#### IN THE UNITED STATES DISTRICT COURT DISTRICT OF SOUTH CAROLINA CHARLESTON DIVISION

CHARLESTON WATERKEEPER,	)
SOUTH CAROLINA COASTAL	)
CONSERVATION LEAGUE	)
	)
Plaintiffs,	)
	)
V.	)
	)
FRONTIER LOGISTICS, L.P.	)
	)
Defendant.	)
	)
	)

#### COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

C.A. No.\_\_\_\_\_

#### COMPLAINT

Plaintiffs Charleston Waterkeeper ("Waterkeeper") and South Carolina Coastal Conservation League ("Conservation League") (collectively, "Plaintiffs"), by and through their counsel, hereby allege:

#### NATURE OF THE CASE

1. This is a civil suit brought against Defendant Frontier Logistics, L.P. ("Frontier"), under the citizen suit enforcement provisions of the Solid Waste Disposal Act, 42 U.S.C. § 6901 *et seq.* ("Resources Conservation and Recovery Act" or "RCRA"), and the Federal Water Pollution Control Act, 33 U.S.C. § 1251 *et seq.* ("Clean Water Act" or "CWA"). Plaintiffs seek declaratory and injunctive relief, civil penalties, attorneys' fees, and other relief the Court deems appropriate to remedy Frontier's violations of federal law from its packaging and distribution facility at Union Pier Terminal Building 322 in Charleston County, South Carolina ("Facility").

2. At the Facility, Frontier handles—and releases into the environment—small preproduction plastic pellets known as "nurdles." As detailed more fully below, the Waterkeeper has collected over 14,000 plastic pellets from the Cooper River, Charleston Harbor, and other Charleston area waterways, beaches, and parks since the organization began sampling in July of 2019. Some of these samples were recovered from the Cooper River immediately adjacent to the Frontier Facility and from the Facility fence line. Untold numbers of pellets remain in Charleston waters over seven months after Frontier was first identified as the likely source of this pollution.

3. Frontier's violations of federal law include (1) that Frontier has contributed and is contributing to the past or present handling, storage, treatment, transportation, or disposal of solid waste which may present an imminent and substantial endangerment to health or the environment in violation of RCRA, and (2) that Frontier is discharging pollutants into waters of the United States without a National Pollutant Discharge Elimination System ("NPDES") permit in violation of the CWA.

4. Frontier's pervasive violations are harmful to area waterways, beaches, and marshes, and threaten the vast array of wildlife that depend on these natural resources for survival.

#### JURISDICTION AND VENUE

5. Plaintiffs bring this enforcement action under the citizen suit provisions of RCRA, 42 U.S.C. § 6972, and the CWA, 33 U.S.C. § 1365. This Court has jurisdiction over this action pursuant to those statutes and 28 U.S.C. § 1331 (civil action arising under the laws of the United States), and it has jurisdiction over the parties.

6. On October 29, 2019, Plaintiffs notified Defendant of their intention to file suit for violations of the CWA, in compliance with notice requirements in 33 U.S.C. § 1365(b)(1)(A) and the corresponding regulations at 40 C.F.R. §§ 135.2–135.3. Plaintiffs sent that notice letter via certified mail to Frontier CEO George Cook, the Administrator of the United States

Environmental Protection Agency ("EPA"), the Regional Administrator of EPA Region 4, and the Director of the South Carolina Department of Health and Environmental Control ("DHEC"), and personally served the letter on Frontier's local operations manager, Brett Huddleston, and Frontier's registered agent in South Carolina, Aimee Cook. More than 60 days have elapsed since the notice letter was served on Frontier and the state and federal agencies. A true and correct copy of Plaintiffs' October 29, 2019 notice letter with documentation of its receipt is attached hereto as Exhibit 1.

7. On December 6, 2019, Plaintiffs notified Defendant of their intention to file suit for violations of RCRA, in compliance with notice requirements in 42 U.S.C. § 6972(b)(2)(A) and the corresponding regulations at 40 C.F.R. Part 254. Plaintiffs sent that notice letter via certified mail to Frontier CEO George Cook, the Administrator of the EPA, the Regional Administrator of EPA Region 4, and the Director of DHEC, and personally served the letter on Frontier's local operations manager, Brett Huddleston, and Frontier's registered agent in South Carolina, Aimee Cook. More than 90 days have elapsed since the notice letter was served on Frontier and the state and federal agencies. A true and correct copy of Plaintiffs' December 6, 2019 notice letter with documentation of its receipt is attached hereto as Exhibit 2.

8. Neither the EPA nor DHEC has commenced or is diligently prosecuting a court action to redress the violations described in the notice letters and alleged in this complaint.

9. The violations identified in the notice letters are continuing at this time and are likely to continue in the future.

10. Venue is proper in this Court pursuant to 42 U.S.C. § 6972(a) because the action regards alleged violations and endangerment that occurred and may occur in this judicial district. Venue is also proper in this Court pursuant to 33 U.S.C. § 1365(c)(1) because the source of the

violations is located in this district. Plaintiff Waterkeeper and Plaintiff Conservation League are both based in this district, and although Defendant Frontier is incorporated in Illinois, and its principal office is located in Texas, it regularly conducts business and operates the Union Pier Terminal Facility in this district.

#### PARTIES

#### Charleston Waterkeeper and South Carolina Coastal Conservation League

11. Plaintiff Charleston Waterkeeper is a Charleston-based § 501(c)(3) not-for-profit organization working to protect and improve water quality, wildlife habitat, and recreation in the Charleston Harbor Watershed through advocacy, education, and enforcement of environmental laws. The Waterkeeper is an affiliate of the Waterkeeper Alliance, a global movement of on-thewater advocates who patrol and protect rivers and coasts all over the world.

12. Plaintiff South Carolina Coastal Conservation League is a Charleston-based § 501(c)(3) not-for-profit organization whose mission is to protect the resources of the South Carolina coastal plain, including its natural landscapes, wildlife, clean water, and quality of life.

13. Plaintiff organizations and their members have significant, particularized, and concrete interests in preventing Frontier's pollutant discharges from the Facility and the resulting endangerment to the environment. Plaintiffs' members live near, recreate on, and regularly visit the Cooper River and other Charleston waters and beaches harmed by Frontier's discharges, and intend to recreate on and visit these waters and beaches in the future. These individuals use and enjoy Charleston waters and beaches for recreational, commercial, educational, conservation, and aesthetic purposes, including, but not limited to, boating, scuba diving, swimming, fishing, and sightseeing. Frontier's ongoing discharges from the Facility harm Plaintiffs' members in part because these discharges contain pollutants that are known to be harmful to wildlife and to

persist in the environment. These harms fall within the zone of interests protected by RCRA and the CWA.

14. Neither DHEC nor the EPA is actively enforcing environmental laws and regulations despite the ongoing violations, which began on and have continued since at least March 10, 2018. Therefore, Plaintiff organizations and their members seek to prevent and remedy their ongoing injuries with this action. Relief from this Court addressing Frontier's non-compliance with RCRA and the CWA would redress the injuries of Plaintiff organizations and their members by increasing the likelihood, if not ensuring, that Frontier will cease its pollutant discharges and eliminate the endangerment to the environment.

#### Frontier Logistics, L.P.

15. Defendant Frontier Logistics, L.P., a corporation formed in the State of Illinois and headquartered in the State of Texas, provides supply chain management services to the plastics industry. Frontier has operated the Union Pier Terminal Facility in Charleston County, South Carolina, since at least April 2017. As detailed more fully below, at this Facility, Frontier receives plastic pellets via rail and packages them in bulk bags for shipment overseas, where the pellets are used to manufacture plastic goods.

16. Frontier is a "person" within the meaning of Section 1004(15) of RCRA, 42U.S.C. § 6903(15), and Section 502(5) of the CWA, 33 U.S.C. § 1362(5).

#### LEGAL BACKGROUND

#### **Resource Conservation and Recovery Act**

17. "RCRA's primary purpose . . . is to reduce the generation of hazardous waste and to ensure the proper treatment, storage, and disposal of that waste which is nonetheless generated, 'so as to minimize the present and future threat to human health and the

environment."" *Mehrig v. KFC W., Inc.*, 516 U.S. 479, 483 (1996) (quoting 42 U.S.C. § 6902(b)).

18. Section 7002(a)(1)(B) of RCRA provides that any person may commence a civil action against:

any person . . . including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility, who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment . . . . 42 U.S.C. § 6972(a)(1)(B).

19. Section 1004(3) defines "disposal" as "the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste . . . into or on any land or water so that such solid waste or hazardous 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).

20. Section 1004(27) defines "solid waste" as "any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities . . . ." 42 U.S.C. § 6903(27).

#### **Clean Water Act**

21. Congress enacted the CWA to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). To that end, Congress set a national goal that "the discharge of pollutants into the navigable waters be eliminated . . . ." 33 U.S.C. § 1251(a)(1).

22. Section 502(12) defines "discharge of a pollutant" as "any addition of any pollutant to navigable waters from any point source . . . ." 33 U.S.C. § 1362(12); *see also* 33 U.S.C. § 1362(7) (defining "navigable waters"); 40 C.F.R. § 122.2 (defining "waters of the United States").

23. The CWA identifies a number of materials and wastes that, if discharged into water, render them "pollutants," including, but not limited to, solid waste, chemical wastes, wrecked or discarded equipment, and industrial waste. 33 U.S.C. § 1362(6).

24. Section 502(14) defines "point source" broadly to include "any discernable, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C. § 1362(14).

25. Under the CWA, a point source polluter may only discharge pollutants pursuant to a NPDES permit issued by the EPA or by a State that has received approval to issue such a permit. 33 U.S.C. §§ 1311(a), 1342(a)-(b), 1362(12)(A). In South Carolina, DHEC is the entity approved to issue NPDES permits.

26. Each "discharge of any pollutant" that is not authorized by a NPDES permit is a violation of the CWA. 33 U.S.C. §§ 1311(a), 1342(a), 1365(f).

27. Section 505 of the CWA authorizes any citizen to commence a civil action "against any person . . . who is alleged to be in violation of . . . an effluent standard or limitation . . . ." 33 U.S.C. § 1365(a)(1). Enforcement pursuant to Section 505 encompasses an action to remedy unauthorized discharges in violation of Section 301, 33 U.S.C. § 1311(a). 33 U.S.C. § 1365(f).

28. Section 505 authorizes actions for injunctive relief. 33 U.S.C. § 1365(a).

29. Each separate violation of the CWA subjects the violator to a penalty of up to \$55,800 per day per violation for all violations occurring after November 2, 2015, pursuant to Sections 309(d) and 505(a). 33 U.S.C. §§ 1319(d), 1365(a); 40 C.F.R. § 19.4 (Civil Monetary Penalty Inflation Adjustments).

30. Section 505(d) permits prevailing or substantially prevailing parties to recover litigation costs, including attorney fees and expert witness fees. 33 U.S.C. § 1365(d).

#### FACTUAL BACKGROUND

#### **Union Pier Terminal Facility**

31. Frontier's Union Pier Terminal Facility, located on a pier over the Cooper River, is a resin products packaging and distribution center that has operated since at least April 2017. The Facility, which is leased by Frontier from the South Carolina Ports Authority ("SCPA"), comprises a rail offloading zone, a truck loading dock, and an approximately 100,000-square-foot steel warehouse. *See* Exhibit 3, at 2.

32. Frontier is engaged in the transloading of pre-production plastic pellets for export through the Port of Charleston. The term "transloading" refers to the process by which a shipment is transferred from one mode of transportation to another. Plastic pellets are received at the Facility by rail and then transferred to storage silos within the warehouse using pneumatic hoses. From the storage silos, the pellets are packaged into plastic bags; the plastic bags are stacked onto wooden pallets; and the wooden pallets are stored in the warehouse awaiting shipping instructions. Once shipping instructions arrive, the pallets are loaded onto cargo containers at the truck loading dock and carried by truck from the Facility to an SCPA terminal.

33. The Facility is located at Union Pier Terminal, a concrete wharf that extends over the Cooper River. *See* Exhibit 3, at 1. The wharf and, more specifically, the Facility contain numerous openings that, upon information and belief, empty into or immediately adjacent to the river. These openings include, but are not limited to, drainage outlets along the rail lines (IMG\_1796, IMG\_1770, IMG\_1776, IMG\_1777), exposed seams between concrete slabs (IMG\_1774, IMG\_1781, IMG\_1783, IMG\_1785, IMG\_1786, IMG\_1787, IMG\_1788, IMG\_1789), space between the truck loading dock and the ground (IMG\_1795), and unenclosed edges of the pier (IMG\_1790). *See* Exhibit 3.

#### **July 2019 Plastic Pellet Spill**

34. The spilling of plastic pellets is a pervasive problem for the plastics industry. Due to their small size and light weight, pellets can spill at any stage of operations, including during the transloading process, and escape into the environment if not properly contained and cleaned up. An estimated 250,000 tons of plastic pellets enter oceans each year.

35. On July 19, 2019, DHEC received a complaint that plastic pellets were washing ashore on Sullivan's Island Beach in Charleston County. DHEC staff conducted a site visit at the beach that same day and collected samples of the pellets. DHEC staff observed that the pellets were uniformly small, round, and opaque white in color. *See* Exhibit 4, at 2.

36. On July 19, 2019, DHEC staff conducted a site visit at the Frontier Facility, during which agents of SCPA and Frontier personnel were present. In the spill Incident Report, DHEC staff noted:

Numerous areas of concern were observed. See photo log/image map in docs. Sample obtained during time of site visit. Plastic accumulation observed throughout facility. Most

of the facility is located over water. Numerous openings throughout facility were observed directly over water.

Exhibit 5, at 5. DHEC staff also observed that the pellets at the Facility appeared to resemble the pellets present on Sullivan's Island Beach. *See* Exhibit 4, at 2. Photographs taken by DHEC staff during the site visit show plastic pellets spilled along the rail lines, in seams between concrete slabs, beneath the truck loading dock, and inside a screened grate. *See* Exhibit 3. Many of these spilled pellets were in close proximity to openings in the Facility that empty directly into or immediately adjacent to the Cooper River.

37. Upon information and belief, plastic pellets are released from the Facility into the Cooper River and onto nearby land via wind.

38. Upon information and belief, plastic pellets are released from the Facility into the Cooper River and onto nearby land via stormwater.

39. Upon information and belief, plastic pellets are released from the Facility into the Cooper River and onto nearby land via washwater.

40. In addition to the allegations contained in paragraphs 37–39, upon information and belief, there are other mechanisms and pathways by which plastic pellets are released from the Facility into the Cooper River and onto nearby land, including, but not limited to, (1) during the pellet offloading process in the rail offloading zone, (2) during the pellet bagging and storage process, and (3) during the pellet loading process in the truck loading dock.

41. On July 23, 2019, DHEC staff conducted a follow-up visit at Sullivan's Island Beach. By that time, an environmental remediation contractor had begun removing plastic pellets from the beach, though DHEC staff still observed smaller quantities of pellets. *See* Exhibit 4, at 3.

42. On July 24, 2019, DHEC received a complaint that plastic pellets were washing ashore on Isle of Palms in Charleston County. DHEC staff conducted a site visit at Isle of Palms and observed pellets on the beach that resembled those present at the Facility and on Sullivan's Island Beach. *See* Exhibit 4, at 3.

43. On July 26, 2019, DHEC sent Frontier a Notice of Alleged Violation/Notice of Enforcement Conference, alleging that Frontier violated the Pollution Control Act, S.C. CODE ANN. § 48-1-90(A)(1), "in that it is unlawful for a person, directly or indirectly, to throw, drain, run, allow to seep, or otherwise discharge into the environment of the State organic or inorganic matter, including sewage, industrial wastes, and other wastes, except in compliance with a permit issued by [DHEC]." Exhibit 4, at 3.

44. On July 29, 2019, DHEC staff conducted an inspection of the Facility. Photographs taken by DHEC staff during the inspection show that Frontier had installed silt fencing, duct tape, and sand bags to cover some of the openings at the Facility, and that Frontier was using a plastic container to catch pellets during the rail offloading process. The photographs also show remaining vulnerabilities at the Facility, including exposed openings to the Cooper River and gaps in silt fencing. *See* Exhibit 6.

45. DHEC held an enforcement conference with representatives of Frontier on August 1, 2019, to discuss the July 26, 2019 Notice of Alleged Violation/Notice of Enforcement Conference.

46. Following the enforcement conference, Frontier sent a letter to DHEC on August 29, 2019, objecting to some of the findings in the Notice of Alleged Violation/Notice of Enforcement Conference. Frontier claimed that many of the pellets reported on Sullivan's Island Beach did not resemble pellets handled by Frontier at the Facility. Frontier also claimed that,

since the DHEC inspection of the Facility on July 19, 2019, Frontier had improved housekeeping procedures and physical barriers at the Facility. *See* Exhibit 7.

47. On October 17, 2019, DHEC sent a letter to Frontier stating that the agency had decided to close the matter "based upon the Department's investigation and the supplemental information provided by Frontier during and subsequent to the enforcement conference . . . ." Exhibit 8, at 2.

48. Despite DHEC's decision to close the matter and Frontier's assurances that it has implemented sufficient housekeeping and containment procedures at the Facility, plastic pellet sampling conducted by Plaintiff Waterkeeper indicates that the problem is ongoing.

#### **Post-Spill Sampling Protocol**

49. Since plastic pellets were discovered on Sullivan's Island Beach on July 19, 2019, the Waterkeeper has carried out a sampling protocol for pellets at dozens of beaches, parks, and other sites adjacent to water in Charleston County.

50. To ensure comparable data across sites, the Waterkeeper adopted the following sampling procedures beginning on September 18, 2019: (1) locate the high tide line, (2) collect plastic pellets for 10 minutes, and (3) document the number of pellets collected, the GPS coordinates, and the date. These protocols are consistent with the peer-reviewed sampling methodology developed by "Nurdle Patrol," a citizen science project that works to gather information and generate awareness about plastic pellet pollution along the Gulf coast.

51. The Waterkeeper also selected five sites to conduct regular—typically weekly sampling in an attempt to identify a pellet "hotspot(s)." Those five sites were selected based on their proximity to the Facility and their ability to accumulate aquatic debris such as plastic pellets. *See* Figure 1.

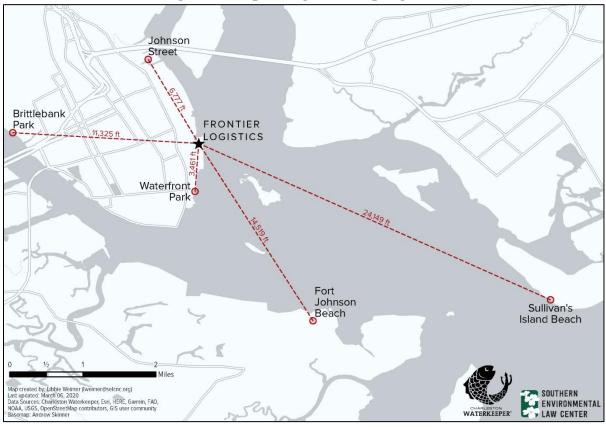


Figure 1: Map of Regular Sampling Sites

52. Since July 19, 2019, the Waterkeeper has collected a total of 14,281 plastic pellets. *See* Figure 2.

Figure 2: Sampling Data		
Location	Date of Collection	Total Number in Sample
Sullivan's Island	7/19/2019	20
Sullivan's Island	7/21/2019	8
Sullivan's Island	7/21/2019	81
Sullivan's Island	7/21/2019	1608
Sullivan's Island	7/21/2019	271
Shute's Folly	8/28/2019	10
No Name Beach/Sumter	8/28/2019	44
Fort Johnson Beach	9/4/2019	50
Fort Johnson Beach	9/6/2019	30
Sullivan's Island	9/6/2019	208
Johnson Street	9/10/2019	64
Sea Breeze Marina	9/10/2019	91
Gadsdenboro	9/10/2019	28

Cadadanhora	0/10/2010	12
Gadsdenboro	9/10/2019	12
Waterfront Park	9/10/2019	54
Capers Island	9/15/2019	17
Brittlebank Park	9/18/2019	1
Waterfront Park	9/18/2019	237
Johnson Street	9/18/2019	247
Fort Johnson Beach	9/18/2019	81
Sullivan's Island	9/18/2019	38
Johnson Street	9/21/2019	10
Brittlebank Park	9/25/2019	0
Johnson Street	9/25/2019	74
Waterfront Park	9/25/2019	202
Filbin Creek	9/25/2019	71
Fort Johnson Beach	9/25/2019	130
Sullivan's Island	9/27/2019	653
Sullivan's Island	9/28/2019	22
Brittlebank Park	10/2/2019	0
Johnson Street	10/2/2019	57
Sea Breeze Marina	10/2/2019	91
Waterfront Park	10/2/2019	58
Fort Johnson Beach	10/2/2019	19
Old Village TOMP	10/6/2019	28
Sullivan's Island	10/6/2019	66
Wappoo Cut Landing	10/9/2019	6
Brittlebank Park	10/9/2019	0
Sunrise Park	10/9/2019	10
Waterfront Park	10/9/2019	355
Johnson Street	10/9/2019	104
Fort Johnson Beach	10/9/2019	65
Johnson Street	10/16/2019	83
Waterfront Park	10/16/2019	70
Fort Johnson Beach	10/16/2019	20
Brittlebank Park	10/17/2019	1
Sunrise Park	10/17/2019	10
Brittlebank Park	10/23/2019	0
Wappoo Cut Landing	10/23/2019	1
Sunrise Park	10/23/2019	1
Johnson Street	10/23/2019	46
Waterfront Park	10/23/2019	89
Fort Johnson Beach	10/23/2019	4
Sullivan's Island	10/24/2019	96
Waterfront Park	10/28/2019	97
Sea Breeze Marina	10/29/2019	80

Brittlebank Park         10/30/2019         1           Sunrise Park         10/30/2019         11	
Sumse rank 10/30/2017 11	
Johnson Street 10/30/2019 39	
Fort Johnson Beach         10/30/2019         9	
Sullivan's Island         10/31/2019         20	
Fort Johnson Beach         10/31/2019         18	
Fort Johnson Beach         10/31/2019         37	
Brittlebank Park 11/8/2019 0	
Waterfront Park         11/8/2019         109	
Johnson Street 11/8/2019 35	
Sullivan's Island         11/13/2019         8	
Fort Johnson Beach         11/13/2019         6	
Sunrise Park         11/13/2019         3	
Waterfront Park         11/13/2019         172	
Johnson Street 11/13/2019 120	
Brittlebank Park         11/13/2019         2	
Hendricks Park         11/19/2019         205	
Sea Breeze Marina         11/19/2019         242	
Laurens/Washington RR 11/19/2019 171	
Waterfront Park         11/19/2019         180	
Frontier 11/21/2019 7	
Childsbury Towne 11/21/2019 12	
Rice Hope Plantation Inn 11/21/2019 2	
Bushy Park Boat Landing 11/21/2019 12	
Braddock Ave 11/21/2019 24	
Fort Johnson Beach 11/22/2019 8	
Brittlebank Park 11/22/2019 3	
Johnson Street 11/22/2019 102	
TOMP Waterfront Park11/22/201974	
Sullivan's Island 11/22/2019 129	
Paper Mill 11/26/2019 46	
Goose Creek 11/26/2019 17	
Fort Johnson Beach 11/27/2019 11	
Brittlebank Park 11/27/2019 1	
Waterfront Park         11/27/2019         61	
Laurens/Washington RR 11/27/2019 38	
Hilton Head Island 11/27/2019 0	
Johnson Street 11/27/2019 56	
TOMP Waterfront Park11/27/201951	
Hilton Head Island 11/28/2019 0	
Hilton Head Island 11/29/2019 0	
Sullivan's Island 11/29/2019 56	
Hilton Head Island11/30/20190	

Isle of Palms	12/2/2019	8
Sullivan's Island	12/2/2019	8 14
Edisto Beach		
	12/3/2019	0
Dewees Island	12/4/2019	0
Seabrook Island Beach	12/5/2019	2
Folly Beach	12/5/2019	22
Old Village TOMP	12/5/2019	9
Fort Johnson Beach	12/6/2019	29
Brittlebank Park	12/6/2019	1
Waterfront Park	12/6/2019	61
Laurens/Washington RR	12/6/2019	99
Johnson Street	12/6/2019	45
TOMP Waterfront Park	12/6/2019	36
Sullivan's Island	12/7/2019	15
Sullivan's Island	12/9/2019	64
Kiawah Island	12/9/2019	15
Isle of Palms	12/10/2019	10
Fort Johnson Beach	12/11/2019	10
Brittlebank Park	12/11/2019	0
Waterfront Park	12/11/2019	69
Laurens/Washington RR	12/11/2019	118
Johnson Street	12/11/2019	53
TOMP Waterfront Park	12/11/2019	35
Sullivan's Island	12/11/2019	33
Folly Beach	12/12/2019	5
Dewees Island	12/12/2019	0
Seabrook Island Beach	12/14/2019	3
Sullivan's Island	12/16/2019	88
Folly Beach	12/16/2019	7
Edisto Beach	12/16/2019	0
Sea Breeze Marina	12/17/2019	79
Isle of Palms	12/19/2019	3
TOMP Waterfront Park	12/19/2019	29
Laurens/Washington RR	12/19/2019	32
Waterfront Park	12/19/2019	25
Brittlebank Park	12/19/2019	0
Fort Johnson Beach	12/19/2019	16
Johnson Street	12/19/2019	36
Sullivan's Island	12/19/2019	40
Edisto Beach	12/20/2019	0
Seabrook Island Beach	12/21/2019	3
Dewees Island	12/22/2019	0
Rat Island, Folly Beach	12/24/2019	17
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Lighthouse Inlet, Folly Beach	12/24/2019	34
Sullivan's Island	12/24/2019	38
Sunrise Park	12/24/2019	57
Sullivan's Island	12/24/2019	206
Old Village TOMP	12/24/2019	13
Dewees Island	12/25/2019	11
Seabrook Island Beach	12/25/2019	6
Northbridge Park	12/25/2019	0
Fort Johnson Beach	12/27/2019	21
Brittlebank Park	12/27/2019	10
Johnson Street	12/27/2019	66
Laurens/Washington RR	12/27/2019	36
Waterfront Park	12/27/2019	81
TOMP Waterfront Park	12/27/2019	2
Sullivan's Island	12/27/2019	29
Folly Beach	12/28/2019	33
Fort Johnson Beach	12/31/2019	71
Brittlebank Park	12/31/2019	1
Waterfront Park	12/31/2019	65
Laurens/Washington RR	12/31/2019	57
Johnson Street	12/31/2019	96
Treehouse Park	12/31/2019	6
Children's Park Daniel Island	12/31/2019	16
Remley Point Boat Landing	12/31/2019	84
Pitt Street Park	12/31/2019	22
Seabrook Island Beach (N. Edisto River)	12/31/2019	68
James Island Creek Bridge, James	1/1/2020	б
Island	1/1/2020	40
Sullivan's Island	1/1/2020	48
TOMP Waterfront Park	1/1/2020	35
Folly Beach County Park, Folly Beach	1/4/2020	2
Sullivan's Island	1/8/2020	31
TOMP Waterfront Park	1/8/2020	33
Fort Johnson Beach	1/10/2020	1
Waterfront Park	1/10/2020	59
Laurens/Washington RR	1/10/2020	68
Edisto Beach	1/10/2020	0
Frontier Fence	1/10/2020	238
Johnson Street	1/10/2020	68
Brittlebank Park	1/10/2020	3
Edisto Beach	1/11/2020	0

	1/12/2020	50
Sullivan's Island	1/13/2020	52
TOMP Waterfront Park	1/13/2020	54
Frontier Fence	1/13/2020	190
Folly Beach	1/14/2020	24
Sullivan's Island	1/14/2020	78
Fort Johnson Beach	1/17/2020	34
Brittlebank Park	1/17/2020	8
Waterfront Park	1/17/2020	64
Laurens/Washington RR	1/17/2020	69
Frontier Fence	1/17/2020	132
Johnson Street	1/17/2020	102
Isle of Palms	1/18/2020	5
Shem Creek Landing	1/22/2020	6
Sullivan's Island	1/24/2020	32
Johnson Street	1/24/2020	43
Brittlebank Park	1/24/2020	1
Waterfront Park	1/24/2020	112
Laurens/Washington RR	1/24/2020	27
Frontier Fence	1/24/2020	86
TOMP Waterfront Park	1/24/2020	25
Old Village TOMP	1/26/2020	4
Isle of Palms, County Park	1/28/2020	0
Isle of Palms, Breach Inlet	1/28/2020	3
Sullivan's Island, Fort Moultrie	1/28/2020	18
Fort Johnson Beach	1/30/2020	3
Waterfront Park	1/30/2020	86
Johnson Street	1/30/2020	105
Brittlebank Park	1/30/2020	2
Laurens/Washington RR	1/30/2020	28
Witherbee Road Train Tracks	2/1/2020	15
TOMP Waterfront Park	2/1/2020	69
Sullivan's Island	2/1/2020	90
Johnson Street	2/4/2020	96
Laurens/Washington RR	2/4/2020	44
Waterfront Park	2/4/2020	61
Brittlebank Park	2/4/2020	0
Fort Johnson Beach	2/4/2020	5
Old Village TOMP	2/4/2020	2
Sullivan's Island	2/9/2020	24
TOMP Waterfront Park	2/9/2020	31
Church Creek	2/10/2020	0
Shem Creek	2/11/2020	3
Fort Johnson Beach	2/12/2020	29
	<i>_, 1<i>_, 2</i>020</i>	_/

Total		14,281
Fort Johnson Beach	3/13/2020	2
Brittlebank Park	3/13/2020	0
Waterfront Park	3/13/2020	89
Laurens/Washington RR	3/13/2020	29
Johnson Street	3/13/2020	66
TOMP Waterfront Park	3/12/2020	13
Sullivan's Island	3/12/2020	39
TOMP Waterfront Park	3/6/2020	24
Sullivan's Island	3/6/2020	30
Johnson Street	3/3/2020	56
Laurens/Washington RR	3/3/2020	34
Waterfront Park	3/3/2020	25
Brittlebank Park	3/3/2020	2
Fort Johnson Beach	3/3/2020	10
TOMP Waterfront Park	3/1/2020	63
TOMP Waterfront Park	3/1/2020	26
Hendricks Park	2/29/2020	25
Sullivan's Island	2/28/2020	17
Brittlebank Park	2/27/2020	0
Johnson Street	2/27/2020	98
Waterfront Park	2/27/2020	81
Fort Johnson Beach	2/27/2020	12
Laurens/Washington RR	2/27/2020	16
Fort Johnson East	2/27/2020	20
TOMP Waterfront Park	2/23/2020	5
Sullivan's Island	2/23/2020	30
Pitt Street Park	2/22/2020	37
Johnson Street	2/21/2020	87
Frontier Fence	2/21/2020	157
Laurens/Washington RR	2/21/2020	34
Waterfront Park	2/21/2020	99
Brittlebank Park	2/21/2020	0
Fort Johnson Beach	2/21/2020	17
Sullivan's Island	2/17/2020	33
TOMP Waterfront Park	2/17/2020	25
Fort Johnson Beach	2/14/2020	2
Waterfront Park	2/14/2020	64
Frontier Fence	2/14/2020	124
Laurens/Washington RR	2/14/2020	33
Johnson Street	2/14/2020	126

53. Among the five sites sampled on a regular basis, Waterfront Park and Johnson Street consistently exhibit the highest pellet densities. For 16 of the 24 weeks sampled, the Waterkeeper found the most and second most pellets at Waterfront Park and Johnson Street. For the remaining eight weeks, either Waterfront Park or Johnson Street was among the two most contaminated sites. Waterfront Park and Johnson Street are located closest to the Frontier Facility of the five sites the Waterkeeper samples on a regular basis.

54. In addition to sites adjacent to water, the Waterkeeper has collected plastic pellets along the fence line of the Facility and along the rail line entering the Facility. Upon information and belief, the pellets collected from these two sites (1) were deposited on the rail line from train cars entering or exiting the Facility, (2) were carried by wind or stormwater from the Facility to the fence line, or (3) were carried by wind or stormwater from the rail line to the fence line. Upon information and belief, the pellets recovered from the fence line and the rail line were deposited there without ever interacting with the Cooper River.

55. Upon visual inspection, the plastic pellets the Waterkeeper has recovered from Charleston waters resemble those found along the fence line of the Facility and along the rail line entering the Facility. In general, the pellets are uniform in size, clear or opaque white in color, and one of four shapes (round, square, cylindrical, or disk-like). Some pellets have distinguishing features—for example, a bubble at the core. Many pellets appear pristine, whereas others have yellowed or grayed and show signs of deterioration and weathering.

56. Plaintiffs commissioned Fourier-Transform Infrared Spectroscopy ("FTIR") analysis of 10 recovered pellets—six from Charleston waters and four from the rail line entering the Facility—to identify and compare their chemical compositions. The FTIR analysis concluded that all 10 of the pellets were polyethylene, and that one pellet collected from the rail line

contained an unidentified component in addition to polyethylene. *See* Exhibit 9, at 1. According to Frontier, the Facility handles only polyethylene pellets.

57. Even before the July 2019 spill, the Waterkeeper and local citizens had already begun finding plastic pellets at various Charleston County sites. On March 10, 2018, the Waterkeeper collected 44 pellets at Laurel Island in Charleston; on January 23, 2019, a college student collected 53 pellets at Waterfront Park in Charleston; and on June 21, 2019, a local kayak guide collected 233 pellets on Sullivan's Island Beach. In general, these pellets resemble the tens of thousands of pellets recovered by the Waterkeeper in the aftermath of the July 2019 spill.

58. As of the filing of this Complaint, after six months of concerted sampling, the Waterkeeper continues to find plastic pellets in significant concentrations at sites across the Charleston area, particularly those closest to the Facility.

#### **Harms from Plastic Pellets**

59. Plastics, including plastic pellets, have been demonstrated to cause a variety of lethal and sub-lethal effects in animals.

60. The term "microplastics" refers to any plastic particle that is less than 5mm in size. A primary microplastic is one that was manufactured as a microplastic, whereas a secondary microplastic is one that degraded into a microplastic from larger plastic debris. Plastic pellets are a primary microplastic, but they are also capable of breaking down into smaller microplastic fragments as would a secondary microplastic.

61. Environmental contamination of plastic pellets has resulted in contamination to wildlife. Seabirds have been widely reported to ingest plastic debris, including pellets, and pellets have also been found in fish and marine turtles.

62. Organisms at every level of the aquatic food chain have been documented to ingest or interact with microplastics.

63. Microplastics can be physically harmful to an organism via ingestion, causing lacerations and/or starvation, which may lead to death. Ingestion of small microplastics (<100 $\mu$ m) may also be physically harmful if the particles translocate across the cell membrane into the circulatory, lymphatic, respiratory, and other biological systems.

64. Chemically, plastic pellets and other microplastics are associated with a "cocktail of contaminants," including chemicals added or produced during manufacturing and chemicals present in the environment that accumulate onto plastic debris from surrounding water. Many of the chemicals associated with plastics are listed by the EPA as priority pollutants because they are persistent, bioaccumulative, and/or toxic.

65. Recent laboratory studies have shown lethal and sub-lethal effects in organisms exposed to plastic with sorbed environmental contamination. Those effects include changes in gene expression, inflammation, disruption of feeding behavior, decreases in growth, decreases in reproductive success, changes in larval development, reduced filtration and respiration rates, and decreased survival.

66. Several studies have reported a negative correlation between plastic load and body condition in birds.

67. Plastic pellets have also been shown to have physiological impacts on marine organisms via leachate as opposed to ingestion. Studies have reported decreased development in sea urchin and brown mussel embryos from exposure to leached chemicals from both virgin and beached pellets.

68. Coastal estuaries, such as Charleston Harbor, provide ecosystem services that are economically and ecologically indispensable. Often called nurseries of the sea, coastal estuaries are critical nesting and feeding habitats for many aquatic plants and animals, including most of the fish and shellfish eaten in the United States. More than 75 percent of the U.S. commercial catch complete at least part of their life cycles in estuaries, and that percentage is even greater for the recreational fish catch.

69. The ingestion of microplastics has been demonstrated in several estuarine species, including grass shrimp, shore crabs, oysters, and clams. Laboratory studies have shown increased mortality in grass shrimp and larval fish, changes in oxygen consumption in shore crabs, and declines in reproduction in oysters and zooplankton from exposure to microplastics.

70. Frontier's releases of plastic pellets into the Cooper River, just upstream from Charleston Harbor and the Atlantic Ocean, and onto surrounding land endanger vital ecosystems and the organisms that rely on them for survival.

#### **CLAIMS FOR RELIEF**

#### <u>Count I: Violation of the Resource Conservation and Recovery Act – Imminent and</u> <u>Substantial Endangerment</u>

71. The allegations of the preceding paragraphs are incorporated by reference as if repeated and set forth herein.

72. Pursuant to Section 7002(a)(1)(B) of RCRA, citizens may commence a citizen suit against:

any person . . . including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal Facility who has contributed or who is contributing to the past or present handling, storage, treatment,

transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment . . . ." 42 U.S.C. § 6972(a)(1)(B).

73. Plastic pellets released from the Frontier Facility are "solid waste" because they are "other discarded material . . . resulting from industrial, commercial, mining, and agricultural operations . . . ." 42 U.S.C. § 6903(27).

74. As indicated above, plastic pellets are transported to and handled, stored, and disposed at the Facility.

75. As a result, Frontier, which is the operator of the Facility, contributes to the past and/or present handling, storage, treatment, transportation, or disposal of solid waste.

76. Frontier's handling, storage, treatment, transportation, or disposal of plastic pellets has caused pellets to enter area waters and nearby land, and thus presents an imminent and substantial endangerment to health or the environment.

77. Specifically, as alleged above, many animals, including species of birds, fish, and marine turtles, have been reported to ingest plastic pellets. Exposure to microplastics, including plastic pellets, has been demonstrated to cause a variety of lethal and non-lethal effects in animals, such as disruptions in feeding behavior, reduced growth and development, decreases in reproductive success, and reduced filtration and respiration rates.

78. Plaintiffs and their members are harmed and will continue to be harmed by Frontier's failure to abate the endangerment caused by their operations at the Facility, unless the Court grants the relief sought herein.

#### Count II: Violation of Section 301 of the Clean Water Act

79. The allegations of the preceding paragraphs are incorporated by reference as if

repeated and set forth herein.

