May 11, 2015

Ray Gosack
City Administrator, City of Fort Smith, Arkansas
623 Garrison Ave
3rd Floor, Room 315
Fort Smith, AR 72901

RE: WHIRLPOOL FIRST QUARTER 2015 PROGRESS REPORT

Dear Mr. Gosack:

Whirlpool Corporation has submitted the first quarter 2015 Progress Report to ADEQ, as required by the Remedial Action Decision Document (RADD) dated December 27, 2013. This report is a description and review of previously collected scientific data that was validated and summarized during the first quarter of 2015. I have attached the main report to this letter, and the complete report and all appendices and attachments are available at WhirlpoolFortSmith.com.

In summary, the groundwater and supplemental vapor testing completed the first quarter of 2015 provided ongoing confirmation that there remain no exposure pathways and no health risk to area residents. Additionally, active remediation activities are continuing to have an impact on trichloroethylene (TCE) concentrations, with further reductions in targeted areas and continued separation between the TCE plume beneath the neighborhood and the source area under the former Whirlpool manufacturing facility. We are continuing to monitor the situation extensively and work closely with the Arkansas Department of Environmental Quality (ADEQ) to determine appropriate next steps.

Key findings from the first quarter 2015 Progress Report include:

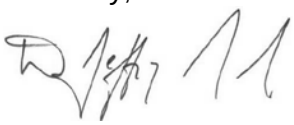
- ISCO injection events have decreased TCE concentrations in groundwater by approximately 69% in Area 2 and 3, 70% in the Neck Area and 66% in Area 1, further reductions of 14%, 15% and 16%, respectively, since the fourth quarter of 2014.
- Natural attenuation of TCE is continuing to occur in both onsite and offsite groundwater.
- The TCE plume beneath the neighborhood to the north of Ingersoll Ave remains separated from the plume beneath the Whirlpool property, and these two areas are now referred to as the “north plume” and “south plume”, respectively.
- 86% of monitoring wells in the south plume and 79% of wells in the north plume exhibit either little or no TCE or a decreasing or stable TCE concentration trend. Variability of the plume boundary is evident at a few locations and a few select wells exhibited increasing concentrations.
- The overall areas of the south plume and north plume have decreased approximately 3% and 5%, respectively, since the fourth quarter of 2014 monitoring.

- There continues to be no known TCE impact to offsite soils, surface water or sediment, and health exposure risks remain unchanged. Risk estimates based on groundwater and soil vapor data continue to show no health risk from TCE vapors.

Whirlpool Corporation continues to move forward with the science-based, Adaptive Remedy Approach established by the 2013 RADD and we have made significant progress in addressing conditions both on- and offsite. We remain committed to working closely with ADEQ, the city of Fort Smith, and residents until this issue is resolved.

Please feel free to contact me if you have any questions about the details of this report. Additional correspondence and background information will be posted on WhirlpoolFortSmith.com as it becomes available.

Sincerely,



Jeff Noel, VP, Whirlpool Corporation



First Quarter 2015 Progress Report

Whirlpool Facility
Fort Smith, Arkansas

Prepared for:
Whirlpool Corporation

Prepared by:
ENVIRON International Corporation

Date:
May 2015

Project Number:
34-37470A

ENVIRON

First Quarter 2015 Progress Report
January 1, 2015 through March 31, 2015
Whirlpool - Fort Smith, Arkansas

1. INTRODUCTION

This quarterly report has been prepared in accordance with the Remedial Action Decision Document (RADD) dated December 27, 2013, for the Whirlpool Fort Smith, Arkansas, site (Site). This First Quarter Progress Report (Report) is not forward looking, but is instead a description of past activities and a review of previously collected data that has been validated and summarized for this report. This report includes a description of the work completed during the First Quarter of 2015, findings of the activities completed in this reporting period, issues identified and resolved, and deviations or schedule adjustments from plans and correspondence submitted to the Arkansas Department of Environmental Quality (ADEQ). Details regarding the discussion of Summary of Findings are provided in the documents attached to this Report.

