered in Roanoke, Virginia. First Jt. Stip. ¶ 9; CX 17 at 296–97; CX 19 at 373; Tr. IV

[7] Prior to being employed at Chem-Solv, Mr. Lester was the Environmental Manager for the City of Roanoke where he became personally known to VADEQ Inspector Elizabeth Lohman. Tr. I 48.

[8] Respondent Chem-Solv, Inc., is alternately identified in the record as "Chemsolv" or "Chemicals and Solvents, Inc." First Joint Stip. ¶ 10; *supra* at note 1. All references to these entities are understood as references to Respondent Chem-Solv.

158–59. Chem-Solv has satellite business facilities in Piney Flats, Tennessee; Colonia Heights, Virginia; and Rock Hill, South Carolina. CX 17 at 296; Tr. IV 159. The company "sells and distributes a wide range of liquid and solid commercial chemicals, chemical intermediaries, and solvent [sic] to industry in the southwest Virginia area along the Interstate 81" corridor. CX 17 at 296. Chem-Solv primarily purchases unused, unblended substances from producers or wholesale suppliers for repackaging and resale, though the business also blends substances to make new products or to meet customers' requests. CX 17 at 296–97; Tr. IV 164–65. Substances handled by Chem-Solv include various alcohols, acids, caustics, mineral oils, surfactants, glycols, solvents including tetrachloroethylene[9] and trichloroethylene,[10] and other chemicals including sodium hydrosulfide.[11] CX 19 at 382, 391–98, 403–07, 420–32, 443–50, 462, 468–77, 481–85, 488–98, 504–07, 561–68, 581, 593–601; Tr. IV 179–81, 192, 232.

Chem-Solv's headquarters and primary facility are located at 1111 and 1140 Industry Avenue, S.E., in the Roanoke Industrial Center. First Jt. Stip. ¶ 9; Tr. IV 160–61. The two properties are contiguous, separated only by Industry Avenue, a city-maintained street. Tr. IV 162. Chem-Solv was founded by Glenn Austin in 1979, and began operating from the 1140 Industry Avenue location in 1980. Tr. IV 158–60. The business acquired the 1111 Industry Avenue location in approximately 2004. Tr. IV 160. In 2007, Chem-Solv's Roanoke facility employed approximately thirty-five individuals "who work[ed] one shift, five [days] a week." CX 17 at 296. Chem-Solv also operated approximately fifteen tanker "trucks for bulk distribution." *Id.* at 296. At all times relevant to this matter, Chem-Solv's Vice President and General Manager was Jamieson Glenn Austin, son of Glenn Austin.[12] Tr. IV 157–58. Chem-Solv's Operations Manager, and "only employee with training and authority in the area of

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[9] Tetrachloroethylene is a colorless liquid used as a solvent in dry cleaning, vapor degreasing, and other industrial activities. Condensed Chemical Dictionary 668 (Gessner G. Hawley ed., 8th ed. 1971) [hereinafter Chem. Dictionary]. It is described as "[h]ighly toxic by ingestion, inhalation, and skin absorption." *Id.* Tetrachloroethylene is also known as tetrachloroethene or perchloroethylene. Tr. II 77, 195–96. All three names are used interchangeably throughout the record.

[10] Trichloroethylene is a "colorless, heavy liquid" used as a solvent in metal degreasing, dry cleaning, and other industrial processes. Chem. Dictionary, *supra* note 9, at 886–87. It is described as "[h]ighly toxic by inhalation moderately by ingestion and skin absorption." *Id.* Trichloroethylene is also referred to a trichloroethene, and both names are used interchangeably throughout the record. Tr. IV 94–96. At hearing, Jamieson Glenn Austin, Vice President and General Manager of Chem-Solv, testified that Chem-Solv purchased and received trichloroethylene at its Rock Hill and Piney Flats warehouses in 2006 and 2007, but not at the Roanoke facility. Tr. IV 179–81.

[11] Sodium hydrosulfide is described as "[c]olorless needles to lemon-colored flakes," being "[s]oluble in water, alcohol, and ether," and further being "[t]oxic on contact with acids, which are corrosive to tissue." Chem. Dictionary, *supra* note 9, at 802. It is used in paper pulping, dying, bleaching, and as a reagent. *Id.*

[12] References to "Mr. Austin" refer to Jamieson Glenn Austin unless otherwise indicated.

hazardous waste," was J. Cary Lester, Jr. CX 21 at 657, 993–94; *see* CX 17 at 298–99; CX 18 at 331; CX 19 at 374, 382–83; CX 21 at 996, 999, 1002–03, 1006, 1008, 1014, 1016, 1020–21; CX 37 at 1477; CX 38 at 1480; CX 39 at 1481; CX 40 at 1508; CX 43 at 1543; CX 44 at 1576; CX 46 at 1580; CX 47 at 1583; RX 34 at 322; Tr. IV 215.

While the Roanoke facility's street addresses are 1111 and 1140 Industry Avenue, the facility is actually spread over several tax parcels, including Tax Parcels 4240104, 4240103, and 4170102. First Jt. Stip. ¶ 9; Answer ¶¶ 4–5, 15. Respondent Austin Holdings owns Tax Parcels 4240103 and 4170102, and is part-owner of Chem-Solv's facility.[13] First Jt. Stip. ¶¶ 10–13; Answer ¶ 5.

In 2007, Chem-Solv used the portion of its facility situated at 1111 Industry Avenue primarily for storage and container management. Tr. IV 162–63, 173. The property consisted of a warehouse with approximately 100,000 square feet of storage space and a container maintenance room, a parking lot and outdoor storage area, and a partially covered container-destruction area. Tr. IV 162–63; CX 19 at 381–84, 388–89, 434–54, 464–68, 513–29, 532–641; CX 31 1252–69, 1283–90. Chem-Solv would receive and inspect returned containers at this location pursuant to its return program. Tr. IV 162–63, 174–77; CX 19 at 381. Under this program, Chem-Solv's customers would return emptied drums and containers to any one of Chem-Solv's four locations. Tr. IV 162–63, 175, 184–86; CX 19 at 381. Drums received at the satellite locations would then be transferred to the Roanoke facility where they were consolidated at the 1111 Industry Avenue property and shipped offsite for reconditioning if necessary. Tr. IV 162–63, 175, 184–86; *see* CX 19 at 381, 384 (inspectors' observations). Chem-Solv also stored material in the 1111 Industry Avenue warehouse. Tr. IV 162–63.

Chem-Solv's "main offices, dry storage, food-grade storage, blending operations, and tank farms" were located across the public way at 1140 Industry Avenue, and occupied approximately four acres.[14] CX 17 at 296; CX 19 at 373; CX 21 at 1023 (drawing of site). The offices occupied a relatively small area on the western portion of the property. CX 21 at 1023. A warehouse containing new and returned materials, a laboratory, and Chem-Solv's spill supplies, was attached to the offices. CX 17 at 297, 300–07; CX 19 at 390–404; CX 21 at 1023; Tr. III 15. This warehouse also contained the blend room, "which has various size tanks [that] are used to fill drums." CX 17 at 297, 308–309, 312. The blend room contained a grated trench drain in the floor that at some point in time emptied into a sub-grade tank in the acid pad area.[15]

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[13] In the Second Affidavit of Jamison G. Austin, submitted as an exhibit to Respondents' Motion Response, Mr. Austin indicated that Austin Holdings also owns Tax Parcel 4240104. *See* Austin Sec. Aff. ¶ 8; *see also* Answer ¶ 15. However, no party placed the Second Affidavit of Jamison G. Austin into the evidentiary record at hearing.

[14] Mr. Austin testified that the offices have since been relocated to space in the 1111 Industry Avenue warehouse. Tr. IV 259–61.

[15] The parties dispute whether the trench drain was functional in 2007. *Compare* C's Br. at 26–30, CX 17 at 297, 312, CX 19 at 374, Tr. I 88–89, 174–75, *and* Tr. III 7–9, *with* CX 21 at 657, CX 23 at 1084, Tr. III 145–49, 152, Tr. IV 206–07, *and* Rs' Br. at 18–20. However, while the question of whether the blend room's trench drain directed material to the sub-grade tank in 2007

Id. at 297, 312; CX 19 at 374; CX 21 at 657, 1023; CX 23 at 1083–84; Tr. I 174–75; Tr. III 10, 145–49, 152; Tr. IV 206–07. Outside the blend room was a loading dock and covered, but unenclosed, storage area. CX 17 at 297; CX 19 at 379; CX 21 at 1023.

Immediately east of the storage area was a concrete stormwater drainage way or swale. CX 17 at 297–98; CX 19 at 379–80; CX 21 at 1023. This swale bisected the property and ran roughly from southwest towards northeast. CX 21 at 1023. At the northeast end of the swale, on the edge of the 1140 Industry Avenue property, sat a shallow retention area with a short concrete wall at the end. CX 17 at 297, 314; CX 18 at 360–62; CX 19 at 374–75, 379, 409–13; CX 21 at 1023. Stormwater frequently exceeded the retention area's holding capacity, flowing around the wall and off the property. CX 17 at 297–98; CX 19 at 379. The retention area contained a sump pump that could be used to pump liquid into an adjacent 4,000-gallon white polyethylene above-ground storage tank ("AST").[16] CX 17 at 297–98; CX 18 at 336; CX 19 at 374–75, 379, 384; CX 21 at 661, 1023; Tr. I 98–100; Tr. IV 187–88.

East of the swale was a covered storage area and a flammable-products pad. CX 21 at 1023. Chem-Solv would repackage or blend various solvent products on the flammable pad. CX 17 at 298; CX 19 at 380. Beyond the flammable pad was a truck fueling area, a set of truck scales, and the glycol pad. CX 21 at 1023. A series of dikes ran around the flammable pad, glycol pad, and other containment areas at the facility. *Id.* at 1023; Tr. III 135, 138; *see* CX 43 at 1545 (referring to secondary containment dikes and berms around regulated tanks). Rainwater would collect in the dike walls, and Chem-Solv employees would pump that water into tankers or totes to use when making certain chemical blends. Tr. III 135–38, 148; *see* Tr. IV 213–14 (Chem-Solv stored water for reuse in a variety of totes and ASTs located around the facility). One such blend was a mixture of water and glycols marketed as "FreezeCon," an anti-freeze product marketed for industrial use on coal. Tr. III 134–38, 148; Tr. IV 210, 213–14. Chem-Solv employees referred to water from the containment dike walls as "pit water." Tr. III 138.

West of the swale, and just north of the blend room and its associated storage area, was an acid pad.[17] CX 17 at 297; CX 21 at 1023. Chem-Solv would repackage and blend acids and caustics from bulk tanks on the acid pad. CX 19 at 374; CX 21 at 658; Tr. III 153. When

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is of interest to the larger story of what actually occurred at Respondents' facility during the period at issue, it is ultimately not relevant to the central issue of this case which is whether Respondents were storing hazardous waste in the sub-grade tank within the meaning of the law. The trench drain was filled with concrete in 2008. Tr. III 146–47.

[16] The parties dispute whether the sump was used to pump stormwater into the AST, or whether the sump was only used in the event of a "catastrophic release." *Compare* CX 19 at 374–75, 384, *and* Tr. I 98–100, *with* CX 21 at 661, CX 23 at 1077, *and* Tr. IV 187–88, 233. The ultimate truth of this issue is not relevant to the outcome of this case.

[17] This Initial Decision assumes, without deciding, that the acid pad is separate from the land and that materials applied to or placed on the acid pad were not "applied to or placed on the land" in a manner that would constitute disposal under the applicable regulations. 40 C.F.R. §§ 260.10, 261.2.

finished, the lines from the bulk tanks would be flushed to a drain within the acid pad. CX 19 at 374; CX 21 at 658; Tr. I 138; Tr. III 128–29; Tr. IV 202. Chem-Solv also used the acid pad to rinse residue, dirt, and organic debris from the exterior of polyethylene drums after those drums had been filled but before they were sent to customers.[18] CX 18 at 333; CX 19 at 374; CX 21 at 658; Tr. III 128–29, 191; Tr. IV 200–04. When the line-flush or rinsate entered the floor drain, it would flow to a 1,900 gallon sub-grade tank. CX 17 at 297; CX 18 at 333; CX 21 at 658; Tr. I 138, 182; Tr. III 128; Tr. IV 202. This sub-grade tank was commonly referred to as the "Pit" ("the Pit" or "the Pit tank"). First Jt. Stip. ¶ 25.

The Pit was constructed in 1989 or 1990.[19] CX 23 at 1083; *see* First Jt. Stip. ¶ 26 ("The Pit was installed at some point after November 1985."). "The Pit was constructed of carbon steel with a ceramic interior lining," and had an open top, like a swimming pool. First Jt. Stip. ¶ 27; CX 17 at 313; CX 18 at 358–59; CX 19 at 408; *see* CX 25 at 1163–64; RX 28 at 304; Tr. III 50–53, 89–91, 129. The Pit was approximately seven feet deep, with an opening six feet and nine inches wide, and was capable of holding approximately 1,900 gallons. First Jt. Stip. ¶ 27; Tr. III 129; CX 23 at 1083. The Pit itself was cylindrical, but it was surrounded by a concrete wall, approximately four feet tall, that formed a square around the Pit's circular opening. CX 17 at 313; CX 18 at 358–59; CX 19 at 408; Tr. III 11, 89, 129, 155; Tr. IV 203; *see* Tr. I 181–82. The wall had a wooden swinging door cut into one side to allow access to the Pit. Tr. I 182; Tr. III 129; CX 18 at 357–59. There was little or no gap between the interior edge of the concrete wall and the lip of the Pit, and the space that did exist was occupied by a sloping concrete apron formed in place to prevent liquid from accumulating. Tr. III 11; Tr. IV 203; *but see* Tr. III 155–56 (noting space of eight to ten inches between Pit tank and walls, and that it was possible to walk around Pit inside the wall). The entire acid pad area was covered by a shed roof, and Respondents' expert testified that it would have been "physically impossible for rainwater to flow into" the Pit. Tr. I 182; Tr. III 189–90; Tr. IV 233, 251, 287–90.

The Pit was connected by piping to a nearby blue polyethylene AST with a capacity of approximately 6,000 gallons.[20] CX 18 at 358–59; CX 19 at 375; CX 43 at 1556; Tr. III 130; Tr.

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[18] Chem-Solv had historically rinsed the interior of used drums and totes on the acid pad, but had discontinued this practice by the year 2000. CX 19 at 374; CX 43 at 1556; Tr. IV 195, 199.

[19] Respondents appear to contest the date of the Pit's construction, but do not in their Brief point to any reliable evidence disputing the 1989–1990 dates. *See* Rs' Br. at 11–12. Mr. Austin testified that after "significant investigation" he learned "the tank system was installed in the mid 80s as opposed to the late 80s," specifically in 1985. Tr. IV 262–63. However, he further testified that in 1989 or 1990 the facility installed several mechanical and equipment upgrades pertaining to "the tank, the above ground storage tank, the wall, . . . the operational shack, operational building that was adjacent to the [acid] pad, . . . [and] the pad was changed several times between '85 and the time of the inspection." Tr. IV 262–63; *see* Tr. I 182–83, 185–87 (pipes and tank upgraded in 1999).

[20] There is some dispute in the record about the capacity of the acid pad's AST. The government inspectors' reports identify the tank as having a capacity of 3,000 or 4,000 gallons, but at hearing Respondents' witnesses testified that it had a capacity of 6,000 or 6,200 gallons. *Compare* CX 18 at 333, CX 19 at 375, *and* CX 37 at 1477 *with* Tr. III 130, *and* Tr. IV 204. Complainant does

IV 203–04. When the liquid mixture of rinsate and line flush in the Pit, referred to as "Pit water" in the record,[21] reached a certain level, it would be pumped into the AST for temporary storage before being shipped off-site for disposal. CX 19 at 375; Tr. I 46; Tr. III 138–39; Tr. IV 203–04, 215; CX 21 at 1023 (2003 drawing provided by Respondents, identifying AST as "Waste Water Treatment Tank" and the Pit as a "Waste Water Sump"). The parties sharply contest whether the Pit water was used for other purposes before being disposed of. Respondents claim that Pit water would be filtered and reused to rinse polyethylene drums or as an ingredient in FreezeCon. Rs' Br. at 14–15, 30–33 (citing Tr. III 127–29, 130, 133, 195–96, 199–200, 204; Tr. IV 127–29, 130, 133, 199–05) (discussing rinsing process); *id.* at 15–16, 31–33 (citing RX 3 at 32, 35; RX 4 at 123–27; Tr. III 134–38; Tr. IV 204, 210–14, 223) (explaining use in FreezeCon); Rs' Reply Br. at 6–8 (citing Tr. III 130, 133–34, 199–01; Tr. IV 127–29, 133, 199, 202–03, 205) (rinsing); *id.* (citing RX 3; RX 4; RX 5; Tr. III 134–38; Tr. IV 212–13) (FreezeCon). Complainant contends it is more likely than not that the Pit water was not reused. C's Br. at 78–85 (citing CX 19 at 375; CX 21 at 658; CX 23 at 1081; CX 33 at 1451; Tr. I 97, 104–11; Tr. IV 84, 107–08, 200–04) (washing); *id.* at 85–87 (citing CX 3 at 34; CX 19 at 382; RX 3 at 22, 35, 38, 50–52; Tr. I 107–08; Tr. III 135–38; Tr. IV 213–14) (FreezeCon); C's Reply Br. at 9–11. This dispute is addressed below. *See infra* Part IV.A.iii.a.

North of the acid pad, along the northwest border of the property, lay an open area where empty, unused polyethylene drums were stored. CX 21 at 1023; Tr. IV 200–01. These drums were not covered or protected, and would become covered in dirt, pollen, mulch, insects, grass clippings, and other similar debris. Tr. III 187–88; Tr. IV 200–01. The debris would be rinsed from the drums at the acid pad, where it was washed into the Pit. Tr. III 159; Tr. IV 200–03.

B. The Facility's Operational & Inspection History

As described above, Respondent Chem-Solv was founded in 1979 and has been operating from its current location in Roanoke since 1980. Tr. IV 158–60. In 1999, Chem-Solv held a permit to transport hazardous waste. CX 43 at 1549, 1556; Tr. I 27–28. Respondents have not at any relevant time held a state or federal permit, or interim status, as a hazardous waste treatment, storage, or disposal facility. Compl. ¶ 34; Answer ¶ 35. On April 14, 1999, VADEQ conducted a routine compliance evaluation inspection of the facility. CX 43 at 1548; Tr. I 27–28. Inspector Elizabeth Lohman participated in the inspection, as did facility representatives Glenn Austin and the warehouse manager, Randy Baumgarner. Tr. I 27–28; CX 43 at 1551, 1553. The inspection team identified several issues of concern, including containers that were unlabeled, containers labeled as containing waste, and containers in poor condition. Tr. I 27, 29; CX 43 at 1550–51, 1556–58. Facility representatives were unable to identify the contents of several containers. CX

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not dispute the 6,000 gallon figure in its Initial Post-Hearing Brief. C's Br. at 80. On this point, Respondents are taken at their word and it is found that, more likely than not, the AST had a capacity of approximately 6,000 gallons.

[21] Respondents' witness Mr. Tickle, a Chem-Solv employee, claimed at hearing that he and other employees also referred to the relatively pure water collected from the containment dikes as "pit water," thus failing by name to differentiate it from the "Pit water" generated from the activities at the acid pad. Tr. III 138.

43 at 1550; Tr. I 27. The inspection team also noted that the facility appeared to be generating hazardous waste, but had not notified the state of its generator status. CX 43 at 1549–50; Tr. I 28. Finally, the inspection team observed the Pit and received from Mr. Baumgarner a tank evaluation of the Pit prepared on January 28, 1999, by Environmental Directions, Inc. ("Environmental Directions"). CX 43 at 1550, 1561; Tr. I 29–30.

The evaluation stated that consultants from Environmental Directions had observed that the Pit's "[l]iner showed signs of chemical degradation," and had "a 4 inch diameter opening, and the concrete base behind the liner [had] degraded and flowing liquid into the tank [was] evident." CX 43 at 1561; Tr. I 29–30. The evaluation indicated that the facility's "maintenance department [was] going to try to patch the opening with concrete," that such a solution might "not work since acid [would] eventually break down the concrete" and "a new liner [would] be needed to replace the old one." CX 43 at 1561. At the time of the April 14, 1999 inspection, one of the inspectors noted in the inspection report that "[t]he facility [had] plans to evaluate the tank further" in response to the Environmental Directions evaluation. *Id.* at 1556. Ms. Lohman testified that Mr. Baumgarner later informed VADEQ that the facility was replacing the liner in the tank and upgrading the sub-grade piping. Tr. I 42–43.

At the hearing in this matter, Mr. Austin explained that, "to the best of the recollections of those who [he had] spoken directly to about it,"[22] in January of 1999 the Pit had contained a polyethylene liner that had been added after the original tank installation. Tr. IV 207–09. The polyethylene liner intentionally had a four-inch opening in it to allow water to flow into it from the acid pad's floor drain. Tr. IV 208–09. Mr. Austin testified that he had not seen any deterioration of the tank walls or surrounding concrete, nor had he seen "any indication that any liquids were being transmitted[.]" Tr. IV 209–10. Mr. Austin further claimed that the facility had not commissioned Environmental Directions to inspect or report on the condition of the Pit. Tr. IV 208. Rather, Environmental Directions had been retained to investigate a problem relating to zinc in the Pit water. Tr. IV 208.

At the time of the 1999 inspection, the facility discharged liquid from the Pit tank system directly to the City of Roanoke Regional Water Pollution Control Plant, a publicly owned treatment works ("POTW"), pursuant to a City-issued industrial Wastewater Discharge Permit. CX 42 at 1526, 1533–42; CX 43 at 1556; Tr. I 47; Tr. IV 195, 216. As described by Mr. Baumgarner and recorded by the VADEQ inspectors, totes and drums that had contained acids, caustics, glycols, surfactants, or alcohols were washed on the acid pad and the "rinse wastewater" was "discharged" to the Pit, where its pH would be tested and adjusted as required.[23] CX 19 at 374; CX 43 at 1556, 1559; Tr. I 36–37; Tr. IV 195, 199; *see* Tr. IV 221

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[22] Mr. Austin testified that in January of 1999 he "had moved back to Roanoke to take over [his] current position later on that year and the [liner] was not in the pit at that time." Tr. IV 209.

[23] Mr. Austin boasted at hearing that the water authority once asked the facility to "stop[] adjusting the pH down to neutral from a basic pH" because "every gallon of 11 pH water [the facility] sent . . . was a gallon of caustic that [the water authority] didn't have to consume." Tr. IV 198–99.

(discussing adjusted pH in pit); CX 21 at 1023 (2003 drawing identifying AST as "Waste Water Treatment Tank"). Then:

> [t]he wastewater was automatically pumped into an [AST] when the float trigger [was] activated. The wastewater [was] held in the AST. A small volume [was] then pumped through a cartridge (pre)filter, then through an ultrafiltration system, and a sample [was] taken for determining compliance with effluent limits. If the results [were] satisfactory, the remaining batch [was] run through the filtration system and discharged to the sanitary sewer. If the results [were] not satisfactory, the wastewater [was] filtered and returned to the AST and the cycle [was] repeated until satisfactory results [were] achieved.

CX 43 at 1556; *see* CX 23 at 1139; CX 43 at 1559.

On April 14, 1999, the facility was "operating under an Administrative Order for violation of zinc and oil/grease limitations." CX 43 at 1556; *see* CX 42 at 1537 (referring to Administrative Order); Tr. IV 196 (discussing zinc overages). At hearing, Mr. Austin described how in the late 1990s the Western Virginia Water Authority had lowered the allowable levels of several constituents, one of which was zinc. Tr. I 47; Tr. IV 196. After the change, the facility exceeded the limit for zinc on several occasions. Tr. IV 196. Environmental Directions was commissioned as part of an effort to identify sources of zinc in the facility's wastewater system. Tr. IV 196–97, 208. The facility ultimately could not identify where zinc was entering the water. Tr. IV 196–97. Further, the facility determined that upgrading or altering its equipment to reduce zinc below the allowable threshold would not be cost effective. *Id.* In late 1999 or early 2000 the facility ceased discharging to the POTW. *Id.*; *see* Tr. I 47.[24] Rather than discharge to the public sewer, the water would be transported offsite by a private contractor for disposal. Tr. I 47–48; Tr. IV 215–17; *see* CX 21 at 658 ("Wash water is pumped from the pit into storage tank adjacent to acid pad when full and tested for pH prior to shipment to processing facility."). The facility was required to submit a monthly certification that it was not discharging to the POTW. CX 42 at 1526, 1537; Tr. IV 216–17.

Six years later, on July 26, 2005, VADEQ performed another routine inspection of the facility. CX 37 at 1477; Tr. I 44–45. Ms. Lohman participated in the inspection, as did VADEQ Enforcement/Compliance Specialist, Sr., William Klepper, and facility representative Mr. Lester. CX 37 at 1477; CX 39 at 1483; Tr. I 44–45, 50. During the inspection, Ms. Lohman learned for the first time that the facility had stopped discharging wastewater to the public sewer and was instead shipping it offsite. Tr. I 46–48. Ms. Lohman also made note of two 55-gallon drums, one labeled "pit water," the other labeled "hazardous waste." CX 37 at 1478; Tr. I 49–50. When

[24] At hearing, Mr. Austin characterized this as "a voluntary move" whereby the facility "elected to no longer offer [its] water for discharge." Tr. IV 197. In contrast, Mr. Lester referred to the cessation as being due to a "temporary suspension of discharge privileges," in a December 16, 2005 letter to VADEQ Enforcement/Compliance Specialist, Sr., William E. Klepper. CX 42 at 1521, 1526.

asked about the drum labeled "hazardous waste," Mr. Lester indicated he believed the drum contained "pit water." Tr. I 49. The inspection team also noted an open valve on a secondary containment area around a tank farm.[25] Tr. I 79. Finally, the inspection revealed that in 2004 the facility had experienced a flood event that generated a large amount of hazardous waste, and the event had not been reported. CX 39 at 1484; CX 42 at 1522; Tr. I 62.

As a result of the July 26, 2005 inspection, Mr. Klepper mailed Chem-Solv a Warning Letter dated July 29, 2005.[26] CX 39 at 1481; Tr. I 51–52. The letter stated that "during the inspection . . . hundreds of containers on-site were identified by the facility as 'DNI' (Do Not Inventory) or the containers were damaged and not suitable for shipment. In addition several drums were marked or labeled as waste."[27] CX 39 at 1481; *see* Tr. I 53–54. The letter directed the facility to make a hazardous waste determination pertaining to the contents of those drums, and also stated that because the Pit was "no longer managed in a Clean Water Act unit or regulated under a Clean Water Act Pretreatment Permit, the facility must make a hazardous waste determination on the 'pit water.'" CX 39 at 1482. The facility was instructed to provide monthly reports concerning its progress in characterizing the drums, as well as a report concerning the Pit no later than September 15, 2005. *Id.*; Tr. I 54–59. The monthly reports were never provided, and no other response was received by October 31, 2005. Tr. I 54–55, 65.

The facility's failure to produce the requested reports in a timely fashion prompted VADEQ to conduct another inspection three months later, on November 1, 2005. Tr. I 63–64; 186. A second Warning Letter, dated November 9, 2005, was mailed to Chem-Solv as a result of that inspection.[28] CX 40 at 1508; Tr. I 64–65. The letter documented that during the inspection, facility representatives had told inspectors "the facility had reworked approximately 2/3 of the [DNI] drums back into . . . products." CX 40 at 1508. Facility representatives had also "stated that the pH of the pit water is taken before any elementary neutralization is performed but no records or logs are kept." *Id.* at 1509. VADEQ directed the facility to complete its characterization of the drums by December 12, 2005, and to file monthly reports addressing the issue starting on that date. *Id.* at 1508. The state agency also requested "that a log be kept of the pH and the volume of waste" in the Pit "because the [water] will be considered a hazardous waste . . . if the pH is above 12.5 or less than 2." *Id.* at 1509; *see* Tr. I 65–66.

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[25] On October 13, 2005, representatives from VADEQ inspected the facility's secondary containment structures to follow-up on the leaking valve observed during the June 26, 2005 inspection. CX 43 at 1543–46; Tr. I 79–80. The October 13, 2005 inspection led to a Notice of Violation being issued to the facility on January 5, 2006. CX 43 at 1543–46.

[26] Mr. Austin testified he had not seen this letter until a "few months" before the hearing. Tr. IV 270.

[27] At hearing, Mr. Austin claimed that Chem-Solv did not designate products "DNI," but that one or more of Chem-Solv's customers had done so. Tr. IV 169.

[28] As with the Warning Letter dated July 29, 2005, Mr. Austin testified that he had not seen nor heard of the Warning Letter dated November 9, 2005, until a few months before the hearing in this matter. Tr. IV 270; *see* CX 40 at 1508.

On Chem-Solv's behalf, Mr. Lester submitted a written response to VADEQ's second Warning Letter on January 4, 2006. Tr. I 186; CX 42 at 1520–22. In the response, Mr. Lester indicated that most of the drums noted during the July 26, 2005 inspection had been evaluated and been bulked or reworked into marketable product. CX 42 at 1522–25. He claimed that drums marked as "waste" or "hazardous waste" had been incorrectly labeled and in fact contained substances of a "reusable or of a non-RCRA status." *Id.* at 1524. Other drums contained "miscellaneous aqueous streams that . . . could not be marketed as new products. These were primarily acids and bases that were used to balance the rinse waters of the acid pad holding area."[29] *Id.* at 1525. Mr. Lester also wrote that "many open head poly drums spread throughout the facility [had] served as trash or solid waste receptacles . . . and had accumulated rainwater. These drums [had] since been drained and the non-hazardous waters were placed in the acid pit for eventual disposal off site." *Id.* at 1523. Further, "[s]olids such as dirt or clay absorbent were consolidated in a sludge box" for characterization. *Id.*

Addressing the Pit, Mr. Lester wrote that the facility was "still governed by the City of Roanoke Water Pollution Control Plant Permit No. 20120," and regardless "of the temporary suspension of discharge privileges," the Pit met "the definition of an elementary neutralization unit, because the waste treated in the tank is hazardous only due to corrosivity . . . . The adequacy of the neutralization process is supported by the uninterrupted acceptance of the non-hazardous facilities that accept the stream."[30] *Id.* at 1526. He claimed that the Pit was therefore exempt from regulation under RCRA pursuant to 40 C.F.R. § 270.1(c)(2)(v).[31] *Id.* Mr. Lester

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[29] Though the facility claimed in 2006 that it was testing and adjusting the pH of the Pit water, Mr. Austin testified: "Once our discharge to the POTW ceased [in 1999 or 2000], so did the necessity, in my view and from what has been reported to me over the years, our need to adjust pH went away as well." Tr. IV 221.

[30] At hearing, Ms. Lohman opined that the nonhazardous facility's acceptance of the waste stream was not probative because the facility made its decision on the basis of a single waste profile prepared by Chem-Solv, but the constituents of the Pit waste were "highly variable, and so, one sample would not be representative of the day-to-day changes that you would see in the [P]it." Tr. I 75–76.

[31] "The following persons are among those who are not required to obtain a RCRA permit: . . . Owners and operators of elementary neutralization units or wastewater treatment units as defined in 40 C.F.R. § 260.10." 40 C.F.R. § 270.1(c)(2)(v). An elementary neutralization unit is defined as:

> [A] device which: (1) Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in § 261.22 of this chapter, or they are listed in [S]ubpart D of part 261 of the chapter only for this reason; and (2) Meets the definition of tank, tank system, container, transport vehicle, or vessel in § 260.10 of this chapter.

40 C.F.R. § 260.10.

wrote: "In the spirit of cooperation, [Chem-Solv] is willing to maintain a [pH] log; however, it asks for the DEQ's further consideration on this issue." *Id.* Finally, Mr. Lester provided data showing that between September 28, 2004, and May 27, 2005, the facility had shipped an average of 12,999 gallons, weighing an average of 103,364 pounds, of "Pit Water, DOT-E, non-RCRA" off-site for disposal per month.[32] *Id.* at 1522.

In or around May 2006, the facility used the services of W.E.L., Inc., to remove solids that had settled out of the Pit water and formed a sedimentary sludge at bottom of the Pit. CX 21 at 658, 660; Tr. IV 238–39.[33] These consolidated solids, referred to as "Pit sludge" in the record, were placed in a roll-off[34] containing soils that had been exposed to contaminated stormwater, spill cleanup debris (e.g. clay or absorbant), and sediments from the stormwater swale. CX 19 at 377–78; CX 21 at 652, 660, 1016–17; Tr. I 112–14; Tr. III 19–22; Tr. IV 74–84, 238–39. A grab sample of the composite material was taken on May 3, 2006, and sent to ProChem Analytical, Inc. ("ProChem"), for analysis through the toxicity characteristics leaching procedure ("TCLP"). CX 19 at 377–78; CX 21 at 1018–21; *see* Tr. II 31–32 (explaining TCLP); *but see* Tr. IV 238–39 (noting that dirt from drainage swale was added to roll-off after grab sample taken). ProChem issued a Final Report dated May 24, 2006, showing that the composite material contained 0.029 mg/L of chloroform[35] and less than 0.020 mg/L of tetrachloroethene or trichloroethene. CX 21 at 1018–21. The contents of the roll-off were then stored at the facility for almost a year. *Id.* at 660, 855, 1016–17.

The facility's Wastewater Discharge Permit was scheduled to expire on October 31, 2006. CX 42 at 1533. In early 2006, Chem-Solv made the decision to allow the permit to expire without renewal. Tr. IV 216–17. A facility representative contacted the Western Virginia Water Authority and informed the pretreatment coordinator of its decision. Tr. I 47; Tr. IV 217. At hearing, Mr. Austin opined that the pretreatment coordinator "did not like that" and "got very angry," and as a result "made an inspection" of the facility under the terms of the permit. Tr. IV 217; *see* CX 42 at 1538 (permit's inspection provision).

Mr. Austin expressed that the pretreatment coordinator—

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[32] One U.S. gallon of pure water ("H2O") weighs approximately 8.34 pounds at 15° Celsius. Chem. Dictionary, *supra* note 9, at 935. A shipment of 12,999 gallons of pure water would be expected to weigh 108,411.66 pounds, which is 5,047.66 pounds heavier than the recorded weight of the Pit water Chem-Solv actually shipped. It may be inferred that the Pit water contained a significant quantity of liquid with a density lower than that of water.

[33] Mr. Austin testified: "The way I understand . . . this transaction proceeded . . . is that in . . . May of 2006, with the help of W.E.L., we emptied the settled solids out of the subgrade storage—I mean rinse tank and placed them in a roll-off basin." Tr. IV 238.

[34] The "roll-off" is also referred to as a "hopper" or "dumpster." Tr. III 154.

[35] Chloroform is described as a "[c]lear, colorless, highly refractive, heavy, volatile liquid," that is "[h]ighly toxic by inhalation" and "narcotic." Chem. Dictionary, *supra* note 9, at 202.

> and her colleagues use[d] it as an opportunity to look under every hen house, outhouse, bed bunk, brick whatever, on our facility. To the degree that they show up unannounced . . . and climb on tank trucks, on rail cars and so on and so forth and we let them know without question that that was unacceptable . . . . She did not like that.[36]

Tr. IV 218. As part of the inspection, the pretreatment coordinator asked if the facility was shipping its water offsite, and facility representatives told her that they were doing so using a company named HOH Corp. Tr. IV 218; *see* CX 21 at 795–832 (bills of lading for shipments of Pit water via HOH). Mr. Austin testified: "So we provided them with HOH contact information and within two days HOH called us and said we can no longer accept your water." Tr. IV 219, 268–69. Mr. Austin did not personally communicate with HOH, but he testified that HOH told the facility "a regulator" had contacted HOH and informed it that the Pit water was hazardous waste, and that HOH would only accept future waste water from the facility if a waste analysis was performed on every shipment. CX 19 at 375; Tr. IV 219, 268–69; *see* Tr. I 96 (describing shipping arrangements).

In October 2006, the facility stopped shipping Pit water offsite for disposal with HOH. CX 19 at 375; Tr. I 96; Tr. IV 220; *see* CX 21 at 795–832 (shipments with HOH from November 14, 2005, to October 10, 2006). The liquid contents of the Pit were instead accumulated at the facility in drums and totes until April of 2007, when the facility began using Shamrock Environment Services, Inc. ("Shamrock"). CX 19 at 375, 387; CX 21 at 833 (bill of lading dated April 18, 2007, for shipment of "acid pad wash water" by Shamrock); Tr. I 96, 108–09; Tr. III 11; Tr. IV 220, 288. Data in the record show that on average the facility disposed of approximately 8,996 gallons,[37] or 75,246 pounds, of Pit water per month between November 14, 2005, and October 10, 2006, using HOH.[38] CX 21 at 654, 795–832. The shipments had post-neutralization pH levels ranging from 11.66 to 3.22, indicating the variability of the waste stream. *Id.* at 659, 795–832.

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[36] Mr. Austin testified: "Quite frankly and quite honestly, [the POTW] just liked to make our lives difficult. [The pretreatment coordinator] doesn't like me, doesn't like [Chem-Solv], and when her predecessor was in place we had a fantastic working relationship with the POTW." Tr. IV 270.

[37] This figure is not exact because the volume of the shipment was not recorded on the Bills of Lading for May 31, 2006, August 1, 2006, and October 10, 2006. CX 21 at 818, 825, 831.

[38] The Bills of Lading in evidence show that the volumetric weight of the Pit "water" varied widely with each shipment, ranging from as low as 6.37 pounds per gallon to as high as 9.00 pounds per gallon. CX 21 at 654, 795–852. Pure water is expected to weigh approximately 8.34 pounds per gallon. Chem. Dictionary, *supra* note 9, at 935. When asked at hearing, Mr. Austin could not clearly explain the variability, but testified that the numbers were recorded "as accurately as possible." Tr. IV 288–90.

Also in October 2006, Ms. Lohman contacted Kenneth Cox, an EPA inspector with Region 3, to suggest that the Region place Respondents' facility on its annual inspection list. Tr. I 24–25, 186. Ms. Lohman testified that she did this because VADEQ "had identified problems specifically with particular drums . . . because of their condition, their age, and we had asked for hazardous waste determinations from the facility, asked for analytical data, and we just weren't getting that information." Tr. I 25–26. VADEQ did not have funding to conduct its own sampling at the facility, so it turned to EPA "in hopes that an initial inspection would result in a sampling inspection." Tr. I 26. The facility was consequently added to the Region's fiscal-year 2007 inspection plan. Tr. III 4–5.

On April 13, 2007, the facility shipped the Pit sludge and other material in the roll-off offsite for disposal as nonhazardous waste. CX 21 at 660, 855, 1016–17. The shipping manifest from Shamrock indicates that 30,000 pounds of "retention basin solids" were removed for disposal on that date. *Id.* at 660, 855. The associated Material Characterization Profile, prepared by Mr. Lester, describes the material as "sediments . . . moved by sheet flow precipitation runoff from the paved parking lot of the facilities [sic] production area . . . spill cleanup solids of non-RCRA materials combined with clay absorbents . . . [and] small amounts of chemicals . . . entrained in the rainwater and carried to the basin." *Id.* at 660, 855, 1016–17. The Material Characterization Profile does not indicate that the roll-off contained sludge taken from the Pit. *Id.* at 1016–17; Tr. II 20–21.

C. The May 15, 2007 Inspection of the Facility

On May 15, 2007, EPA Inspector Cox, along with VADEQ Inspectors Lohman and Kimberly J. Thompson, conducted an EPA-initiated inspection of Respondents' Roanoke facility. CX 17 at 295–96; CX 19 at 373, Tr. I 82–84; Tr. II 5–6. Mr. Austin participated in the inspection on behalf of the facility because Mr. Lester was not available at the time. CX 17 at 296; Tr. I 84–85, 93. The inspection team toured the warehouse at 1140 Industry Avenue where they observed "several sections of totes (2) and drums (31) that were marked 'bad', [sic] 'contaminated', [sic] 'do not use', [sic] etc. . . . Some bore dates, but most did not," and '[m]any of the containers bore a layer of dust." CX 17 at 297, 300–06, 310–11. Other containers "were marked 'REJECT—DO NOT USE.'" *Id.* at 297. Mr. Austin explained that those were returned containers and the labels had been placed on them by customers. *Id.* He told the inspectors that the contents were awaiting evaluation and would be returned, resold, or sold at a lower specification. *Id.*

The inspectors next toured the blend room, where Ms. Lohman observed drums of organic chemicals, and then continued on to the acid pad. *Id.*; Tr. I 89–90; Tr. III 7–13. Mr. Cox testified that the Pit did not appear to have any secondary containment structure, and was not labeled as a hazardous waste unit. Tr. III 11–12. He testified that "the facility claimed that it was a solid waste unit to collect their rinse water." Tr. III 12.

From the acid pad they went to the drainage swale, and then to the tank farm area. CX 17 at 298. There the inspectors observed "more than 20 heavily rusted and damaged drums partially wrapped in plastic," which Mr. Austin identified as "the last of the containers that were the subject of a State warning letter in 2005." CX 17 at 298, 316; *see* CX 39 at 1481 (warning

letter). The inspectors also observed a tote labeled "Glycol Ether EB" with a leaky valve, and another tote leaking "a high flash hydrocarbon." CX 17 at 298, 317–18. "Mr. Austin had the tote [of Gylcol Ether EB] removed." *Id.* at 298. At the flammable liquid storage pad the inspectors observed "two groups . . . of drums in the middle of the floor marked 'Bad' and 'Reclaim.'" *Id.* at 298, 319–20. Mr. Austin told the inspectors that the drums contained Isopropyl Alcohol that would be downgraded but not reclaimed. *Id.* at 298. The inspectors also observed that the floor was wet where Glycol Ether DPM had been spilled while being transferred from a tote to a drum. *Id.* at 298, 321. An employee was also observed cleaning up another "release of unknown liquid at the valve manifold used for loading/unloading tanks. The employee had used stay-dri and was shoveling it into an open trash can." *Id.* at 298.

After viewing the flammable liquid storage pad the inspection team paused for lunch. *Id.* After lunch, the inspectors asked Mr. Austin if they could tour the warehouse and storage yard at 1111 Industry Avenue. *Id.* "Mr. Austin insisted that there [was] nothing of interest to [the inspectors'] agencies and that [they] could tour those facilities by calling Mr. Lester after his return to the office and making an appointment." *Id.* Mr. Cox recorded that "Mr. Austin then terminated the inspection by saying he no longer had time to talk to [the inspection team] because he had several appointments later in the afternoon." *Id.* at 299; Tr. I 92–94.

Following the May 15, 2007 inspection, "[t]he inspectors from VADEQ agreed to contact Mr. Lester and continue the inspection at the warehouse" at 1111 Industry Avenue. CX 17 at 299. On Thursday, May 17, 2007, VADEQ contacted the facility and arranged to complete the inspection with Mr. Lester the following day. CX 19 at 374; Tr. I 94–95. On Friday, May 18, 2007, Ms. Lohman and Ms. Thompson met Mr. Lester at the facility. CX 19 at 374; Tr. I 95.

