

**State of Vermont
Natural Resources Board
District 7 Environmental Commission**

RE: New England Waste Services of Vermont, Inc

Application 7R0841-13
10 VSA 6085(C)(5)

FINDINGS OF FACT and CONCLUSIONS OF LAW | “FRIEND” DUMP, LLC

GENERAL FINDINGS

1. As the property owner, NEWSVT, a subsidiary of Casella Waste Systems, has received permits from the State of Vermont since at least 1992. With ownership comes the responsibility for the conditions of the entire property, facilities and operations located there, and any resulting impacts. Property conditions include impacts from the former landfill, race track and other uses.
2. In issuing Land Use Permit #7R0841-8 in 2004, the District 7 Commission stated that no matter how well-designed the facility, landfills can be mismanaged and systems malfunction. Even so, the Commission said it would put its faith into “*the advanced engineering, into the state of the art facility and into their track record of good stewardship and landfill management.*” Monitoring data and reports demonstrate that the Commission’s faith was not honored for the landfill has experienced regular and ongoing “*stewardship and management*” issues of various kinds.
3. The ongoing issues at the NEWSVT landfill in Coventry are evidenced in the documents DUMP has obtained, though they represent a fraction of the documents that exist. DUMP has been denied documents by the Agency of Natural Resources and the Natural Resources Board. We conclude that there is evidence of many, many more landfill issues that DUMP has yet to uncover.
4. The ANR did not confirm that NEWSVT, Inc., and its parent company, Casella Waste Systems, Inc, did not commit more than one environmental violation in the last ten years. The Agency relied on the information provided by the applicant. (*Pre-filed Testimony Barb Schwendtner, Pages 9, Lines 13-20*)
5. The applicant was required to provide all violations cited by a state or federal agency, including resulting penalties, out of court settlements and NOAVs. (*Schwendtner Pre-filed testimony, Page 11, Lines 8-10*) “*Violations that did not result in an NOAV or formal enforcement action are not required.*” (*Schwendtner Pre-filed testimony, Page 11, Lines 11-12*) The ANR cites three NOAVs issued in the last 10 years, and that the NOAVs did not “include more than one violation with the potential to significantly harm public health or safety or the environment.” (*Schwendtner Pre-filed testimony, Page 10 Lines 7-10*)

Despite requesting all information about violations, DUMP did not receive all three NOAVS or inspection reports. Nor were these documents included with the ANR pre-filed testimony. The documents that DUMP has obtained contain violations by the NEWSVT landfill of the same type that have merited violations and fines in other states. (*Dump Pre-filed Testimony Exhibit 1, Documents*)
6. Being out of compliance is the statutory definition of “violation” per 10 V.S.A. 8003. ANR action is not mentioned as a discerning factor in defining a violation. DUMP presents the accumulative impact of past and ongoing violations as having and posing

ongoing significant harm to the public health and the environment. Such violations that pose harm to the land, air, water and human health have included exposed waste, items in waste that threaten the liner, erosion resulting in gullies, seeps and leachate breakouts, ongoing odors, gas management systems failures and ongoing human error of various types. (*Dump Pre-filed Testimony*)

7. Just as a DUI from another state can impact a person's ability to drive in Vermont, Casella's many violations and fines in various states should impact its ability to obtain a permit to operate in the state of Vermont, especially as it pertains to the only and massive landfill in the state. Casella's many violations and fines (*Dump Pre-filed Testimony Exhibit 1*), demonstrating the high risk nature of their operating practices, along with the accumulation of violations by NEWSVT, pose the potential to significantly harm public health and the environment.

CRITERION 1 | AIR POLLUTION

8. *There has not been a significant, persistent odor management problem.* (*Pre-filed Testimony Barb Schwendtner, Pages 7, Lines 9-10; Chart*) Significant is an objective and general term. It is often used in the pre-filed testimony of ANR personnel without regard for evidence.
9. Schwendtner admits to the impossibility and challenges of odor investigations in early morning, evening or on weekend complaints. She fails to mention that many of the complaints come in early morning (*DUMP estimates two-thirds of the complaints registered were in early morning.*), and therefore many of the complaints are not being investigated, disqualifying Schwendtner from accurately assessing the odor problem. Schwendtner's testimony also confirms the inadequacy of the odor monitoring approach used by the ANR. (*Dump Pre-filed Testimony*)
10. *"None of the documented off-site odors were characterized as strong or very strong - they were all found to be faint to moderate."* (*Pre-filed Testimony Barb Schwendtner, Pages 7, Lines 9-10*) With landfill staff doing most of the investigating, it is not unusual that they would not be able to detect strong odors due to olfactory fatigue. Also known as odor fatigue, olfactory adaptation, and nose blindness, which is the normal inability to distinguish a particular odor after a prolonged exposure to that airborne compound.
11. A small sampling of comments from ANR complaint forms counter Schwendtner's testimony as evidenced by complainants' descriptions through the years: (*Dump Pre-filed Testimony, Documents*)
 - *"Bad odors... off and on... but worst was Saturday a.m. about 8:30-9 a.m."* (2010)
 - *Coventry Town Clerk notices every day for 3 to 6 months. "Horrible odors Monday through Friday." Bad at home, Route 5 and in Newport City.* (2011)
 - *"Strong, noxious odors... much worse over the past six months."* (2012)
 - *"The odor was garbage-like and was still stinking 1 hour later. I had to shut down fans that were taking air in, it was so noticeable."* (2013)
 - *Thursday, today at 6:00 a.m. ... "The odor is filling my house as multiple fans are running. ... I smelled similar yesterday morning at 6:05... The smell is strong. I hate to shut off fans in this heat."* (2013)
 - *"Just a few minutes ago (1:26 p.m.), a friend and colleague let me know that she had to close the window of her office (Main Street & School Street corner) because 'it's pretty nauseating!'"* (2014)