80. The waters of the Cooper River are waters of the United States and are thus "navigable waters" as defined by the CWA and controlling authority. 33 U.S.C. § 1362(7); 40 C.F.R. § 122.2.

81. The "point sources" at the Frontier Facility include, but are not limited to, the drainage outlets, seams, and other openings described in paragraph 33. 33 U.S.C. § 1362(14).

82. Plastic pellets are a "pollutant" under the CWA. 33 U.S.C. § 1362(6).

83. Section 301(a) of the CWA, 33 U.S.C. § 1311(a), prohibits the discharge of any pollutant from any point source to waters of the United States, except in compliance with a NPDES permit issued pursuant to Section 402 of the CWA, 33 U.S.C. § 1342.

84. To date, Frontier has not obtained a NPDES permit for the Facility.

85. As operator of the Facility, Frontier is responsible for the CWA violations alleged herein as a result of its unpermitted discharges of plastic pellets into the Cooper River.

86. Each and every discharge of plastic pellets and each and every day plastic pellets remain in waters is a separate and distinct violation of Section 301(a) of the CWA. 33 U.S.C. § 1311(a).

87. Because Frontier has implemented insufficient prevention, containment, and cleanup procedures for plastic pellet spills, it is likely that its discharges into the Cooper River are ongoing, and thus, that its violation of the CWA are ongoing.

88. Plaintiffs and their members are harmed and will continue to be harmed by Frontier's unpermitted discharges at the Facility, unless the Court grants the relief sought herein.

#### **REQUEST FOR RELIEF**

WHEREFORE, the Charleston Waterkeeper and the South Carolina Coastal

Conservation League respectfully request that this Court grant the following relief:

A. Declaratory and injunctive relief pursuant to § 7002 of the Resource Conservation and Recovery Act, 42 U.S.C. § 6972, ordering Frontier to perform and pay for such work as may be required to eliminate any present and future endangerment to health or the environment, and restraining Frontier from further violating RCRA;

B. Declaratory and injunctive relief pursuant to § 505 of the Clean Water Act, 33
 U.S.C. § 1365, ordering Frontier to cease and desist unpermitted discharges, and restraining
 Frontier from further violating the CWA;

C. Civil penalties of up to \$55,800 per day per violation for all CWA violations occurring after November 2, 2015, pursuant to § 309(d) of the CWA, 33 U.S.C. § 1319(d), and the regulations governing the Adjustment of Civil Monetary Penalties for Inflation, 40 C.F.R. § 19.4;

D. An award of the costs of litigation, including reasonable attorney and expert witness fees, pursuant to § 7002 of RCRA, 42 U.S.C. § 6972, and § 505(d) of the CWA, 33 U.S.C. § 1365(d); and

E. Such further and additional relief as the Court deems just and proper.

Respectfully submitted this 18th day of March, 2020.

/s/ Catherine Wannamaker Catherine Wannamaker D.S.C. Bar No. 12577 SOUTHERN ENVIRONMENTAL LAW CENTER cwannamaker@selcsc.org 525 East Bay Street, Suite 200 Charleston, SC 29403 Tel. (843) 720-5270 Fax (843) 414-7039

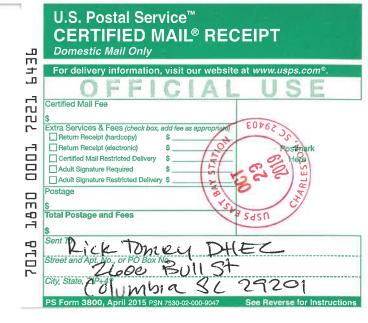
Counsel for Plaintiffs

# Exhibit 1





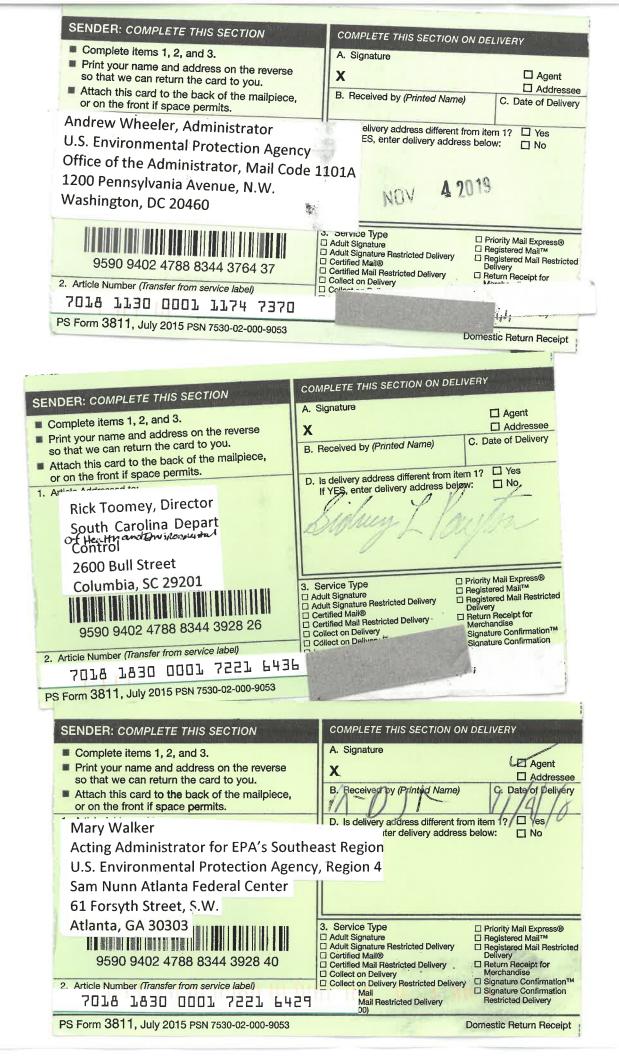


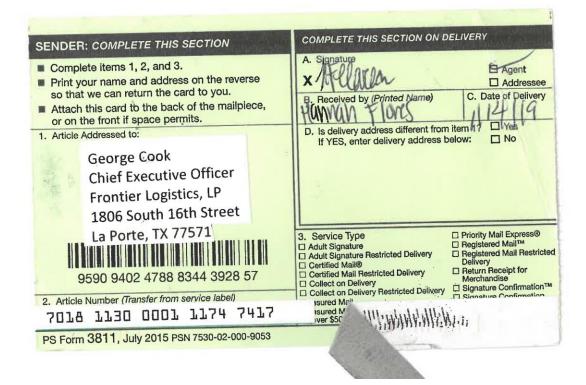






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#### AFFIDAVIT OF SERVICE

#### State of South Carolina

**County of Charleston** 

Case Number: RE: FRONTIER LOGISTICS, LP

Plaintiff:

vs.

Defendant:

For: EMILY SELDEN SOUTHERN ENVIRONMENTAL LAW CENTER 463 KING ST. SUITE B CHARLESTON, SC 29403

Received by PROCESS SERVICE, INC. to be served on **FRONTIER LOGISTICS**, LP, 5801 NORTH RHETT AVE, HANAHAN, SC 29410.

I, John R. Gamble, being duly sworn, depose and say that on the 18th day of November, 2019 at 2:57 pm, I:

served an AUTHORIZED entity by delivering a true copy of the LETTER, NOTICE TO SUE, ATTACHMENTS with the date and hour of service endorsed hereon by me, to: BRETT HUDDLESTON as OPERATIONS MANAGER at the address of: 7054 WEBER DR., LADSON, SC 29456, who stated they are authorized to accept service for FRONTIER LOGISTICS, LP, and informed said person of the contents therein, in compliance with state statutes.

Description of Person Served: Age: 45, Sex: M, Race/Skin Color: WHITE, Height: 6'2", Weight: 260, Hair: BROWN, Glasses: N

I am over eighteen and have no interest in the above action.

Subscribed and Sworn to before me on the 18th day of November, 2019 by the affiant who is personally known

to me. levessa N. 6

John R. Gamble PROCESS SERVER

PROCESS SERVICE, INC. P.O. Box 20097 Charleston, SC 29413 (843) 577-2355

Our Job Serial Number: LEX-2019003035

PRINTED SIGNATURE

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Commission Expires:

2.10.22

#### AFFIDAVIT OF SERVICE

#### State of South Carolina

**County of Charleston** 

Case Number: RE: FRONTIER LOGISTICS, LP

Plaintiff:

VS.

Defendant:

For: EMILY SELDEN SOUTHERN ENVIRONMENTAL LAW CENTER 463 KING ST. SUITE B CHARLESTON, SC 29403

Received by PROCESS SERVICE, INC. to be served on FRONTIER LOGISTICS, LP, 7054 WEBER DRIVE, LADSON, SC 29456.

I, John R. Gamble, being duly sworn, depose and say that on the 20th day of November, 2019 at 6:01 pm, I:

SERVED the within named CORPORATION by delivering a true copy of the LETTER, NOTICE TO SUE, ATTACHMENTS with the date and hour of service endorsed hereon by me to AIMEE COOK, REGISTERED AGENT for FRONTIER LOGISTICS, LP at 166 HANAHAN PLATATION CIRCLE, HANAHAN, SC 29410

Additional Information pertaining to this Service: Brett Huddleton advised me that Aimee Cook was based out of Texas.

I am over eighteen and have no interest in the above action.

Fantr

John R. Gamble PROCESS SERVER

PROØESS SERVICE, INC. P.O. Box 20097 Cha(leston, SC 29413 (843) 577-2355

Our Job Serial Number: LEX-2019003036

Subscribed and Sworn to before me on the 21st day of November, 2019 by the affiant who is personally known to me.

NOTARY PUBLIC

Teressa N. GL PRINTED SIGNATURE

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**Commission Expires:** 

2-10-22

## Southern Environmental Law Center

Telephone 843-720-5270

463 KING STREET, SUITE B CHARLESTON, SC 29403-7204 Facsimile 843-414-7039

October 29, 2019

#### **VIA CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

George Cook **Chief Executive Officer** Frontier Logistics, LP 1806 South 16th Street La Porte. TX 77571

Brett Huddleston **Operations Manager** Frontier Logistics, LP 5801 North Rhett Avenue Hanahan, SC 29410

Aimee Cook Registered Agent for Frontier Logistics, LP 5801 North Rhett Avenue Hanahan, SC 29410

> Re: 60-Day Notice of Violations and Intent to File Citizen Suit Under Section 505 of Clean Water Act

Dear Mr. Cook, Mr. Huddleston, and Ms. Cook:

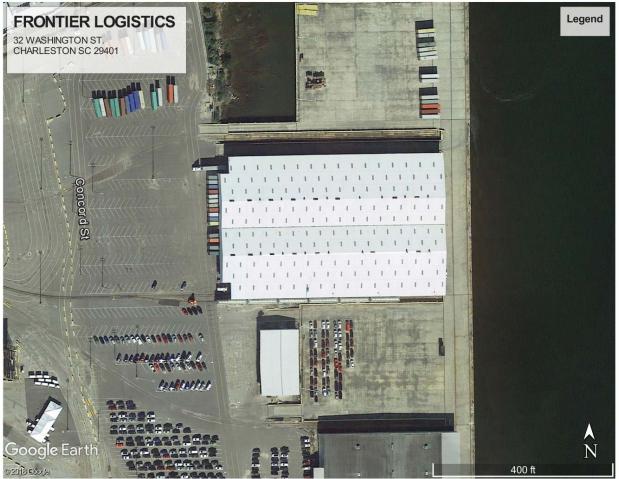
This letter is sent to inform you, Frontier Logistics ("Frontier"), the South Carolina Department of Health and Environmental Control ("DHEC"), and the United States Environmental Protection Agency ("EPA") that the Charleston Waterkeeper ("Waterkeeper") and the South Carolina Coastal Conservation League ("Conservation League") have identified Clean Water Act ("CWA" or "Act")<sup>1</sup> violations at Frontier's facility in Charleston, South Carolina. The Waterkeeper and the Conservation League hereby notify you that, if these violations are not resolved within 60 days from the date of this letter, the Waterkeeper and the Conservation League are prepared to file an action in the United States District Court for the District of South Carolina pursuant to Section 505(a) of the CWA.<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> 33 U.S.C. §§ 1251–1387. <sup>2</sup> 33 U.S.C. § 1365(a)(1).

### I. LOCATION OF VIOLATIONS

#### A. Frontier Facility

Frontier operates a facility in Union Pier Terminal Building 322 at 32 Washington Street, Charleston, South Carolina 29401, from which it has been unlawfully polluting local waterways with plastic pellets. These tiny plastic pellets, also known as "nurdles," are used to manufacture nearly all plastic items in the market. Frontier is a logistics company that packages pellets for export from the Port of Charleston. This process involves siphoning pellets from railcars into storage silos via pneumatic tubes, packaging the pellets in 55-pound plastic bags, and then loading the bags onto pallets and cargo containers. It is common for pellets to spill during handling. Once spilled, the contaminated pellets can no longer be used in manufacturing and, if not cleaned up, are discharged through storm drains and other conveyances into the adjacent Cooper River.



**Figure 1: Frontier Logistics Facility** 

#### B. Cooper River and Charleston Harbor

The majority of the Frontier facility extends over the Cooper River just upstream from Charleston Harbor. The river and the harbor provide important habitat for several endangered and threatened species, including sea turtles, wood storks, piping plovers, West Indian manatees, and sturgeon. These waters are also popular recreational areas with boaters, kayakers, and fishermen, and a National Historical Park protects several sites within or adjacent to the harbor, such as Fort Sumter and Fort Moultrie. Two developed barrier islands-Sullivan's Island and Isle of Palms—sit at the mouth of the harbor along the Atlantic Ocean. These islands together boast about nine miles of pristine beaches and attract tens of thousands of beachgoers each day during peak season.

#### II. **CLEAN WATER ACT VIOLATIONS**

Section 301(a) of the CWA prohibits any person from discharging pollutants from a point source into navigable waters of the United States ("Waters") except in compliance with a National Pollutant Discharge Elimination System ("NPDES") permit.<sup>3</sup> The Act defines a "point source" as "any discernable, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, [or] rolling stock . . . from which pollutants are or may be discharged."<sup>4</sup>

Based on a review of records prepared or kept by DHEC, as well as independent sampling conducted by the Waterkeeper, Frontier is engaged in illegal point source discharges under Section 301(a) of the CWA. Frontier has discharged and continues to discharge plastic pellets from its Union Pier Terminal facility to the Cooper River, Charleston Harbor, and other Waters without a valid NPDES permit.<sup>5</sup> These pellet discharges are traceable to various point sources, including—but not limited to—pipes, conduits, discrete fissures, containers, and rolling stock. Attachment A contains photographs of some of the potential point sources at the Frontier facility.

Frontier's CWA violations have been well-documented since July 2019, although evidence collected by the Waterkeeper reveals that the pellet discharges may have begun at least as early as March 2018. On July 19, 2019, DHEC received a complaint that pellets had washed ashore on Sullivan's Island Beach. In response to the complaint, DHEC staff conducted a visit at the Frontier facility and discovered numerous areas of concern, with plastic pellet accumulation observed throughout the facility. According to the agency, the pellets handled by Frontier resembled those found on Sullivan's Island Beach (and later Isle of Palms). On July 26, DHEC issued a Notice of Alleged Violation/Notice of Enforcement Conference ("NOAV") to Frontier under the state Pollution Control Act for discharging plastic pellets into the environment without a permit.<sup>6</sup>

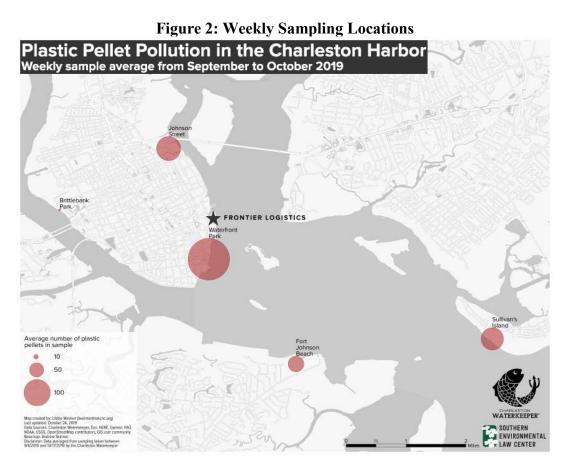
<sup>&</sup>lt;sup>3</sup> 33 U.S.C. §§ 1311(a), 1342(a)-(b), 1362(12)(A). <sup>4</sup> 33 U.S.C. § 1362(14).

<sup>&</sup>lt;sup>5</sup> Our research has not uncovered—and neither DHEC nor Frontier has identified—any permit applicable to Frontier's plastic pellet discharges.

<sup>&</sup>lt;sup>6</sup> See Attachment B.

Other than issuing the NOAV, DHEC has declined to pursue any enforcement action against Frontier, yet there is evidence that the pellet discharges are ongoing. Since July, the Waterkeeper has conducted spot and weekly sampling for pellets at sites across Charleston County. These sampling efforts have revealed—and continue to reveal—pellets in quantities and conditions that demonstrate the Frontier discharges have not ceased. The Waterkeeper has found the largest densities of pellets at the sites nearest to the Frontier facility,<sup>7</sup> and preliminary testing indicates that the recovered pellets are polyethylene and thus match the type of plastic handled by Frontier.

In addition to this more recent data, the Waterkeeper collected 44 pellets at Laurel Island on March 10, 2018, and has retained those samples ever since. Two local citizens have also come forward with pellet samples that predate the July spill. One individual found 233 pellets at Sullivan's Island Beach on June 21, 2019, approximately one month before DHEC began its investigation into Frontier. Another individual found 54 pellets at Waterfront Park several months earlier on January 23, 2019. These discoveries indicate that Frontier began discharging pellets long before DHEC and the greater public became aware of the problem in July 2019. In total, as of the date of this letter, the Waterkeeper has amassed more than 5,200 pellet samples over 20 days.



<sup>&</sup>lt;sup>7</sup> The map in Figure 2 depicts the sites where the Waterkeeper has sampled on a weekly basis since September 2019, along with the average number of pellets found per visit at each site.

Figure 3: Sampling Data					
Location	Date of	Total Number	Sample		
	Collection	in Sample	Туре		
Laurel Island	3/10/2018	44	Spot		
Waterfront Park	1/23/2019	54	Spot		
Sullivan's Island	6/21/2019	233	Spot		
Sullivan's Island	7/21/2019	8	Spot		
Sullivan's Island	7/21/2019	81	Spot		
Sullivan's Island	7/21/2019	1549	Spot		
Sullivan's Island	7/21/2019	271	Spot		
No Name Beach/Fort Sumter	8/28/2019	44	Spot		
Schute's Folly	8/28/2019	10	Spot		
Fort Johnson Beach	9/4/2019	50	Spot		
Sullivan's Island	9/6/2019	208	Weekly		
Fort Johnson Beach	9/6/2019	30	Spot		
Gadsdenboro Park	9/10/2019	40	Spot		
Johnson Street	9/10/2019	64	Spot		
Sea Breeze Marina	9/10/2019	91	Spot		
Waterfront Park	9/10/2019	54	Spot		
Capers Island	9/15/2019	17	Spot		
Brittlebank Park	9/18/2019	1	Weekly		
Fort Johnson Beach	9/18/2019	81	Weekly		
Johnson Street	9/18/2019	247	Weekly		
Sullivan's Island	9/18/2019	38	Weekly		
Waterfront Park	9/18/2019	237	Weekly		
Johnson Street	9/21/2019	10	Spot		
Brittlebank Park	9/25/2019	0	Weekly		
Fort Johnson Beach	9/25/2019	130	Weekly		
Johnson Street	9/25/2019	74	Weekly		
Waterfront Park	9/25/2019	203	Weekly		
Filbin Creek	9/25/2019	71	Spot		
Sullivan's Island	9/28/2019	22	Weekly		
Brittlebank Park	10/2/2019	0	Weekly		
Fort Johnson Beach	10/2/2019	19	Weekly		
Johnson Street	10/2/2019	57	Weekly		
Waterfront Park	10/2/2019	58	Weekly		
Sea Breeze Marina	10/2/2019	91	Spot		
Sullivan's Island	10/6/2019	66	Weekly		
Old Village Mount	10/6/2019	28	Spot		
Pleasant					
Brittlebank Park	10/9/2019	0	Weekly		
Fort Johnson Beach	10/9/2019	65	Weekly		

Johnson Street	10/9/2019	104	Weekly
Waterfront Park	10/9/2019	355	Weekly
Sunrise Park	10/9/2019	10	Spot
Wappoo Cut Landing	10/9/2019	6	Spot
Fort Johnson Beach	10/16/2019	20	Weekly
Johnson Street	10/16/2019	83	Weekly
Waterfront Park	10/16/2019	70	Weekly
Brittlebank Park	10/17/2019	1	Weekly
Sunrise Park	10/17/2019	10	Spot
Brittlebank Park	10/23/2019	0	Weekly
Fort Johnson Beach	10/23/2019	4	Weekly
Johnson Street	10/23/2019	46	Weekly
Waterfront Park	10/23/2019	89	Weekly
Sunrise Park	10/23/2019	1	Spot
Wappoo Cut Landing	10/23/2019	1	Spot
Sullivan's Island	10/24/2019	96	Weekly
Total		5242	

Whereas Frontier may claim that it has implemented housekeeping procedures and physical barriers sufficient to contain spilled pellets, we do not believe this to be the case. Dr. Aiza Jose Sanchez is an expert in pellet source control who recently provided assistance in litigation over a similar issue in Texas.<sup>8</sup> After reviewing photographs and documents obtained from DHEC through the Freedom of Information Act, Dr. Jose Sanchez has determined that the controls implemented by Frontier thus far appear insufficient to prevent ongoing pellet discharges. The following is a non-exhaustive summary of Dr. Jose Sanchez's findings based on existing documentation:

- The location of this facility is inappropriate for the operations conducted at the site. At least three-quarters of the facility is situated over the Cooper River on a pier composed of concrete slabs. The concrete slabs show gaps that appear to drain directly to the river. There are also large drainage outlets in at least the railcar unloading zones, the truck loading zones, and the seawall area. These drainage outlets discharge directly into the river. Any pellets entering these gaps and drainage outlets are discharged directly into the river.
- Inside the warehouse, there are concerns associated with gaps between the concrete slabs, which appear to drain directly to the river. Additionally, there is a trench located at an entrance to the warehouse facing the river; it is unknown if this trench is isolated or if it drains directly to the river. Bagged pellets are placed in proximity to warehouse entrances, allowing for any pellet that drops on the floor to migrate outside the warehouse and into the drainage outlets.
- The silt fence system, which at this time is the primary protection device at the Frontier facility, will not effectively prevent future pellet discharges due to

<sup>&</sup>lt;sup>8</sup> San Antonio Bay Estuarine Waterkeeper v. Formosa Plastics Corp., Texas, No. 6:17-CV-0047, 2019 WL 2716544 (S.D. Tex. June 27, 2019).

inappropriate installation (with existing gaps), anchoring issues, and a likelihood of failure from traffic and water.

- The industrial tape that Frontier has used to cover gaps between concrete slabs will not resist heavy vehicular traffic at the facility and is not an appropriate method to seal the gaps.
- The use of trays under railcar valves to catch loose pellets during unloading operations has, in Dr. Jose Sanchez's experience, shown to be insufficient.
- Photographs from July 19, 2019, documented significant pellet accumulation at the truck loading zone, where pellets appear to fall through gaps between the loading deck and the trucks. Protecting outfalls should be the last line of defense at a facility such as this, and instead, effective source controls, such as containment trenches, should be the priority.
- Frontier stores empty wooden pallets, which are otherwise used to hold pellet bags, outdoors in an unroofed area beside the river. In Dr. Jose Sanchez's experience, even empty wooden pallets can transport pellets if not properly clean.
- The facility should be equipped with pellet spill kits in all areas, including waste containers, brooms, scoops, vacuums, and other instruments to clean pellets as soon as they are spilled.
- Neither the NOAV nor Frontier's response letter discuss whether the facility holds an industrial stormwater permit or has developed an Industrial Stormwater Pollution Prevention Plan ("SWPPP"). Frontier's stormwater discharges require authorization under DHEC's NPDES General Permit for Storm Water Discharges Associated with Industrial Activities. Under this permit, the facility must submit a Notice of Intent and must develop a facility-specific SWPPP. The SWPPP would specify, among other things, stormwater controls, schedules for routine and quarterly inspections, and a stormwater pollution prevention team.<sup>9</sup>

In sum, the voluntary measures implemented by Frontier appear inadequate to eliminate pellet discharges, and Frontier thus remains liable for its ongoing discharges under the CWA.

## III. HARMS ASSOCIATED WITH PLASTIC PELLET POLLUTION

As reflected in scientific literature, plastic pellet pollution poses significant threats to marine organisms and coastal communities. Due to their durability and low density, plastic pellets persist in the environment for many years and are readily dispersed by water and wind.<sup>10</sup> Indeed, as far back as 1992, the EPA recognized plastic pellets as "ubiquitous in the oceans and on beaches," with reports documenting their presence from the Gulf of Mexico, to the Atlantic Ocean, to the South Pacific.<sup>11</sup>

<sup>&</sup>lt;sup>9</sup> See Attachment C.

<sup>&</sup>lt;sup>10</sup> Peter G. Ryan, *A Brief History of Marine Litter Research*, in MARINE ANTHROPOGENIC LITTER 1, 2 (Melanie Bergmann et al. eds., 2015); Anthony Andrady, *Persistence of Plastic Litter in the Oceans, in* MARINE ANTHROPOGENIC LITTER 57, 59 (Melanie Bergmann et al. eds., 2015) ("[T]he rate at which environmental degradation proceeds is painstakingly slow for plastics.").

<sup>&</sup>lt;sup>11</sup> U.S. ENVTL. PROTECTION AGENCY, PLASTIC PELLETS IN THE AQUATIC ENVIRONMENT: SOURCES AND RECOMMENDATIONS § 3.1 (1992).

The primary danger to marine animals from plastic pellet pollution is through ingestion. A 2015 study found that more than 330 animal species—including 100 percent of marine turtles, 50 percent of marine mammals, and 40 percent of seabirds—are known to have consumed plastic debris.<sup>12</sup> As for fish and invertebrates, studies on plastic ingestion "are largely a recent development," but "a rapid increase in publications and species numbers are expected in this currently dynamic field of research."<sup>13</sup> Some animals, such as seabirds, intentionally consume plastic debris depending on foraging techniques and color sensitivities, whereas other animals, such as loggerhead sea turtles and baleen whales, accidentally consume debris through filter-feeding, passive ingestion, or secondary ingestion.<sup>14</sup>

Whenever an animal ingests plastic pellets, it is potentially exposed to the "cocktail of contaminants" associated with this pollution.<sup>15</sup> Polyethylene—the type of plastic handled by Frontier—contains hazardous additives such as "brominated flame retardants, polyfluoronated compounds, triclosan, phthalate plasticizers, and lead heat stabilizers."<sup>16</sup> Moreover, when plastic enters the environment, it attracts and absorbs heavy metals and organic pollutants like DDT and PCBs from the surrounding seawater.<sup>17</sup> Plastic pellets thus provide "a credible pathway to transfer the environmental pollutants dissolved in water into the marine food web."<sup>18</sup> Studies have shown that exposure to these contaminants "can degrade the structure and functions of ecosystems. Key physiological processes of organisms (e.g. cell-division, immunity, secretion of hormones) can be disrupted, causing disease and reducing the ability to escape predators and reproduce."<sup>19</sup>

Plastic pollution can also have serious economic impacts on coastal communities. Charleston has now witnessed firsthand just how challenging—and even impossible—it is to clean up spilled pellets. When pellets began washing ashore on Sullivan's Island and Isle of Palms in mid-July, the State Ports Authority hired contractors to comb the beach, sometimes on hands and knees, to find and remove the pellets. Though that cleanup contract ended in July, the pellets never stopped appearing on Sullivan's Island.<sup>20</sup> Indeed, the Waterkeeper's sampling makes clear that untold numbers of pellets remain in (and continue to be discharged to) Charleston area waters, marshes, and beaches. Any effort to clean up these remaining pellets would come at a significant cost—one that should not be borne by local governments and taxpayers.

<sup>&</sup>lt;sup>12</sup> Susanne Kuhn et al., *Deleterious Effects of Litter on Marine Life, in* MARINE ANTHROPOGENIC LITTER 75, 86 (Melanie Bergmann et al. eds., 2015).

<sup>&</sup>lt;sup>13</sup> *Id.* at 85.

<sup>&</sup>lt;sup>14</sup> *Id.* at 87–92.

<sup>&</sup>lt;sup>15</sup> Chelsea Rochman, *The Complex Mixture, Fate and Toxicity of Chemicals Associated with Plastic Debris in the Marine Environment, in* MARINE ANTHROPOGENIC LITTER 117, 119 (Melanie Bergmann et al. eds., 2015). <sup>16</sup> *Id*.at 131.

<sup>&</sup>lt;sup>17</sup> UN ENV'T PROGRAMME, UNEP FRONTIER 2016 REPORT: EMERGING ISSUES OF ENVIRONMENTAL CONCERN 38 (2016).

<sup>&</sup>lt;sup>18</sup> Andrady *supra* note 10, at 67.

<sup>&</sup>lt;sup>19</sup> Rochman, *supra* note 15, at 132–33.

<sup>&</sup>lt;sup>20</sup> Bo Petersen, *Two hazardous spills around Charleston raise questions about how public gets notified*, POST & COURIER, Aug. 24, 2019, available at https://www.postandcourier.com/news/two-hazardous-spills-around-charleston-raise-questions-about-how-public/article\_77feadd8-c5c0-11e9-a6d7-ef7cc6f5d0fc.html.

#### IV. NOTICE OF INTENT TO SUE

Under Section 505(a) of the CWA, citizens are authorized to take action to bring polluters into compliance with the CWA when federal and state authorities have failed to do so.<sup>21</sup> Frontier has violated Section 301(a) by discharging pollutants into Waters without a NPDES permit, and there is a reasonable likelihood that the violations identified in this letter will continue.<sup>22</sup> As detailed above, the Waterkeeper has routinely discovered fresh pellet deposits at sites around the Cooper River and Charleston Harbor, with the greatest pellet densities appearing closest to the Frontier facility. Furthermore, Dr. Jose Sanchez has reviewed existing documentation of Frontier's remedial measures and has concluded that they appear insufficient to prevent ongoing discharges.

Therefore, the Waterkeeper and the Conservation League give notice that they are prepared to initiate a civil action in the United States District Court for the District of South Carolina 60 days from the date of this letter or soon thereafter. The lawsuit will seek redress for the CWA violations described in this letter, including a daily penalty of up to \$54,833 per violation.<sup>23</sup> In addition to civil penalties, we will seek an order requiring Frontier to abate all discharges and come into full compliance with the CWA and an injunction to force Frontier to clean up the pellet pollution.<sup>24</sup> Our clients will also seek an order requiring Frontier to pay litigation costs, including attorney fees.<sup>25</sup> The Waterkeeper and the Conservation League reserve the right to add additional claims to the specific CWA violations set forth above based on the same or a similar pattern of violations. The Waterkeeper and the Conservation League also reserve the right to seek additional remedies under state and federal law and do not intend, by giving this notice, to waive any other rights or remedies.

#### V. **PARTIES GIVING NOTICE**

The Charleston Waterkeeper is a non-profit corporation with its principal office at 514 Mill Street, Suite E, Mount Pleasant, South Carolina 29464. The Waterkeeper's mission is to protect, restore, and promote waterways in the Charleston area through water quality monitoring, pollution cleanup, and community education. The Waterkeeper is a membership organization with members who live and recreate along the Cooper River and Charleston Harbor near the Frontier facility and its outfalls. The violations identified above have negatively impacted the Cooper River, Charleston Harbor, the Waterkeeper, and the Waterkeeper's members. The name, address, and telephone number of the person giving notice of intent to sue are:

Andrew Wunderley, Executive Director & Waterkeeper Charleston Waterkeeper P.O. Box 29 Charleston, SC 29402 843-906-7073

<sup>&</sup>lt;sup>21</sup> 33 U.S.C. § 1365(a)-(b).

<sup>&</sup>lt;sup>22</sup> See Chesapeake Bay Found. v. Gwaltney of Smithfield, 844 F.2d 170, 171–72 (4th Cir. 1988).

 <sup>&</sup>lt;sup>23</sup> 33 U.S.C. § 1319(d).
 <sup>24</sup> 33 U.S.C. § 1365(a).
 <sup>25</sup> 33 U.S.C. § 1365(d).

The South Carolina Coastal Conservation League is a non-profit corporation with its principal office at 131 Spring Street, Charleston, South Carolina 29403. The Conservation League's mission is to protect the threatened resources of the South Carolina coastal plain—its natural landscapes, abundant wildlife, clean water, and quality of life. The Conservation League is a membership organization with members who live and recreate along the Cooper River and Charleston Harbor near the Frontier facility and its outfalls. The violations identified above have negatively impacted the Cooper River, Charleston Harbor, the Conservation League, and the Conservation League's members. The name, address, and telephone number of the person giving notice of intent to sue are:

Laura Cantral, Executive Director South Carolina Coastal Conservation League 131 Spring Street Charleston, SC 29403 843-723-8035

### VI. CONCLUSION

If you have any questions concerning this letter or the described violations, or if you believe it is incorrect in any respect, please contact the undersigned counsel at the Southern Environmental Law Center. During the notice period, we are available to discuss effective actions and remedies that will bring the Frontier facility into compliance with the CWA. Though prepared to initiate a civil action, the Waterkeeper and the Conservation League believe that a negotiated settlement of the identified violations, codified through a court-approved agreement, would be more productive than protracted litigation.

Thank you for your prompt attention to this matter.

