

## FACT SHEET

Parker Hannifin Corporation  
12415 Capital Boulevard  
Wake Forest, North Carolina 27587

A Draft Renewal Permit has been prepared for Parker Hannifin Corporation to conduct post closure care and corrective action activities at the facility under the Federal Resource Conservation and Recovery Act (RCRA). North Carolina has been authorized by the United States Environmental Protection Agency to administer RCRA including the Hazardous and Solid Waste Amendments (HSWA) of 1984. The State has determined that Parker Hannifin's proposed activities as identified in the application satisfies the full intent of the North Carolina Hazardous Waste Management Rules and Solid Waste Management Act as amended. When finalized this draft permit issued by the State of North Carolina will constitute a complete permit under the Federal Resource Conservation and Recovery Act.

### Facility Summary and Historical Activities

The Parker Hannifin Corporation facility\* occupies approximately 30 acres along Capital Boulevard in Wake Forest, North Carolina. The plant was built in 1964 and was used for the manufacture and distribution of pneumatic control devices. Manufacturing operations ceased at the plant in January 2002.

When it opened in 1964, the plant's wastewater treatment system consisted of treatment tanks, two sand filter beds, and a clarifier. Wastewater from plating operations was chemically treated and pumped from the treatment tanks to the clarifier. The treated wastewater was concentrated into a wet sludge in the clarifier. The sludge was then discharged to the sand filter beds. Since the two sand filter beds did not have liners or impervious bottoms, liquids were not contained. In 1985, the facility entered into a Consent Order with the State of North Carolina. The facility agreed to discontinue using the sand filter beds, and the beds were closed as a land disposal unit in 1986. The Consent Order also required construction of a groundwater monitoring system. Initial monitoring data showed the presence of volatile organic compounds, primarily trichloroethene (TCE), in the groundwater. As a result, the Consent Order was amended to address the delineation of contaminated groundwater.

The facility prepared and submitted a RCRA Part B post-closure permit application in 1987. The Part B permit was issued in August 1991. The Environmental Protection Agency conducted a RCRA Facility Assessment (RFA) at the facility in 1990. Thirty-eight Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) were identified in the RFA. The permit required confirmatory sampling at three units and a RCRA Facility Investigation (RFI) at an additional six units.

Historical soil sampling results indicate that releases have occurred at several SWMUs in the Northeast Business Area (NEBA), at SWMU 31/33 Area (Drum Storage Areas), and at the AOC 38 Area (North Corner Parker Lot Area). While several volatile organic compounds have been detected in the NEBA Area, the main constituent of concern (COC) is trichloroethene (TCE). Metals were also detected at concentrations exceeding screening levels. The organic constituents of concern in soil at the SWMU 31/33 Area are TCE, tetrachloroethene (PCE), and petroleum hydrocarbon compounds. Arsenic is also a COC at the SWMU 31/33 Area. The constituents of concern at AOC 38 are TCE, PCE, and cis-1,2-dichloroethene. Hazardous constituents and hydrocarbon compounds have been investigated and delineated in the soil at the three areas.

Groundwater downgradient from the release areas contains constituents at concentrations exceeding NC 2L Groundwater Standards; including TCE, PCE, cis-1,2-dichloroethene, 1,4-dioxane, and chromium. When compared to the other constituents, TCE has the greatest concentration and is the most widely distributed. Delineation efforts have shown that contaminated groundwater has migrated north and discharges into Horse Creek. Parker Hannifin has fully defined the extent of impacted groundwater. Beginning in 2008, several private water supply wells in the vicinity of facility have been sampled. None of the water supply wells has been impacted by constituents associated with facility operations.

Surface water samples have been collected from Horse Creek and unnamed tributaries to Horse Creek. The unnamed tributary that flows across the original Parker Hannifin facility has occasionally contained TCE at concentrations exceeding the NC 2B Surface Water Standards for WS-IV waters. These infrequent exceedances of surface water standards seem to be associated with interruptions in the operation of the pump and treat system.