- “The Facebook site you want is, Casella Smells. The sites I have detected the dump smell from include my office at 299 East Main Street, also School Street, also Prospect Street, also on Highland Ave., and at North Country Hospital on Prouty Drive. I have had others comment to me that they have smelt it south of Coventry Village and on the Lake Road in Newport.” (Exhibit 8) (2014)
- “...had company and could not eat breakfast on the porch as planned. ...mix of being behind a garbage truck, kerosene like when you are camping (gas?) and dead animal. Odors continued for 4 hours.” (2015)
- “This morning was horrible... 7, 7:30 and 8, both yesterday and today... eye-watering like toxic.” (2017)
- “Just woken up by odors from the landfill had to close the windows again.” (2018)
- “Smells like a pile of dead bodies covered in garbage... noticed at 5:30 a.m. and lasted until about 8:30 a.m.” (2018)
- “...odor has been a persistent and unfortunate issue for years. ... It has become increasingly bad in the past 2 years, you can smell it miles away into Newport and Derby.” (2018)

12. “All odor complaints received by the ANR are logged into the Agency-wide complaint tracking system.” (Pre-filed Testimony Barb Schwendtner, Pages 3, Lines 15-16) This testimony does not address that complaints received by the landfill were not required to be reported until October 2018. (DUMP Pre-filed Testimony, Page 11, Lines 36-40)

However, for some reason starting in early May, just weeks before the ANR public hearing on June 21, the landfill started sending complaint forms to the ANR. The result was a spike in the number of complaints. (DUMP Pre-filed Testimony, Documents; Pre-filed Testimony Barb Schwendtner, Pages 8, Chart) This is additional evidence that the ANR does not have an accurate read on complaints, odors and air pollution that have occurred through the years.

13. When tracking the names of individuals making complaints, it is evident after so much time and no resulting change, some quit complaining. (DUMP Pre-filed Testimony, Documents)
14. In cross examination at the Jan. 22 hearing, NEWSVT staff confirmed their knowledge that odors are considered air pollution by statute, that offsite odors are violations, and that offsite odors have been confirmed. Odor complaint documents contain confirmations of offsite odors and note violations found. (DUMP Pre-filed Testimony Documents) In addition, “Odor patrols have documented offsite odors near the landfill.” (Pre-filed Testimony Barb Schwendtner, Pages 5, Line 20)
15. Sludge and gas management issues are well documented as a source of odors confirmed by the ANR and NEWSVT staff throughout the years of the landfill operation, and both are sources of air pollutants. Landfill gas contains organic compounds that are recognized by regulatory agencies as hazardous air pollutants. (DUMP Pre-filed Testimony)

The gas-management system, a critical part of the operation to prevent air pollution, has failed multiple times. In addition, there have been issues pertaining to human error and mismanagement such as crushed and accidentally damaged pipes, and valves either left in the wrong position or tightened too much. Gas released due to system malfunctions and human error cause air pollution. The amount of gas released during these malfunctions put the landfill out of compliance with its Air Control Permit. (DUMP Pre-filed Testimony)

16. There are occasional leachate outbreaks and seeps (Kathan Pre-filed Testimony, Page 5, Line 6) which are another cause of air pollution.

17. In NEWSVT's permit application "Findings" it notes "utilization of odor neutralizers and deodorizers" as a means to control odors, and therefore admits an odor problem. However, while these sprayers may mask some of the odors, they do not eliminate air pollutants.
18. Evidence herein demonstrates that Schwendtner's testimony minimalizes the issues of air pollution and nuisance odors that have been ongoing and growing since the landfill's existence. The negative impacts to residents and the environment through the years have not been short term nor have they been "moderate."

CONCLUSIONS OF LAW

DUMP concedes that the record in this case establishes that the ANR Air Pollution Control Permit creates an evidentiary presumption of compliance under Criterion 1 consistent with Act 250, Rule 19. Had members of DUMP had better notice of the application filed with the District Commission, they would have made a more timely request for party status and then could have constructed an effective case to present impacts suffered by area residents by means of both lay (i.e. the people who live in proximity to the landfill and who experience its emissions) and expert witnesses. DUMP believes that it could have then successfully rebutted the evidentiary presumption.