Sincerely,

amanahe

Catherine Wannamaker Southern Environmental Law Center 436 King Street, Suite B Charleston, SC 29403 Tel: 843.720.5270 Fax: 843.414.7039 www.southernenvironment.org

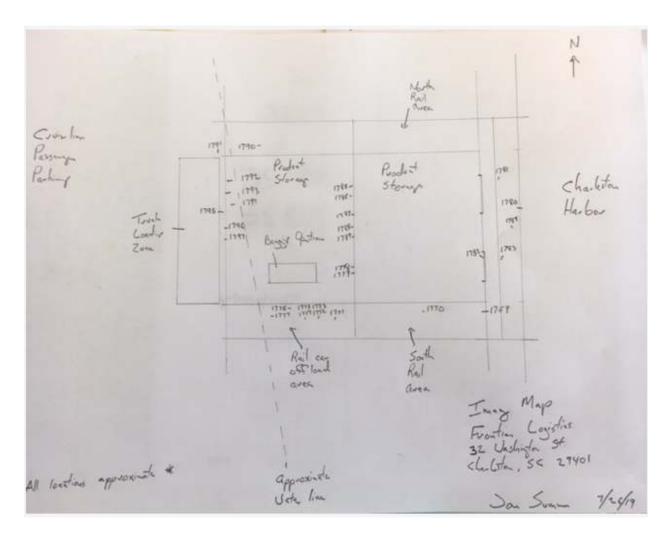
## ALSO VIA CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Andrew Wheeler Administrator U.S. Environmental Protection Agency Office of the Administrator, Mail Code 1101A 1200 Pennsylvania Avenue, N.W. Washington, DC 20460

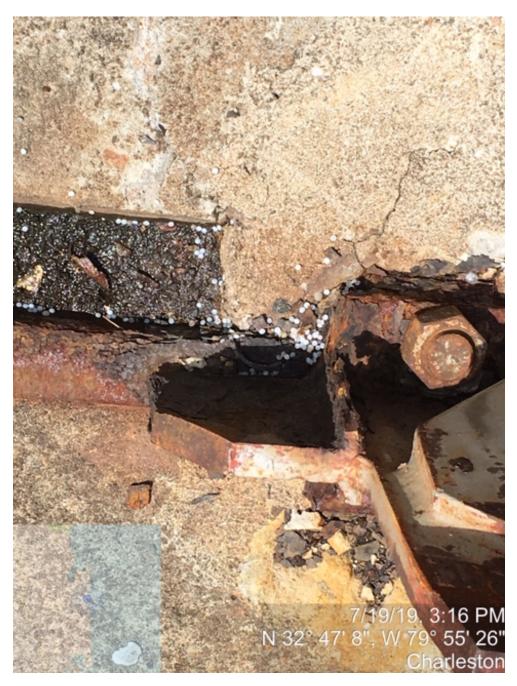
Mary Walker Acting Administrator for EPA's Southeast Region U.S. Environmental Protection Agency, Region 4 Sam Nunn Atlanta Federal Center 61 Forsyth Street, S.W. Atlanta, GA 30303

Rick Toomey Director South Carolina Department of Health & Environmental Control 2600 Bull Street Columbia, SC 29201

# Attachment A

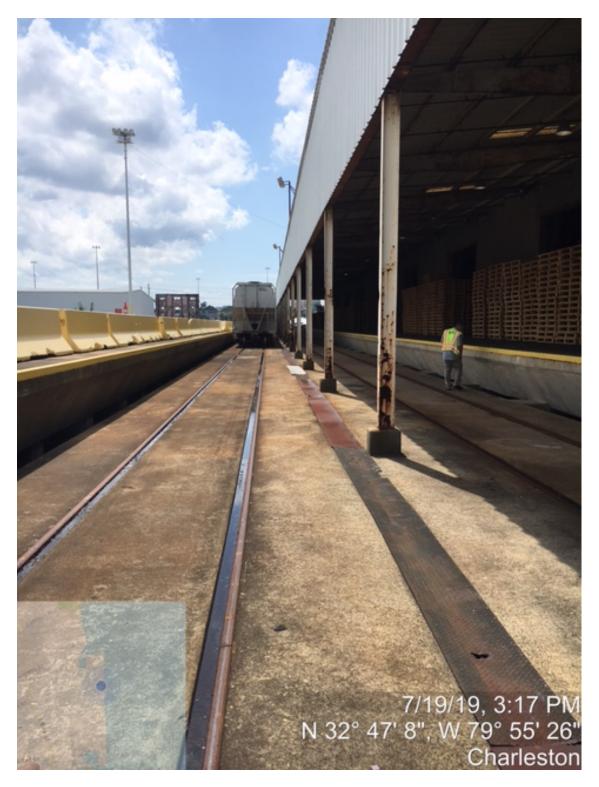


Frontier Logistics Image Map

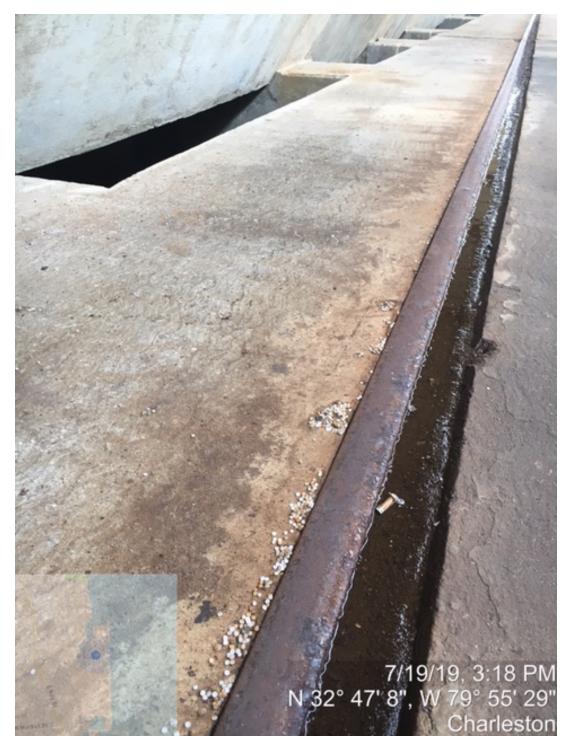


FRONTIER LOGISTICS PHOTO LOG FROM SITE VISIT COMPLETED ON 07/09/2019

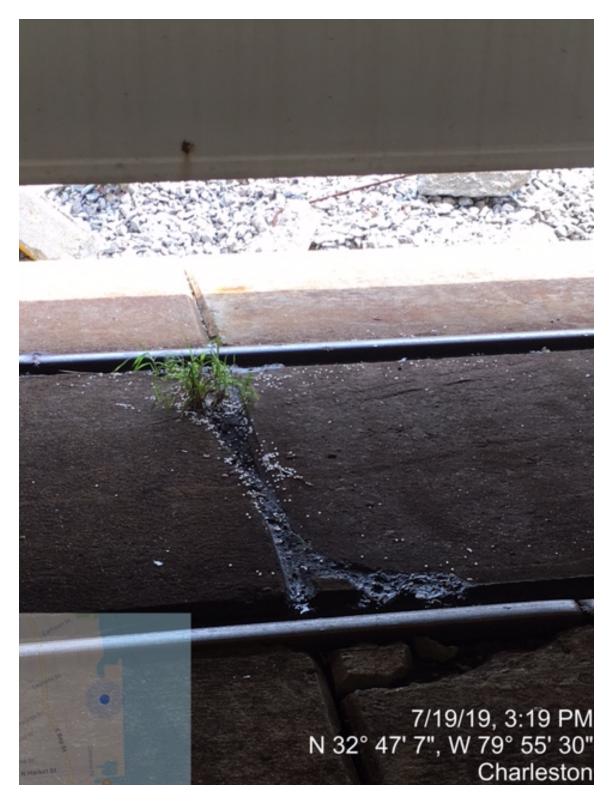
IMG\_1768 - INITIAL DETAIL OF PLASTIC ACCUMULATION



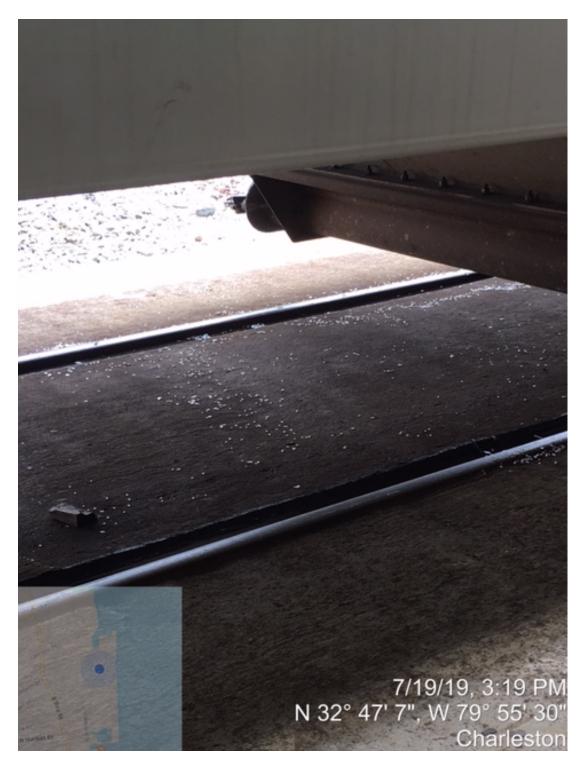
IMG\_1769 – SOUTH RAIL AREA - harborside looking inland



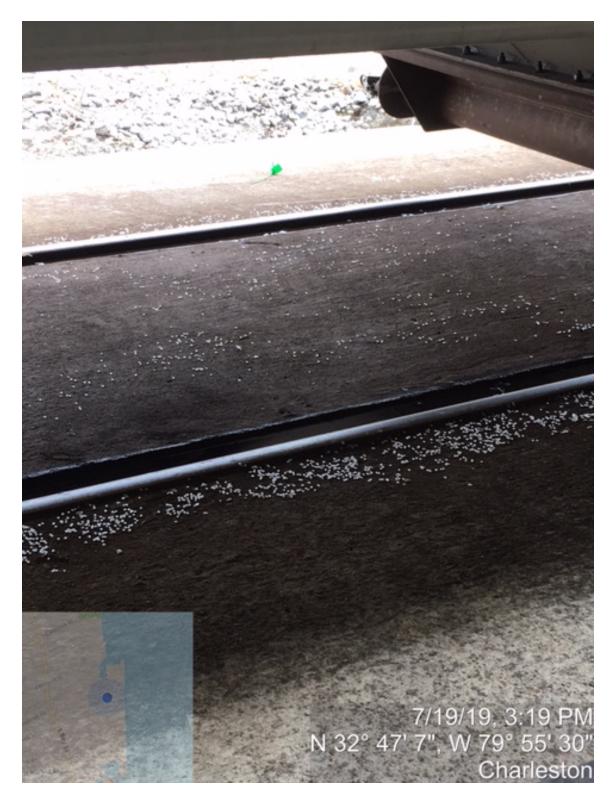
IMG\_1770 - SOUTH RAIL AREA - DETAIL APPROXIMATE TO OPENING LEADING TO WATER



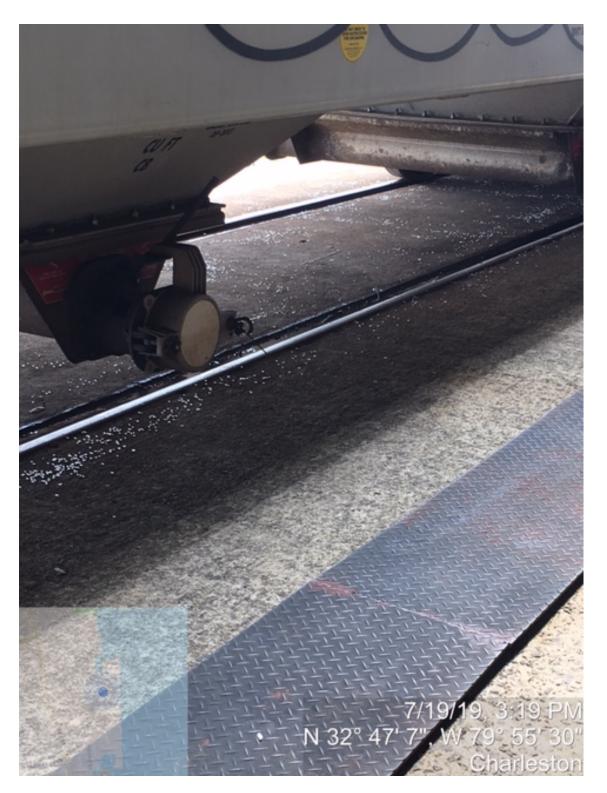
IMG\_1771 - SOUTH RAIL AREA - DETAIL UNDER RAIL CAR



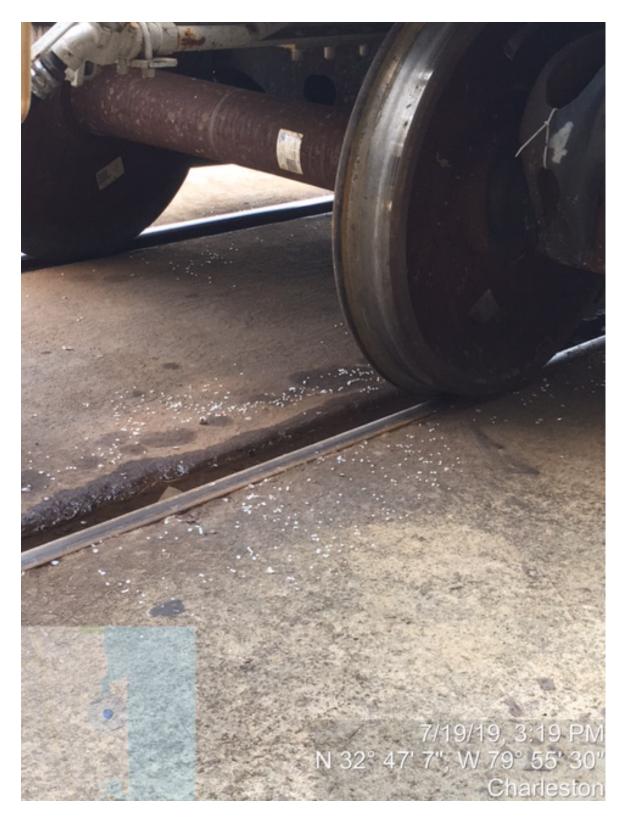
IMG\_1772 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR



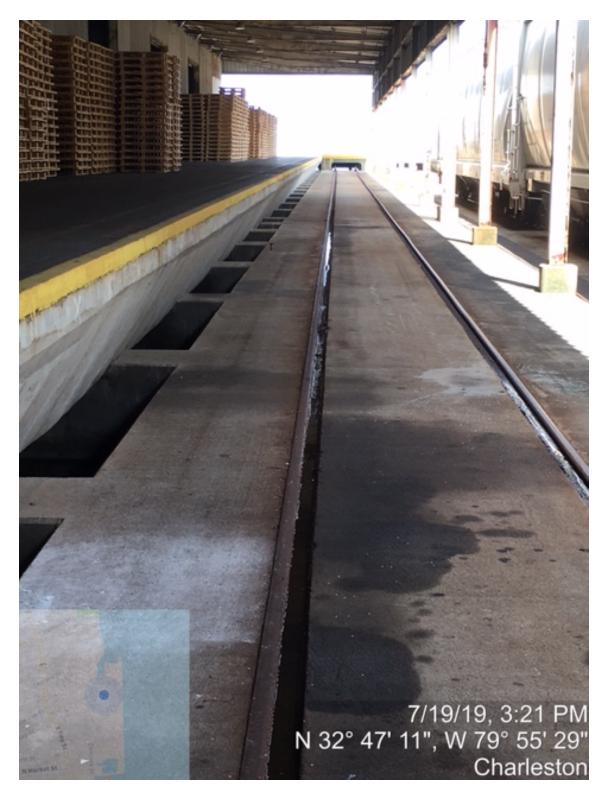
IMG\_1773 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR



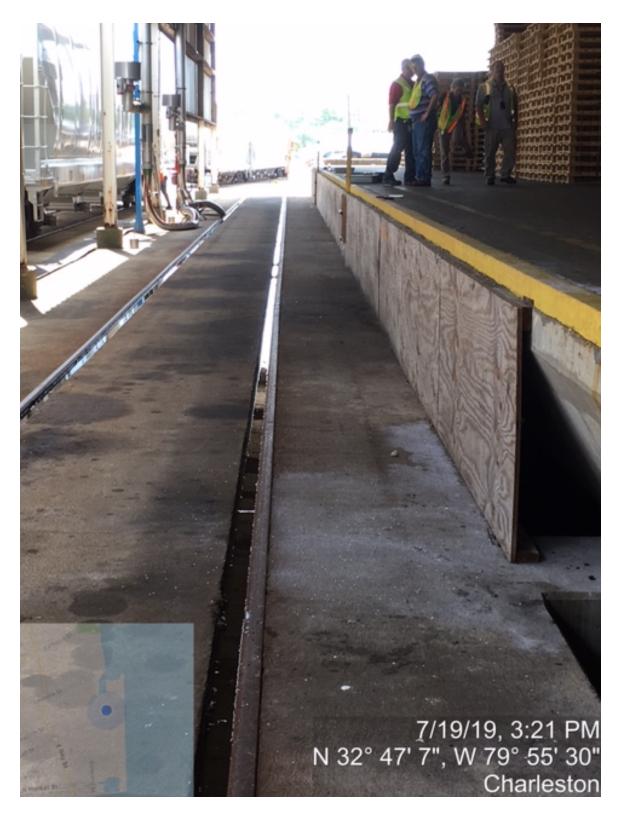
IMG\_1774 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR (Seam/gap between cement leading to water located under diamond steel plate)



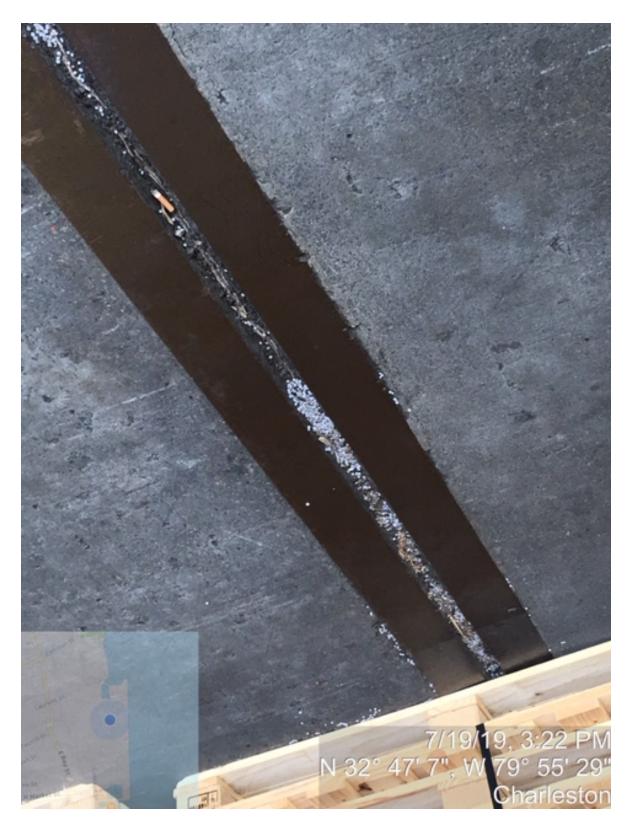
IMG\_1775 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR



IMG\_1776 - SOUTH RAIL AREA - DETAIL UNDER RAIL CAR - INLAND LOOKING TO HARBOR



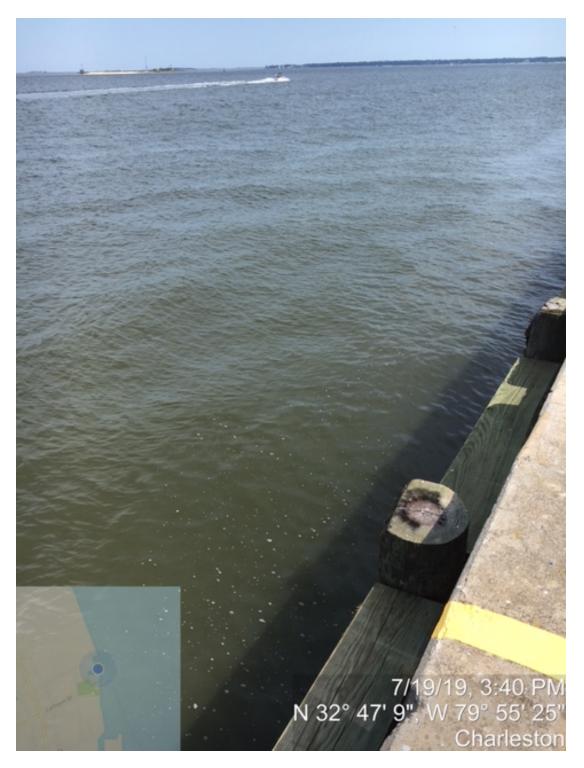
IMG\_1777 - SOUTH RAIL AREA - DETAIL UNDER RAIL CAR - HARBOR LOOKING INLAND



IMG\_1778 - INSIDE FACILITY - DETAIL OF PLASTIC ACCUMULATION ON COVERED SEAM



IMG\_1779 - INSIDE FACILITY - DETAIL OF PLASTIC ACCUMULATION ON COVERED SEAM



IMG\_1780 - BACK DOCK AREA



IMG\_1781 - BACK DOCK AREA - EXPOSED SEAM BETWEEN BACK DOCK AREA AND FACILITY



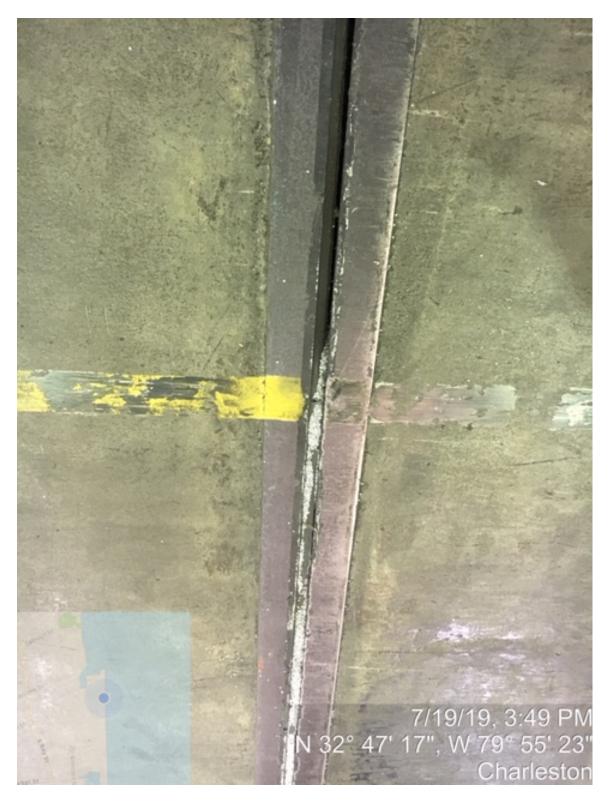
IMG\_1782 – SCREENED GRATE AT FACILITY BACK ENTRANCE



IMG\_1783 - BACK DOCK AREA - EXPOSED SEAM BETWEEN BACK DOCK AREA AND FACILITY



IMG\_1784 - BACK DOCK AREA - PLASTIC ACCUMILATION ON RAIL



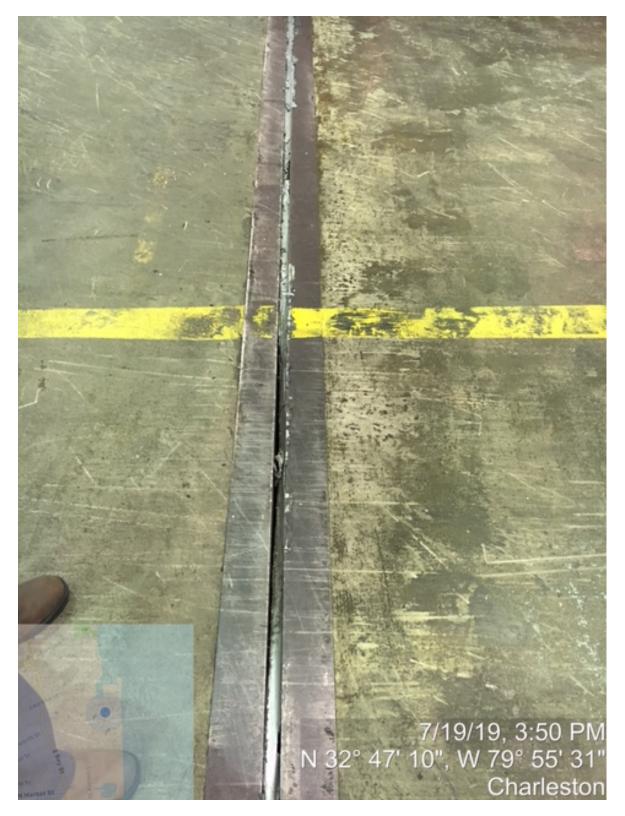
IMG\_1785 – INSIDE FACILITY – SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



IMG\_1786 – INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



IMG\_1787 - INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



IMG\_1788 - INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



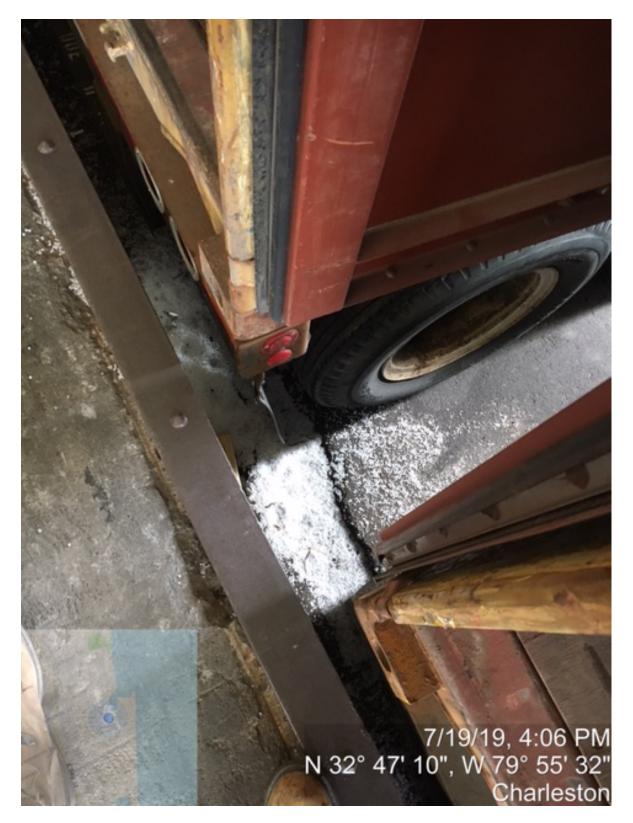
IMG\_1789 - INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



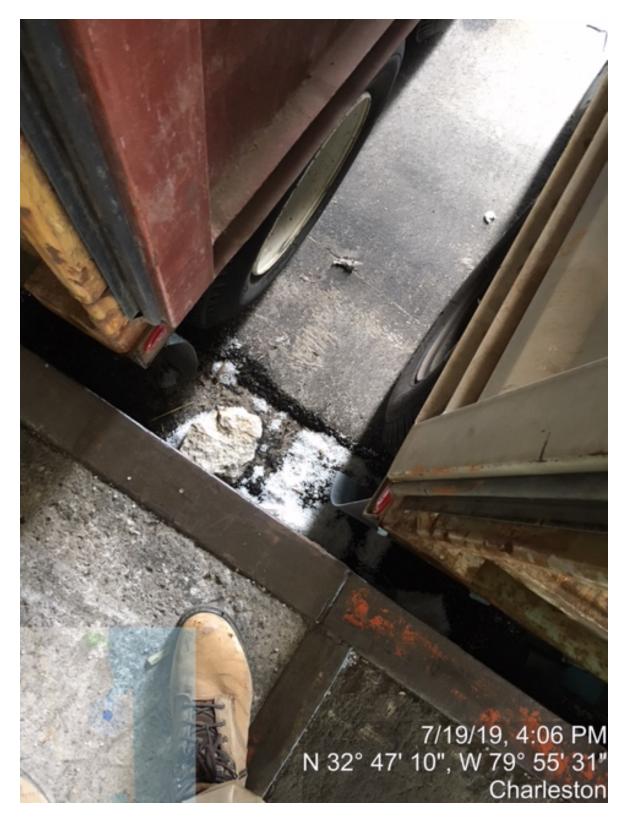
IMG\_1790 - NORTH RAIL AREA - PLASTIC PILE APPROXIMATE TO WATER



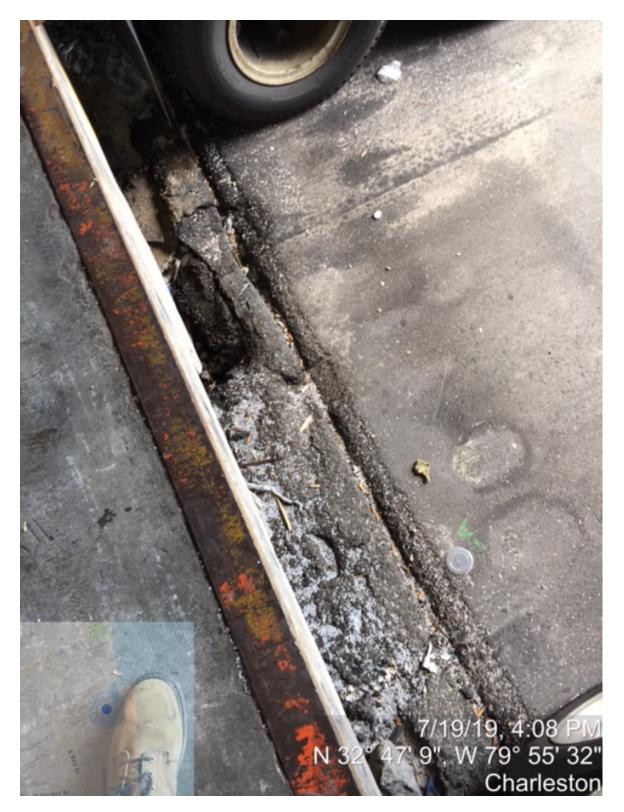
IMG\_1791 - TRUCK LOADING ZONE



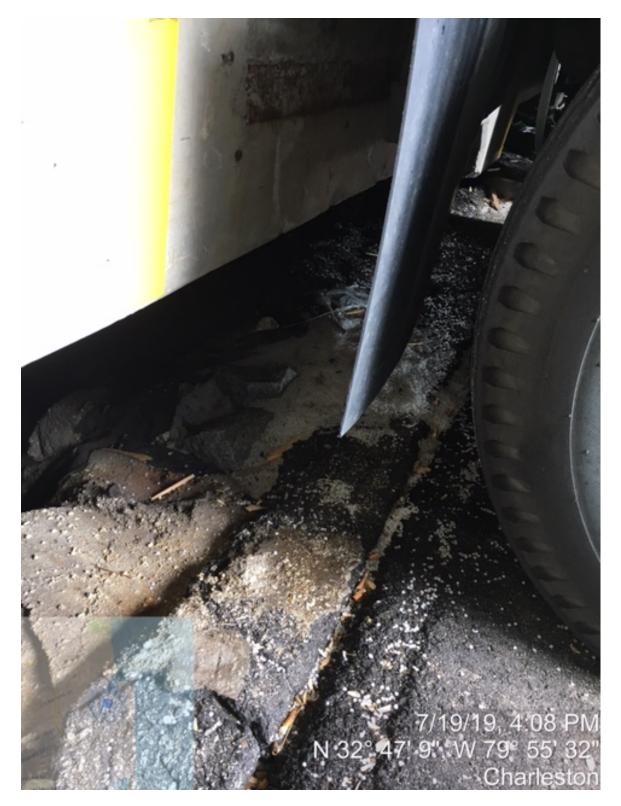
IMG\_1792 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1793 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1794 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1795 – TRUCK LOADING ZONE – PLASTIC ACCUMULATION – SPACE BETWEEN LOADING DOCK AND GROUND APPROXIMATE TO WATER LINE



IMG\_1796 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1797 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS

# Attachment B



July 26, 2019

# First Class & Certified Mail - 9214 8969 0099 9790 1415 4503 02

Ms. Aimee Cook Frontier Logistics, LP 5801 N. Rhett Avenue Hanahan, SC 29410

Re: Notice of Alleged Violation/Notice of Enforcement Conference Frontier Logistics North Charleston Terminal Charleston County

Dear Ms. Cook:

Enclosed is a Notice of Enforcement Conference issued by the S.C. Department of Health and Environmental Control for the reasons explained therein. This informal conference will provide you with the opportunity to disprove the alleged violations and to present any extenuating information that may mitigate the gravity of the alleged violations.

Enclosed is an informational sheet entitled "An Overview of the Administrative Enforcement Process." This guide has been designed to answer the questions most often asked about the enforcement processes.

This correspondence is being sent to you by first class mail and certified mail to better ensure delivery. If you have any questions about the notice, you may call me at (803) 898-1768. I will be glad to assist you.

Sincerely,

Adam Cannon, Manager Bureau of Water - WP Control Division WP Enforcement Section

cc: Brian Wisnewski, SCDHEC, WP Compliance Wendy Boswell, SCDHEC, Lowcountry BEHS, Charleston Office George Cook, Frontier Logistics LP, 32 Washington St., Charleston, SC 20401

#### THE STATE OF SOUTH CAROLINA BEFORE THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

## IN RE: FRONTIER LOGISTICS, LP CHARLESTON COUNTY

#### **NOTICE OF ENFORCEMENT CONFERENCE / NOTICE OF ALLEGED VIOLATION**

Frontier Logistics, LP (Frontier) is hereby notified that an enforcement conference has been scheduled for Thursday, August 1, 2019, at 1:00 P.M., in room 4011, in the offices of the Bureau of Water, 2600 Bull Street, Columbia, South Carolina. All visitors must enter the building through the main lobby on the Bull Street side of the complex. You will be required to sign a Visitor's Log and receive a Visitor's Badge before entering the building. Representatives Frontier of have the opportunity to be present at this conference to discuss the alleged violations of the Pollution Control Act cited herein.

Representatives of Frontier may be accompanied at the conference by legal and/or technical counsel. The possibility of a Consent Order may be discussed.

# This Notice is based upon the following findings of the South Carolina Department of Health and Environmental Control:

- 1. Frontier Logistics, LP (Frontier) is responsible for the operation of a supply chain management service that transloads plastic pellets for export through the Port of Charleston. The facility in which Frontier operates is owned by the S.C. Ports Authority and is located at 32 Washington Street, in Charleston County, South Carolina.
- On July 19, 2019 the South Carolina Department of Health and Environmental Control (Department) received a complaint regarding plastic pellets being washed ashore of Sullivan's Island Beach in Charleston County, South Carolina.
- 3. On July 19, 2019, Department staff conducted a site visit at Sullivan's Island Beach and observed plastic pellets that had washed ashore. The pellets were uniformly shaped small round pellets and were opaque white in color. Department staff collected samples of the pellets from the beach.
- 4. On July 19, 2019, Department staff conducted a site visit at the Frontier facility. Agents of the South Carolina Ports Authority (SCPA), and Frontier personnel were present during the Department visit. Department staff noted that there were numerous areas of concern, as plastic pellet accumulation was observed throughout the facility. The plastic pellets observed at the facility appeared to resemble those present on Sullivan's Island Beach. Department staff documented their observations with photographs and collected samples of the pellets from the facility.

- 5. On July 23, 2019, Department staff conducted a follow up visit at the Frontier facility. It appeared that fewer plastic pellets were on the grounds of the facility during the follow up visit. Department staff and Frontier personnel discussed the utilization of netting throughout the facility, rail car unloading zone, and any areas where pellets could potentially migrate into waterways.
- 6. On July 23, 2019, Department staff conducted a follow up visit at Sullivan's Island Beach. Small quantities of plastic pellets were observed at the time of the follow up visit. An environmental remediation contractor was working on behalf of SCPA to remove pellets from the beach.
- 7. On July 24, 2019, Department staff conducted a follow up visit at the Frontier facility. During the visit, Department staff and Frontier personnel further discussed the installation of pellet controlling netting throughout the facility. Frontier stated that it planned to have such netting installed by July 26, 2019. The installation of netting has not been confirmed as of the date of this Notice.
- 8. On July 24, 2019, the Department received a complaint regarding plastic pellets being washed ashore of Isle of Palms in Charleston County, South Carolina. Department staff investigated the complaint and observed small quantities of plastic pellets on the shore of Isle of Palms. Department staff collected samples of the pellets during their investigative visit. The pellets collected resembled those observed at the Frontier facility and on Sullivan's Island Beach.

# From the above findings, the Department alleges that Frontier Logistics, LP violated the Pollution Control Act as follows:

Frontier Logistics, LP violated the Pollution Control Act, S.C. Code Ann. § 48-1-90 (A)(1) (2008 & Supp. 2016) in that it is unlawful for a person, directly or indirectly, to throw, drain, run, allow to seep, or otherwise discharge into the environment of the State organic or inorganic matter, including sewage, industrial wastes, and other wastes, except in compliance with a permit issued by the department.

Frontier Logistics, LP is further notified that failure to attend the scheduled enforcement conference may result in the issuance of an Administrative Order without its consent. Such an Order may contain the above findings and may impose monetary penalties.

This Notice is made pursuant to the Pollution Control Act, 48-1-50 (Supp. 2013), which authorizes the Department to issue Orders and the Pollution Control Act, 48-1-330 (2008), which authorizes the Department to assess monetary penalties.

July 26, 2019

Adam Cannon, Enforcement Manager SCDHEC - Bureau of Water - WP Control Division

# Attachment C

#### Letter of Opinion

#### October 28, 2019

#### Aiza F. Jose Sanchez, PhD PE, LEED AP

I have been asked to provide my opinion regarding the management of plastic pellets, or nurdles, at the Frontier Logistics, LP ("Frontier") facility in Charleston, South Carolina (32 Washington Street, Charleston, South Carolina 29401). Frontier operates a rail-served warehouse at Union Pier Terminal where it receives plastic pellets via railcar, unloads and packages the pellets into bags, temporarily stores them on wooden pallets, and then loads them onto trucks for transport to their destination.

It is my understanding that the South Carolina Department of Health and Environmental Control ("DHEC") identified Frontier as the party responsible for a plastic pellet spill in July 2019. It is also my understanding that the Charleston Waterkeeper ("Waterkeeper") has expressed concern over the potential for plastic pellets to continue discharging from the Frontier facility. That concern has been reinforced by the Waterkeeper's recent sampling protocol, which has resulted in positive pellet findings since the alleged spill in July 2019. The Waterkeeper has discovered pellets at sites immediately adjacent to the Frontier facility, such as Waterfront Park, as well as at sites within reach of the facility, such as Sullivan's Island and Fort Johnson Beach. I was asked to review documentation obtained by the South Carolina Coastal Conservation League through the Freedom of Information Act and formulate an opinion regarding the current remedial measures implemented by Frontier, specifically their efficacy in controlling potential plastic pellet discharges.

I have 24 years of environmental and industrial engineering experience focused on stormwater quantity and quality projects, and environmental approval and compliance for both public and private projects. The areas of industrial compliance that I have expertise in include wastewater, stormwater, waste management, and hazardous wastes. I have a strong background and experience in industrial processes, as supported by my academic instruction and my practical experience conducting surveys and audits at industrial facilities to improve management of their wastewater, stormwater, and waste. I also have over 10 years of continuous experience in the control of floatable material in stormwater. I was the stormwater and wastewater expert witness on behalf of the San Antonio Bay Estuarine Waterkeeper in civil action against Formosa Plastics Corp., which alleged illegal discharges of plastic pellets and powders from Formosa's Point Comfort, Texas, plastics facility.

#### **Documentation Reviewed**

- Notice of Alleged Violation/Notice of Enforcement Conference ("NOAV") issued by DHEC to Frontier on July 26, 2019
- Response from Frontier to DHEC regarding the NOAV dated August 29, 2019
- Photographs taken by DHEC staff at the Frontier Facility dated July 19, 2019 (images 1768 to 1797)
- Photographs taken by DHEC staff at the Frontier facility dated July 29, 2019

- Map depicting the locations sampled by the Waterkeeper and the average number of plastic pellets collected at each location (September to October 2019)
- Complete sampling data supplied by the Waterkeeper (September to October 2019)

# **General Observations**

- Plastic pellets are extremely light and small (typically 5 mm in diameter), roll easily, and are difficult to control once released. They can become trapped in between pieces of wrapping material (e.g. shrink-wrap and stretch wrap utilized to secure pellet bags) and remain inside railcars, trucks, containers, unloading tubes, and pellet bags after those are thought to be emptied. Loose pellets may be transported via direct stormwater runoff toward drainage outlets.
- The location of this facility is inappropriate for the operations conducted at this site. At least three-quarters of the facility is situated over the Cooper River on a pier composed of concrete slabs. The concrete slabs show gaps that appear to drain directly to the river. There are large drainage outlets in at least the railcar unloading zones, the truck loading zones, and the seawall area. These drainage outlets discharge directly into the river. Any pellets entering these gaps and drainage outlets are discharged directly into the river.
- Inside the warehouse, there are concerns associated with gaps between the concrete slabs, which appear to drain directly to the river. Additionally, there is a trench located at an entrance to the warehouse facing the river; it is unknown if this trench is isolated or if it drains directly to the river. Bagged pellets are placed in proximity to warehouse entrances, allowing for any pellet that drops on the floor to migrate outside the warehouse and into the drainage outlets.
- Due the facility's exposure to natural elements, the lightweight pellets can easily migrate from the facility to the river even absent stormwater runoff. In the presence of wind, the concrete slabs form a smooth surface on which pellets can roll toward drainage areas. This risk is elevated during unloading, loading, and transport operations, when pellets are especially liable to escape containment.
- During rain events, it is expected that at least some of the runoff from parking areas and from the rooftop of the facility will drain toward the large drainage outlets at the railcar unloading zones, the truck loading zones, the seawall area, and the portion of the river encroaching north of the facility. If there are pellets in the parking areas or on the floor of any exterior areas, they will be conveyed to these drainage outlets together with the stormwater.

# **Deficiencies in Frontier's Control Measures and Operational Practices**

# Silt Fences

• Silt fences may act as a barrier to the potential release of pellets during dry periods if three conditions are met: (1) all the potential drainage conduits are protected; (2) the silt fences are properly anchored; and (3) the silt fences are properly maintained. At the facility, there were several areas that were still not protected as of July 29, 2019. Those included at least the waterfront and an area by the railcar line. There were gaps identified

in the silt fencing at several other areas, including at least two points by the sea wall. In addition, the anchoring method utilized by Frontier appears to me inadequate. It appears that Frontier used staples to anchor the lower portions of the fencing to the floor or near the floor. In an industrial setting such as this, human and vehicular traffic may strike the staples, resulting in an easy release of the silt fence. This is particularly concerning, for example, by the railcar lines, where the wall behind the drainage outlets is constructed at an angle, resulting in open space behind the silt fencing. Because there is no structure reinforcing the fencing here, any opposing force will dislodge the staples from the floor and take the silt fences down. This would occur without significant resistance: I predict that a person could dislodge the fences by barely leaning against them. In sum, silt fencing installed under these conditions does not appear effective to control loose pellets.