During an opening conference, Mr. Lester explained in response to a question about wastewater that, in the Pit area, the facility flushed "the acid and caustic lines from the bulk tanks after filling containers with product and washe[d] the outside of containers after filling them with product to remove spillage and 'grit and grime.'" CX 19 at 374. When blending chemicals, "[a]ny product spillage or floor wash down wastewater goes to the floor drain in the blending room which drains to the 'pit area.'" *Id.* Mr. Lester also indicated that stormwater was "commingled with other process wastewater." *Id.*; Tr. I 99–100. He explained that the facility had submitted an application to the Western Virginia Water Authority to renew its Wastewater Discharge Permit, but was still not discharging to the POTW. CX 19 at 375. Mr. Lester described how the facility was instead shipping its wastewater off-site for disposal, and how it had used HOH Corp. until HOH "began requesting a full waste analysis on every load." *Id.*; Tr. I 96. At the time of the inspection, the facility was using Shamrock, and Mr. Lester indicated the facility had "a single waste profile . . . for disposal of all wastewaters generated at the facility." CX 19 at 375; Tr. I 96–97, 110–11. Mr. Lester described how wastewater was collected in the Pit and then transferred to the adjacent AST for storage. CX 19 at 375; Tr. 96. "From the AST, the [P]it water [was] transferred to a tanker truck" where the pH was adjusted "by adding acid or caustic as needed" during the transfer." CX 19 at 375; Tr. I 96–97. Ms. Lohman testified there was no indication that Pit water was being reused to wash drums. Tr. I 105.

Mr. Lester also explained during the conference that totes and drums were returned from customers to the 1111 Industry Avenue warehouse, and that Chem-Solv's drivers were

"instructed not to bring containers that do not meet the definition of 'RCRA empty'[39] or containers with any unknown chemicals back to the facility." CX 19 at 375–76; *but see* CX 17 at 297 (documenting that Mr. Austin stated products would be returned by customers); CX 19 at 381 (documenting Mr. Lester's identification of drums partially filled with material as having been returned by customers on Chem-Solv trucks). Any "spent glycols [received] from off-site customers" would be mixed to make "Freeze-Con." *Id.* at 376. When asked about the spills observed on May 15, 2007, Mr. Lester indicated that the facility "does not keep a log of . . . spills or releases, the cleanup response, or the disposition of the cleanup debris." *Id.*; Tr. I 117. He indicated that "workers know that they are not supposed to place certain spilled chemicals and cleanup debris in the trash," but could not produce any written procedures or training materials addressing this point. CX 19 at 377–78; Tr. I 117.

When asked about the drums that had been the subject of the 2005 Warning Letter, "Mr. Lester stated that all the material had been reworked into other products . . . with the exception of the 24 drums observed . . . on May 15, 2007. Mr. Lester explained that he had not been able to rework the last 24 drums." CX 19 at 377. The inspectors asked Mr. Lester for "a list of drums and containers that were currently in inventory," but "Mr. Lester claimed the list could not be printed out due to its complexity" and the list was not provided. *Id.* at 378. The inspectors also asked "about containers of pit sludges observed and noted in the 2005 [VADEQ] inspections," and were told "that all of the pit sludge had been shipped off site with the exception of 4 drums" remaining at 1111 Industry Avenue. *Id.* "Mr. Lester stated that the pit sludge had been mixed with the contents of the roll-off," and "a composite sample of the mixture of soils, spill cleanup debris and pit sludge had been analyzed by TCLP [toxicity characteristic leaching procedure]." *Id.* Mr. Lester "said he would do TCLPs on the four remaining drums." *Id.*

After the opening conference, the inspection team again toured the 1140 Industry Avenue property. *Id.* at 379–81. Ms. Lohman observed that one of the drums dating from the 2005 Warning Letter was punctured, and that other drums did "not appear to have lids secured or to be stored in a commodity-like manner." *Id.* at 380, 414–17. At the drainage swale, Mr. Lester indicated that stormwater would be pumped into the AST and "shipped off-site with the [P]it water."[40] *Id.* at 375; CX 33 at 1451; Tr. I 100. Ms. Lohman noted that Mr. Lester stated Chem-Solv was "looking into modifying the stormwater management system by creating a bermed or walled retention area to retain and recycle the stormwater." CX 19 at 375.

The inspectors then went to the 1111 Industry Avenue warehouse where they "observed several drums . . . with 'PD' spray painted on the side. . . . Mr. Lester explained that 'PD' means . . . a 'partial drum' that was brought back to [Chem-Solv] on a facility-owned truck from a customer."[41] *Id.* at 381. One such drum was labeled "sodium hydrosulfide." *Id.* at 381, 468; Tr.

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[39] *See* 40 C.F.R. § 261.7(b) (defining when a container is empty).

[40] Later, when asked in an Information Request Letter ("IRL") whether storm water was "ever sampled before combining with pit water," Mr. Austin responded: "We do not understand the basis for this question. What has suggested that they are ever combined?" CX 23 at 1077.

[41] Mr. Austin disputed this at hearing, stating: "PD . . . does not designate material that has come back from a customer that is not a full drum. PD references part drum in a bulk packaging

I 140–42. An unidentified "employee stated that the material inside the drum was hardening and that he was 'deciding what to do with [the drum and its contents].' They stated they would test the material, and if it was 'good,' the material [would] be put back into product inventory." CX 19 at 381; *see* Tr. I 142–44.

In the warehouse the inspectors observed "[a]t least 1,000 containers . . . with approximately 10% to 20% of them being totes. Container condition ranged from newly packaged materials to containers that were damaged, in poor condition, punctured, rusted, leaking, over packed, and not closed." CX 19 at 381–82, 464–526. Several drums were unlabeled or had illegible labels. *Id.* at 382, 492–95, 505, 512, 525. Other containers were labeled as containing: "Tank 3 Rinse Water;" "Pit Water;" "Pit Sludge;" and "Pit Solids." *Id.* at 382, 478–79, 486–87, 499–501, 503, 508–11, 515–16; Tr. I 109–10, 114–16. Mr. Lester indicated "he was going to try to work that waste water . . . into future shipments to Shamrock." Tr. I 110. Ms. Lohman testified that during the inspection, Mr. Lester stated the facility was "looking for potential reuses of the waste water, but at the time of the inspection, it was still being managed as waste water." Tr. I 108, 111.

Other drums in the warehouse were labeled "trichloroethylene."[42] CX 19 at 473–74, 561, 564. The inspectors observed several drums of Freeze-Con, and one drum labeled only "DNI" that had previously been observed in 2005. *Id.* at 382–83, 482–83, 491–92, 546–49; Tr. I 107. Many other containers were "marked with flammable liquid (Class 3) and . . . flammable solid (Class 4) labels." *Id.* at 382. "Mr. Lester stated an inventory of product and containers [was] performed quarterly."[43] *Id.* In the outdoor storage lot the inspectors observed a box trailer storing drums containing "flammable liquids which were previously stored in the warehouse."[44]

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operation." Tr. IV 169. Drums were labeled PD "so an operator does not come and . . . pull that drum to put on a truck outbound to a customer." TR. IV 169–70.

[42] Mr. Austin testified that while he "did not personally touch these drums," he believed they were empty because they were new and therefore would not be stored in the 1111 Industry Avenue warehouse if full, and they had labels on their tops which was a practice employed by Chem-Solv's customers, but not by Chem-Solv itself. Tr. IV 180–82.

[43] At hearing, Mr. Austin explained that Chem-Solv's inventory was "maintained closed every month, closed every quarter, closed on an annual basis for accounting purposes," and that any inventory record was only a "snapshot in time of that particular moment." Tr. IV 177–78. He testified that Chem-Solv's inventory system did not record the daily stock of products, and it was not possible to discover the stock status of any product on a particular day in the past. Tr. IV 177–78.

[44] Mr. Perkins, Respondents' expert witness, testified that he believed Chem-Solv did not keep trichloroethylene at the Roanoke facility and that the drums the inspectors observed to be labeled "trichloroethylene" were probably empty. Tr. IV 96–102. Mr. Perkins supported this belief, in part, by noting that one drum labeled trichloroethylene was photographed next to a drum labeled "methylen chloride," which he described as "very ignitable." Tr. IV 102; *see* CX 19 at 564 (picture of drum labeled "methylene chloride"). Mr. Perkins testified that when he walked through the facility in 2008, Respondents were "very explicit [in] not including ignitable

Id. at 384. Mr. Lester indicated that he had "relocated the flammable liquid drums from the warehouse to the box trailer" the previous day. *Id.*

In the container destruction area, the inspectors observed a number of containers containing sawdust residues and free liquids.[45] *Id.* at 383, 528–30. Discarded aerosol cans were observed on top of the sawdust. *Id.* at 529–30; Tr. I 119–20. Ms. Lohman testified that she was not able to determine if a waste determination had been made regarding the aerosol cans. Tr. I 120. "Mr. Lester stated that [Chem-Solv did] not have any formal procedures or training" to "instruct employees how to identify 'RCRA empty' and non-RCRA empty containers." CX 19 at 383; *see* Tr. IV 249–51 (no written protocol on aerosol can management at time of alleged violations).

At the end of the inspection, Inspectors Lohman and Thompson told Mr. Lester "that any forthcoming reports would be issued by EPA," and explained that they "still needed to review manifest training records, logs and that [they] would probably be submitting an information request letter for those things." Tr. I 120–21. They also asked Mr. Lester to produce records pertaining to the pH of the Pit contents prior to neutralization. Tr. I 121. Ms. Lohman testified that to the best of her knowledge, those records were never produced. Tr. I 121.

D. The May 23, 2007 Inspection of the Facility & Sampling Event

Following the May 18, 2007 inspection of 1111 Industry Avenue, State inspectors Lohman and Thompson conveyed their observations and concerns regarding Chem-Solv's facility to EPA Inspector Cox. Tr. I 88. Mr. Cox then contacted George Houghton, an EPA Environmental Protection Specialist based out of Fort Meade, Maryland. Tr. I 193, 199; Tr. III 13. Mr. Cox requested that Mr. Houghton conduct a sampling inspection at Respondents' facility, paying particular attention to the Pit at 1140 Industry Avenue and the containers of Pit sludge and Pit water stored at 1111 Industry Avenue. Tr. I 199–200, 202; Tr. II 12–13. Mr. Houghton then spoke with the VADEQ Roanoke regional office and arranged to inspect the facility on May 23, 2007. Tr. I 122–23, 201; CX 18 at 331–32; CX 19 at 386. The facility was not given advance notice of the inspection. CX 18 at 332.

[materials] in Building 1111, [and] that leads me to believe this Methylen Chloride drum is empty." Tr. IV 100–02. Mr. Perkins reasoned that because Respondents did not store ignitable materials in the 1111 Industry Avenue warehouse, and the drum labeled methylene chloride was photographed in that warehouse, that drum was probably empty, and if the drum labeled methylene chloride was probably empty, then the drum labeled as containing trichloroethylene pictured next to it was also probably empty. Tr. IV 100–02. The credibility of this series of inferences is severely undermined by the fact that flammable liquids *were* being stored in the 1111 Industry Avenue warehouse at the time of the May 18, 2007 inspection. CX 19 at 384. Mr. Perkins may have been confusing "methylene chloride," which was photographed next to trichloroethylene and is described as "[n]onflammable and nonexplosive in air," with "methyl chloride," which is described as "[f]lammable" and a "dangerous fire risk." CX 19 at 564; Chem. Dictionary, *supra* note 9, at 569, 572.

[45] Mr. Austin later claimed the liquid was rainwater. CX 25 at 1146.

Mr. Houghton, now retired, was employed by EPA from 1971 to 2009. Tr. I 192–93. He began his career performing ambient water quality monitoring, and was then involved in other programs including the NPDES program, asbestos program, PCB program, and RCRA program during his tenure. Tr. I 193. He began performing RCRA inspections for EPA since those regulations were first promulgated in 1980, and worked in the RCRA program almost exclusively in his last fifteen years with the Agency. Tr. I 193–94. Mr. Houghton participated in "several courses concerning RCRA sampling and RCRA regulations in general," including courses on general sampling, underground storage tank sampling, sampling safety, sampling at industrial facilities, hazardous materials sampling, and the care and handling of samples. Tr. I 194–96. Mr. Houghton also received substantial on-the-job training from more senior inspectors. Tr. I 196–97. At hearing, Mr. Houghton estimated that on average he conducted two to three hazardous waste sampling events per year. Tr. I 197–98.

Prior to the May 23, 2007 inspection, Mr. Houghton learned from Mr. Cox that he would be analyzing pH levels, and taking both liquid and solid samples from totes and the Pit for volatile organic analysis and extractable organic analysis. Tr. I 199–200, 202–03. Using that information, Mr. Houghton "assembled equipment that [he] thought might be useful when sampling those areas." Tr. I 202. This equipment included a pH meter and pH buffers, a bottom or sludge scrape, a swing sampler, a number of COLIWASAs,[46] various pre-cleaned sample jars "appropriate to the type of analysis," a steel pan, a sampling pole, and safety equipment including Tyvek suits, . . . chemical resistant gloves, . . . [and] full-face respirators." Tr. I 202–03, 218–20, 222–23; *see* CX 65 at 1814–18 (pictures of equipment). Other equipment "included bags, sampling containers for emergency-type sampling, sharpie markers, tongs, tongue depressors, spatulas, . . . a tape measure, . . . a vacuum sampler, . . . [and] a cooler with ice." Tr. I 203–04. Mr. Houghton also selected Jose Reyna, Jr., an Environmental Scientist "who was new and needed experience," to assist the sampling effort. Tr. I 201–02, 206. Mr. Houghton testified that he did not prepare a "formal plan as to how [he was] going to go about sampling," because "[t]he information [he] had was limited." Tr. I 219. He stated: "I'm not sure what a plan would have done for me. My years of experience, I pretty well knew the sampling equipment that we had . . . to do the sampling." Tr. I 219.

At approximately 6:15 a.m. on May 23, 2007, Mr. Houghton prepared a trip blank using a volatile organic analysis ("VOA") bottle—described as a 40 milliliter ("mL") bottle with a septa top—and "specially prepared laboratory pure" water. Tr. I 204–05, 242. The trip blank was placed into a Ziploc bag marked "trip blank," and placed inside the cooler. Tr. I 205–06. The portion of the swing sampler that would contact the media being sampled, the sludge scrape sampler, and the stainless steel pan were washed with soap and water, and the scrape and pan were wrapped in aluminum foil for transport. Tr. I 229–30. Mr. Houghton and Mr. Reyna then traveled to the VADEQ Roanoke office where they met Ms. Lohman and Ms. Thompson at

[46] Mr. Houghton explained that a "COLIWASA" (an acronym for a Composite Liquid Waste Sampler) is a "glass tube[] tapered at one end with a smaller glass tube that fits down the center" with "a ground glass stopper at the end to where you can lower that device into a drum or a container and stop it so and when the inner glass container meets the outer glass container, it forms a fairly watertight seal," but "not a perfect seal." Tr. I 203.

approximately 12:00 p.m. Tr. I 123, 207–08. After a short discussion, the four inspectors proceeded to the facility. Tr. I 208.

Upon arrival, the inspectors announced themselves at the reception office and were met by Mr. Lester. Tr. I 124, 208–09. Mr. Austin was not present. Tr. I 124, 209. The inspectors explained the purpose of the visit, and then proceeded to the warehouse at 1111 Industry Avenue. Tr. I 124, 209. Mr. Lester identified the ten totes containing Pit water that were to be sampled, and discussed their contents with Mr. Houghton.[47] CX 18 at 332, 338, 342–47, 353a–53c; Tr. I 210. The material in the totes selected for sampling had been generated between September 2006 and April 2007, after the facility stopped disposing of its wastewater using HOH. CX 19 at 386–87; CX 29 at 1214–15; Tr. I 211. Mr. Lester indicated that "he had planned to 'slowly combine' these 'older' wastes with current shipments of wastewater generated across the street at 1140 Industry Avenue but that he did not have the time to do so." CX 19 at 387. Mr. Lester also told Mr. Houghton that four drums of Pit sludge dating from the May 2006 cleanout had just been found.[48] CX 18 at 335, 339, 353d; Tr. I 210–11; *see* CX 21 at 658, 660; Tr. IV 238–39. Mr. Houghton recalled that Mr. Lester described the Pit sludge as "a hydroxide sludge" that was "light and fluffy." Tr. I 211; *see* CX 29 at 1215.

Samples were taken from each of the ten totes using a glass COLIWASA tube and placed in glass jars. CX 18 at 333; Tr. I 212; *see* CX 19 at 591 (photograph of tote contents during sampling). The pH meter was calibrated, and then used to test the pH of each sample.[49] CX 18 at 333; Tr. I 212–14. The Pit water in one tote, identified as "tote number 3," was found to have

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[47] During the sampling inspection, Ms. Lohman observed "approximately 30 [additional] totes" labeled "Pit water" or "Tank 3 rinse water-non-reg" stacked nearby, but these totes were not sampled by Mr. Houghton. CX 19 at 388.

[48] Mr. Houghton testified that four drums of sludge had been found, and this number is reflected in his notes and in the photographs taken by the VADEQ inspectors. CX 19 at 587–88; CX 29 at 1214; Tr. I 210–11. However, in his inspection report, Mr. Houghton documented that two drums had been found. CX 18 at 335, 339, 353d. This discrepancy is not explained, but the photographic evidence appears to show six drums of Pit sludge being stored in the warehouse on May 23, 2007. CX 18 at 339, 353d; CX 19 at 587–88. The number is ultimately not relevant because the contents of these drums were not analyzed and Complainant does not allege that these drums contained hazardous waste. Mr. Houghton also recorded in this inspection report that the drums dated from "the May 2005 cleaning of the [P]it." CX 18 at 335. This is understood to be an error, as the record does not contain any reference to a cleanout occurring in May 2005, but there is ample documentation that a cleanout occurred in May 2006. *See* CX 21 at 658, 660; Tr. IV 238–39. Additionally, Mr. Houghton's field notes record that the content of the drums was analyzed in combination with two other waste streams. CX 29 at 1213–14; Tr. I 210–11. This is consistent with the drums dating to the May 2006 cleanout, when the sludge removed from the Pit was mixed with soil, spill cleanup debris, and sediment from the stormwater swale. CX 19 at 377–78; CX 21 at 652, 660, 1016–17; Tr. I 112–14; Tr. III 19–22; Tr. IV 74–84, 238–39.

[49] Respondents do not challenge the calibration of the pH meter in their Brief.

a pH of 1.58. CX 18 at 333; CX 19 at 388; CX 29 at 1218. Tote number three contained 34.5 inches, or approximately 198 to 207 gallons, of Pit water. CX 18 at 333; CX 19 at 388; CX 29 at 1218. During the sampling, Mr. Houghton noted "[s]ome of the containers had a sludge-type material on the bottom," and the water was not "clear, but it had some color to it." Tr. I 214; *see* CX 19 at 591. The sampling activity at 1111 Industry Avenue concluded at approximately 4:30 p.m. CX 29 at 1219; Tr. I 215.

While Mr. Houghton and Mr. Reyna were sampling the totes, Ms. Lohman and Ms. Thompson walked around the warehouse with Mr. Lester. Tr. I 127. Mr. Austin was not present. Tr. I 135. As the inspectors identified drums of concern, Ms. Lohman stated that "[s]ometimes [Mr. Lester] knew what the materials were, sometimes he didn't. Sometimes—in the case where he knew what the materials were, he would attempt to offer an explanation of how the material might be used or reworked into a process." Tr. I 127. Ms. Lohman described their talk as "this ongoing conversation that we had with him about making determinations and always knowing what he had, and whether it was waste material or not." Tr. I 127. She testified:

> [W]e were having a very candid conversation with Mr. Lester at that point saying, you know, that we needed him to really step up and . . . be aggressive with these materials and label them and identify them and manage them. And he indicated that he wasn't getting enough support from the Austins to make hazardous waste determinations and manage the materials properly.

Tr. I 127.

As they walked through the warehouse, Ms. Lohman noticed a "strong rotten egg smell that was obnoxious." Tr. I 129; *see* CX 18 at 335–36 (noting odor); CX 19 at 387. The odor was traced to "a leaking drum of sodium hydrosulfide." Tr. I 128; *see* CX 18 at 335; CX 19 at 387, 581, 593–601 (photographs of leaking drum). The drum in question was a polyethylene drum that had been dented inward. CX 19 at 581, 593, 595; Tr. I 129–30. It and one other drum were on a wooden pallet that had been stacked on top of four other drums. CX 19 at 593, 595–98; Tr. I 129–31. A wet, yellow residue was observed to be accumulating at the base of the dented drum on the wooden pallet. CX 19 at 593–94, 596–98; Tr. I 129–32. Further, free yellow liquid was observed pooling on top of, and running down the sides of, a drum containing caustic soda located directly beneath the drum of sodium hydrosulfide. CX 19 at 596, 599–601; Tr. I 131–32. Ms. Lohman testified that the appearance and odor of the liquid was consistent with the appearance and odor of sodium hydrosulfide.[50] Tr. I 128–29.

"Mr. Lester called for a forklift operator to remove the [sodium hydrosulfide] drum and pallet from the area and to repackage or overpack the drum," and to also remove the drum of caustic soda. CX 19 at 387; Tr. I 133. "As the operator removed both drums from the area, the [sodium hydrosulfide] and the caustic soda were spilled on the warehouse floor and spilled material left a visible trail across the warehouse floor, the parking lot, and across" Industry

[50] See note 11.

Avenue.[51] CX 19 at 387, 602–05; Tr. I 133. Ms. Lohman did not observe anyone clean up the spilled material. Tr. I 133.

When the inspectors and Mr. Lester exited the 1111 Industry Avenue warehouse, they passed through the container destruction area. CX 18 at 335; CX 19 at 388; Tr. I 144–46. There they saw several unlabeled drums and totes containing chemical substances. CX 18 at 335, 353e–356; CX 19 at 388, 612–41; Tr. I 144–46. Mr. Lester identified one unlabeled, open-top polyethylene drum as containing Jemconate, a caustic surfactant. CX 18 at 335, 353e; CX 19 at 388, 626, 630, 633. The drum was one-quarter full, and Mr. Houghton determined the substance had a pH of 12.62. CX 18 at 335, 353e. Mr. Lester identified another drum in an overpack container as containing formaldehyde. CX 19 at 388–89, 629, 635. One drum in good condition was spray painted "PD" and "sodium hydrosulfide," and one tote was labeled "Heptane – The Crude." CX 19 at 388–89, 638–41; Tr. I 145. The contents of one drum and one tote could not be identified. CX 19 at 388–89, 627–28, 631. When asked, Mr. Lester indicated that the containers were all "Return Material Authorized," ("RMA"), but he did not know where they came from, why they were in the container destruction area, or where the materials were headed. CX 19 at 389; Tr. I 144; *see* Tr. IV 165–66 (describing RMA program). Inspectors also observed discarded aerosol containers. CX 19 at 620; Tr. I 178.

As the inspection team crossed the street to 1140 Industry Avenue, they encountered Mr. Austin for the first time that day.[52] Tr. I 147. It was approximately 5:00 p.m. Tr. I 147. Mr. Austin appeared to be leaving the facility in a car, but stopped and exited the vehicle when he saw the inspectors. Tr. I 147. Ms. Lohman saw him speak to Mr. Houghton and Mr. Lester about the sampling and then return to his car and drive away from the facility. Tr. I 147, 149. Ms. Lohman testified that her "perception was that Mr. Austin was not happy that we [the inspectors] were still at the facility." Tr. I 147. After Mr. Austin drove away, Ms. Lohman, Mr. Houghton, Mr. Reyna, and Mr. Lester proceeded to the Pit area. Tr. I 147–48.

At the Pit, the inspection team immediately noticed smoke emanating from the top of a drum on the acid pad. CX 18 at 357, 359; CX 19 at 389; Tr. I 136–37, 148–49, 255. The drum was identified as the drum of caustic soda that had been covered in leaking sodium hydrosulfide

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[51] In the February 4, 2008 Information Request Letter, Mr. Cox referred to the drums of sodium hydrosulfide and caustic soda and asked Respondents to "[s]ubmit a waste determination . . . for each container," submit any disposal records relating to the drums, and indicate "[w]hat steps were taken to clean up the spilled material." CX 22 at 1067; CX 23 at 1078. Mr. Austin responded by asserting that the caustic soda "was repacked into a new drum and sold as a regular stock item;" that the drum of sodium hydrosulfide was "found not to be leaking and was relabeled;" and that "[n]o material was spilled *during repackaging transfer of drums to suitable containers*." CX 23 at 1078 (emphasis added). Mr. Austin further indicated that the sodium hydrosulfide was disposed of as a hazardous waste February 20, 2008. CX 23 at 1078, 1097 (55 gallons of sodium hydrosulfide recorded on Uniform Hazardous Waste Manifest 004172819JJK).

[52] Ms. Thompson departed immediately after the inspectors finished at 1111 Industry Avenue. Tr. I 146–47.

and removed from the warehouse. CX 19 at 389; Tr. I 136–37, 148–49; *compare* CX 19 at 596, 600–01 (picture of drum in warehouse), *with* CX 18 at 357 (picture of drum at pad with rags). The forklift operator had evidently brought the drum from the 1111 Industry Avenue warehouse to the 1140 Industry Avenue Pit area, and then someone "had laid dirty rags on top of the drum to absorb the liquid" that had pooled there. CX 19 at 389; *see* CX 18 at 357 (picture of drum and rags); Tr. I 136, 148 (describing incident). The rags were reacting with the liquid sodium hydrosulfide and had begun to emit smoke or fumes. CX 19 at 389; Tr. I 136, 148, 255. "The employees had left the facility for the day, so Mr. Lester had to call an employee to come back to the facility to take care of the drum." Tr. I 148; *see* CX 19 at 389 (describing events). Other than that employee, no one but Mr. Lester, Ms. Lohman, Mr. Houghton, and Mr. Reyna were present at the acid pad. Tr. I 148–49.

Mr. Houghton began by observing the Pit area "to see what the [P]it consisted of, its size, dimensions, [and] ease of access" to determine how to sample. Tr. I 217. He "determined that the best thing to do was to sample the liquid first and the sludge second," because sampling the sludge first "would stir the sludges up and" contaminate the liquid. Tr. I 217, 219. Mr. Houghton decided which equipment to use, moved the inspectors' vehicle to get the sampling equipment as close to the Pit as possible, and took out the swing sampler,[53] VOA 40 mL bottles, and 1 L amber jars. Tr. I 217–19. Mr. Houghton testified that the COLIWASA would have been "an inappropriate piece of equipment" because it is "only 3 to 4 feet tall," and the Pit "had almost a 4 foot wall around it." Tr. I 220. Mr. Houghton acknowledged that the wall did have a built-in door, but stated he "was not going to enter the [P]it area to take a sample" because "[i]t would be too dangerous." Tr. I 220. Mr. Houghton further stated that "[b]ased on [his] initial observations of people working in the area, [he] was under the impression that the [P]it was in use and the water was fresh or new and had been stirred up to the point where it wouldn't make that much difference[,] . . . it was pretty representative whatever type of sample we took for the liquid." Tr. I 220–21.

During the sampling, Mr. Houghton and Mr. Reyna wore "protective equipment consisting of Tyvek suits, full-face respirators," and "double gloves." Tr. I 220. Mr. Houghton and Mr. Reyna labeled the liquid sample bottles "P-I-T" and brought the sampling equipment to the Pit. Tr. I 221. They then positioned themselves on either side of the Pit and took turns collecting samples. Tr. I 221–22. Mr. Houghton explained that because the samples would be tested for volatile organic compounds, for each sample the collection bottle attached to the swing sampler was gently lowered "into the water . . . and [held] . . . at a 45- or 30-degree angle" at the surface so that water would "very slowly" pour into the bottle at an angle, and the sample bottle would then be slowly rotated to a vertical position and capped. CX 18 at 334; Tr. I 221, 264. The inspectors then checked "to make sure that there [were] minimal or no bubbles inside of the container." Tr. I 221. Each dip of the swing sampler secured enough water to fill between three to five VOA 40 mL bottles, each dip was made in a different location, and in total seven 1L jars and ten VOA 40 mL bottles were filled. CX 29 at 1222; Tr. I 222, 261. When all the samples of

[53] Mr. Houghton described the swing sampler as "a device which you attach . . . any number of size jars to. It has a telescoping pole, a gimbaled handle on it so it will move around as you need so you dip it into the water." Tr. I 217–18; *see* CX 65 at 1817–18 (photograph of swing sampler).

Pit water had been collected, the bottles and jars were placed in the inspectors' vehicle. Tr. I 226.

To collect samples of the Pit sludge, Mr. Houghton selected the stainless-steel sludge scrape[54] and pan, and wide-mouthed amber jars in 1-quart and 5-ounce sizes. CX 18 at 334; Tr. I 226–27, 230–31. The inspectors removed the aluminum foil wrap from the sludge scrape and "used laboratory purified water to rinse that sampler again. A portion of that rinse water was collected" as an equipment blank "and analyzed for the same parameters" as the Pit sludge. Tr. I 229. Foil was also removed from the pan, but the pan was not rinsed on site. Tr. I 230. The inspectors checked their equipment, staged the jars, and marked the jars "PS" for "Pit sludge." Tr. I 230.

To collect the sample, Mr. Houghton or Mr. Reyna would extend "the sludge scrape to the far end of the pit" from where he was standing, and then extend "it down into the water until [he] felt resistance and shortly thereafter the resistance was such [he] couldn't penetrate any further." Tr. I 231. The inspector then "[p]ulled that piece of equipment toward [himself] in an arcing motion and pulled it vertically up." Tr. I 231. Water was decanted from the top of the scrape, and "[h]olding the scrape over the pan [the inspectors] then used a wooden tongue depressor to put that solid into the pan." Tr. I 231. Mr. Houghton did not track how many times he and Mr. Reyna "actually dipped the sludge scrape into the [P]it," but he estimated that they did so approximately six or ten times. Tr. I 233. Each "dip" was collected from a different portion of the Pit. Tr. I 233. When a sufficient amount of Pit sludge had been collected, the inspectors used the pan "to gently massage the waste into one batch and then filled each container from that." Tr. I 231, 233–34. The 5 ounce jars were "filled all the way to the surface and capped," and the quart-size jars "were filled to almost full and capped." Tr. I 234. The sample jars were then placed on ice in the vehicle. Tr. I 234–36.

While sampling, neither Mr. Houghton nor Mr. Reyna measured the depth of the liquid in the Pit. Tr. I 231–32, 263. Based on the resistance he encountered when sampling, Mr. Houghton estimated that the Pit water was "a little bit more than a foot" deep at the time of sampling. Tr. I 231. He testified that he and Mr. Reyna were able to push the sludge scrape an additional foot into the Pit sludge before the resistance made further penetration impossible. Tr. I 232.

After Mr. Houghton and Mr. Reyna completed the sampling, they gathered their equipment, performed "some field decontamination . . . using [their] wash water," placed the equipment in bags and back in the vehicle, and performed an inventory of the containers. Tr. I 235–39; *see* Tr. I 238–39 (explaining error in initial inventory record); CX 29 at 1222 (inventory record). The samples were packed on ice in the cooler. CX 18 at 334; Tr. I 239. As the inspection concluded, Mr. Houghton and Mr. Reyna informed Mr. Lester that the samples would

[54] Mr. Houghton described the "sludge sampler" or "sludge scrape" as "10 or 12 inches wide; and 2 or 3 inches tall; 4 or 5 inches deep. The bottom lip has got an extended area to be used as a scrape, almost like a putty knife with edges on it out in front of the scrape. It's got a handle with a receiver on it. And it's welded . . . high quality stainless steel." Tr. I 226–27; *see* CX 65 at 1814–16 (photographs of sludge sampler).

be sent to a lab and the results would be provided in a future report. Tr. I 149. Mr. Houghton did not "specifically remember offering" Mr. Lester a split sample or Mr. Lester asking for one, but he testified that it was his "typical practice to provide a sample to the facility." Tr. I 236. At approximately 7:00 p.m., Mr. Houghton and Mr. Reyna left the facility and stayed overnight at a local hotel. Tr. I 239.

E. Analysis of the Samples Collected at the Facility on May 23, 2007

Mr. Houghton and Mr. Reyna returned to Fort Meade on May 24, 2007, the day after the inspection. Tr. I 239–40. Mr. Houghton prepared the permanent sample tags and completed the chain of custody form for the samples during the drive. Tr. I 240; *see* CX 15 at 244 (copy of form). Upon arrival at Fort Meade, Mr. Houghton contacted the laboratory sample custodian, unpacked the samples, and put them on a cart. Tr. I 244. The sample custodian then took custody of the samples and placed them in a secured storage area where they were kept chilled "to minimize any biological action." CX 15 at 244; Tr. I 245–46; Tr. II 10–11, 26.

On June 7, 2007,[55] Peggy Zawodny, an environmental scientist and lab analyst with over twenty years of experience, analyzed the raw samples for volatile organic compounds ("VOA analysis") using "purge and trap gas chromatography/mass spectrometry."[56] CX 15 at 242, 246–48, 252–53, 257–58, 261–63, 279–83; Tr. II 4–6, 15–16, 20–21. The results of that analysis indicated that the samples of Pit water contained nineteen target volatile organic compounds, and the Pit sludge contained twenty-eight target volatile organic compounds. CX 15 at 242, 246–48, 252–53, 257–58, 261–63, 279–83; Tr. II 17–20. Further, the Pit sludge contained tetrachloroethylene in a concentration of approximately 37,000 parts per million by weight ("ppmw"), and trichloroethylene in a concentration of approximately 800 ppmw. CX 15 at 263; Tr. II 28–29.[57] Based on those results, a decision was made to proceed with TCLP analysis of the Pit sludge and Pit water. Tr. II 29–30; *see* CX 16A (work order); Tr. V 7 (explaining new work order for TCLP).

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[55] The Final Analytical Report notes that the raw "samples were analyzed fifteen days after sampling," but asserts that "[t]his did not affect results." CX 15 at 242; Tr. II 23–25.

[56] Ms. Zawodny explained the process as follows: "[A]n inert gas . . . drives the volatiles out of the sample material into the . . . instrumentation." Tr. II 21. The gas is then forced through a tube that "separate[s] the compounds out because they run through the column at different rates." Tr. II 21. When the compounds exit the tube, they go into the mass spectrometer which "provides a specter that's characteristic and specific to a particular compound." Tr. II 21. Specific compounds may then be identified "on the basis of the mass specter and retention time." Tr. II 21.

[57] If the Pit sludge was a solid waste, these numbers would require any tank containing it to comply with Virginia and Federal air emissions control standards. *See* 40 C.F.R. § 264.1082.

Ms. Zawodny explained that "'TCLP' stands for toxicity characteristics leaching procedure," and that it is "a standard method for" determining "what could . . . leach from a material that's buried or placed in the environment." Tr. II 31. "The sample material itself is placed into a" gas-tight, pressurized cylinder "charged with [a] buffering solution, and it's tumbled for 18 hours under very specific conditions." Tr. II 32. The prepared extract is then removed from the container and analyzed for volatile organic compounds. Tr. II 32.

Ms. Zawodny prepared the extract on August 16, 2007, and analyzed it on August 22, 2007.[58] CX 16 at 288–89; Tr. II 39–40, 42. The results of her analyses were set forth in the Final Analytical Report dated September 5, 2007 ("Report"). CX 16 at 284; Tr. II 34. The Report indicates that the Pit water contained 6.1 mg/L of chloroform.[59] CX 16 at 288; Tr. II 33. At hearing, Ms. Zawodny testified that the result for chloroform was accurate within a 2% margin, which she characterized as "highly accurate."[60] Tr. II 56–57. The Report also indicates that the Pit sludge contained 457 mg/L[61] of tetrachloroethylene, and 15.5 mg/L[62] of trichloroethylene.[63] CX 16 at 289; Tr. II 33.

The Report cautioned that all three results were likely to be "biased low" because the extract "was extracted beyond the fourteen day holding time from field collection to extraction." CX 16 at 285, 289–90, 294; Tr. II 33–34. Ms. Zawodny explained that some volatile organic

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[58] While the samples were awaiting analysis, on July 26, 2007, there was accidental release of 1,620 pounds of ferric chloride at Chem-Solv's Roanoke facility when a tote containing the material fell from a forklift and ruptured upon impact. CX 21 at 655; CX 48 at 1584–88. The release was contained on the facility property. CX 48 at 1587–90.

[59] Any solid waste containing more than 6.0 mg/L of chloroform as determined by TCLP analysis exhibits the characteristic of toxicity and is hazardous waste. 40 C.F.R. §§ 261.20, 261.24.

[60] Specifically, Ms. Zawodny testified that she was able to determine, based on a matrix spike, that the analysis returned 102% of the expected value for chloroform. Tr. II 56–57. She further testified that results would be considered accurate so long as they fell within a 20% margin of error. Tr. II 57.

[61] Any solid waste containing more than 0.7 mg/L of tetrachloroethylene as determined by TCLP analysis exhibits the characteristic of toxicity and is hazardous waste. 40 C.F.R. §§ 261.20, 261.24.

[62] Any solid waste containing more than 0.5 mg/L of trichloroethylene as determined by TCLP analysis exhibits the characteristic of toxicity and is hazardous waste. 40 C.F.R. §§ 261.20, 261.24.

[63] The Report qualified the result for trichloroethylene with a "J," meaning: "The identification of the analyte is acceptable; the reported value is an estimate." CX 16 at 290, 294. Ms. Zawodny testified that the reported result was "the best estimate for that result" the lab could obtain, but she could not remember why the result was estimated and qualified "J." Tr. II 27–28.

compounds could have escaped or degraded while the samples were stored awaiting analysis, and the actual concentrations of those compounds was likely to have been higher in the original sample than in the extract that was ultimately tested. Tr. II 23–25, 33–34, 53–54. Ms. Zawodny testified it was unlikely that the concentration of any volatile organic compound could have increased during storage, and therefore the storage time did "not invalidate the samples for the purposes of determining" if the substances were "hazardous because the concentrations can only go down upon holding the sample." Tr. II 25–26, 33, 53–54; *see* CX 16 at 285 ("Exceeding the holding time does not invalidate characterization when the waste exceeds the regulatory level."). Ms. Zawodny further testified that the quantity of tetrachloroethylene detected in the Pit sludge "exceeded the upper level of [the] dynamic range of [her] instrument," meaning "the sample detector itself became saturated with the amount of tetrachloroethylene." Tr. II 27. The result was therefore "biased low because there could have possibly been even more that the detector simply couldn't pick up."[64] Tr. II 27.

A copy of the Report was provided to Mr. Houghton in late August 2007, and to Mr. Cox shortly thereafter. Tr. I 248–49; Tr. III 14, 70–71. Mr. Cox testified that he did not immediately provide a copy of the Report or the data it contained to Respondents because he "fully expected that [Respondents] would" have taken a split sample or conducted their own sampling to determine whether any regulated substances were in the Pit.[65] Tr. III 15, 71; *see* Tr. IV 168 (indicating that facility could perform gas chromatography/mass spectrometry analysis).

F. Post-Analysis Events at the Facility & Complainant's Investigation

In an Information Request Letter ("IRL") addressed to Mr. Austin and dated November 16, 2007, the Region requested information on several topics including the facility's waste handling and disposal history. CX 20 at 641A–44, 646.

The facility's response to the IRL was dated December 10, 2007, and signed by Mr. Austin. In response to the Region's inquiries about Pit water, Mr. Austin provided shipping records showing that on average the facility disposed of 8,497 gallons, or 71,577 pounds, of Pit water per month between April 18, 2007, and August 30, 2007, using Shamrock. CX 21 at 652,

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[64] Ms. Zawodny indicated that the quantity of trichloroethylene in the sample may have also exceeded "the dynamic range of the instrumentation." Tr. II 28.

[65] Mr. Cox stated:

> If EPA came to my facility, I would certainly want to know what was there so I fully expected that that material was probably gone by the time I got those results. There is a lab there [at Chem-Solv's facility] that has . . . an analytical device where they can do . . . product analysis to find out the quality of the products and the contents. So, I just assumed that that was already done and I wasn't really thinking about getting it to [Respondents] right away.

Tr. III 15.

654, 833–52. The shipments had post-neutralization pH levels ranging from 8 to 3.6. CX 21 at 833–52. Mr. Austin also indicated that on average the facility disposed of 7,793 gallons, or 64,965 pounds, of Pit water per month between January 24, 2006, and October 10, 2006; 10,446 gallons, or 86,724 pounds, per month between January 24, 2005, and December 30, 2005; and 18,430 gallons, or 147,514 pounds, per month between February 10, 2004, and December 16, 2004. CX 21 at 651–54. Mr. Austin claimed that in the preceding six months, the facility had generated "slightly over 5,000 gallons [of wash water] per month," and that less would be generated in January 2008 "based on new production procedures and initiatives such as dedicated containers, hoses, nozzles, and pumps eliminating the need to flush between products. Further reduction is expected as [the facility] continue[s] to eliminate operations that generate wash water." CX 21 at 658.

When asked whether and how often the Pit was cleaned, Mr. Austin wrote: "Wash water is pumped from the pit into [the] storage adjacent to [the] acid pad when full and tested for pH prior to shipment to [a] processing facility." CX 21 at 658. Mr. Austin revealed that Pit sludge had been removed in June 2007, and stated the "material [was] currently stored at [Chem-Solv] awaiting analytical work being performed by the EPA." CX 21 at 658; *see* CX 23 at 1083 (documenting cleanout); Tr. IV 241–42 (discussing June 2007 cleanout). At hearing, Mr. Austin testified that he had not been aware of the June 2007 cleanout before preparation of the December 10, 2007 response. Tr. IV 241–42, 280–84.

Finally, in response to the IRL's inquiry about "rusted and damaged drums" that had been originally identified during VADEQ's July 26, 2005 inspection, Mr. Austin indicated that forty-two of those drums remained at the facility on May 15, 2007. CX 21 at 661, 1062–64. Mr. Austin declined to state how long each drum had been in storage, stating: "Initial storage dates vary. Some dates are undetermined as material is regularly purchased, sold and repurchased for resale as repeat business." CX 21 at 662. The list of drums included with the response indicated that one drum contained "Trichloroethylene—virgin—600#." CX 21 at 662, 1063.

On January 24, 2008, a facility representative took a grab sample of "Pit Sand Sludge" and sent the sample to ProChem for analysis. CX 63 at 1797–99; Tr. III 99–100; Tr. IV 241; *see* Tr. II 84–85, 103–07 (discussing report). The raw sample was analyzed on January 28, 2008, and an analytical report issued on January 30, 2008. CX 63 at 1797–99. The report indicated that it had been prepared for "Mr. Glenn Austin" of "Chemsolv Incorporated," for the "Pit Closure" project. CX 63 at 1797. It showed that the sample of Pit sludge contained quantities of tetrachloroethylene and trichloroethylene that, while lower than those present in the raw sample taken on May 23, 2007, were still significantly above the regulatory limit for nonhazardous waste. CX 63 at 1797–99; Tr. II 104–07. Tetrachloroethylene, in particular, was present in a concentration of approximately 2,000 ppm. CX 63 at 1799; Tr. II 106–07. Mr. Austin learned the results of the report "within a few days" of its completion.[66] Tr. IV 247–48.

[66] The record shows that Complainant obtained a copy of this report from the waste treatment plant that received the Pit sludge for disposal, but not from Respondents themselves. CX 63 at 1791–96.