In order to issue a permit, the Commission must find that the project will not result in undue air pollution. 10 V.S.A. §6088(a)(1). The applicant bears the evidentiary burdens of production and proof under Criterion 1 (Air) to demonstrate that undue air pollution will not result. 10 V.S .A. §6088(a).

There is no clear definition of what constitutes undue pollution. Re: Pike Industries, Inc. and Inez Lemieux, #5R1415-EB, (June 7, 2005). Whether a pollutant is undue depends on factors such as the quantity and quality of the pollutant, the surrounding area, whether the pollutant level meets applicable standards, and what mitigation measures are available and in place. Re: Mclean Enterprises Corporation, #2S-1 147-1-EB, (November 24, 2004).

The Environmental Board decisions are fact specific and more instructive about what is not undue rather than what is. See, e.g., Re: Mark and Pauline Kisiel, #5W1270-EB, (Altered) (August 7, 1998); Re: City of Montpelier and Packard, #5W0840-6, (May 22, 2000).

The Board has, however, defined "undue" with respect to Criterion 1 as "that which is more than necessary - exceeding what is appropriate or normal. Re: Brattleboro Chalet Motor Lodge, #4C0581-EB, (October 17, 1984).

The interpretation of the Vermont Rules of Evidence by the Environmental Board require that the District Commission give proper weight to the evidence of existing undue air pollution as presented by DUMP in its pre-filed testimony and as summarized in its Findings above. This evidence of the odors and stench endured by residents on a not infrequent basis from the existing landfill operation was uncontroverted by either the applicant or the party ANR.

Similarly neither the applicant nor ANR refuted DUMP's evidence that numerous complaints of undue air pollution were made to ANR regulators over time to no avail. DUMP asks whether a reasonable person would not conclude that the expanded operation of the landfill operation over a 20- to 30-year period will not "substantially increase the likelihood of undue air pollution" [Act 250 Rule 19(F)(2)] ?

DUMP contends that this case is similar to that of Cabot Creamery Cooperative 5W870-EB (August 20, 1993). In that case, even though the Board concluded that the evidentiary presumption of an ANR permit had not been rebutted, the Board concluded that it had authority to attach additional permit conditions. Thus, in the present matter permit conditions are required to ensure that operation of the landfill will not result in undue air pollution.

The record is clear and not refuted that ANR enforcement officials are distant from the project site and that investigations of air pollution close in time to complaints from area residents are next to impossible to achieve. Compliance is left to self-policing by the permittee. DUMP believes that this is unacceptable and challenges the credibility of the Vermont environmental permitting processes.

As concluded in the Board's Hawk Mountain (August 2, 1985) and then affirmed by the Vermont Supreme Court (542 A.2d 261: 1988), the District Commission has an oversight responsibility to prevent undue air pollution.

Therefore, IF the Commission is to grant a permit, DUMP proposes the following two conditions:

1. An independent and qualified third party located in close geographic proximity to the landfill must be identified who will serve as the contact for future complaints of odors and other air pollution from the project operation. This party's services shall be funded by the permittee. The role of the third party shall be to log in such complaints, conduct timely site investigations and then forward detailed reports to the District Commission and ANR for effective consideration of enforcement actions which will include immediate cessation of impacts, alterations to project operations, financial penalties and/or initiation of proceedings for revocation or permits to operate. The detailed reports shall be made available to the Public in a timely manner.
2. The term of the land use permit shall not be for the 35 year permit requested by the applicant in the present application, but instead shall be limited to the 5-year duration of time for which the ANR Air Permit is valid. It will then be necessary for the applicant to file a substantive amendment application for the review of any further continued operation of the landfill. This permit condition is consistent and required by the terms of 10 VSA 6090(b)(1) & (2).

CRITERION 1B | WASTE DISPOSAL

UNLINED LANDFILL

19. The unlined Areas A and B is categorized as High Risk and restoration is likely needed. (*Document UVM 1*) The Commission called for a plan to remediate the unlined areas in the issuance of Land Use Permit 7R0841-8 in 2004.
20. *"The unlined landfill is contaminating groundwater. As indicated in WHEM's July 2013 Report titled Summary of Hydrogeologic Characterizations, groundwater within unlined Areas A & B is well up into the trash, up to elevations 730 feet and higher, and is therefore chemically impacted by the trash. This impacted groundwater flows outward radially in all directions"*, including toward new MW-F-1. (*Waite-Heindel May 2015 Water Quality Report*)
21. Contaminants found in MW-F-1 include Iron, Manganese, Arsenic, Benzene, 1,2-Dichloroethane, and 1,2-Dichloropropane. All exceeded one or more of the following;

GES, PAL, HA and/or MCL. (Waite Heindel May 2016 and May 2017 Water Quality Report) Only 1,2-Dichloropropane was not detected in May 2018.

