OhioEPA

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August 20, 2007

PIKE COUNTY
PARKER HANNIFIN
RCRA
OHD046426409

Mr. Rick Taylor
Parker Hannifin Corporation
6035 Parkland Boulevard
Cleveland, OH 44124-4141

Dear Mr. Taylor:

Ohio EPA has completed a review of the 2006 Annual Report (Ground Water Monitoring Data for 3d and 4th Quarters, 2006) for the Parker Hannifin Corporation (PHC) Waverly Facility in Pike County, Ohio. The report was prepared by Advanced GeoServices Corp. (AGC) of West Chester, PA and was received by the Ohio Environmental Protection Agency (Ohio EPA) on March 5, 2007. The 2006 Annual Report contains information on Site History, Ground Water Monitoring Activities, Monitoring Data & Results, Corrective Action Activities and Conclusions & Recommendations. The report covers the activities undertaken in the 3d and 4th quarters of 2006, although analysis of data trends over the past five to ten years were discussed. The Annual Report was accompanied by a laboratory data report for the same time period.

PHC is required to submit semi-annual reports to Ohio EPA as per OAC 3745-54-100(G). As per the revised Corrective Action Monitoring Plan (CAMP) for the Parker site (August 2006), the ground water sampling consists of the analytical results for fifteen VOCs and two metal site specific parameters at each of PHC's thirty-nine monitoring wells and two surface water locations. PHC is currently responsible for fulfilling the terms of a Director's Final Findings and Orders (DFFOs), dated December 27, 2000. With respect to ground water monitoring, the site is controlled by its CAMP and the Corrective Action rules found in OAC 3745-54-90 through 3745-54-100.

The 2006 Annual Report discusses the operation of the new corrective action systems, which became operational at PHC in November of 2005. The new corrective action remedies consist of air sparging and soil vapor extraction (AS/SVE) in the former dry well source area, and a newly installed line of four wells (RW-3 through RW-6, for pumping & treating contaminated ground water) in the plume management area. The new systems were designed to remove volatile contaminant source materials and prevent further releases of water-soluble VOC's to Pee Pee Creek and other off-site locations. During the second half of 2006, the source area corrective action was not operational due to a malfunctioning SVE blower. According to AGC, a new SVE blower was scheduled for installation in March 2007.

Ohio EPA has anticipated significant decreases in ground water VOC content down gradient of the new (four well) extraction system, sometime in 2006. However, the sampling results do not yet show any significant decline in VOC content down gradient of the RW-series pumping wells. Following the first and second quarter 2006 results, AGC indicated that the extraction wells were not operating at their design extraction rates and that PHC was working on adjustments to the system which would optimize recovery in the shallow & intermediate zones. By years end, the four extraction wells were

still operating below design specifications. During the month of August, level sensor failures knocked out the operation of three of the four extraction wells. During the month of September, three of the four wells were not operational due to level sensor failures and PLC circuit breaker failures. On page 3-18, AGC states that following the cleaning of pumps in RW-3, RW-4, RW-5 and RW-6 in January 2007, no significant improvements in pumping rate and efficiency were observed. Currently, "an engineering economic evaluation is being performed to determine whether the old influent line should be cleaned or booster pumps should be installed to increase the ground water recovery rates." Installation of any new equipment is slated for the second quarter of 2007.

Meanwhile, surface water concentrations of TCE in Pee Pee Creek were detected during the third quarter sampling event. MW-16 and MW-20 (down gradient monitoring wells along the edge of Pee Pee Creek) detected TCE at 100 ppb and 360 ppb, respectively, during the fourth quarter of 2006. Tier I Data reviews of the laboratory data packages by AGC did not reveal any significant lapses in lab methodology/protocol. 100% of the third and fourth quarter data is useable as qualified.

PHC uses its Annual Report to recommend the elimination several parameters at specific wells in its monitoring network. In section 3.3.3, AGC analyzes the trend of chromium in source area monitoring wells and graphs the trend of chromium data in monitoring wells MW-8S and MW-4 (graph included with this IOC for reference). Over the past 2 years, chromium data has not exceeded the ground water protection standard (GPS) at MW-8S and MW-4. AGC also points out that compliance wells MW-1, MW-2 and MW-17 have not had a detection of chromium above the GPS since the inception of the original CAMP in March 2001. Therefore, PHC is recommending that it no longer sample for chromium at MW12R, MW-1, MW-2, MW-8S, MW-17, MW-4 and MW-7. PHC also requests the elimination of total dissolved chromium and hardness from surface water sample location SW-UP and SW-DOWN. Lastly, PHC requests that it eliminate its vertical gradient analysis from its semi-annual reports since the gradients are extremely small in magnitude and do not provide any significant value to the assessment of the corrective action systems.

