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January 14, 2005

United States Environmental Protection Agency
Region 5
Corrective Action Section, DW-8J
77 West Jackson
Chicago, Illinois 60604

Attention: Ms. Patricia J. Polston, Project Manager
Waste Management Branch

Reference: Quarterly Progress Report (Fourth Quarter 2004)
Administrative Order on Consent
Vernay Laboratories, Inc.
Yellow Springs, Ohio
Project No. 0292.11.26

Dear Ms. Polston:

The Payne Firm, Inc. (Payne Firm) is pleased to submit, on behalf of Vernay Laboratories, Inc. (Vernay), the attached Progress Report for the Fourth Quarter 2004, as required by the Administrative Order on Consent (AOC) journalized by the United States Environmental Protection Agency (U.S. EPA) on September 27, 2002.

We understand that the U.S. EPA may provide this quarterly progress report on the U.S. EPA's website at www.epa.gov/region5/sites/vernay. The electronic version of this quarterly progress report is also included on a CD-Rom in Appendix I.

Should you have any questions regarding the enclosed document, please contact either of us at (513) 489-2255 or via e-mail at dcc@paynefirm.com or ddw@paynefirm.com.

Sincerely,

The Payne Firm, Inc.

David C. Contant, L.G.
Project Manager

Daniel D. Weed, C.P.G.
Principal

cc: Mr. Doug Fisher – Vernay Laboratories, Inc.
Mr. Joseph Lonardo – Vorys, Sater, Seymour and Pease
Mr. Rob Hillard – Village of Yellow Springs
Ms. Connie Collett – Yellow Springs Community Library

PROGRESS REPORT - FOURTH QUARTER 2004
Vernay Laboratories, Inc. RCRA Corrective Action
Yellow Springs, Ohio

A. IDENTIFICATION OF FACILITY AND ACTIVITY

Vernay Laboratories, Inc. (Vernay) agreed to an Administrative Order on Consent (AOC), journalized September 27, 2002, to complete a United States Environmental Protection Agency (U.S. EPA) Resource Conservation and Recovery Act (RCRA) Corrective Action for the Vernay Facility located at 875 Dayton Street in Yellow Springs, Ohio.

B. STATUS OF WORK AT THE FACILITY AND PROGRESS DURING THE QUARTER

The status of the work at the Facility and a summary of the progress made during the quarter are presented below.

1. RFI Phase II Report

As required by the AOC Section VI.14., Vernay prepared the *U.S. EPA RCRA Corrective Action, Facility Investigation Phase II Report,* (RFI Phase II report) dated December 20, 2004. Vernay submitted the Phase II RFI report to the U.S. EPA on December 30, 2004 and also submitted the report to the Village of Yellow Springs and the Yellow Springs Community Library. In addition, we understand the U.S. EPA may provide portions of the Phase II RFI report on its website at www.epa.gov/region5/sites/vernay.

The RFI Phase II report documented the results of the RFI Phase II that Vernay conducted at the Facility and supplemented the Phase I RFI Report that was completed on June 29, 2004 and approved by U.S. EPA on October 15, 2004.

Phase II RFI Scope of Work

Phase II of the RFI focused on completing the characterization of the nature and extent of contamination in soil, assessing the fate and transport of contaminants detected in the Cedarville Aquifer, and assessing the potential site-related human health and the environment risks associated with current and reasonably likely exposures to contaminated media. Information presented in the Phase I and Phase II RFI reports will be used to complete the Migration of Contaminated Ground Water Under Control (CA750) report, and to evaluate corrective measures needed to mitigate potentially unacceptable risks associated with releases of hazardous waste and hazardous substances detected at and in the vicinity of the Facility.

Overall Phase II RFI Conclusions

As a result of the Phase II RFI, the following conclusions were made:

- The nature and extent of contamination was determined in soil within the Unconsolidated Unit.
- Based on data gathered for the RFI, the nature and extent of soil contamination was adequately characterized for risk evaluation purposes.
- Based on the results of the calibrated ground water flow model and particle tracking analysis completed during the Phase I and Phase II RFI, the capture zone of the ground water interim

measure extends at least to the base of the Cedarville Aquifer along the eastern boundary of the Facility.

- Based on the RFI sampling data and results of the fate and transport modeling for the Cedarville Aquifer, the results of these analyses indicated that both the PCE and TCE ground water plumes are stable and well contained within the existing monitoring well network.
- Based on the results of the human health risk assessment during the Phase II RFI, current potential exposures to constituents in on-Facility and off-Facility soil, subsurface water, storm water, indoor air, ground water, sediment and surface water do not pose a significant risk. However, the risk assessment determined that there is the potential for future exposures to constituents in some of these media to present an unacceptable risk. Specifically, future exposures via off-Facility potable and nonpotable ground water use downgradient of the Facility as well as hypothetical vapor intrusion from ground water to indoor air could pose an unacceptable risk if ground water exceeding acceptable levels migrates to locations where these exposures can occur, or if a new well or residence were constructed in an area where ground water concentrations currently exceed acceptable levels. In addition, migration of constituents from on-Facility soils to ground water may continue to contribute to ground water concentrations exceeding potable use criteria.
- Based on the results of the ecological risk assessment, it was concluded that the available information obtained for the RFI was adequate to determine that potential ecological risks were negligible at the Vernay Facility and, therefore, no need for further action was warranted to assess potential ecological exposures.
- As a result of these RFI Phase I and Phase II investigations, Vernay has completed the RCRA Facility Investigation portion of the Corrective Action process.