22. Contaminant exceedances are being detected in other wells connected with unlined landfill. (*DUMP Pre-filed Testimony, Pages 26-27*)
23. Metals and VOC concentrations are higher than GES in wells adjacent to the unlined landfill, but are not substantially increasing over time, and all indications are that these closed capped landfills are stable. (*Heindel Pre-filed Testimony, Page 26, Lines 15-17*) Water Quality reports counter Heindel's statement. For example between May 2013 and May 2018, MW-D2 VOC exceedances increased in Acetone from 5,281 to 9,255 ug/l, and in 2-Butanone from 10,164 to 16,371 ug/l.
24. NEWSVT's plan for Phase V includes a Class II Wetlands variance, causing further disturbance of groundwater. To locate Phase V elsewhere would not be cost effective, according to NEWSVT. (*Summary of Hydrogeologic Characterizations 2005*) Casella can afford a Phase V plan that does not include encroaching on wetlands. Casella's net cash provided by operating activities was \$107.5 million for the 2017 fiscal year. (*Casella 2017 Annual Report, DUMP Pre-filed Testimony*)

TOXIC PFAS IN LANDFILL GROUNDWATER

25. PFAS has already been detected in groundwater monitoring wells at the landfill, according to the ANR Report on PFAS Sampling at NEWSVT Landfill, dated Sept. 4, 2018. (*Exhibit 13, DUMP's Pre-filed Testimony*) Of the six wells tested around the unlined and lined portions, PFAS was detected in two, or one-third, of the wells.
26. Sampling of MW-P2RR, located down-gradient in the wetlands adjacent to the northern end of the unlined landfill, revealed dangerously high levels of three PFAS compounds: PFOA (57 ppt) and PFHpA (41 ppt). Additionally, PFHxS was measured at 18 ppt. Collectively, these PFAS compounds totaled 116 ppt, exceeding Vermont's safety standard of 20ppt by almost six times. (*Exhibit 13, DUMP's Pre-filed Testimony*)
27. Two other wells around the unlined landfill were tested – up-gradient well BRW-3D and down-gradient well BRW-2R – with no detection. These wells are further away from the unlined landfill. And, according to the water flow shown on the Sanborn Head map dated September 2018, unlike MW-P2R, neither is located in the direct path of groundwater flow. Contaminant migration to these wells would, therefore, be expected to take longer.
28. Kathan's pre-filed testimony states that there is not an exceedance of groundwater enforcement standards at a point of compliance. Because these PFAS compounds will not breakdown, they will migrate, even if slowly, to the Black River. This is supported by Kasey Kathan's testimony under cross examination at the Act 250 hearing on Jan. 22, 2019, when she stated all ground water flows toward the Black River. And therefore the public's health and the environment will be harmed at some point in the future.
29. The second groundwater monitoring well that showed levels of PFAS was MW-E1, which is down-gradient 400 feet from the Phase IV lined cells and near the compliance boundary. PFAS was measured at 6.7 ppt. (*Exhibit 13, Dump's Pre-filed Testimony*)

Kathan in her pre-filed testimony infers that past uses or land disruption could be the cause for the PFAS detection in MW-E1. Past uses (old race track, stored vehicles, vehicle salvage building, vehicle crusher, tire stockpile) were located about a quarter mile north of MW-E1, adjacent to Unlined Areas A and B. (*NEWSVT Exhibit 061t*) Groundwater does not flow south and therefore past uses cannot explain the PFAS detection in MW-E1.

NEWSVT is responsible for any contamination caused by land disruption due to Phase IV construction. This disruption was referenced by Kathan in a letter dated April 11, 2017, in talking about contamination of MW-805M, which is directly up-gradient from MW-E1 and significantly closer to the lined landfill. MW-E1 and MW-805M are directly down-gradient from the earlier Phase IV cells (cells 1 and 2A), which have been receiving trash for years and generating leachate.

30. While 6.7 ppt is below the Vermont safety standard, it is an indicator of ground water quality issues to come. The close proximity to the compliance boundary, combined with the distance the contaminants have already migrated, indicate that groundwater quality beyond the compliance points will be impacted at some time in the future, probably the relatively near future.
31. The lined landfill cannot be ruled out as the source of PFAS because other contaminants, such as cadmium, chromium, lead and nickel, which can be contributed to migration from the landfill have been detected in MW-E1. In addition, as shown in section “Leachate Migration” hereafter, leachate is getting into the environment.
32. Despite ongoing changes in regulation and lack of agreement on safe levels, it has been known since the 1960s that PFAS compounds cause serious health issues and pollute the groundwater and air. ANR records confirm PFAS is located on the property and found in leachate.

PFAS compounds are manmade chemicals that have been used in a variety of consumer products, including cosmetics, non-stick cookware, firefighting foam, water-repellent clothing, stain resistant sprays and fabrics, cleaners and waxes. Most of these products will make their way to the landfill, contributing to the concentration of PFAS toxins. PFAS will continue to accumulate and migrate at the landfill, and will cause undue harm to public health and groundwater. Continuing to use the archaic method of burial as disposal of these contaminating objects is not responsible, especially when the industry recognizes there are better ways.