Also in late January 2008, one of Chem-Solv's customers agreed to take in the future, that is, in September or October of 2008, two of the three drums of sodium hydrosulfide noted in Ms. Lohman's inspection report. Tr. IV 241, 271–75; *see* CX 19 at 381, 387, 468, 581, 588–89, 593–601, 627–28, 631 (identifying drums); RX 15 at 195–96 (shipping invoice for two drums); Tr. I 128–130, 140–42, 145 (discussing drums); Tr. III 66–68 (discussing drums).

Starting January 30, 2008, facility employees removed the contents of the Pit in preparation for the Pit tank's removal. CX 23 at 1083; Tr. IV 241–42; *see* CX 63 at 1797 (sample taken for "Pit Closure" project). Liquid was pumped from the Pit, and employees used a backhoe with a jackhammer to demolish the wall around the Pit tank. Tr. III 140, 144; Tr. IV 243–44. Mr. Austin testified that "a significant amount of concrete . . . went down into the tank" and was "co-mingled with the solids." Tr. IV 244. Employees then attempted to remove the "settled solids" in the Pit using the backhoe, but were not successful. Tr. IV 243. Mr. Austin, who claimed to have been present for the cleanout, explained what happened next:

> [W]e felt like there was a more efficient way to remove the solids by hand and so we started with a five-gallon pail attached to a rope. Our personnel donned the appropriate personal protective equipment . . . and proceeded down a ladder into the tank and started scooping the solids out[] . . . [w]ith a five-gallon pail on the end of a rope. So the guy down in the tank would scoop a five-gallon pail out and personnel up on the surface would rope the pail out and dump into a drum—an open head drum that was sitting adjacent to the tank area.

Tr. IV 243–44. Thirty-two steel open head drums were filled or partially filled in this manner with a mixture of Pit sludge and concrete.[67] Tr. IV 242–44.

Donald Wayne Tickle, a Chem-Solv maintenance employee who testified at hearing, participated in the Pit cleanout. Tr. III 126–27, 140. When asked if there were solids collected in the bottom of the Pit tank, he stated that it contained sand. Tr. III 140, 149–50, 157. Mr. Tickle testified that he and other employees "actually shoveled [the sand] out." Tr. III 140. He indicated that the "the solids . . . [he] removed from the tank" were approximately two feet deep, stating: "It was hard to get out. We had to shovel it out into buckets." Tr. III 144–45. Mr. Tickle testified that the sand was placed in a hopper, or construction dumpster, that had been shipped in. Tr. III 140, 149–50. When asked if the sand was placed in drums, Mr. Tickle

[67] Mr. Austin believed "there were thirty-two drums collected" due in part to the amount of concrete knocked into the pit and comingled with the Pit sludge. Tr. IV 244. He also testified he did "not remember any of [the drums] being completely full," and that Respondents did not measure or "weigh each container" because they were paying for disposal "on a dollars per container basis." Tr. IV 242. He stated: "At that time it was acceptable. We were motivated to move the material offsite and so we did." Tr. IV 242. Because Respondents were paying for the hazardous waste disposal on a per container basis, partially filling containers or filling them even in part with nonhazardous concrete violates common business sense and seems inconsistent with Mr. Austin's general business nature. *See infra* Part IV.A.iii.e.

indicated it was only put in the hopper. Tr. III 150. He described the hopper as being approximately 3 feet tall, 12 feet long, and 7 feet wide. Tr. III 150. Based on his former experience working in a foundry, Mr. Tickle testified that the sand had likely been placed in the Pit tank "like a cushion to hold the tank as" it was installed, and to act "as a barrier." Tr. III 157. The Pit cleanout was finished by February 1, 2008. CX 23 at 1083; *see* CX 25 at 1164 (picture of empty Pit tank); RX 28 at 304 (same).

The Pit tank itself was then removed from the ground in the first two weeks of February 2008. Tr. IV 242–43. Mr. Tickle explained that four holes were cut into the top of the empty tank so that chains could be attached. Tr. III 144. The Pit tank was then pulled out of the ground and placed on its side in the open space near the acid pad, where it remained at the time of the hearing in March 2012. CX 25 at 1163; Tr. III 142–43. There was no concrete or other liner in the hole where the tank had been, only dirt and sand. Tr. III 151. Both Mr. Austin and Mr. Tickle testified that after the tank was removed there was no evidence of any holes in its walls[68] or of leakage in the soil where the tank had been. Tr. III 145; Tr. IV 245–47. Mr. Austin had a soil sample taken, but it was never analyzed. CX 25 at 1148; Tr. IV 246–47.

On February 4, 2008, the Region sent Mr. Austin another IRL and the results of the EPA's sampling analysis. CX 22 at 1065, 1070, 1073–74; CX 23 at 1083; Tr. IV 248. In a response dated February 6, 2008,[69] Mr. Austin informed Mr. Cox that it was not known how chloroform, tetrachloroethylene, or trichloroethylene entered the Pit, or when the Pit water sampled on May 23, 2007, had been disposed of. CX 23 1082–83. Similarly, when asked about the tote of "Pit water" found to have a pH of 1.58, Mr. Austin indicated that he did not know when the contents of the tote had first been collected or when they were disposed of, though he did indicate that tote's contents had been shipped for disposal as nonhazardous waste water using Shamrock. *Id.* at 1079–80.

Mr. Austin wrote that a partial removal of the Pit sludge had occurred in June 2007, and that the remainder had been removed between January 30, 2008, and February 1, 2008. *Id.* at 1083. Mr. Austin wrote that "[a]ll material was disposed of as Hazardous Waste," and referred to Uniform Hazardous Waste Manifest 004172818JJK and a Land Disposal Restriction & Certification Form. *Id.* at 1083, 1127–28. These forms show that on February 20, 2008, thirty-five containers of Pit sludge bearing U.S. EPA Hazardous Waste Codes D039 (tetrachloroethylene) and D040 (trichloroethylene), with a shipping weight of 17,500 pounds, was shipped for disposal as hazardous waste to a facility in Michigan. First Jt. Stip. ¶ 31; CX 23 at 1127–28; *see* 40 C.F.R. § 261.24(b) tbl.1 (hazardous waste codes).

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[68] This testimony presumably refers to holes other than those intentionally made during removal.

[69] The front page of the response is dated February 6, 2008, and Mr. Austin stated at hearing that he began preparing the response on that date. CX 23 at 1075; Tr. IV 248. However, the response includes attachments dated February 16, 2008, and February 20, 2008, indicating that it was not completed until late February or March 2008. CX 23 at 1097–98, 1125, 1127 (attachments).

In response to questions about the leaking drum of sodium hydrosulfide observed by Ms. Lohman and Ms. Thompson on May 23, 2007, Mr. Austin wrote that "[n]o waste determination [was] made" and that the drum of sodium hydrosulfide was "found not to be leaking and was relabeled." CX 23 at 1078. Mr. Austin further wrote that the "[s]odium [h]ydrosulfide disposal record [was] attached," and referred to Uniform Hazardous Waste Manifest 004172818JJK, which shows that one 55-gallon container of "Waste Sodium hydrosulfide Solution" was shipped to a facility in Michigan on February 20, 2008, for disposal as hazardous waste. *Id.* at 1078, 1097. At hearing Mr. Austin claimed the sodium hydrosulfide in that drum was a usable product, but the facility "felt like it was the best business decision to eliminate any . . . additional questions that may arise from that drum still being on site after selling two of the [other] drums" of sodium hydrosulfide. Tr. IV 192–94; *see* Tr. IV 271–73 (denying that the leaking drum was necessarily the container selected for disposal).

Finally, the February 2, 2008 IRL asked Mr. Austin to "[s]ubmit any and all waste determinations for any and all aerosol cans used at the Facility." CX 22 at 1067; CX 23 at 1079. Mr. Austin responded by writing "N/A." CX 23 at 1079.

On February 28, 2008, Mr. Austin filed a 2007 Hazardous Waste Report with the Region declaring that Chemicals & Solvents, Inc. was a Large Quantity Generator,[70] but also stating: "Chemicals & Solvents did not generate any hazardous waste in 2007." CX 26A at 1165, 1168–69; Tr. IV 282. Mr. Austin testified at hearing that he believed the statement "to be accurate at the time . . . because [the facility] shipped the material in February 2008 and the event that generated or that initiated the shipment was a 2008 activity." Tr. IV 283. When asked about the material that was taken out the Pit in 2007, he stated: "I did not know that to be specifically the case. I still don't know that that's specifically the case. That's what has been reported to me at the time of December 10. . . . I had what Mr. Lester had told me." Tr. IV 283–84.

On March 27, 2008, EPA inspectors conducted another inspection of the facility[71] and observed that the Pit tank had been removed and its former location covered in gravel. CX 24 at 1142; Tr. IV 252; *see* CX 55 at 1621 (response to IRL addressing issues raised during March 27, 2008 inspection). In an IRL dated April 1, 2008, the Region requested "documentation of the removal of the tank." CX 24 at 1140, 1142. Mr. Austin responded by providing two photographs of the Pit tank in the ground after it had been emptied, and two photographs of the Pit tank lying on its side after removal. *Id.* at 1147, 1163–64.

On June 12, 2008, the Region issued an Administrative Order pursuant to the Clean Air Act directing Respondents to correct several alleged deficiencies. CX 30 at 1230–44. In July

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[70] "Greater than 1,000 kg/mo (2,200 lbs./mo.) of non-acute hazardous waste." CX 26A at 1168.

[71] An accidental release of toluene had occurred at the facility on March 12, 2008. CX 55 at 1622. Mr. Austin reported that less than five gallons were released and "[a]ll of the material evaporated without residue." *Id.* Another accidental release occurred on April 2, 2008, this time of triethylene glycol. *Id.* Approximately 100 gallons of material was spilled, 80 gallons of which was recovered. *Id.* Mr. Austin blamed the release on the negligence of an outside carrier. *Id.*

2008, facing what Mr. Austin believed to be a "collective effort" from EPA, VADEQ, and "[l]ocal fire and building officials," the facility retained the consulting firm of Faulkner and Flynn. Tr. IV 253–57. Mr. Austin explained his view of the situation:

> We collectively, myself and my father, just the two of us specifically, we really felt like we had three options. First option was we believe that we were in the right, that we had the correct position with the City building and fire officials. We believe that they did not have a legitimate claim . . . so we had the option to fight that. Our second option was to come to some kind of compromise with the fire and building officials . . . . Once upon a time in the 80s, in the late 80s, we reached a compromise with fire and building officials on some new construction at our facility and we provided that compromise to the building and fire officials as part of our explanation of why we disagreed with what they were asking of us and their response in a nut shell was . . . we don't have anything to do with the agreement they made with you, we are in control of these departments now and we understand you have that agreement, but it is not enforced with us, we do not recognize it. So, we felt like that if we came to some type of compromise with the current building and fire officials that sometime down the road . . . when those folks moved on . . . and were replaced by folks that don't know the history of [Chem-Solv], and certainly the history of amicable relationships between City and fire officials and [Chem-Solv], . . . that we would be put in the same position down the road. And with that uncertainty . . . we chose the third option, and that was just to do whatever was necessary to appease the officials and to . . . at least meet their minimum requirement and, in most cases, we exceeded their requirements many fold.

Tr. IV 258–59.

On October 6, 2008, two drums of sodium hydrosulfide containing 447 pounds of material were delivered to one of Chem-Solv's customers. RX 15 at 195–96; *see* Tr. IV 274–77. Mr. Austin testified that sodium hydrosulfide was at that time worth approximately fifteen cents per pound. Tr. IV 276. The invoice and shipping manifest for the two drums of sodium hydrosulfide show that Chem-Solv itself shipped the drums to the customer for "No Charge," at a unit price of "0.0000" and a total sale of zero dollars and zero cents. RX 15 at 195–96; Tr. IV 277. When asked at hearing if Chem-Solv had been paid for the sodium hydrosulfide, Mr. Austin testified that "[a]s far as [he knew]" Chem-Solv had been paid for the material, but that he "didn't negotiate the sale," that the invoice "was a reprinted invoice," that "he could not say specifically," that it was "not an account that [he] handle[d] personally," and that he did "not know the answer to that." Tr. IV 285.

IV. Liability

In 1984, Congress declared "it to be the national policy of the United States that . . . the generation of hazardous waste is to be reduced or eliminated," and that any hazardous waste generated "should be treated, stored, or disposed of so as to minimize the present and future threat to human health and the environment." Hazardous and Solid Waste Amendments of 1984, Pub. L. No. 98-616, § 101(b), 98 Stat. 3221, 3224 (codified at 42 U.S.C. § 6902(b) (2006)). The Resource Conservation and Recovery Act ("RCRA"), Subtitle C, 42 U.S.C. §§ 6921–6939f, "directs the EPA to establish a comprehensive 'cradle to grave' system regulating the generation, transport, storage, treatment, and disposal of hazardous wastes." *Chem. Waste Mgmt., Inc. v. Hunt*, 504 U.S. 334, 337 n.1 (1992). "Under the relevant provisions of Subtitle C, EPA has promulgated standards governing hazardous waste generators and transporters, . . . and owners and operators of hazardous waste treatment, storage, and disposal facilities" ("TSD facilities"), directing them "to comply with handling, recordkeeping, storage, and monitoring requirements." *City of Chicago v. Envtl. Def. Fund*, 511 U.S. 328, 331–32 (1994); *see* 42 U.S.C. §§ 6921–6939f; 40 C.F.R. Parts 260–82. RCRA also requires "each person owning or operating" a TSD facility to have either a hazardous waste management permit, or "interim status," which is granted if the person has applied for a permit and meets certain criteria. 42 U.S.C. § 6925; *see* 40 C.F.R. Part 270.

The national standards set by RCRA are generally overseen by the Administrator of the EPA. *See* 42 U.S.C. §§ 6921–6925, 6928; *see also Cement Kiln Recycling Ass'n v. EPA*, 493 F.3d 207, 211–12 (D.C. Cir. 2007) (describing RCRA program). A state may seek "to administer and enforce" its own hazardous waste program in lieu of the federal program, but must apply to the Administrator for approval to do so. 42 U.S.C. § 6926; *see* 40 C.F.R. Parts 271–72. However, in all cases, including in states with authorized hazardous waste programs, the Administrator retains the authority to assess administrative penalties and impose compliance orders upon determining that a person has violated any requirement of Subtitle C of RCRA, any Federal regulations promulgated thereunder, or any authorized requirement of a state hazardous waste program. 42 U.S.C. § 6928.

Effective December 18, 1984, EPA granted the Commonwealth of Virginia's application for final authorization to administer a hazardous waste program, and Virginia's authorized hazardous waste regulations are codified at 9 Va. Admin. Code §§ 20-60-12 through 20-60-1505.[72] Commonwealth of Virginia; Final Authorization of State Hazardous Waste Management

[72] Virginia's hazardous waste regulations have been periodically revised since initial adoption and such revisions have been authorized and approved by EPA. *See* Commonwealth of Virginia: Final Authorization of State Hazardous Waste Management Program Revision, 65 Fed. Reg. 46,606 (July 31, 2000); Virginia: Final Authorization of State Hazardous Waste Management Program Revision, 68 Fed. Reg. 36,925 (June 20, 2003); Virginia: Final Authorization of State Hazardous Waste Management Program Revisions, 71 Fed. Reg. 27,204 (May 10, 2006); Virginia: Final Authorization of State Hazardous Waste Management Program Revision, 73 Fed. Reg. 44,168 (July 30, 2008). The stated purpose of the Virginia regulations mimics that of the Federal statute, reading: "This chapter establishes a management control system that assures the safe and acceptable management of a hazardous waste from the moment of its generation

Program, 49 Fed. Reg. 47,391–92 (Dec. 4, 1984). Virginia's regulations expressly adopt and incorporate the federal regulations codified at 40 C.F.R. Parts 260–66, 268, 270, 273, and 279, with minor revision. 9 Va. Admin. Code §§ 20-60-260 to 20-60-279.

A. Count I—Storage of Hazardous Waste Without a Permit or Interim Status

i. Legal Background Relevant to Count I

Count 1 alleges that Respondents owned and operated a hazardous waste storage facility without the requisite permit, or interim status, in violation of 9 Va. Admin. Code § 20-60-270(A), which incorporates by reference 40 C.F.R. Part 270, and Section 3005(a) of RCRA, 42 U.S.C. § 6925(a). Specifically, it asserts that without a permit or interim status, from at least May 23, 2007 until February 20, 2008 (a period of 273 days), Respondents stored at their facility hazardous waste consisting of: (A) a 55-gallon drum of waste sodium hydrosulfide; (B) Pit sludge containing trichloroethylene and tetrachloroethylene; and (C) Pit water containing chloroform. Compl. ¶¶ 14–21, 26–37.

Both federal and Virginia regulations broadly prohibit the treatment, storage, or disposal of hazardous waste by any person without a RCRA permit or interim status. 42 U.S.C. § 6925(a), (e); 40 C.F.R. §§ 262.34(d), 270.1(b)–(c); 9 Va. Admin. Code §§ 20-60-262, 20-60-270. "Hazardous waste" is a subset of "solid waste." *See* 42 U.S.C. § 6903(5); 40 C.F.R. § 261.3 (regulatory definition of hazardous waste).

"Solid waste" is defined as "discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities." 42 U.S.C. § 6903(27);[73] *see* 40 C.F.R. § 261.2(a)(1) (regulatory definition); *see also* 40 C.F.R. § 261.4(a) (listing materials excluded from the definition of solid waste). The regulations define "discarded material" to include "any material" that is "abandoned" within the meaning of § 261.2(b), or is "recycled" in a fashion specified in § 261.2(c). 40 C.F.R. § 261.2(a)(2)(i)–(ii).

A material is "abandoned" within the meaning of § 261.2(b) and considered waste if it is "(1) Disposed of; or (2) Burned or incinerated; or (3) Accumulated, stored, or treated (but not recycled) before or in lieu of being . . . disposed of, burned or incinerated." 40 C.F.R. § 261.2(b) (emphasis omitted).

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through each step of management until the ultimate destruction or disposal." 9 Va. Admin. Code § 20-60-30(B). The regulations apply "to any person that generates, stores, treats, or disposes of a hazardous waste." 9 Va. Admin. Code § 20-60-50.

[73] The statutory definition of "solid waste" expressly excludes "solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources" regulated by the Clean Water Act, "or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended." 42 U.S.C. § 6903(27).

"A material is 'recycled' if it is used, reused, or reclaimed." 40 C.F.R. § 261.1(c)(7). "A material is 'used or reused' if it is either: (i) Employed as an ingredient . . . in an industrial process to make a product . . . ; or (ii) Employed in a particular function or application as an effective substitute for a commercial product." 40 C.F.R. § 261.1(c)(5). "A material is 'reclaimed' if it is processed to recover a usable product, or if it is regenerated." 40 C.F.R. § 261.1(c)(4).

A recycled material is legally a "discarded material" if the material is "recycled" by being "[u]sed in a manner constituting disposal," by being "[burned] for energy recovery," or by being "[a]ccumulated speculatively,"[74] as specified in 40 C.F.R. § 261.2(c). 40 C.F.R. § 261.2(a)(2)(i), (c). Certain recycled materials, including "spent materials," are also considered to be "discarded" if they are recycled by being "reclaimed." 40 C.F.R. § 261.2(c)(3).

"A 'spent material' is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing." 40 C.F.R. § 261.1(c)(1). However, the "continued use" exception provides that a contaminated material is not "spent," and may continue to be used without being regulated as waste, so long as it continues to be used in a manner that is "similar to or consistent with the initial use," and the continued use is "a legitimate further use . . . rather than an improper or disguised means of disposing of a waste material." *Gen. Motors Auto. – N. Am.*, RCRA (3008) Appeal No. 06-02, slip op. at 54–56, 71, 2008 EPA App. LEXIS 30 at **101–08, 134–35 (EAB, June 20, 2008); *see* Hazardous Waste Management System; Definition of Solid Waste, 50 Fed. Reg 614, 624 (Jan. 4, 1985).

A recycled material is not considered to be solid waste if the material is "recycled" by being used or reused as an ingredient "in an industrial process to make a product" without being reclaimed; used or reused as an effective substitute for a commercial product; or "[r]eturned to the original process from which [it is] generated, [as a substitute for feedstock materials,] without first being reclaimed or land disposed."[75] 40 C.F.R. § 261.2(e).

"Hazardous waste" is defined as—

> 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.

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[74] Subject to exceptions not relevant to this matter. *See* 40 C.F.R. § 261.2(c)(4) (excluding certain commercial chemical products).

[75] See 40 C.F.R. § 261.2(e)(2) for exceptions not relevant to this matter.

42 U.S.C. § 6903(5); *see* 40 C.F.R. § 261.3 (regulatory definition of hazardous waste); *see also* 40 C.F.R. §§ 261.3(a)(1), 261.4(b) (listing solid wastes excluded from definition of hazardous waste). When not excluded from regulation, a solid waste "becomes a hazardous waste when" it (1) "first meets the" description of a hazardous waste listed in Subpart D of 40 C.F.R. Part 261, §§ 261.30–261.35, (2) "when a hazardous waste listed in [S]ubpart D is first added" to another solid waste in a mixture, or (3) "when the waste exhibits any of the characteristics identified in [S]ubpart C of" 40 C.F.R. Part 261, §§ 261.20–261.24. 40 C.F.R. § 261.3(b).

Subpart C of Part 261 identifies four hazardous characteristics: ignitability; corrosivity; reactivity; and toxicity. 40 C.F.R. §§ 261.20–261.24. Of particular relevance to this case, "[a] solid waste exhibits the characteristic of corrosivity if a representative sample of the waste . . . is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5." 40 C.F.R. § 261.22(a)(1). "A solid waste . . . exhibits the characteristic of toxicity if" TCLP analysis of "the extract from a representative sample of the waste contains any" of several listed contaminants in concentrations equal to or greater than their listed regulatory level. 40 C.F.R. § 261.24(a). Solid waste containing at least 6.0 mg/L of chloroform, 0.7 mg/L of tetrachloroethylene, or 0.5 mg/L of trichloroethylene after TCLP analysis exhibits the characteristic of toxicity and is generally regarded as hazardous waste. 40 C.F.R. §§ 261.20, 261.24(a), (b), & tbl.1.

Any "person who generates a solid waste . . . must determine if" it is hazardous waste. 40 C.F.R. § 262.11. The generator does this by first determining "if the waste is excluded from regulations," and then determining if the waste has been "listed as a hazardous waste" by the Administrator under Subpart D. 40 C.F.R. § 262.11(a)–(b). The generator must next "determine whether the waste" exhibits any hazardous characteristic identified in Subpart C. 40 C.F.R. § 262.11(c). This may be accomplished through testing or by "[a]pplying knowledge of the hazard characteristic of the waste in light of the materials or the processes used." 40 C.F.R. § 262.11(c)(1)–(2).

If the generator determines that the solid waste is hazardous waste, "the generator must refer to" the regulations governing hazardous waste "for possible exclusions or restrictions pertaining to the management of the specific waste." 40 C.F.R. § 262.11(d). Certain substances are specifically excluded from the definition of solid or hazardous waste. *See* 40 C.F.R. §§ 261.3(d), (f)–(h) (solid waste not constituting hazardous waste), 261.4 (exclusions). Wastes may also be conditionally exempt from particular regulatory requirements. *See* 40 C.F.R. § 261.4(d)–(f) (samples). For example, the so-called manufacturing process unit ("MPU") exemption generally exempts hazardous waste "generated in a product or raw material storage tank . . . or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit" from several regulatory requirements, including permitting requirements, until the unit is no longer operational or the hazardous waste "exits the unit in which it was generated." 40 C.F.R. § 261.4(c).

Complainant alleges that Respondents owned and operated a hazardous waste storage facility without having obtained or applied for a permit under RCRA. No person may treat, store, or dispose of hazardous waste unless that person has "applied for or received a RCRA

permit."[76] 40 C.F.R. § 270.1(b); *see* 42 U.S.C. § 6925(a). "Storage" is defined as "the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed, or stored elsewhere." 40 C.F.R. § 270.2; *see* 42 U.S.C. § 6903(33) (defining "storage" in connection with hazardous waste). "Treatment" includes:

> any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such wastes, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

40 C.F.R. § 270.2; *see* 42 U.S.C. § 6903(34) (defining "treatment" in connection with hazardous waste). "Disposal" of solid waste or hazardous waste is "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 . . . waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters." 42 U.S.C. § 6903(3).

An exception to the permitting rule allows a generator[77] of large quantities[78] of hazardous waste to accumulate that "waste on-site for 90 days or less without a permit" so long as the generator complies with certain specified criteria. 40 C.F.R. § 262.34(a), (b). To qualify for the exemption, the generator must place the waste in containers or tanks meeting standards set forth in Subparts I and J of 40 C.F.R. Part 265, on drip pads subject to the qualifications in 40 C.F.R. § 262.34(a)(1)(iii) and Subpart W of 40 C.F.R. Part 265, or in a containment building subject to the design, certification, and recordkeeping requirements of 40 C.F.R. § 262.34(a)(1)(iv) and Subpart DD of 40 C.F.R. Part 265. 40 C.F.R. § 262.34(a)(1). In addition, "the date upon which each period of accumulation begins" must be "clearly marked and visible for inspection on each container." 40 C.F.R. § 262.34(a)(2). "[E]ach container and tank" must be "labeled or marked clearly with the words, 'Hazardous Waste,'" and the generator must comply with specified

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[76] The statute and regulations contain several qualifications, exceptions, and timing provisions not relevant to this matter. *See, e.g.,* 42 U.S.C. § 6925(a) (exception for facilities approved by Administrator under 15 U.S.C. § 2605(e) for incineration of polychlorinated biphenyls); 40 U.S.C. § 270.1(b) (discussing 90-day notification period following promulgation or revision of regulations).

[77] A "generator" is "any person, by site location, whose act or process produces 'hazardous waste.'" 40 C.F.R. § 270.2. The term "site" is defined to mean "the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity." 40 C.F.R. § 270.2.

[78] "1,000 kilograms or greater of hazardous waste in a calendar month, or greater than 1 kg of acute hazardous waste listed in §§ 261.31 or 261.33(e) in a calendar month." 40 C.F.R. § 262.34(b).

emergency planning requirements. 40 C.F.R. § 262.34(a)(3)–(4). "A generator . . . who accumulates hazardous waste for more than 90 days is an operator of a storage facility and is subject to the requirements of 40 CFR parts 264 and 265, and the permit requirements of 40 CFR part 270."[79] 40 C.F.R. § 262.34(b).

A small-quantity generator, defined as one "who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month," may accumulate waste on-site for up to 180 days without a permit, subject to certain special requirements. 40 C.F.R. § 262.34(d); *see* 40 C.F.R. § 261.5 (how to quantify amount of waste generated). First, "[t]he quantity of waste accumulated on-site" must never exceed "6000 kilograms" at a single time. 40 C.F.R. § 262.34(d)(1). The small-quantity generator must also meet certain minimum storage design, staffing, and training criteria. 40 C.F.R. §§ 262.34(d)(2)–(5), 265.201 (special provisions for small-quantity generators accumulating waste in storage tanks). For example, the generator must comply with the regulations governing containers and tanks codified in Subparts I and J of 40 C.F.R. Part 265, respectively. 40 C.F.R. § 262.34(d)(2)–(3). Part 265 requires that a small-quantity generator accumulating hazardous waste in tanks without full secondary containment and specified leak detection systems or protocols "must inspect, where present:"

> (1) Discharge control equipment . . . at least once each operating day to ensure that it is in good working order;
> (2) Data gathered from monitoring equipment . . . at least once each operating day to ensure that the tank is being operated according to its design;
> (3) The level of waste in the tank at least once each operating day to ensure compliance with § 265.201(b)(3);[80]
> (4) The construction materials of the tank at least weekly to detect corrosion or leaking of fixtures or seams; and
> (5) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g. dikes) at least weekly to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

40 C.F.R. § 265.201(c).

A small-quantity generator who meets those criteria and "who must transport his waste, or offer his waste for transportation, over a distance of 200 miles or more for off-site treatment,

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[79] EPA may extend the 90-day period "if hazardous wastes must remain on-site for longer than 90 days due to unforeseen, temporary, and uncontrollable circumstances." 40 C.F.R. § 262.34(b).

[80] Section 265.201(b)(3) requires small-quantity generators accumulating hazardous waste in uncovered tanks to operate those tanks in a manner that ensures "at least 60 centimeters (2 feet) of freeboard [distance between high level mark of the contained substance and upper edge of the tank], unless the tank is equipped with a containment structure . . . with a capacity that equals or exceeds the volume of the top 60 centimeters (2 feet) of the tank." 40 C.F.R. § 265.201(b)(3).

storage or disposal" may accumulate waste on-site for up to 270 days. 40 C.F.R. § 262.34(e)–(f). A small-quantity generator who accumulates on-site hazardous waste exceeding 6000 kilograms, or who accumulates hazardous waste for more than the allotted time period, "is an operator of a storage facility and is subject to the requirements of 40 CFR parts 264 and 265 and the permit requirements of" 40 C.F.R. Part 270.[81] 40 C.F.R. § 262.34(d)(1), (f).

ii. Parties' Arguments Related to Count I

a. Complainant

Complainant argues that the Pit water and Pit sludge were solid wastes, and that they were stored at the facility prior to disposal. C's Br. at 73–95. Complainant further argues that the samples taken from the Pit on May 23, 2007, are reliable and representative, and that analyses of those samples shows the Pit water and Pit sludge were hazardous because they contained chloroform, trichloroethylene, or tetrachloroethylene in amounts exceeding the regulatory limit. *Id.* at 49–61. Complainant also argues that Respondents do not qualify for the accumulation or small-generator exemptions because on February 20, 2008, Respondents shipped for disposal 17,500 pounds, or 7,955 kilograms, of hazardous Pit sludge that it had accumulated in the Pit, or alternatively because Respondents did not meet storage and labeling provisions required to obtain the exemption. *Id.* at 148–50 (citing 40 C.F.R. §§ 261.5(g)(2), 262.34(a), (d), (f)).

In addition, Complainant argues that Respondents stored at the facility a 55-gallon drum of waste sodium hydrosulfide from May 23, 2007, until February 20, 2008. *Id.* at 95–146. Complainant contends the sodium hydrosulfide exhibited characteristics of corrosivity and reactivity, and was therefore hazardous waste. *Id.* at 96. Complainant further contends that Respondents did not qualify for the accumulation or small-generator exemptions with regard to the waste sodium hydrosulfide because they did not manage the material in compliance with the requirements of 40 C.F.R. § 262.34. *Id.* at 96–146.

b. Respondents

Respondents do not contest that they are "persons" within the meaning of RCRA Section 1004(15), 42 U.S.C. § 6903(13). First Jt. Stip. ¶ 8. Respondents also admit that they "never had a permit or interim status" for the facility pursuant to 9 Va. Admin. Code § 20-60-270(A), which incorporates 40 C.F.R. Part 270, and RCRA Section 3005(a) and (e), 42 U.S.C. § 6925(a) and (e). Answer ¶ 35; Complaint ¶ 34. However, Respondents do deny storing hazardous waste at their facility in violation of the law. *See* Answer ¶¶ 27–38.

Respondents first argue that the liquid in the Pit, or "Pit water," was not a "solid waste" as that term is defined by 40 C.F.R. § 261.2, because the Pit water was not "abandoned," and was therefore not "discarded material." Rs' Br. at 29. Instead, Respondents claim the Pit water was

[81] EPA may extend the 180-day or 270-day period "if hazardous wastes must remain on-site for longer than 180 days (or 270 days if applicable) due to unforeseen, temporary, and uncontrollable circumstances." 40 C.F.R. § 262.34(f).

reused to wash the exterior surface of drums and "remove dust, dirt, and debris that had accumulated on them during outdoor storage." *Id.* at 30. Respondents further claim the Pit water "was used as a raw ingredient in the blending of . . . FreezeCon." *Id.* at 31. "Because some of the [Pit water] contained in [the Pit][82] was used as a raw ingredient in a marketable product, FreezeCon, or reused to rinse the exterior surface of additional drums containing Chem-Solv's chemical products, such [Pit water] was not a 'discarded material' within the meaning of 40 C.F.R. § 261.2(b)." *Id.* at 31. Respondents also argue that Chem-Solv's so-called "drum rinsing process satisfied the elements of the EPA's continued use policy," and the Pit water was therefore not a solid waste until Chem-Solv determined that the Pit water needed to be disposed of. *Id.* at 32.

Second, Respondents argue that "Complainant failed to prove by a preponderance of the evidence that such materials met the definition of 'hazardous waste,' because . . . the samples collected by the EPA during the sampling event do not meet the EPA's own standards for sampling." *Id.* at 47–48. Respondents argue "analytical results" of the sampling are therefore "not reliable or valid." *Id.* at 48. Respondents claim the samples "were flawed" because "(1) they were not representative of the ultimate waste streams generated and shipped off site for disposal; and (2) they were collected using sampling protocols and methodology that is wholly inconsistent with established EPA procedures." *Id.* at 48.

Respondents' third argument asserts that the Pit's alleged role in Chem-Solv's "drum rinsing process" makes the Pit alternately a "raw material storage tank" or "a manufacturing process unit" as defined by 40 C.F.R. § 261.4(c). *Id.* at 33–37. Respondents argue that, assuming the "settled solids" in the Pit, or Pit sludge, met the definition of a solid waste, they were exempt from regulation as a hazardous waste pursuant to the so-called manufacturing process unit exemption ("MPU Exemption" or "§ 261.4(c) Exemption"), found in 40 C.F.R. § 261.4(c), until they exited the Pit or until 90 days after the Pit ceased operation. *Id.* at 33.

Respondents next dispute the allegation that they accumulated 1,000 kilograms or more of hazardous waste at the facility between May 15, 2007 and February 20, 2008, "because the evidence . . . establishes that no measurement of weight was taken and that the Complainant has not established this claim by a preponderance of the evidence." *Id.* at 9, 20–22.

Finally, with regard to the alleged 55-gallon drum of waste sodium hydrosulfide, Respondents argue that the sodium hydrosulfide in question did not become a hazardous waste until after Chem-Solv learned that one of its customers would not "purchase" the drum and Chem-Solv subsequently elected to dispose of it. *Id.* at 43–44. Respondents contend that prior to that event, the drum of sodium hydrosulfide "was [a] useable product." *Id.* at 44. Respondents further deny that the drum observed by inspectors on May 23, 2007, "that appeared to be leaking," was the same drum disposed of as hazardous waste in February 2008. *Id.* at 45.

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[82] Respondents, in their post-hearing materials, refer to "Pit water" as "rinsewater," and to "the Pit" as "Rinsewater Tank No. 1." *See* Rs' Br. at 26–31. To avoid confusion, the quoted language has been altered so that in this Initial Decision, the subgrade tank at issue is consistently referred to as "the Pit" and the liquid from that subgrade tank is consistently referred to as "Pit water."

iii. Analysis of Liability on Count I

Complainant "has the burdens of presentation and persuasion that the violation occurred as set forth in the complaint and that the relief sought is appropriate." 40 C.F.R. § 22.24(a). To prove the existence of the violation alleged in Count I, Complainant must prove that (1) Respondents are persons (2) who treated, stored, or disposed of (3) hazardous waste identified or listed under 40 C.F.R. Part 261, (4) without a permit or interim status. *See* 42 U.S.C. § 6925(a).

Respondents "have the burden of presenting any defense to the allegations set forth in the complaint and any response or evidence with respect to the appropriate relief." 40 C.F.R. § 22.24(a). Respondents also "have the burdens of presentation and persuasion for any affirmative defenses." *Id.* Particularly here:

> Respondents in actions to enforce regulations implementing subtitle C of RCRA who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation . . . to demonstrate that the material is not a waste, or is exempt from regulation.

40 C.F.R. § 261.2(f).

The burden is similarly on Respondents to demonstrate they were exempt from regulatory requirements as a generator or small-quantity generator under 40 C.F.R. § 261.5 or 40 C.F.R. § 262.34. *See SEC v. Ralston Purina Co.*, 346 U.S. 119, 126 (1953) (citing *Schlemmer v. Buffalo, Rochester & Pittsburg Ry. Co.*, 205 U.S. 1, 10 (1907)) (party claiming an exemption to a "broadly remedial" statutory or regulatory scheme has burden of proving it qualifies for the exemption); *John A. Capozzi*, 11 E.A.D. 10, 19 n.16 (EAB 2003) (citing *Rybond, Inc.*, 6 E.A.D. 614, 637 n.33 (EAB 1996)) ("[A] party seeking to invoke an exception, such as the exemption available to small quantity generators, bears the burden of persuasion and production."). Respondents likewise bear the burden of proving that material was exempt from regulation under the continued use, manufacturing process unit, or raw material storage tank exemptions. *See Gen. Motors Auto. – N. Am.*, RCRA (3008) Appeal No. 06-02, slip op. at 72–74 (EAB, June 20, 2008) (discussing burden of proof concerning continued use defense). Finally, Respondents have the burden of demonstrating that the sodium hydrosulfide at issue was not a solid waste. 40 C.F.R. § 261.2(f).

To meet its burden, each party must prove the existence of facts establishing the existence of the violation or applicability of the exemption by a preponderance of the evidence. 40 C.F.R. § 22.24. A fact is established by the preponderance of the evidence "if the fact finder concludes that it is more likely true than not." *Smith Farm Enters., LLC*, CWA Appeal No. 08-02, slip op. at 7 (EAB, Mar. 16, 2011) (citing *Julie's Limousine*, 11 E.A.D. 498, 507 n.20 (EAB 2004)); *see Greenwich Collieries v. Dir., Office of Workers' Comp. Programs*, 990 F.2d 730, 736 (3d Cir. 1993), *aff'd*, 512 U.S. 267 (1994) ("[A] party proves a fact by a preponderance of

the evidence when he proves that the fact's existence is more likely than not.").

a. Whether the Pit Water was a Solid Waste

Respondents contend that the Pit water was not a "solid waste." If the Pit water was not a solid waste, it could not be a "hazardous waste."

1. Respondents' Argument

Respondents contend that the Pit water "was not 'solid waste' within the meaning of 40 C.F.R. § 260.10 or 40 C.F.R. § 261.2 because such materials had not been 'abandoned' as that term is defined in 40 C.F.R. § 261.2(b) and 40 C.F.R. § 261.2(c), respectively." Rs' Br. at 29. Respondents claim that in May 2007, Chem-Solv would pump Pit water from the Pit into the adjacent AST, and then reuse that Pit water to rinse the exterior of polyethylene drums. *Id.* at 14–15, 30–31. Respondents also claim that Pit water "was used as a raw ingredient in" the manufacture of FreezeCon. *Id.* at 15–16, 31. Finally, Respondents deny they reclaimed the Pit water by adjusting its pH prior to its reuse as rinsate or in FreezeCon. *Id.* at 31–32. For those reasons, Respondents argue the Pit water was not a solid waste because it was not a spent material, and was recycled through use or reuse without reclamation as described in 40 C.F.R. § 261.2(e), "until Chem-Solv made an election or determination to dispose of it and pumped it from the tanks, and not before such point in time." *Id.* at 31–33.

2. Complainant's Argument

As a threshold matter, Complainant disputes the veracity of Respondents' claimed use and reuse of the Pit water, describing the alleged reuse as facially implausible and inconsistent with credible evidence. C's Br. at 78–87.

Complainant also argues that the Pit water was "spent material" that had to be reclaimed before being reused, rendering the Pit water a solid waste under 40 C.F.R. § 261.2(c)(3). *Id.* at 89–91; *see* 40 C.F.R. § 261.1(c)(1) (defining "spent material"). Specifically, Complainant argues that evidence shows the Pit water sometimes had a pH "above 12.5 or below 2.0," indicating that "the Pit water, on occasion, was too corrosive to be used as it was found in the Pit and had to be neutralized to be re-used." C's Br. at 89–91. Complainant contends that corrosivity is a form of contamination, and similarly that neutralization is a form of reclamation within the meaning of 40 C.F.R. §§ 261.1 and 261.2. *Id.* at 90–92. Because the materials conveyed to the Pit needed "to be reclaimed," the Pit water would be solid waste under 40 C.F.R. 261.2(c)(3) even if it was recycled through use or reuse. *Id.* at 92.

Next, Complainant argues that the Pit water's alleged use in FreezeCon would not make that water a "recycled" material exempt from regulation as solid waste under 40 C.F.R. § 261.2(e). *Id.* at 94 (citing 40 C.F.R. § 261.2(e)). Specifically, Complainant addressed each of the three regulatory exemptions, noting that the Pit water could not qualify under § 261.2(e)(i) because it was reclaimed; under § 261.2(e)(ii) because it was not "substituting as a finished product," or under § 261.2(e)(iii) because it was reclaimed and, additionally, was not being used as a substitute for feedstock materials. *Id.* at 94–95 (citing 40 C.F.R. § 261.2(e)(1); Indus. Econ.,

Inc., Office of Solid Waste, U.S. Envtl. Prot. Agency, Guidance Manual on the RCRA Regulation of Recycled Hazardous Wastes (March 1986)).

Finally, Complainant contends that "the use of [Pit water] in Freeze-Con could never keep [it] from being a solid waste, because Freeze-Con is designed solely to be sprayed on coal . . . a fuel that is going to be burned." *Id.* at 94. Under 40 C.F.R. § 261.2(c)(2)(B), a material that is recycled by being "[u]sed to produce a fuel or [is] otherwise contained in fuels" is considered solid waste. *Id.* (citing 40 C.F.R. § 261.2(c)(2)(B)).

3. Respondent Chem-Solv's Alleged Re-Use of Pit Water

Respondents' argument that the Pit water was not a solid waste is based on the factual assertion that the Pit water was not invariably shipped offsite for disposal, but was instead reused to rinse barrels and manufacture FreezeCon.

The provenance of the Pit water is not in dispute. As part of its regular operations, Respondent Chem-Solv used Roanoke municipal tap water to flush acids and caustics from the hoses attached to its bulk tanks after using them to fill individual drums or tankers with chemicals. This rinsate would then drain through the acid pad into the Pit and accumulate to form the liquid referred to throughout this proceeding as "Pit water." *See* CX 19 at 374; CX 21 at 658; Tr. I 138; Tr. III 128–29; Tr. IV 202. In addition, Respondent Chem-Solv "first used" clean Roanoke municipal tap water to wash off chemical residue, dirt, and organic debris from the exterior of filled polyethylene drums at the acid pad. Tr. IV 201–04. This rinsate too would flow into the pit. Rs' Br. at 14–15, 30 (citing Tr. IV 200, 204); CX 17 at 297; CX 18 at 333; CX 19 at 374; CX 21 at 658; Tr. I 138, 182; Tr. III 128–29, 191, 199–200; Tr. IV 200–04. When the accumulated Pit water "reached a certain level" in the Pit, "it would be pumped via a 2-inch air diaphragm pump" into the adjacent 6,000 gallon AST. CX 18 at 358–59; CX 19 at 375; CX 43 at 1556; Tr. I 46; Tr. III 130, 138–39; Tr. IV 203–04, 215. When both the Pit and the AST were filled, Respondent would store the excess Pit water in totes on site and/or send it for offsite disposal. Tr. IV 201–02, 204–05, 222–23.