- In wet conditions, silt fences present an additional challenge as a pellet control device, as the silt fences will need to convey (filter through) stormwater runoff into the drainage outlets they protect. This runoff will create additional force on the silt fences and may cause the silt fences to fail, from either the top or the bottom anchor. If sandbags are used to anchor the silt fencing, it is possible that water and pellets may escape within the spaces between the sandbags.
- Silt fences are designed as temporary measures to contain sediment in stormwater runoff at construction sites. Thus, they are not intended for controlling plastic pellet releases, and their effectiveness in doing so is unknown. In general, silt fences last only for up to six months before needing complete replacement and require continuous maintenance (typically after every significant rain event).
- Assuming proper anchoring of silt fences, such controls have not been designed to serve as pollution controls to completely cover drainage outlets. During wet weather events, silt fences as installed at Frontier would reduce the effective surface area available for drainage at every outfall, potentially promoting water ponding at the facility and increasing flooding risk.

# Industrial Tape

• Frontier has used industrial tape to cover gaps between concrete slabs (both inside and outside the warehouse) to prevent pellets from discharging through the gaps into the river. Consistent with any industrial facility, Frontier's operations involve heavy vehicular traffic, including forklifts, trucks, and railcars, which may damage the concrete structures and any protective measures placed on the floor. The industrial tape will not resist this traffic, and it is not an appropriate method to seal the gaps. A sturdy method to cover the gaps may include the use of resins, fillers, or other protective measures.

#### Trays Under Railcar Valves

• The use of trays under railcar valves to catch loose pellets during unloading operations has shown, in my experience, to be insufficient to contain pellets that may spill. I have seen numerous photographs documenting the ineffectiveness of these trays. Typically, more robust source controls, such as a railcar trench containment system, protection berms, or an automatic shutdown valve to activate when connection is broken, are

necessary to prevent pellet migration from unloading areas. Some of these precautions are recommended by Operation Clean Sweep, a campaign aimed at containing plastic resin that Frontier participates in.

# Truck Loading Zone

• Photographs from July 19, 2019, documented significant quantities of loose pellets at the truck loading zone, which had fallen through gaps between the loading deck and the trucks. I understand that Frontier has installed some silt fencing over the drainage outfalls in this area. However, per Operation Clean Sweep, protecting outfalls should be the last line of defense at a facility such as this; instead, effective source controls should be the first priority. Operation Clean Sweep identifies containment trenches as a source control device that other facilities have successfully implemented in trucking zones.

## Empty Wooden Pallets

• Frontier stores empty wooden pallets, which are otherwise used to hold pellet bags, outdoors in an unroofed area beside the river. In my experience, even empty wooden pallets can transport pellets if not properly cleaned. Consequently, pellets may congregate in these outdoor areas and then migrate toward drainage outlets.

## Northern Exposure to River

• North of the truck loading zone and the north railcar line, there is another portion of river bordering the facility. Based on existing documentation, I do not have information regarding the drainage system or the type of boundary in between the facility and the water at this location. Additional protection measures may be needed in that area that I am unaware of at this time.

# Housekeeping Procedures and Permitting

- The facility should be equipped with pellet spill kits in all areas, including waste containers, brooms, scoops, vacuums, or other instruments to clean pellets as soon as they are spilled.
- Frontier has mentioned deficiencies in personnel training and housekeeping procedures as part of the reason for pellet releases. The company stated to DHEC that it has developed an enhanced pellet handling and spill prevention plan, which includes daily cleanings, weekly inspections, and adverse weather inspections.
- Neither the NOAV nor Frontier's response letter discuss whether the facility holds an industrial stormwater permit or has developed an Industrial Stormwater Pollution Prevention Plan (SWPPP). Frontier's stormwater discharges require authorization under DHEC's NPDES General Permit for Storm Water Discharges Associated with Industrial Activities. Under this permit, the facility must submit a Notice of Intent (NOI) and must develop a facility-specific SWPPP. The SWPPP would specify, among other things, stormwater controls, schedules for routine and quarterly inspections, and a stormwater pollution prevention team.

#### **Opinion and Summary**

It is my opinion that the overall controls currently implemented by Frontier appear insufficient, and that the facility will continue to discharge pellets unless more permanent controls are installed to protect from long-term discharges. Appropriate controls must include good housekeeping procedures and source controls. Containment controls, such as those Frontier now relies on, are but one line of protection and require diligent housekeeping and source controls to work effectively.

The silt fence system, which at this time is the primary protection device at the Frontier facility, will not effectively prevent future pellet discharges due to inappropriate installation (with existing gaps), anchoring issues, and a likelihood of failure from traffic and water. The industrial tape is not sturdy enough to sustain the heavy traffic expected at the facility and thus is not a suitable solution for the facility. Trays placed under railcar unloading areas have, in my experience, proven insufficient to control potentially large quantities of spilled pellets. Robust source controls, such as a railcar trench containment system, protection berms, or an automatic shutdown valve, are more effective and have been recommended by Operation Clean Sweep.

An appropriate response by Frontier would include permit coverage and compliance, source controls, containment controls, employee training (prevention, cleanup, recycling, and disposal), housekeeping procedures and instruments, regular inspections, and maintenance. An effective containment system must allow for stormwater conveyance while ensuring pellet entrapment. Water drainage should not be compromised by blockage from containment controls, but at the same time, the controls should guarantee that all pellets are contained. Thus, containment should be only one of the measures utilized at the facility, supplemented by the other aforementioned measures.



# Aiza F. Jose Sanchez, PhD, PE, LEED AP

5805 Baton Rouge Blvd., Frisco, TX 75035 214-986-8745 aizafernanda@hotmail.com

#### **TECHNICAL HIGHLIGHTS:**

24 years of engineering experience focused on stormwater quantity and quality projects, and environmental approval and compliance for public and private civil engineering projects. Expertise extending through a variety of civil projects (water, wastewater, transportation, land development, and energy) during their different project stages (planning, design, construction, and operation & maintenance).

#### AREAS OF EXPERTISE:

Stormwater Management Projects:

- Stormwater Management planning, permitting and compliance
- Policy and Planning (stormwater credit programs and review/implementation of design criteria)
- Low Impact Development (LID) and Green Infrastructure (GI) Design and Construction
- Erosion Control Design and Implementation
- Specialized Stormwater Controls (sediments, floatables, bacteria, and other specific pollutants)
- Extensive compliance during construction (Construction Management) for highway projects, and during operation for industrial facilities.

Natural Resources Projects:

- Stream Restoration
- Watershed Planning
- Hydrologic and hydraulic (H&H) modeling studies (quality and quantity)
- Planning and Permitting

Compliance and Permitting for Civil Engineering Projects:

- National Environmental Policy Act (NEPA)
- Public Involvement (public hearings and meetings)
- Clean Water Act (Section 404, 401, and 408) permits
- Industrial Health and Safety Compliance
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
- Extensive compliance during construction (Construction Management) for highway projects.

#### **PROFESSIONAL INVOLVEMENT:**

Co-Chair Stormwater and Watershed Committee for the Water Environment Association of Texas (WEAT - Texas WEF chapter)

EPA Region 6 Stormwater Conference Chair (2013-2019)

Organizing Committee Southwest Stream Restoration Conference (Resource Institute)

Over 6 years of consecutive presentations at regional and national conferences including StormCon, EPA Region 6 Stormwater Conference, Southwest Stream Restoration Conference, and Texas Water Stormwater Improvement Volunteering Work at The City of Children (orphanage in Mexico) and Frisco Independent School District, Volunteering at the Spinal CSF Leak Foundation among others.

#### EDUCATION:

PhD Civil Engineering 2003 The University of Texas at Austin MS Environmental Engineering 2000 The University of Texas at Austin MS Industrial Engineering 1996 ITESM Monterrey (Monterrey Tech) BS Industrial Engineering 1994 ITESM Monterrey (Monterrey Tech).

#### **PUBLICATIONS:**

- 2019 WEF Operations and Maintenance of Stormwater Controls (Writing in Progress)
- 2019 WEF Stormwater Quality Modeling Manual (Expected Publication March 2019)
- 2003 Fe-enhanced bioremediation for the treatment of perchlorate in groundwater. Doctoral Thesis. The University of Texas as Austin
- 2000 Biological remediation of perchlorate in groundwater. Doctoral Thesis. The University of Texas at Austin

#### ACCOMPLISHMENTS:

- 2016 Dallas Business Journal Women In Business (Over 300 candidates for the Dallas/Fort Worth area)
- 1997- 2003 The University of Texas at Austin Member of the Environmental and Water Resources Engineering Seminar Committee and Recipient of Scholarship "Apertura"
- 1997 Valedictorian/Top Industrial Engineer Master's Graduate (Monterrey Tech)
- 1994 Best University Students of Mexico Presidential Award with full scholarship abroad
- 1994 Valedictorian/Top Industrial Engineer Graduate (Monterrey Tech).

#### **CERTIFICATIONS:**

PE Texas (No. 100434), 2007 PE Mexico, 1994, LEED AP, 2008,

Stream Morphology Assessment and Restoration (Level I and II Rosgen Classification), 2012 TxDOT Pre-certifications 2.4.1 Nationwide Permits, 2.4.2 Clean Water Act Sec. 404 Permits, 2.13.1 Hazardous Materials Initial Site Assessment, and 2.14.1 Environmental Document Preparation, 11.4.1 Environmental Inspections (Employee Sequence Number: 19562). Wetland Delineation Training, Wetland Training Institute

#### EXPERIENCE:

#### June 2019 to Present - Jones & Carter, Inc

Hydrology & Hydraulics Lead in North Texas Market. Responsibilities include tracking of request for qualifications, team building for pursuits, preparation of summary of qualifications, interviewing for selection, scope and fee development, contract negotiations. Additional roles include technical advisor, Subject Matter Expert QA/QC, and client and project manager.

#### April 2017 to June 2019 – SNC Lavalin Atkins Global (Atkins)

Business Development Leader for Stormwater and Water/Wastewater Projects. Responsibilities include tracking of request for qualifications, team building for pursuits, preparation of summary of qualifications, interviewing for selection, scope and fee development, contract negotiations. Additional roles include technical advisor, Subject Matter Expert QA/QC, and client and project manager. Specific projects include the following:

- Dallas Water Utilities (DWU) Drainage Improvement Project at Southside Wastewater Treatment Plant
- Cibolo Creek Holistic Watershed Master Plan Project San Antonio River Authority technical advisor for the 850 square-mile Cibolo Creek Watershed that integrated multiple goals including flood reduction, water quality enhancements, stream restoration, and park planning.
- Sycamore Creek Bacteria Management Plan, Fort Worth, TX technical expertise for the development of managing strategies for the control of bacteria pollution issues in the Sycamore Creek Watershed. Preparation of a watershed specific plan to improve water quality by developing strategies outlined in the Greater Trinity River Implementation Plan; and developing new bacteria mitigation strategies, as needed. The effort included calculating associated costs for each chosen mitigation strategy.
- Water Quality System Ibis Lake, St. Petersburg, Florida
- Kee Branch Stream Restoration Project, Arlington, TX

#### July 2015 to December 2016 - Gresham Smith and Partners, Inc. Dallas, TX

Business Development Leader for Stormwater Projects, Development of Stormwater Group (Hiring and Training), Corporate Leader of the Stormwater Technical Leadership Program (TLP), Senior Associate, and Senior Project Manager for stormwater projects, including:

- BNSF Best Way Preferred Provider Contract Client Manager, Quality Control and Quality Assurance, Project Manager for over 33 work authorizations including:
  - Nationwide Stormwater Best Way Compliance multi-million contract Standardization, update and preparation of over 360 Industrial Stormwater Pollution Prevention Plans (SWPPPs), Spill Prevention Control and Countermeasures (SPCCs) Plans, and Facility Response Plans (FRPs)
  - Multi-million contract for Stormwater and SPCC Inspection in Texas and Oklahoma
  - Erosion Assessment for over 350 bridge crossings in all the BNSF's railroad lines in Wyoming.
  - Final Erosion Control Plans, Bidding and Construction Management for four crossings along Orin Line in Wyoming, and at Alliance Yard in Nebraska.
  - Other diverse projects for air quality and waste management compliance
- Dallas Water Utilities (DWU) Quality Control/Quality Assurance for Wastewater Treatment Plant Improvement (Preliminary Design Report – PDR) for Southside Wastewater Treatment Plant
- Company-wide Leader of Technical Leadership Program for Stormwater Development of Stormwater Design Standards, Internal Training Series, and Pursuit Leader for stormwater projects company-wide.

#### December 2010 to July 2015 - BGE Inc. Dallas/Fort Worth, TX

Business developer leader for environmental projects, development and management of staff, and senior project manager for transportation and stormwater projects.

- Development of comprehensive stormwater management practices including:
  - Floatables and sediment control Best Management Practices (BMPs) Pilot Program
  - Water quality modeling (WinSLAMM) and hydraulic modeling of BMPs (HEC RAS)
  - Design and feasible implementation of Low Impact Development/Green Infrastructure technologies
  - Development of incentives to promote LID/GI (stormwater credit fee programs and iSWM Manual revision)
  - Development of Stormwater Pollution Prevention Plans (SW3P) for linear and non-linear projects
  - Project oversight for compliance with the Construction General Permit (TXR-150000).
  - Application for federal and state grant programs.
- Environmental clearance and compliance approval for high profile transportation projects (highway and rail) in the Dallas/Fort Worth area and across Texas. Projects included high profile transportation projects such as: SH 360, SH 183, North Tarrant Expressway (NTE), IH 35 W, IH 35 E, Loop 12, SH 114, SH 288, DFW Connector, SH 99 (Grand Parkway), Replacement Bridge projects for the Fort Worth Transportation Authority (The T)

#### January 2006 to December 2010- AECOM Dallas/Fort Worth, TX

Specific responsibilities include planning, organization, execution, finance and timeline tracking, agency and client coordination, staff mentoring and management, and delivery of reports and permits.

• Development and implementation of structural and nonstructural permanent BMPs for stormwater management

- Development of Phase I and Phase II NPDES permits and annual reports for Municipal Separate Storm Sewer System (MS4)
- Environmental permitting for private and public projects (Section 404 and 401 of the Clean Water Act, permitting associated with the National Environmental Policy Act)
- H&H studies for land development and transportation projects, drainage master planning, LOMR and CLOMR approvals
- Phase I and Phase II environmental site assessments in accordance to ASTM Standards
- Hazard Mitigation Plans
- Application for federal and state grant programs
- Stream restoration projects.

#### August 2003 to December 2005 - IEMS INC Monterrey, Mexico

Project Manager. Specific projects included:

- Phase I and Phase II Environmental Site Assessments in accordance to ASTM Standards
- Environmental Compliance Audits for industrial facilities
- Hazardous materials and hazardous waste management for industrial facilities (compliance with waste manifest documentation and management)
- Human health risk assessments (experience with BP RISC software)
- Modeling and evaluation of groundwater pollution (contaminant transport)
- Investigation and remediation of contaminated sites.

#### January 1998 to August 2003 - The University of Texas at Austin

Research and Teaching Assistant

- Research and development of a lab scale process for the in-situ treatment of perchlorate in groundwater to levels below action level (4 ppb)
- Teaching assistant for undergrad wastewater design and teaching of chemistry classes (CHEM 301 and 302).



July 26, 2019

# First Class & Certified Mail - 9214 8969 0099 9790 1415 4503 02

Ms. Aimee Cook Frontier Logistics, LP 5801 N. Rhett Avenue Hanahan, SC 29410

Re: Notice of Alleged Violation/Notice of Enforcement Conference Frontier Logistics North Charleston Terminal Charleston County

Dear Ms. Cook:

Enclosed is a Notice of Enforcement Conference issued by the S.C. Department of Health and Environmental Control for the reasons explained therein. This informal conference will provide you with the opportunity to disprove the alleged violations and to present any extenuating information that may mitigate the gravity of the alleged violations.

Enclosed is an informational sheet entitled "An Overview of the Administrative Enforcement Process." This guide has been designed to answer the questions most often asked about the enforcement processes.

This correspondence is being sent to you by first class mail and certified mail to better ensure delivery. If you have any questions about the notice, you may call me at (803) 898-1768. I will be glad to assist you.

Sincerely,

Adam Cannon, Manager Bureau of Water - WP Control Division WP Enforcement Section

cc: Brian Wisnewski, SCDHEC, WP Compliance Wendy Boswell, SCDHEC, Lowcountry BEHS, Charleston Office George Cook, Frontier Logistics LP, 32 Washington St., Charleston, SC 20401

#### THE STATE OF SOUTH CAROLINA BEFORE THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

## IN RE: FRONTIER LOGISTICS, LP CHARLESTON COUNTY

#### **NOTICE OF ENFORCEMENT CONFERENCE / NOTICE OF ALLEGED VIOLATION**

Frontier Logistics, LP (Frontier) is hereby notified that an enforcement conference has been scheduled for Thursday, August 1, 2019, at 1:00 P.M., in room 4011, in the offices of the Bureau of Water, 2600 Bull Street, Columbia, South Carolina. All visitors must enter the building through the main lobby on the Bull Street side of the complex. You will be required to sign a Visitor's Log and receive a Visitor's Badge before entering the building. Representatives Frontier of have the opportunity to be present at this conference to discuss the alleged violations of the Pollution Control Act cited herein.

Representatives of Frontier may be accompanied at the conference by legal and/or technical counsel. The possibility of a Consent Order may be discussed.

# This Notice is based upon the following findings of the South Carolina Department of Health and Environmental Control:

- 1. Frontier Logistics, LP (Frontier) is responsible for the operation of a supply chain management service that transloads plastic pellets for export through the Port of Charleston. The facility in which Frontier operates is owned by the S.C. Ports Authority and is located at 32 Washington Street, in Charleston County, South Carolina.
- On July 19, 2019 the South Carolina Department of Health and Environmental Control (Department) received a complaint regarding plastic pellets being washed ashore of Sullivan's Island Beach in Charleston County, South Carolina.
- 3. On July 19, 2019, Department staff conducted a site visit at Sullivan's Island Beach and observed plastic pellets that had washed ashore. The pellets were uniformly shaped small round pellets and were opaque white in color. Department staff collected samples of the pellets from the beach.
- 4. On July 19, 2019, Department staff conducted a site visit at the Frontier facility. Agents of the South Carolina Ports Authority (SCPA), and Frontier personnel were present during the Department visit. Department staff noted that there were numerous areas of concern, as plastic pellet accumulation was observed throughout the facility. The plastic pellets observed at the facility appeared to resemble those present on Sullivan's Island Beach. Department staff documented their observations with photographs and collected samples of the pellets from the facility.

- 5. On July 23, 2019, Department staff conducted a follow up visit at the Frontier facility. It appeared that fewer plastic pellets were on the grounds of the facility during the follow up visit. Department staff and Frontier personnel discussed the utilization of netting throughout the facility, rail car unloading zone, and any areas where pellets could potentially migrate into waterways.
- 6. On July 23, 2019, Department staff conducted a follow up visit at Sullivan's Island Beach. Small quantities of plastic pellets were observed at the time of the follow up visit. An environmental remediation contractor was working on behalf of SCPA to remove pellets from the beach.
- 7. On July 24, 2019, Department staff conducted a follow up visit at the Frontier facility. During the visit, Department staff and Frontier personnel further discussed the installation of pellet controlling netting throughout the facility. Frontier stated that it planned to have such netting installed by July 26, 2019. The installation of netting has not been confirmed as of the date of this Notice.
- 8. On July 24, 2019, the Department received a complaint regarding plastic pellets being washed ashore of Isle of Palms in Charleston County, South Carolina. Department staff investigated the complaint and observed small quantities of plastic pellets on the shore of Isle of Palms. Department staff collected samples of the pellets during their investigative visit. The pellets collected resembled those observed at the Frontier facility and on Sullivan's Island Beach.

# From the above findings, the Department alleges that Frontier Logistics, LP violated the Pollution Control Act as follows:

Frontier Logistics, LP violated the Pollution Control Act, S.C. Code Ann. § 48-1-90 (A)(1) (2008 & Supp. 2016) in that it is unlawful for a person, directly or indirectly, to throw, drain, run, allow to seep, or otherwise discharge into the environment of the State organic or inorganic matter, including sewage, industrial wastes, and other wastes, except in compliance with a permit issued by the department.

Frontier Logistics, LP is further notified that failure to attend the scheduled enforcement conference may result in the issuance of an Administrative Order without its consent. Such an Order may contain the above findings and may impose monetary penalties.

This Notice is made pursuant to the Pollution Control Act, 48-1-50 (Supp. 2013), which authorizes the Department to issue Orders and the Pollution Control Act, 48-1-330 (2008), which authorizes the Department to assess monetary penalties.

July 26, 2019

Adam Cannon, Enforcement Manager SCDHEC - Bureau of Water - WP Control Division

August 29, 2019

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#### HAND DELIVERY

Mr. Adam Cannon, Manager WP Enforcement Section WP Control Division Bureau of Water South Carolina Department of Health And Environmental Control 2600 Bull Street Columbia, SC 29201

1806 S. 16th Street | La Porte, TX 77571 281-307-2000 (Main) | 281.307.2383 (Fax)

RECEIVED

ATTER POLLUTION CONTROL DIVISION

# Re: July 26, 2019 Notice of Alleged Violation (NOAV) Frontier Logistics, L.P., Charleston County

Dear Mr. Cannon:

Thank you for meeting with Frontier Logistics, L.P. (Frontier) on August 1, 2019 in an informal conference to discuss the above-referenced NOAV. Frontier appreciates the opportunity to provide a response including information about Frontier's business operations.

First of all, Frontier differs with the findings in the NOAV in general because the findings omit that the pellets reported on Sullivan's Island Beach also included many pellets that did not even resemble pellets handled by Frontier at the Facility, and in some cases, have never been handled by Frontier at any facility.

Frontier is a logistics company with a specialization of serving specific components of the plastics industry. Frontier performs packaging (bagging) at Union Pier Building 322 owned by the South Carolina Ports Authority (SCPA) (the "Facility"). The packaging process begins with the receipt of hopper rail cars containing plastic raw material in the form of pellets. The pellets are removed from the rail cars outside the building by means of an air tight vacuum hose connection that carries the pellets to sealed storage silos. The pellets are transferred from the silos into airtight, heat sealed sturdy plastic 55 lb. bags. Each loaded bag is conveyed to a part of the bagging line where bags are arranged and stacked on a pallet. When the stacking is complete, the stacked pallet is either stretch wrapped or stretch hooded and the completed sealed pallet is moved to storage to await shipping instructions. When shipping instructions are received, the wrapped bag pallets are loaded into cargo containers which are sealed, and then the containers are taken to an SCPA port facility for export.

It is important to note there are at least four companies in the Charleston area that do almost the exact same packaging business for the plastics industry that Frontier does. According to one news media outlet's stated investigation, over 20 companies in the area

Page 2 of 3

are handling pellets. Since Frontier started operations at the Facility in April of 2017, Frontier has handled and packaged over 300 million pounds of plastic pellets with no reported spills.

Frontier first received a telephone call late in the afternoon on Friday, July 19th, from SCPA saying it had been contacted about plastic pellets found on Sullivan's Island Beach that appeared to be similar to pellets handled at our Facility. SCPA further indicated it would secure a contractor to begin a cleanup on the beach and recommended Frontier investigate and consider sending someone to assist with the cleanup. SCPA also indicated it had advised DHEC that Frontier handled plastic pellets. Shortly after the call from SPCA, before Frontier had a chance to examine the beach and the reported pellets, Frontier received a call from a representative of DHEC. The representative said, in effect, DHEC believed Frontier had a spill of plastic pellets and that it should immediately begin cleanup of the Sullivan's Island Beach. Frontier replied it was unaware of any spill at our Facility but that we would send someone to the beach early Saturday morning. Frontier further replied it had no reason at that time to believe it was responsible but it would, nonetheless, have someone on the beach as soon as it was possible, which was the next day. Frontier immediately made arrangements on Friday evening for several employees to arrive as early as possible to assist in cleanup efforts. Frontier also sent its Operations Manager to Charleston to assist and to assess operations and the clean-up.

Frontier employees arrived Saturday on Sullivan's Island Beach as scheduled and began picking up pellets from the beach. Several hours later, a contractor for the Ports Authority, HEPACO, joined Frontier employees in the cleanup effort which continued for a week. Frontier employees continued to assist the cleanup until the overwhelming majority of pellets were picked up. Frontier has been informed the total volume of pellets retrieved is less than a third of a bag, around 18 pounds.

Beginning Saturday, July 20th, Frontier employees closely examined the plastic pellets on the Sullivan's Island Beach. On multiple occasions, pellets were observed that were not uniformly shaped nor opaque white in color. Many of the pellets were not white in any shade, were a different shape, cut, texture or color and were obviously aged. While some of the pellets appear to resemble pellets being handled by Frontier, as we explained in the conference, pellets bagged at the Facility are also handled by other entities and facilities in Charleston and there are no identifying marks on the pellets. Moreover, all of the nonwhite pellets found at the same time and location as white pellets bore no resemblance to pellets being handled at the Frontier Facility and, in fact, are pellets of a type, color, texture or shape never handled by Frontier at the Facility. Thus, while Frontier could not say definitively at the informal conference that none of the type of pellets handled at our Facility were among those found on the beach, Frontier could and did say definitively that many of the pellets collected from the beach have never been handled at our Facility. The presence of a variety of pellets together on the Sullivan Island Beach strongly suggests a spill from an entity or site that either handles a much greater number of plastics types than Frontier or performs some type of action such as cleaning containers or bulk plastic trailers carrying various plastics or recycling various plastics. In fact, since the informal conference,

detailed inspections and statistical testing has been conducted that determined a significant number of the pellets recovered are not polyethylene such as the pellets handled by Frontier, and a significant number of the polyethylene pellets recovered are not pellets manufactured by Frontier's customer. Frontier's position and strong belief is the pellets reported to Frontier on July 19, 2019 are not the result of a spill by Frontier from the Facility. Regardless of the issue of fault for the spill, Frontier recognizes it is important to guard against the potential of a spill and has modified its business operations practices and procedures to do that.

With regard to the DHEC inspection of our Facility on July 19, 2019 showing the presence of some loose pellets, Frontier has since improved its housekeeping procedures and physical barriers. Although Frontier had pellet handling and cleaning procedures, those procedures were not then being followed adequately, possibly due to a change in supervisors and uncompleted training. Following SCPA's notification of the discovery of pellets, Frontier immediately audited its entire facility, found no evidence of a spill and initiated an immediate aggressive housekeeping effort whereby virtually all loose pellets were removed immediately. Frontier also obtained new vacuum cleaning equipment, began the installation of additional building and area barriers to prevent the possibility of any pellet egress to water including, foam sealing material, industrial taping of joints, solid barriers, impermeable flexible netting reinforced by sand bags and similar measures. Frontier also created and immediately implemented a written inspection check list verified by a supervisor from a different Frontier location and supported by photographs. The preliminary results of Frontier's efforts were noted in the July 24th DHEC inspection. As of the date of this letter, all of Frontier's planned barrier improvements have been completed, the continuous cleaning procedures, scheduled inspection procedures and lists are all in place and are being followed and inspected. The Facility has been re-inspected by DHEC and internal personnel from different facilities.

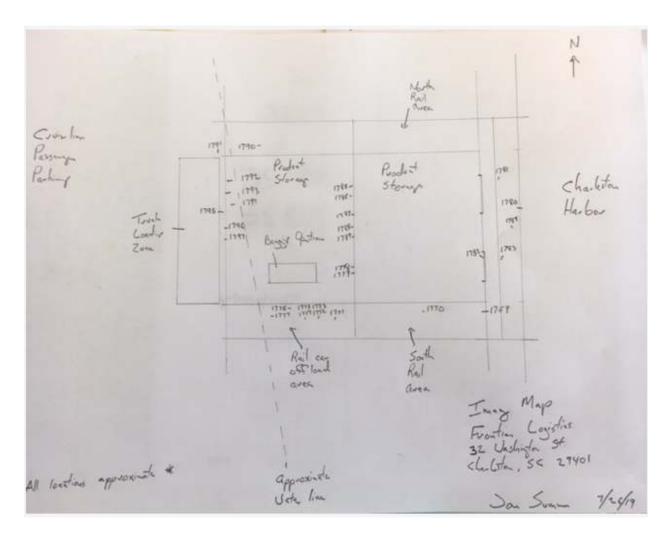
As indicated during the conference, although Frontier is a pledged and active member of Operation Clean Sweep, Frontier is in the process of developing an enhanced written pellet handling, spill prevention and spill response plan that recognizes the special problems of operating its facility over the water. The plan specifically includes daily continuous cleaning, weekly inspection and adverse weather inspection sections.

Frontier remains committed to full regulatory compliance and the goal of "Zero Pellets" leaving its Facility. Frontier believes that the improvements to its business operation practices can eliminate the potential for plastic pellets to leave our Facility under almost any circumstance. If additional information is needed in response to the NOAV, please contact me.

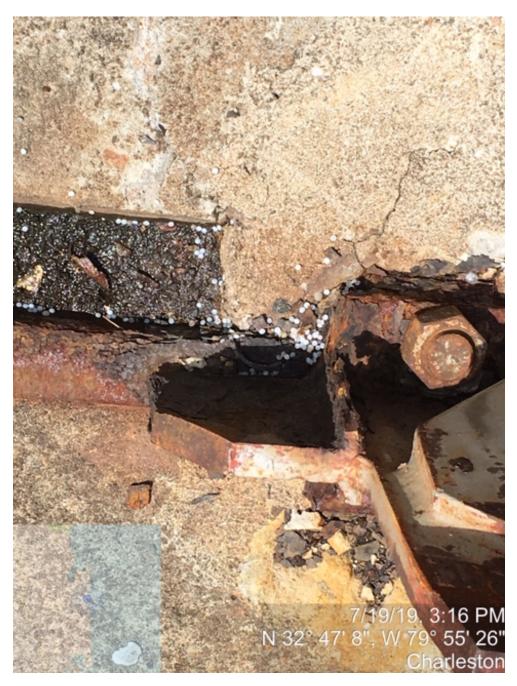
Sincerely,

- Chiter

George T. Cook CEO, Frontier Logistics, L.P.

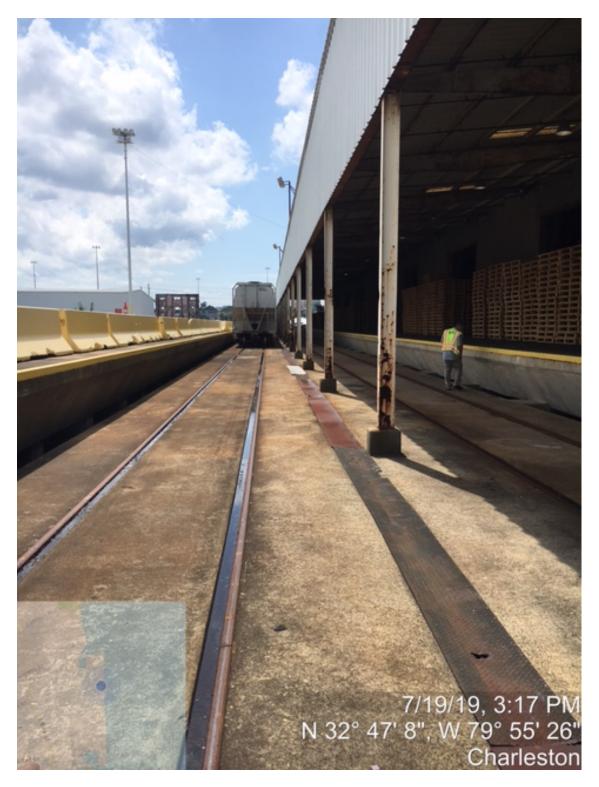


Frontier Logistics Image Map

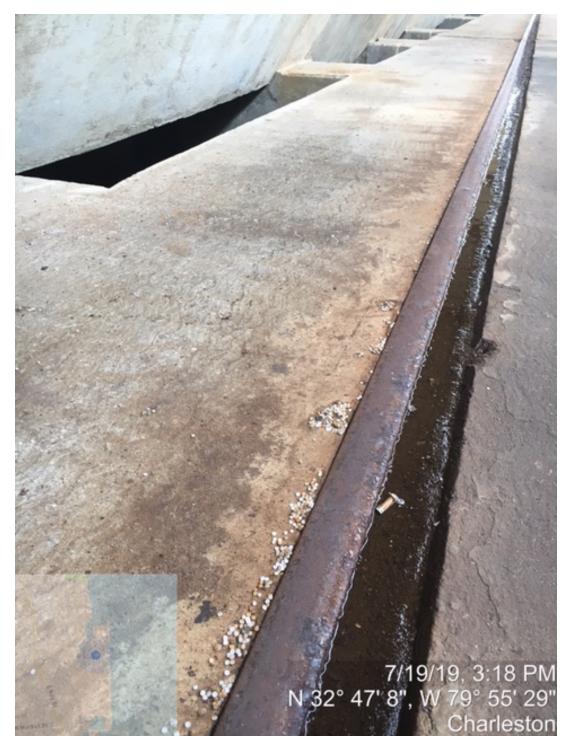


FRONTIER LOGISTICS PHOTO LOG FROM SITE VISIT COMPLETED ON 07/09/2019

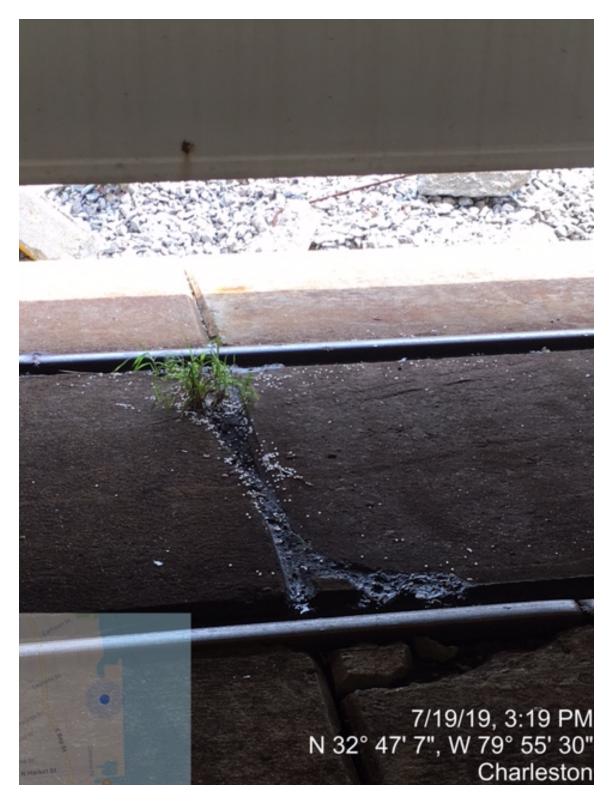
IMG\_1768 - INITIAL DETAIL OF PLASTIC ACCUMULATION



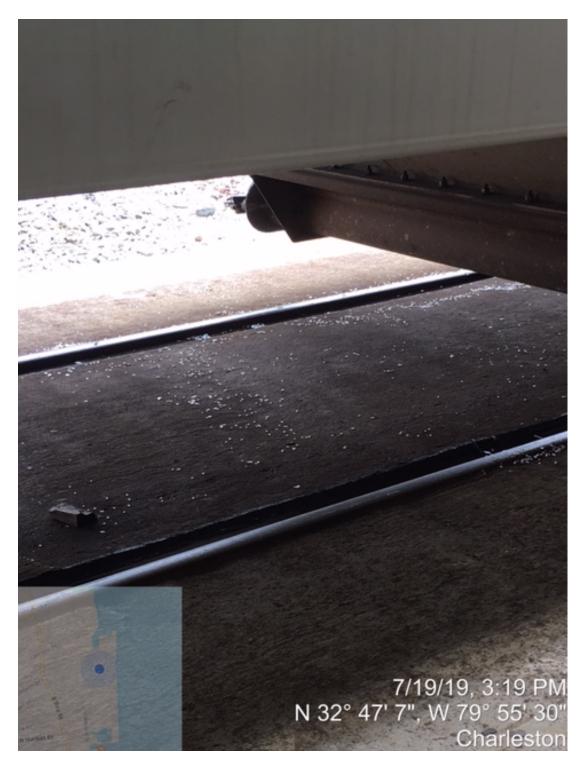
IMG\_1769 – SOUTH RAIL AREA - harborside looking inland



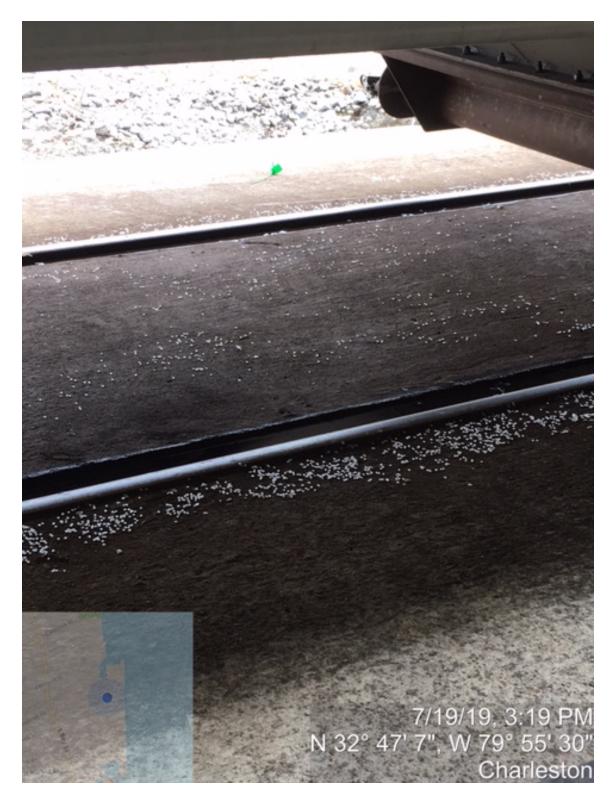
IMG\_1770 - SOUTH RAIL AREA - DETAIL APPROXIMATE TO OPENING LEADING TO WATER



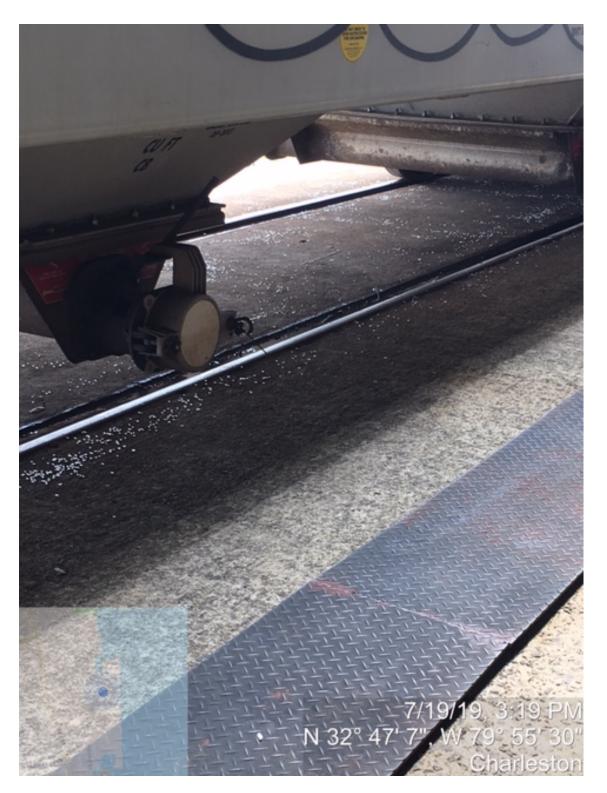
IMG\_1771 - SOUTH RAIL AREA - DETAIL UNDER RAIL CAR