LEACHATE MIGRATION

33. Leachate collected above the primary liner “has significantly elevated and variable concentrations of a variety of chemical constituents...” (*Kathan Pre-filed Testimony, page 5, Lines 9-11*)
34. Leachate in the secondary liner is not analyzed per NEWSVT directions, according to the Waite-Heindel water quality reports. (*NEWSVT Exhibit 0611*)
35. Kasey Kathan’s testimony confirms the release of some leachate from the primary liner, stating, “*There have not been significant quantities of leachate collected within the secondary liner system with any of the lined cells...*” While Kathan testifies this is evidence that the primary liner is not leaking, it is also evidence that leachate is released despite the primary liner. (*Kathan Pre-filed Testimony, page 4, Lines 14-16*)

Kathan’s use of the word “significant” is subjective and general, and does not provide clarity, but rather opinion when no comparison is provided.
36. While the monthly totals of leachate gallons reported in the secondary liner may be “significantly” less when compared to primary liner monthly totals, there are individual days when there is a significant number of gallons recorded in portions of the secondary liner as compared to daily amounts in the primary liner. (*NEWSVT Leachate Generation Report, October, 2018*)

37. “Through the Solid Waste Management Facility Permit, there is an established leakage action rate of 20 gallons per acre per day.” (Kathan Pre-filed Testimony, page 4, Lines 18-21) NEWSVT calculates the leakage action rate by adding up the gallons reported each day in the secondary liner for each cell and then dividing the total gallons by the number of days in the month to get an average daily rate. However, when gallons per acre are calculated on a daily basis, there were seven days in October 2018, when the leakage action rate was exceeded, and two additional days when the rate was a fraction below the allowable 20 gallons. On several days the leakage action rate of 20 gallons was exceeded by 20 to 40 gallons. (NEWSVT Leachate Generation Report, October, 2018)
38. Many days there are zero to a few gallons recorded in the secondary liner of all cells. (NEWSVT Leachate Generation Report, October, 2018) As daily amounts of leachate in the secondary liner in excess of the leakage action rate are not the norm, they must be due to a leak, some malfunction, or a mismanagement issue.
39. In its Superior Court filing in Vermont v. Moretown, Docket No. 663-11-14 Wncv, the Agency of Natural Resources states that some leachate is released from double liner systems.
40. “The statistical exceedances of groundwater standards for inorganic compounds in MW-A-1, MW-D-2, MW-P2-R and MW-410-R are also likely the result of migration of leachate containing low levels of these chemicals (including: methylene chloride, vinyl chloride, acetone, benzene, 2-butanone, toluene, and benzene) from the old unlined landfill areas at NEWSVT, since these wells are all in the immediate vicinity of the unlined landfills.” (Watie-Heindel, Water Quality Reports; some of the same/similar statements are made in the water quality reports year after year.)
41. According to the ANR testimony and documents, leachate is released into the environment and getting into the groundwater. Leachate contains many toxins, including the “forever” and accumulative PFAS compounds. These toxins contribute to the undue harm to the environment, and as they continue to migrate will lead to undue harm to the public’s health.

LEACHATE IMPACT ON SURFACE WATERS

42. Of six Vermont facilities tested, Newport WWTF reported the highest concentration (130 ppt) of the Vermont regulated PFAS compounds. It was determined that the waters of the Clyde River would be below the Vermont drinking water health advisory of 20 ppt, therefore concluding “that there is no acute risk to human health or the environment at this time.” (Kathan Pre-filed Testimony, Page 17, Lines 1-10)
43. Acute risk is defined by as “an adverse effect (due to exposure to a harmful substance) on animals or humans, whereby severe systems develop rapidly and lead quickly to a health crisis. These symptoms often subside when the exposure stops. The general definition of an acute illness is one that is expected to be brief and typically are expected to be resolved in less than six months. For a chronic illness, six months or longer is considered the standard length of time for treatment to occur.
44. PFAS compounds are known to cause chronic illnesses, illnesses that persist for a long time and that can result in death, no matter what the cause or source of the illness. PFAS compounds are known to be accumulative and therefore have a greater impact over time. Symptoms created by PFAS compounds are not known to subside once the exposure stops.
45. PFAS compounds are accumulating in Vermont waterways. The Newport WWTF has been dumping effluent with PFAS compounds from the Coventry landfill into the Clyde

River since 2009. The facility is permitted to accept up to 15,000 gallons of leachate containing PFAS compounds each day.