What is in dispute is Respondents' claim that Pit water was *also* routinely used to wash off drums filled with chemicals. Specifically, Respondents allege "Chem-Solv regularly reused the rinsewater that collected in the Pit for the purpose of rinsing the outside of other drums and totes prior to shipment," reusing "such rinsewater multiple times in an effort to maximize its cost savings." Rs' Br. at 14–15. This was accomplished by Chem-Solv's employees allegedly "pump[ing] the [Pit water] from the AST using a commercial grade power washer unit." Rs' Br. at 15 (citing Tr. IV 200, 204); *see* Tr. III 127–29; Tr. IV 200–04; Rs' Br. at 30 ("The rinsewater used to rinse off the exterior of such drums was collected in the Pit. . . . Thereafter, the rinsewater was reused to rinse the exterior of additional drums."); *but see* CX 17 at 297 (no mention of reuse); CX 18 at 333 (alleged reuse not documented); CX 19 at 374 (reuse not reported); CX 21 at 658 (no reuse of Pit water identified); Tr. I 138, 182 (no mention of reuse being observed). Further in dispute is Respondents' claim that the Pit water was used as an ingredient to make FreezeCon. Respondents rely almost exclusively on the testimony of their witnesses to support their allegations regarding Pit water reuse. Respondents' primary support is the testimony of Jamison G. Austin, whose testimony is then "corroborated," supposedly, by

Chem-Solv employee Mr. Tickle, Chem-Solv's expert Mr. Perkins, and a selection of "batch tickets" documenting the production of FreezeCon. *See* Rs' Br. at 14–16, 30–33 (citing Tr. III 127–29, 130, 133, 134–38, 157–58, 195–96, 199–200, 204; Tr. IV 127–29, 130, 133, 199–05, 210–14, 223; RX 3 at 32, 35; RX 4 at 123–27); Rs' Reply Br. at 6–8 (citing Tr. III 130, 133–38, 199–01; Tr. IV 127–29, 133, 199, 202–03, 205, 212–13; RX 3 at 7–122; RX 4 at 123–27; RX 5 at 128–31). Respondents offered no documentary evidence in support of the use of the Pit water for drum washing.

Consistent with Respondents' claims in this action, Mr. Austin testified to his employees' reuse of the Pit water to clean drums, going so far as to claim that he could not recall an occasion where he felt the Pit water "was unsuitable to be reused for rinsing." Tr. IV 201–02, 204–05, 222–23. This testimony was supported by that of Mr. Tickle, who went even further, and in contradiction of Mr. Austin, denied that tap water was *ever* used to rinse drums at the acid pad. Tr. III 127–29, 133–34. Similarly, Respondents' expert Mr. Perkins testified to the fact that Respondents used Pit water to rinse off drums. Tr. IV 200–05. Mr. Austin further testified that Pit water was "a raw material ingredient" used in the production of FreezeCon, and claimed that no batch of FreezeCon had ever been rejected due to poor quality. Tr. IV 204, 222–23.

While on paper Mr. Austin's testimony appears superficially believable, when heard and seen in person, his testimony on this issue, and many others in this case, lacked credibility. His demeanor lacked the color and tone of one sincerely recollecting from personal memory actual events which he witnessed occurring at the facility, and instead sounded of one coached and determined to say what had been deemed necessary on behalf of the company. This impression was strengthened by instances where Mr. Austin began referring to the storage of Pit water at the facility, only to correct himself and use Respondents' preferred terminology. *See, e.g.,* Tr. IV 207 (Mr. Austin referring to the Pit as a subgrade *storage* tank before correcting himself and calling it a subgrade *rinse* tank); Tr. IV 213–14 ("We had a limited number of storage tote tanks for rinse water and when the exceeded those number of storage—I mean exceeded the number of tote tanks for rinse water that we had to utilize."). Further, when challenged as to the extent of his personal knowledge of his employees' activities at the Pit—he was a company senior manager and the business office was located elsewhere at the facility—even Mr. Austin backed away from claiming any daily consistency in his observations of onsite operations. Tr. IV 248 (when asked if he observed the Pit on most days, Mr. Austin hesitantly answered: "More days than not see it, yes. . . . If I was in town, yes.").

Mr. Austin also professed ignorance about several very significant events concerning the Pit, such as Chem-Solv's receipt of warning letters from VADEQ and the partial removal of Pit sludge in June 2007, further undermining his credibility and claim of personal knowledge in regard to the Pit operations. *See* Tr. IV 215 (testifying that Mr. Lester prepared responses to IRLs, not Mr. Austin); Tr. IV 237–39 (testifying that Mr. Lester was responsible for clean-out and disposal of Pit material in 2006); Tr. IV 270–71 (testifying that Mr. Austin did not know of warning letters from VADEQ until start of this litigation); Tr. IV 280–81, 283–84 (testifying that Mr. Austin was not aware of partial Pit clean-out in June 2007). Moreover, doubts about the actual extent of Mr. Austin's personal knowledge are supported by the fact that during the inspections, Respondents chose to be represented by Mr. Lester, the Facility Operations Manager and only employee with training and authority in the area of hazardous waste, and that Mr.

Austin generally deferred to Mr. Lester as the individual who kept "all records and logs relating to environmental issues" at the facility. Tr. I 93–95, 146–48, 209–10; CX 17 at 299; CX 18 at 333; CX 19 at 374; CX 21 at 657. In general, it appeared that at the time relevant hereto, Mr. Austin had little real time for or interest in environmental compliance and the facility activities related thereto. *See* Tr. I 127 (Ms. Lohman recalling Mr. Lester told her that "he wasn't getting enough support from the Austins to make hazardous waste determinations and manage the materials properly").

As to Mr. Tickle, in regard to his testimony on this issue, he had the demeanor at hearing of a subordinate, meekly and uncomfortably reciting the lines he had been instructed to say by Mr. Austin, whose hearing demeanor in contrast was that of a very intimidating, dominating boss. As indicated above, Mr. Tickle seemed so eager to support the company's position on the drum washing issue that he was willing to deny that tap water was ever used to rinse drums at the acid pad, something even Mr. Austin could not bring himself to do. Tr. III 127–29, 133–34; Tr. IV 201–02. All in all, Mr. Tickle's testimony and demeanor did not give the impression of honestly and independently corroborating the truth of Mr. Austin's claims on the Pit water's reuse to clean drums.

More significantly, on the issue of Pit water's use in FreezeCon, something Mr. Tickle's testimony and demeanor suggested he actually had personal knowledge concerning, his testimony differed markedly from Mr. Austin's. Mr. Austin testified that when a customer would place an order for FreezeCon, a batch ticket would be generated to document the blend formula and track component inventory. Tr. IV 211. Mr. Austin expressed that most batch tickets indicated where the water component of the batch came from, and pointed to a small handful of batch tickets that he claimed indicated the "Pit water" had been used in the blend. Tr. IV 212–14. For example, he cited the batch ticket dated January 3, 2008, which indicated that water had been taken from "tanker 1728," and claimed that notation meant that Pit water had been pumped directly from the AST into a tanker truck for blending. Tr. IV 213; RX 3 at 35. Similarly, Mr. Austin referred to another batch ticket dated January 6, 2008, which indicated that 2,500 gallons of water were taken from "one gallon bulk pit water," and testified "that had come from water that we had used for pit water or we had used from the pit tank." Tr. IV 213; RX 3 at 35. That ticket also bore the notation "totes (see Don)." RX 3 at 35. A third batch ticket, dated January 21, 2008, indicated that the water used was "one gallon bulk" or "1 G Bulk," which Mr. Austin testified meant the water had come from a bulk tank used to store excess "rinse water." Tr. IV 213–14; RX 3 at 38. Mr. Austin explained: "We had a limited number of storage tote tanks for rinse water and when [it] exceeded those number of storage—I mean exceeded the number of tote tanks for rinse water that we had to utilize, we had to find another home for the material that we wanted to reuse." Tr. IV 213–14. Mr. Austin testified that batch tickets completed on December 4, 5, and 9, 2008, referring to "Tank 10" or "Tank beside scales," documented the use of such material.[83] Tr. IV 213–14 (referencing RX 3 at 50–52).

However, when Mr. Tickle was asked about FreezeCon and the batch tickets, he testified

[83] Significantly, these three batch tickets are dated almost a year *after* the Pit was removed from the ground, which further disparages the reliability of Mr. Austin's testimony on the whole issue. RX 3 at 50–52; Tr. IV 241–43.

that while Pit water from the AST was sometimes used as an ingredient, employees would also use rain water collected from containment dikes around the facility. Tr. III 135–36. Mr. Tickle testified that rain water would be pumped directly into a tanker truck to blend FreezeCon, or would be saved in totes for future reuse. Tr. III 135–36, 138. When questioned about the batch ticket dated January 6, 2008, with the notation "totes (see Don)," contrary to Mr. Austin, Mr. Tickle testified that the ticket's reference to "one gallon bulk pit water" probably referred to rain water rather than water from the AST, and affirmed that any water used in the blending of FreezeCon was referred to by Chem-Solv employees as "pit water." Tr. III 138; RX 3 at 35. Mr. Tickle appeared confident and credible on this point, speaking from actual personal knowledge, in contrast to his wooden testimony about how Pit water was allegedly reused from the AST. Mr. Tickle's testimony contradicts Mr. Austin's claim that the ambiguous notations "one gallon bulk" or "pit water" in the batch ticket dated January 6, 2008, or any other batch ticket, indicates that the water in question came from the Pit tank, and further undermines Mr. Austin's credibility overall.

Unlike Mr. Tickle, Mr. Perkins's testimony on the alleged reuse of the Pit water was broadly consistent with Mr. Austin's. *Compare* Tr. III 187–88, 195–200 *with* Tr. IV 200–05. However, Mr. Perkins testimony was not, and could not be, based upon any personal knowledge of the reuse because Respondents did not retain Mr. Perkins's firm until the summer of 2008, that is, after the Pit tank had already been removed from the ground. Tr. IV 107–08, 253. Thus, Mr. Perkins's knowledge of the Pit tank system and the alleged reuse of Pit water comes entirely from Mr. Austin and other unnamed Chem-Solv employees. Tr. III 187–88, 194. Mr. Austin's lack of credibility extends to Mr. Perkins, and casts doubt on the reliability of Mr. Perkins's other unnamed sources.

For the reasons given above, the testimony of Respondents' witnesses and the few documents offered are not particularly compelling on the issue of the Pit water's alleged reuse. On the other hand, the evidence offered by Complaint challenging the accuracy of Respondents' assertions is quite potent. Most significant in this regard is the fact that *none* of the voluminous documents in the record reflect that Mr. Lester, the facility's environmental compliance officer, who was familiar with RCRA requirements, ever mentioned to the various EPA or VADEQ representatives the alleged reuse of the Pit water during the five official inspections conducted on July 26, 2005, November 1, 2005, May 15, 2007, May 18, 2007, or May 23, 2007, nor did inspectors ever observe indicia of reuse. Tr. I 45–48, 56–57, 65–66, 75–76, 90–92, 95–98, 101, 103–12, 182–83; Tr. III 10–12, 88–89; CX 17 at 297, 313; CX 18 at 333, 358–59; CX 19 at 374–75, 382, 384–85, 387. In fact, Ms. Lohman specifically and credibly testified that despite her extended interactions with Chem-Solv, no representative from the facility ever provided her "with any information that would lead [her] to believe that [P]it water . . . was reused to rinse containers," or used to manufacture FreezeCon. Tr. I 105, 107–10. Moreover, Respondents never made any reference to any reuse of Pit water in response to the Region's three IRLs. *See* CX 21 at 650–1064; CX 23 at 1075–1139; CX 25 at 1145–64. In fact, the record does not show that Respondents ever asserted that the Pit water was being reused in any way until they filed their Answer in this case with the assistance of counsel on May 2, 2011.

Additionally, Ms. Lohman affirmatively testified that during the July 26, 2005 inspection, Mr. Lester told her that Chem-Solv had begun shipping Pit water off site for waste disposal. Tr.

I 48; CX 37 at 1477. That Respondents then viewed the Pit water as "waste," and the Pit as a waste treatment unit, is corroborated by Chem-Solv's December 16, 2005 response to a VADEQ warning letter. In that response, Mr. Lester described the Pit as a "treatment tank" meeting "the definition of an elementary neutralization unit, because the waste treated in the tank [was] hazardous only due to corrosivity." CX 42 at 1521, 1526. An elementary neutralization unit is defined in relevant part as "a device which . . . [i]s used for neutralizing" a specific type of hazardous waste. 40 C.F.R. § 260.10. Mr. Lester wrote that the Pit water was "managed immediately" and "[t]he adequacy of the neutralization process [was] supported by the uninterrupted acceptance of the non-hazardous facilities that accept the stream." CX 42 at 1526. Mr. Cox testified that during the May 15, 2007 inspection, the facility claimed the Pit "was a solid waste unit to collect their rinse water," demonstrating that Respondents' view of the Pit and its contents had not changed significantly since the December 16, 2005 IRL response. Tr. III 12. It is difficult to believe that Respondents would describe material they were routinely using to wash drums, or as a raw ingredient in a product, as "waste," and potentially *hazardous corrosive waste*. Rather, it is likely that the Pit water was disposed of swiftly in an uninterrupted stream, as indicated by Mr. Lester's words and by the frequency with which Pit water was shipped off for disposal. *See* CX 21 at 651–53, 685–852; CX 42 at 1522, 1525–26.

Respondents' claim is also undermined by their consistent failure to reference the reuse when explaining to VADEQ and the Region how the facility handled its Pit water. At the July 6, 2005 inspection, Chem-Solv informed Ms. Lohman that Pit "water was pumped up into the" AST, and then transferred to a tanker truck to be shipped off site. Tr. I 45–46; CX 37 at 1477. Two years later, after the May 15, 2007 inspection, Mr. Cox reported that the Pit "accumulated rinse water from the hoses and equipment at the site," and the Pit water was then "transferred to a storage tank and neutralized before being shipped as non hazardous wastewater." CX 17 at 297. During the May 18, 2007 inspection, Mr. Lester told Ms. Lohman that Pit water was "transferred from the [P]it to the [AST] for temporary storage," and then transferred to a tanker truck for disposal. Tr. I 97–98, 101; CX 18 at 359; CX 19 at 374–75, 384–85. Following the May 23, 2007 inspection, Mr. Houghton recorded that Pit water was "shipped off-site as a non-RCRA regulated waste[] to a pretreatment facility in North Carolina." CX 18 at 333. On December 10, 2007, Chem-Solv wrote that the Pit was a "receiving tank for inorganic production activity," and that most solids in the Pit were "characteristically light and easily conveyed with routine wastewater removal." CX 21 at 658. On February 6, 2008, Chem-Solv again wrote that it was disposing of Pit water through "routine" shipments. CX 23 at 1081. On February 6, 2008, Chem-Solv provided the Region with a plan or specification of the Pit's construction showing that water would be discharged to the municipal sewer without reuse. CX 23 at 1083, 1139; Tr. III 25. If Chem-Solv was reusing the Pit water as it claims, it is incredible that no company representative ever mentioned that reuse to a government official when describing the operations surrounding the Pit and Pit water.

Chem-Solv's failure to alert anyone to its alleged reuse of Pit water is particularly curious in light of statements Chem-Solv representatives made about possible changes to its operations. Ms. Lohman testified that during the May 18, 2007 inspection, Mr. Lester indicated he was "*looking* for potential reuses of the waste water," but that "it was still being managed as waste water" at the time. Tr. I 108–11 (emphasis added). Further, Mr. Lester indicated he intended to dispose of Pit water accumulated in totes and drums between October 2006 (when the facility

stopped shipping with HOH) and April 2007 (when the facility starting using the services of Shamrock) into future shipments to Shamrock. Tr. I 96, 108–11; Tr. III 11; Tr. IV 220, 228; CX 19 at 375, 387; CX 21 at 832–33. Mr. Lester's statements concerning "looking" for potential reuses and his frank admission that the Pit water was "being managed as waste" strongly contradict Respondents' claim that Pit water was being reused during or prior to May 2007. Further, on December 10, 2007, Chem-Solv wrote that its generation rate of wash water had decreased in December of 2007 and was projected to decrease further in January 2008 "based on new production procedures and initiatives such as dedicated containers, hoses, nozzles and pumps eliminating the need to flush between products," and that Chem-Solv was eliminating "operations that generate wash water."[84] CX 21 at 658. If Chem-Solv was reusing the Pit water as it claims, it is again incredible that Chem-Solv would alert the Region to "dedicated containers, hoses, nozzles and pumps" while omitting any reference to FreezeCon or the Pit water's reuse in washing. Respondents' own words, as related through Complainant's credible witnesses and recorded in contemporaneous documents, undermine the credibility of Respondents' claim that Pit water was reused to wash drums and manufacture FreezeCon.

Respondents' claim is also undermined by the questionable nature of the reuse they describe. Mr. Austin and Mr. Perkins described a system where an unspecified quantity of tap water would mix with various acidic and caustic chemicals as well as dirt, grass, and debris from the drums in the Pit. Tr. III 195–96; Tr. IV 201–04; CX 18 at 359; CX 21 at 658. When the resulting mixture of Pit water reached a certain level in the Pit, it would be pumped to the adjacent AST, and then reused indefinitely, until both the Pit and the AST were full. Tr. III 195–96; Tr. IV 201–04. Respondents make a point of arguing that the Pit water did not have to be tested and neutralized before reuse, and that the Pit water's pH "was only a concern prior to off-site shipment of rinsewater, in the event that Chem-Solv decided to dispose of some rinsewater."[85] Rs' Br. at 41. Nevertheless, it was allegedly reused by Chem-Solv employees spraying the potentially corrosive Pit water through an industrial-strength power washer into the open air. Tr. IV 200; CX 18 at 359.

Respondents also claim that the potentially-corrosive Pit water was being siphoned from the system to manufacture thousands of gallons of FreezeCon. Tr. IV 204–05, 210–14; RX 3 at 7–121; RX 4 at 123–27. If Respondents are to be believed, no fewer than 39,988 gallons of Pit water were consumed in the manufacture of FreezeCon between November 2005 and February 2007, an average of 2,499 gallons per month. RX 3 at 7–32; RX 4 at 123–27. At such a rate of depletion, one would expect the system to not accumulate great excesses of water, especially as Mr. Austin and Mr. Perkins emphatically denied that stormwater could enter the Pit or mix with Pit water. Tr. III 189–90; Tr. IV 233. Chem-Solv nonetheless shipped, on average, 12,303 gallons of Pit water per month for disposal between February 2004 and October 2006, and 8,496 gallons per month between April 2007 and August 2007. CX 21 at 651–54, 686–852. Further, as of May 18, 2007, Chem-Solv was still storing at the facility excess Pit water generated after

[84] Note that this statement was made approximately one month before the Pit was removed. Tr. IV 241–43.

[85] The evidence shows "that Chem-Solv decided to dispose of" thousands of gallons of "rinsewater" every month between February 2004 and August 2007. CX 21 at 652–54, 686–852.

HOH stopped accepting it for disposal. Tr. I 108–11. Left unexplained is how a system in which the Pit water was used so extensively, and supposedly could be reused indefinitely, would so regularly result in so much excess.

The best evidence to support Respondents' claim that the Pit water was actually reused—and which could have answered these questions—was the Pit itself and its associated systems. However, Respondents removed the Pit between January and February 2008, and prior to doing so, they did not make any effort to preserve or document any physical evidence showing how Pit water was fed from the AST into the pressure hose for reuse. Tr. III 143–44; Tr. IV 242–43; CX 25 at 1147–48; *compare* CX 18 at 359 (photograph of acid pad, Pit, and AST in 2007) *with* RX 36 at 326, *and* RX 37 at 327–29 (photographs of acid pad and surroundings after Pit had been removed). Moreover, neither the Region nor VADEQ had an opportunity to capture such evidence because Respondents did not alert VADEQ before removing the Pit and, even if they had had that opportunity, Respondents did not raise the claim that Pit water had been reused until almost two-and-a-half years after the Pit was dismantled. Tr. I 152–53; CX 25 at 1147–48.

4. Conclusion as to Whether the Pit Water was a Solid Waste

For the aforementioned reasons, it is found that Respondents have not established by the preponderance of the evidence that the Pit water was reused to wash barrels or used as an ingredient in the manufacture of FreezeCon, and have not met their burden of demonstrating that the Pit water was not a solid waste or was conditionally exempt from regulation. 40 C.F.R. § 261.2(f). It is further found to be more likely than not that the Pit water was not reused for any purpose. The preponderance of evidence in the record shows that Pit water was accumulated, stored, or treated in the Pit or adjacent AST until it was shipped off-site for disposal—not reused or recycled. The Pit water therefore meets the definition of an "abandoned" material found in 40 C.F.R. § 261.1(b), and was thus a "discarded material" under 40 C.F.R. § 261.2(a)(2)(i) Because the Pit water was a "discarded material," was not excluded from the definition of solid waste by 40 C.F.R. § 261.4(a), and was not subject to any variance or exclusion identified in 40 C.F.R. § 261.2(a)(1), the Pit water was a "solid waste" within the meaning of 42 U.S.C. § 6903(27), 40 C.F.R. § 261.2(a)(1), and 9 Va. Admin. Code § 20-60-261.

b. Whether the Pit Sludge was a Solid Waste

Respondents do not admit the Pit sludge is a solid waste, but also do not explain how it could be otherwise. *See* Rs' Br. at 33 (assuming *arguendo* the Pit sludge was a solid waste). The record shows the Pit sludge was a composite of, at minimum, dirt and organic debris washed from drums or from the acid pad surface, pollen or other airborne particles that settled in the Pit, and solids generated from hydroxide precipitation, that had separated out from the Pit water and settled at the bottom of the Pit tank. CX 17 at 297; CX 18 at 333; CX 19 at 374, 377–78; CX 21 at 652, 660, 1016–17; Tr. I 112–14, 138, 182; Tr. III 19–22, 128–29, 191; Tr. IV 74–84, 200–04, 225–28. Respondents removed Pit sludge from the Pit in May 2006, June 2007, January 2008, and February 2008, and all the Pit sludge was disposed of as waste. CX 21 at 652, 658, 660, 854–57; CX 23 at 1083, 1127–28; Tr. IV 238–39; First Jt. Stip. ¶ 31. Respondents have not identified any use or potential use for the Pit sludge, or otherwise argued that the Pit sludge was not waste. Like the Pit water, the Pit sludge was accumulated in the Pit where it was stored until

it was shipped off site for disposal. The Pit sludge therefore meets the definition of an "abandoned" material found in 40 C.F.R. § 261.2(b), and was a "discarded material" as defined by 40 C.F.R. § 261.2(a)(2)(i). Because the Pit sludge was a "discarded material," was not excluded from the definition of solid waste by 40 C.F.R. § 261.4(a), and was not subject to any variance or exclusion identified in 40 C.F.R. § 261.2(a)(1), the Pit sludge was a solid waste within the meaning of 42 U.S.C. § 6903(27), 40 C.F.R. § 261.2(a)(1), and 9 Va. Admin. Code § 20-60-261.

c. Whether the Pit Water & Pit Sludge are Hazardous Wastes

Complainant must show as part of its prima facie case that the Pit water or Pit sludge, in addition to being solid wastes, were hazardous to prevail on Count 1. The Complaint alleges that both substances were hazardous because they displayed the characteristic of toxicity as set forth in 40 C.F.R. Part 261, Subpart C. Compl. at 3–4, 7; *see* 40 C.F.R. § 261.24. "A solid waste . . . exhibits the characteristic of toxicity if, using the . . . [TCLP analysis method], the extract from a representative sample of the waste contains any" listed contaminants in "concentration equal to or greater than the" regulatory threshold. 40 C.F.R. § 261.24(a).

The regulations at 40 C.F.R. Part 260 generally define a "[r]epresentative sample" to mean "a sample of a universe or whole . . . which can be expected to exhibit the average properties of the universe or whole." 40 C.F.R. § 260.10. "For the purposes of" Subpart C, the regulations provide that "the Administrator will consider a sample obtained using any of the applicable sampling methods specified in appendix I to be a representative sample within the meaning of part 260." 40 C.F.R. § 261.20(c). Appendix I in turn provides:

> The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, will be considered by the Agency to be representative of the waste.
>
> . . . .
>
> Containerized liquid wastes—"COLIWASA."
>
> Liquid waste in pits, ponds, lagoons, and similar reservoirs—"Pond Sampler."[86]

[86] Appendix I originally referred to the "COLIWASA" and "'Pond Sampler' described in 'Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods,'" also known as SW-846. Hazardous Waste Management System: Identification and Listing of Hazardous Waste, 45 Fed. Reg. 33,084, 33,127 (May 19, 1980); *see* Waste Management System; Testing and Monitoring Activities; Final Rule: Methods Innovation Rule and SW-846 Final Update IIIB, 70 Fed. Reg. 34,538, 34,539–40 (June 14, 2005) [hereinafter Methods Innovation Rule] (identifying SW-846). The reference to SW-846 was eliminated in 2005 by the Methods Innovation Rule,

40 C.F.R. Part 261 app. I (2008). However, a comment to 40 C.F.R. § 261.20, published in the C.F.R., elaborates:

> Since the appendix I sampling methods are not being formally adopted by the Administrator, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of his method under the procedures set forth in [Part 260].

40 C.F.R. § 261.20 cmt. (2008).

1. Respondents' Argument Concerning the Reliability & Representativeness of the Samples Taken from the Pit

Respondents contend the analytical results showing that the Pit water contained chloroform in concentration above the regulatory limit, and that the Pit sludge contained trichloroethylene and tetrachloroethylene in concentrations above the regulatory limits, are flawed because the samples "were not representative of the ultimate waste streams" and "they were collected using sampling protocols and methodology that is wholly inconsistent with established EPA procedures." Rs' Br. at 48. At hearing, Respondents offered into evidence "certain guidance documents published by the EPA and certain guidance authored by other professional organizations . . . providing detailed sampling requirements." *Id.* at 48; *see* RX 24 at 242–56; RX 26 at 259–61; RX 27 at 262–302; RX 29 at 305–06; RX 40; *see also* RX 30 at 312–14 (Respondents' expert's report). Respondents argue that because "[t]he methodology used by the EPA did not conform to such regulatory requirements or such published guidance documents . . . , the samples collected by the EPA generated analytical results that are not representative of the waste streams at issue in this matter." Rs' Br. at 48.

With regard to the Pit water, Respondents' expert Mr. Perkins opined in his Expert Report that Appendix I to Part 261 "states that a [COLIWASA] would" have been "acceptable to obtain a representative sample" from the Pit, and that the swing sampler was "not considered appropriate." RX 30 at 313–14. Mr. Perkins also testified that, though 40 C.F.R. § 261.24(a) requires waste be evaluated for toxicity using the TCLP "test Method 1311 in 'Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,' EPA Publication SW-846," the TCLP test Method 1311 only instructs how to prepare an extract from a sample. Tr. III 230–31; *see supra* at Part III.E (testimony of Ms. Zawodny). Mr. Perkins explained that publication SW-846 provides different test methods for analyzing what volatile or semi-volatile organic compounds are present within the extract, specifically Methods 8260 or 8270. Tr. III 231. Mr. Perkins then opined that Method 1311 "says, for quality control purposes, [you have] to follow [M]ethod 8260's quality control requirements," and Method 8260 "says to see [C]hapter 1 of SW-846." Tr. III 231. Mr. Perkins concluded that the sampling protocols identified in Chapter 1 of SW-

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which explicitly sought to "allow more flexibility when conducting RCRA-related sampling and analysis by removing from the regulations a requirement to use the methods found in" SW-846. Methods Innovation Rule, 70 Fed. Reg. at 34,538, 34,548.

846 should therefore be mandatory when taking samples for TCLP analysis. Tr. III 230–32.

Respondents also argue that "the singular grab sample that was collected at the surface of the" Pit was not sufficient to provide a representative sample. Rs' Br. at 49. Mr. Perkins in his Expert Report criticized Mr. Houghton for not attempting to determine if the Pit water had multiple phases, and at hearing testified that samples of the Pit water should have been taken using a COLIWASA to ensure the entire water column was captured. RX 30 at 314 (citing RX 29 (ASTM D5358-93 "Standard Practice for Sampling with a Dipper of Pond Sampler")); Tr. III 220–22, 226–29. Mr. Perkins testified that diffusion was not sufficient to ensure that a sample from the surface would be representative of the whole because "every chemical behaves differently" and the amount of time it was in the Pit water would "have an effect [on] the degree in which it moves up, down, [or] laterally." Tr. III 225–26. Mr. Perkins further testified that chlorine in the Roanoke tap water might have been reacting with organic debris to actively create chloroform in the Pit. Tr. III 198–99. Respondents argue that the sample of Pit water taken from the Pit's surface was not sufficiently representative or reliable of the Pit water as a whole because the Pit "was in use and new water [was] introduced creating agitation" immediately before the samples of Pit water were taken, because of the "natural expected variability of the chloroform concentrations throughout the tank," and because of "the added dynamic of potential chloroform creation via the interaction of chlorine with inorganics." Rs' Br. at 49.

With regard to the Pit sludge, Mr. Perkins wrote in his Expert Report that because Appendix I "does not provide appropriate methods for settled solids sampling from tanks" such as the Pit, "an appropriate secondary reference is the EPA Tank Sampling SOP#2010." RX 30 at 313 (citing RX 24 (EPA Tank Sampling SOP#2010)). Mr. Perkins then criticized Mr. Houghton for not determining the depth of the Pit sludge prior to sampling, not taking sufficiently detailed notes about the sampling, and not using a sampling device that would capture "the entire depth of the waste stream and bring it to the surface unimpacted by the overlying water column" in alleged contradiction of SOP#2010. *Id.* at 313.

Mr. Perkins repeated these critiques at hearing, testifying that the samples of the Pit sludge would have been contaminated by their exposure to the overlying Pit water, and opining that Mr. Houghton should have tested the depth of the Pit sludge while also using a coring device or other sampling method. Tr. III 235–36; Tr. IV 17–23. At hearing, Mr. Perkins also testified that the samples of Pit sludge should have been homogenized, or that Mr. Houghton and Mr. Reyna did not homogenize the samples enough. Tr. IV 13–15, 18, 23.

2. Complainant's Argument Concerning the Reliability & Representativeness of the Samples Taken from the Pit

Complainant argues that the samples of Pit water and Pit sludge were representative and that the analytical results obtained from them are reliable. Complainant first posits that the regulatory definition of "representative sample" refers to "the average 'properties' of the whole," and "[i]n this case the 'property' which the sample must exhibit to the representative degree is the property of toxicity under 40 C.F.R. § 261.24." C's Br. at 50. Complainant contends that the samples collected by Mr. Houghton are "sufficiently representative" to demonstrate that the Pit water and Pit sludge exhibited the characteristic of toxicity. *Id.* at 50–52; 57–59.

Addressing the Pit water, Complainant cites the testimony of its expert, Dr. Joseph Lowry, to argue that chloroform "would be expected to diffuse, which would 'more or less make everything the same concentration.'" *Id.* at 56 (quoting Tr. II 102). Complainant also argues that while Respondents have "posited that separate phases could have existed" in the Pit water, Dr. Lowry testified that this was unlikely and Respondents have offered no evidence to rebut his expert opinion. *Id.* (citing Tr. II 102).

Complainant further argues that chloroform would be expected to actively volatize "at the interface between the water and the air," so concentrations of chloroform at the surface of the water "might have a slightly *lower* concentration than samples taken further below the surface." *Id.* (citing Tr. II 101). Because Mr. Houghton took the Pit water samples from the surface, this would benefit Respondents. *Id.* Complainant argues the margin-of-error inherent in the analysis should not affect the determination of whether the Pit water was hazardous because the analytical result is "presumptively acceptable," and the lab report indicated actual values of chloroform in the Pit water were likely higher than reported. *Id.* at 56–57 (citing Tr. II 27, 32, 56–57, 124; CX 16 at 285). Complainant ventures that the concentration of chloroform would likely have been higher had the Pit water been sampled earlier, and criticizes Respondents for not testing the water for "volatile hazardous constituents such as chloroform" at the time it first entered the Pit. *Id.* at 56–57 & n.14 (citing Tr. I 26–27, 56–58, 65–66, 73–76; CX 39 at 1482; CX 40 at 1509).

With regard to the Pit sludge, Complainant argues that the testimonial and documentary evidence show Mr. Houghton and Mr. Reyna obtained a composite sample of Pit sludge from several different areas of the Pit to obtain "a significant degree of horizontal coverage." *Id.* at 52–53 (citing Tr. I 90–91, 226, 231–33; CX 65 at 1814). Complainant argues that the limited vertical coverage obtained during sampling "is ultimately not important" because trichloroethylene and tetrachloroethylene "would be expected to be found at the same or greater concentrations at lower levels," and because "the concentration of each . . . was so high that additional sampling could not have demonstrated average concentrations that were below the regulated levels." *Id.* at 53 (citing Tr. II 95–96, 98). At hearing, Dr. Lowry testified that the concentration of tetrachloroethylene in the Pit sludge was "past its solubility" and droplets of that substance would have migrated to the bottom of the Pit because it is denser than water. *Id.* (citing Tr. II 95–96). Dr. Lowry testified that the concentration of trichloroethylene "did not quite exceed its solubility limit," and was therefore likely to be uniform throughout the Pit sludge unless the trichloroethylene had dissolved into the droplets of tetrachloroethylene, in which case it would be found at greater concentrations deeper in the Pit. *Id.* (citing Tr. II 98); *see* Tr. II 98–99. For those reasons, Complainant argues that the lack of vertical coverage would either not matter or benefit Respondents by causing the analytical results "to be biased low." C's Br. at 53–54.

Complainant further argues that the concentrations of trichloroethylene and tetrachloroethylene in the Pit sludge samples were so high that "there is essentially no possibility that additional sampling of the Pit sludge would establish that the sludge is not hazardous for both" chemicals. *Id.* at 54. Dr. Lowry testified that "652 additional samples of" Pit sludge, each showing zero tetrachloroethylene, or 30 additional samples, each showing zero trichloroethylene, would be necessary to bring the average concentration of each substance below the regulatory

limit. *Id.* (citing Tr. II 94–95, 97–98); *see id.* at 57–59 (debating difference between proving substance is hazardous versus nonhazardous). Complainant also notes that the analysis performed on the raw Pit sludge by ProChem, Inc., on behalf of Respondent Chem-Solv, in January of 2008, indicated that the Pit sludge contained "high concentrations of tetrachloroethene and trichloroethene . . . so far above the regulatory limit that they would be expected to show regulated concentrations had Chem-Solv requested a TCLP analysis" at that time. *Id.* at 54–55 (citing Tr. II 105–06; Tr. III 97–99; CX 23 at 1127; CX 63 at 1797–1801).

In response to Respondents' argument that the samples are not representative and are unreliable because the inspectors did not hew to various guidance documents, Complainant argues that the steps in the guidance documents were not mandatory and that the procedures used were sufficient. *Id.* at 59–61. Complainant contends that 40 C.F.R. § 261.20 does not mandate any particular sampling method, and that both Dr. Lowry and the text of SW-846 itself "confirmed that SW-846 was not required."[87] *Id.* at 60 (citing 40 C.F.R. § 261.20(c); Tr. II 126–27, 136). Complainant addresses the EPA Tank Sampling SOP#2010 by questioning whether the "document is currently in effect, because Respondents laid no foundation for it," and arguing that if it was in effect it would not have applied to Mr. Houghton because he "was not an on-scene coordinator and was not part of the Environmental Response Team" that apparently prepared the document. *Id.* at 61 (citing RX 24 at 242). Complainant argues the EPA Tank Sampling SOP#2010 "itself states that the procedures 'may be varied or changed as required, dependent on site conditions, equipment limitations or limitations imposed by the procedures or other procedure limitations.'" *Id.* (quoting RX 24 at 242).

Complainant contends that "Respondents' focus" on guidance documents "is merely a distraction from the real issue, which is whether the procedures Mr. Houghton used in sampling the Pit were sufficiently reliable and representative to answer" whether "the Pit contain[ed] toxic hazardous constituents at concentrations exceeding regulated levels." *Id.* Complainant argues that Dr. Lowry "answered this question in the affirmative," and that Mr. Perkins "presented no scientific evidence" in contradiction, but instead "relied solely on Mr. Houghton's deviations from what Mr. Perkins considered to be proper protocol." *Id.*

3. Analysis of the Reliability & Representativeness of the Samples Taken from the Pit

A sample is "representative" if it "can be expected to exhibit the average properties of the universe or whole" from which it was taken. 40 C.F.R. § 260.10. As they relate to this controversy, the regulations do not require a sample to be taken by any particular method or procedure in order to be deemed "representative." *See* 40 C.F.R. §§ 260.10, 261.20, 261.24 & Part 261 app. I. To the contrary, the regulations expressly recognize that "[t]he methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled." 40 C.F.R. Part 261 app. I; *see* Waste Management System; Testing and Monitoring Activities; Final Rule: Methods Innovation Rule and SW-846 Final Update IIIB, 70 Fed. Reg. 34,538, 34,540 (June 14, 2005) [hereinafter Methods Innovation Rule]

[87] Only two portions of SW-846 were admitted into the evidentiary record, Chapters 1 (RX 40) and 9 (CX 61). The "Disclaimer" Complainant quotes in its Initial Post-Hearing Brief is not part of Chapters 1 or 9 and is not part of the evidentiary record. *See* C's Br. at 60.

(amending the regulations to eliminate restrictions on allowable methods except where necessary).

With regard to the guidance Respondents assert is or may be mandatory, there is no indication in the record that the EPA Tank Sampling SOP#2010 was current in 2007 or was binding on Mr. Houghton and Mr. Reyna. *See* Tr. II 130–31 (discussion of SOP#2010). Neither party placed SW-846 Methods 1311, 8260, or 8270 into the record. It is noted that Method 1311 is specifically identified in 40 C.F.R. § 261.24(a), and 40 C.F.R. § 260.11(c)(3)(v) expressly incorporates "Method 1311, dated September 1992 and in Update I," into 40 C.F.R. Part 261 appendix IX, § 261.24, § 268.7, and § 268.40. However, while a version of Method 1311 identified as "Revision 0," dated July 1992, is available through the "SW-846 On-line" webpage at the EPA's website,[88] the version of Method 1311 incorporated by 40 C.F.R. § 260.11(c)(3)(v) could not be located. Neither Method 8260 nor Method 8270 appear to have been incorporated into the regulations by reference. Without the text of Methods 1311, 8260, or 8270, there is no credible basis in the record for holding that these Methods made procedures found in Chapters 1 or 9 of SW-846 compulsory in this matter.[89] Finally, Respondents' focus on Mr. Houghton and Mr. Reyna's alleged deviation from the steps outlined in various non-mandatory guidance documents does not address the essential question of whether the inspectors did obtain representative samples of Pit water and Pit sludge on May 23, 2007.

The samples at issue were collected by Mr. Houghton or under his direction. Tr. I 201–

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[88] At the time of writing, the "SW-846 On-line" webpage could be located at http://www.epa.gov/waste/hazard/testmethods/sw846/online/index.htm. The July 1992 version of Method 1311 could be found in portable document format ("PDF") at http://www.epa.gov/waste/hazard/testmethods/sw846/pdfs/1311.pdf. The July 1992 version of Method 1311 does not mandate any particular sampling procedure, though it directs that samples of waste being evaluated for volatile analytes be "collected and stored in a manner intended to prevent the loss of volatile analytes." It instructs that "[a]ll samples shall be collected using an appropriate sampling plan," but does not elaborate on how the appropriateness of a particular plan might be determined in particular circumstances. It also does not contain direct references to SW-846 Chapters 1 or 9, or Methods 8260 or 8270.

[89] To the extent that the texts of a Method 8260B, marked as "Revision 2" and dated "December 1996," and a Method 8270D, marked as "Revision 4" and dated "February 2007," were available through http://www.epa.gov/waste/hazard/testmethods/sw846/online/index.htm, both Methods limit discussion of sample collection to a bare reference directing the reader to certain introductory material at the beginning of SW-846 Chapter 4, "Organic Analytes." SW-846 Chapter 4, available through "SW-846 On-line" and marked as "Revision 4," dated "February 2007," primarily addresses what types of containers should be used for sampling and how much each container should be filled with the material being sampled. Nothing in the text of SW-846 Chapter 4 appears to contradict the sampling methodology employed by Mr. Houghton and Mr. Reyna. SW-846 Chapter 4 also states in its opening paragraph: "[U]nless specified in a regulation, the use of SW-846 methods is not mandatory in response to Federal testing requirements." These materials are beyond the record, but even if they were considered they would not alter the outcome of this dispute.

02, 217–34. At the time of sampling, Mr. Houghton had been performing RCRA sampling inspections as an EPA employee for approximately twenty-seven years. Tr. I 193–94. During that period he received extensive training in proper sampling techniques both on the job and in the classroom. Tr. I 194–98. Mr. Houghton testified that he did not prepare a detailed written plan before arriving at the facility because he had limited information about what he would find, and based on his "years of experience, [he] pretty well knew" what equipment he had and how it would be used to perform the sampling. Tr. I 219. Mr. Houghton then gave detailed credible testimony, with the demeanor of someone well versed and long experienced in his field, about how he and Mr. Reyna collected samples from the Pit on May 23, 2007. Tr. I 217–46. Complainant's expert, Dr. Lowry—who holds a doctorate in Environmental Health Sciences, who has over thirty years of experience with EPA sampling procedures, and who had been chief scientist at EPA's National Enforcement Investigations Center for fourteen years at the time of the hearing—reviewed how Mr. Houghton took the samples, and found no fault with the sampling methodology. Tr. II 65–72, 88–91, 101–03; CX 58 at 1631–37.

With respect to the Pit water, Mr. Houghton testified that he believed the Pit had been in use immediately prior to sampling, and that "the water was fresh or new and had been stirred up" such that the water at the surface "was pretty representative" of the Pit water as a whole. Tr. I 220–21; Rs' Br. at 49 (Respondents argument that Pit "was in use and new water [was] introduced creating agitation" immediately before the samples of Pit water were taken). In a similar vein, Dr. Lowry testified that Pit water deep below the surface would not have substantially different concentrations of chloroform than Pit water at or near the surface because chloroform would diffuse throughout the Pit water and because active use of the Pit would have mixed the water within. Tr. II 100–02, 116–17, 124, 145–49, 153–54, 223–27. Based on the testimony of these two highly-credible witnesses, and on consideration of the record as a whole, it is found that Mr. Houghton and Mr. Reyna did take a sample of the Pit water that "can be expected to exhibit the average properties of the" Pit water as a whole, and that the sample of the Pit water was therefore a representative sample within the meaning of 40 C.F.R. § 260.10.

Turning to the Pit sludge, Dr. Lowry testified that in his opinion Mr. Houghton obtained a sample that provided physical coverage of the material. Tr. II 88–89. He further testified that the concentrations of trichloroethylene and tetrachloroethylene found in the sampled Pit sludge were so high, that it was unlikely additional sampling could bring the average concentration of those chemicals below the regulatory threshold. Tr. II 92–99, 196–97, 199–200, 227–29. The sample of Pit sludge contained 457 milligrams per liter ("mg/L") of tetrachloroethylene, approximately *653 times* higher than the regulatory threshold of 0.7 mg/L. Tr. II 94; CX 16 at 289; *see* 40 C.F.R. § 261.24 tbl. 1. Dr. Lowry explained that to bring the average concentration of tetrachloroethylene in the Pit sludge below the regulatory threshold, over 600 additional samples of Pit sludge, each containing no tetrachloroethylene, would have to be obtained and added to the result of Mr. Houghton's sample. Tr. II 94–95. Further, Dr. Lowry testified that the concentration of tetrachloroethylene found in Mr. Houghton's Pit-sludge sample was so high that the material was actually saturated with the contaminate, and that tetrachloroethylene would be expected to exist in the Pit sludge as droplets available to further contaminate additional material. Tr. II 94–96, 227–29. Phrased more colloquially, the Pit contained so much tetrachloroethylene that the other material in the Pit had soaked up as much of the chemical as it could, but was still swimming in tetrachloroethylene.