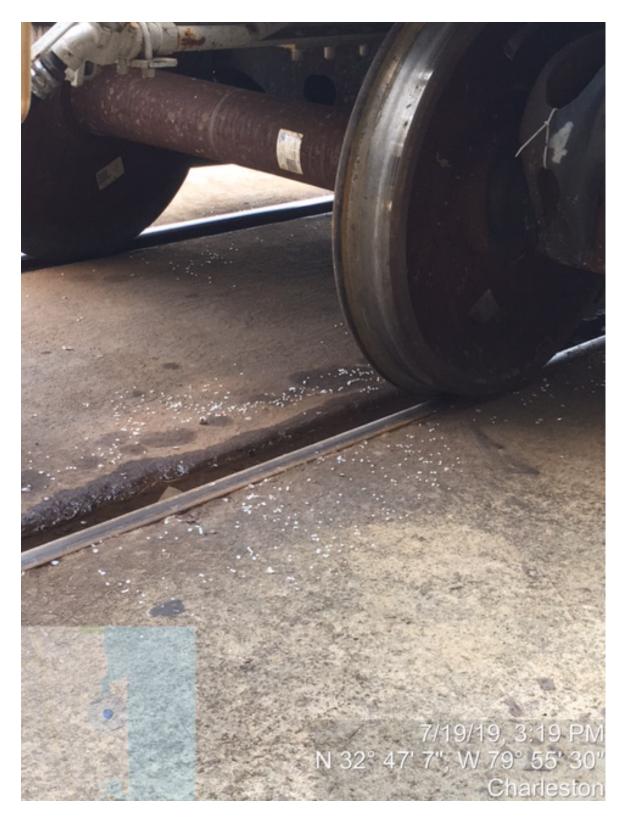
IMG\_1772 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR



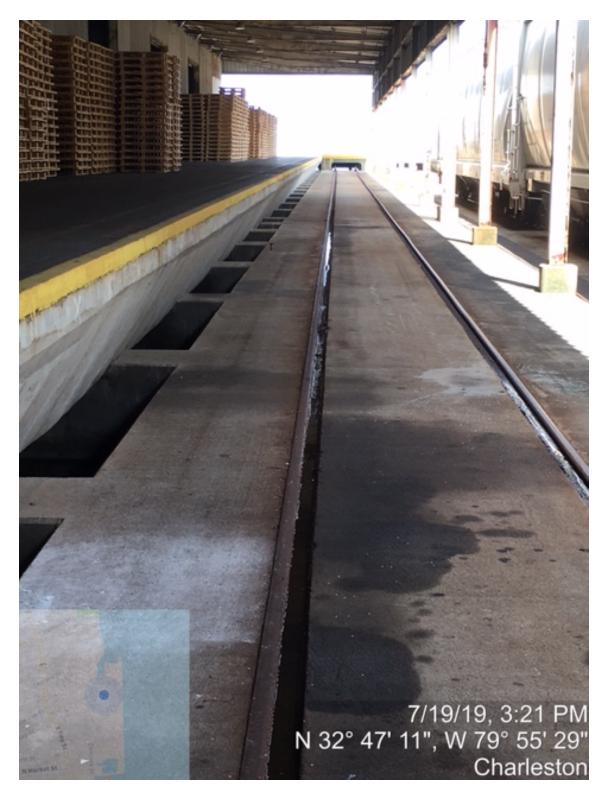
IMG\_1773 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR



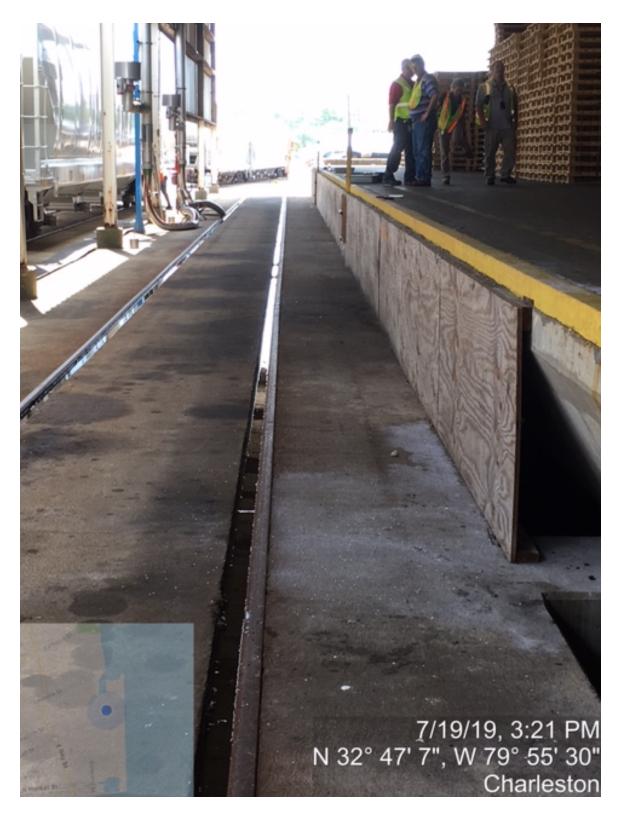
IMG\_1774 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR (Seam/gap between cement leading to water located under diamond steel plate)



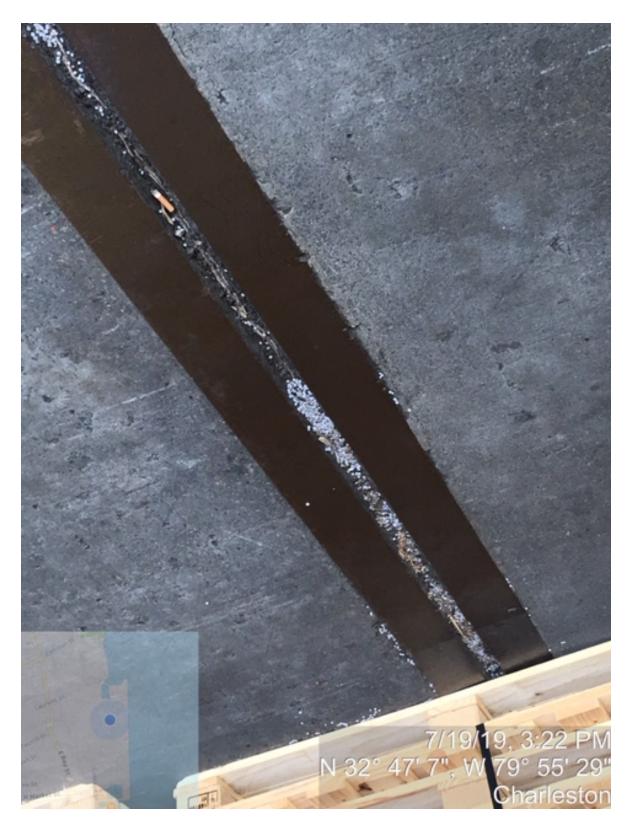
IMG\_1775 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR



IMG\_1776 - SOUTH RAIL AREA - DETAIL UNDER RAIL CAR - INLAND LOOKING TO HARBOR



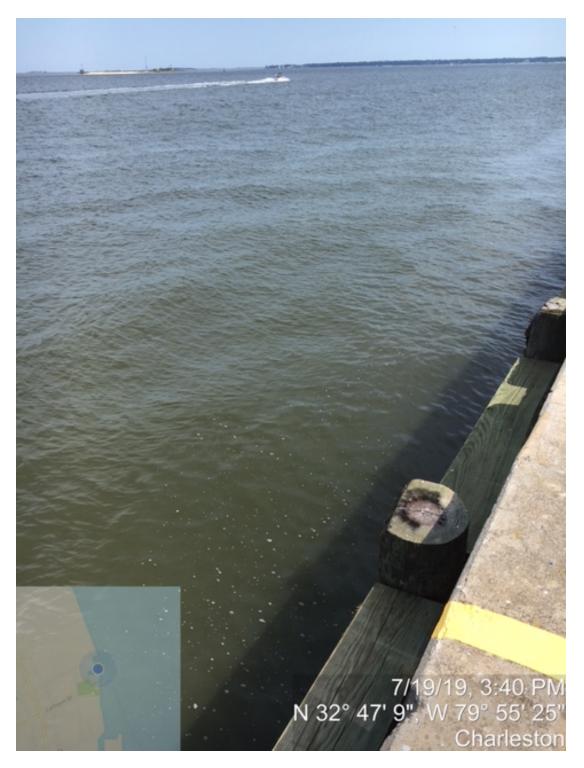
IMG\_1777 - SOUTH RAIL AREA - DETAIL UNDER RAIL CAR - HARBOR LOOKING INLAND



IMG\_1778 - INSIDE FACILITY - DETAIL OF PLASTIC ACCUMULATION ON COVERED SEAM



IMG\_1779 - INSIDE FACILITY - DETAIL OF PLASTIC ACCUMULATION ON COVERED SEAM



IMG\_1780 - BACK DOCK AREA



IMG\_1781 - BACK DOCK AREA - EXPOSED SEAM BETWEEN BACK DOCK AREA AND FACILITY



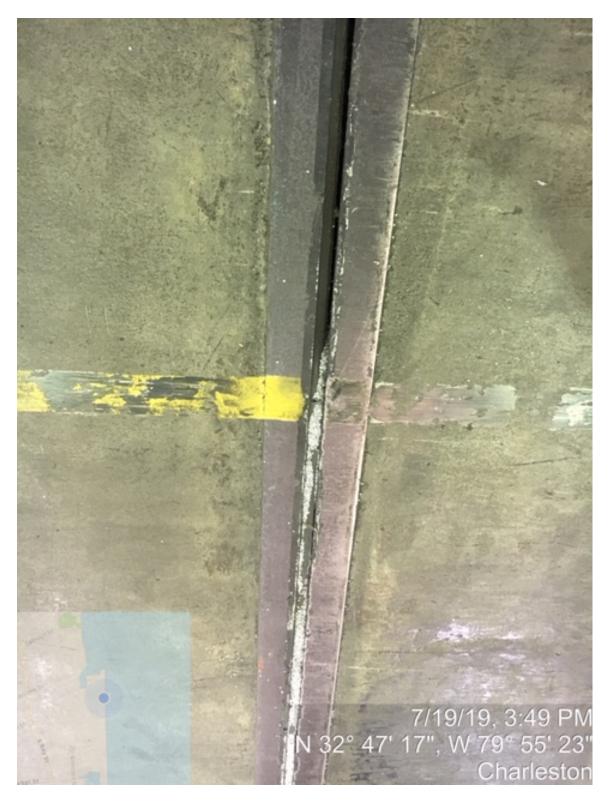
IMG\_1782 – SCREENED GRATE AT FACILITY BACK ENTRANCE



IMG\_1783 - BACK DOCK AREA - EXPOSED SEAM BETWEEN BACK DOCK AREA AND FACILITY



IMG\_1784 - BACK DOCK AREA - PLASTIC ACCUMILATION ON RAIL



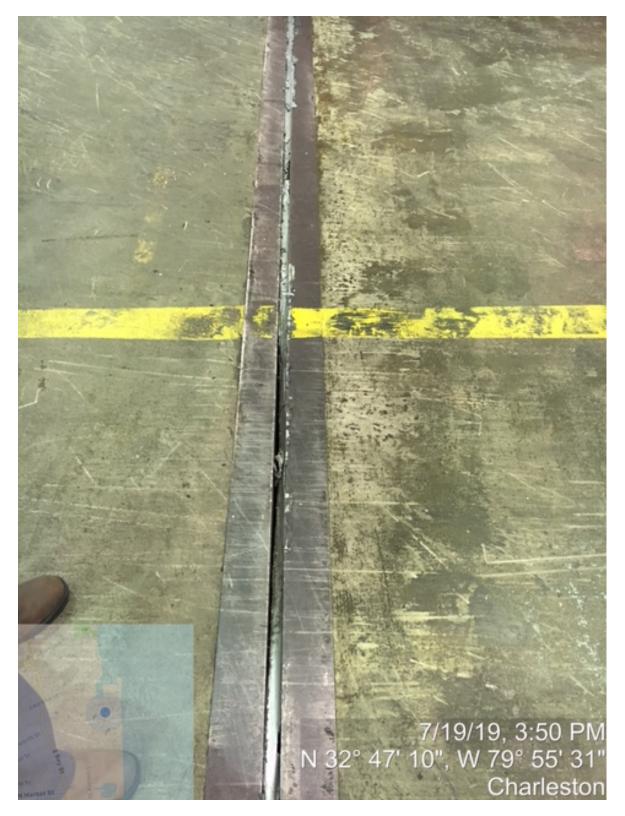
IMG\_1785 – INSIDE FACILITY – SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



IMG\_1786 – INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



IMG\_1787 - INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



IMG\_1788 - INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



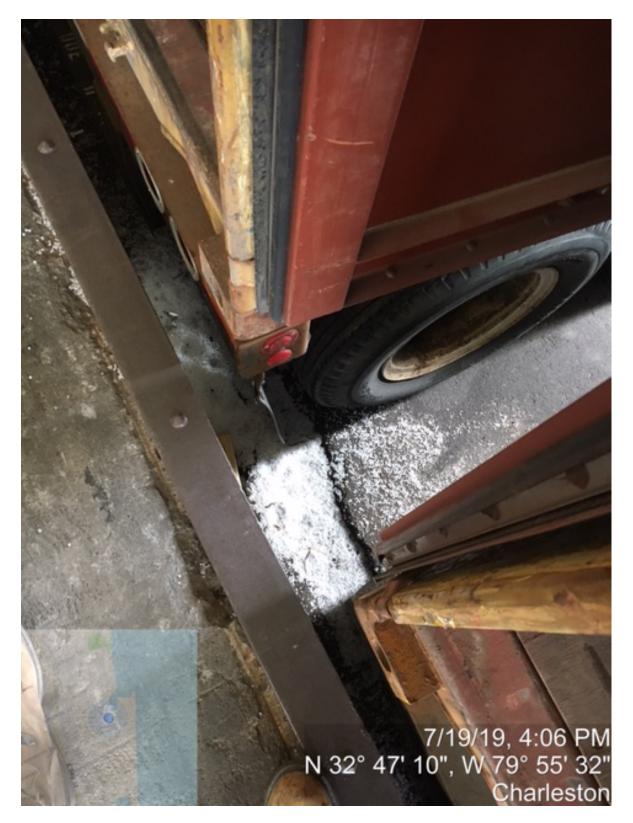
IMG\_1789 - INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



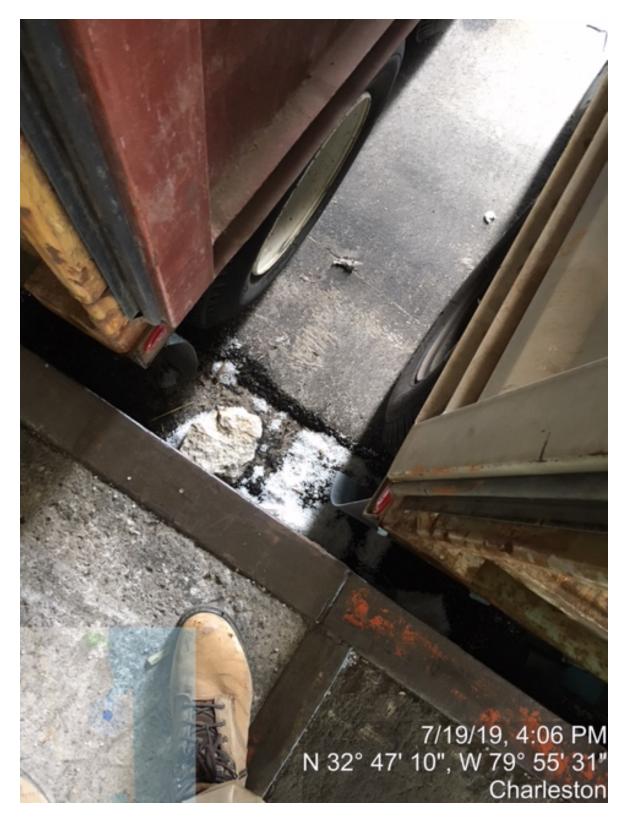
IMG\_1790 - NORTH RAIL AREA - PLASTIC PILE APPROXIMATE TO WATER



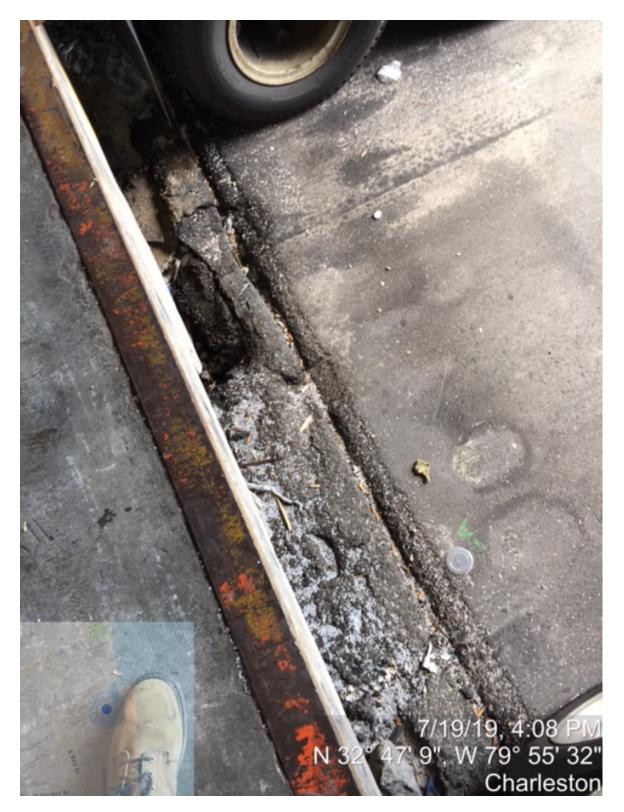
IMG\_1791 - TRUCK LOADING ZONE



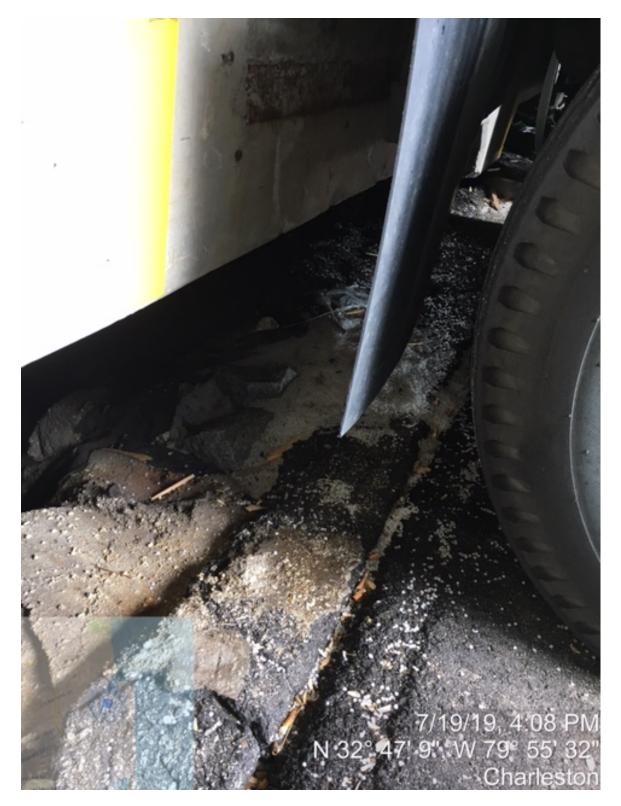
IMG\_1792 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1793 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1794 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1795 – TRUCK LOADING ZONE – PLASTIC ACCUMULATION – SPACE BETWEEN LOADING DOCK AND GROUND APPROXIMATE TO WATER LINE



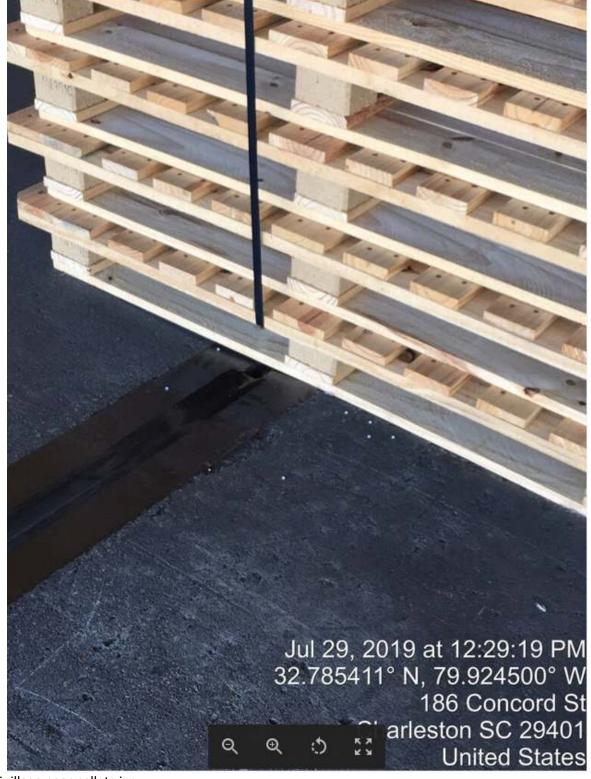
IMG\_1796 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1797 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



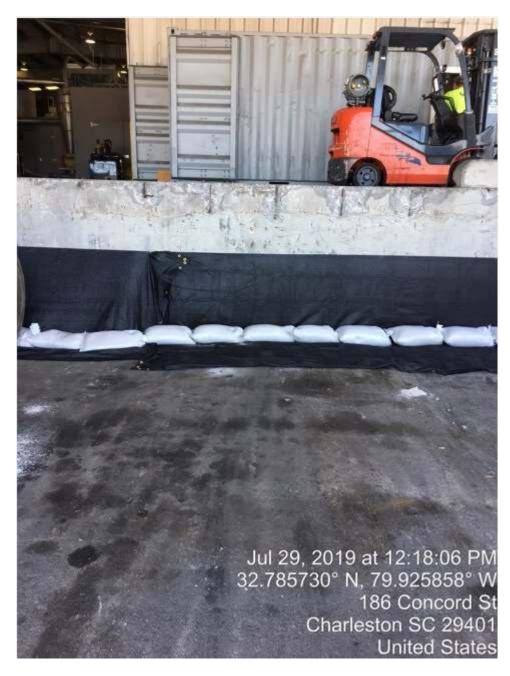
Silt fencing will be installed along the waterfront too



Spillage near pallets.jpg



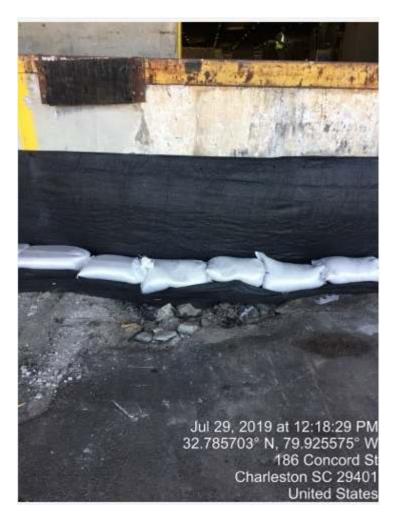
Silt fencing has not been installed along this side yet 2.jpg



Shipping and receiving area 2



Silt fencing has not been installed along this side yet



Shipping and receiving area 1



Rail track and silt fencing 2



Rail track and silt fencing



Rail line on L side



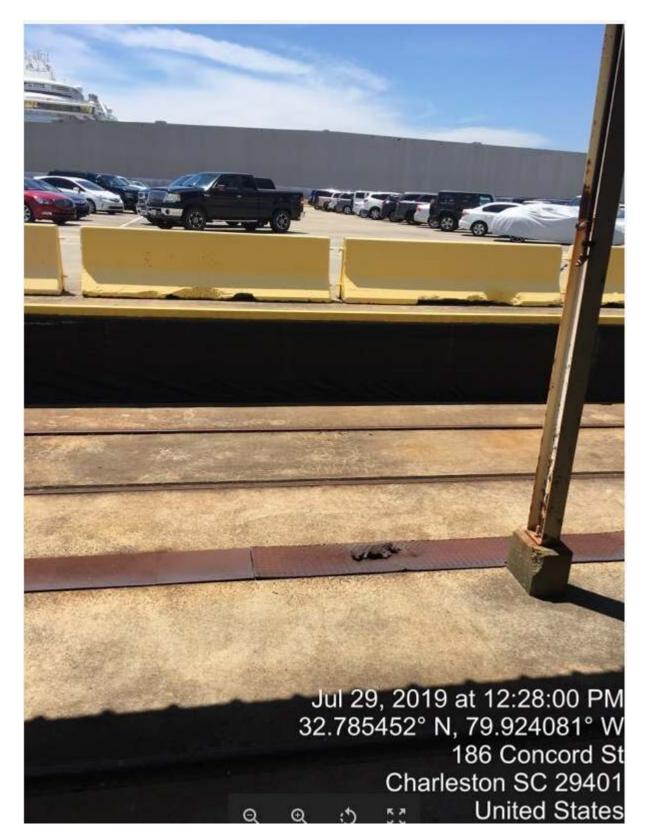
Plastic container under hose connection



oil spillage on rail track



Gap in silt fencing by seawall



Hole in metal cover on rail line



Gap in silt fencing by seawall 2



Expansion joint covered with tape



Expansion joint covered with tape 2



Bay door open with nurdles inside

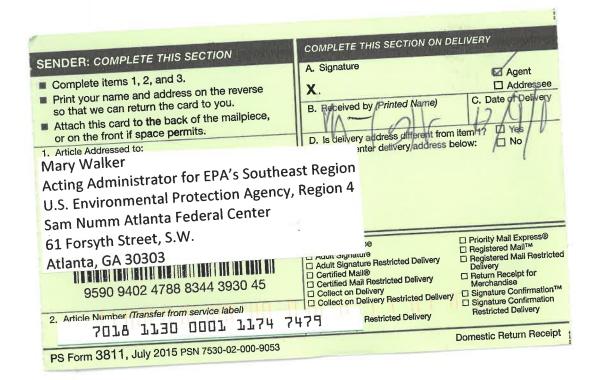


Bags of nurdles

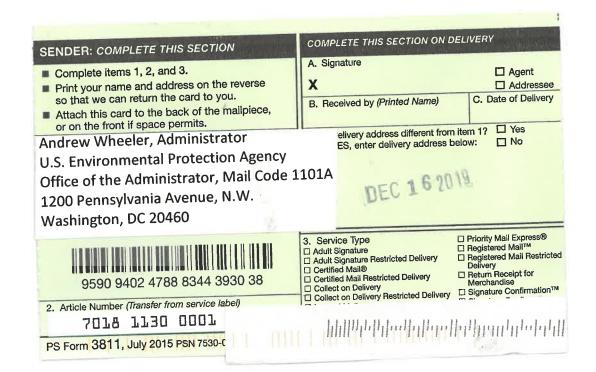
# Exhibit 2











Tracking Number: 70181130000111747431

#### Status

Your item was delivered to an individual at the address at 10:29 am on December 10, 2019 in LA PORTE, TX 77571.



December 10, 2019 at 10:29 am Delivered, Left with Individual LA PORTE, TX 77571

Delivered

Tracking History	~
Product Information	~
See Less ∧	

#### AFFIDAVIT OF SERVICE

#### State of South Carolina

**County of Charleston** 

Case Number: RE: INTENT TO FILE SUIT

Plaintiff: SOUTHERN ENVIROMENTAL LAW CENTER

VS.

Defendant: FRONTIER LOGISTICS, L.P.

For: CATHERINE M WANNAMAKER SOUTHERN ENVIRONMENTAL LAW CENTER 463 KING ST. STE B CHARLESTON, SC 29401

Received by PROCESS SERVICE, INC. to be served on FRONTIER LOGISTICS, LP, 166 HANAHAN PLANTATION CIRCLE, HAHAHAN, SC 29410.

I, Floyd Dotter, being duly sworn, depose and say that on the 11th day of December, 2019 at 2:58 pm, I:

SERVED the within named CORPORATION by delivering a true copy of the LETTER DATED DECEMBER 6, 2019; IN REF; NOTICE OF VIOLATIONS AND INTENT TO FILE CITIZENS SUIT UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT WITH ATTACHMENT A & B with the date and hour of service endorsed hereon by me to AIMEE COOK, REGISTERED AGENT for FRONTIER LOGISTICS, LP at 166 HANAHAN PLANTATION CIRCLE, HANAHAN, SC 29410

Military Status: Based upon inquiry of party served, defendant is not in the military service of The United States of America.

I am over eighteen and have no interest in the above action.

Subscribed and Sworn to before me on the 12th day of December, 2019 by the affiant who is personally known to me

NOTARY PUBLIC

PRINTED SIGNATURE

Floyd Dotter PROCESS SERVER

PROCESS SERVICE, INC. P.O. Box 20097 Charleston, SC 29413 (843) 577-2355

Our Job Serial Number: LEX-2019003162

Commission Expires

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Commission Expires:

#### AFFIDAVIT OF SERVICE

#### State of South Carolina

**County of Charleston** 

Case Number: RE: INTENT TO FILE SUIT

Plaintiff: SOUTHERN ENVIROMENTAL LAW CENTER

VS.

Defendant: FRONTIER LOGISTICS, L.P.

For: CATHERINE M WANNAMAKER SOUTHERN ENVIRONMENTAL LAW CENTER 463 KING ST. STE B CHARLESTON, SC 29401

Received by PROCESS SERVICE, INC. to be served on BRETT HUDDLESTON, OPERATIONS MANAGER FOR FRONTIER LOGISTICS, L.P., 166 HANAHAN PLANTATION CIRCLE, HAHAHAN, SC 29410.

I, Floyd Dotter, being duly sworn, depose and say that on the 11th day of December, 2019 at 2:58 pm, I:

SUBSTITUTE served BRETT HUDDLESTON, OPERATIONS MANAGER FOR FRONTIER LOGISTICS, L.P. by delivering a true copy of the LETTER DATED DECEMBER 6, 2019; IN REF; NOTICE OF VIOLATIONS AND INTENT TO FILE CITIZENS SUIT UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT WITH ATTACHMENT A & B with the date and hour of service endorsed hereon by me, to: AIMEE COOK as SPOUSE at the address of: 166 HANAHAN PLANTATION CIRCLE, HANAHAN, SC 29410-2510, the within named person's usual place of Abode, who resides therein, who is fifteen (15) years of age or older and informed said person of the contents therein, in compliance with state statutes.

Military Status: Based upon inquiry of party served, defendant is not in the military service of The United States of America.

Description of Person Served: Age: 35, Sex: F, Race/Skin Color: WHITE, Height: 5'3", Weight: 160, Hair: BROWN, Glasses: Y

I am over eighteen and have no interest in the above action.

Subscribed and Sworn to before me on the 12th day of December, 2019 by the affiant who is personally known

to me. NOTARY PUBLIC

PRINTED SIGNATURE

**Flovd** Dotter PROCESS SERVER

PROCESS SERVICE, INC. P.O. Box 20097 Charleston, SC 29413 (843) 577-2355

Our Job Serial Number: LEX-2019003161

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Commission Expires:

SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 843-720-5270

463 KING STREET, SUITE B CHARLESTON, SC 29403-7204 Facsimile 843-414-7039

December 6, 2019

#### VIA CERTIFIED MAIL – RETURN RECEIPT REQUESTED

George Cook Chief Executive Officer Frontier Logistics, LP 1806 South 16th Street La Porte, TX 77571

Brett Huddleston Operations Manager Frontier Logistics, LP 5801 North Rhett Avenue Hanahan, SC 29410

Aimee Cook Registered Agent for Frontier Logistics, LP 7054 Weber Drive Ladson, SC 29456

> Re: Notice of Violations and Intent to File Citizen Suit Under the Resource Conservation and Recovery Act

Dear Mr. Cook, Mr. Huddleston, and Ms. Cook:

This letter is sent to inform you, Frontier Logistics ("Frontier"), the South Carolina Department of Health and Environmental Control ("DHEC"), and the United States Environmental Protection Agency ("EPA") that the Charleston Waterkeeper ("Waterkeeper") and the South Carolina Coastal Conservation League ("Conservation League") have identified Resource Conservation and Recovery Act ("RCRA" or "Act")<sup>1</sup> violations at Frontier's facility in Charleston, South Carolina. The Waterkeeper and the Conservation League hereby notify you that, if these violations are not resolved within 90 days from the date of this letter, the Waterkeeper and the Conservation League are prepared to file an action in the United States District Court for the District of South Carolina pursuant to 42 U.S.C. § 6972(b)(2)(A) and 40 C.F.R. § 254.

<sup>&</sup>lt;sup>1</sup> 42 U.S.C. §§ 6901 *et seq*.

#### I. LOCATION OF VIOLATIONS

#### A. Frontier Facility

Frontier operates a facility in Union Pier Terminal Building 322 at 32 Washington Street, Charleston, South Carolina 29401 ("Facility"), from which it has been unlawfully polluting local waterways with plastic pellets. These tiny plastic pellets, also known as "nurdles," are used to manufacture nearly all plastic items in the market. Frontier is a logistics company that packages pellets for export from the Port of Charleston. This process involves siphoning pellets from railcars into storage silos via pneumatic tubes, packaging the pellets in plastic bags, and then loading the bags onto pallets and cargo containers. It is common for pellets to spill out during this process. Once spilled, the contaminated pellets can no longer be used in manufacturing and, if not cleaned up in a proper and timely fashion, can be released into the environment.



**Figure 1: Frontier Logistics Facility** 

#### B. Cooper River and Charleston Harbor

The majority of the Facility extends over the Cooper River just upstream from Charleston Harbor. The river and the harbor provide important habitat for several endangered and threatened species, including sea turtles, wood storks, piping plovers, West Indian manatees, and sturgeon. These waters are also popular recreational areas with boaters, kayakers, and fishermen, and a National Historical Park protects several sites within or adjacent to the harbor, such as Fort Sumter and Fort Moultrie. Two developed barrier islands—Sullivan's Island and Isle of Palms sit at the mouth of the harbor along the Atlantic Ocean. These islands together boast about nine miles of pristine beaches and attract tens of thousands of beachgoers each day during peak season.

#### II. PLASTIC PELLET POLLUTION IN CHARLESTON WATERWAYS

On July 19, 2019, DHEC received a complaint that pellets had washed ashore on Sullivan's Island Beach. In response to the complaint, DHEC staff conducted a visit at the Frontier Facility and discovered numerous areas of concern, with plastic pellet accumulation observed throughout the Facility. According to the agency, the pellets handled by Frontier resembled those found on Sullivan's Island Beach (and later Isle of Palms). On July 26, DHEC issued a Notice of Alleged Violation/Notice of Enforcement Conference ("NOAV") to Frontier under the state Pollution Control Act for discharging plastic pellets into the environment without a permit.<sup>2</sup>

Other than issuing the NOAV, DHEC has declined to pursue any enforcement action against Frontier, yet the pellets persist in the environment. Since July, the Waterkeeper has conducted spot and weekly sampling for plastic pellets at sites across Charleston County. These sampling efforts continue to reveal pellets in consistently high quantities, indicating that untold numbers of pellets remain in the environment. The Waterkeeper has found the largest densities of pellets at the sites nearest to the Frontier Facility;<sup>3</sup> however, the pellets have migrated from the Facility to beaches, parks, and waterways throughout Charleston County and into Berkeley County.<sup>4</sup> Preliminary testing indicates that the recovered pellets are polyethylene and thus match the plastic polymer handled by Frontier.

Along with this more recent data, the Waterkeeper and concerned citizens began discovering pellet samples long before the July spill. The Waterkeeper collected 44 pellets at Laurel Island on March 10, 2018, during a routine trash clean-up. A College of Charleston student found 54 pellets at Waterfront Park on January 23, 2019, and a Sullivan's Island resident found 233 pellets at Sullivan's Island Beach on June 21, 2019. These discoveries indicate that Frontier began releasing pellets into the environment long before DHEC and the greater public became aware of the problem in July 2019. In total, as of the date of this letter, the Waterkeeper has collected more than 7,578 pellet samples over 35 days.<sup>5</sup> According to data collected by nurdlepatrol.org, Charleston experiences among the highest concentrations of plastic pellet pollution in the United States.

<sup>&</sup>lt;sup>2</sup> See Attachment A.

<sup>&</sup>lt;sup>3</sup> The map in Figure 2 depicts the sites where the Waterkeeper has sampled on a weekly basis from September to October 2019, along with the average number of pellets found per visit at each site.

<sup>&</sup>lt;sup>4</sup> The map in Figure 3 depicts the geographical distribution of the pellets found by the Waterkeeper as of October 2019. *See also* Figure 4.

<sup>&</sup>lt;sup>5</sup> See Figure 4.