46. The Montpelier WWTF has been dumping effluent from the Coventry landfill into the Winooski River for years before Newport started accepting leachate. The facility is permitted to accept up to 23,000 gallons of leachate containing PFAS compounds a day. However, in October, 2018, when Newport quit accepting Leachate, Montpelier accepted as much as 48,383 gallons on Oct. 29, and exceeded the permit limit on 10 additional days in the last half of the month.
47. ANR states in the Responsiveness Summary: *“Conventional WWTF treatment processes do not efficiently remove PFAS; WWTF treatment processes can lead to physical and chemical partitioning of the various PFAS compounds into either the treated liquid (effluent) or into the solids (sludges) which then may serve as sources of PFAS to the environment.”* (Dump Pre-filed Testimony, Exhibit 21) WWTF’s operators in South Burlington and Montpelier concur with this statement by ANR. (DUMP’s Pre-filed Testimony)
48. Testimonies provided by the applicant and ANR do not deny that PFAS compounds are getting into the water. With the ongoing dumping of effluent containing PFAS compounds into Vermont waterways, the toxins will continue to accumulate.
49. History has repeatedly shown that regulatory standards too often fail to protect the public’s health from various substances used in everyday products and activities, such as construction. In fact, many substances are then banned, just as PFAS was banned. Some of these banned substances include PCBs, vermiculite, lead, mercury, asbestos, creosote, DDT, Freon, glyphosate (Roundup Weed Killer), radon, and Propylene Glycol (Antifreeze).

The impact of PFAS compounds continues to be studied and regulatory standards continue to be evaluated. Further study over time has resulted in adjustments to lower standards, recognizing the standards were not adequate. Therefore, ANR’s current knowledge and the state’s current health advisory standard do not provide adequate proof that impacts to surface water will not result in undue harm to public health and the environment.

The history of PFAS, along with the thousands of lawsuits filed, settled and ongoing pertaining to its contamination, are proof of its toxicity.

GROUND WATER CONTAMINATION | NON-COMPLIANCE

50. *“No groundwater contamination from the unlined landfill has been detected at or near the property boundary...”* (Kathan Pre-filed Testimony, page 5, Lines 17-18) However, exceedances of GES have been detected in BRW-3D, located about 350 feet from the property boundary and 525 feet from the unlined landfill. Arsenic has been increasing in this well since 2013, exceeding Primary GES in October 2018 (Waite-Heindel October 2018 Water Quality Report), and *“there is no definitive correlation between arsenic and the select field parameters.”* (Kathan letter to Joe Gay, April 11, 2017). Total Iron exceeded GES in BRW-3D as well.
51. Monitoring wells 36516 (St. Onge Farm), up-gradient of Phase IV, and P6, down-gradient from Phase I and II, are outside the compliance boundary and have been exceeding Primary GES for years according to Waite-Heindel water quality reports. Exceedances include Total Manganese in 36516, and Total and Dissolved Manganese for P6. (Waite-Heindel October 2018 Water Quality Report)

52. “These exceedance levels for inorganics in up-gradient wells indicate some elevated background concentrations in the region; however, the concentrations are lower than the detected down-gradient concentrations indicating some landfill impact.” (Kathan letter to Joe Gay, October 24, 2014; Waite-Heindel Water Quality Reports)
53. GES exceedances in the five monitoring wells down-gradient of the lined cells (E1, P6, 103, 703, and 805-S) are greater than the concentrations in up-gradient wells. Some of the concentrations of GES-exceeding parameters in these wells have been increasing recently. (Waite-Heindel, Memo B, March 28, 2016)
54. “In the monitoring wells down-gradient of the Phase I – IV landfills quality is, generally, deteriorating (in 4 out of 6 wells). Trends in contaminant levels, even those currently below their VGES, can be indicative of a potential problem and/or source of contamination.” (Kathan letter, January 28, 2014)
55. “The three contaminants of primary concern for this site, As, Fe, Mn were detected in the compliance point monitoring wells.” Arsenic was well above PGES in one of these wells and iron was above SGES in all of the wells, while Manganese was above PGES in all but one well. (Kathan letter to Joe Gay, October 24, 2014).
56. MW-D2 exceeds PGES for more contaminants than other wells down-gradient of the unlined landfill, including Total Arsenic, Total Nickel, Total Chloride, Total Iron, Dissolved Iron, Total Manganese, Dissolved Manganese, Acetone, 2-Butanone, and Total Sodium. (Waite-Heindel Water Quality Reports, 2015, 2016, 2017, 2018)
57. GES exceedances for cadmium, mercury and nickel are also seen in a few up-gradient and down-gradient wells. (Waite-Heindel, Water Quality Reports) Recent PGES exceedances for MW-E1, down-gradient from Phase IV, included cadmium and lead. (Kathan letter, October 24, 2014)
- Cadmium, Lead, Nickel, Benzene and Vinyl Chloride are not background contaminants. (Kathan cross-examination, Jan. 22, 2019)
58. The intent to analyze data to determine background contaminant levels was mentioned in the October 2014 Water Quality Report. Background contaminants have not been definitively defined. (Kathan cross-examination, Jan. 22, 2019)
59. Groundwater is being contaminated by both the unlined and lined portions of the landfill. As background contaminants have not been defined, monitoring wells P6 and 36516 are out of compliance.