Trichloroethylene was present in the sample of Pit sludge at a concentration of 15.5 mg/L, or 31 times higher than the regulatory threshold of 0.5 mg/L. Tr. II 96–97; CX 16 at 289; *see* 40 C.F.R. § 261.24 tbl. 1. Though the Pit sludge sample was not saturated with trichloroethylene the way it was with tetrachloroethylene, Dr. Lowry testified that 30 additional samples of Pit sludge devoid of trichloroethylene would have to be obtained before the average concentration of trichloroethylene in the Pit sludge as a whole would fall below the regulatory threshold. Tr. II 97–98. It is also significant that Respondents' own raw analysis of solids taken from the Pit, performed on their behalf by ProChem on January 28, 2008, also found trichloroethylene and tetrachloroethylene in concentrations expected to be above the regulatory threshold if subjected to the TCLP method.[90] Tr. II 103–07; CX 63 at 1797, 1799; *see Morrison Brothers Co.*, EPA Docket No. VII-98-H-0012, 2000 EPA ALJ LEXIS 68, at **14–15 (ALJ, Aug. 31, 2000) (noting that samples of waste taken by both parties yielded similar analytical results).

Based on the testimony of Dr. Lowry concerning both the sampling of the Pit sludge and the concentration of trichloroethylene and tetrachloroethylene, on the fact that Respondents' own samples of material from the Pit contained trichloroethylene and tetrachloroethylene, and on consideration of the record as a whole, it is found that Mr. Houghton and Mr. Reyna did take a sample of the Pit sludge that "can be expected to exhibit the average properties of the" Pit sludge as a whole, and that the sample of the Pit sludge was therefore a representative sample within the meaning of 40 C.F.R. § 260.10.

Respondents' concern that the sample of Pit sludge might have been contaminated by its exposure to the overlying Pit water is unfounded because the Pit water was independently sampled and analyzed. *See* CX 16 288–89. Respondents' argument that the samples are not representative because the Pit water and Pit sludge might have been stratified into multiple layers is also not persuasive. Respondents have not offered any additional sampling or physical evidence to show that the Pit water or Pit sludge were composed of multiple layers containing materially different concentrations of the contaminants at issue. The only test data in the record shows that the Pit water and Pit sludge contained concentrations of hazardous contaminants in excess of the regulatory threshold. *See Morrison Bros. Co.*, EPA Docket No. VII-98-H-0012, 2000 EPA ALJ LEXIS 68, at **14–15 (ALJ, Aug. 31, 2000) (respondent did not offer competing analysis to rebut EPA test results showing used air filters were hazardous waste). Additionally, the testimonial evidence indicates that stratification was likely not present.

Regarding the Pit water, evidence shows the Pit water had been agitated and mixed by use immediately prior to sampling, making stratification unlikely. Tr. I 220–21; Tr. II 102, 117, 226; *see* Rs' Br. at 49 ("The tank was in use and new water introduced creating agitation."). As for Respondents' contention that this agitation may have caused chlorine in the water to react

[90] The presence of high concentrations of trichloroethylene or tetrachloroethylene in Respondents' own sample of Pit sludge, taken approximately seven months after the May 23, 2007 sampling inspection, strongly indicates that those two chemicals were not introduced to EPA's samples of Pit sludge as a result of contamination introduced during the sampling or laboratory analysis. *See* CX 63 at 1796–99.

with organic matter and create chloroform in the Pit, their own expert, Mr. Perkins, testified "[t]here is simply not enough information" to answer whether chloroform could have originated in the Pit. Tr. III 199–200; Rs' Br. at 49 (arguing chloroform may have been created in Pit). While Mr. Perkins and Dr. Lowry both confirmed it was *hypothetically* possible for chlorine in tap water to react with organic matter to create chloroform, nothing in the record shows how much chlorine may have been present in the tank, if any, or how this would affect the representativeness of EPA's samples. *See* Tr. II 122 (Dr. Lowry testifying he did not believe any chlorine would be present due to the quantity of organic matter, but there were no test results to prove or disprove that belief); *compare* Tr. III 127 (Mr. Tickle testifying tap water was not used to rinse drums at the Pit), *with* Tr. III (Mr. Perkins testifying he believed tap water was used to rinse drums).

Further, with both the Pit water and the Pit sludge, Dr. Lowry indicated that if there was any stratification within the liquid and solid phases, there would likely be higher concentrations of hazardous contaminants found at deeper levels. Tr. II 95–99, 101, 108–09, 124, 227–30. In the Pit water, this would occur because chloroform would volatize out of the surface layer and because chloroform is denser than water. Tr. II 101, 108–09, 124, 230; *see* Chem. Dictionary, *supra* note 9, at 202, 935 (specific gravity of chloroform greater than that of water). It would occur in the Pit sludge because the sludge was saturated with tetrachloroethylene, tetrachloroethylene is denser than water, and any free droplets of tetrachloroethylene would settle to the bottom of the Pit, possibly carrying dissolved trichloroethylene with them. Tr. II 95–99, 195–97; *see* Chem. Dictionary, *supra* note 9, at 668, 886, 935 (specific gravity of tetrachloroethylene and trichloroethylene greater than that of water). The samples of Pit water and Pit sludge were taken near the top of each phase. Tr. I 232; Tr. II 147–49, 205. If the Pit water and Pit sludge were stratified, then the samples would likely underreport the concentrations of chloroform, tetrachloroethylene, and trichloroethylene, to Respondents' benefit. Because all of the samples contained concentrations of hazardous contaminants above the regulatory threshold, and because if the Pit water and Pit sludge had been stratified, samples from deeper layers of each substance would likely have yielded even higher concentrations of each contaminant, the presence of stratification would not materially affect the representativeness of the sampling. With the Pit sludge, the evidence convincingly shows that the Pit sludge was saturated with tetrachloroethylene and that the concentration of hazardous contaminants was so high, no amount of mixing could materially alter the sampling result. Tr. II 96–98, 227–29.

4. Characterization of the Pit Water & Pit Sludge as Hazardous

Respondents do not challenge the integrity of the Region's analytical results on the basis of the samples' labeling, chain of custody, storage, handling, holding time, or laboratory processing. *See* Rs' Br. at 47–50 (arguments against Region's material characterization). However, Respondents do posit that "a very small margin of error would put the chloroform quantity [in the sampled Pit water] below the regulatory threshold." *Id.* at 49. Respondents argue that because "any variation over 2 percent would yield a result that would make the subject water non-hazardous," and because Ms. Zawodny testified that accuracy within 20 percent would be considered "highly accurate, . . . it must be concluded that the Complainant cannot sustain its burden of proof by a preponderance of the evidence." *Id.*

Respondents' argument that the margin of error in the analysis of the Pit water may have placed the actual value below the regulatory threshold forgets that the burden of proof in this matter is the preponderance standard. The record shows that the analysis of the Pit water was likely accurate to within "[p]lus or minus" 2%. Tr. II 56–57; *see* Rs' Br. at 49. The regulatory threshold for chloroform is 6.0 mg/L. 40 C.F.R. § 261.24 tbl. 1. Analysis of the Pit water sample indicated that the Pit water contained chloroform in a concentration of 6.1 mg/L. CX 16 at 288. Because the actual concentration could be either lower or higher than 6.1 mg/L, and the threshold is 6.0 mg/L, it is more likely that the actual concentration was above 6.0 mg/L than below. *See Lara v. Tanaka*, 924 P.2d 192, 195 (Haw. 1996) (in appeal from civil revocation of driver's license for drunk driving, hearing officer could conclude by the preponderance of the evidence that respondent's BAC was above the legal limit even though margin of error may have placed actual BAC below the limit). Specifically, if the result of 6.1 mg/L is subject to a 2% swing, then the actual concentration of chloroform in the Pit water could be as low as 5.978 mg/L or as high as 6.222 mg/L. *See* Rs' Br. at 49 (citing Tr. II 57). The lowest possible concentration is within 0.022 mg/L of the threshold, while the highest possible concentration is 0.222 mg/L over the threshold. Thus, taking the margin of error into account, it is still more likely than not that the concentration of chloroform in the Pit water exceeded the regulatory threshold of 6.0 mg/L.

Based on the testimony of Mr. Houghton and Ms. Zawodny, and the documentation in the evidentiary record, the analytical results of the representative samples taken by Mr. Houghton and Mr. Reyna are found to be fully reliable and credible. CX 15 at 241–83; CX 16 at 284–94; CX 16A; CX 18 at 334–35; Tr. I 235–47, 267–76; Tr. II 4–64; Tr. V 3–34. Those results show by the preponderance of the evidence that the Pit water contained chloroform at a concentration of 6.1 mg/L, and the Pit sludge contained tetrachloroethylene at a concentration of 457 mg/L and trichloroethylene at a concentration of 15.5 mg/L. CX 16 at 288–89. A solid waste containing chloroform at a concentration of 6.0 mg/L or higher exhibits the characteristic of toxicity and is hazardous waste. 40 C.F.R. § 261.24(a) & tbl. 1. Therefore, the Pit water exhibited the characteristic of toxicity and was a hazardous waste. Likewise, a solid waste containing tetrachloroethylene at a concentration of 0.7 mg/L or higher, or trichloroethylene at a concentration of 0.5 mg/L or higher, exhibits the characteristic of toxicity and is hazardous waste. 40 C.F.R. § 261.24(a) & tbl. 1. The Pit sludge exhibited the characteristic of toxicity and was a hazardous waste.

d. Whether the Contents of the Pit are Exempt from Regulation Pursuant to 40 C.F.R. § 261.4(c)

Hazardous waste "generated in a product or raw material storage tank, . . . or in a manufacturing process unit" is not subject to regulation as such "until it exits the unit in which it was generated," subject to exceptions not relevant here. 40 C.F.R. § 261.4(c). The parties refer to this as the "MPU Exemption," but this Initial Decision will refer to it as the "§ 261.4(c) Exemption" because it applies to more than just manufacturing process units. Respondents argue that if the Pit sludge was hazardous waste, it was exempt from regulation until Respondents chose to dispose of it because the Pit was either a manufacturing process unit or a raw material storage tank and the § 261.4(c) Exemption applies. Rs' Br. at 33–39.

1. The 40 C.F.R. § 261.4(c) Exemption

When EPA first promulgated regulations to control hazardous waste under RCRA Subtitle C, hazardous wastes were "subject to regulation at the point where they [were] generated." Hazardous Waste Management System; General and Identification and Listing of Hazardous Waste, 45 Fed. Reg. 72,024, 72,024 (Oct. 30, 1980). As the regulations were put into effect, the regulated community "questioned the Agency's intent and wisdom in regulating those units in which hazardous wastes are first generated" because "such units only incidentally hold or treat hazardous wastes" and hazardous wastes did not threaten "human health or the environment while" in them. *Id.* In response, the Agency amended the regulations to provide:

> A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation . . . until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated.

40 C.F.R. § 261.4(c); *see* 45 Fed. Reg. at 72,024–26, 72,028; Hazardous Waste Management System; Identification and Listing of Hazardous Waste, 45 Fed. Reg. 80,286, 80,286–87 (Dec. 4, 1980).

EPA explained that the identified units are generally "tanks or tank-like units . . . designed and operated to hold valuable products or raw materials . . . . Because of their design and operation, these units are capable of holding, and are typically operated to hold, the hazardous wastes which are generated in them, until the wastes are purposefully removed." 45 Fed. Reg. at 72,026. In achieving their primary function of holding valuable products or materials, the identified units would incidentally contain hazardous waste generated in them against release into the environment and minimize the risk posed to human health. *Id.* That hazardous waste therefore could be exempted from regulation as long as it remained in the unit in which it was generated. *Id.* EPA deemed that this rationale did not apply after a unit "ceased to be operated for the *primary purpose* of manufacturing or product or raw materials storage or transportation," because "the incentive to maintain the integrity of the unit" would be "substantially reduced." *Id.* (emphasis added). EPA also determined the rationale did not apply to surface impoundments because they were less structurally secure than tank or tank-like units. *Id.*

"Neither the statute nor the regulations define what constitutes an MPU, and 'manufacturing process,' a 'manufacturing unit,' or 'manufacturing' alone." *General Motors Auto. – N. Am.*, RCRA (3008) Appeal No. 06-02, slip op. at 106, 2008 EPA App. LEXIS 30 at **198–99 (EAB, June 20, 2008). The terms "product" and "raw material" are similarly undefined. However, EPA did identify in the Federal Register several examples of units that would presumably qualify for the § 261.4(c) Exemption. These included tanks; tank trucks; rail tank cars; and tanks or holds of ships or barges, carrying oil, gasoline, or other products or raw

materials. 45 Fed Reg. at 72,025. Other examples were "distillation columns, flotation units, and discharge trays of screens and in associated non-waste-treatment process units such as cooling towers." *Id.*

Since the § 261.4(c) Exemption was promulgated in 1980, the EPA has offered additional guidance pertaining to its applicability through informal interpretation and policy documents, several of which are cited by the parties in this case. In a RCRA/Superfund Industry Assistance Hotline Report for May 1986 (the "May 1986 Hotline Report"), EPA described "a parts washer containing mineral spirits" leased by a service station that was used "on a daily basis to degrease parts on-site." Memorandum from Joan Warren, Office of Solid Waste, and Nancy Parkinson, Office of Emergency and Remedial Response, RCRA/Superfund Industry Assistance Hotline Report for May 1986, 530R86113, at 3 [*hereinafter* May 1986 Hotline Report]; [91] *see* RCRA/Superfund Hotline Monthly Summary, May 86, Small Quantity Generators/Parts Washers/Waste Counting, RO 12634. A contractor would "collect the mineral spirits for reclamation and . . . deposit regenerated or new mineral spirits at the service station every eight weeks." May 1986 Hotline Report at 3. EPA expressed that the parts washer was "a containerized unit used in degreasing operations" and was "functioning as a manufacturing process unit," so the mineral spirits would not be subject to regulation under Subtitle C until they were removed from the parts washer container or the unit was nonoperational for 90 days. *Id.* at 4.

A few months later, in the RCRA/Superfund Hotline Monthly Summary for December 1986 (the "December 1986 Hotline Summary"), EPA indicated that it had "studied this issue further and" was changing course. RCRA/Superfund Hotline Monthly Summary, December 86, Wastes Generated in Process Units, RO 12790, at 1 [*hereinafter* December 1986 Hotline Summary].[92] EPA described the parts washer in greater detail, explaining that it consisted "of some sort of cleaning apparatus attached to the top of a drum of solvent material." *Id.* Solvent would be "drawn up into the cleaning apparatus for use," then be "discharged back into the drum afterward. Following a period of use, the solvent in the drum becomes too contaminated to clean effectively." *Id.* In some circumstances, a contractor would periodically exchange "a fresh cleaning unit for the spent unit, which" would be transported to a recycling facility. *Id.* In others, "the cleaning apparatus is removed at the operator's site and placed atop a fresh drum of solvent." *Id.* EPA stated that the described "parts washers cannot be viewed as manufacturing process units." *Id.* EPA did not explain why the parts washers could not be MPUs. However, EPA did explain that when the solvent in the parts washer had "become too contaminated for further use," it was a "spent material" regulated as hazardous waste. *Id.* at 1–2.

That same month, EPA also provided guidance about whether equipment that was sometimes used in production, and sometimes used to transport hazardous waste, was subject to

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[91] Though the May 1986 Hotline Report is not included in the record, it is cited by Respondents in their Initial Post-Hearing Brief and by Complainant in its Reply Post-Hearing Brief. Rs' Br. at 6, 35; C's Reply Br. at 12.

[92] The December 1986 Hotline Summary is not included in the record, but is cited by both parties in their Initial Post-Hearing Briefs. C's Br. at vi; Rs' Br. at 36.

hazardous waste tank system standards. In a letter dated December 19, 1986 (the "Carra Letter"), the Acting Director of EPA's Waste Management Division stated that "the point of exit from the process tank" was considered "to be the introductory point for the hazardous waste into a hazardous waste tank system," and "[t]herefore any process transfer equipment . . . also used to transfer hazardous waste residue during equipment washout/cleanout procedures to a hazardous waste storage/treatment tank, would be considered part of a hazardous waste tank system and thus subject to the standards for such." Letter from Joseph E. Carra, Acting Director, Waste Mgmt. Div., to Mr. Hadley Bedbury, Diamond Shamrock Chems. Co., RO13790 (Dec. 19, 1986) (included in the record as RX 9) [*hereinafter* the Carra Letter].

On May 26, 2000, the Director of EPA's Office of Solid Waste explained in a memorandum (the "Cotsworth Memorandum") how the principles articulated in the 1986 Carra Letter would apply to a certain reactor discharge system. Memorandum from Elizabeth A. Cotsworth, Director, Office of Solid Waste, to George Pavlou, Director, Division of Enforcement and Compliance Assistance, EPA Region II, Kodak Claim for Manufacturing Process Unit Exemption to the RCRA Subpart BB Air Emission Requirements, RO14469, at 1 (May 26, 2000) (included in the record as RX 10) [*hereinafter* Cotsworth Memorandum]. In the reactor discharge system, liquid would exit "a reactor unit after a particular chemical reaction" and then be "transported by pipe and pump to a manifold." *Id.* The liquid would be "reused, recycled, or sent for off-site disposal as a hazardous waste," and the operator would determine the liquid's final destination before the production process began. *Id.* The Director wrote "that because the piping system leading from the reactor at times carries hazardous waste, it [was] not part of the process unit and [was] therefore subject to RCRA regulation." *Id.* at 1–2. Citing the Carra Letter, the Director noted that liquid removed from the reactor was sometimes "sent directly to hazardous waste storage tanks," and opined that the § 261.4(c) Exemption did "not apply to the pipes and pumps leading from the reactor to the distribution manifold." *Id.* at 2 (citing the Carra Letter).

2. Respondents' Argument

Respondents argue "that the Pit falls into one of several categories of tanks described in 40 C.F.R. § 261.4(c)." Rs' Br. at 34; Rs' Reply Br. at 14–15. Specifically, Respondents contend that "after empty drums that were stored outside were filled with chemical products from bulk storage tanks, they were rinsed by Chem-Solv employees with rinsewater that had been collected in the Pit." Rs' Reply Br. at 17. Further, "when Chem-Solv received an order for FreezeCon," an employee would "follow instructions . . . when blending rinsewater with glycol to make the FreezeCon, a marketable product." *Id.* at 17–18. Respondents argue that these activities meet the definition of "manufacturing," and the Pit qualifies as a "manufacturing process unit" or "raw material storage tank." *Id.*; *see* Rs' Br. at 35–39 (discussing *Gen. Motors Auto. – N. Am.*, RCRA (3008) Appeal No. 06-02, slip op. at 106–09, 2008 EPA App. LEXIS 30 at **198–204 (EAB, June 20, 2008)). Because the Pit is a manufacturing process unit or raw material storage tank, the materials generated inside it "generally are not subject to regulation as 'hazardous waste' under RCRA" so long as they remain in the Pit. Rs' Reply Br. at 19.

To support their argument, Respondents cite the May 1986 Hotline Report and argue "[t]he operation of [the] solvent-based parts washer" subject to the § 261.4(c) Exemption "is

favorably analogous to Chem-Solv's drum rinsing operation in 2007," because "[i]n both instances, the rinsing operation is conducted outside of a storage unit and the liquid used to clean a particular item flows back to its source storage tank. Moreover, in both cases, the liquid used for the purpose of cleaning is periodically disposed by the operator." Rs' Br. at 35–36. Respondents further argue that the December 1986 Hotline Summary, which superseded the May 1986 Hotline Report and found the parts washer could not qualify for the § 261.4(c) Exemption, does not suggest that the Pit is similarly disqualified. Rs' Br. at 36; Rs' Reply Br. at 16. Respondents contend the solvent-based parts washer described in the May 1986 Hotline Report and December 1986 Hotline Summary did not qualify for the § 261.4(c) Exemption because its design allowed the drum of solvent to be detached from the wash unit. Rs' Br. at 36; Rs' Reply Br. at 16. Respondents argue there "is no comparable periodic detachment of the storage unit from the cleaning unit in Chem-Solv's drum rinsing operation," and the December 1986 Hotline Summary is "not directly relevant to the factual context of the instant matter." Rs' Br. at 36; Rs' Reply Br. at 16. Respondents also posit that the conclusion in the December 1986 Hotline Summary "had nothing to do with the fact that a service station using a solvent-based parts washer is not manufacturing anything in a conventional sense," supporting Respondents contention that the washing of barrels could be a manufacturing process.[93] Rs' Reply Br. at 16–17.

Respondents contend that the Pit's eligibility for the § 261.4(c) Exemption is not altered by the fact that the pH of the Pit water was sometimes adjusted in the Pit because neutralization was a prerequisite to disposal, not reuse. Rs' Br. at 39–41. Respondents also claim "[t]he point or origin of the particles comprising the settled solids contained in the Pit is irrelevant" to the Pit's eligibility for the § 261.4(c) Exemption. Rs' Br. at 41. Respondents claim it is common for solids in an MPU to originate upstream in the manufacturing process, and argue that the Pit solids were generated by a settling process that occurred in the Pit, as required by the 40 C.F.R. § 261.4(c). Rs' Br. at 41–42. Finally, Respondents argue there is no evidence the trichloroethylene and tetrachloroethylene in the Pit were "discarded commercial chemical

[93] Respondents also refer to an "absorption refrigeration unit" as an "example of a commonly used unit that qualifies for the MPU Exemption" despite not being "associated with manufacturing in a conventional sense." Rs' Br. at 36. Respondents' cite the testimony of Mr. Perkins, who explained at hearing how absorption refrigeration units operate, and further expressed the legal conclusion that those units qualify for the § 261.4(c) Exemption under 40 C.F.R. § 261.4(c). *Id.* at 36–37 (citing Tr. III 206–07). Generally, "legal opinion testimony, or testimony by an expert as to the legal interpretation of a statute or regulation, is not admissible." *Liphatech, Inc.*, EPA Docket No. FIFRA-05-2010-0016, 2011 EPA ALJ LEXIS 7 at **40–41 (ALJ, June 2, 2011) (Order on Complainant's Motion in Limine to Exclude Testimony and Evidence) (citing *United States v. Farinella*, 558 F.3d 695, 700 (7th Cir. 2009); *United States v. Scop*, 846 F.2d 135, 139–42 (2d Cir. 1988)). Though Complainant did not object to Mr. Perkins's legal opinion testimony about the applicability of the § 262.4(c) Exemption, the legal conclusions expressed by Mr. Perkins at hearing are nonetheless given no weight. Other than the testimony of their paid expert, who has not been authorized by any regulatory authority to make such judgments, Respondents do not cite to any authority indicating that absorption refrigeration units qualify for the § 261.4(c) Exemption. Respondents' arguments concerning those units are therefore not relevant and are disregarded.

products" listed under Hazardous Waste Numbers U210 and U228 per 40 C.F.R. 261.33(f), the presence of which would disqualify the Pit from the § 261.4(c) Exemption and render the entire contents of the Pit hazardous waste pursuant to 40 C.F.R. § 261.3(a)(2)(iv). Rs' Reply Br. at 18–19.

3. Complainant's Argument

Complainant's primary argument is that the Pit does not qualify for the § 261.4(c) Exemption simply because the Pit water was not reused for any purpose. C's Br. at 88, 95; C's Reply Br. at 9. However, assuming the Pit water was reused as Respondents claim, Complainant argues the Pit would not qualify for the § 261.4(c) Exemption because it was not part of a manufacturing process, and functioned at least part of the time as a waste treatment tank. C's Br. at 90–94; C's Reply Br. at 11–16.

Complainant argues the so-called "manufacture" of clean drums occurred on the acid pad, and the water used to wash the drums became a waste "at the point where [it] ceased to be used and [was] collected for routing to the" Pit. C's Br. at 92; C's Reply Br. at 12. Any waste in the Pit was therefore generated outside of the Pit and the § 261.4(c) Exemption only applies to waste "generated in a product or raw material storage tank," or MPU. C's Br. at 92; 40 C.F.R. § 261.4(c). The waste in the Pit would therefore not qualify for the § 261.4(c) Exemption. C's Br. at 92. Complainant also argues the Pit "was merely storing the wastewater and there was no process occurring in the" Pit, so the Pit could not be an MPU. *Id.* at 92–93. Similarly, Complainant argues the Pit could not have been a raw material storage tank because it "collected the used wastewaters, along with other waste streams such as dirt from the outsides of drums," and the ordinary meaning of the term "raw material storage tank" refers to "a container that stores unused material." *Id.* at 93.

Complainant also notes there were occasions when all of the material stored in the Pit was slated for disposal, and was therefore a solid waste. *Id.* at 93–94. Further, after Chem-Solv decided to dispose of the Pit water, it would neutralize corrosive Pit water in the Pit. C's Reply Br. at 15–16. Complainant argues that "[w]hen this occurred, the Pit was not serving as a raw material storage tank or a manufacturing process unit, but was instead serving as a hazardous waste treatment unit." *Id.* at 16. Complainant contends the § 261.4(c) Exemption "is based on the idea that a unit . . . dedicated to manufacturing activities, including raw material storage, is not part of the waste management problem," and that a "unit must be dedicated solely to" those activities if the exemption is to apply. C's Br. at 92 (citing the Cotsworth Memorandum); C's Reply Br. at 14. Complainant argues "the Pit was at best a dual-purpose unit" and therefore the § 261.4(c) Exemption should not apply. C's Br. at 90–94; C's Reply Br. at 13–16.

Finally, Complainant argues there is "a very strong inference" Respondents placed "discarded commercial chemical products" into the Pit, resulting in "the extremely high levels of tetrachloroethene and trichloroethene" found there. C's Reply Br. at 16–17. Complainant posits that "[t]here is simply no other explanation for the presence of the hazardous constituents found in EPA's analysis of the material in the Pit," and "Respondents have not and cannot offer any alternative explanation for the presence of these contaminants in the Pit." *Id.* The discarded commercial chemicals would have become hazardous waste before they entered the Pit, and

would not be covered by the § 261.4(c) Exemption. *Id.* at 17. The discarded chemicals would also mix with the other contents of the Pit, rendering them non-exempt hazardous waste. *Id.* (citing 40 C.F.R. § 261.3(a)(2)(iv)).

4. Analysis & Conclusion that 40 C.F.R. § 261.4(c) Does Not Apply

The exemption from regulation set forth in 40 C.F.R. § 261.4(c) does not apply in this case, and the contents of the Pit were therefore subject to Subtitle C regulation. As explained previously, the Pit water was not reused to wash drums or manufacture FreezeCon, and was a solid waste. The Pit was a tank dedicated to storing waste generated by line-flushing and drum-washing activity. Line-flush and drum-rinsate would drain through the acid pad into the Pit where it was stored as Pit water until it reached a certain volume, when it would be pumped into the adjacent AST. When the AST became full, the Pit water would be shipped off site for disposal. Because the Pit handled only waste, there would have been little incentive to maintain or operate it in a way that would secure the contents against a release into the environment. *See* 45 Fed. Reg. at 72,025. The Pit did not store a product or raw material, and no manufacturing process occurred within. The § 261.4(c) Exemption does not apply, and the Pit sludge and Pit water were subject to regulation as hazardous waste.

Further, even if the Pit water was reused as Respondents claim, the 40 C.F.R. § 261.4(c) exemption still would not apply.[94] First, Respondents' argument that "Chem-Solv's core business of repackaging chemicals from bulk storage containers into drums suitable for sale and distribution to its customers falls within the definition of 'manufacturing,'" and that the Pit is therefore an MPU, is overbroad. *See* Rs' Reply Br. at 17. Section 261.4(c) identifies specific categories of units that may qualify for the § 261.4(c) Exemption based on their function in an industrial or manufacturing process. Respondents' logic would allow every tank, hose, or pipeline associated with industry or manufacturing to be an MPU, and its contents exempt from hazardous waste regulation, without regard to the unit's specific function.

Respondents' particular argument that its drum washing falls within the definition of "manufacturing" because it was "performed according to organized plans and with division of labor" is not persuasive. Rs' Br. at 17 (citing *Gen. Motors Auto. – N. Am.*, RCRA (3008) Appeal No. 06-02, slip op. at 107 & n.54, 2008 EPA App. LEXIS 30 at *199 & n.54 (EAB, June 20, 2008)). The Environmental Appeals Board has noted that while the terms "manufacturing" and "manufacturing process unit" are not defined by statute or regulation, "[t]he ordinary, every day meaning of 'manufacturing' is 'to make (as raw material) into a product suitable for use . . . .'[;] to make from raw materials by hand or by machine . . . [;] to produce according to an organized plan and with division of labor . . . .'" *General Motors Auto. – N. Am.*, RCRA (3008) Appeal No. 06-02, slip op. at 107 n.54, 2008 EPA App. LEXIS 30 at *199 n.54 (EAB, June 20, 2008) (quoting Webster's Third New International Dictionary 1378 (Philip Babcock Gove ed., 1993)). Read in its entirety, this definition implies that "manufacturing" entails an element of creation or transformation as raw materials or components are turned into substantively different products. This creative element is emphasized in the definition of "manufacturer" found in Black's Law

[94] The parties did not address whether the Pit might be a lined surface impoundment not eligible for the § 261.4(c) Exemption.

Dictionary, i.e. "A person or entity engaged in producing or assembling *new products*." Black's Law Dictionary 1050–51 (9th ed. 2009) (emphasis added).

Respondents' focus on the "organized plan" and "division of labor" for washing off some dusty barrels ignores the transformative element inherent in the definition of "manufacture," and ignores that the washing process began and ended with finished drums. Indeed, the drums only needed to be washed because Chem-Solv chose to store some of them outside in dirt and grass, or would spill material upon the drums while filling them. Under the circumstances described, the act of cleaning dirty drums was simply not the same as "manufacturing" clean drums.

This becomes evident when trying to discern the Pit's role in the alleged manufacturing process. The examples of MPUs provided in the preamble to the final rule enacting the § 261.4(c) Exemption include "distillation columns, flotation units, and discharge trays of screens," all methods of separating materials, and "cooling towers" which remove heat from a process. 45 Fed. Reg. at 72,025. In the described drum-washing process, the entire "manufacture" of the clean drum occurred in the open on the acid pad, and the rinsate would drain to the Pit and become Pit water. No intentional physical or chemical change would occur in the Pit[95] as part of the alleged manufacturing process, distinguishing the Pit from the examples of MPUs in the preamble. Instead, the Pit's sole function was to collect the rinsate for potential disposal or reuse (according to Respondent). The Pit is comparable to the drum of the solvent-based parts washer described in the May 1986 Hotline Report and December 1986 Hotline Summary because both are mere catch basins for used, and sometimes spent, material. The Pit is also comparable to the manifold described in the Cotsworth Memorandum because both are ancillary to the alleged manufacturing process, and both hold or convey solid waste at least part of the time. For these reasons, *if* the Pit water was reused to wash drums as Respondents claim, the Pit would be a waste storage unit rather than an MPU.

The Pit also could not have been a product or raw material storage tank. Respondents claim the Pit water was used as a "product" or "raw material" in the manufacture of FreezeCon. Evidence shows that in 2006, Chem-Solv used 10,000 gallons of "water" in the manufacture of FreezeCon, while paying to dispose of 77,928 gallons of Pit water as waste.[96] CX 21 at 654, 805–32; RX 3 at 18–24. In 2007, Chem-Solv used 14,636 gallons of "water" in FreezeCon, and disposed of 42,483 gallons of Pit water as waste. CX 21 at 652–54, 833–52; RX 3 at 25–33. Chem-Solv's production of Pit water far outpaced its production of FreezeCon. The

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[95] Though the evidence shows that the chemical composition and pH of the Pit water was highly variable, these alterations were incidental to industrial activity occurring around the acid pad and, save for the neutralization of the Pit water prior to disposal, unintentional. *See* Tr. I 75–76; CX 19 at 374. The variable, often random nature of the changes illustrates that the composition of the Pit water was not relevant to any manufacturing or production processes occurring at the facility.

[96] In 2006 Chem-Solv was using the services of HOH to dispose of Pit water. HOH stopped accepting Pit water from Chem-Solv in October of that year, and Chem-Solv did not find another waste hauler to collect the Pit water until April 2007. CX 19 at 375, 387; CX 21 at 795–833; Tr. I 96; Tr. IV 220.

overwhelming majority of the Pit water was always destined to be disposed of as solid waste, and Pit's primary purpose was storing that solid waste. *See supra* Part IV.A.iii.a.3. Under the circumstances, the Pit water was a "waste" rather than a "product" or "raw material," and the Pit was a waste storage unit rather than a product or raw material storage tank.

For the foregoing reasons, the exemption from regulation set forth in 40 C.F.R. § 261.4(c) does not apply in this case, and the Pit water and Pit sludge were subject to regulation as hazardous waste.

e. Storage & Quantity of the Pit Water & Pit Sludge

"Storage" is defined by regulation to mean "the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere." 40 C.F.R. § 260.10. Preponderant evidence establishes that on May 23, 2007, the Pit water and Pit sludge were hazardous wastes identified or listed under 40 C.F.R. Part 261, subject to regulation under 40 C.F.R. Parts 124, 262–65, 268, and 270–71. A sample of Pit sludge taken on January 24, 2008, confirmed that the Pit sludge continued to be hazardous as of that date. CX 63 at 1797–99; Tr. III 99–100; Tr. IV 241; *see* Tr. II 84–85, 103–07 (discussing report).

On June 1, 2007, Respondents shipped 4,872 gallons of Pit water, weighing 40,580 pounds, off site for disposal as nonhazardous waste. CX 21 at 654. The previous shipment of Pit water had been sent on April 27, 2007, and had consisted of 3,500 gallons weighing 28,740 pounds.[97] *Id.* The evidence therefore shows that Respondents stored hazardous waste in the form of Pit water at the facility from May 23, 2007, until June 1, 2007, for a total of nine days.

On February 20, 2008, Respondents shipped thirty-five drums containing Pit sludge, weighing 17,500 pounds, or 7,937.9 kilograms, off site for disposal as hazardous waste. First Jt. Stip. ¶ 31; CX 23 at 1083, 1127–28. Respondents did not dispose of any Pit sludge between May 23, 2007, and February 20, 2008, supporting the conclusion that hazardous waste in the form of Pit sludge was stored at the facility for a total of 274 days.

Respondents claim that the quantity of Pit sludge accumulated cannot be determined because the drums of Pit sludge were "filled to varying depths" and contained non-sludge material at the time of disposal. Rs' Br. at 9, 20–22. Specifically, Mr. Tickle and Mr. Austin testified that when the wall around the Pit was demolished prior to cleanout, "a significant amount of concrete" fell into the Pit and was "co-mingled with the solids" in the Pit tank. Tr. IV 244; *see* Tr. III 140–42 (Mr. Tickle describing the removal of the Pit). Respondents also argue that the drums of Pit sludge "were not weighed, as Chem-Solv paid for their removal on a dollars per container basis." Rs' Br. at 21 (citing Tr. IV 242).

[97] A shipment of 3,500 gallons of pure water, at approximately 8.34 pounds per gallon, would weigh 29,190 pounds. *See* Chem. Dictionary, *supra* note 9, at 935. This suggests that the Pit water disposed of on April 27, 2007, contained appreciable quantities of chemicals with a density lower than that of water.

Respondents stipulated prior to hearing that "[t]he manifest for the thirty-five containers of hazardous waste from the Pit shipped to the Michigan Disposal Waste Treatment Plant indicated that the total weight shipped was 17,500 pounds." First Jt. Stip. ¶ 31; *see* CX 23 at 1127. "'[Factual stipulations are] binding and conclusive . . . , and the facts stated are not subject to subsequent variation.'" *Christian Legal Soc'y Chapter of the Univ. of Cal. v. Martinez*, 130 S. Ct. 2971, 2983 (2010) (quoting 83 C. J. S., *Stipulations* § 93 (2000)) (alterations in original). It is fundamental that "'parties will not be permitted to deny the truth of the facts stated, . . . or to maintain a contention contrary to the agreed statement.'" *Id.* (quoting 83 C. J. S., *Stipulations* § 93 (2000)). Respondents have not offered credible evidence to contradict the weight recorded on the hazardous waste manifest for the Pit sludge, and have not argued that the manifest is inaccurate. Respondents will therefore not be heard to argue that fewer than 17,500 pounds of material was disposed of as hazardous waste on February 20, 2008, as reflected on Uniform Hazardous Waste Manifest No. 004172818JJK.

Respondents' claim that material other than hazardous Pit sludge was contained in the drums is unpersuasive, and Respondents have not shown how the presence of that nonhazardous material would alter the outcome. If Chem-Solv was paying to dispose of the hazardous Pit sludge on a per-drum basis as Ms. Austin testified and Respondents claim, common business sense would seem to dictate that the Pit sludge should be placed into as few drums as possible. It is therefore curious that the drums would be "filled to varying depths, with some as low as one-third full." Rs' Br. at 20 (citing Tr. IV 10). It is likewise incredible that Chem-Solv would allow nonhazardous waste material such as concrete to occupy any significant amount of space in the drums Chem-Solv was paying to dispose of as hazardous waste. *United States v. Santarsiero,* 566 F. Supp. 536 (S.D.N.Y. 1983) (judge is entitled to consider all the facts presented to him and to draw reasonable inferences from those facts based upon his common sense and experience); *Abad v. Bayer Corp.,* 531 F. Supp. 2d 957, 966–67 (N.D. Ill. 2008) (a judge may "consider the inherent plausibility" of the testimony, in light of the judge's own common sense or relevant experience, when evaluating a witness's credibility). To the extent that nonhazardous solid waste did "co-mingle" with the hazardous Pit sludge as Mr. Austin testified, the resulting mixture would be a hazardous waste so long as it continued to exhibit the characteristic of toxicity. 40 C.F.R. § 261.3(b)(3). Respondents do not claim that the alleged mixture was nonhazardous, and the alleged mixture was in fact disposed of as hazardous waste. CX 23 at 1127.

f. Whether Respondent Stored Sodium Hydrosulfide that was Hazardous Waste at the Facility

Complainant alleges that in addition to the hazardous waste in the Pit, Respondents also stored at the facility hazardous waste in the form of a 55-gallon drum of waste sodium hydrosulfide from May 23, 2007, until February 20, 2008. C's Br. at 95–146.

1. Summary of Facts Relating to the 55-Gallon Drums of Sodium Hydrosulfide

In May 2007, VADEQ inspectors observed three 55-gallon drums of sodium hydrosulfide. Tr. I 140. The first was seen in the container return area of the 1111 Industry Avenue Warehouse on May 18, 2007. CX 19 at 374, 381; Tr. I 140–42; *see supra* at Part III.C. This drum was labeled "PD" and "sodium hydrosulfide," and appeared to be in good structural

condition. CX 19 at 381, 468–69; Tr. I 140–41. Ms. Lohman reported that Mr. Lester told her it was a partial drum that Chem-Solv had brought back to the facility from a customer. CX 19 at 381; Tr. I 140–42. Ms. Lohman further reported that an unidentified Chem-Solv employee told her "the material inside the drum was hardening," that the sodium hydrosulfide would be tested, and returned to product inventory if good. CX 19 at 381; Tr. I 142.

The second drum was seen on May 23, 2007, inside the 1111 Industry Avenue Warehouse. CX 19 at 386–87; Tr. I 123–28; *supra* at Part III.D. Ms. Lohman reported that she "noted a strong 'sulfur' odor" which was traced to a dented drum of sodium hydrosulfide that appeared to be leaking (the "dented drum"). CX 19 at 387, 593–94, 596–98; Tr. I 128–132. The dented drum was on a wooden pallet stacked atop four other drums, and a liquid material was dripping or had dripped down its side. Tr. I 131–32; CX 19 at 387, 596–601. Yellow, dried residual material had accumulated at the base of the dented drum on the wooden pallet, and free liquid sodium hydrosulfide was pooled on top of a drum of caustic soda located directly beneath the dented drum. Tr. I 128–32; CX 19 at 387, 596–601. Ms. Lohman reported that when the situation was brought to Mr. Lester's attention, he had a forklift operator remove the dented drum, the pallet it was on, and the drum of caustic soda from the area. Tr. I 132–33; CX 19 at 387. As the drums and pallet were removed, Ms. Lohman observed the liquid spill onto the floor from the containers and leave a residual trail from the 1111 Industry Avenue Warehouse to the 1140 Industry Avenue property. Tr. I 132–33; CX 19 at 387, 602–05.

Later, Mr. Cox asked Mr. Austin a series of questions about the dented drum in a February 4, 2008 IRL. CX 22 at 1065, 1067; CX 23 at 1075, 1078. When asked whether a waste determination or chemical analysis had been performed on the dented drum, Mr. Austin wrote that the dented drum was "found not to be leaking and was relabeled." CX 23 at 1078. When asked to "[s]ubmit any and all disposal records for" the dented drum, Mr. Austin wrote that the "[s]odium [h]ydrosulfide disposal record is attached in attachment 11b." *Id.* Attachment 11b was a copy of Uniform Hazardous Waste Manifest 004172819JJK, which showed that on February 20, 2008, one 55-gallon drum of "Waste Sodium hydrosulfide Solution" was shipped offsite for disposal as hazardous waste, labeled with Hazardous Waste Codes D002 and D003. *Id.* at 1096–98. When asked how long the dented drum had been stored at the facility, Mr. Austin wrote that the "[o]riginal [p]urchase date [was] unknown," that "[m]aterials have been purchased numerous times and purchase order numbers and dates are not associated or referenced on all packaged goods." *Id.* at 1078.

The third drum of sodium hydrosulfide was also seen on May 23, 2007, in the drum and container destruction area outside the 1111 Industry Avenue warehouse. CX 19 at 388–89; Tr. I 142–45. The drum was observed to be labeled "PD" and "sodium hydrosulfide," and appeared to be in good condition.[98] Tr. I 143–45; CX 19 at 389–90, 638–39. Ms. Lohman reported that

[98] The photographic evidence indicates that the drum of sodium hydrosulfide observed in the container destruction area on May 23, 2007, may be the same drum of sodium hydrosulfide that was observed in the container return area on May 18, 2007. *Compare* CX 19 at 638–39, *with* CX 19 at 468–69. The tags, markings, and wear patterns on the drums are similar, raising the possibility that the VADEQ inspectors only observed two drums of sodium hydrosulfide in May 2007. However, Respondents have not challenged the characterization of the drums as being

Mr. Lester stated the drum had been returned from a customer and he did not know why it was in the container destruction area. CX 19 at 389.