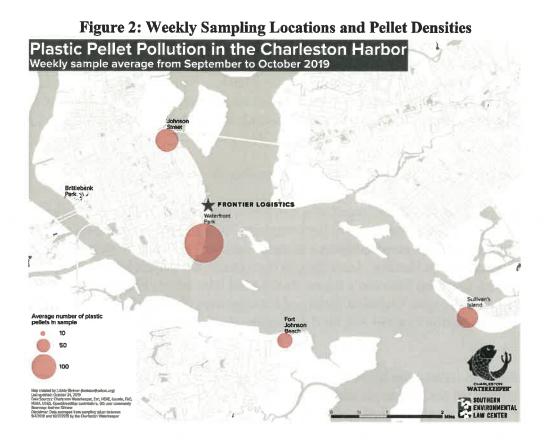


Figure 3: Geographical Distribution of Plastic Pellets

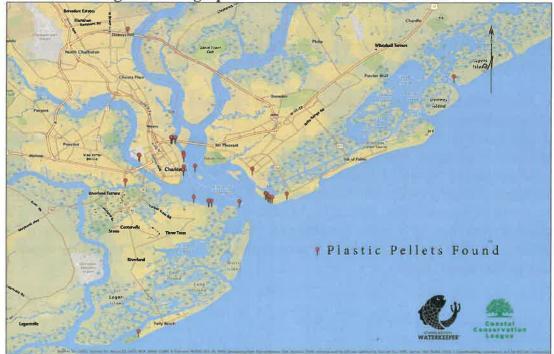


Figure 4: Sampling Data				
Date of Collection	<b>Total Number</b>			
	in Sample			
	44			
1/23/2019	54			
6/21/2019	233			
7/19/2019	20			
7/21/2019	8			
7/21/2019	81			
7/21/2019	1608			
7/21/2019	271			
8/28/2019	10			
8/28/2019	44			
9/4/2019	50			
9/6/2019	30			
9/6/2019	208			
9/10/2019	64			
9/10/2019	91			
9/10/2019	28			
9/10/2019	12			
9/10/2019	54			
9/15/2019	17			
9/18/2019	1			
9/18/2019	237			
9/18/2019	247			
9/18/2019	81			
9/18/2019	38			
9/21/2019	10			
9/25/2019	0			
9/25/2019	74			
9/25/2019	203			
9/25/2019	71			
9/25/2019	130			
9/28/2019	22			
10/2/2019	0			
10/2/2019	57			
10/2/2019	91			
10/2/2019	58			
10/2/2019	19			
10/6/2019	28			
10/6/2019	66			
10/9/2019	6			
10/9/2019	0			
	Date of Collection3/10/20181/23/20196/21/20197/19/20197/21/20197/21/20197/21/20197/21/20198/28/20198/28/20199/4/20199/6/20199/10/20199/10/20199/10/20199/10/20199/10/20199/10/20199/10/20199/18/20199/18/20199/18/20199/18/20199/18/20199/18/20199/25/20199/25/20199/25/20199/25/20199/25/20199/25/20199/25/201910/2/2019			

Sunrise Park	10/9/2019	10
Waterfront Park	10/9/2019	355
Johnson Street	10/9/2019	104
Fort Johnson Beach	10/9/2019	65
Johnson Street	10/16/2019	83
Waterfront Park Fort Johnson Beach	10/16/2019	70
	10/16/2019	20
Brittlebank Park	10/17/2019	1
Sunrise Park	10/17/2019	10
Brittlebank Park	10/23/2019	0
Wappoo Cut Landing	10/23/2019	1
Sunrise Park	10/23/2019	1
Johnson Street	10/23/2019	46
Waterfront Park	10/23/2019	89
Fort Johnson Beach	10/23/2019	4
Sullivan's Island	10/24/2019	96
Waterfront Park	10/28/2019	97
Sea Breeze Marina	10/29/2019	80
Brittlebank Park	10/30/2019	1
Sunrise Park	10/30/2019	11
Johnson Street	10/30/2019	39
Fort Johnson Beach	10/30/2019	9
Sullivan's Island	10/31/2019	20
Fort Johnson Beach	10/31/2019	
Fort Johnson Beach	11/8/2019	37
Brittlebank Park	11/8/2019	0
Waterfront Park	11/8/2019	109
Johnson Street	11/8/2019	35
Sullivan's Island	11/13/2019	8
Fort Johnson Beach	11/13/2019	6
Sunrise Park	11/13/2019	3
Waterfront Park	11/13/2019	172
Johnson Street	11/13/2019	120
Brittlebank Park	11/13/2019	2
Hendricks Park	11/19/2019	205
Sea Breeze Marina	11/19/2019	242
Laurens/Washington RR	11/19/2019	171
Waterfront Park	11/19/2019	180
Frontier 1	11/21/2019	7
Childsbury Towne	11/21/2019	12
Rice Hope Plantation Inn	11/21/2019	2

Bushy Park Boat	11/21/2019	12
Landing	11/21/2019	12
Braddock Ave	11/21/2019	24
Fort Johnson Beach	11/22/2019	8
Brittlebank Park	11/22/2019	3
Johnson Street	11/22/2019	102
<b>TOMP</b> Waterfront Park	11/22/2019	74
Sullivan's Island	11/22/2019	129
Paper Mill	11/26/2019	46
Goose Creek 1	11/26/2019	17
Fort Johnson Beach	11/27/2019	11
Brittlebank Park	11/27/2019	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Waterfront Park	11/27/2019	61
Laurens/Washington	11/27/2019	38
RR		
Hilton Head Island	11/27/2019	0
Johnson Street	11/27/2019	56
TOMP Waterfront Park	11/27/2019	51
Hilton Head Island	11/28/2019	0
Hilton Head Island	11/29/2019	0
Sullivan's Island	11/29/2019	56
Hilton Head Island	11/30/2019	0

#### III. HARMS ASSOCIATED WITH PLASTIC PELLET POLLUTION

As reflected in scientific literature, plastic pellet pollution poses significant threats to marine organisms and coastal communities. Due to their durability and low density, plastic pellets persist in the environment for many years and are readily dispersed by water and wind.<sup>6</sup> The primary danger to marine animals from plastic pellet pollution is through ingestion. A 2015 study found that more than 330 animal species—including 100 percent of marine turtles, 50 percent of marine mammals, and 40 percent of seabirds—are known to have consumed plastic debris.<sup>7</sup> Some animals, such as seabirds, intentionally consume plastic debris depending on foraging techniques and color sensitivities, whereas other animals, such as loggerhead sea turtles and baleen whales, accidentally consume debris through filter-feeding, passive ingestion, or secondary ingestion.<sup>8</sup>

<sup>&</sup>lt;sup>6</sup> Peter G. Ryan, *A Brief History of Marine Litter Research*, in MARINE ANTHROPOGENIC LITTER 1, 2 (Melanie Bergmann et al. eds., 2015); Anthony Andrady, *Persistence of Plastic Litter in the Oceans, in MARINE ANTHROPOGENIC LITTER 57, 59 (Melanie Bergmann et al. eds., 2015) ("[T]he rate at which environmental degradation proceeds is painstakingly slow for plastics.").* 

<sup>&</sup>lt;sup>7</sup> Susanne Kuhn et al., *Deleterious Effects of Litter on Marine Life, in* MARINE ANTHROPOGENIC LITTER 75, 86 (Melanie Bergmann et al. eds., 2015).

<sup>&</sup>lt;sup>8</sup> *Id*. at 87–92.

Whenever an animal ingests plastic pellets, it is potentially exposed to the "cocktail of contaminants" associated with this pollution.<sup>9</sup> Polyethylene—the type of plastic handled by Frontier—contains hazardous additives such as "brominated flame retardants, polyfluoronated compounds, triclosan, phthalate plasticizers, and lead heat stabilizers."<sup>10</sup> Moreover, when plastic enters the environment, it attracts and absorbs heavy metals and organic pollutants like DDT and PCBs from the surrounding seawater.<sup>11</sup> Plastic pellets thus provide "a credible pathway to transfer the environmental pollutants dissolved in water into the marine food web."<sup>12</sup> Studies have shown that exposure to these contaminants "can degrade the structure and functions of ecosystems. Key physiological processes of organisms (e.g. cell-division, immunity, secretion of hormones) can be disrupted, causing disease and reducing the ability to escape predators and reproduce."<sup>13</sup>

Plastic pellet pollution can also have serious impacts on coastal communities and human health. Charleston has now witnessed firsthand just how challenging it is to clean up spilled pellets. When pellets began washing ashore on Sullivan's Island and Isle of Palms in mid-July, the South Carolina Ports Authority hired contractors to comb the beach, sometimes on hands and knees, to find and remove the pellets. Though that cleanup contract ended in August, the pellets never stopped appearing on Sullivan's Island.<sup>14</sup> Pellets also pose a threat to the local fishing industry and to people who eat seafood. As discussed above, fish and other aquatic life consume plastic pellets and, consequently, the toxins within them. Scientists are concerned that these toxins can travel up the food chain to fish consumers, posing a serious health risk to humans. This health risk to humans also poses an economic risk to the fishing industry, whose vitality depends on healthy fish stocks and consumer demand.

The Waterkeeper's sampling reveals that untold numbers of plastic pellets remain in Charleston waters, and the danger to human health and the environment will persist until those pellets are cleaned up and until Frontier implements sufficient measures to ensure that it spills no additional pellets.

#### IV. RESOURCE CONSERVATION AND RECOVERY ACT VIOLATIONS

Frontier is in violation of RCRA by releasing plastic pellets into the Cooper River (and other waters via migration) in a manner that presents an imminent and substantial endangerment to health or the environment. 42 U.S.C. § 6972(a)(1)(B) allows affected citizens to file suit against:

any person . . . including any past or present generator, past or present transporter, or past

<sup>&</sup>lt;sup>9</sup> Chelsea Rochman, The Complex Mixture, Fate and Toxicity of Chemicals Associated with Plastic Debris in the Marine Environment, in MARINE ANTHROPOGENIC LITTER 117, 119 (Melanie Bergmann et al. eds., 2015). <sup>10</sup> Id.at 131.

<sup>&</sup>lt;sup>11</sup> UN ENV'T PROGRAMME, UNEP FRONTIER 2016 REPORT: EMERGING ISSUES OF ENVIRONMENTAL CONCERN 38 (2016).

<sup>&</sup>lt;sup>12</sup> Andrady *supra* note 10, at 67.

<sup>&</sup>lt;sup>13</sup> Rochman, *supra* note 15, at 132–33.

<sup>&</sup>lt;sup>14</sup> Bo Petersen, *Two hazardous spills around Charleston raise questions about how public gets notified*, POST & COURIER, Aug. 24, 2019, available at https://www.postandcourier.com/news/two-hazardous-spills-around-charleston-raise-questions-about-how-public/article\_77feadd8-c5c0-11e9-a6d7-ef7cc6f5d0fc.html.

or present owner or operator of a treatment, storage or disposal facility, who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment.

A citizen suit under this section of RCRA "may be predicated on a [qualifying] *past [or present]* violation."<sup>15</sup>

In this case, Frontier's actions at its Facility have caused plastic pellets to enter and contaminate waters in the Charleston area. Photographs of the Facility obtained through FOIA show pellets littered along rail lines, at truck loading zones, in seams between concrete slabs, beside wooden pallets, and inside the warehouse.<sup>16</sup> These pellets spill into the Cooper River due to Frontier's operational practices, which are insufficient to contain pellets throughout the packaging process. For example, storm water carries pellets into the river via drainage outlets and other conveyances operated by Frontier at the Facility. Wind, storm water, wash water, and other forces also transport pellets directly off the Facility. As discussed in Section III, plastic pellets are harmful to marine animals due primarily to the risk of ingestion, which can cause digestive obstruction and toxic chemical exposure. Pellets also pose a health risk to humans who eat fish and other seafood that ingested the "cocktail of contaminants" associated with this pollution.<sup>17</sup>

Frontier is thus contributing to the past or present handling, storage, treatment, transportation, or disposal of solid waste which may present an imminent and substantial endangerment to health or the environment. These RCRA violations began *at least* as early as March 2018, when the Waterkeeper first discovered pellets at Laurel Island, and are ongoing since large quantities remain in the environment.

#### V. NOTICE OF INTENT TO SUE

Frontier's actions are causing an imminent and substantial endangerment in violation of RCRA. Therefore, the Waterkeeper and the Conservation League give notice that they are prepared to initiate a civil action against Frontier under 42 U.S.C. § 6972(a)(1)(B) 90 days from the date of this letter or soon thereafter. The lawsuit will seek redress for the violations described in this letter, including injunctive relief, costs, and attorney fees pursuant to 42 U.S.C. § 6972(a) and (e). The Waterkeeper and the Conservation League reserve the right to add additional claims to the specific RCRA violations set forth above based on the same or a similar pattern of violations. The Waterkeeper and the Conservation League also reserve the right to seek additional remedies under state and federal law and do not intend, by giving this notice, to waive any other rights or remedies.

<sup>&</sup>lt;sup>15</sup> Goldfarb v. Mayor & City Council of Baltimore, 791 F.3d 500, 504 (4th Cir. 2015) (quoting Sanchez v. Esso Standard Oil Co., 572 F.3d 1, 7 (1st Cir. 2009)).

<sup>&</sup>lt;sup>16</sup> See Attachment B.

<sup>&</sup>lt;sup>17</sup> Chelsea Rochman, The Complex Mixture, Fate and Toxicity of Chemicals Associated with Plastic Debris in the Marine Environment, in MARINE ANTHROPOGENIC LITTER 117, 119 (Melanie Bergmann et al. eds., 2015).

#### VI. PARTIES GIVING NOTICE

The Charleston Waterkeeper is a non-profit corporation with its principal office at 514 Mill Street, Suite E, Mount Pleasant, South Carolina 29464. The Waterkeeper's mission is to protect, restore, and promote waterways in the Charleston area through water quality monitoring, pollution cleanup, and community education. The Waterkeeper is a membership organization with members who live and recreate along the Cooper River and Charleston Harbor near the Frontier facility and its outfalls. The violations identified above have negatively impacted the Cooper River, Charleston Harbor, the Waterkeeper, and the Waterkeeper's members. The name, address, and telephone number of the person giving notice of intent to sue are:

Andrew Wunderley, Executive Director & Waterkeeper Charleston Waterkeeper P.O. Box 29 Charleston, SC 29402 843-906-7073

The South Carolina Coastal Conservation League is a non-profit corporation with its principal office at 131 Spring Street, Charleston, South Carolina 29403. The Conservation League's mission is to protect the threatened resources of the South Carolina coastal plain—its natural landscapes, abundant wildlife, clean water, and quality of life. The Conservation League is a membership organization with members who live and recreate along the Cooper River and Charleston Harbor near the Frontier facility and its outfalls. The violations identified above have negatively impacted the Cooper River, Charleston Harbor, the Conservation League, and the Conservation League's members. The name, address, and telephone number of the person giving notice of intent to sue are:

Laura Cantral, Executive Director South Carolina Coastal Conservation League 131 Spring Street Charleston, SC 29403 843-723-8035

#### VII. CONCLUSION

If you have any questions concerning this letter or the described violations, or if you believe it is incorrect in any respect, please contact the undersigned counsel at the Southern Environmental Law Center. During the notice period, we are available to discuss effective actions and remedies for the violations noted in this letter.

Thank you for your prompt attention to this matter

Sincerely,

٢

Catherine Wannamaker Southern Environmental Law Center 436 King Street, Suite B Charleston, SC 29403 Tel: 843.720.5270 www.southernenvironment.org

#### **ALSO VIA CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

Andrew Wheeler Administrator U.S. Environmental Protection Agency Office of the Administrator, Mail Code 1101A 1200 Pennsylvania Avenue, N.W. Washington, DC 20460

Mary Walker Acting Administrator for EPA's Southeast Region U.S. Environmental Protection Agency, Region 4 Sam Nunn Atlanta Federal Center 61 Forsyth Street, S.W. Atlanta, GA 30303

Rick Toomey Director South Carolina Department of Health & Environmental Control 2600 Bull Street Columbia, SC 29201

## Attachment A



July 26, 2019

#### First Class & Certified Mail - 9214 8969 0099 9790 1415 4503 02

Ms. Aimee Cook Frontier Logistics, LP 5801 N. Rhett Avenue Hanahan, SC 29410

Re: Notice of Alleged Violation/Notice of Enforcement Conference Frontier Logistics North Charleston Terminal Charleston County

Dear Ms. Cook:

Enclosed is a Notice of Enforcement Conference issued by the S.C. Department of Health and Environmental Control for the reasons explained therein. This informal conference will provide you with the opportunity to disprove the alleged violations and to present any extenuating information that may mitigate the gravity of the alleged violations.

Enclosed is an informational sheet entitled "An Overview of the Administrative Enforcement Process." This guide has been designed to answer the questions most often asked about the enforcement processes.

This correspondence is being sent to you by first class mail and certified mail to better ensure delivery. If you have any questions about the notice, you may call me at (803) 898-1768. I will be glad to assist you.

Sincerely,

Adam Cannon, Manager Bureau of Water - WP Control Division WP Enforcement Section

cc: Brian Wisnewski, SCDHEC, WP Compliance Wendy Boswell, SCDHEC, Lowcountry BEHS, Charleston Office George Cook, Frontier Logistics LP, 32 Washington St., Charleston, SC 20401

#### THE STATE OF SOUTH CAROLINA BEFORE THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

#### IN RE: FRONTIER LOGISTICS, LP CHARLESTON COUNTY

#### **NOTICE OF ENFORCEMENT CONFERENCE / NOTICE OF ALLEGED VIOLATION**

Frontier Logistics, LP (Frontier) is hereby notified that an enforcement conference has been scheduled for Thursday, August 1, 2019, at 1:00 P.M., in room 4011, in the offices of the Bureau of Water, 2600 Bull Street, Columbia, South Carolina. All visitors must enter the building through the main lobby on the Bull Street side of the complex. You will be required to sign a Visitor's Log and receive a Visitor's Badge before entering the building. Representatives Frontier of have the opportunity to be present at this conference to discuss the alleged violations of the Pollution Control Act cited herein.

Representatives of Frontier may be accompanied at the conference by legal and/or technical counsel. The possibility of a Consent Order may be discussed.

### This Notice is based upon the following findings of the South Carolina Department of Health and Environmental Control:

- 1. Frontier Logistics, LP (Frontier) is responsible for the operation of a supply chain management service that transloads plastic pellets for export through the Port of Charleston. The facility in which Frontier operates is owned by the S.C. Ports Authority and is located at 32 Washington Street, in Charleston County, South Carolina.
- On July 19, 2019 the South Carolina Department of Health and Environmental Control (Department) received a complaint regarding plastic pellets being washed ashore of Sullivan's Island Beach in Charleston County, South Carolina.
- 3. On July 19, 2019, Department staff conducted a site visit at Sullivan's Island Beach and observed plastic pellets that had washed ashore. The pellets were uniformly shaped small round pellets and were opaque white in color. Department staff collected samples of the pellets from the beach.
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### From the above findings, the Department alleges that Frontier Logistics, LP violated the Pollution Control Act as follows:

Frontier Logistics, LP violated the Pollution Control Act, S.C. Code Ann. § 48-1-90 (A)(1) (2008 & Supp. 2016) in that it is unlawful for a person, directly or indirectly, to throw, drain, run, allow to seep, or otherwise discharge into the environment of the State organic or inorganic matter, including sewage, industrial wastes, and other wastes, except in compliance with a permit issued by the department.

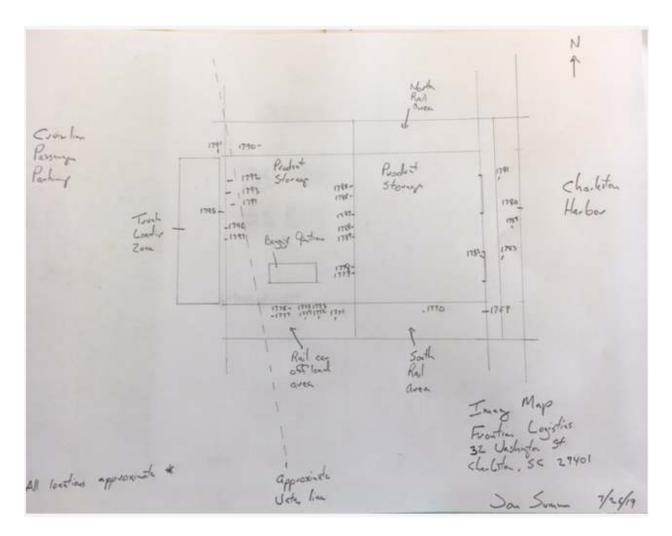
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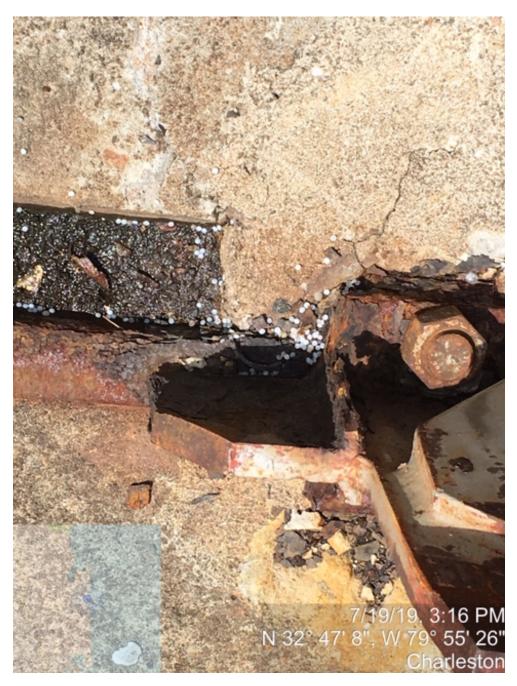
July 26, 2019

Adam Cannon, Enforcement Manager SCDHEC - Bureau of Water - WP Control Division

## Attachment B

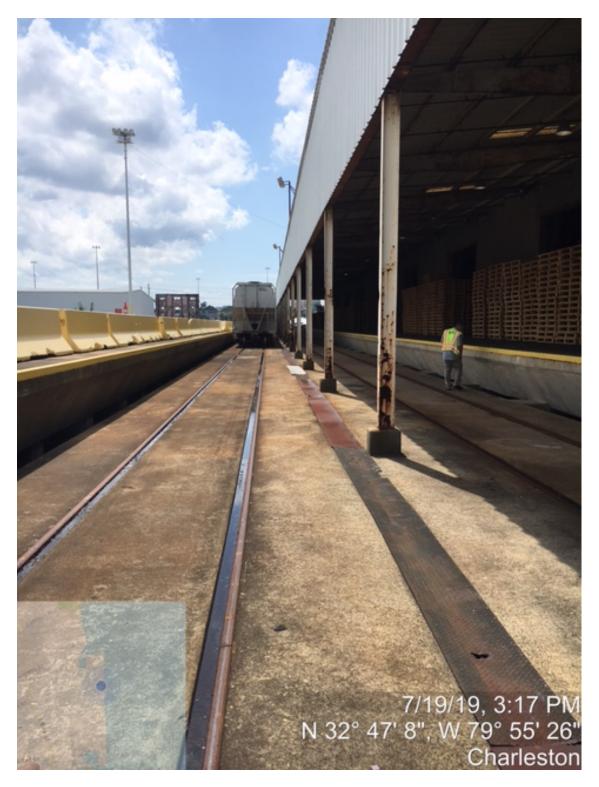


Frontier Logistics Image Map

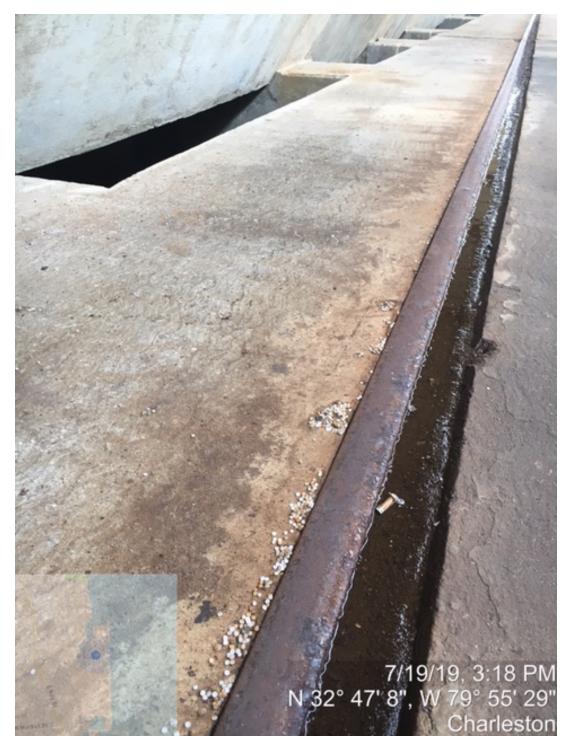


FRONTIER LOGISTICS PHOTO LOG FROM SITE VISIT COMPLETED ON 07/09/2019

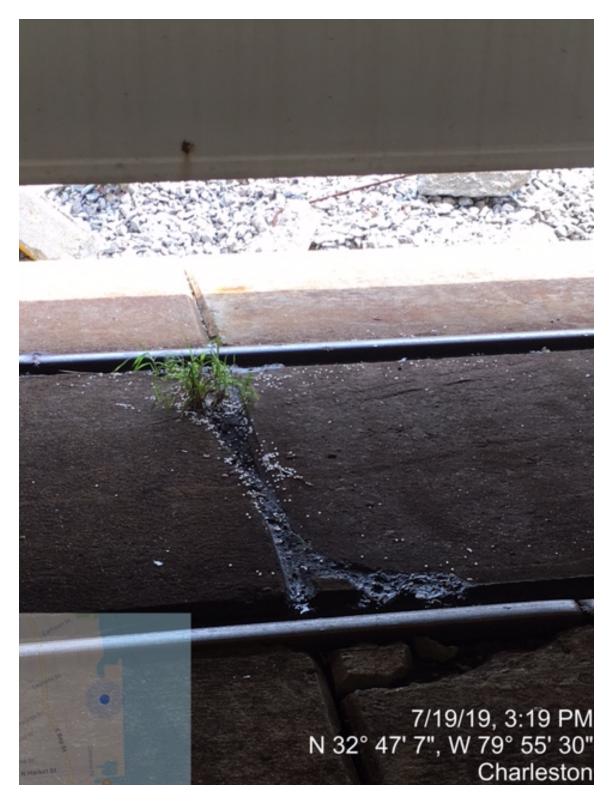
IMG\_1768 - INITIAL DETAIL OF PLASTIC ACCUMULATION



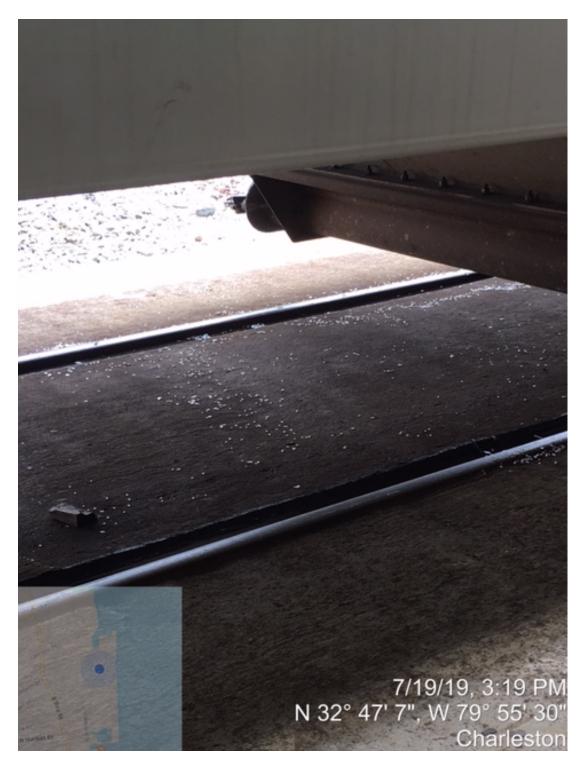
IMG\_1769 – SOUTH RAIL AREA - harborside looking inland



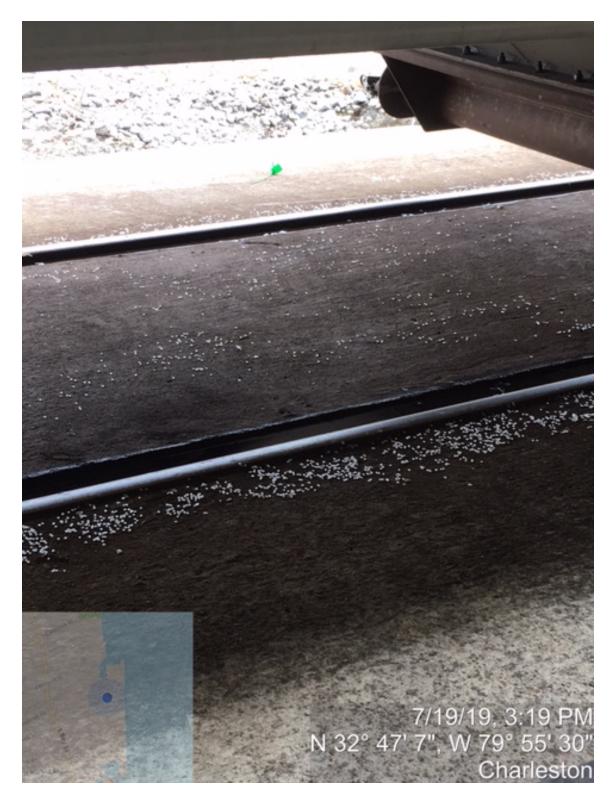
IMG\_1770 - SOUTH RAIL AREA - DETAIL APPROXIMATE TO OPENING LEADING TO WATER



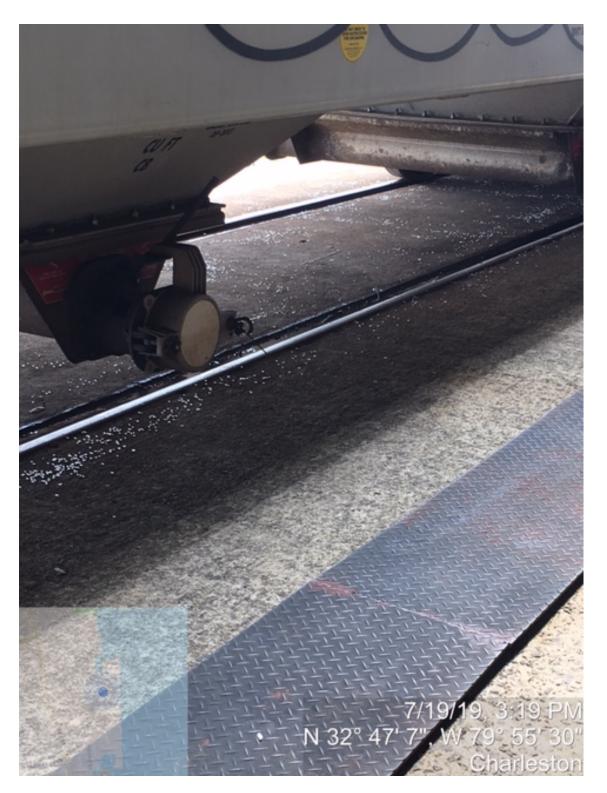
IMG\_1771 - SOUTH RAIL AREA - DETAIL UNDER RAIL CAR



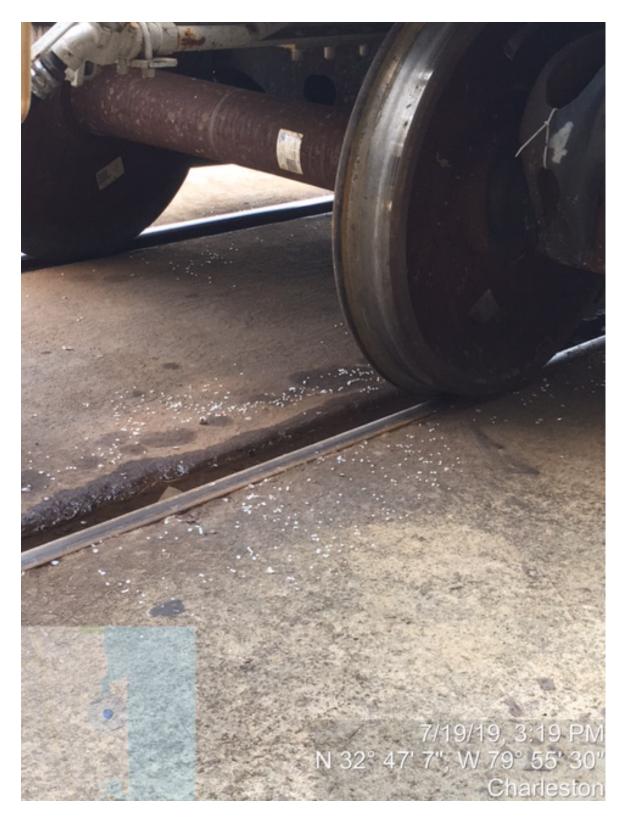
IMG\_1772 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR



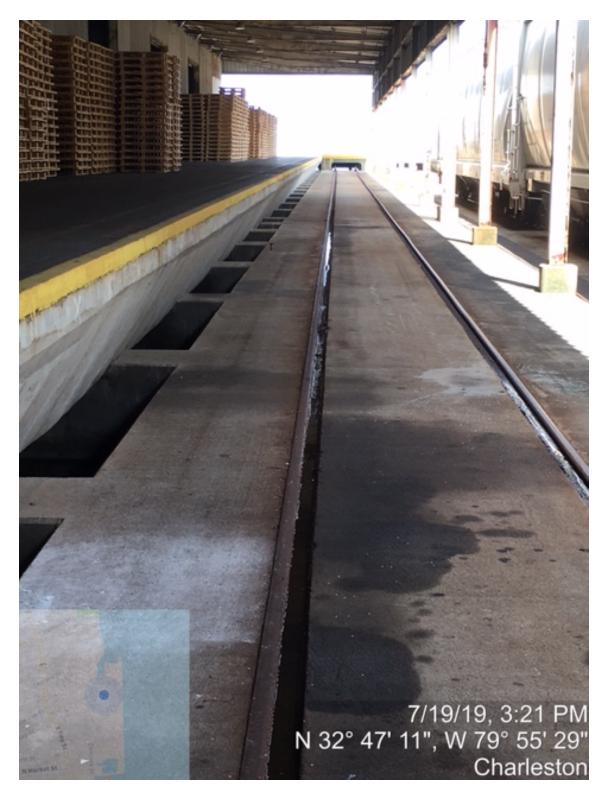
IMG\_1773 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR



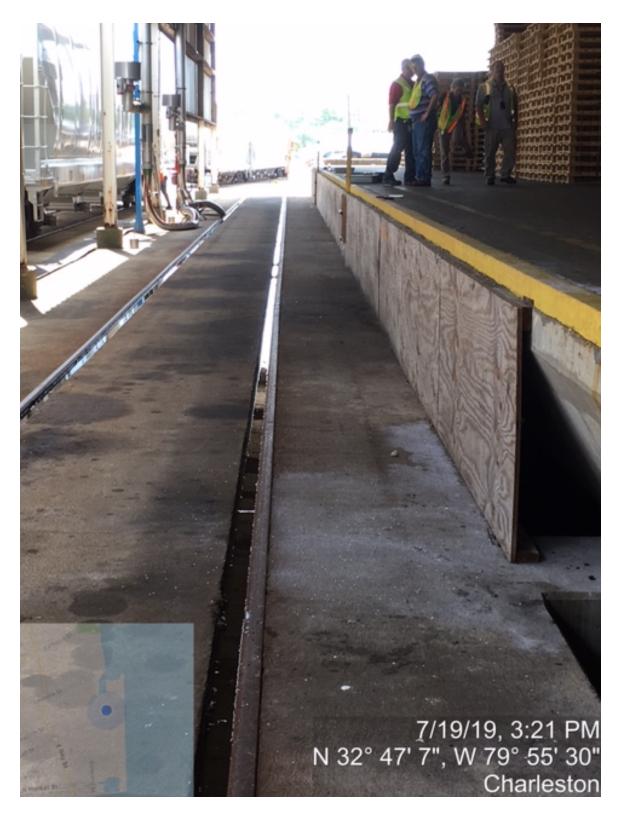
IMG\_1774 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR (Seam/gap between cement leading to water located under diamond steel plate)



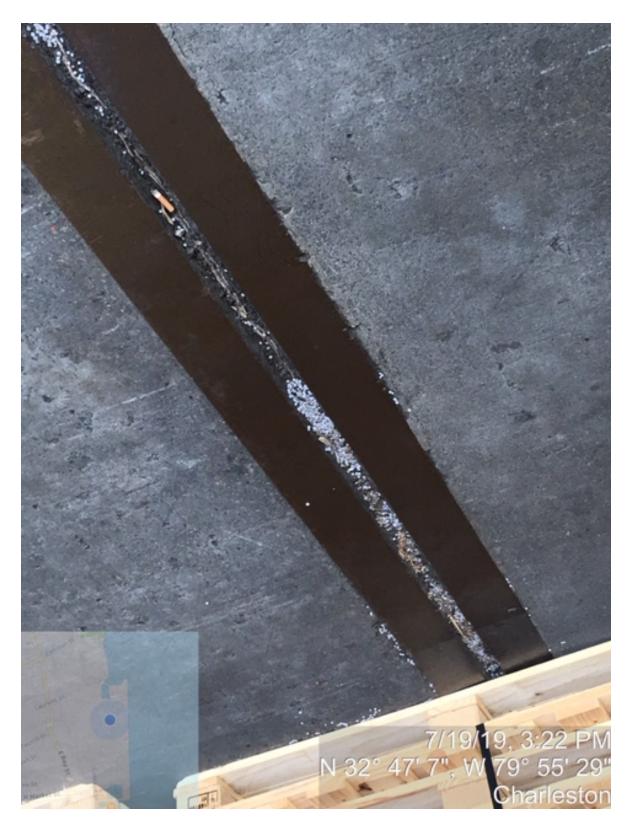
IMG\_1775 – SOUTH RAIL AREA – DETAIL UNDER RAIL CAR