<u>RCRA Corrective Action Next Steps identified in the RFI Phase II Report</u>

- Based on the Corrective Action Order (Section VI., paragraph 16), the next step in the Corrective Action process is to complete an Environmental Indicator Report for ground water (CA750). The CA750 report is required to be submitted to the U.S. EPA within 180 days of U.S. EPA's approval of the Phase II RFI report.
- Based on the Corrective Action Order (Section VI., paragraph 19), the Final Corrective Measures Proposal is required to be submitted to the U.S. EPA within 180 days of the positive U.S. EPA determination of the CA750 report. The U.S. EPA will then prepare a Statement of Basis document that proposes its final corrective measures based on the range of information provided in Vernay's Final Corrective Measures Proposal. The U.S. EPA will provide the public with an opportunity to review and comment on its proposed final corrective measure presented in its Statement of Basis. Based on the public comments, the U.S. EPA will then select its final corrective measure, and will notify Vernay and the public of its decision and rationale in a Final Decision and Response to Comments (Final Decision) document.
- In order to meet the post-RFI ground water monitoring data needs, future ground water monitoring events of 25 wells will occur on a semi-annual basis until the final corrective action is determined by the U.S. EPA.
- In order to support the conclusions of the CA725 and the risk assessment, Vernay will follow up in 2005 with water well owners identified within the water well survey area. The purpose of the follow-up is to verify any change in water well use. In addition, Vernay will also resample in 2005 those water wells that are identified as currently being used for potable or non-potable purposes within the water well survey area that are downgradient from the Facility.

2. Quarterly Ground Water Monitoring Event

As required by AOC Section VI.13., Vernay completed a ground water monitoring event during the fourth quarter of 2004. The monitoring event was conducted between October 5, 2004 and October 12, 2004. The objective of the quarterly monitoring program is to collect sufficient data to make the appropriate determinations required by the RCRA Ground Water and Human Health Environmental Indicators, to support the baseline risk assessment, and to evaluate corrective measures including the existing ground water extraction interim measure.

The monitoring network currently consists of 21 monitoring wells (including RW01-05) on the Facility and 32 monitoring wells located off of the Facility, all of which are screened in the upper, middle, or lower portions of the Cedarville Aquifer or within sewer backfill. During this quarterly monitoring event, water samples were collected from all 21 monitoring wells on the Facility property, and from all 32 monitoring wells off of the Facility property. In addition, Vernay sampled two additional monitoring wells in the vicinity that were identified during the well survey conducted by Vernay in late 2003/early 2004. One well is located north of the Facility at 860 Dayton Street; this monitoring well is screened in the Unconsolidated Unit. The second monitoring well is located at 759 Dayton Street and is screened in the upper portion of the Cedarville Aquifer. A surface water sample was also collected and analyzed for VOCs from the storm sewer outfall that discharges to the unnamed creek northeast of the Facility.

The monitoring well network quarterly sampling locations are shown on Figure 1 along with detections of selected VOCs. Concentrations of all VOCs from on- and off-Facility monitoring wells in the Cedarville Aquifer and the sewer backfill/outfall are summarized on Tables 1 and 2, respectively. Detected concentrations of VOCs from QA/QC samples are also summarized on Table 3. Electronic copies of the laboratory analytical reports, data validation memoranda and ground water sampling forms are included on a CD-Rom in Appendix I. A list of data validation qualifiers assigned by the laboratory and/or the Payne Firm is included on Table 4.

3. Monthly Operation and Maintenance Activities

Data associated with the existing ground water interim measure were collected monthly during the fourth quarter. These data include monthly water level measurements from the Facility monitoring well network and water samples analyzed for VOCs from the ground water treatment systems of the capture zone and the utility tunnel sump. Monthly water level elevations are summarized in Table 5. Potentiometric contour maps generated monthly for the Cedarville Aquifer during the fourth quarter are presented in Appendix II.

Water samples collected from the capture zone treatment system included: 1) a sample at each wellhead (CW01-01 and CW01-02); 2) a sample after the first carbon vessel; and 3) a system effluent sample after treatment. Likewise, samples collected from the utility tunnel sump treatment system included: 1) a pre-treatment sample; 2) a sample after the first carbon drum; and 3) a sample after the second carbon drum. The VOC data collected from the two treatment systems are summarized on Tables 6 and 7, respectively. Electronic copies of the laboratory analytical reports are included on a CD-Rom in Appendix I.

4. Evaluation of Potential Treatability Studies

An evaluation commenced during the fourth quarter to determine whether or not a treatability study will be needed to support the corrective measures evaluation.

C. PROBLEMS ENCOUNTERED DURING THE QUARTER

No difficulties were encountered during this quarter.

D. ACTIONS TAKEN TO RECTIFY PROBLEMS

No actions to rectify problems were required this quarter.

E. PROJECT SCHEDULE

Based on the information presented in the RFI Phase II report and the requirements of the AOC, the following activities are planned for next quarter (Q1-2005).

- Prepare a Draft CA750 Report.
- Continue evaluation and, if needed, commencement of potential treatability studies.
- Follow up with water well owners identified within the water well survey area. Vernay will also resample those water wells that are identified as currently being used for potable or non-potable purposes within the water well survey area that are located downgradient from the Facility.
- Continue monthly monitoring of existing interim measures and quarterly water level measurements.
- The semi-annual ground water sampling event will be conducted near the end of the first quarter or the beginning of the second quarter 2005.
- Commence the determination of preliminary remediation goals and corrective measures objectives for the Facility.

Future SOWs will be based on the project schedule presented on Table 8 and on potential U.S. EPA comments to the RFI Phase II report.

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