WELL SAMPLING METHODOLOGY CHANGED

60. “Low-flow sampling is the preferred and accepted method for groundwater sampling, particularly within low yield wells, such as MW-E1. Low-flow sampling obtains a sample that is representative of the mobile constituents within the groundwater. Grab samples, which had previously been obtained from the well, can cause both underestimates, due to dilution, or overestimates of contaminant concentrations, due to an increased turbidity from suspended sediments.” (Kasey Kathan Pre-filed Testimony, Pages 13-14)
61. “...it is common for silty groundwater samples to result in highly elevated metal concentrations which may not be representative of the actual groundwater (alone).” (Waite Heindel May 2013 Water Quality Report)
62. “Historically, this monitoring well (MW-E1) has reported detections of arsenic, manganese, cadmium, chromium, lead and nickel above the primary groundwater enforcement standards.” The elevated inorganic concentrations were related to the

sediments suspended in the well's water. (*Kathan Pre-Filed Testimony, Page 13, Lines 13-14*)
MW-E1 is down-gradient about 400 feet from Phase IV of the lined landfill.

63. There have been no exceedances of the primary groundwater enforcement standards in MW-E1 since 2014 when the sampling methodology was adjusted to low-flow sampling. (*Kathan Pre-Filed Testimony, Page 13, Lines 15-16*)
64. Inorganic concentrations have been found in exceedance of the primary groundwater enforcement standards in monitoring well MW-805S: arsenic, chromium, lead, nickel, manganese and cadmium. (*Waite Heindel Water Quality Report*) MW-805S is located directly up-gradient of MW-E1.
65. Most of the inorganics found in these down-gradient wells (MW-E1 and MW-805S) are not background contaminants (*Kathan cross-examination, Jan. 22, 2019*) so therefore are not natural to the environment. These wells are not impacted by former uses (old race track, stored vehicles, vehicle salvage building, vehicle crusher, tire stockpile), which were located adjacent to Unlined Areas A and B (*NEWSVT Exhibit 061t*), about a quarter of a mile north of these wells. Groundwater does not flow south.
66. MW-805S was replaced by MW-805M. (Except for the few that have cracked or been accidentally buried, wells being replaced generally have two things in common: low flow and high levels of contaminants.)

Elevated metals have also been detected in the replacement well MW-805M and **“elevated turbidity may indeed be representative of groundwater at this location.”**
(*Kathan letter, April 11, 2017*)

67. Higher levels of inorganics in down-gradient wells compared to wells up-gradient indicate some landfill impact. (*Waite Heindel Water Quality Reports since October 2013*)
68. The contaminants in the “suspended sediments” of these wells – which are not background contaminants, not caused by former land uses, and are reasoned to be the cause of elevated sampling results – migrated from the landfill, most likely via groundwater. Therefore, current methodology of well sampling does not appear to be providing the true levels of contaminant migration.

WETLANDS NEGATIVELY IMPACTED

69. There has been a total disregard for established regulations pertaining to Class II wetlands through the years of the Coventry landfill development. The design for Phase VI follows suit and calls for the landfill to encompass an additional .24 acres.
71. The applicant uses variances received for past phases as reason to be granted a variance for Phase VI. Wetland variances were approved for Phases III and IV, and the design for Phase V includes a variance for the minimum isolation distance of generally greater than only 100 feet, but in two places there will be no isolation distance.

“The alternate standard being requested for the Project will not endanger or tend to endanger human health or safety. NEWSVT previously received similar variance approvals from the WMPD for Phases III and IV at the Facility, which have been constructed, as well as for the proposed development of Phase V (Unlined Landfill Relocation Project).” (*NEWSVT Variance Application Summary (3)*)

71. Additionally, the applicant uses the Phase V wetland permit as partial justification for the Phase VI variance because some of the wetlands will be recovered. However, in a public meeting in Newport in October, 2018, Joe Gay said the landfill was not planning on

implementing Phase V for another 18 to 20 years. Phase V should not be used as justification for a variance for Phase VI.

72. The Phase V wetland recovery would be miniscule compared to the overall impact of the landfill on wetlands.

“The impacts for this phase of the project were reduced from 1.9 acres of wetland impacts to the current 10,291 square feet of impacts. The overall impacts from the landfill have also been decreased. In an amendment filed for the Phase V permit to reduce wetland impacts from 40,193s.f. to 24,069s.f., and to reduce buffer zone impacts from 121,001s.f. to 119,783s.f. Even with the addition of Phase VI impacts, wetland impacts have been reduced by 5,833 square feet.” (NEWSVT Variance Application Findings #12)

73. These variances pose a threat to groundwater quality, as evidenced by comments made in the Vermont Natural Heritage Inventory Element Occurrence report in 1998:

“Given the proximity of a regional landfill to the east of the Lower Black River Wetlands, long term monitoring of the quality of ground water flow should be conducted. The wetland complex itself needs little, if any management to maintain its natural value.”