IMG\_1776 - SOUTH RAIL AREA - DETAIL UNDER RAIL CAR - INLAND LOOKING TO HARBOR



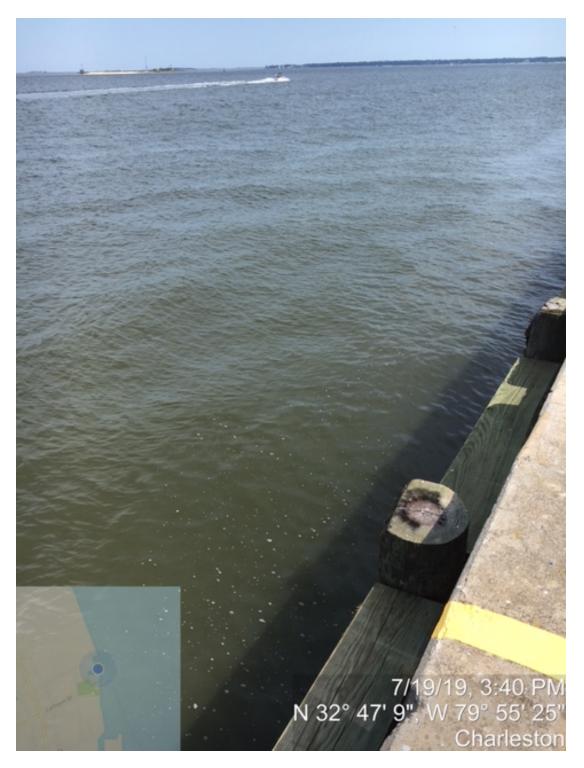
IMG\_1777 - SOUTH RAIL AREA - DETAIL UNDER RAIL CAR - HARBOR LOOKING INLAND



IMG\_1778 - INSIDE FACILITY - DETAIL OF PLASTIC ACCUMULATION ON COVERED SEAM



IMG\_1779 - INSIDE FACILITY - DETAIL OF PLASTIC ACCUMULATION ON COVERED SEAM



IMG\_1780 - BACK DOCK AREA



IMG\_1781 - BACK DOCK AREA - EXPOSED SEAM BETWEEN BACK DOCK AREA AND FACILITY



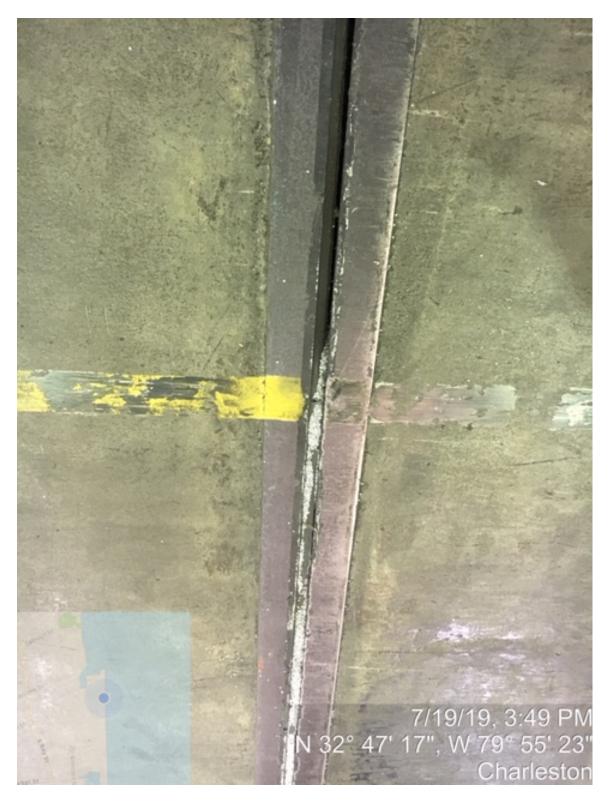
IMG\_1782 – SCREENED GRATE AT FACILITY BACK ENTRANCE



IMG\_1783 - BACK DOCK AREA - EXPOSED SEAM BETWEEN BACK DOCK AREA AND FACILITY



IMG\_1784 - BACK DOCK AREA - PLASTIC ACCUMILATION ON RAIL



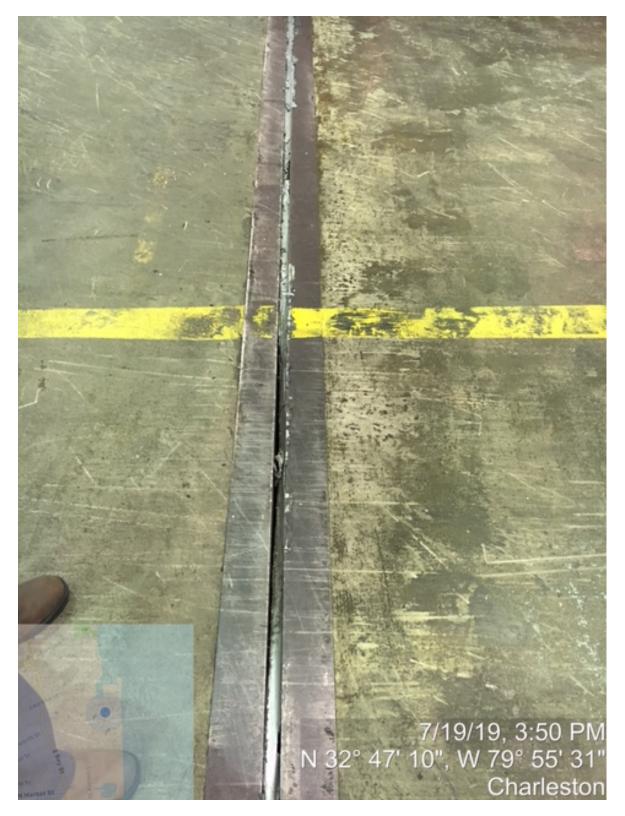
IMG\_1785 – INSIDE FACILITY – SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



IMG\_1786 – INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



IMG\_1787 - INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



IMG\_1788 - INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



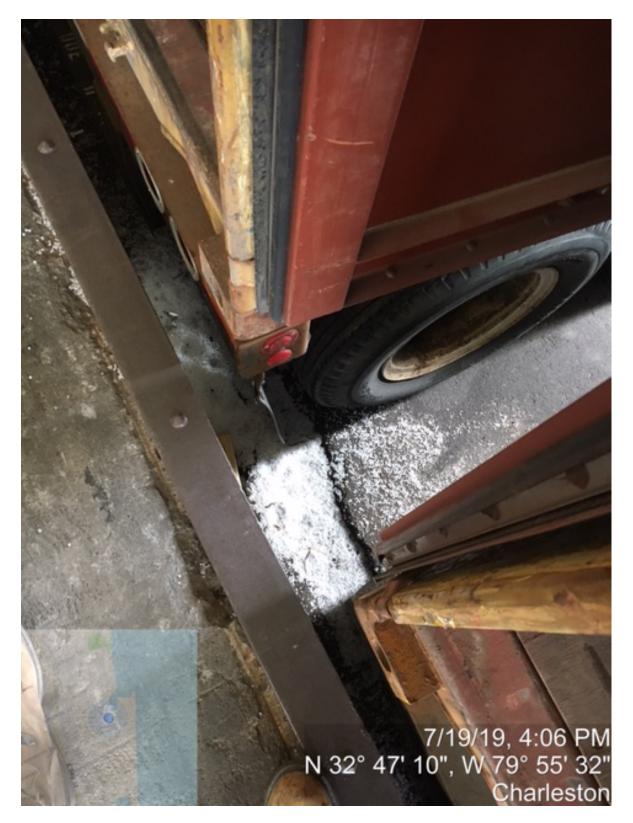
IMG\_1789 - INSIDE FACILITY - SEAM WITH PLASTIC ACCUMULATION IN POOR REPAIR – SEAM OVER WATER



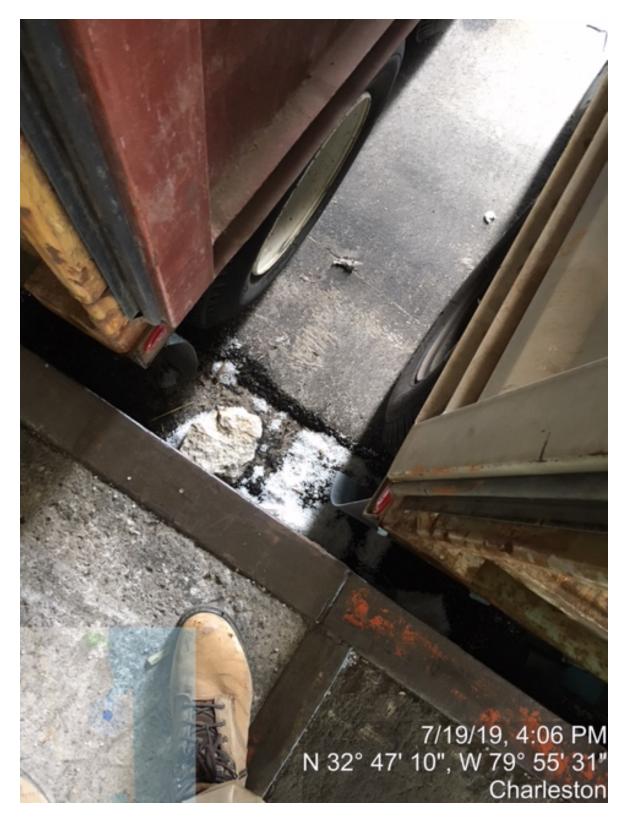
IMG\_1790 - NORTH RAIL AREA - PLASTIC PILE APPROXIMATE TO WATER



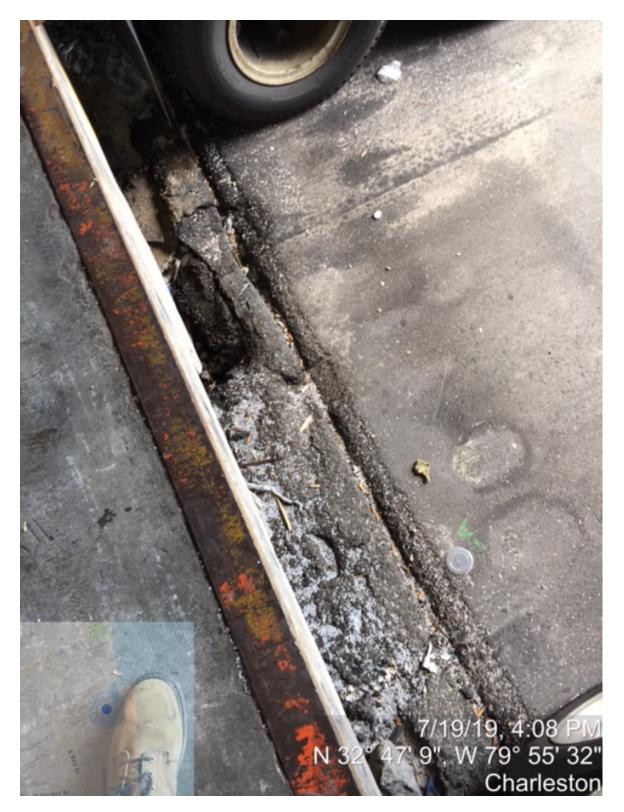
IMG\_1791 - TRUCK LOADING ZONE



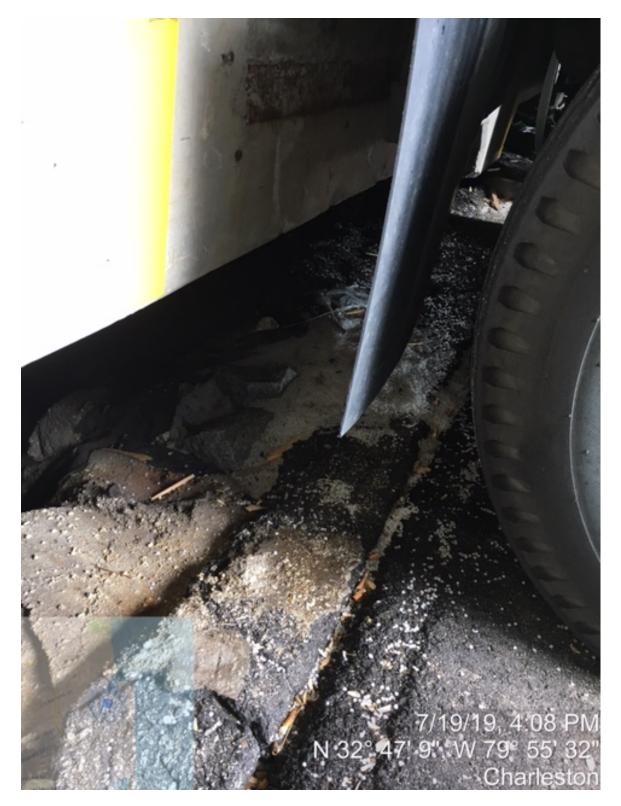
IMG\_1792 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1793 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1794 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1795 – TRUCK LOADING ZONE – PLASTIC ACCUMULATION – SPACE BETWEEN LOADING DOCK AND GROUND APPROXIMATE TO WATER LINE

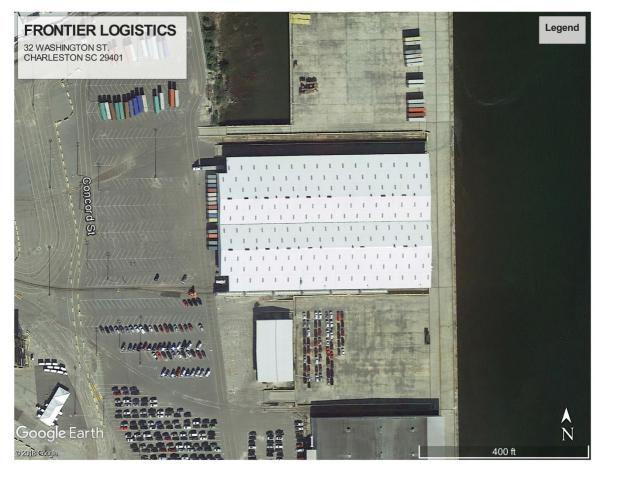


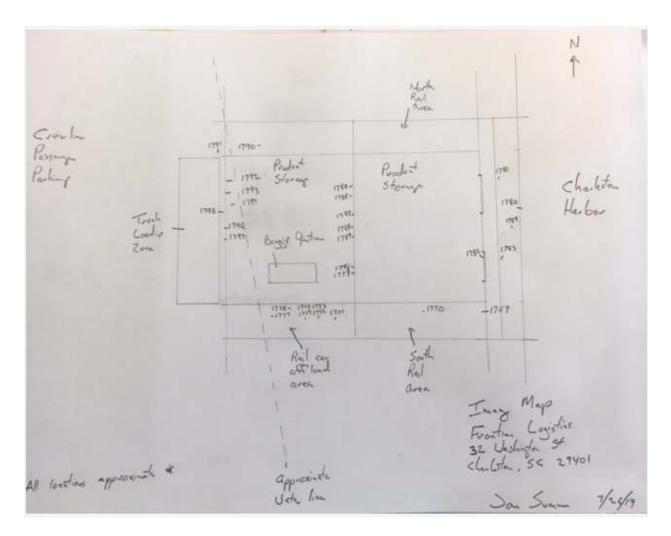
IMG\_1796 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS



IMG\_1797 - TRUCK LOADING ZONE - PLASTIC ACCUMULATION UNDER TRUCKS

## Exhibit 3



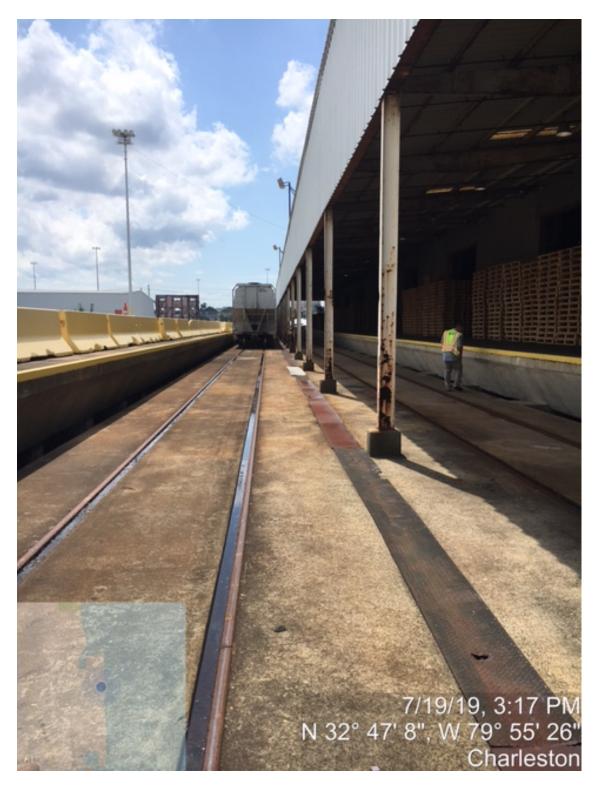


Frontier Logistics Image Map

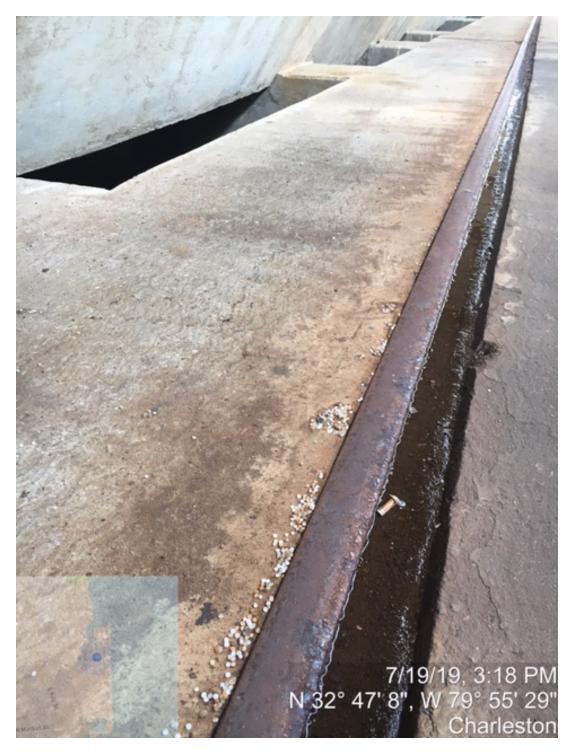


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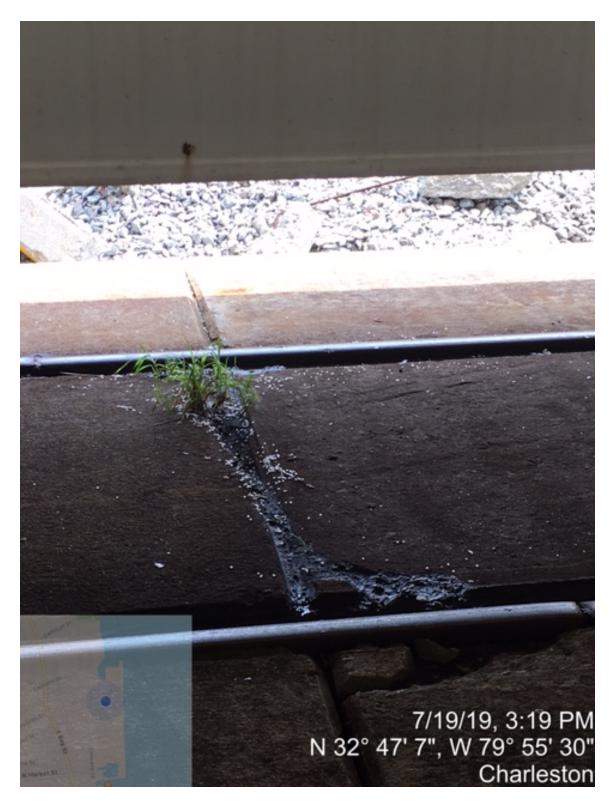
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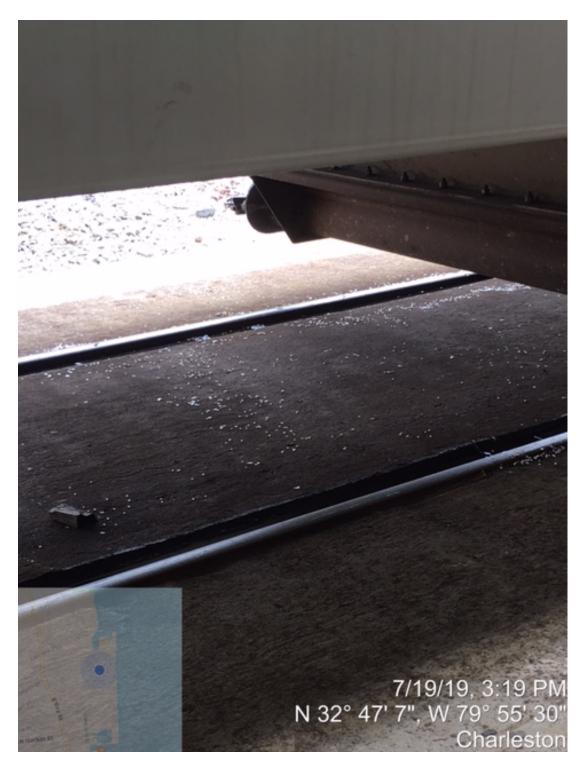
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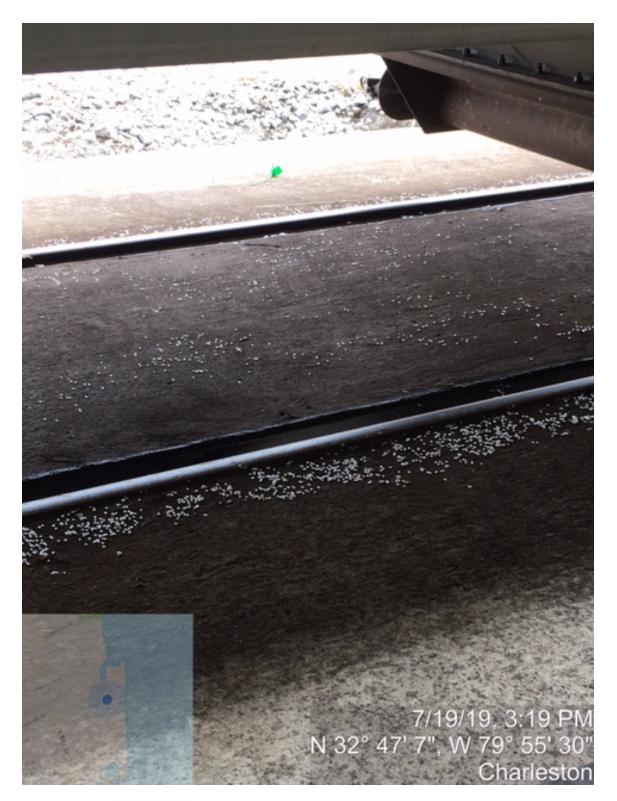
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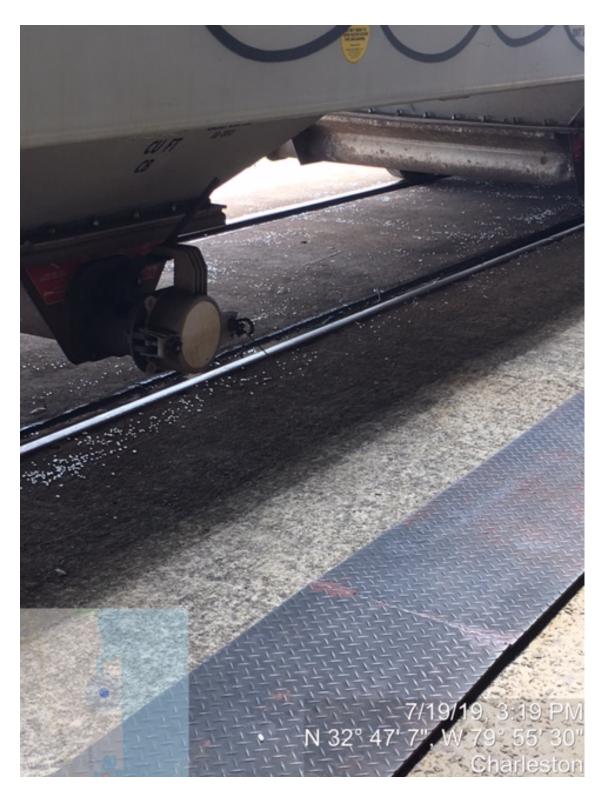
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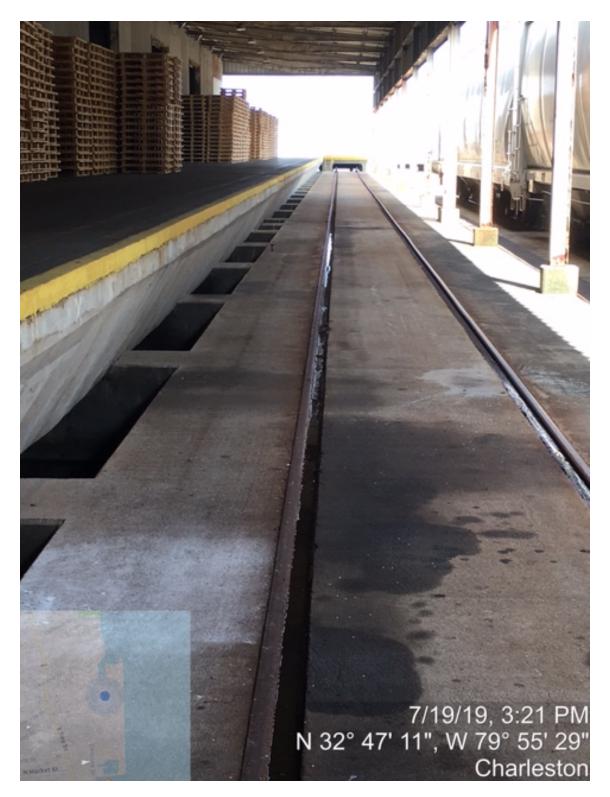
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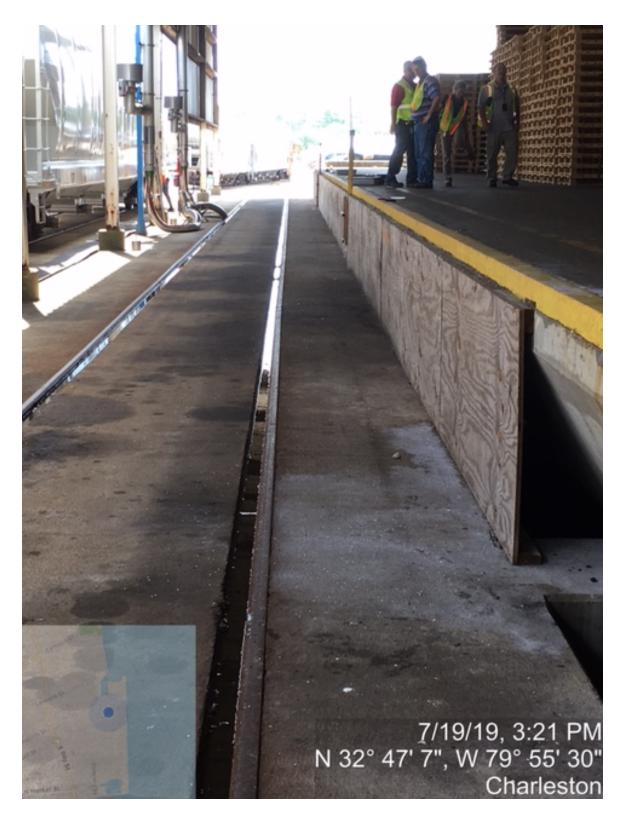
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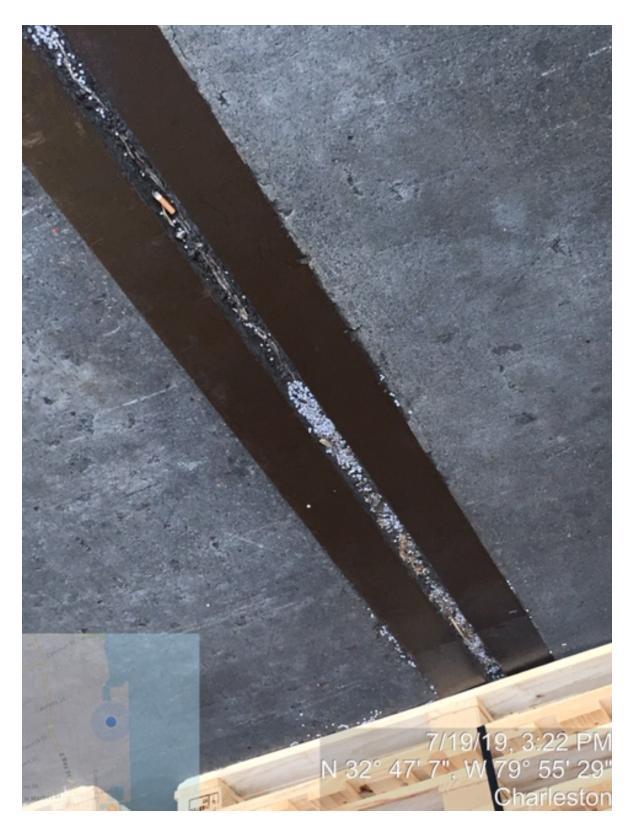
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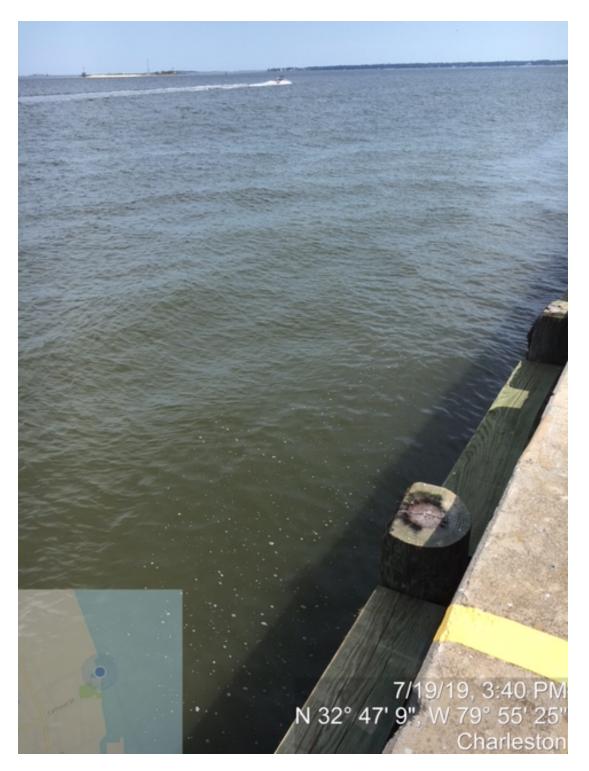
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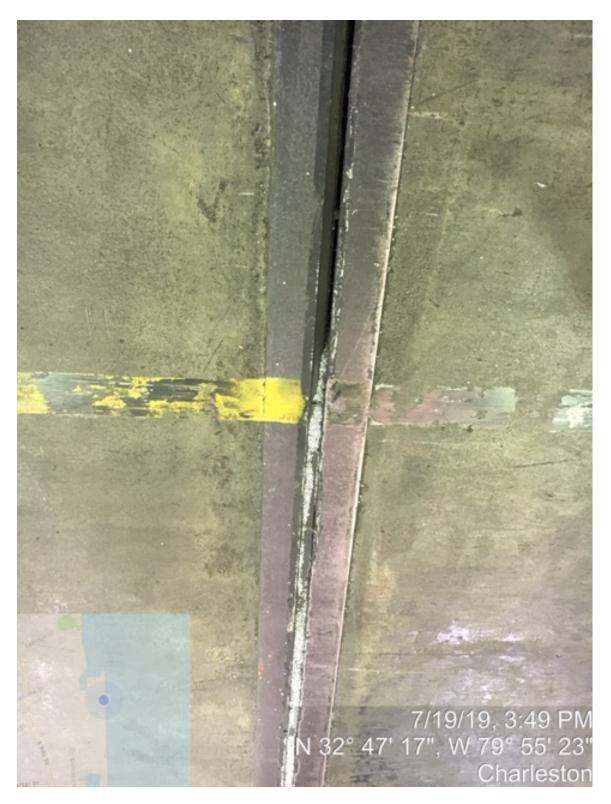
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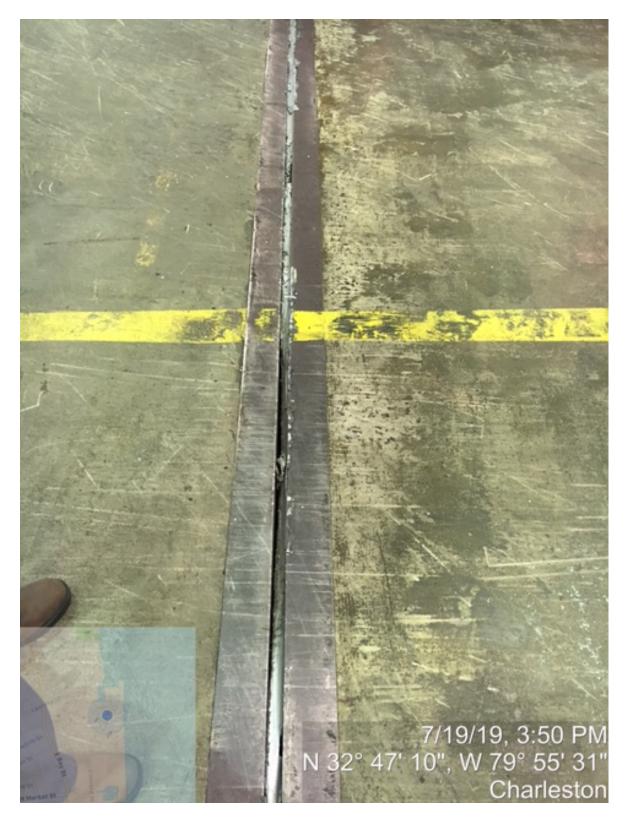
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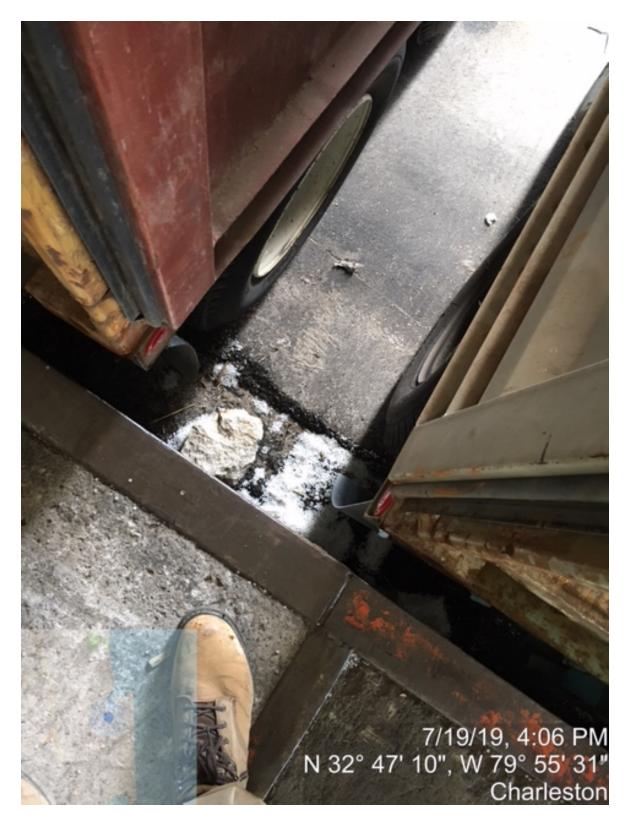
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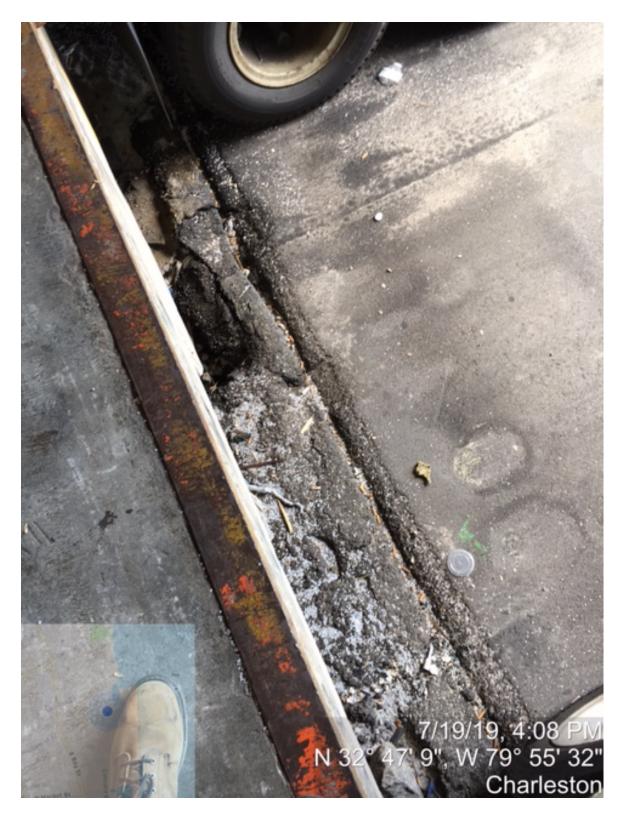
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# Exhibit 4



July 26, 2019

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Re: Notice of Alleged Violation/Notice of Enforcement Conference Frontier Logistics North Charleston Terminal Charleston County

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July 26, 2019

Adam Cannon, Enforcement Manager SCDHEC - Bureau of Water - WP Control Division

# Exhibit 5



South Carolina Department of Health and Environmental Control

County: Charleston District: Charleston EQC Office District Log No.:

Incident Type: Spill/Release Sub Type: Other Incident Status: Open Created: 07/22/2019 by Dana L Cook Updated: 08/02/2019 by Ryan C Tristano Caller: Citizen, Callback:

**Description of incident:** NRC report 1252504 - in notes section.

Plastic pellets in the Intercoastal waterway at Ft Moultrie. The plastic extrusion pellets, whate small and approximated in the 1000s. Sullivan's Island, use Ft Moultrie access area for beach access.