2. SUMMARY OF FINDINGS

- Monitoring to assess the impact of ISCO injection events measured decreases in trichloroethene (TCE) concentrations in groundwater at Areas 2 and 3, Neck Area and Area 1 of approximately 69%, 70% and 66%, respectively.
- Natural attenuation of TCE is continuing to occur via biological mechanisms or other natural attenuation mechanisms in both onsite and offsite groundwater.
- The approximate location of the hydraulic divide between the north and south groundwater plume boundaries continued to be south of Ingersoll Avenue, which is generally consistent with previous reporting periods and historic results.
- The south groundwater plume beneath the Whirlpool property and the north plume extending north beyond Ingersoll Avenue both continue to exhibit general characteristics of stable to decreasing plumes based upon statistical analysis of temporal TCE concentration trends through the First Quarter of 2015. 86% of monitoring wells in the south plume and 79% of wells in the north plume exhibit either little or no TCE or a decreasing or stable TCE concentration trend. Variability of the plume boundary is evident at a few locations and a few select wells exhibited increasing concentrations. The areas of the south plume and north plume have decreased approximately 3% and 5%, respectively, comparing the 2014 Fourth Quarter and 2015 First Quarter plume boundaries.
- Based on first quarter groundwater data, the average minimum and maximum quantities of TCE in groundwater associated with the Site has been assessed for the north and south groundwater plumes. The quantity of TCE in the north plume is estimated to range from less than 1 to 2 gallons, the quantity of TCE in the south plume is estimated to range from 2 to 9 gallons, and the quantity of TCE in the northeast plume is estimated to contain less than 1 gallon; for a combined volume of TCE in groundwater ranging from 3 to 12 gallons.
- Risk estimates based upon groundwater and soil vapor data for potential vapor intrusion from offsite groundwater continue to be below ADEQ's risk management limits.
- There are no known TCE impacts to offsite surface water or sediment.

- The Site human health exposure risks remain unchanged.
- The owner of the Independent Living Inc. property (Bost, Inc.) located at 1410 Jacobs Avenue provided a report of indoor air sampling performed in April 2013. The indoor air sampling results did not detect TCE or TCE breakdown constituents [cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride (VC)] in indoor air. This information is provided as Attachment E of this Progress Report.

3. REVIEW OF ACTIVITIES COMPLETED – FIRST QUARTER 2015

During the week of January 12, First Quarter of 2015, groundwater samples were collected via low flow sampling methodologies. Groundwater samples were collected from a total of 78 wells to assist in evaluating the northeast corner, Boys and Girls Club property, in-situ chemical oxidation (ISCO) monitoring, and plume definition. The groundwater samples from locations noted in the RADD were analyzed for parameters as outlined in the RADD, eleven additional groundwater samples were also analyzed for parameters as outlined in the RADD, and the remaining wells were analyzed for VOCs only. The First Quarter 2015 Groundwater Monitoring Report provides details regarding the sampling event and is included as Attachment A.

Groundwater samples were collected concurrent with the First Quarter 2015 groundwater sampling event, from select wells, to evaluate the performance of ISCO events completed onsite to date. The data from this additional sampling effort is presented and evaluated in the First Quarter 2015 Groundwater Monitoring Report (Attachment A).

Key observations based on the groundwater monitoring data include the following:

- The groundwater potentiometric surface observed during the first quarter event is consistent with that historically observed at the Site.
- The direction of the lateral hydraulic gradient continues to be influenced by a hydraulic divide located just south of Ingersoll Avenue with the hydraulic gradient predominantly in the following directions:
  - Hydraulic gradient north of the divide is in a northeasterly direction; and
  - Hydraulic gradient south of the divide is in a southern/southeasterly direction.
- First Quarter groundwater monitoring data shows generally stable to decreasing trends for TCE concentrations at a majority of monitoring well locations.
- First Quarter groundwater monitoring data in conjunction with historical data demonstrate that natural attenuation of TCE is occurring via biological mechanisms in both onsite and offsite groundwater.

- The ISCO events performed in 2014 continue to be effective with TCE concentration reductions as follows:
  - Approximately 84% decrease for source area wells MW-25, MW-85, and MW-86 and approximately 66% decrease for the Area 1 wells (including source area wells);
  - Supplemental neck area decrease of approximately 70% since May 2014; and
  - Approximately 69% decrease for wells in Areas 2 and 3.