74. In addition, two Threatened/Endangered Species on the Vermont Heritage list for these wetlands have been negatively affected by the landfill over the years: Lakeside Buttonbush Swamp was confirmed in Lower Black River Wetlands; and, State Rank S2 was logged as rare and imperiled. Neither of these species were observed in the last survey. NEWSVT does not address impacts to the natural environment.

75. Phase VI poses increased negative impacts to groundwater and the wetlands natural habitat, and therefore should not be permitted.

CONCLUSIONS OF LAW

DUMP concedes, consistent with its conclusions above for Criterion 1(Air Pollution), that an ANR Solid Waste Certification creates an evidentiary presumption of compliance under Criterion 1B pursuant to Act 250 Rule 19. However, DUMP disputes whether the Pretreatment Permit associated with the leachate generated by the landfill should also be entitled to such a presumption.

This substantive contention by DUMP is anchored in the factual record which has established the PFAS content of the leachate discharged by the landfill cells, which is then trucked to municipal WWTFs – primarily the WWTFs for the cities of Newport and Montpelier. ANR failed to comply with the provisions of 10 VSA 6605 requiring a coordinated process by all divisions within ANR before approving a solid waste facility. In the present matter, ANR has certified a large landfill expansion over many years without proper consideration of PFAS on surface waters and the health of human beings and aquatic biota.

Under Criterion 1, the Commission must find that the project will not result in undue water pollution. The burdens of production and proof under Criterion I (Water) are on the applicant.

10 V.S.A. 6088(a). The Commission must determine whether undue water pollution would result from any and all aspects of the landfill operation. There is no specific definition of "undue water pollution" in Act 250. Mark and Pauline Kisiel, #5W1270-EB, (Altered)(Aug. 7, 1998). The term "undue water pollution" is interpreted in the context of specific facts of each case. Re: Upper Valley Regional Landfill, #3R0609-EB, at 32 (Nov. 12, 1991). The Commission must consider the elevation of the project, the relationship between the project and floodplains, the topography of the project tract, the characteristics of the ground cover, proximity to rivers and capacity of

nearby stream, and applicable regulations.

While ANR had issued a Pretreatment Permit germane to the existing landfill operation and its generation of leachate, that Permit expired on December 31, 2016. The provisions of 3VSA 814(b) authorizes ANR to allow a developer to continue operation under terms of an expired permit if an application for renewal of the permit is timely filed. DUMP notes that while ANR has proposed a formal rule providing for operation under expired permits, proposed “ANR Uniform Environmental Procedural Rule” Section 37-303 has yet to be formally promulgated, according to the ANR web site as of February 27, 2019.

There is no dispute that the applicant has filed for a permit renewal. However, the record in this case clearly establishes that the content that leachate contains is a very toxic substance not explicitly included in the ANR review of the now expired permit – namely PFAS. Thus, the pending “renewal” application includes subject matter which exceeds a mere “renewal” and the arguable presumption of allowing the landfill expansion to be authorized under Act 250 Rule 19 is ill founded and should not be allowed.

By extension, because the ANR Certification relies upon the issuance of the “renewed” Pretreatment Permit, the presumptive value of the Certification itself is called into question.

The discharges of “treated” leachate containing PFAS into the Clyde and Winooski rivers raises profound environmental, health and public policy implications.* And absent a valid Pretreatment Permit for the landfill leachate, which properly and explicitly considers the PFAS content and impacts, the District Commission must conclude that it is improvident to grant presumptive value under Criterion 1B. And thus a land use permit cannot be issued because the applicant has not met its evidentiary burdens of production and proof under Criterion 1B.

Should the Commission decide to issue a land use permit in this matter, and in the alternative, DUMP requests a permit condition limiting the terms of the permit similar to the reasoning stated above under criterion 1(Air). Specifically, the Commission should not grant a permit for the 35-year term requested in the applicant’s application. The ANR Certification is issued for only a 10-year permit and the presumptive value cannot extend beyond that period.

Thus, any land use permit issued in this matter should track with the life of the Certification. Furthermore, a permit condition should require that the applicant inform the Commission of the extent of cells that would be developed during that 10-year period, along with a closure plan for those cells. A substantive amendment application must be filed for the review of any extension of the landfill operation beyond that 10-year period.

* Had the District Commission granted DUMP party or at least Friend status under Criterion 9K, DUMP would have proven that the Lake qualifies as a “public investment” under a long line of Environmental Board precedents and that the applicant has failed to meet its evidentiary burdens of production and proof under this criterion. The only evidence the applicant provided was shallow representations in its Schedule B document.

Even absent an opposing party, a District Commission is required by law to ensure compliance with all criteria of Act 250. The evidentiary record herein argued by DUMP under Criterion 1B with regard to the PFAS discharge into the rivers flowing into Lake Memphremagog and Lake Champlain supports negative conclusions and requires a denial of a land use permit under Criterion 9K.