Contact: Geoarge Cook (mgr Frontier Plastics - John Florie (Frontier Plastics - 713-254-0021.) **Documents attached:** File. Total docs = 15

#### **Potential Responsible Party:**

 Observed:
 07/19/2019 0900

 Occurred:
 07/19/2019 0900

 DHEC Notified:
 07/19/2019 1255 via E-Mail Dana L Cook

 Assigned to:
 Ryan C Tristano

**48 Hour Goal Met?** Y **5 day goal met?** Y **CBEP?** N **Closure comments:** See Documents

Signature:

Date:

## Notes

Date: 07/22/2019 Time: 15:17:21 Created by: Dana L Cook (Significant)

NATIONAL RESPONSE CENTER 1-800-424-8802 \*\*\*GOVERNMENT USE ONLY\*\*\*GOVERNMENT USE ONLY\*\*\* Information released to a third party shall comply with any applicable federal and/or state Freedom of Information and Privacy Laws

Incident Report # 1252504

INCIDENT DESCRIPTION

\*Report taken by NRC at 12:50 on 19-JUL-19 Incident Type: FIXED Incident Cause: UNKNOWN Affected Area: CHARLESTON HARBOR Incident was discovered on 19-JUL-19 at 09:00 local incident time. Affected Medium: WATER / CHARLESTON HARBOR

Qty Released: 0 UNKNOWN AMOUNT	Qty in Water: 0 UNKNOWN AMOUNT		
Also Known As: WHITE PLASTIC PELLET			
CHRIS Code: NCC Official Material Name:	NO CHRIS CODE		
RELEASED MATERIAL(S)			
City: SULLIVANS ISLAND State: SC			
NEAR FORT MOULTRIE County: CHARL	LESTON		
INCIDENT LOCATION			
Type of Organization: UNKNOWN			
Address:			
Organization: Address:			
Name: UNKNOWN			
Address: , Email Address: PRIMARY Phone: Type of Organization: PRIVATE CITIZEN SUSPECTED RESPONSIBLE PARTY			
		Organization:	
		Name:	
		REPORTING PARTY	

DESCRIPTION OF INCIDENT CALLER IS REPORTING THAT A LARGE AMOUNT OF SMALL PLASTIC PELLETS HAVE WASHED UP ON THE BEACH FROM AN UNKNOWN SOURCE. THE PELLETS ARE AT THE HIGH WATER LINE ON THE BEACH FOR ABOUT ONE MILE.

#### SENSITIVE INFORMATION

#### INCIDENT DETAILS

Package: N/A Building ID: Type of Fixed Object: OTHER Power Generating Facility: NO Generating Capacity: Type of Fuel: NPDES: NPDES Compliance: UNKNOWN ---WATER INFORMATION---Body of Water: CHARLESTON HARBOR Tributary of: Nearest River Mile Marker: Water Supply Contaminated: UNKNOWN

IMPACT Fire Involved: NO Fire Extinguished: UNKNOWN

INJURIES: NO Sent to Hospital:Empl/Crew:Passenger:FATALITIES: NO Empl/Crew:Passenger:Occupant:EVACUATIONS:NO Who Evacuated:Radius/Area:

Damages: NO

Hours Direction of Closure Type Description of Closure Closed Closure

Air: NO

Major

Road: NO

Artery:NO

Waterway:NO

Track: NO

Passengers Transferred: NO Environmental Impact: UNKNOWN Media Interest: UNKNOWN Community Impact due to Material:

#### REMEDIAL ACTIONS

Release Secured: UNKNOWN Release Rate: Estimated Release Duration:

#### WEATHER

Weather: CLEAR, °F

ADDITIONAL AGENCIES NOTIFIED

Federal:

August 21, 2019 (w)

Incident 201902619

State/Local: State/Local On Scene: State Agency Number:

NOTIFICATIONS BY NRC CENTERS FOR DISEASE CONTROL (GRASP) 19-JUL-19 12:55 (770)4887100 DHS NOC (USCG LNO) 19-JUL-19 12:55 (202)2828114 CG INVESTIGATIVE SERVICE CHARLESTON (CGIS RAC CHARLESTON) 19-JUL-19 12:55 (843)7403170 DEPT OF HEALTH AND HUMAN SERVICES (SECRETARY'S OPERATION CENTER (SOC)) 19-JUL-19 12:55 DHS DEFENSE THREAT REDUCTION AGENCY (CHEMICAL AND BIOLOGICAL TECHNOLOGI 19-JUL-19 12:55 (703)7673477 DHS SOUTH CAROLINA FUSION CENTER (LE SENSITIVE ADVISORS & LIASON PROGRA 19-JUL-19 12:55 (866)4728477 DOT CRISIS MANAGEMENT CENTER (MAIN OFFICE) 19-JUL-19 12:55 (202)3661863 U.S. EPA IV (MAIN OFFICE) (404)6504955 U.S. EPA IV (NC/SC INCIDENTS) 19-JUL-19 12:55 (404)6504955 U.S. EPA IV (DUTY OSC) 19-JUL-19 12:55 (404)6504955 USCG NATIONAL COMMAND CENTER (MAIN OFFICE) 19-JUL-19 12:55 (202)3722100 GA BUREAU OF INVESTIGATION (COMMAND CENTER) 19-JUL-19 12:55 (404)3081460 NATIONAL INFRASTRUCTURE COORD CTR (MAIN OFFICE) 19-JUL-19 12:55 (202)2829201 NOAA RPTS FOR SC (MAIN OFFICE) 19-JUL-19 12:55 (206)5264911 PIPELINE & HAZMAT SAFETY ADMIN (HAZARDOUS MATERIAL ACCIDENT INVESTIGATI 19-JUL-19 12:55 (202)3664031 DOI FOR REGION 4 (MAIN OFFICE) 19-JUL-19 12:55 (404)3314524 SC DHS TSA COORDINATION CENTER (COORDINATION CENTER) 19-JUL-19 12:55 (803)4515181 SC EMERGENCY MANAGEMENT DIVISION (MAIN OFFICE) 19-JUL-19 12:55 (803)7378500 SECTOR CHARLESTON (COMMAND CENTER) (843)7407050 SC DEPT OF ENV CNTL ATTN: ERS (MAIN OFFICE) 19-JUL-19 12:55 (803)2536488 TSA OFFICE OF SECURITY OPERATIONS (SURFACE COMPLIANCE BRANCH SE REGION) 19-JUL-19 12:55 (904)9804075 TSA OFFICE OF SECURITY OPERATIONS (TRANSPORTATION SECURITY INSPECTION-S 19-JUL-19 12:55 (904)3804077 USCG DISTRICT 7 (MAIN OFFICE) 19-JUL-19 12:55 (305)4156800 USCG DISTRICT 7 (PREVENTION DEPT) 19-JUL-19 12:55 (305)4156838 USCG DISTRICT 7 (INCIDENT MANAGEMENT ADVISOR) 19-JUL-19 12:55 (305)4156838 U.S. NAVY REGION SOUTHEAST (NAVY FOSC)

#### 19-JUL-19 12:55 (904)4828397

#### ADDITIONAL INFORMATION

#### \*\*\* END INCIDENT REPORT #1252504 \*\*\* Report any problems by calling 1-800-424-8802 PLEASE VISIT OUR WEB SITE AT http://www.nrc.uscg.mil

Date: 07/26/2019 Time: 12:56:21 Created by: Jonathan T Summa

I(Jon Summa) called the reporting party( on 7/19 @ 1:51PM. stated that noticed large quantities of small white pieces of plastic wash on the beach on Sullivans Island near Ft. Moultrie. stated that read an article recently about a facility in North Charleston that stored plastics with the same physical description as the ones on the beach. stated the facility was Frontier Plastics. We also received calls from Coast Guard Sector Charleston duty officer to discuss the NRC report. CG decided to complete a site visit on the affected beach. BEHS Chas region ERT staff(Jon Summa) completed a site visit at Frontier Logistics located at Union Terminal with assistance from South Carolina Ports Authority(SCPA). A pre site visit interview was completed around 3:00PM. I spoke with Frontier Logistics site manager John Florie( ) during the visit. SCPA, Frontier Logistics management, and myself toured the facility. Numerous areas of concern were observed. See photo log/image map in docs. Sample obtained during time of site visit. Plastic accumulation observed throughout facility. Most of the facility is located over water. Numerous openings throughout facility were observed directly over water. A closing interview was completed around 4:00PM. An email with pictures was drafted and send to SCDHEC management(email located in docs).

Date: 07/26/2019 Time: 12:59:54 Created by: Jonathan T Summa Email sent to SCDHEC managment on 7/19 @4:53PM Good afternoon all, Site visit completed at Frontier Logistics(FL) facility located within the SCPA Union Pier terminal.

FL is a plastics stock distributor.

They offload rail cars of plastic stock (white pellets that float) into hoppers for bagging into 50lb bags. Then the bags get palletized and transferred to tractor trailer containers and transported to manufacturers.

Facility was operational during the site visit. The facility is located at the edge of the terminal. The majority of the facility is over water. White plastic pellets were observed on the ground throughout the facility. See attached pictures.

Areas of concern: Rail area

Date: 08/21/2019 Time: 12:33:15 Created by: Ashley C Auerbach

8/20 @ 130 Text from Jason Blanton - Town of Sullivan's Island, Deputy Administrator: I just wanted to let you know we're still seeing nurdles on the beach. They are being found the entire length of the beach (Station 12 to Station 19). I spoke with Ken Kromer yesterday. They have already ended their contract with Hepaco. He wasn't sure if SPA was going to clean up any more of the nurdles. He is running it up to his superiors to make the decision. We are waiting to hear.

A site vist to Sullivan's Island beach was conducted by Ryan Tristano on 8/21 at 11:54 am with the following notes: I am currently on Sullivan's for the nurdle check. I observed highest quantities near station 12 and on down to lower # stations. 1 or 2 every couple feet. Station 13-16 they become more and more sparse. 1 every few feet down to 1 every 20/50 feet. I contacted Jason Blanton on my way out and let him know I was coming. I also just spoke with him and gave him an update on what I observed today. Quantities are far less than what was observed when we got the initial call back July 19. But they are still here.

A site visit was conducted by Ashley Auerbach at Frontier Logisitcs at Union Pier at 11:30 am with the following comments: I just got back from Frontier and all of their BMP's are in place. We walked the dock and rail line areas and there were no signs of a spill at that time.

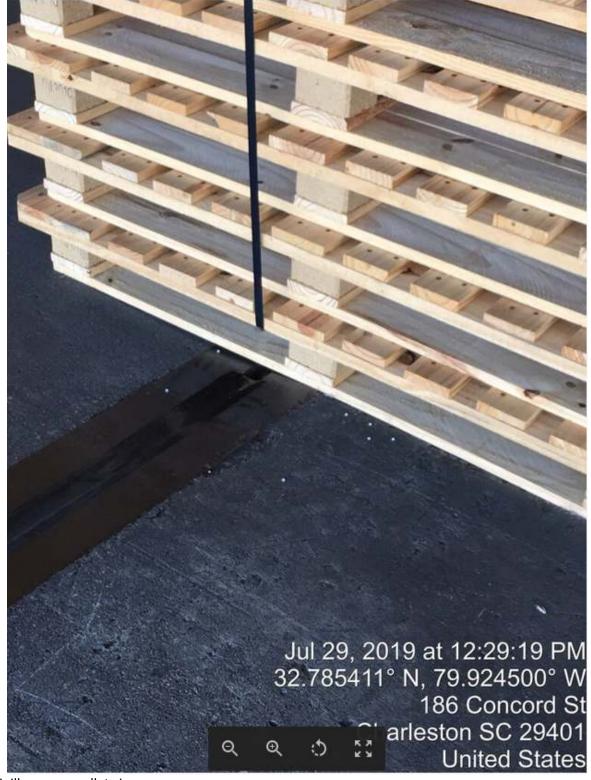
## Tasks

Complaint Inspections(Inspection) Status: Complete Started: 08/02/19 Completed: 08/02/19 Results: Complete

# Exhibit 6



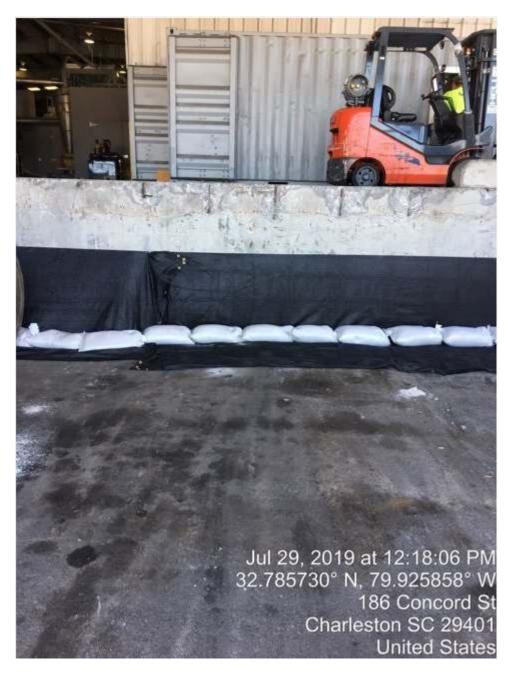
Silt fencing will be installed along the waterfront too



Spillage near pallets.jpg



Silt fencing has not been installed along this side yet 2.jpg



Shipping and receiving area 2



Silt fencing has not been installed along this side yet



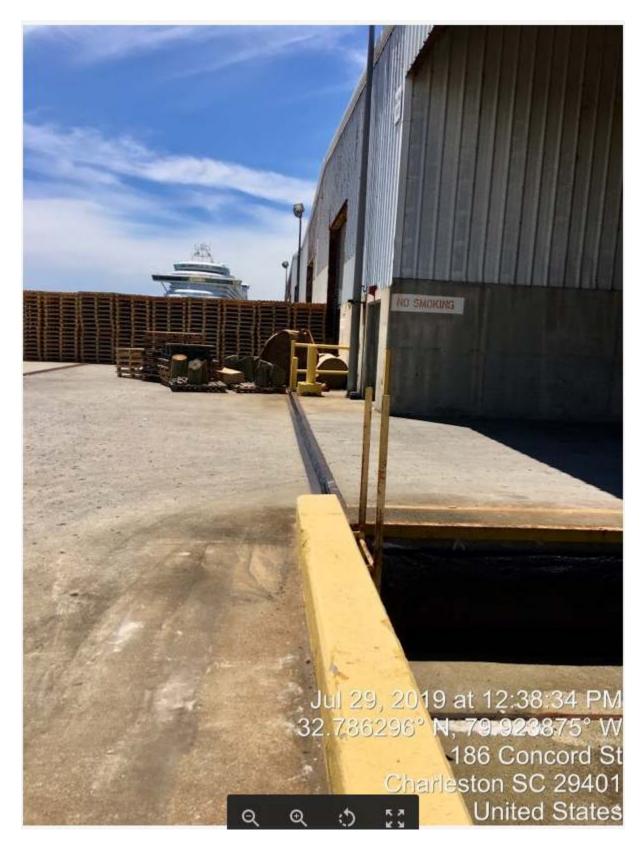
Shipping and receiving area 1



Rail track and silt fencing 2



Rail track and silt fencing



Rail line on L side



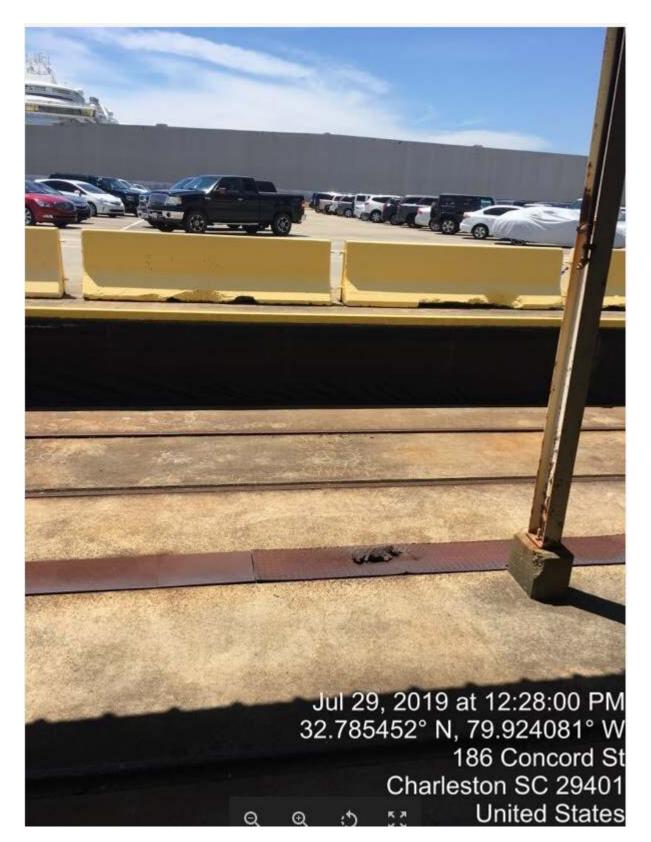
Plastic container under hose connection



oil spillage on rail track



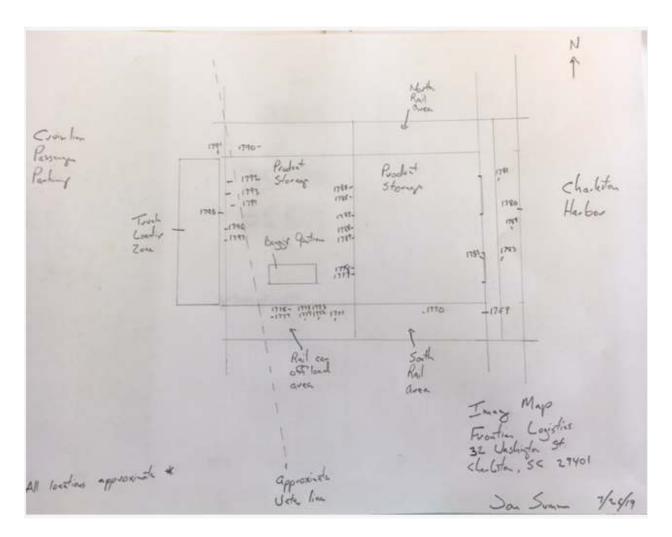
Gap in silt fencing by seawall



Hole in metal cover on rail line



Gap in silt fencing by seawall 2



Frontier Logistics Image Map



Expansion joint covered with tape



Expansion joint covered with tape 2



Bay door open with nurdles inside



Bags of nurdles

# Exhibit 7

August 29, 2019

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#### HAND DELIVERY

Mr. Adam Cannon, Manager WP Enforcement Section WP Control Division Bureau of Water South Carolina Department of Health And Environmental Control 2600 Bull Street Columbia, SC 29201

1806 S. 16th Street | La Porte, TX 77571 281-307-2000 (Main) | 281.307.2383 (Fax)

RECEIVED

ATTER POLLUTION CONTROL DIVISION

### Re: July 26, 2019 Notice of Alleged Violation (NOAV) Frontier Logistics, L.P., Charleston County

Dear Mr. Cannon:

Thank you for meeting with Frontier Logistics, L.P. (Frontier) on August 1, 2019 in an informal conference to discuss the above-referenced NOAV. Frontier appreciates the opportunity to provide a response including information about Frontier's business operations.

First of all, Frontier differs with the findings in the NOAV in general because the findings omit that the pellets reported on Sullivan's Island Beach also included many pellets that did not even resemble pellets handled by Frontier at the Facility, and in some cases, have never been handled by Frontier at any facility.

Frontier is a logistics company with a specialization of serving specific components of the plastics industry. Frontier performs packaging (bagging) at Union Pier Building 322 owned by the South Carolina Ports Authority (SCPA) (the "Facility"). The packaging process begins with the receipt of hopper rail cars containing plastic raw material in the form of pellets. The pellets are removed from the rail cars outside the building by means of an air tight vacuum hose connection that carries the pellets to sealed storage silos. The pellets are transferred from the silos into airtight, heat sealed sturdy plastic 55 lb. bags. Each loaded bag is conveyed to a part of the bagging line where bags are arranged and stacked on a pallet. When the stacking is complete, the stacked pallet is either stretch wrapped or stretch hooded and the completed sealed pallet is moved to storage to await shipping instructions. When shipping instructions are received, the wrapped bag pallets are loaded into cargo containers which are sealed, and then the containers are taken to an SCPA port facility for export.

It is important to note there are at least four companies in the Charleston area that do almost the exact same packaging business for the plastics industry that Frontier does. According to one news media outlet's stated investigation, over 20 companies in the area

Page 2 of 3

are handling pellets. Since Frontier started operations at the Facility in April of 2017, Frontier has handled and packaged over 300 million pounds of plastic pellets with no reported spills.

Frontier first received a telephone call late in the afternoon on Friday, July 19th, from SCPA saying it had been contacted about plastic pellets found on Sullivan's Island Beach that appeared to be similar to pellets handled at our Facility. SCPA further indicated it would secure a contractor to begin a cleanup on the beach and recommended Frontier investigate and consider sending someone to assist with the cleanup. SCPA also indicated it had advised DHEC that Frontier handled plastic pellets. Shortly after the call from SPCA, before Frontier had a chance to examine the beach and the reported pellets, Frontier received a call from a representative of DHEC. The representative said, in effect, DHEC believed Frontier had a spill of plastic pellets and that it should immediately begin cleanup of the Sullivan's Island Beach. Frontier replied it was unaware of any spill at our Facility but that we would send someone to the beach early Saturday morning. Frontier further replied it had no reason at that time to believe it was responsible but it would, nonetheless, have someone on the beach as soon as it was possible, which was the next day. Frontier immediately made arrangements on Friday evening for several employees to arrive as early as possible to assist in cleanup efforts. Frontier also sent its Operations Manager to Charleston to assist and to assess operations and the clean-up.

Frontier employees arrived Saturday on Sullivan's Island Beach as scheduled and began picking up pellets from the beach. Several hours later, a contractor for the Ports Authority, HEPACO, joined Frontier employees in the cleanup effort which continued for a week. Frontier employees continued to assist the cleanup until the overwhelming majority of pellets were picked up. Frontier has been informed the total volume of pellets retrieved is less than a third of a bag, around 18 pounds.

Beginning Saturday, July 20th, Frontier employees closely examined the plastic pellets on the Sullivan's Island Beach. On multiple occasions, pellets were observed that were not uniformly shaped nor opaque white in color. Many of the pellets were not white in any shade, were a different shape, cut, texture or color and were obviously aged. While some of the pellets appear to resemble pellets being handled by Frontier, as we explained in the conference, pellets bagged at the Facility are also handled by other entities and facilities in Charleston and there are no identifying marks on the pellets. Moreover, all of the nonwhite pellets found at the same time and location as white pellets bore no resemblance to pellets being handled at the Frontier Facility and, in fact, are pellets of a type, color, texture or shape never handled by Frontier at the Facility. Thus, while Frontier could not say definitively at the informal conference that none of the type of pellets handled at our Facility were among those found on the beach, Frontier could and did say definitively that many of the pellets collected from the beach have never been handled at our Facility. The presence of a variety of pellets together on the Sullivan Island Beach strongly suggests a spill from an entity or site that either handles a much greater number of plastics types than Frontier or performs some type of action such as cleaning containers or bulk plastic trailers carrying various plastics or recycling various plastics. In fact, since the informal conference,

detailed inspections and statistical testing has been conducted that determined a significant number of the pellets recovered are not polyethylene such as the pellets handled by Frontier, and a significant number of the polyethylene pellets recovered are not pellets manufactured by Frontier's customer. Frontier's position and strong belief is the pellets reported to Frontier on July 19, 2019 are not the result of a spill by Frontier from the Facility. Regardless of the issue of fault for the spill, Frontier recognizes it is important to guard against the potential of a spill and has modified its business operations practices and procedures to do that.

With regard to the DHEC inspection of our Facility on July 19, 2019 showing the presence of some loose pellets, Frontier has since improved its housekeeping procedures and physical barriers. Although Frontier had pellet handling and cleaning procedures, those procedures were not then being followed adequately, possibly due to a change in supervisors and uncompleted training. Following SCPA's notification of the discovery of pellets, Frontier immediately audited its entire facility, found no evidence of a spill and initiated an immediate aggressive housekeeping effort whereby virtually all loose pellets were removed immediately. Frontier also obtained new vacuum cleaning equipment, began the installation of additional building and area barriers to prevent the possibility of any pellet egress to water including, foam sealing material, industrial taping of joints, solid barriers, impermeable flexible netting reinforced by sand bags and similar measures. Frontier also created and immediately implemented a written inspection check list verified by a supervisor from a different Frontier location and supported by photographs. The preliminary results of Frontier's efforts were noted in the July 24th DHEC inspection. As of the date of this letter, all of Frontier's planned barrier improvements have been completed, the continuous cleaning procedures, scheduled inspection procedures and lists are all in place and are being followed and inspected. The Facility has been re-inspected by DHEC and internal personnel from different facilities.

As indicated during the conference, although Frontier is a pledged and active member of Operation Clean Sweep, Frontier is in the process of developing an enhanced written pellet handling, spill prevention and spill response plan that recognizes the special problems of operating its facility over the water. The plan specifically includes daily continuous cleaning, weekly inspection and adverse weather inspection sections.

Frontier remains committed to full regulatory compliance and the goal of "Zero Pellets" leaving its Facility. Frontier believes that the improvements to its business operation practices can eliminate the potential for plastic pellets to leave our Facility under almost any circumstance. If additional information is needed in response to the NOAV, please contact me.

Sincerely,

- Chiter

George T. Cook CEO, Frontier Logistics, L.P.

# Exhibit 8



October 17, 2019

#### First Class & Electronic Mail

Mr. George Cook Frontier Logistics, LP 32 Washington Street Charleston, SC 20401

Re: Frontier Logistics North Charleston Terminal - Charleston County

Dear Mr. Cook:

On August 1, 2019, the Department held an enforcement conference with representatives of Frontier Logistics, LP ("Frontier") to discuss the July 26, 2019, Notice of Alleged Violation/Notice of Enforcement Conference ("NOAV/EC") which alleged Frontier violated the Pollution Control Act, S.C. Code §48-1-90 (A)(1).

During the enforcement conference, Frontier asserted that some of the plastic pellets Department personnel observed on Sullivan's Island Beach and Isle of Palms Beach were similar to those handled by Frontier; however, other pellets observed by Department personnel were not the type handled by Frontier. Frontier also provided information demonstrating that it took immediate action to improve its pellet handling and cleaning procedures to prevent potential spills. Frontier also described its efforts to remove pellets that had washed ashore of Sullivan's Island Beach and Isle of Palms Beach. According to Frontier, approximately eighteen pounds of plastic pellets had been removed from both locations.

By letter dated August 29, 2019, Frontier provided additional information to the Department regarding its operations; the plastic pellets observed on Sullivan's Island Beach and Isle of Palms Beach; and, its efforts to prevent potential spills. In the letter, Frontier reiterated its assertion that some of the pellets on Sullivan's Island Beach and Isle of Palms Beach were not of the type(s) handled by Frontier. Consequently, Frontier believes those reported on July 19, 2019, were not the result of a spill by Frontier. Frontier also stated in the letter that it recognizes the importance of preventing spills and releases and has made the following modifications in its operations to prevent spills: 1) improved house-keeping procedures and physical barriers; 2) immediately removed all loose pellets; 3) obtained new vacuum cleaning equipment; 4) installed additional building and area barriers to prevent the possibility of pellet egress to water, including foam sealing material, industrial taping of joints, solid barriers and impermeable flexible netting reinforced by sand bags; and, 5) created and immediately implemented a written inspection check list verified by a supervisor from a different Frontier location and supported by photographs.

Frontier Logistics LP October 17, 2019 Page 2

Based upon the Department's investigation and the supplemental information provided by Frontier during and subsequent to the enforcement conference, the Department has determined that the above-referenced matter should be closed.

Thank you for your efforts to date in addressing potential spills/releases and, importantly, your continued attention to facility operations and best management practices to prevent future spills/releases. Please contact me at (803) 898-1647 if you have any questions.

Sincerely,

Adam Cannon, Manager Bureau of Water – WP Control Division WP Enforcement Section

Cc: Wendy Boswell, SCDHEC, Lowcountry BEHS, Charleston Office Ms. Aimee Cook, Frontier Logistics LP, 5801 N. Rhett Avenue, Hanahan, SC 29410 Mr. George Cook, Frontier Logistics LP, via email Mr. Tommy Lavender, Nexsen Pruet, via email

# Exhibit 9



APPLIED TECHNICAL SERVICES, INCORPORATED

1049 Triad Court, Marietta, GA 30062 • (770) 423-1400 Fax (770) 424-6415

CHEMICAL TEST REPORT								
<b>Ref</b> . C326688		<b>Date</b> December 20, 2019		Page 1	of	7		
Attention: Catherine Wannamaker		Materials Specification: N/A						
Customer: Southern Environmental Law Center 463 King Street, Suite B Charleston, SC 29403-7204			Test Method: FT-IR (ASTM E1252-98(2013)e1)					
P.O.# CC Part No. See Bel	ow			Tested in accordar 7. 16, dated 10/1/2		ATS		
		Test Re	esults					
Part Identification	Quantity		Resul	ts				
Plastic Pellet Samples (Sample IDs listed in Table I)	10	ATS was requested to identify and to compare the polymer type of each sample by FT-IR. FT-IR test results are listed in Table I. IR spectra are attached in Fig. 1 – Fig. 10.						
		Conclusion: The	materials of all	the plastic pelle	t sample	es are		

Conclusion: The materials of all the plastic pellet samples are
polyethylene (PE). An unidentified component is also detected by
FT-IR in Item #1. No difference among the other samples was
detected by FT-IR. See attached IR spectra comparison in Fig. 11.

ISO 9001	Prepared by:	S. Zhang, PhD Senior Chemist
	Approved by:	J. Burmeister Manager

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**APPLIED TECHNICAL SERVICES, INCORPORATED** 

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## **CHEMICAL TEST REPORT**

**Ref**. C326688

Date December 20, 2019

Page 2

**of** 7

### **Table I. FT-IR Test Results**

Item #	Part Identification	Material identified by FT-IR	Fig. #
1	LW-20191119 Cylinder Type A	Polyethylene (PE) with an unidentified component	1
2	LW-20191119 Cylinder Type B	Polyethylene (PE)	2
3	LW-20191119 Cylinder Type E	Polyethylene (PE)	3
4	LW-20191119 Disc Type C	Polyethylene (PE)	4
5	SB-20191119 Cylinder Type A	Polyethylene (PE)	5
6	SB-20191119 Cylinder Type E	Polyethylene (PE)	6
7	SB-20191119 Disc Type C	Polyethylene (PE)	7
8	WP-20191127 Cylinder Type A	Polyethylene (PE)	8
9	WP-20191127 Cylinder Type B	Polyethylene (PE)	9
10	WP-20191127 Cylinder Type E	Polyethylene (PE)	10

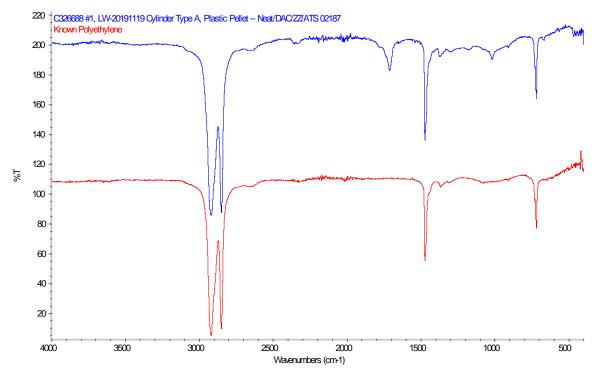


Fig. 1: Comparison of IR spectrum of Item #1 with IR spectrum of known PE



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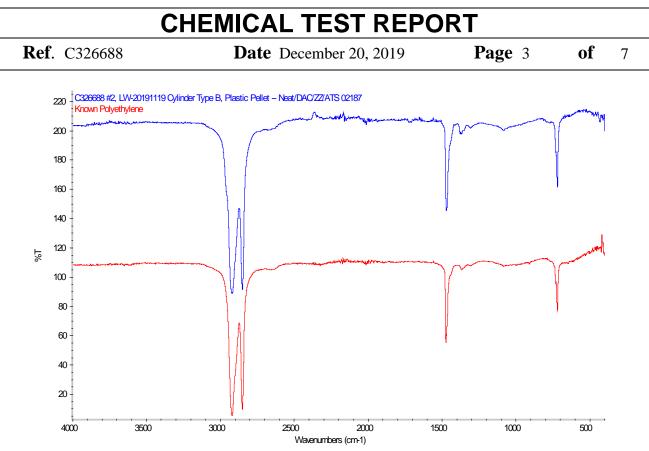


Fig. 2: Comparison of IR spectrum of Item #2 with IR spectrum of known PE

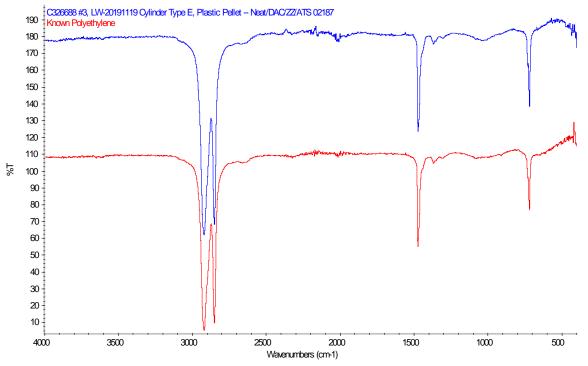
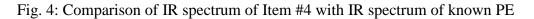


Fig. 3: Comparison of IR spectrum of Item #3 with IR spectrum of known PE



**CHEMICAL TEST REPORT** Page 4 **Ref**. C326688 **Date** December 20, 2019 of C326688 #4, LW-20191119 Disc Type C, Plastic Pellet - Neat/DAC/ZZ/ATS 02187 Known Polyethylene %Т 

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Wavenumbers (cm-1)

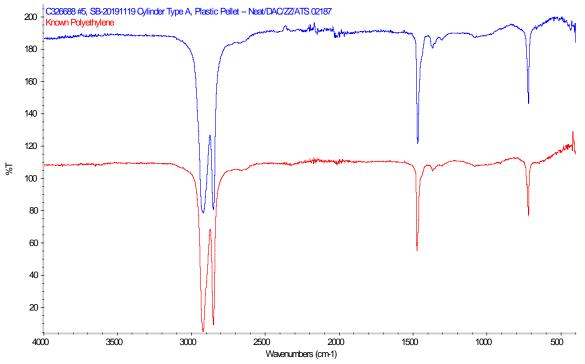


Fig. 5: Comparison of IR spectrum of Item #5 with IR spectrum of known PE



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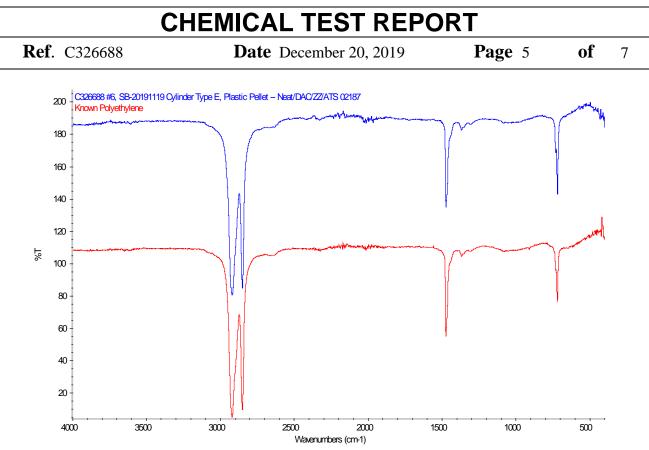


Fig. 6: Comparison of IR spectrum of Item #6 with IR spectrum of known PE

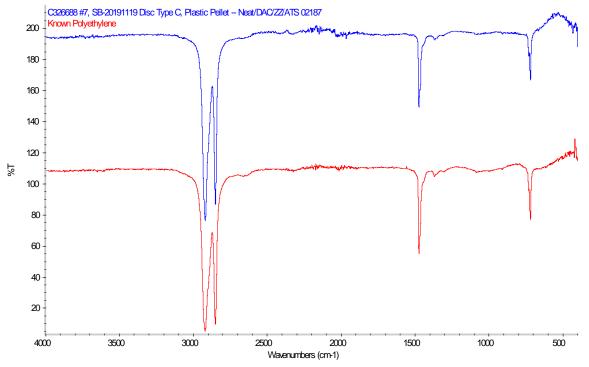


Fig. 7: Comparison of IR spectrum of Item #7 with IR spectrum of known PE



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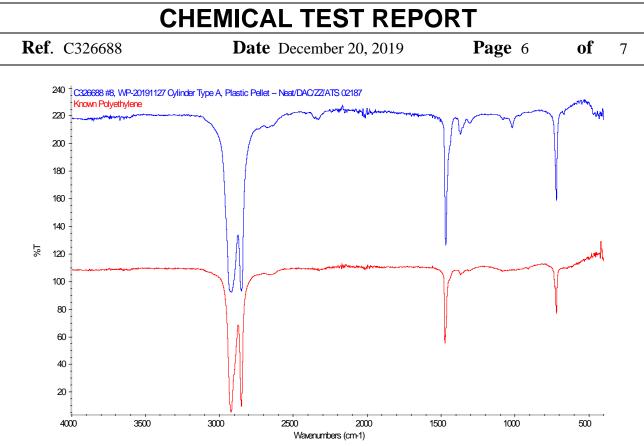


Fig. 8: Comparison of IR spectrum of Item #8 with IR spectrum of known PE

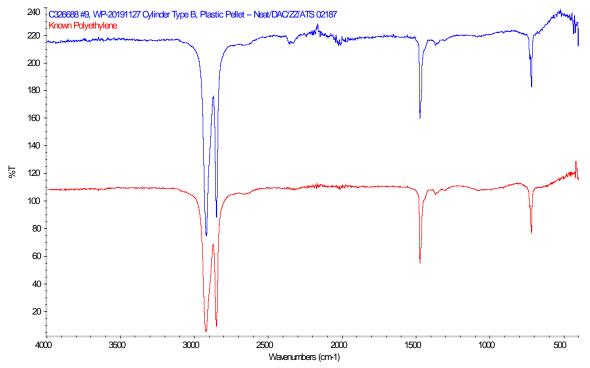


Fig. 9: Comparison of IR spectrum of Item #9 with IR spectrum of known PE



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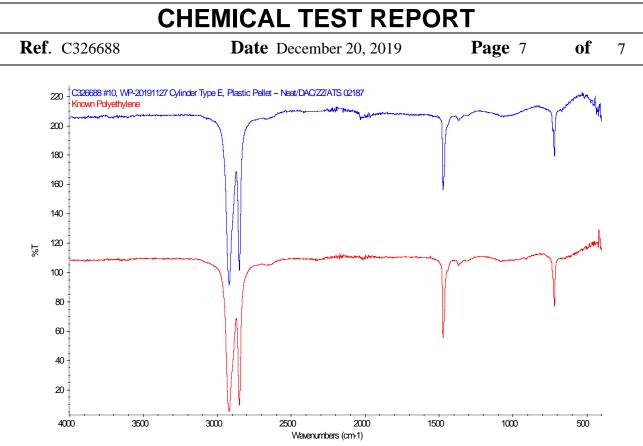


Fig. 10: Comparison of IR spectrum of Item #10 with IR spectrum of known PE