In January or February 2008, Chem-Solv contacted a customer "who was a consumer of sodium hydrosulfide" to ask "if they would be willing to buy" the partial drums of sodium hydrosulfide. Tr. IV 192, 273–74. The customer committed "to take a portion of the total material [Chem-Solv] had in stock" by a certain date. Tr. IV 192–93, 273–74. Mr. Austin testified that at the time in question, sodium hydrosulfide was "not an expensive product" and sold for approximately $0.15 per pound, or $75.00 per drum. Tr. IV 275–76. On October 6, 2008, Chem-Solv shipped two drums containing 447 pounds of sodium hydrosulfide on a Chem-Solv truck to the customer for $0.00, and "No Charge." RX 15 at 195–96; Tr. IV 192–95, 273–77, 285.

At hearing, Mr. Perkins testified that the dented drum of sodium hydrosulfide observed on May 23, 2007, may have been compressed due to extreme temperature fluctuations in the warehouse. Tr. V 44–45. Mr. Perkins explained that a rise or fall in temperature might cause gas in a drum to expand or contract, causing an airtight drum to flex.[99] Tr. V 44–45. Mr. Perkins also testified that if a drum of sodium hydrosulfide was compromised, this would not affect his determination of whether the sodium hydrosulfide was waste because damage to the container would not necessarily impact the quality of the product. Tr. III 182–83.

Dr. Lowry testified that the value of sodium hydrosulfide comes from the sulfide within the product. Tr. V 36. Further, he opined that sodium hydrosulfide has a "[c]omparatively short" shelf life because it is "readily oxidized," which reduces the concentration of sulfide in the product over time. Tr. V 35–36. Dr. Lowry explained that sodium hydrosulfide will also absorb carbon dioxide resulting in the precipitation of sodium carbonate in the solution. Tr. V 36–37. Dr. Lowry testified that, based on his own work and published works, a 45% sodium hydrosulfide solution in contact with air will degrade into approximately a 22% sodium hydrosulfide solution in 411 days. Tr. V 37. The actual speed of the reactions would depend on the amount of sodium hydrosulfide in contact with air, and the amount of oxygen and carbon dioxide present. Tr. V 38–41. In a sealed container the reactions would cease when all available oxygen and carbon dioxide in the container had been consumed. Tr. V 38–41. However, if the oxygen and carbon dioxide in the container were replenished either through a hole or through repeated unsealing, the reactions would not stop until, presumably, the sodium hydrosulfide was

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separate and distinct, and whether they were or were not distinct is not relevant to the ultimate question. There is no dispute that two drums of sodium hydrosulfide were committed to a customer in January or February 2008, and one drum of sodium hydrosulfide was disposed of as hazardous waste on February 20, 2008. CX 23 at 1078, 1089, 1096–98; RX 15 at 195–96; Tr. IV 192–94, 241, 271–75, 285–87. Complainant alleges the dented drum of sodium hydrosulfide was the drum disposed of as hazardous waste, and there is no question that the dented drum was distinct.

[99] Notably, Mr. Perkins did not quantify the temperatures required to achieve this effect or testify that that such fluctuations would not cause a drum to crack. Further, the record does not contain evidence of the 1111 Industry Avenue warehouse's temperature.

completely degraded. Tr. V 40–41.

2. Complainant's Argument Concerning Sodium Hydrosulfide

Complainant contends "that the leaking, dented and buckling 55-gallon drum of sodium hydrosulfide observed by the VADEQ Inspectors inside the 1111 Industry Avenue Warehouse at the Chem-Solv Facility on May 23, 2007" was a solid waste and "a D002/D003 corrosive and reactive hazardous waste." C's Br. at 117–18. Complainant first argues the credible evidence does not support Respondents' claim that the sodium hydrosulfide was a "usable product" on May 23, 2007. *Id.* at 118. Complainant notes that at hearing Mr. Austin agreed that the sodium hydrosulfide in question was "virgin material or not used material," and testified that "to the best of [his] recollection, [Chem-Solv] had three partial drums [of sodium hydrosulfide] all heels from a bulk drum off." *Id.* at 118–19 (quoting Tr. IV 192, 275); Tr. IV 192. Complainant argues that Mr. Austin's testimony lacks foundation and is contradicted by other evidence indicating two of the three partial drums of sodium hydrosulfide had been returned by customers and the material in one was hardening. C's Br. at 118–20 (citing CX 19 at 381, 389). Complainant also notes that though Mr. Perkins testified Chem-Solv's "inventory records show[ed] there were a number of partial drums of sodium hydrosulfide," those inventory records were never provided by Respondents or entered into evidence. *Id.* at 120 (quoting Tr. III 181). Complainant states the record only contains an "October 6, 2008 invoice and a September 30, 2008 Bill of Lading for the two drums of sodium hydrosulfide that are not the subject of the EPA allegations," and "a hazardous waste manifest confirming that the sodium hydrosulfide material in the drum at issue was disposed of, by the Respondents, as a D002/D003 corrosive and reactive hazardous waste, on February 20, 2008." *Id.* at 120–21 (citing RX 14 at 194; RX 15 at 195–96; Tr. IV 285).

Complainant next argues that the contents of the 55-gallon dented drum observed to be leaking on May 23, 2007, were not sold to a customer. *Id.* at 121. Complainant notes that Mr. Austin, in his February 6, 2008 certified response to an information request, specifically identifies that drum of sodium hydrosulfide as the drum Chem-Solv disposed of on February 20, 2008. *Id.* at 121–22 (citing CX 23 at 1078, 1096–1102).

Third, Complainant argues that Respondents have the burden of proving the sodium hydrosulfide was not a solid waste, and that they have failed to provide documentation in evidence to meet that burden. *Id.* at 122–24 (citing 40 C.F.R. § 261.2(f); 48 Fed. Reg. 14,472, 14,492 (Apr. 4, 1983)). Specifically, Complainant cites 40 C.F.R. § 261.2(f), which states that respondents claiming a material is not a solid waste "must demonstrate that there is a known market or disposition for the material," and "must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste." 40 C.F.R § 261.2(f); C's Br. at 122–24. Complainant contends that Respondents have not shown there was a "known market or disposition" for the sodium hydrosulfide at the facility in May 23, 2007, or that the sodium hydrosulfide was used as an ingredient in a production process. C's Br. at 124, 126 (quoting 40 C.F.R. § 261.2(f)). Complainant notes that Mr. Austin testified Chem-Solv first contacted a customer about potentially purchasing the sodium hydrosulfide at issue "in January or February of 2008[]—some eight (8) or nine (9) months after the inspection," and "that two partial containers of sodium hydrosulfide were given away to that supposed customer . . . some sixteen

(16) months after the inspection." *Id.* at 125 (citing Tr. IV 273–75; RX 15 at 195–96) (emphasis and footnotes omitted). Complainant argues "[s]uch evidence falls woefully short of establishing a 'known market'" for the sodium hydrogen sulfide at the facility. *Id.* at 125–26. Complainant further argues that Mr. Austin's testimony that the customer "used sodium hydrosulfide in a batching process" was "vague" and "unsubstantiated," that the Invoice and Bill of Lading for the sodium hydrosulfide "are silent as to the purported or intended use of this material, if any." *Id.* at 126 (citing Tr. IV 192; RX 15 at 195–96). Complainant argues Respondents have therefore failed to meet their burden under 40 C.F.R. § 261.2(f) of proving the sodium hydrosulfide was not a waste. *Id.* at 126–27.

Complainant also criticizes Respondents for having "introduced no [f]acility inventory records identifying any sodium hydrosulfide product as being purchased by the [f]acility, or as otherwise being identified and listed in the [f]acility's product inventory, in May of 2007 or at any time immediately before or after." *Id.* at 128. Complainant notes Mr. Austin testified he "'provided Mr. Perkins with a purchase history of . . . every product [Chem-Solv] purchased'" during the relevant time period, but that "Respondents neglected to . . . introduce any such purchase history into the evidence at the Hearing." *Id.* at 129 (quoting Tr. IV 178). Complainant argues that if the partial drums of sodium hydrogen sulfide observed at the facility were in fact remainders from a bulk drum-off, "one would anticipate and expect that Chem-Solv originally purchased a significant amount of the material and that such a purchase would necessarily appear and be identifiable in the [f]acility's purchase records." *Id.* at 129. "As a result," Complainant argues, "Respondents have failed to establish that any sodium hydrosulfide product was actually in Chem-Solv's 'product inventory' in May of 2007 or thereafter." *Id.* at 129.

Complainant next argues that the record does not "support Respondents' contention, as made by Mr. Perkins in his Expert Witness Report . . . , that the partially-filled container of hardening sodium hydrosulfide material observed . . . on May 18, 2007[] ever was tested by Chem-Solv [f]acility personnel, determined to be 'good' and/or was placed back into product inventory," or "that the contents of the leaking, dented and buckling drum . . . was ever 'determined to be a usable product' or that it was ever" combined with other sodium hydrosulfide. *Id.* at 130–31 (quoting RX 30 at 311) (footnotes omitted). Complainant contends that Mr. Perkins's assertions are undercut by statements made by Mr. Austin in the response to the February 6, 2008 IRL. *Id.* at 131 (citing CX 23 at 1078, 1127; Tr. IV 272–73).

Finally, Complainant argues that the contents of the 55-gallon drum of sodium hydrosulfide observed on May 23, 2007, were "neither stored as a useable and valuable product nor managed in a commodity-like manner at that time or at any subsequent time," and that this indicates the sodium hydrosulfide was an abandoned material. *Id.* at 132–46. Complainant challenges Respondents' claim that the drum was not leaking as being contrary to "the VADEQ Inspectors' contemporaneously recorded visual and olfactory observations, their clear and distinct photographic evidence and Ms. Lohman's supporting testimony." *Id.* at 134. Complainant also notes that on May 23, 2007, Chem-Solv representatives appeared unconcerned that sodium hydrosulfide had been released from a drum in the 1111 Industry Avenue warehouse, and that Chem-Solv employees spilled sodium hydrosulfide when handling that drum. *Id.* at 133–35 (citing Tr. I 131–33; Tr. IV 44–45; CX 19 at 387, 581, 593–94, 596–605). Complainant recounts Dr. Lowry's testimony concerning sodium hydrosulfide's tendency to

degrade in contact with air, and argues that Respondents' decision to keep sodium hydrosulfide in a compromised container where it would "remain in contact with air, to further oxidize, lose efficacy and lose value" until it was disposed of indicates the sodium hydrosulfide had been abandoned as of May 23, 2007. *Id.* at 135–39 (citing Tr. V 35–38).

3. Respondents' Argument Concerning Sodium Hydrosulfide

Respondents contend the 55-gallon drum of sodium hydrosulfide observed on May 23, 2007, was not a solid waste. Rs' Br. at 43–44. Respondents claim that on May 23, 2007, the observed sodium hydrosulfide "was one of several partial drums of sodium hydrosulfide product that were in Chem-Solv's inventory," and that the observed sodium hydrosulfide "was a usable product." *Id.* at 44 (citing Tr. III 180–82; Tr. IV 192–93). Respondents argue it was a usable product because Chem-Solv was able to sell some of the sodium hydrosulfide product in inventory to a customer in fall of 2008, and contend it "makes no difference that the ultimate Bill of Lading suggests that there was no charge to" the customer, because it "was a long-time customer, presumably with a credit arrangement with Chem-Solv." *Id.* at 44, 46 (citing Tr. IV 192–95, 274).

Respondents further argue that Chem-Solv only disposed of the remaining sodium hydrosulfide in February 2008 due to "its perception that the EPA had specific concerns about such material, despite the fact that it was a marketable product at that time." *Id.* at 44 (citing Tr. IV 192–95). Respondents contend there is no clear evidence that the sodium hydrosulfide observed to be leaking on May 23, 2007, was the drum disposed of as hazardous waste on February 20, 2008. *Id.* at 44–45 (citing Tr. IV 194–95, 273, 275; RX 2 at 3; RX 15 at 196; CX 23 at 1097–98). Respondents also contend that even "if it is believed that the drum in question[] was leaking," this "does not prove the contents to be waste." *Id.* at 45. Respondents claim that "[e]ven though some hydrogen sulfide was shipped offsite as a hazardous waste on February 20, 2008, it was not a 'solid waste' or a 'hazardous waste' on May 23, 2007." *Id.* at 46.

4. Analysis & Conclusion that a 55-Gallon Drum of Sodium Hydrosulfide was Hazardous Waste

Upon consideration, Respondents' arguments with regard to the sodium hydrosulfide are not persuasive. It is therefore found to be more likely than not that the sodium hydrosulfide contained in the dented 55-gallon drum was an abandoned material and hazardous waste on May 23, 2007, and that Respondents unlawfully stored that hazardous waste at their facility without a permit from May 23, 2007, until February 20, 2008.

The preponderance of the evidence does not support Respondents' claim that the sodium hydrosulfide observed at the facility was a useable product retained in Chem-Solv's inventory. The definition of "inventory" is "a detailed list of assets." Black's Law Dictionary 844 (8th ed. 2004). Mr. Perkins and Mr. Austin testified there were "several" drums of sodium hydrosulfide at the facility in May 2007, based on Mr. Austin's personal knowledge, Chem-Solv's inventory records, and Chem-Solv's purchase history. Tr. III 177–78, 181–82; Tr. IV 177–79, 191–92; RX 30 at 310–11. However, when asked how long the sodium hydrosulfide in the dented drum had been stored at the facility, Mr. Austin indicated that this information could not be obtained. CX 23 at 1078. Mr. Perkins was likewise unable to state when Chem-Solv had acquired the drums

of sodium hydrosulfide observed by VADEQ inspectors. Tr. IV 129.

Further, Respondents never produced a single record reflecting their purchase, retention in inventory, or sale of sodium hydrosulfide, other than the invoice and bill of lading showing that on October 6, 2008, Chem-Solv gave 447 pounds of sodium hydrosulfide to a customer for no charge. RX 15 at 195–96. The absent purchase and sale records were presumably available, because Respondents allegedly provided them to Mr. Perkins. Tr. III 177–78; Tr. IV 178–79. The lack of such records and knowledge severely undermines Respondents' claim that the sodium hydrosulfide was in fact usable or in inventory. Dr. Lowry testified that sodium hydrosulfide has a relatively short shelf-life of "roughly a year." Tr. V 35–37. Thus, if Respondents actually kept the sodium hydrosulfide in inventory as a valuable product for sale, tracking the product's age would be important.

The observed drums of sodium hydrosulfide were also not being handled as if they were valuable material in inventory. Ms. Lohman reported that Chem-Solv representatives indicated the undamaged drums of sodium hydrosulfide had been returned by customers, and that the sodium hydrosulfide in one drum was beginning to harden and needed to be tested before it could "be put *back into product inventory*." CX 19 at 381, 388–89. Respondents' expert, Mr. Perkins, corroborated Ms. Lohman's account in his expert report where he wrote that the testing "was in fact performed and the material was found to be usable product." RX 30 at 311. Against this evidence, Mr. Austin's claim that the sodium hydrosulfide observed at the facility was "new material" left over from "a bulk drum off" is not credible. Tr. IV 169–70, 192. Such testing would be unnecessary if the products were actual virgin material, and the fact that the sodium hydrosulfide in one drum was beginning to harden shows the material was old and had lost value. Rather, as noted by Complainant, the described treatment was similar to the process Mr. Austin described as applying to material returned to the facility by unsatisfied Chem-Solv customers. C's Br. at 101 n.32; Tr. IV 167–68, 170–71. The fact that Mr. Austin's testimony about the origin of the sodium hydrosulfide is inconsistent with Mr. Perkins's report on the topic undermines the credibility of both men.

With regard to the dented drum of sodium hydrosulfide, the condition and handling of the drum alone indicates it was not a valuable product in inventory. To begin, the preponderance of the evidence shows that the drum was damaged and leaking in the 1111 Industry Avenue warehouse. The drum of sodium hydrosulfide came to the inspectors' attention when they detected an "obnoxious," "sulfur" odor consistent with sodium hydrosulfide emanating from the dented drum. Tr. I 128–29; CX 19 at 387. Ms. Lohman's testimony that the drum was leaking is amply supported by contemporaneous photographic evidence showing the drum was significantly dented inward on one side, had numerous scrapes, was sharply indented on another side, and had a yellow-white crystalized substance collected at its bottom. Tr. I 128–33; CX 19 at 593–98. The drum had a torn label marked "corrosive," and a Chem-Solv label identifying the contents as sodium hydrosulfide 45%. CX 19 at 595. The drum underneath the dented drum had free liquid on top. CX 19 at 595–601. In light of the photographic evidence and Ms. Lohman's testimony, and after observing his demeanor at hearing, Mr. Austin's testimony that this drum was not leaking is not credible. *See* Tr. IV 191–92, 271–73; CX 23 at 1078; *see also supra* Part IV.A.iii.3 (discussion concerning credibility of Respondents' witnesses in relation to the Pit). Similarly, Mr. Perkins's testimony that the drum might have buckled due to temperature

fluctuations does not account for the released material or explain why other polyethylene drums in the warehouse were not similarly affected. *See* Tr. V 44–45.

Ms. Lohman testified that after locating the dented, leaking drum, "no one [at the facility] seemed concerned about the condition that the drum was in or the fact that material had been released." Tr. I 134. Ms. Lohman also opined that the drum was not being managed in a "commodity-like manner," in part because she believed the drum could not be transported for sale in its damaged state. TR 1 at 134. Though the transportation regulations are beyond the scope of this action, Ms. Lohman's opinion is supported by the testimony of Dr. Lowry. Dr. Lowry testified that the efficacy of sodium hydrosulfide as a product decreases when it comes in contact with air, and the "more contact with air, the faster the reaction." Tr. V 36–37. Sodium hydrosulfide in a partially filled drum, or a drum with a leak, will deteriorate and lose its value as a product more quickly than sodium hydrosulfide in a full or sealed drum. TR V at 36–40. The damaged condition of the drum and Respondents' evident lack of concern indicate that that the sodium hydrosulfide within was not being maintained as a valuable, usable, salable product in inventory. Rather, the evidence supports a finding that on May 23, 2007, the sodium hydrosulfide in the leaking, dented drum was an abandoned material being accumulated in lieu of proper disposal. *See Bil-Dry Corp.*, 9 E.A.D. 575, 601–04 (EAB 2001) (condition and handling of drums are relevant factors when determining if the drums' contents are waste).

This finding is not altered by the alleged sale of two partial drums of sodium hydrosulfide to a customer. The legal definition of a "sale" is "the transfer of property or title *for a price*." Black's Law Dictionary 1337 (9th ed. 2009) (emphasis added). Product maintained in inventory is sold for a price, generally such that a profit is made. Mr. Austin estimated at hearing that in 2008 sodium hydrosulfide sold for approximately $0.15 per pound. Tr. IV 275–76. However, the invoice and bill of lading for the so-called sale show that Chem-Solv transferred title to 447 pounds of sodium hydrosulfide to its customer for $0.00, and "No Charge." RX 15 at 195–96; Tr. IV 276–77. In fact, the documents show that Chem-Solv incurred a cost to itself when relinquishing title because Chem-Solv bore the cost of shipping the sodium hydrosulfide to the customer in Greenville, South Carolina. RX 15 at 195–96; Tr. IV 277. Mr. Austin's testimony that Chem-Solv received some payment for the sale, and Respondents' speculation that Chem-Solv may have had a credit-arrangement with the customer, are neither credible nor persuasive. *See* Tr. IV 285; Rs' Br. at 44, 46 (citing Tr. IV 192–95). Significantly, the transaction occurred only after Chem-Solv affirmatively reached out to this customer in an effort to rid itself of the sodium hydrosulfide at the facility. Tr. IV 192–94. When the customer refused to take all of the sodium hydrosulfide, Mr. Austin affirmed that he disposed of the remaining sodium hydrosulfide because he "did not know when [he] might be able to sell" it. Tr. IV 194. As such, the transfer of sodium hydrosulfide to the customer was in essence one of disposal, not sale.

Finally, contrary to Respondents' argument, the evidence does show that the sodium hydrosulfide in the leaking, dented drum observed on May 23, 2007, was the same sodium hydrosulfide disposed of on February 20, 2008. In the February 4, 2008 IRL, Mr. Austin was specifically asked to submit disposal records for the "leaking drum of sodium hydrosulfide that was stored above an open drum labeled 'caustic soda.'" CX 23 at 1078. Mr. Austin responded by submitting a "[s]odium [h]ydrosulfide disposal record . . . in attachment 11b," which was a copy of Uniform Hazardous Waste Manifest 004172819JJK. CX 23 at 1078, 1096–98. This

establishes that the sodium hydrosulfide in the leaking, dented drum observed on May 23, 2007, was the same sodium hydrosulfide disposed of as hazardous waste on February 20, 2008. Mr. Austin's attempt at hearing to qualify his response to the information request and deny that Uniform Hazardous Waste Manifest 004172819JJK was the disposal record for the leaking, dented drum of sodium hydrosulfide, was unpersuasive. Tr. IV 271–73. CX 23 at 1096–98.

In sum, the preponderance of credible evidence establishes that the sodium hydrosulfide in the dented, damaged, leaking 55-gallon drum observed by the inspectors in the 1111 Industry Avenue Warehouse on May 23, 2007, was an abandoned material being accumulated and stored before or in lieu of disposal. The sodium hydrosulfide was therefore a "discarded material" within the definition of 40 C.F.R. § 261.2(a)(2)(i). Because the sodium hydrosulfide was a "discarded material," was not excluded from the definition of solid waste by 40 C.F.R. § 261.4(a), and was not subject to any variance or exclusion identified in 40 C.F.R. § 261.2(a)(1), on May 23, 2007, it was a solid waste within the meaning of 42 U.S.C. § 6903(27), 40 C.F.R. § 261.2(a)(1), and 9 Va. Admin. Code § 20-60-261. By Respondents' own determination, the sodium hydrosulfide exhibited the characteristics of corrosivity (EPA Hazardous Waste No. D002) and reactivity (EPA Hazardous Waste No. D003), and was therefore a hazardous waste. 40 C.F.R. §§ 261.20, 261.22, 261.23; CX 23 at 1097–98. Respondents stored this hazardous waste at the facility from May 23, 2007, until February 20, 2008, for a total of 274 days.

g. Accumulation or Small-Quantity Generator Exemptions

Exemptions to the permitting rule allow generators of hazardous waste to accumulate their waste for 90, 180, or 270 days without a permit, depending on the quantity of waste being generated. 40 C.F.R. § 262.34. A generator must comply with strict record-keeping, monitoring, structural, and other requirements to qualify. 40 C.F.R. § 262.34. Respondents do not affirmatively argue that they were exempt from the permitting rule as a small-quantity generator of hazardous waste, but do claim Complainant's assertion that they "failed to qualify for the 'less than 180 day' generator accumulation exemption set forth in 40 C.F.R. § 262.34(d)" is "incorrect." Rs' Br. at 10.

Complainant argues that Respondents could not qualify for an exemption because the containers of hazardous waste at the facility were not labeled "Hazardous Waste," and were not "marked with the date on which accumulation began." C's Br. at 146–48, 150. Complainant also argues that Respondents could not be exempt as a small-quantity generator because on February 20, 2008, Respondents had accumulated at the facility 17,500 pounds of hazardous waste in the form of Pit sludge and a 55-gallon drum of hazardous waste in the form of waste sodium hydrosulfide. *Id.* at 146–50, 148 n.93.

Generally, "a 'party that claims the benefits of an exception to the prohibition of a statute carries the burden of proving that it falls within the exception.'" *Rybond, Inc.*, 6 E.A.D. 614, 637 n.33 (EAB 1996) (quoting *Standard Scrap Metal Co.*, 3 E.A.D. 267, 272 n.9 (CJO 1990)). This principle applies to small-generator exemption, and "a party seeking to invoke" that exemption "bears the burden of persuasion and production." *John A. Capozzi*, 11 E.A.D. 10, 19 n.16 (EAB 2003) (citing *Rybond, Inc.*, 6 E.A.D. at 637 n.33). As Respondents have not pursued this issue in

their briefs or otherwise attempted to show they met the myriad requirements of 40 C.F.R. § 262.34(d), Respondents have not met their burden of proving they fell within the small-generator exemption. It is noted, however, that the evidence shows Respondents did accumulate in excess of 6,000 kilograms of hazardous waste at the facility on February 20, 2008, making Respondents ineligible for the exemption pursuant to § 262.34(f). It is further noted that the photographic evidence shows neither the Pit tank nor the leaking, dented drum of sodium hydrosulfide were labeled with the words "Hazardous Waste" or marked with "[t]he date upon which each period of accumulation" began, and Respondents therefore did not comply with 40 C.F.R. § 262.34(a).

h. Ultimate Findings of Fact & Conclusions of Law in Regard to Count I

Count I alleges that Respondents owned and operated a hazardous waste storage facility without the requisite permit or interim status in violation of 9 Va. Admin. Code § 20-60-270(A), which incorporates by reference 40 C.F.R. Part 270, and Section 3005(a) 42 U.S.C. § 6925(a). Specifically, Count I asserts that, without a permit or interim status, from at least May 23, 2007 until February 1, 2008, Respondents stored at their Facility hazardous waste consisting of: (a) a 55-gallon drum of waste sodium hydrosulfide; (b) Pit sludge; and (c) Pit water. Compl. ¶¶ 21, 26–37.

Respondents are "persons" within the meaning of RCRA Section 1004(15), 42 U.S.C. § 6928. First Jt. Stip. ¶ 8; *supra* at Part IV.A.ii.b. Respondent Chem-Solv operated a facility located at 1111 and 1140 Industry Avenue, S.E., between May 15, 2007, and February 20, 2008. First Jt. Stip. ¶ 9; Ans. ¶ 4; *supra* at Part III.A. Respondent Chem-Solv and Respondent Austin Holdings were each owners of the facility between May 15, 2007, and February 20, 2008. First Jt. Stip. ¶¶ 10–13; *supra* at Part III.A. Respondents stored at the facility hazardous waste identified in 40 C.F.R. Part 261 in the form of Pit water from May 23, 2007, until June 1, 2007, for total of 9 days inclusive of the date the Pit water left the facility. *Supra* at Parts IV.A.iii.a.4, IV.A.iii.c.4, IV.A.iii.e. Respondents stored at the facility hazardous waste identified in 40 C.F.R. Part 261 in the form of Pit sludge and waste sodium hydrosulfide from May 23, 2007, until February 20, 2008, for a total of 274 days inclusive of the date the Pit sludge and sodium hydrosulfide left the facility. *Supra* at Parts IV.A.iii.c.4, IV.A.iii.e, IV.A.iii.f.4. The facility was therefore a "facility" as defined by 40 C.F.R. § 260.10. Respondents did not have a permit or interim status allowing them to store hazardous waste at the facility pursuant to 9 Va. Admin. Code § 20-60-270(A), 40 C.F.R. Part 270, and RCRA Section 3005(a) and (e), 42 U.S.C. § 6925(a) and (e), between May 15, 2007, and February 20, 2008. Ans. ¶ 35; Compl. ¶ 34; *supra* at Part IV.A.ii.b. Respondents have not established that they were exempt from the requirement that any person treating, storing, or disposing of hazardous waste have a permit to do so, or that the Pit water, Pit sludge, or sodium hydrosulfide were exempt from regulation as hazardous waste. *Supra* at IV.A.iii.d.4, IV.A.iii.g.

For the foregoing reasons, Respondents did store hazardous waste without a permit or interim status from May 23, 2007, until February 20, 2008, in violation of 9 Va. Admin. Code § 20-60-270(A), which incorporates by reference 40 C.F.R. Part 270 with exceptions not here relevant, and RCRA Sections 3005 and 3008, 42 U.S.C. §§ 6925 and 6928, and are liable as alleged in Count I of the Complaint.

B. Count II—Failure to Make Hazardous Waste Determinations

i. Legal Background Relevant to Count II

Count II alleges that Respondent Chem-Solv failed to make hazardous waste determinations required of a generator of solid waste, in violation of 9 Va. Admin. Code § 20-60-262(A), which incorporates by reference 40 C.F.R. § 262.11. Specifically, EPA asserts that from May 23, 2007, until February 1, 2008, Respondents failed to perform a hazardous waste determinations on the Pit water, Pit sludge, and discarded aerosol paint cans generated, treated, stored, or disposed of at the facility. Compl. ¶¶ 38–46.

A "person who generates a solid waste . . . must determine if" it is hazardous waste through a multi-step process delineated by law. 40 C.F.R. § 262.11. The term "generator" is defined by regulation to mean "any person, by site, whose act or process produces hazardous waste . . . or whose act first causes a hazardous waste to become subject to regulation." 40 C.F.R. § 260.10. Though neither the statute nor the regulations specifically define "generator" in relation to nonhazardous solid waste, when read in context the word "generator" in 40 C.F.R. § 262.11 is understood to mean any person whose act or process produces solid waste. *See FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 133 (2000) ("It is a 'fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme.'"); 1A Norman J. Singer, Sutherland Statutory Construction § 31:6 (2002) (canons of statutory construction apply equally to administrative regulations).

A generator of a solid waste must "first determine if the waste is excluded from regulation under" 40 C.F.R. § 261.4, and "then determine if the waste is listed as a hazardous waste in" Part 261, Subpart D. 40 C.F.R. § 262.11(a)–(b). If the solid "waste is not listed in [S]ubpart D, . . . the generator must then determine whether the waste" exhibits one or more of the hazardous characteristics identified in Part 261, Subpart C. 40 C.F.R. § 262.11(c). The generator may make this determination through testing or reliance on generator knowledge, i.e. "knowledge of the hazard characteristic of the waste in light of the materials or the processes used." 40 C.F.R. § 262.11(c)(1)–(2). Where the solid waste is a discarded aerosol can, a hazardous waste determination must be made for both the contents of the aerosol can and the aerosol can itself. Letter from Jeffrey D. Denit, Acting Director, Office of Solid Waste, to Gregory L. Crawford, Vice President, Steel Recycling Institute, RO 11782 (Oct. 7, 1993) [*hereinafter* RO 11782]; RCRA/Superfund Hotline Monthly Summary, Sept. 87, Waste Identification, RO 13027 [*hereinafter* Sept. 1987 Hotline Summary].[100]

The hazardous waste determination is "the crucial, first step in the regulatory system." Part 260—Hazardous Waste Management Overview and Definitions, 45 Fed. Reg. 12,724, 12,727 (Feb. 26, 1980). A generator "must undertake this responsibility seriously," and has a

[100] Neither RO 11782 nor the Sept. 1987 Hotline Summary were placed into the record. However, both were cited by Complainant in its Initial Post-Hearing Brief, giving Respondents the opportunity to address their content in Respondents' post-hearing materials.

"continuing responsibility to know whether [its] wastes are hazardous." *Id.* Though the law does not require that waste be tested as part of the determination, there is no provision excusing "good faith" or "inadvertent mistakes in the determination of whether a waste is hazardous." *Id.* Conducting an erroneous hazardous waste determination is as much a violation as failing to conduct a hazardous waste determination at all. *See Morrison Bros. Co.*, EPA Docket No. VII-98-H-0012, 2000 EPA ALJ LEXIS 68, at **13–14 (ALJ, Aug. 31, 2000) (citing 45 Fed. Reg. at 12,727) (erroneous hazardous waste determination would not satisfy regulatory requirement).

Whether a generator engages in testing or relies on generator knowledge to make a hazardous waste determination, the generator "must keep records of any test results, waste analyses, or other determinations made in accordance with § 262.11 for at least three years from the date that the waste was last sent to on-site or off-site treatments, storage, or disposal." 40 C.F.R. § 262.40(c). This retention period is "extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator." 40 C.F.R. § 262.40(d).

ii. Summary of Facts Relevant to Aerosol Canisters at the Facility

On May 15, 2007, EPA and VADEQ inspectors observed several aerosol cans of spray paint being used around the facility. Tr. III 5, 77–78; CX 17 at 320; CX 18 at 352; CX 19 at 426–28. On May 18, 2007, and May 23, 2007, inspectors observed similar aerosol cans comingled with solid waste in trash containers. Tr. I 119–20, 177–78; CX 19 at 529–30, 620. Specifically, inspectors photographed one or two aerosol cans of spray paint in a trash container,[101] and an aerosol can of what appears to be the product WD-40 perched atop a trash container. CX 19 at 529–30, 620. Ms. Lohman testified that she did not know if the aerosol cans were empty, or if anyone at the facility had performed a hazardous waste determination with regard to the aerosol cans. Tr. I 120. During the May 18, 2007 inspection, Mr. Lester informed Ms. Lohman that Chem-Solv did not have "any written procedures or on-the-job training to instruct employees . . . how to determine when containers would be considered" empty as the term is defined under RCRA. Tr. I 118–19; CX 19 at 383. Mr. Lester's statement was not made in specific reference to the aerosol cans. *See* Tr. I 118–19; CX 19 at 383.

In the February 4, 2008 IRL, the Region asked Mr. Austin[102] to explain how used aerosol cans were managed. CX 22 at 1067. Mr. Austin responded by stating that "Aerosolv Model

[101] It is not clear from the evidence whether one can of spray paint was photographed on two different dates, or whether a different can was photographed each day. CX 19 at 529–30, 620.

[102] Complainant also makes several arguments based on statements contained in Mr. Austin's First Affidavit, identified in the record as Respondents' Exhibit 2. C's Br. at 160. Respondents' Exhibit 2 was not offered or admitted into evidence at the hearing, and is therefore not part of the evidentiary record in this case. Complainant's arguments concerning Mr. Austin's First Affidavit are therefore disregarded.

5000 Aerosol Can Recycling Solution [was] utilized to process all aerosol cans." [103] CX 23 at 1078–79. When asked how used aerosol cans were disposed of, Mr. Austin wrote that "[e]mpty aerosol cans [were] discarded in regular trash disposal after processing with Aerosolv 5000." CX 23 at 1079. When asked to "[s]ubmit any and all waste determinations for any and all aerosol cans used at the Facility," Mr. Austin wrote "N/A." *Id.*

During the hearing, Mr. Austin testified that Chem-Solv used "black and white spray paint to touch up the paint on reconditioned drums" being sent to customers. Tr. IV 249–50. Mr. Austin stated that the aerosol cans were generally purchased by the case from a major retailer and were not inventoried, but that aerosol cans of spray paint were kept by the plant operations manager in an attempt to control the quantity of paint used. Tr. IV 249–51. Mr. Austin testified that "at the time of the alleged violations," Chem-Solv did not "have any written protocol on aerosol can management[.]" Tr. IV 249. However, Mr. Austin further testified that the expectation that aerosol cans be "controlled and managed to maximize the usage of [the] aerosol cans and spray paint" were clearly communicated to Chem-Solv's employees. Tr. IV 250–51. Mr. Perkins testified that Chem-Solv "had a policy in place to not throw out the non-empty aerosol cans and to only throw out the empty aerosol cans which they deemed to be non-hazardous," but did not indicate where he obtained that information or how a hazard determination would be made. Tr. IV 60–61.

iii. Parties' Arguments Related to Count II

a. Complainant

Complainant claims "Respondents have never produced a record or any other evidence [of] a waste determination regarding the Pit water," despite repeated requests for those records. C's Br. at 153 (citing Tr. I 26–27, 56–58, 65–66, 73–76; CX 39 at 1482; CX 40 at 1509). Complainant also argues "a single analysis" of the Pit water "would be insufficient to constitute a valid waste determination" for what was allegedly a highly-variable waste stream. *Id.* at 152–53.

Addressing the Pit sludge, Complainant argues the material characterization of sampled solids Chem-Solv performed in May 2006 lacks "indicia of reliability," may not have contained Pit sludge, and was "not a valid waste determination" or "a valid component of a waste determination." C's Br. at 154 (citing CX 21 at 659–60, 1015–21). Complainant further argues that Mr. Austin's testimony on this issue was not based on his personal knowledge and was unreliable. *Id.* at 154–55. Complainant claims there is "no credible evidence that any actual person performed . . . a waste determination" on the Pit sludge. *Id.* at 155.

With regard to the aerosol cans,[104] Complainant argues that Respondents have not

[103] The record does not contain a description of the "Aerosolv Model 5000 Aerosol Can Recycling Solution" or an explanation of how it functions.

[104] Though Mr. Cox described the aerosol cans as a "minor waste stream[]," Complainant devotes an exhaustive fifty-four pages of its Initial Post-Hearing Brief to the topic. C's Br. at 155–209. Complainant makes several arguments that appear to focus on whether the aerosol

established the aerosol cans observed in the trash were empty as defined by 40 C.F.R. § 261.7(b), did not contain acute hazardous waste, and did not themselves exhibit a hazardous characteristic such as reactivity. *Id.* at 181–209. Complainant also contends that Respondents' "unwritten policy" that aerosol cans not be disposed of until empty "is not a substitute for a reliable and valid 'hazardous waste determination.'" *Id.* at 200–04.

b. Respondents

Respondents argue that Chem-Solv did perform a hazardous waste determination on the Pit water and Pit sludge through both materials analysis and generator knowledge.[105] Rs' Br. at 43. Respondents claim Chem-Solv "collected and analyzed" samples of Pit sludge in May 2006, and that analyses indicated the Pit sludge was not hazardous waste. *Id.* at 43. Respondents claim those results, combined with Chem-Solv's "generator knowledge," provided "no basis to expect chloroform, tetrachloroethene or trichloroethene to be in the Pit." *Id.*

With regard to aerosol cans, "Respondents admit that used aerosol cans were in storage for disposal with regular trash" on May 18, 2007, and May 23, 2007, and that those used aerosol cans were disposed of as nonhazardous waste. Ans. ¶¶ 44–45; Compl. ¶¶ 43–44. However, Respondents claim "that Chem-Solv made a waste determination concerning the aerosol cans . . . based on generator knowledge." Rs' Br. at 47. Specifically, Respondents claim "Chem-Solv personnel had been instructed to only deposit completely 'empty' aerosol cans into solid waste receptacles . . . or, if an aerosol can [was] determined to be inoperable before [it was] empty, . . . to return it for credit to the vendor from which it had been purchased." *Id.* (citing Tr. IV 249–50). Respondents imply that because Chem-Solv personnel had received those instructions, it follows that the aerosol cans observed in the trash must have been subject to a waste determination and found to be empty and nonhazardous. *See id.*

iv. Analysis of the Facts & Arguments in Regard to Count II

To establish that Respondent violated 9 Va. Admin. Code § 20-60-262(A), and by incorporation 40 C.F.R. § 262.11, as alleged in Count II, the Agency must prove that (1) each Respondent is a "person;" (2) Respondents generated the Pit water, Pit sludge, and discarded aerosol cans; (3) the Pit water, Pit sludge, and discarded aerosol cans were "solid wastes" as defined by 40 C.F.R. § 261.2; and (3) Respondents did not determine if those solid wastes were hazardous wastes using the method specified in 40 C.F.R. § 262.11.

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containers were or were not hazardous waste. Because the alleged violation concerns only whether Respondents conducted a hazardous waste determination on the aerosol containers, arguments aimed at proving the aerosol containers were hazardous waste will not be specifically addressed.

[105] Respondents also argue the Pit water and Pit sludge were not hazardous or were not subject to regulation as hazardous waste during the relevant time period pursuant to the § 261.4(c) Exemption. Rs' Br. at 42, 47–50. These arguments have already been analyzed and rejected in relation to Count I, and will not be repeated. *Supra* at Part IV.A.iii.c–d.

There is no dispute that Respondents are persons as defined by 42 U.S.C. § 6928. First Jt. Stip. ¶ 8; *supra* at Part IV.A.ii.b. Both Respondents owned the facility at 1111 and 1140 Industry Avenue, S.E., but only Respondent Chem-Solv operated that facility. First Jt. Stip. ¶¶ 9–13; *supra* at Part III.A. Through those operations, Chem-Solv's acts or processes produced the Pit water, Pit sludge, and discarded aerosol cans at issue. *Supra* at Parts III.A–B, IV.A.III.a, IV.A.III.e, IV.B.i–ii. The Pit water and Pit sludge were solid wastes. *Supra* IV.A.iii.a–b. The aerosol cans observed in trash bins on May 18, 2007, and May 23, 2007, were abandoned materials and were solid wastes as defined by 40 C.F.R. § 261.2. *See* Ans. ¶¶ 44–45 (admitting that aerosol cans were stored with trash for disposal). Respondent Chem-Solv was therefore the generator of those solid wastes, and was obligated to determine if the Pit water, Pit sludge, and aerosol cans were hazardous wastes using the method provided in 40 C.F.R. § 262.11. The evidence does not show that Respondent Austin Holdings was a generator of the Pit water, Pit sludge, or aerosol cans, or was required to determine if those materials were hazardous wastes.

Chem-Solv claims it determined the Pit water was not a hazardous waste by applying generator knowledge. It is clear that for its own purposes Chem-Solv did depict the Pit water as nonhazardous, because it disposed of thousands of gallons as "nonhazardous waste." However, while evidence shows that Chem-Solv tested and neutralized the pH of the Pit water prior to disposal, Chem-Solv was not able to produce any documentation or testimony specifically showing that it performed a hazardous waste determination as described in 40 C.F.R. § 262.11. More importantly, Chem-Solv's depiction of the Pit water as not hazardous waste was simply incorrect. The samples of Pit water collected on May 23, 2007, show the Pit water was a characteristic hazardous waste on that date. Supra at Part IV.A.iii.c. If Chem-Solv did perform "a cognizable hazardous waste determination" on the Pit water, that determination did not comply with 40 C.F.R. § 262.11. *See Morrison Bros. Co.*, EPA Docket No. VII-98-H-0012, 2000 EPA ALJ LEXIS 68, at *13 (ALJ, Aug. 31, 2000) (holding that valid waste determination must be more than a mere conclusion as to the material's character, and must be accurate).

Chem-Solv similarly claims it determined the Pit sludge was not a hazardous waste through the application of generator knowledge, and through testing performed in May 2006. In the November 16, 2007 IRL, the Region asked Chem-Solv to "[s]ubmit a waste determination for" the Pit sludge. CX 20 at 641A, 643. Mr. Austin responded by providing "Attachment 9," which he described as "the profile for this stream and the associated analysis." CX 21 at 660. He also stated that the Pit sludge "was combined with the solids removed from the solids accumulated in the drainage swale." *Id.* at 660. Attachment 9 consists of a "Material Characterization Profile" of "retention basin sediments, prepared by Mr. Lester for Shamrock in March 2007, and a May 24, 2007 analytical report from ProChem describing constituents found in a "[c]omposite of grabs" collected by Mr. Lester on May 3, 2006. *Id.* at 1016–21.

The documents in Attachment 9 indicate the sampled material did not contain hazardous concentrations of certain substances, including trichloroethylene and tetrachloroethylene. Tr. III 20–23, 100–101; Tr. IV 73–89, 235–40; CX 21 at 1016–21. However, the documents do not clearly indicate whether the sampled material was Pit sludge or a composite of Pit sludge and other material. Tr. III 20–23, 100–101; Tr. IV 73–89, 235–40; CX 21 at 1016–21. The documents also do not reflect the conscious, deliberative process required by 40 C.F.R. § 262.11. Mr. Perkins, Respondents' own expert witness, testified the documents in Attachment 9 "did not

reflect the entirety of [Chem-Solv's] process for making the determination," and were a profile of the entirety of the waste rather than the Pit sludge alone. *See* Tr. IV 74–76, 87–89.