During the First Quarter of 2015, additional soil vapor monitoring points were installed, historical soil vapor monitoring points were abandoned, and a soil vapor sampling event was completed in January 2015. Between December 2014 and January 2015 all historical soil vapor monitoring points were abandoned. From January 14 through January 16, 2015 eight new soil vapor monitoring points were installed. The construction and installation of these points was based upon the soil boring/lithology information collected in December 2014.

Soil vapor sampling was completed from January 16 through 21, 2015. Soil vapor samples were successfully collected from VP-5, VP-7, VP-9, and VP-14. However water filled the vapor points at locations VP-6, VP-8, VP-10, and VP-12 and water could not be purged from the sampling train. Water samples were collected from these points except for VP-08 where the water volume was insufficient for sample collection.

The First Quarter 2015 Soil Vapor Monitoring/Vapor Intrusion Report further discusses the abandonment and installation of the points as well as evaluates the water and soil vapor data. This report is included as Attachment B.

Key observations based on the soil vapor monitoring data include the following:

- Risk estimates for potential vapor intrusion from offsite groundwater into offsite residences are below ADEQ's risk management limits of 10^{-5} and 1 for cumulative cancer risk and non-cancer hazards, respectively; and
- Vapor intrusion modeling using shallow water and soil gas samples collected, confirms the modeling results using groundwater VOC concentrations collected from monitoring wells.

During the first quarter 2015 ENVIRON was provided a report from Mr. Jones of Bost, Inc. regarding the indoor air sampling performed in April 2013 at the Bost property building, located at 1410 Jacobs Avenue. The indoor air sampling results did not detect TCE or TCE breakdown constituents [cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride (VC)] in indoor air. This information is provided as Attachment E of this Progress Report.

During the First Quarter of 2015, an investigation was completed to characterize the shallow subsurface geology and groundwater quality near the north boundary of the Whirlpool Corporation (Whirlpool) property and immediately offsite in the residential area north of the

property boundary. This investigation included assessment of TCE impacts in soil and groundwater at the Whirlpool properties (former manufacturing plant property and 1501 Jacobs Avenue) as well as three residential properties. The work was completed in accordance with the Offsite Shallow Groundwater Investigation Work Plan (Work Plan) dated October 2014. During this investigation five borings were completed to evaluate lithology and potential soil impact, six soil samples were collected, nine shallow groundwater monitoring wells were installed and seven were sampled (two were dry at the time of the sampling event), and eight new soil vapor points were installed and sampled for either water or soil vapor except at VP-08 where a sample could not be collected due to field conditions.

The concentrations of TCE detected in the shallow monitoring wells is consistent with levels observed in the northern plume based on 2015 First Quarter groundwater monitoring results. The TCE contamination is evident in groundwater from the offsite shallow monitoring wells that are screened in the deeper zone [approximately 13 to 14 feet below ground surface (bgs)], while TCE was not present in groundwater from the monitoring wells that are screened in the shallow zone (approximately 6 to 10 feet bgs). Based on these initial sampling efforts, TCE impacted groundwater is limited to the deeper zones in the offsite monitoring wells. Additional information regarding this investigation and associated results may be found in Attachment C - Shallow Offsite Groundwater Investigation Report.

4. QUANTITY OF TCE

Estimated average minimum and maximum quantities of TCE in groundwater were calculated for the Site using the results of the First Quarter groundwater monitoring event. The total quantity of TCE distributed throughout the north and south groundwater plumes is calculated based upon the consistent groundwater divide north of the Whirlpool manufacturing facility and south of Ingersoll Avenue. The quantity of TCE calculations are based on separating the northern and southern plumes at the hydraulic divide at the location of MW-24 (see Figures 2A and 2B, Attachment A – First Quarter 2015 Groundwater Monitoring Report). The Northeast plume is also included.

The estimated quantities of TCE included calculation of the volume of groundwater based upon the distinct areas within the plumes (i.e. area of plume within the iso-concentration lines on Figures 2A and 2B of Attachment A), average saturated thickness and total porosity (i.e. area x average saturated thickness x porosity = volume of water). The volume of water and minimum and maximum TCE concentrations based upon the plume boundaries were used to calculate the mass of TCE within each section of the plume. The volume of TCE was then determined based upon the specific gravity of TCE. Parameters used in the calculation of TCE quantities are presented below. Calculations are presented in Attachment D, Table 2.