Parker Hannifin has designed and implemented several remedial projects at the site. An air stripper system was installed in 1992 to remove and treat groundwater containing volatile organic compounds. The groundwater treatment system was shut down in 2009 and replaced. Parker has operated a soil vapor extraction system at the facility since 1996. In addition, approximately 662 tons of soil containing oil and grease were excavated and transported off-site for treatment in 1999.

Parker Hannifin also has investigated the potential for the migration of vapors from contaminated soil or groundwater into structures. The vapor intrusion (VI) investigations and modeling efforts showed that the risk posed by a completed VI exposure pathway is acceptable.

The Hazardous Waste Section completed an Environmental Indicator evaluation in 2012. A status code of CA 725 NO was assigned to the “human exposures are expected to be under control” EI evaluation determination. This determination resulted from the presence of a potentially complete exposure pathway between trespassers and contaminated soil. Parker Hannifin is installing a security fence around some areas of the site to prevent unacceptable risks of human exposures. The status code for the “migration of contaminated groundwater is under control” determination was CA 750 YE.

The HWS approved a Corrective Measures Study (CMS) work plan for the Parker Hannifin site in 2012. In this work plan, Parker Hannifin proposed a pilot test designed to examine the viability of enhanced reductive dechlorination as a remediation technology for contaminated groundwater. The pilot test was implemented in 2014.

The HWS issued a renewal post closure Hazardous Waste Management Permit to Parker Hannifin in 2006. A Brownfields Agreement was part of the post closure permit. The site is now owned by an entity other than the original Prospective Developer. There is currently redevelopment activity at the site.

Parker recently concluded the active phase of an Enhanced Reductive Dechlorination (ERD) field pilot test. Early groundwater results show a significant decrease in TCE accompanied by an increase in cis-1,2-DCE concentrations. (Predominant bacteria is *Dehalobacter* but *Dehalococcoides* is present.) Parker plans to monitor until TOC concentrations approach background.

Parker Hannifin is required by the post closure permit to maintain sufficient financial assurance for the cost of all future corrective action and post closure care activities at the Wake Forest site. The financial assurance requirements are site specific and were designed to ensure the completion of future RCRA

corrective action at the Brownfields site. Both the Brownfields Agreement and the financial assurance requirements are currently active

The North Carolina Hazardous Waste Management Rules require that the public be given a forty-five (45) day period to comment on the draft permit. This forty-five (45) day period will commence on April 16, 2018. The draft permit is available for review during office hours (9:00 a.m. to 4:00 p.m.) Monday through Friday. All data submitted by the applicant is available as part of the administrative record <http://deq.nc.gov/news/events/public-notices-hearings>. Persons wishing to comment on either this permit or the proposed permit conditions or to object to the permit issuance should submit such comments in writing prior to May 31, 2018. All comments received within the forty-five (45) day period will be considered before the final permit decision is made. Comments should be sent to:

Ms. Julie S. Woosley  
NC Division of Waste Management  
Hazardous Waste Section  
MSC 1646  
Raleigh, NC 27699-1646

A public hearing to receive comments concerning the issuance of the proposed permit will be held on May 23, 2018 at 10:30 A.M., Northeast Regional Library, 14401 Green Elm Lane, Wake Forest, North Carolina. Attendees may submit a written statement for the official record in addition to their oral statement or they may submit written comments in lieu of making an oral presentation. When a final permit decision is made to either issue, deny, or modify the permit, notice will be given to the applicant and to each person who has submitted written comments or requested notice of the final decision.

\*Parker Hannifin Corporation acquired the lease for the property in 1995. Prior to Parker Hannifin, the property was leased by Schovill Corporation, Schrader Bellows, and Pneumatic Division. The Wake Forest Industrial Development Corporation has owned the site since it was developed as an industrial facility in the early 1960's.