Critically, the information reflected in Attachment 9 was also outdated and inaccurate. The Pit sludge might not have contained hazardous constituents on May 3, 2006, but on May 23, 2007, it did contain tetrachloroethylene and trichloroethylene in concentrations above the regulatory threshold. *Compare* CX 21 at 1018–20 *with* CX 15 at 259–63, CX 16 at 289, *and* CX 18 at 334–35; *supra* at Part IV.A.iii.c.4. Neither the May 2006 analysis nor Chem-Solv's generator knowledge account for the presence of tetrachloroethylene and trichloroethylene found in the Pit sludge on May 23, 2007.[106] A generator "whose wastes are sometimes hazardous and sometimes nonhazardous [has] the same obligation as any other generator to ensure that all [its] hazardous wastes are managed in accordance with" statutory and regulatory requirements. 45 Fed. Reg. at 12,727. Generators have a "continuing responsibility to know whether [their] wastes are hazardous." *Id.* As with the Pit water, if Chem-Solv did perform a cognizable hazardous waste determination on the Pit sludge, that determination was incorrect and not in keeping with the standards demanded by 40 C.F.R § 262.11.

When the Region asked Chem-Solv to submit hazardous waste determinations for aerosol cans at the facility, Mr. Austin responded "N/A." CX 23 at 1079. Mr. Austin's response leads to the conclusion that Chem-Solv had not performed hazardous waste determinations with regard to aerosol cans. Mr. Austin's statements concerning the Aerosolv 5000 were never repeated or explained, and therefore do not alter that conclusion. *Id.* at 1078–79. Respondents claim Chem-Solv had a policy against wasting aerosolized products or disposing of hazardous aerosol cans, but the evidence also shows that Mr. Lester was the only Chem-Solv "employee with training and authority in the area of hazardous waste," and that there were no "written procedures on on-the-job training to instruct employees" on how to determine if an aerosol can was empty or nonhazardous. Tr. I 118–19; Tr. IV 249; CX 19 at 383; CX 21 at 657, 993–94. In the absence of specific training or a centralized process for handling aerosol cans, it is not plausible that Chem-Solv's policy, if it existed, resulted in meaningful hazardous waste determinations being performed. Further, a policy against placing hazardous waste in the trash is not a § 262.11 hazardous waste determination. Section 262.11 requires specific consideration of a particular solid waste or waste stream. The record does not contain any evidence that a hazardous waste determination had been conducted in regard to the aerosolized spray paint used at the facility in general, or the particular aerosol cans observed by EPA and VADEQ inspectors.

v. Ultimate Findings of Fact & Conclusions of Law in Regard to Count II

For the foregoing reasons, the preponderance of credible evidence shows Respondent Chem-Solv generated solid waste in the form of Pit water, Pit sludge, and aerosol cans, and did not perform hazardous waste determinations with regard to those wastes, in violation of 9 Va. Admin. Code § 20-60-262(A) and 40 C.F.R. § 262.11. Respondent Chem-Solv is therefore

[106] Chem-Solv's inability to explain how trichloroethylene and tetrachloroethylene could have entered the Pit in 2007 recalls its inability in 1999 to explain or correct the concentration of zinc in the water discharged from the Pit to the POTW. *Supra* at Part III.B (citing Tr. IV 196–97, 208).

liable for a civil penalty pursuant to RCRA Section 3008(c), 42 U.S.C. § 6928(c), as alleged by Complainant in Count II.

Complainant has not met its burden of proving that Respondent Austin Holdings violated 9 Va. Admin. Code § 20-60-262(A) and 40 C.F.R. § 262.11, and Austin Holdings is therefore not liable for the violation alleged in Count II of the Complaint.

C. Count III—Failure to Provide Secondary Containment

Count III alleges that, from May 23, 2007, until approximately February 1, 2008, Respondents failed to have the requisite secondary containment for the Pit meeting the requirements of 40 C.F.R. § 264.193(a), (d), and (e), as incorporated by reference into 9 Va. Admin. Code § 20-60-264(A). Compl. ¶¶ 47–52. Section 264.193 requires the owner or operator of any new or existing tank system or component, or any tank system 15 years of age or older that stores hazardous waste, to equip that system with secondary containment meeting certain specifications. 40 C.F.R. §§ 264.1(b), 264.190(a), 264.193(a). A "new tank system" or "new tank component" is one for which installation commenced after July 14, 1986, while "existing" tanks and components are those for which installation commenced prior to July 14, 1986. 40 C.F.R. § 260.10. Secondary containment for tanks subject to § 264.193 must include an external liner, a vault, a double-walled tank, an equivalent device approved by the Regional Administrator, or a combination of the above. 40 C.F.R. § 264.193(d). Each form of secondary containment must meet design and performance standards set forth in § 264.193(c) and (e).

Respondents are persons who owned and operated the facility of which the Pit was part. First Jt. Stip. ¶¶ 8–13, 24–27, 32. The Pit was constructed in 1989 or 1990, and was in 2007 subject to the requirements of 40 C.F.R. § 264.193 both as a new tank system and a tank system 15 years of age or older. *Supra* at n.19 and accompanying text (citing CX 23 at 1083; First Jt. Stip. ¶ 26; Tr. I 182–83, 185–86; Tr. IV 262–63). The Pit tank "was constructed of carbon steel with a ceramic interior lining," and photographs of the Pit tank taken after it was removed from the ground show it had a single wall. First Jt. Stip. ¶ 27; Tr. III 141–43; Tr. IV 62–63; CX 23 at 1083, 1139; CX 25 at 1147, 1163. Preponderant evidence shows it did not have an integrated double-wall with corrosion protection and built-in continuous leak detection system as described by 40 C.F.R. § 264.193(e)(3). First Jt. Stip. ¶ 27; Tr. III 141–43; Tr. IV 62–63; CX 23 at 1083, 1139; CX 25 at 1147, 1163. There was no vault or external liner beneath or around the Pit tank, only dirt and sand. Tr. III 145, 151; Tr. IV 245–47; CX 23 at 1083, 1139. The Pit was used to store regulated hazardous waste from May 23, 2007, until it was emptied and dismantled in January or February 2008. Tr. IV 242–43; *supra* at Parts IV.A.iii.c.4, IV.A.iii.d.3–4. As such, preponderant evidence shows the Pit was subject to the secondary containment requirements set forth in 40 C.F.R. § 264.193 and failed to meet those requirements. Respondents are therefore liable for the violation alleged in Count III of the Complaint.

D. Count IV—Failure to Have & Maintain a Tank Assessment

Count IV alleges that from at least May 23, 2007, until February 1, 2008, Respondent Chem-Solv did not obtain and/or keep on file at its Facility the requisite written certification as to the design and installation of the Pit in accordance with 40 C.F.R. § 264.192(b)–(f) as required

by 9 Va. Admin. Code § 20-60-264(A), which incorporates by reference 40 C.F.R. § 264.192(a) and (g). Compl. ¶¶ 53–57.

Section 264.192(a) requires owners and operators of new tank systems or components to "obtain and submit . . . a written assessment, reviewed and certified by a qualified Professional Engineer . . . attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste." 40 C.F.R. § 264.192(a). The assessment must include specified information about the design, construction, and intended use of the tank system. 40 C.F.R. § 264.192(a). New tank systems must be equipped with the "corrosion protection recommended by an independent corrosion expert," and be inspected "by an independent, qualified, installation inspector or a qualified Professional Engineer" and "tested for tightness," after the tank system is installed but before it is covered, enclosed, or put into use. 40 C.F.R. § 264.192(b), (d), (f). Tanks and "components that are placed underground and that are backfilled must be provided with" a particular quality of material that is installed such that the tank, piping, and ancillary equipment are "fully and uniformly supported" and ancillary equipment is protected from damage caused by "settlement, vibration, expansion, or contraction." 40 C.F.R. § 264.192(c), (e). Finally, owners and operators must "obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system" attesting "that the tank system was properly designed and installed." 40 C.F.R. § 264.192(g).

As explained in reference to Count III, the Pit tank was not equipped with secondary containment structures and was not legally acceptable for storing hazardous waste. Respondents have also denied throughout this litigation that the Pit stored hazardous waste or that the waste in the Pit was subject to regulation as hazardous waste. These factors support an inference that the Pit tank was never assessed and certified to be "acceptable for the storing and treating of hazardous waste" by a qualified professional engineer, as required by the regulation. Mr. Perkins indicated as much at hearing when he testified that "the fact that [the design of the system] did not have a professional engineer stamp and seal" was not "a big issue" because the system had nonetheless been "designed by a professional." Tr. IV 63–65.

When the Region asked Mr. Austin to produce "any certifications on file" for the Pit and "acid transfer/container wash station," in the February 4, 2008 IRL, Mr. Austin wrote in response that "[p]lans for construction were produced and stamped approved by a professional engineer," but did not submit any such plans. CX 23 at 1084. Mr. Austin did provide a portion of what appears to be an engineering drawing of the Pit when it discharged to the POTW, but the drawing is undated and does not contain any statement or certification concerning the design, construction, or installation of the Pit. CX 23 at 1083, 1139. Mr. Austin certified that his response to the IRL was "true, accurate and complete" under penalty of law. CX 23 at 1084–85; *see* 42 U.S.C. §§ 6927(a), 6928 (giving EPA authority to request information and assess penalties for noncompliance); 18 U.S.C. § 1001 (instituting criminal penalties for false, fictitious, or fraudulent statements or representations). Mr. Austin's failure to produce any form of certification for the Pit when asked to do so further indicates Respondents did not have the written statements and attestations they were required to maintain pursuant to 40 C.F.R. § 264.192(g). Preponderant evidence therefore shows Respondents did not obtain and retain the certifications required by 40 C.F.R. § 264.192, and are liable for the violation alleged in Count

IV of the Complaint.

E. Count V—Failure to Conduct or Document Operating Inspections

Count V alleges that from at least May 23, 2007, until February 1, 2008, Respondents failed to inspect or document inspections of the Pit and surrounding area, including any secondary containment structures, in violation of 9 Va. Admin. Code § 20-60-264(A), which incorporates by reference 40 C.F.R. § 264.195. Compl. ¶¶ 58–62.

Section 264.195 requires "owners and operators of facilities that use tank systems for storing or treating hazardous waste" to "inspect at least once each operating day" any "[a]bove ground portions of the tank system" and "[t]he construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system," to detect corrosion, erosion, or releases of hazardous waste. 40 C.F.R. §§ 264.190, 264.195(c). If the tank system is equipped with a leak detection system, or the owner or operator has implemented "established workplace practices to ensure leaks are promptly identified," the inspections may be conducted weekly instead of daily. 40 C.F.R. § 264.195(d). In addition, the owner or operator must "inspect at least once each operating day data gathered from monitoring and leak detection equipment . . . to ensure that the tank system is being operated according to its design." 40 C.F.R. §§ 264.190, 264.195(b). "The owner or operator must document" all of the described inspections in the facility's operating record. 40 C.F.R. § 264.195(d), (h).

In the February 4, 2008 IRL, the Region asked Chem-Solv to "[s]ubmit any and all inspection records for the" Pit "at the acid transfer/container wash station[.]" CX 22 at 1069. Mr. Austin wrote in his response that the Pit "[t]ank was visually inspected each time the water was pumped and during both solids removals." CX 23 at 1084. Solids were removed from the Pit in May 2006, June 2007, and January or February 2008. CX 21 at 658, 660; CX 23 at 1078, 1083; Tr. IV 238–44, 280–84; *supra* at Parts III.B, III.F. Mr. Austin indicated that Pit water was "pumped from the [P]it into [the] storage tank adjacent to [the] acid pad when [the Pit was] full," before being shipped off site for disposal. CX 21 at 658. There is no record of how frequently Pit water was pumped into the AST, but disposal records indicate Pit water was disposed of not more than three times per month during the period in question. *Id.* at 652–54, 833–52.

Assuming Respondents inspected the Pit and surrounding area as Mr. Austin described, and assuming each individual inspection was performed to the standards required by 40 C.F.R. § 264.195, the evidence shows the inspections were not performed on a daily or weekly schedule. More importantly, Mr. Austin's response to the February 4, 2008 IRL, in conjunction with Respondents' failure to provide or submit any documentation memorializing the described inspections, supports a finding that Respondents did not document the inspections in the facility's operating record in violation of 40 C.F.R. § 264.195(h). That finding is further supported by the testimony of Ms. Lohman, who stated that VADEQ requested records showing Respondents were inspecting hazardous waste tanks and containers, and that Respondents never provided her with any such record. Tr. I 105–06. Preponderant evidence therefore shows Respondents did not comply with the inspection and recordkeeping requirements of 40 C.F.R. § 264.195, and are liable for the violation alleged in Count V of the Complaint.

F. Count VI—Failure to Comply with Air Emission Control Standards

Count VI alleges that Respondents failed to control air pollutant emissions from the Pit in accordance with the Tank Level 1 or 2 controls specified in 40 C.F.R. § 264.1084(c) or (d), and so violated 9 Va. Admin. Code § 20-60-264(A), which incorporates by reference 40 C.F.R. §§ 264.1082(b) and 264.1084(b). Compl. ¶¶ 63–71.

"[O]wners and operators of facilities that treat, store, or dispose of hazardous waste in tanks . . . subject to either [S]ubpart I [40 C.F.R. §§ 264.170 to 264.179], J [40 C.F.R. §§ 264.190 to 264.200], or K [40 C.F.R. §§ 264.220 to 264.232]" are required to comply with the air emission standards codified in Subpart CC, 40 C.F.R. §§ 264.1080 to 264.1091, subject to exceptions not applicable here. 40 C.F.R. §§ 264.1080, 261.1082. Tanks containing hazardous waste with "an average [Volatile Organic ("VO")] concentration at the point of waste origination of [greater] than 500 parts per million by weight (ppmw)" must be equipped with Tank Level 1 or Tank Level 2 air emissions controls, depending on the tank's design capacity. 40 C.F.R. §§ 264.1082(c)(1), 264.1084(a)–(b).

Tank Level 1 controls include requirements that (1) the owner or operator shall determine the maximum organic vapor pressure for hazardous waste managed in the tank before the first time the waste is placed in the tank; (2) the tank shall be equipped with a fixed roof designed to meet specifications as laid out in 40 C.F.R. § 264.1084(c)(2); (3) the fixed roof shall have each closure device in the closed position except during inspection, maintenance, removal of sludge or other residues, or when a pressure release device is used during normal operation to maintain safe internal pressure as specified in the subsection; and (4) the owner or operator shall inspect the air emission control equipment in accordance with the requirements laid out in 40 C.F.R. § 264.1082(c)(4). 40 C.F.R. § 264.1084(c).

Tank Level 2 controls include using one of the following tank types: (1) a fixed-roof tank equipped with an internal floating roof in accordance with requirements specified in the subsection; (2) a tank equipped with an external floating roof in accordance with requirements specified in the subsection; (3) a tank vented through a closed-vent system to a control device in accordance with requirements specified in the subsection; (4) a pressure tank designed and operated in accordance with requirements specified in the subsection; or (5) a tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with requirements specified in the subsection. 40 C.F.R. § 264.1084(d). Each of the tank types is subject to specific regulatory standards. 40 C.F.R. § 264.1084(e)–(i).

The Pit was used to store hazardous waste with an average VO concentration that was greater than 500 ppmw at its point of origin, and was subject to the air emissions controls specified in Part 264, Subpart CC. Tr. II 28–29, 105–09; CX 15 at 241–283; CX 63 at 1799; *see supra* at Parts IV.A.iii.c.3–4. The photographs, testimony, and documentation in evidence show the Pit had an open top and was not equipped with Tank Level 1 or Tank Level 2 air emissions controls. CX 17 at 313, CX 18 at 358–59; CX 19 at 408; CX 23 at 1139; CX 25 at1163–64; RX 28 at 303–04; Tr. I 181–182; Tr. III 50–53, 89–91, 129; *see supra* at Part III.A. This is supported by the testimony of Respondents' expert, Mr. Perkins, who stated at hearing that the

Pit "wouldn't come close to addressing the requirements under Subpart CC if it applied." Tr. IV 64. Preponderant evidence therefore shows Respondents did not comply with the air emissions control requirements of 40 C.F.R. §§ 264.1082(b) and 262.1084(b), and are liable for the violation alleged in Count VI of the Complaint.

G. Count VII—Failure to Comply with Tank Closure Requirements

Count VII alleges that Respondent Chem-Solv failed to have a closure plan and comply with the tank closure requirements specified in 40 C.F.R. Part 264 in regard to its closure and removal of the Pit on or about February 1, 2008, in violation of 9 Va. Admin. Code § 20-60-264(A), which incorporates by reference 40 C.F.R. § 264.197. Compl. ¶¶ 72–84.

Generally, an application for a permit to treat, store, or dispose of hazardous waste must include a written plan to close the hazardous waste management facility being permitted. 40 C.F.R. §§ 264.112(a), 264.197, 270.14(b)(13). Section 264.197 specifically requires the owner or operator of a tank system used to store hazardous waste to have prepared a closure plan and cost estimates, and established financial assurance, to the standards set by Part 264, Subparts G (40 C.F.R. §§ 264.110 to 264.120) and H (40 C.F.R. §§ 264.140 to 264.151). 40 C.F.R. § 264.197(a). If the tank system does not have secondary containment meeting the standards codified at 40 C.F.R. § 264.193(b) through (f), and has not received a variance, the closure plan must include a contingent plan to close the tank as if it were a landfill. 40 C.F.R. § 264.197(b)–(c).

When closing the tank system, the owner or operator must "remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste," subject to exceptions not here relevant. 40 C.F.R. § 264.197(a); *see* 40 C.F.R. § 260.10 (defining "tank system"). All closure activities must comply with Subparts G and H. 40 C.F.R. § 264.197(a). This requires, among other things, that the closure be accomplished "in a manner that . . . [m]inimizes the need for further maintenance; . . . [c]ontrols, minimizes or eliminates . . . post-closure escape of hazardous waste . . . to the ground or surface waters or to the atmosphere; and . . . [c]omplies with the closure requirements of" Part 264. 40 C.F.R. § 264.111.

Respondents owned or operated the Pit, which was a tank system used to store hazardous waste as defined by 40 C.F.R. § 260.10, and was subject to the regulations codified in Part 264. *Supra* at Parts IV.A.iii.c.3, IV.A.iii.d–e; *see* First Jt. Stip. ¶¶ 8–13, 24–27, 32 (ownership and operation of tank system). On January 24, 2008, Respondent Chem-Solv took a sample of "Pit Sand Sludge" and had it analyzed in preparation for closure of the Pit. CX 63 at 1797–99. On, or shortly after, January 30, 2008, Respondents learned that the "Pit Sand Sludge" contained elevated concentrations of trichloroethylene and tetrachloroethylene such that, had the Pit Sand Sludge been subjected to TCLP analysis, the concentrations would have exceeded the regulatory limit for nonhazardous waste. *Id.* at 1797–99; Tr. II 84–85, 104–07; Tr. III 99–100; Tr. IV 241 248–48. At the same time, Chem-Solv had its employees begin demolishing the wall surrounding the Pit with heavy machinery, allowing broken concrete to fall into the Pit and comingle with the hazardous waste it contained. Tr. III 140, 144; Tr. IV 243–44. Respondent Chem-Solv then attempted to use a backhoe to scoop and scrape the hazardous Pit sludge out of

the single-walled steel Pit tank, and drop the hazardous waste into open-head drums from above. Tr. IV 243–44. When the backhoe's bucket proved too large to maneuver into the Pit, Chem-Solv allegedly had its employees don safety gear and empty the Pit by hand with a five-gallon pail. *Id.* The Pit sludge was placed into drums, while sand from the Pit was placed into a dumpster. Tr. III 140, 144–45, 149–50, 157; Tr. IV 243–44. After the Pit had been emptied of its contents, Chem-Solv inspected the Pit tank and determined it did not have any holes. Tr. III 145; Tr. IV 245–46. Chem-Solv then cut four holes into the tank, attached a chain, and pulled the Pit tank from the ground. Tr. III 144. The Pit tank was then placed on its side directly on the ground in an open area of the facility, where it remained at the time of the hearing. CX 25 at 1163; Tr. III 142–43.

On March 27, 2008, EPA and VADEQ inspectors observed that the Pit had been closed and removed. CX 24 at 1142; CX 25 at 1148; *see* Tr. IV 252 (Mr. Austin's testimony concerning the March 2008 inspection). On April 1, 2008, the Region requested that Chem-Solv "[s]ubmit documentation of the removal of the tank" and any "disposal records for the tank itself," and also asked if soil samples had been collected. CX 24 at 1142. Mr. Austin responded by providing photographs of the empty Pit tank, and informed the Region that "[a] soil sample was taken with no analytical results." CX 25 at 1148, 1163–64. Ms. Lohman testified that, to her knowledge, Respondents did not provide VADEQ with a closure plan for the Pit, did not notify VADEQ that the Pit was going to be closed, and did not notify VADEQ that the Pit had been closed. Tr. I 151–53.

Respondents never applied for a permit to store hazardous waste at the facility, and therefore did not have a closure plan on record with VADEQ or the Region. Respondents do not claim that they had a closure plan, and their failure to produce any record of a closure plan, financial documentation, or other information required by 40 C.F.R. § 264.197 in response to the April 1, 2008 IRL supports a finding that no closure plan was ever prepared. *See* Rs' Br. at 13–14 (asserting without support that a closure plan was not required). Preponderant evidence therefore shows that Respondents did not comply with the closure and post-closure requirements of 40 C.F.R. § 264.197, and are liable for the violation alleged in Count VII.

H. Conclusion on Liability

For the aforementioned reasons, Complainant is found to have met its burden of proving by the preponderance of the evidence that Respondents Chem-Solv, Inc., formerly trading as Chemicals and Solvents, Inc., and Austin Holdings-VA, L.L.C., are jointly and severally liable for the violations alleged in Counts I, III, IV, V, VI, and VII. Complainant has further proven by preponderant evidence that Respondent Chem-Solv, Inc., formerly trading as Chemicals and Solvents, Inc., is solely liable for the violation alleged in Count II. Complainant has not met its burden of proving that Respondent Austin Holdings-VA, L.L.C., is liable for the violation alleged in Count II.

V. Civil Penalty

Complainant requests in its Initial Post-Hearing Brief the imposition of a civil penalty in

the total amount of $619,330.00.[107] The penalty proposed in Complainant's Initial Post-Hearing Brief differs from the penalty proposed in the Proposed Civil Penalty dated September 23, 2011, by proposing that a single penalty be assessed against Respondents jointly and severally for the violation alleged in Count I, and by using an alternative method to calculate the economic benefit Respondents obtained as a result of their violative behavior. *Compare* C's Br. at 235–48, *with* Proposed Civil Penalty (Sept. 23, 2011). The revised proposed penalty is $50,335.00 less than the penalty originally proposed on September 23, 2011. Though Complainant does not refer to its September 23, 2011 Proposed Civil Penalty in its post-hearing materials, Complainant is understood to have abandoned its original penalty proposal in favor of the penalty proposed in its Initial Post-Hearing Brief. It is Complainant's burden to prove "the relief sought is appropriate." 40 C.F.R. § 22.24(a).

A. Civil Penalty Criteria

Section 3008(a) of RCRA allows the Administrator to assess a civil penalty of up to "$25,000 per day of noncompliance for each violation of a requirement of" RCRA Subchapter III. 42 U.S.C. § 6928(a). The maximum allowable penalty has since been increased pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990, Pub. L. No. 101-410, 104 Stat. 890 (codified at 28 U.S.C. § 2461 note), as amended by the Debt Collection Improvement Act of 1996, Pub. L. No. 104-134, § 31001(s), 110 Stat. 1321, 1321-358 to 1321-380 (codified at 31 U.S.C. § 3701 note), to reflect inflation. Civil Monetary Penalty Inflation Adjustment Rule, 78 Fed. Reg. 66,643, 66,643–44 (Nov. 6, 2013). For violations occurring after March 15, 2004, through January 12, 2009, the Administrator may assess a civil penalty of up to $32,500.00 per day of violation. 40 C.F.R. § 19.4.

When assessing a civil penalty under RCRA, the statute requires the Administrator to "take into account the seriousness of the violation and any good faith efforts to comply with applicable requirements." 42 U.S.C. § 6928(a)(3). The Rules of Practice further provide that the Presiding Officer in an administrative enforcement action—

> shall determine the amount of the recommended civil penalty based on the evidence in the record and in accordance with any penalty criteria set forth in the Act. The Presiding Officer shall consider any civil penalty guidelines issued under the Act. The Presiding Officer shall explain in detail in the initial decision how the penalty to be assessed corresponds to any penalty criteria set forth in the Act. If the Presiding Officer decides to assess a penalty different in amount from the penalty proposed by complainant, the Presiding Officer shall set forth in the initial decision the specific reasons for the increase or decrease.

[107] Complainant states in its Brief that it "requests the assessment of a civil penalty in the amount of [$619,339.00] for the seven RCRA violations alleged in the Complaint and proven at the hearing." C's Br. at 235, 247–48. However, the specific penalty amounts proposed in reference to each violation add up to a total penalty amount of $619,330.00. *Id.* at 237–47. The proposed figure of $619,339.00 is therefore interpreted to be a typographical error.

40 C.F.R. § 22.27(b).

EPA issued the "RCRA Civil Penalty Policy" ("Penalty Policy") to guide the calculation of civil penalties assessed pursuant to RCRA Section 3008.[108] Though the Penalty Policy is not binding upon the Presiding Officer, it must be considered and "should be applied whenever possible because such policies 'assure that statutory factors are taken into account and are designed to assure that penalties are assessed in a fair and consistent manner.'" *Carroll Oil Co.*, 10 E.A.D. 635, 656 (EAB 2002) (quoting *M.A. Bruder & Sons, Inc.*, 10 E.A.D. 598, 613 (EAB 2002)). The Penalty Policy instructs that a civil penalty should be calculated in four steps. Penalty Policy at 1. First, a "gravity-based penalty" is determined for the particular violation using a penalty-assessment matrix.[109] *Id.* Second, a "multi-day component" is added "to account for a violation's duration," where appropriate. *Id.* Third, "the sum of the gravity-based and multi-day components" is adjusted to account for case-specific circumstances. *Id.* Finally, an amount is added to the penalty to capture "the appropriate economic benefit gained through non-compliance." *Id.*

The gravity component is "determined by examining two factors:" (1) the violation's potential for harm; and (2) the extent of deviation from the statutory or regulatory requirement. *Id.* at 12. A violation's "potential for harm" and "extent of deviation" are rated as "major," "moderate," or "minor." *Id.* at 12–19. The two factors form the axes of the "penalty assessment matrix." *Id.* at 18. The gravity component of the penalty is determined by finding the cell where the two ratings intersect in the matrix. *Id.* at 18–19. The cell provides a penalty range determined to be appropriate for the violation. *Id.* "The selection of the exact penalty amount within each cell is left to the discretion of enforcement personnel in any given case." *Id.* at 19. A violation's "potential for harm" is based on "the risk of human or environmental exposure to hazardous waste" and "the adverse effect noncompliance may have" on the RCRA regulatory program. *Id.* at 12–13. A violation's "extent of deviation" is a based on "the degree to which the violation renders inoperative the requirement violated." *Id.* at 16.

In cases where a violation continues for more than a single day, the multi-day component is determined by calculating the length of time the violation continued, identifying the appropriate penalty range in the "multi-day matrix" based on the violation's "potential for harm" and "extent of deviation," and multiplying the dollar amount selected from the matrix by the number of days the violation continued beyond the first day. *Id.* at 23–27. The multi-day component may be mandatory, presumed, or discretionary. *Id.* at 23, 25–27.

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[108] The RCRA Civil Penalty Policy is included in the record of this proceeding as Complainant's Initial Prehearing Exchange Exhibit 27.

[109] The Penalty Policy was issued in June 2003, and incorporates the 10% increase to the statutory penalty amount authorized by the Debt Collection Improvement Act of 1996, Pub. L. No. 104-134, § 31001(s), 110 Stat. 1321, 1321-373, and promulgated through the Civil Monetary Penalty Inflation Adjustment Rule, 61 Fed. Reg. 69,360 (Dec. 31, 1996). Penalty Policy at 2 n.1, 4 n.3.

After the gravity-based and multi-day components of a penalty have been determined, the penalty may then be adjusted upward or downward to account for the specific circumstances presented. *Id.* at 33–42. The Penalty Policy recognizes there may be "legitimate differences between separate violations of the same provision," and identifies several factors that may be considered. *Id.* These include a violator's "good faith efforts to comply with applicable requirements," degree of willfulness or negligence, history of noncompliance, or ability to pay.[110] The Penalty Policy notes that a "previous violation" may include "any act or omission for which a formal or informal enforcement response has occurred," including those "for which the violator has previously been given written notification, however informal, that the Agency believes a violation exists." *Id.* at 37–38.

Finally, the Penalty Policy instructs that "[a]n 'economic benefit' component should be calculated and added to the gravity-based penalty component when a violation results in 'significant' economic benefit to the violator" as defined by the Penalty Policy. *Id.* at 28. This is done "to eliminate any economic incentives for noncompliance." *John A. Capozzi*, 11 E.A.D. 10, 35 (EAB 2003). "Economic benefit can result from a violator delaying or avoiding compliance costs, or when the violator achieves an illegal competitive advantage through its noncompliance." Penalty Policy at 28. Generally, delayed costs "are measured as the accrued interest on deferred expenditures needed for compliance," while "avoided costs are calculated as the cost of complying with the requirements, adjusted to reflect anticipated rate of return and income tax effects on the" violator. *John A. Capozzi*, 11 E.A.D. at 35 n.33. The Penalty Policy identifies two methods by which the economic benefit component may be calculated: the BEN computer model, or the "rule of thumb" approach that was used in this case. Penalty Policy at 30.[111] The "rule-of-thumb" method calculates avoided cost by subtracting from the total cost of compliance the approximate tax benefit the violator would have realized if the violator had incurred the cost and taken it as a tax deduction. Tr. III 34–35. Here, Complainant determined that the applicable tax rate would have been 39.5%, so the avoided cost would be 60.5% of the total cost of compliance. Tr. III 34–35, 46, 48, 53; C's Br. at 241, 243, 245.

B. Respondents' Argument

Respondents raise several arguments against the proposed penalty that are not specifically targeted to any particular count. Respondents request "that no consideration be given to the alleged violations relating to aerosol cans" because "there is no evidence that the cans were not empty" and Complainant gave "little weight to that alleged offense in connection with the penalty assessment." Rs' Br. at 50–51. Similarly, Respondents argue that "no penalty

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[110] Ability to pay is not an element of a complainant's prima facie case under RCRA, and "in order to be considered" it "must be raised and proven as an affirmative defense by the respondent." *Carroll Oil Co.*, 10 E.A.D. 635, 662–63 (EAB 2002). Respondents have not raised their ability to pay the proposed penalty as an issue in this case.

[111] In its Proposed Civil Penalty of September 23, 2011, Complainant proposed economic benefit components calculated using the BEN computer model. Complainant abandoned these calculations in favor the "rule-of-thumb" calculations employed by the proposed penalty contained in Complainant's Initial Post-Hearing Brief. C's Br. at 235–47.

should flow from allegations relating to sodium hydrosulfide material" because the hydrogen sulfide was a "usable product at all times" and was ultimately disposed of properly. Rs' Br. at 51. Though Respondents attempt to cast these as arguments concerning the amount of the penalty, they are, in truth, recitations of Respondents' arguments against liability and have already been discredited. Respondent Chem-Solv failed to determine if the aerosol cans and sodium hydrosulfide were hazardous wastes. The sodium hydrosulfide was hazardous waste, and Respondents stored it for 269 days without a permit or interim status. All appropriate factors will be considered in assessing penalty amounts for the violations arising from Respondents' actions.

Respondents argue with regard to the Pit that "[b]ased on generator knowledge . . . the facility had no reason to believe that the Pit contained in any way tetrachloroethylene or trichloroethylene," and note "the inspectors lacked the same suspicion."[112] Rs' Br. at 51. Respondents claim any violation was "unintentional," and point to the 2006 analysis of Pit material and "long history of waste water disposal by way of commercial carrier" by which "materials from the [P]it passed freely along the roads of commerce without objection" as mitigating facts. Rs' Br. at 51–53. Respondents contend that any violations arose from "the application of rules having no crystal clear interpretation or limited guidance," and Respondents should be recognized for their "good faith effort[s] to comply" with the law. Rs' Br. at 53.

Respondents' argument is not persuasive because the starting points of the RCRA regulatory regime are unambiguous. A person who generates solid waste must determine if it is hazardous waste. 40 C.F.R. § 262.11. If the waste is hazardous, the generator must actively manage the waste in keeping with applicable legal requirements. Any person who treats, stores, or disposes of hazardous waste must have applied for or received a RCRA permit. 40 C.F.R. § 270.1(b). The complexity in this case arises from Respondents' failure to adequately determine if certain solid waste streams generated at the facility were hazardous.

Respondents claim they had no reason to suspect tetrachloroethylene or trichloroethylene were present in the Pit. However, substantial concentrations of tetrachloroethylene and trichloroethylene were in the Pit. Evidence shows the Pit was entirely under Respondents' control, but rather than offer an explanation for the chemicals' presence, Respondents claim bafflement and ignorance. This severely undermines the reasonableness of Respondents' reliance on "generator knowledge" and their claim of "good faith." Rather, it supports the view

[112] Respondents also refer to ten tote containers of Pit water that were sampled on May 28, 2007, arguing that nine of the ten "showed no evidence of hazardous characteristics whereas only one displayed a pH of 1.58," and that all the totes were "being worked in to [sic] the process and used or otherwise dispensed with." Rs' Br. at 51–52. In making this argument, Respondents are strikingly cavalier about a scenario in which they admit to storing and disposing of corrosive hazardous waste without a permit. *See* 40 C.F.R. § 261.22(a)(1) (aqueous solid waste with pH less than or equal to 2 exhibits hazardous characteristic of corrosivity). Significantly, Respondents also omit the fact that the material in the totes was only sampled for pH measurements and was not subjected to TCLP analysis. CX 18 at 333. The material in question is not part of this action and will not be considered further, but if it was considered it would not weigh as a mitigating factor in Respondents' favor.

that Respondents, at best, had a limited understanding of what entered the Pit and did not exercise the degree of oversight required to maintain compliance with the law.

One of RCRA's statutory objectives is to require "that hazardous waste be properly managed in the first instance thereby reducing the need for corrective action at a future date." 42 U.S.C. § 6902(a)(5). As generators of hazardous waste, Respondents were responsible for ensuring that the waste was "properly managed in the first instance," and they did not do so. In determining the appropriate civil penalty in this case, it is not relevant that Respondents' failure to recognize the presence of toxic constituents in the Pit, and consequent failure to manage the waste appropriately, led EPA and VADEQ inspectors to be surprised by the presence of trichloroethylene and tetrachloroethylene. *See* Tr. III 68–69 (Mr. Cox testifying that the Pit waste was being managed as nonhazardous). Respondents cite the fact that hazardous waste from their facility moved "freely along the roads of commerce" as if it was a mitigating factor. To the contrary, that Respondents' actions allowed hazardous waste to be transported in commerce without the proper safeguards is an illustration of just how serious Respondents' violations are.

With regard to Respondents' claim that they attempted to comply with the law in "good faith," the evidence shows the contrary. Respondents' absence of good faith was perhaps best expressed by Mr. Austin when he described Respondents' response to the June 2008 administrative order from EPA. Tr. IV 253; CX 30 at 1230 (administrative order); *supra* at Part III.F. Mr. Austin explained that he and his father, owner of both Respondents, acted to come into compliance only after coming under combined pressure from EPA, VADEQ, and Roanoke building and fire officials, and only after Mr. Austin and his father concluded that they would not "come to some kind of compromise with the fire and building officials," as they had done in the past. Tr. IV 256–59; *supra* at Part III.F. Though they believed they "were in the right" and that the officials "did not have a legitimate claim to ask us . . . to do what [the officials] were trying to force us to do," they chose "just to do whatever was necessary to appease the officials and to . . . at least meet their minimum requirement."[113] Tr. IV 25–59; *supra* at Part III.F.

While the June 2008 order is not part of this action, Mr. Austin's description of Respondents' contumacious attitude applies here with equal force. VADEQ requested on July 29, 2005, that Respondents make a hazardous waste determination for the Pit water, and requested on November 9, 2005, that Respondents maintain a log of the Pit water's pH. *See supra* at Part III.B. Respondents ignored the first request, and begrudgingly affirmed they would comply with the second request but failed to actually do so. *Supra* at Part III.B. Respondents disposed of the waste sodium hydrosulfide only after they knew they were being investigated by EPA and VADEQ in part for their storage and handling of that material. Tr. IV 192–94; *see supra* at Part III.F. Further, Respondents have throughout this proceeding made claims that are simply not credible when considered against the evidentiary record as a whole. *Supra* at Parts IV.A.iii.a.3–4, IV.A.iii.d.4, IV.A.iii.f.4. Based on the foregoing, Respondents have not shown

[113] Mr. Austin also testified that Respondents went on to exceed the minimum requirements "many fold," and if this is true then Respondents are applauded for their efforts. Tr. IV 259–62. However, the law assumes compliance, and efforts to come into compliance do not generally warrant a reduction in penalty. *See* Penalty Policy at 36.

good faith to warrant mitigation of the penalty.

Respondents also argue that multi-day penalties should be eliminated or reduced for all counts because Complainant had the results of its TCLP analysis "no later than October 1, 2007," but did not share those results with Respondents until approximately February 4, 2008. Rs' Br. at 52; *see supra* at Part III.F. This argument again misses the point. Respondents had the "continuing responsibility to know whether [their] wastes [were] hazardous." Standards Applicable to Generators of Hazardous Waste, 45 Fed. Reg. 12,724, 12,727 (Feb. 26, 1980). There is an element of irony in Respondents' argument that they should not be held responsible for the continuing nature of their violations because the government knew more about their own operations than they did, particularly when one considers that Respondents had ignored two previous requests from VADEQ to maintain records concerning the waste in the Pit. *See supra* at Part III.B. This species of willful ignorance should not excuse Respondents from the multi-day components in Complainant's proposed penalty.

Respondents further claim that the Pit "no longer exists because of voluntary response from the facility," and that "[w]ithin days of receiving the initial analytical results indicating the possibility of unwanted contaminants . . . Mr. Austin directed that the tank be emptied and removed and all contents disposed of." Rs' Br. at 53. Respondents' account of the matter implies that their removal of the Pit was undertaken as an act of good citizenship in response to the news that the Pit contained trichloroethylene and tetrachloroethylene. However, the analytical results being referred to show that the analysis was undertaken as part of the "Pit Closure" project, showing that Respondents intended to remove the Pit before receiving them. CX 63 at 1797. Given that Respondents did have the benefit of those analytical results, it is then curious they did not remove the Pit tank in keeping with the requirements set forth in 40 C.F.R. § 264.197. The fact that Respondents closed the Pit without having been ordered to do so does not warrant a reduction in the penalty.

C. Civil Penalty Assessed for Count I

Complainant determined the violations in Count I carried a "moderate" potential for harm and represented a "moderate" extent of deviation, and assigned a gravity-based penalty of $8,382.00, representing the mid-point of the range in the corresponding penalty-matrix cell.[114] C's Br. at 238–39; Tr. III 38–39. Complainant argues "[t]he permitting process is the backbone of the RCRA program because it ensures that facilities that manage hazardous waste handle such waste in such a manner as to minimize risk to human health or the environment presented by

[114] The penalty matrices employed by Complainant reflect the 17.23% increase above the amounts originally provided in the Penalty Policy, that applies to violations occurring after March 15, 2004, through January 12, 2009, as authorized by the Debt Collection Improvement Act of 1996, Pub. L. No. 104-134, § 31001(s), 110 Stat. 1321, 1321-373, and the Civil Monetary Penalty Inflation Adjustment Rule, 69 Fed. Reg. 7121 (Feb. 13, 2004). *See* Memorandum from Granta Y. Nakayama, Assistant Administrator of the Office of Enforcement and Compliance Assurance, Amendments to EPA's Civil Penalty Policies to Implement the 2008 Civil Monetary Penalty Inflation Adjustment Rule (Effective January 12, 2009), at 4 (provided in the record as Complainant's Initial Prehearing Exchange Ex. 28).

such waste." C's Br. at 238. Failure to obtain a permit where required "presents harm to the integrity of the RCRA regulatory program" and "impedes EPA and the state's ability to regulate hazardous waste activities" because the program relies "upon the self-reporting of members of the regulated community." *Id.* at 238. Mr. Cox explained at hearing that the length of unpermitted storage posed a moderate risk of container deterioration and accidental release. Tr. III 38–39. He testified that the extent of deviation was moderate because the Pit sludge and sodium hydrosulfide were eventually disposed of as hazardous waste. Tr. III 39.

Complainant then added a multi-day component based on 179 days of violation at $386.00 per day, for a total of $69,094.00. C's Br. at 239. Under the Penalty Policy, a multi-day component of up to 179 days is presumed to apply for violations with moderate potential for harm and moderate extent of deviation. *Id.* at 238; Penalty Policy at 25–26. Multi-day penalties for days after the 180th day of violation are discretionary. Penalty Policy at 26. Mr. Cox testified that the $386.00 figure applied here was selected from the bottom of the range supplied by the multi-day penalty matrix because "in this case there are a lot of multi-day violations," and if Complainant had selected the mid-range of $1,192.00 then the penalty would have become "inflated fast." Tr. III 39. Complainant did not include an economic benefit component or adjust the penalty for any other factors, so the proposed penalty for Count I is a total of $77,476.00,[115] assessed against both Respondents jointly and severally. C's Br. at 238–39; Tr. III 39–41.

Complainant's proposed penalty calculation presents several difficulties, all stemming from its failure to apportion the penalty between the various waste streams at issue in Count I. The gravity component of Complainant's penalty is premised at least in part on the increased likelihood of a release when hazardous waste is stored in excess of 90 days, but evidence only shows the Pit water was stored for 9 days. *Supra* at Part IV.A.iii.e. With regard to the multi-day component, Complainant does not explain why the penalties for days 2 through 9 of violation are not higher than the remaining days to account for the Pit water, or why Respondent is only held to account for 179 days of continuing violation when the Pit sludge and waste sodium hydrosulfide were each stored for 274 days. *Supra* at Parts IV.A.iii.e, IV.A.iii.f.4.

Complainant's characterization of the violations reflected in Count I as carrying a moderate potential for harm and being a moderate deviation from the regulatory requirements is accepted as reasonable under the totality of the evidence. Respondents' failure to go through the permitting process contributed to hazardous waste being stored at the facility without the legally required safeguards, increasing the risk that the hazardous wastes posed to human health and the environment. Respondents' failure to obtain a permit also interfered with the EPA and the State's ability to regulate Respondents' hazardous waste activity, doing harm to the RCRA regulatory program. A gravity-based penalty of $8,382.00 for the first day of violation, representing the mid-range provided by the penalty-assessment matrix as adjusted for inflation,

[115] Complainant proposes in its Brief that a total penalty of $77,486.00 be assessed against Respondents for Count I. C's Br. at 239. However, Complainant's proposed gravity-based penalty of $8,382.00, and multi-day penalty of $69,094.00, add up to a total penalty of $77,476.00. *Id.* Complainant's proposed total of $77,486.00 is therefore interpreted to be a typographical error.

is appropriate. Of this, $2,346.96 is apportioned to the Pit sludge, $5,951.22 is apportioned to the Pit water, and $83.82 is apportioned to the waste sodium hydrosulfide, on the basis of the percentage each material formed of the total volume of hazardous waste stored at the facility on May 23, 2007.[116]

Turning to the multi-day component, a penalty of $1,192 per day, the mid-range provided by the multi-day matrix, is appropriate for days 2 through 9 of violation, representing the storage of all three hazardous waste materials at issue. Of the multi-day penalty, $846.32 per day is apportioned to the Pit water, $333.76 per day is apportioned to the Pit sludge, and $11.92 per day is apportioned to the waste sodium hydrosulfide. The total multi-day component for days 2 through 9 of violation is $9,536.00. After the ninth day, the Pit water sampled on May 23, 2007, was no longer stored at the facility, so the per-day penalty should be reduced accordingly. Therefore, the multi-day penalty for each day of violation after day 9 is $345.68. The multi-day component for days 10 through 180 of violation is therefore $59,111.28, for a total multi-day component of $68,647.28.