Northern plume parameters:

- Plume area of approximately 476,500 square feet (ft^2) which is an approximate 5% reduction in plume size compared to the 2014 Fourth Quarter. The north plume consists of 296,000 ft^2 for the portion of the plume with TCE concentrations ranging from 5 micrograms per liter (µg/L) to 100 µg/L; 180,500 ft^2 for the portion of the plume with TCE

concentrations ranging from 100 µg/L to 1,000 µg/L; and, no portion of the plume exhibits TCE concentrations greater than 1,000 µg/L;

- Average saturated thickness of 3.7 feet (see Attachment D, Table 1);
- Total porosity of 0.4; and
- TCE specific gravity of 1.465.

Southern plume parameters:

- Plume area of approximately 869,700 ft^2 which is an approximate 3% reduction in plume size compared to the 2014 Fourth Quarter. The south plume consists of 442,300 ft^2 for the portion of the plume with TCE concentrations ranging from 5 µg/L to 100 µg/L; 324,500 ft^2 for the portion of the plume with TCE concentrations ranging from 100 µg/L to 1,000 µg/L; and 102,900 ft^2 for the portion of the plume with TCE concentrations ranging from 1,000 µg/L to 10,000 µg/L.
- Average saturated thickness of 8.3 feet (see Attachment D, Table 1);
- Total porosity of 0.4; and
- TCE specific gravity of 1.465.

Northeastern plume parameters:

- Plume area of approximately 257,800 ft^2 consisting of 187,600 ft^2 for the portion of the plume with TCE concentrations ranging from 5 µg/L to 100 µg/L; and, 70,200 ft^2 for the portion of the plume with TCE concentrations ranging from 100 µg/L to 1,000 µg/L;
- Average saturated thickness of 4.4 feet (see Attachment D, Table 1);
- Total porosity of 0.4; and
- TCE specific gravity of 1.465.

Based on the plume information listed above, the following ranges of the quantities of TCE distributed throughout the respective plumes were calculated:

Plume Location	Estimated Minimum Volume	Estimated Maximum Volume
Northern Plume	Less than 1 gallon	2 gallons
Southern Plume	2 gallons	9 gallons
Northeastern Plume	Less than 1 gallon	Less than 1 gallon

Therefore the total average minimum and maximum quantities of TCE in groundwater associated with the site is approximately 3 to 12 gallons of TCE.

These estimated quantities illustrate the limited volume of TCE present in groundwater.

5. DATA AVAILABLE IN THIS QUARTER

Analytical data for the 78 wells sampled, including water levels from this sampling event, are included in the First Quarter 2015 Groundwater Monitoring Report included as Attachment A.

Analytical data for the soil vapor monitoring are included in the First Quarter 2015 Soil Vapor Monitoring/Vapor Intrusion Report included as Attachment B.

Data associated with installation and monitoring of shallow offsite groundwater wells are included in Attachment C – Shallow Offsite Groundwater Investigation Report.

Analytical results for indoor air sampling conducted in April 2013 at the Bost property is included as Attachment E.

6. ISSUES ENCOUNTERED AND RESOLUTION

The RADD identified five locations where soil vapor monitoring should be performed at on and offsite areas. These locations included those installed in 2012. However, as stated in previous quarterly progress reports and other correspondence with ADEQ many of these points had filled with water after installation, therefore these points were abandoned in January 2015. An Addendum to the Soil Vapor Monitoring Program was submitted to ADEQ on October 2, 2014. Borings were completed in the Fourth Quarter 2014 in accordance with the Shallow Offsite Groundwater Investigation Work Plan submitted to ADEQ on October 30. Offsite soil vapor points and shallow groundwater monitoring wells were installed in January 2015.

7. SCHEDULE

There are no schedule deviations to report in the First Quarter 2015. Remedial activities were implemented in 2014 and ongoing groundwater monitoring results continue to show improved groundwater conditions as a result of these remedial activities.

LIST OF ATTACHMENTS

Volume 1
Attachment A: First Quarter 2015 Groundwater Monitoring Report

Volume 2
Attachment B: First Quarter 2015 Soil Vapor Monitoring/Vapor Intrusion Report
Attachment C: Shallow Offsite Groundwater Investigation Report
Attachment D: Quantity of TCE Tables 1 and 2
Attachment E: Indoor Air Sampling Results – 1410 Jacobs Avenue