Based on Ohio EPA's review, we found the following violations of Ohio's hazardous waste laws and the DFF&Os. Note that these were cited in a letter to Parker Hannifin dated February 2, 2007. Parker Hannifin failed to respond to this letter. **Failure to satisfy the requirements of the December 27, 2007 Director's Final Findings and Orders (DFFOs), and violations of Ohio's hazardous waste laws and rules may result in escalated enforcement action for contempt of the DFFOs and/or for violations of laws and regulations, which may subject you to fines and penalties.** In order to correct this violation, you must do the following and send me the following **within 30 days** of the date of this letter.

(1) **OAC Rule 3745-54-100(E)(1) and (E)(2) and section V. 2. of the December 27, 2000 Director's Final Findings and Orders (DFFOs)** (E)1)The owner or operator must conduct a corrective action program to remove, or treat in place, any hazardous constituents in groundwater that exceed specified concentration limits between the compliance point under rule 3745-54-95 of the Administrative Code and the down gradient property boundary; (E)(2) The owner or operator must conduct a corrective action program to remove or treat in place any hazardous constituents under rule 3745-54-93 of the Administrative Code that exceed concentration limits under rule 3745-54-94 of the Administrative Code in ground water beyond the facility boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the director that, despite the

owner's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. The owner/operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis.

(E)(1) PHC has failed to control and capture the release of VOC-laden ground water along its facility boundary with Pee Pee Creek; (E)(2) PHC has failed to control and capture the release of VOC-laden ground water beyond the facility boundary.

It was Ohio EPA's expectation that significant control of the VOC plume in the vicinity of Pee Pee Creek would have taken place by the end of 2006, more than a year after the installation of new corrective action remedies on site. This has not yet occurred. This violation will not be resolved until corrective measures have brought on-site and off-site ground water contamination under full hydraulic control. PHC must take immediate steps to control and capture the VOC plume. Within 30 days of the date of this letter, PHC must submit a written plan and timetable to Ohio EPA for re-evaluation and to make necessary modifications to the current remediation system in order to capture and control the plume. The plan must also include the submittal of monthly progress reports to Ohio EPA. Ohio EPA will review and comment on the plan. Upon approval of the plan, it must immediately be implemented.

General Comments

(a) PHC has requested to eliminate vertical gradient analysis in its semi-annual reports: Ohio EPA finds this proposal acceptable. If a technical need should arise again to re-introduce this examination, Ohio EPA will request that PHC once again include this analysis in its reports.

(b) PHC has requested that they no longer sample for chromium at MW-12R, MW-1, MW-2, MW-8S, MW-17, MW-4 and MW-7. PHC has also requested they eliminate total dissolved chromium and hardness from the parameter list for surface water sample location SW-UP and SW-DOWN: Ohio EPA would like to defer this decision until the effectiveness of the correction action remedies at the PHC facility have been demonstrated. Please note that the revised CAMP (August, 2006) makes use of Table 8-2 and 8-3 as a guide to the frequency of sampling (and parameter list) during the corrective action monitoring period. The above listed wells and surface water monitoring points appear in both tables as quarterly sampling points, with VOC, chromium (and hardness, for the surface water points) as sampling parameters. Also note that Ohio EPA addressed a similar request for the elimination of chromium sampling in PHC's 2005 Annual Report. At that time, Ohio EPA stated that it does not recommend the elimination of chromium from Parker's sampling parameter list because it was a primary waste constituent disposed at the Parker site and continues to be detected (currently below GPS) at some monitoring well locations. Ohio EPA stated that chromium should remain on the sampling list through the corrective action and compliance monitoring phase at this site, although adjustments to the frequency of sampling will be considered.

(c) Table 3-18 of the Annual Report displays the average daily flow rate of recovery wells RW-3 through RW-6 during the third and fourth quarters of 2006. The monthly average flow rates do not seem to reflect AGC's statements that during the months of August and September, only one of the four recovery wells was operating at any one time. For accuracy and completeness, please account for this discrepancy.

Please submit all requested information no later than 30 days from the date of this letter. Should you have any questions, please feel free to call me at 740-380-5293 or Mr. Steve Saines at 740-380-5445.

Sincerely,

Donna Goodman
District Representative
Division of Hazardous Waste Management

DG/mlm

cc: Martha Connell, Parker Hannifin Corporation
Steve Saines, DDAGW/SEDO