Complainant did not propose an economic benefit component for Count I or present any evidence concerning the same, so there is no basis to increase the penalty for this factor. Complainant's decision to not adjust the penalty for Count I upwards or downwards is reasonable and will not be disturbed. Therefore, considering the seriousness of the violation alleged and Respondents' absence of good faith, and in consideration of the guidelines provided in the Agency's Penalty Policy, a penalty of $77,029.28 is assessed against Respondents Chem-Solv and Austin Holdings, jointly and severally, for the violations alleged in Count I.

D. Civil Penalty Assessed for Count II

Complainant determined the violations in Count II posed a "moderate" potential for harm and represented a "major" extent of deviation from the regulatory norm. C's Br. at 239–40; Tr. III 41–42. Complainant selected the mid-point of the range in the corresponding penalty-matrix cell, for gravity-based penalty of $12,250.00. Complainant argues "[t]he performance of [the] hazardous waste determinations is the initial trigger for the implementation of the" RCRA regulatory program. C's Br. at 239. The failure to conduct hazardous waste determinations therefore "poses a significant potential for harm to the integrity of the RCRA program." *Id.* Complainant also argues that Respondent Chem-Solv's "failure to perform such determinations . . . resulted in hazardous wastes not being identified as such and not being properly managed and handled at the Facility, thereby, posing a significant risk to human health and the environment." *Id.* Complainant argues that "Respondent stored hazardous wastes in the waste acid pit and then partially removed such wastes to containers in a facility warehouse creating a significant potential for the mismanagement of hazardous waste and release into the environment." *Id.* at 239–40. Mr. Cox testified that the extent of deviation was "major" because the violation "involved numerous occasions that [Chem-Solv] could have taken a sample to make these waste determinations and it was over an extended period of time." Tr. III 42.

[116] The record shows that on May 23, 2007, Respondents had approximately 35 drums of Pit sludge, 89 drums of Pit water (4,872 gallons), and 1 drum of waste sodium hydrosulfide stored at the facility. *Supra* at Parts IV.A.iii.e, IV.A.iii.f.4.

Complainant did not propose a multi-day component for Count II because the ongoing impact of the violation would be accounted for in other violations stemming from the initial failures to make hazardous waste determinations. Tr. III 42. Complainant also did not include an economic benefit component for Count II, but did adjust the gravity-based penalty upward by 10%, or $1,225.00, due to a history of noncompliance. C's Br. at 240. Complainant explains that Chem-Solv "had prior violations for the same failure to make waste determinations for the same wastes in 2005 at the Facility as evidenced by a warning letter issued by" VADEQ, present in the record as Complainant's Exhibit 40. *Id.* (citing CX 40 at 1509). In that letter, dated November 9, 2005, VADEQ advised Chem-Solv that the Pit was subject to hazardous waste regulations and requested that Chem-Solv maintain a log of the Pit water's volume and pH prior to neutralization. CX 40 at 1509; Tr. III 43; Tr. I 65–66. Respondents did not create that log or otherwise record the pH of the Pit water prior to neutralization. Tr. I 66–68, 185–86; CX 42 at 1525–26. The total proposed penalty for Count II is $13,475.00.

As with Count I, Complainant's failure to apportion the proposed penalty among the various waste streams at issue in Count II poses difficulties. *See* Tr. III 75–77 (explaining that the proposed penalty for Count II treats the relevant waste streams as a whole). Complainant considered the Pit sludge, Pit water, sodium hydrosulfide, and aerosol cans when determining its proposed penalty, but only explicitly refers to the Pit when explaining how it calculated the penalty's gravity component. Mr. Cox also conceded in his testimony that during the inspections he was not "concerned . . . about minor waste streams" such as the aerosol cans. Tr. III 77.

Complainant's calculation of the gravity component in the proposed penalty for Count II is found to be persuasive. The material in the Pit constitutes the largest and most significant waste stream at issue, and it was reasonable for Complainant to focus on that aspect of the violation when determining the proposed penalty. Giving due consideration to the quantity, nature, handling, and ultimate disposition of the waste material, Chem-Solv's failure to make effective hazardous waste determinations posed a moderate risk of harm to human health and the environment. The extent of the deviation was major, because Chem-Solv failed to make determinations for four different waste streams, and at least two of those streams (the Pit sludge and Pit water) were present at the facility over the course of several years. A gravity-based penalty of $12,250 for Count II is appropriate.

Complainant's decision to increase the gravity-component by 10% due to a history of noncompliance with regard to the Pit is accepted as appropriate. Chem-Solv was told in 2005 that it had to determine whether contents of the Pit were hazardous waste, and Chem-Solv then failed to ensure that the contents of the Pit were handled appropriately. Chem-Solv's lack of good faith is also found to warrant an additional 10% increase to the gravity-component. Chem-Solv repeatedly, brazenly disregarded its obligation to determine whether materials at its facility were hazardous wastes despite official demands that it do so.

For example, after VADEQ warned Chem-Solv that the Pit was subject to regulation and asked that the pre-neutralization be recorded, Chem-Solv disingenuously agreed to maintain those records but did not follow through on its promise. CX 40 at 1509; CX 42 at 1526; Tr. I 185–86. As another example, in the November 9, 2005 warning letter, VADEQ noted a large

quantity of material at the facility that had first been observed on July 26, 2005. CX 40 at 1508; Tr. I 53–55, 62–64. Chem-Solv was instructed to "continue to aggressively" determine whether the contents of those containers were wastes and "provide monthly reports on the progress being made concerning this matter." CX 40 at 1508. Chem-Solv did not provide those reports as requested, and several of the containers were still present at the facility during the May 15, 2007 inspection. Tr. I 62–65, 185; CX 19 at 377. Chem-Solv had been unable to "rework" the material into usable products, yet was still storing the material at the facility almost two years after VADEQ first instructed it to perform waste determinations. CX 19 at 377; CX 21 at 661–62, 1062–64; CX 39 at 1481; CX 40 at 1508. Yet another example of bad faith is provided by Mr. Austin's response to the February 4, 2008 IRL, in which Mr. Austin denied the dented drum of sodium hydrosulfide was leaking, and consequently declined to perform the waste determination contemplated in the IRL. CX 23 at 1078; *see* Tr. I 128–33 (testimony describing leaking drum); CX 19 at 387, 593–601 (photographs of leaking drum).

Finally, a further 5% increase to the gravity-based portion of the penalty is warranted because Chem-Solv's failure to properly characterize the contents of the Pit allowed hazardous waste in the form of Pit water to be disposed of as nonhazardous waste. That outcome is precisely what the statute and regulations seek to prevent. The total increase to the gravity-based component of the penalty is therefore 25%, or $3,062.50. For these reasons, a penalty of $15,312.50 is assessed against Respondent Chem-Solv, individually, for the violations alleged in Count II.

Of this penalty, $50.50 is apportioned to the aerosol canisters in recognition of their relatively minor role in the total waste generated by the facility. Tr. III 77; Tr. IV 60–61. From the remaining amount, $10,836.02 is apportioned to the Pit water, $4,273.36 is apportioned to the Pit sludge, and $152.62 is apportioned to the sodium hydrosulfide, based on their relative volumes at the facility on May 23, 2007.

E. Civil Penalty Assessed for Count III

Under Count III, Respondents are jointly liable for failing to have or maintain requisite secondary containment systems for the Pit. Complainant determined that both the potential for harm and the extent of deviation were "moderate," and proposed a gravity-based penalty of $8,382.00, selected from the midpoint of the range provided in the penalty matrix. C's Br. at 241; Tr. III 43–44. Mr. Cox testified that "without secondary containment, any release would have gone right to the environment." Tr. III 43. He explained that in this instance the gravity of the violation "should have been a major because there was no effort to comply or nothing complying with [the] regulation," but that Complainant chose "the moderate level because there is a multi-day involved" and it needed to "keep the final number within reason." Tr. III 44.

Complainant calculated the proposed multi-day component under Count III in the same way it calculated that component for the proposed penalty under Count I. *Id.* Complainant proposes a daily penalty of $386.00, selected from the multi-day penalty matrix, assessed over 179 days of violation beyond the first, for a total multi-day component of $69,094.00. C's Br. at 241; Tr. III 39–40, 44.

Complainant's proposed penalty for Count III also includes an economic-benefit component of $18,150.00. C's Br. at 241. In its Brief, Complainant asserts that "[a]n engineering estimate was used for the *avoided* cost of installing secondary containment such as a concrete vault, i.e. site excavation, installation of a concrete wall and installation of leak detection, using $30,000.00 as the cost avoided and multiplying it by .605 (rule of thumb) which resulted as $18,150.00." *Id.* When Mr. Cox was asked at hearing how he derived the $30,000.00 figure, he explained:

> We have a number of ways of doing it. We look into what is called a means manual, they are cost estimating manuals that have common projects. You don't find the exact thing you are looking for, you find things close enough that you can get a reasonable idea. . . . When I was in the water department, I did cost estimates so I had a feeling. I am a civil engineer by training so I know you don't build a concrete structure with reinforcing steel cheaply. So you get a feeling for costs of things like a crane to come in and remove the tank and that sort of thing. So I put the number—this often gets changed in negotiations if the respondent comes up with another number we are not wedded to this but I came up with a number of $30,000.00. . . . I asked a friend of mine in the agency in the RCRA program who works with the Corps of Engineers. . . . They came up with an estimate that would be slightly above this. . . . It is the type of work that the Army Corps does—building things for the Army or the government in general.

Tr. III 45–46. Applying the rule-of-thumb, Complainant multiplied $30,000.00 by 0.605, to reach the proposed economic benefit of $18,150.00. Complainant did not adjust the proposed penalty to reflect any other considerations, for a total proposed penalty of $95,626.00.

On cross-examination, Respondents' counsel questioned Mr. Cox about how he obtained the cost estimates used to calculate the economic-benefit component for the proposed penalties in Counts III, IV, and VI. Tr. III 78–81. Mr. Cox agreed that he did not conduct "any empirical calculations" when obtaining his own estimates, and testified that he did not know how the Army Corps of Engineers calculated its cost estimate. Tr. III 78–79. Mr. Cox also agreed that he did not specifically communicate with contractors in the Roanoke area when reaching his own cost estimates. Tr. III 79–80. However, following this colloquy Respondents did not argue that Mr. Cox's estimates were unreliable or offer any evidence in rebuttal.

After considering the evidence, Complainant's proposed assessment of the violation's gravity as "moderate" is found reasonable. The Pit was a single-walled underground steel tank with a ceramic lining. As Mr. Cox testified, if the Pit tank was compromised, any leaking material would have immediately come into contact with the earth and been released into the environment. Tr. III 43. Though the complete absence of secondary containment could fairly make the gravity of the violation major, Mr. Perkins testified that the ceramic and steel tank was appropriately designed for underground storage, and would have been "perfectly suitable and standard in [the] industry for the type of material that was in it" if that material had been

nonhazardous. Tr. IV 62–63. Further, there is no evidence in the record that the Pit tank was compromised despite its age, buttressing Mr. Perkins's credibility on this point. The characterization of the violation as "moderate" instead of "major," and the proposed sums of $8,382.00 for the first day of violation and $69,094.00 for the subsequent 179 days is therefore accepted as appropriate and incorporated herein.

Complainant's decision to include an economic benefit component in the proposed penalty is also unquestionably reasonable. The cost of upgrading the existing Pit tank with a vault or external liner, or of replacing it with a double-walled tank, meeting all the containment and leak-detection criteria set forth in 40 C.F.R. § 264.193, would undoubtedly be significant. *See* Tr. III 45 (Mr. Cox estimating type of work that would be involved); *see also Bose Corp. v. Consumers Union of U.S., Inc.*, 466 U.S. 485, 501 n.17 (1984) (noting that "ordinary principles of logic and common experience . . . are ordinarily entrusted to the finder of fact"); *Educ. Credit Mgmt. Corp. v. Frushour*, 433 F.3d 393, 408 (4th Cir. 2005) (explaining that the finder of fact may rely on experience and common sense). Mr. Cox testified from his prior experience that adding secondary containment to the Pit would have cost approximately $30,000.00. Respondents do not challenge Mr. Cox's opinion, and did not offer any evidence or argument to rebut the $30,000.00 estimate. It is therefore found that preponderant evidence shows Respondents would have incurred a total cost of approximately $30,000.00 to comply with the secondary containment requirements of 40 C.F.R. § 264.193, and that the proposed economic benefit component representing an avoided cost of $18,150.00, is reasonable.

For these reasons, and considering the seriousness of the violation alleged and Respondents' absence of good faith, a penalty of $95,626.00 is assessed against Respondents Chem-Solv and Austin Holdings, jointly and severally, for the violations alleged in Count III.

F. Civil Penalty Assessed for Count IV

Count IV alleges that Respondents failed to obtain or retain at the facility written certifications by qualified individuals attesting that the Pit tank was designed and installed correctly, in violation of 40 C.F.R. § 264.192. For the violations alleged in Count IV, Complainant proposes a total penalty of $80,501.00. C's Br. at 244. Complainant assessed the potential for harm and the extent of deviation each as "moderate," and selected a gravity-based penalty of $8,382.00 from the inflation-adjusted penalty matrix. *Id.*; Tr. III 46–47. Complainant added to this a multi-day component of $386.00 per day, over 179 days, for a total multi-day penalty of $69,094.00. C's Br. at 244. Complainant argues that the written certifications required by 40 C.F.R. § 264.192 "ensure that the Agency is aware of the status of hazardous materials and that the pit is constructed of the appropriate design." *Id.* at 242. Mr. Cox testified that the certifications assure emergency responders or government inspectors that the tank system has been designed and constructed appropriately, and meets all applicable safety requirements. Tr. III 47. He opined that Respondents did not "have anything that met the requirements," though there was an uncertified "little sketch" showing the Pit had been designed by a professional engineer. *Id.* Complainant notes in its Brief that Respondents' expert, Mr. Perkins, opined that while "the actual risk posed by the" absence of a professional engineer's stamp and seal on the plans was low, he personally "would do a much more thorough

evaluation" of the Pit tank before he himself would certify the design. C's Br. at 243 (citing Tr. IV 63).

Complainant also proposes that an economic benefit component of $3,025.00 be added to the penalty. *Id.* at 243–44. Mr. Cox estimated that the cost of hiring a professional engineer to "look at design plans, check the steel schedules and the reinforced concrete . . . and do any non-destructive testing of the tank materials . . . and writing up the certification" would cost approximately $5,000.00. Tr. Iii 48. Applying the rule-of-thumb, the $5,000.00 figure was multiplied by 0.605, resulting in an avoided cost of $3,025.00. *Id.* Respondents did not offer evidence to rebut Mr. Cox's estimate. Complainant did not adjust the proposed penalty for any other factors, leaving the total proposed penalty for Count IV as $80,501.00. C's Br. at 244.

Like the violations in Counts I and III, the violation in Count IV stems from Respondents' persistent denial that the facility stored, at least intermittently, hazardous waste in the Pit, and their consequent failure to treat the Pit as the hazardous waste storage unit it was. Though the Pit tank may have been adequate for storing nonhazardous wastes, it was not designed with any of the safeguards or assurances required to contain hazardous wastes against accidental release. As a result, the hazardous waste in the Pit posed a risk of harm to human health and the environment higher than it would have if contained in a legally compliant unit. In this way, the gravity of Respondents' failure to have qualified professionals certify the design and installation of the Pit as suitable for storing hazardous waste reflects the risk posed by the actual storage of waste in the substandard unit. Complainant's characterization of the violation as a moderate deviation from the regulation posing a moderate risk of harm is therefore reasonable, as is the gravity-based penalty of $8,382.00. Complainant's proposed multi-day penalty of $69,094.00, and economic-benefit calculation of $3,025.00, is likewise reasonable. A total penalty of $80,501.00 is appropriate under the circumstances and is assessed against Respondents Chem-Solv and Austin Holdings, jointly and severally.

G. Civil Penalty Assessed for Count V

Count V concerns Respondents failure to perform and document inspections of the Pit tank each operating day in violation of 40 C.F.R. § 264.195. Complainant proposes a total penalty of $77,476.00 for Count V. C's Br. at 244. Complainant determined that the potential for harm and extent of deviation were both moderate, and assessed a gravity-based penalty of $8,382.00. *Id.* Complainant also calculated a multi-day penalty of $386.00 per day for 179 days, totaling $69,094.00. *Id.* Complainant did not calculate an economic benefit component, and did not otherwise adjust the proposed penalty up or down to account for other factors. *Id.* Complainant argues that Respondents' failure to conduct daily inspections created "a risk that problems such as cracks, leaking, or structural issues" would go undetected. *Id.* This risk was particularly significant in the case of the Pit because it did not "have secondary containment and was completely open on the top." *Id.* Mr. Cox testified that Complainant viewed the violation as "moderate" because the evidence showed that facility employees were working around the Pit "and could see the condition of the tank." Tr. III 49–50. Mr. Cox explained that Complainant did not propose an economic benefit component because the cost to Respondents of performing and documenting the inspections would have been minimal. Tr. III 50.

Complainant's proposed penalty of $77,476.00 is found to be reasonable and appropriate. Respondents' failure to abide by the inspection requirements of 40 C.F.R. § 264.195 is yet another manifestation of their cavalier approach to waste management at the facility. Respondents did not exercise the degree of care necessary to accurately characterize and manage the waste stream at the Pit. The presence of facility employees and sporadic observations of the Pit tank during clean-out events do not excuse or significantly rectify the violation because there is no indication these observations were conducted with the professional competence or attention to detail contemplated by the regulation. A small or slow leak might escape notice as liquid was flowing into or out of the Pit during the normal course of its operation. After considering the seriousness of the violation alleged, Respondents' absence of good faith, and in consideration of the guidelines provided in the Penalty Policy, a penalty of $77,476.00 is assessed against Respondents Chem-Solv and Austin Holdings, jointly and severally, for the violations alleged in Count V.

H. Civil Penalty Assessed for Count VI

The violation at issue in Count VI concerns the Pit tank's lack of air emission controls required under 40 C.F.R. Part 264, Subpart CC, for units storing volatile organic compounds. Complainant determined this violation's potential for harm was moderate, and extent of the deviation was major, when calculating the proposed penalty. C's Br. at 245–46. Using the penalty-assessment matrix, Complainant proposed that a gravity-based penalty of $12,250.00 be assessed for the first day of violation. *Id.* Complainant then calculated a multi-day component by proposing a penalty of $1,000.00 per day be assessed for the 179 days of violation beyond the first, for a total multi-day penalty of $179,000.00. *Id.*; Tr. III 52.

In support of this proposal, Complainant argues "[t]he Subpart CC requirements require[d] that Respondent[s], at a minimum, maintain air emission equipment and structural controls, inspect such equipment and document all inspections," in order to "avoid the storing of volatile organics in open tanks" where they could "simply evaporate" rather than be properly dealt with. C's Br. at 245; Tr. III 50–51. Complainant argues that here, the Pit tank "was completely open to the environment with no top, cap, or cover," creating "the potential for the release of volatile organic chemicals into the atmosphere." C's Br. at 245. "The release of VOCs to the atmosphere presents a substantial potential for harm" because "VOCs are a suspected carcinogen, can pose a risk of fire, and are implicated in the deterioration of the atmospheric ozone." *Id.*; Tr. III 51. Mr. Cox testified that Complainant assessed the extent of deviation as major to reflect that Respondents had failed to determine the concentration of VOCs in the Pit waste, failed "to put the top on the tank," and failed to perform "the required periodic monitoring and recordkeeping to show compliance that there [were] not releases coming from the tank." Tr. III 51–52.

Complainant also proposed that an economic-benefit component of $6,050.00 be added to the penalty. C's Br. at 245–46. Mr. Cox testified "it would cost approximately $10,000.00 to retrofit [the Pit tank] with a roof with the required sealing that would be welded on." Tr. III 52–53. Mr. Cox estimated that the Pit "would have to be emptied," the concrete apron would have to be broken, and a crane would be needed to "lift the steel top on." Tr. III 53. He believed $10,000.00 was "a modest number" for the necessary work. *Id.* Applying the rule-of-thumb,

Complainant multiplied $10,000.00 by 0.605 to calculate an economic benefit component of $6,050.00. C's Br. at 245–46; Tr. III 53. The total proposed penalty for Count VI is $197,300.00. C's Br. at 246.

Complainant's proposed penalty is supported by the evidence and is appropriate to the circumstances. Respondents' own expert, Mr. Perkins, testified he agreed with Mr. Cox that the extent of deviation from the regulatory requirements was major. Specifically, he stated that the Pit "wouldn't come close to addressing the requirements under Subpart CC if it applied." Tr. IV 64. Addressing the risk of harm posed by the lack of air controls, Mr. Perkins testified there was "no reason to suspect" there would be "lots of volatilized tetrachloroethylene in the air space above" the Pit tank." Tr. IV 62. However, Mr. Cox testified that "volatile organics . . . can travel some distance" and the risk they pose is "not a minor thing." Tr. III 51, 84, 90–91. Mr. Perkins claimed that the workers at the facility "work in and around chemicals every day . . . have a very clear understanding of the risks associated with that, and they take proper protective steps when necessary," but this testimony only serves to illustrate why this violation was harmful. Tr. IV 61. Because Respondents did not know that VOCs were in their waste stream at the Pit, facility employees could not take steps to adequately protect themselves against the hazard.

The proposed economic benefit component is supported by Mr. Cox's testimony and is appropriate. Certainly, Respondents benefitted economically by avoiding the costs associated with installing and maintaining the air emission controls contemplated by Subpart CC. Though Mr. Cox's explanation of how he arrived at his estimates is not a model of clarity, his background as an engineer and experience performing cost estimates lend him credibility, and his estimates are not clearly incorrect. *See* Tr. III 45 (Mr. Cox testifying to his experience). Importantly, and as previously noted, Respondents have not offered any alternative valuation to rebut or discredit Mr. Cox's proposal.

Considering the seriousness of the violation alleged and the guidelines provided in the Agency's Penalty Policy, a penalty of $197,300.00 is assessed against Respondents Chem-Solv and Austin Holdings, jointly and severally, for the violations alleged in Count VI.

I. Civil Penalty Assessed for Count VII

Count VII concerns Respondents' failure to develop and submit a closure plan for the Pit, or to otherwise comply with the closure and post-closure requirements found in 40 C.F.R. § 264.197, incorporated by reference into 9 Va. Admin Code § 20-60-264(A). Complainant proposes a total penalty of $77,476.00 be assessed for this violation, and also requests issuance of an administrative compliance order directing Respondents "to implement and perform all 40 C.F.R. § 264.197 closure and post-closure care requirements applicable to the Acid Pit tank system in a timely and appropriate manner." C's Br. at 246–48.

Complainant determined the violation posed a moderate risk of harm and represented a moderate deviation from the regulatory norm. *Id.* at 246–47. Complainant therefore selected a gravity-based penalty of $8,382.00 from the penalty matrix. *Id.* at 247; Tr. III 54. Complainant then calculated a multi-day component by assessing $386.00 per day for the 179 days of

violation beyond the first, for a total multi-day penalty of $69,094.00. C's Br. at 247; Tr. III 54–55. Complainant did not propose an economic-benefit component, and did not otherwise adjust the proposed penalty to account for any other factors.

Complainant argues that the closure and post-closure requirements exist to ensure the proper removal and handling of storage tanks and the hazardous wastes within, and to ensure that any contamination is detected and addressed. C's Br. at 246. Complainant broadly claims the law required Respondents to develop a written closure plan and submit that plan to VADEQ. *Id.* The plan was to describe "how the hazardous waste management units at the facility [would] be closed in accordance with the RCRA regulations including, but not limited to, a description of how the hazardous waste [would] be removed and disposed of." *Id.* Complainant argues that here, Respondents "failed to provide a plan to the VADEQ outlining decontamination of the tank, the taking of soil samples, and the analysis of those samples, ground water monitoring, public comment or any other requirements." *Id.* at 247.

Mr. Cox testified that Complainant classified the violation as posing a moderate risk of harm because Respondents removed the Pit tank without taking the required "precautionary steps . . . to make sure it didn't leave any chemicals behind in the soil." Tr. III 54. Without more information, Mr. Cox claimed, Complainant did not know how much potential harm Respondents' actions posed to the environment. *Id.* Mr. Cox also testified that EPA typically refers "facilities to the state for closure" and he did not "know how intensive" VADEQ's requirements would be. Tr. III 53–54, 92–93. Mr. Cox gave credit to Respondents for taking a soil sample after the Pit tank was removed, but added the significant caveat that Respondents "never submitted any documentation of any analysis" of that sample, and did not indicate where or how the sample was taken. Tr. III 54. As a result, Mr. Cox explained Complainant could not attempt to quantify an economic benefit in relation to this violation because it did not know "what the underground conditions were like" or what VADEQ might require, and would therefore "have to make too many gross assumptions" to obtain a reliable number. Tr. III 55.

Complainant's proposed penalty is accepted as reasonable and appropriate to the circumstances. Respondents were required to develop a plan for closing the Pit and submit that plan to VADEQ in conjunction with their application for a permit to store hazardous waste. 40 C.F.R. §§ 264.112(a), 264.197(a). Respondents never applied for a storage permit or recognized that the waste in the Pit was hazardous, and so never developed an appropriate written closure plan. Given that Respondents did not provide in advance for the management of hazardous waste at the facility, and that the Pit tank was in no way designed or built to lawfully store hazardous waste, it is not surprising that Mr. Cox could not say precisely what actions Respondents would have to have taken to ensure the Pit was closed in a manner satisfying the closure performance standards in 40 C.F.R. § 264.111. In this context, it is instructive to consider that in the absence of a closure plan, Respondents: attempted to remove hazardous waste in the form of consolidated Pit sludge from a single-walled steel tank lacking secondary containment by scooping it up with a backhoe (Tr. IV 243); shoveled sand underlying the consolidated Pit sludge into an open dumpster for which the record contains no hazardous waste manifest (Tr. III 140, 149–51, 154); placed the empty Pit tank directly on the ground in a field following removal (Tr. III 143; CX 25 at 1163; CX 32 at 1378); and did not test the soil that had been in contact with the Pit tank while it was in operation to ensure that soil was not

contaminated (Tr. IV 247). In Respondents' favor, Mr. Tickle and Mr. Austin did both testify that the Pit tank did not have any visible holes after it was removed, and the soil did not have any visual or olfactory evidence of contamination. Tr. III 145; Tr. IV 245–47.

Based on the evidence in the record, Complainant's proposed characterization of the gravity of this violation as moderate is approved, as is the gravity-based penalty of $8,383.00. The proposed multi-day component of $69,094.00 is also accepted, despite Complainant's inconsistent characterization of when the first day of violation occurred. Mr. Cox testified that the first day of violation occurred "when the tank was removed from service" in early 2008, but Complainant in its Initial Post-Hearing Brief identified the first day of violation as May 23, 2007. *Compare* Tr. III 95, *with* C's Br. at 246. Count VII of the Complaint alleges that Respondents violated 9 Va. Admin. Code § 20-60-264(A), "which incorporates by reference 40 C.F.R. § 264.197, by failing to comply with the closure requirements of 40 C.F.R. Part 264, Subparts G and H." Compl. ¶ 84. Though Part 264, Subpart G, required Respondents to submit a closure plan before storing hazardous waste, § 264.197 itself requires action "[a]t closure of a tank system." 40 C.F.R. §§ 264.112(a), 264.197(a). The first day of violation therefore occurred when the Pit was "closed" and removed from the ground, which Mr. Austin testified occurred in the first two weeks of February 2008. Tr. IV 242–43. The Complaint was filed over two years later, on March 31, 2011, and Respondents' failure to meet the closure requirements of 40 C.F.R. § 264.197 and "the requirements specified in [S]ubparts G and H of" 40 C.F.R. Part 264 continued well past the 179 days of continuing violation calculated in the multi-day component.

Complainant's decision not to calculate an economic benefit for this violation is also accepted. Mr. Cox testified that any valuation would essentially be speculative, so an attempt to calculate an economic benefit would be arbitrary. Further, any economic benefit Respondents realized from the violation in Count VII will be at least partly offset by their response to the compliance order directing Respondents to develop and submit to VADEQ a post-hoc closure plan to ensure that the regulatory closure performance standards are met at the former site of the Pit tank.

Considering the seriousness of the violation alleged and Respondents' absence of good faith, and in consideration of the guidelines provided in the Penalty Policy, a penalty of $77,476.00 is assessed against Respondents Chem-Solv and Austin Holdings, jointly and severally, for the violations alleged in Count VII.

J. Conclusion on Civil Penalty

After considering the evidentiary record in this matter, and the penalty factors set forth in RCRA Section 3008, 42 U.S.C. § 6928(a)(3), Respondents are hereby assessed an appropriate penalty as set forth below.

For Count I, a gravity-based penalty of $8,382.00, plus a multi-day component of $68,647.28, for a total penalty of $77,029.28, is assessed against Respondents Chem-Solv and Austin Holdings jointly and severally. Of this amount, $62,090.04 is apportioned to the violations pertaining to the Pit sludge, $12,721.56 is apportioned to the violations pertaining to

the Pit water, and $2,217.68 is apportioned to the violations pertaining to the sodium hydrosulfide.

For Count II, a gravity-based penalty of $12,250.00, increased by 10% for the "history of noncompliance" adjustment factor, 10% for the "lack of good faith" adjustment factor, and 5% for "other unique factors," for a total increase of 25%, for a total penalty of $15,312.50, is assessed against Respondent Chem-Solv. Of this amount, $50.50 is apportioned to the violations pertaining to the aerosol containers, $4,273.36 is apportioned to the violations pertaining to the Pit sludge, $10,836.02 is apportioned to the violations pertaining to the Pit water, and $152.62 is apportioned to the violations pertaining to the sodium hydrosulfide.

For Count III, a gravity-based penalty of $8,382.00, plus a multi-day component of $69,094.00, and an economic-benefit component of $18,150.00, for a total penalty of $95,626.00, is assessed against Respondents Chem-Solv and Austin Holdings, jointly and severally.

For Count IV, a gravity-based penalty of $8,382.00, plus a multi-day component of $69,094.00, and an economic-benefit component of $3,025.00, for a total penalty of $80,501.00, is assessed against Respondents Chem-Solv and Austin Holdings, jointly and severally.

For Count V, a gravity-based penalty of $8,382.00, plus a multi-day component of $69,094.00, for a total penalty of $77,476.00, is assessed against Respondents Chem-Solv and Austin Holdings, jointly and severally.

For Count VI, a gravity-based penalty of $12,250.00, plus a multi-day component of $179,000.00, and an economic-benefit component of $6,050.00, for a total penalty of $197,300.00, is assessed against Respondents Chem-Solv and Austin Holdings, jointly and severally.

For Count VII, a gravity-based penalty of $8,382.00, plus a multi-day component of $69,094.00, for a total penalty of $77,476.00, is assessed against Respondents Chem-Solv and Austin Holdings, jointly and severally.

In sum, a total aggregate penalty of $597,026.28 is assessed against Respondents Chem-Solv, Inc., and Austin Holdings-VA, L.L.C., jointly and severally, for the violations alleged in Counts I, III, IV, V, VI, and VII. An additional penalty of $15,312.50 is assessed against Chem-Solv, Inc., individually, for the violation alleged in Count II.

VII. Issuance of Compliance Order

Section 3008(a)(1) of RCRA provides that "whenever on the basis of any information the Administrator determines that any person has violated or is in violation of any requirement of this subchapter . . . the Administrator may issue an order . . . requiring compliance immediately or within a specified time period." 42 U.S.C. § 6928(a)(1). RCRA "confers broad discretion on the Administrator (and derivatively to [her] delegates) to fashion appropriate compliance orders

for RCRA violations." *A.Y. McDonald Indus., Inc.*, 2 E.A.D. 402, 428 (CJO 1987) (citing 42. U.S.C. § 6928(a)); *accord Pyramid Chem. Co.*, 11 E.A.D. 657, 686 n.40 (EAB 2004).

As part of the Complaint, Complainant included a compliance order that would have required Respondents to complete certain enumerated tasks. Compl. ¶¶ 85–90. These tasks included, in summary, that Respondents "immediately cease storing hazardous waste . . . except in accordance with a permit," perform and submit "waste determinations on every solid waste generated at the Facility," and "obtain a waste analysis for every hazardous waste" at the facility. Compl. ¶¶ 85–88. The proposed compliance order also required Respondent Chem-Solv to "submit a closure plan prepared pursuant to [9 Va. Admin. Code § 20-60-264(A)], which incorporates by reference 40 C.F.R. § 264.112 and .197 . . . for the area where the Pit was located at the Facility and submit such plan to" VADEQ. Compl. ¶ 89. "Any notice, report, certification, data presentation, or other document submitted by either Respondent . . . concerning such Respondent's compliance or noncompliance with any requirements of" the compliance order was to be "certified by a responsible corporate officer of such Respondent." Compl. ¶ 90.

Neither party addressed the proposed compliance order at hearing. Complainant, in its Initial Post-Hearing Brief and specifically in reference to Count VII, reiterated its request for an order requiring Respondents "to properly close the hazardous waste tank system known as the Pit in accordance with all applicable 40 C.F.R. § 264.197 tank system closure and post-closure care requirements," and all applicable "closure and post-closure and financial requirements of 40 C.F.R. Part 264, Subparts G and H." C's Br. at 234–35, 248. Complainant argues that by failing to comply with the closure and post-closure requirements of 40 C.F.R. § 264.197, Respondents "failed to perform any investigation to determine whether [h]azardous waste leaked and contaminated the area surrounding the tank and/or its underlying soils." *Id.* at 234. Respondents did not refer to Complainant's renewed request for a compliance order in their own post-hearing materials, though they did note that "nearly five years [had] passed since the Pit was taken out of service and removed." Rs' Reply Br. at 25; *accord* Rs' Br. at 53.

Complainant has established by preponderant evidence that Respondents unilaterally removed the Pit tank without developing or submitting a closure plan, and without meeting the closure and post-closure requirements of Part 264, Subparts G and H, in violation of 40 C.F.R. § 264.197, incorporated by reference into 9 Va. Admin Code § 20-60-264(A). As a consequence of this violation, the Pit has never been closed within the meaning of Part 264, Subpart G, even though the Pit tank itself was removed from the ground. *See* 40 C.F.R. §§ 264.115, 264.120 (requiring that certifications of compliance with closure and post-closure requirements be submitted to the Regional Administrator). Mr. Perkins testified that while Respondents did not "speak with [VADEQ] about the RCRA closure process for" the Pit, a closure plan "would essentially follow the same steps that [Respondents] took, with the possible exception that the soil sample collected" would have been analyzed. Tr. IV 64. If Mr. Perkins is correct, then Respondents should not find a compliance order directing them to meet the closure and post-closure requirements to be onerous. Complainant has demonstrated by preponderant evidence that the compliance order requested in its Initial Post-Hearing Brief is appropriate.

ORDER

1. Respondents Chem-Solv, Inc., formerly trading as Chemicals and Solvents, Inc., and Austin Holdings-VA, L.L.C., are assessed a civil penalty of $597,026.28, jointly and severally, for violating Subtitle C of the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, codified at 42 U.S.C. §§ 6921–6939e, and the Commonwealth of Virginia's hazardous waste management program codified as Title 9 of the Virginia Administrative Code, §§ 20-60-260 to 20-60-279, enforceable by EPA under the authority granted by 42 U.S.C. § 6928. Respondent Chem-Solv, Inc., formerly trading as Chemicals and Solvents, Inc., is assessed an additional civil penalty of $15,312.50, individually.

2. Payment of the full amount of this civil penalty shall be made within 30 days of the date on which this Initial Decision becomes a final order pursuant to Section 22.27(c) of the Rules of Practice, 40 C.F.R. § 22.27(c), by one of the following means:

   a. by submitting a cashier's check or a certified check in the amount of the penalty, payable to "Treasurer, United States of America," and mailed via U.S. Postal Service to:

      U.S. Environmental Protection Agency
      Fines and Penalties
      Cincinnati Finance Center
      P.O. Box 979077
      St. Louis, MO 63197-9000

      Primary Contact: Craig Steffen (513) 487-2091
      Secondary Contact: Molly Williams (513) 487-2076

   b. by submitting a cashier's check or a certified check in the amount of the penalty, payable to "Treasurer, United States of America," and mailed via expedited delivery service (UPS, FedEx, DHL, etc.) to:

      U.S. Environmental Protection Agency
      Government Lockbox 979077
      1005 Convention Plaza
      SL-MO-C2-GL
      St. Louis, MO 63101

      Primary Contact: Craig Steffen (513) 487-2091
      Secondary Contact: Molly Williams (513) 487-2076

   c. by one of the electronic methods described at the following Agency website: http://www.epa.gov/cfo/finservices/payment_instructions.htm[117]

[117] Those methods include:

3. A transmittal letter identifying the subject case and EPA docket number, RCRA-03-2011-0068, as well as Respondents' names and address(es), must accompany the check.

4. Pursuant to 40 C.F.R. § 22.27(c), this Initial Decision shall become a final order 45 days after its service upon the parties, unless (1) a party moves to reopen the hearing within 20 days after service of this Initial Decision under 40 C.F.R. § 22.28; (2) an appeal is taken to the Environmental Appeals Board within 30 days after service of this Initial Decision pursuant to 40 C.F.R. § 22.30(a); or (3) the Environmental Appeals Board elects to review this Initial Decision upon its own initiative pursuant to 40 C.F.R. § 22.30(b).

5. If Respondents fail to pay the penalties within the prescribed statutory period after the entry of the final order, interest on the civil penalty may be assessed. 31 U.S.C. § 3717; 40 C.F.R. § 13.11.

6. Respondents are hereby further ordered to comply with the following Compliance Order pursuant to Section 3008(a) of RCRA, 42 U.S.C. § 6928(a):[118]

COMPLIANCE ORDER

7. Respondents Chem-Solv, Inc., formerly trading as Chemicals and Solvents, Inc., and Austin Holdings-VA, L.L.C., shall, within 60 calendar days of the date this Initial Decision becomes a final order pursuant to Section 22.27(c) of the Rules of Practice, 40 C.F.R. § 22.27(c), submit a closure plan prepared pursuant to 9 Va. Admin. Code § 20-60-264(A), incorporating by reference 40 C.F.R. §§ 264.112 and 264.197 with exceptions not relevant herein, for the area where the Pit was located at the facility, to the Virginia Department of Environmental Quality.

Vendor Express: Payers authorize their financial institutions to initiate an automated clearing house ("ACH") credit transaction to a unique routing number at the Federal Reserve Bank of Richmond.

Fedwire: Payers authorize a Financial Institution to initiate an electronic ("Fedwire") payment to the Federal Reserve Bank of New York ("FRBNY"). Generally, this is used for foreign payments.

Pay.gov: Payers can use their credit or debit cards to make payments. This option is only available for the following payment types—Superfund, fines and penalties, FOIA, travel, and miscellaneous fees.

[118] Given the amount of time that has lapsed since the facts underlying this case, it is possible that one or both Respondents have already come into compliance with portions of this Compliance Order. In such an event, that Respondent may certify its compliance to EPA in the manner described in Paragraphs 10 through 12 of the Order. *See John A. Capozzi*, 11 E.A.D. 10, 27 (EAB 2003) (ALJ may order compliance with hazardous waste regulations even if respondent is already in compliance).

8. Within 10 calendar days of submitting the closure plan prepared in response to this Compliance Order to the Virginia Department of Environmental Quality, Respondents shall submit to EPA a copy of the closure plan and certify that the closure plan was submitted to the Virginia Department of Environmental Quality.

9. Respondents shall comply with the closure plan prepared in response to this Compliance Order upon approval of that closure plan by the Virginia Department of Environmental Quality.

10. Any notice, report, certification, data presentation, or other document, that discusses, describes, demonstrates, supports any finding, or makes any representation concerning a Respondent's compliance or noncompliance with any requirements of this Compliance Order, submitted by either Respondent pursuant to this Compliance Order, shall be certified by a responsible corporate officer of the submitting Respondent. For the purpose of this Compliance Order, a responsible corporate officer is a president, secretary, treasurer, or vice-president of the Respondent in charge of a principal business function.

11. The certification provided by a responsible corporate officer shall be in the following form:

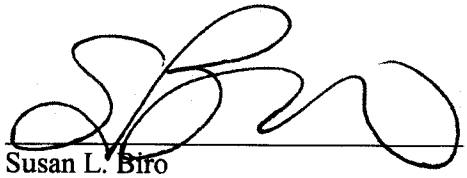
> I certify that the information contained in or accompanying this [type of submission] is true, accurate, and complete. As to [the/those] identified portions of this [type of submission] for which I cannot personally verify [its/their] accuracy, I certify under penalty of law that this [type of submission] and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.
>
> Signature: _____
> Name: _____
> Title: _____

12. All submissions required by this Compliance Order to be submitted to EPA shall be sent via certified mail/return receipt requested or overnight mail commercial delivery service to the attention of the following persons:

Kenneth J. Cox (3LC70)
Land and Chemicals Division
United States Environmental Protection Agency – Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Joyce A. Howell, Esq. (3RC30)
Senior Assistant Regional Counsel
Lands and Chemicals Division
United States Environmental Protection Agency – Region III
1650 Arch Street
Philadelphia, PA 19103-2029

SO ORDERED.



Susan L. Biro
Chief Administrative Law Judge

In the Matter of Chem-Solv, Inc., formerly trading as Chemicals and Solvents, Inc., and Austin Holdings-VA, L.L.C., Respondents
Docket No. RCRA-03-2011-0068

CERTIFICATE OF SERVICE

I certify that the foregoing **Initial Decision**, dated June 5, 2014 was sent this day in the following manner to the addressees listed below.

Maria Whiting-Beale
Staff Assistant

Dated: June 5, 2014

Original By Regular Mail To:

Lydia A. Guy
Regional Hearing Clerk (3RC00)
U.S. EPA
1650 Arch Street
Philadelphia, PA 19103-2029

Copy By Certified Mail Return Receipt And E-Mail To:

A.J. D'Angelo, Esquire
Benjamin Fields, Esquire
Joyce Howell, Esquire
Senior Assistant Regional Counsel
U.S. EPA
Mail Code 3RC30
1650 Arch Street
Philadelphia, PA 19103-2029

Charles L. Williams, Esquire
Maxwell H. Wiegard, Esquire
J. Scott Sexton, Esquire
Abigail Murchison, Esquire
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10 Franklin Road, SE, Suite 800
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