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FEDERAL EXPRESS

April 14, 2003

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 (First Quarter 2003)
Administrative Order on Consent
Vernay Laboratories, Inc.
Yellow Springs, Ohio
Project No. 0292.11.01(c)

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 First Quarter 2003, as required by the Administrative Order on Consent (AOC) journalized by the United States Environmental Protection Agency (US EPA) on September 27, 2002.

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

Sincerely,

The Payne Firm, Inc.

David C. Contant, C.P.G.
Project Manager

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

Enclosures

cc: Mr. Doug Fisher - Vernay Laboratories, Inc. (w/enclosures)
Mr. Scott Doran - Vorys, Sater, Seymour & Pease (w/enclosures)
Mr. Rob Hillard - Village of Yellow Springs (w/enclosures)
Ms. Connie Collett - Yellow Springs Community Library (w/enclosures)

PROGRESS REPORT– FIRST QUARTER 2003
Vernay Laboratories, Inc. RCRA Corrective Action
Yellow Springs, Ohio

A. IDENTIFICATION OF FACILITY AND ACTIVITY

Vernay Laboratories, Inc. (Vernay) is under a 3008(h) Administrative Order on Consent (AOC), journalized September 27, 2002, to complete a United States Environmental Protection Agency (US 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. As required by AOC Section VI.11., a capture zone analysis was completed.

    - The purpose of the capture zone analysis was to evaluate the number of additional ground water capture wells needed to control the migration of contaminated ground water off of the Facility in the Cedarville Aquifer.
    - On January 2, 2003, a conference call was held with the US EPA regarding the results of the capture zone modeling.
    - Based on these results, a second ground water recovery well (CW01-02) was installed at the Facility on January 13, 2003 (see No. 2 below).

2. As required by AOC Section VI.11., one additional capture well was installed at the Facility on January 13, 2003. Pumping from this additional capture well commenced on January 21, 2003.

    - Capture well (CW01-02) was installed at the northeastern portion of the Facility in addition to the existing capture well (CW01-01) on the southeastern portion of the Facility, which has been pumping since March 2000. The location of the new capture well and connection to the existing treatment system is shown on Figure 2.
    - The additional capture well is screened through the majority of the Cedarville Aquifer, with the base of the screen located one foot into the shale of the underlying Osgood Aquitard. The borehole was drilled using a truck-mounted, air-rotary rig. Well construction details and survey information are summarized on Table 1. Wells logs for the new and existing capture well can be found in Appendix I. The well log for CW-01-01 was updated to show the revision of the well casing and screen diameter as six inches. The revised well log sent to the Ohio Department of Natural Resources (ODNR) was also updated to reflect this revision.
    - The pump inlet within the new well was placed at approximately 65 feet below ground surface (BGS). Ground water extracted from the new well is discharged to an underground conduit and into the existing capture zone treatment system (granulated carbon) located at the Facility (Figure 1).

3. On January 15, 2003, correspondence was sent from Vernay to the Ohio Environmental Protection Agency (Ohio EPA) regarding the Facility's permit-by-rule status for the indirect discharge of wastewater to the Village of Yellow Springs' publicly-owned treatment works (POTW), given the additional volume of water that would be discharged due to an additional ground water recovery well.

   - In the January 15, 2003 letter to the Ohio EPA, Vernay indicated that the additional volume of treated ground water does not have the potential for adversely affecting the POTW's operation or for violating any pre-treatment standard or requirement. The letter also requested that the Ohio EPA continue to recognize that Vernay is not a significant industrial user and that the existing permit-by-rule remains effective for the Facility.
   - On March 2, 2003, the Ohio EPA issued a letter to Vernay indicating that the new ground water recovery well will not interfere with or exceed the capacity of the existing groundwater treatment system at the Facility, and that Vernay will maintain its permit-by-rule status.
   - Copies of the correspondence between Vernay and the Ohio EPA regarding this issue are included in Appendix II.

4. The Payne Firm prepared a Quality Assurance Project Plan (QAPP) for the RCRA Corrective Action.

   - The QAPP was submitted to the US EPA for review on January 21, 2003. On February 4, 2003, Vernay received comments from the US EPA regarding the QAPP.
   - Based on the US EPA comments, the QAPP was finalized on February 11, 2003. The QAPP is consistent with the Region 5 RCRA Quality Assurance Project Plan Policy (April 1998) and Section VI.24.g. of the AOC.

5. Following development of the new pumping well (CW01-02), a discrete ground water sample from the bottom of the well (approximately 97 to 100 feet BGS) was collected and analyzed for volatile organic compounds (VOCs) on January 15, 2003. No concentrations of VOCs were detected in the sample. An electronic version of the laboratory analytical report is included in Appendix III.

6. As required by AOC Section VI.13., Vernay commenced a quarterly ground water monitoring program prior to December 31, 2002, and completed a ground water monitoring event during the first quarter of 2003. The ground water monitoring event was conducted between February 12 and February 19, 2003. 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 the evaluation of corrective measures including the existing ground water extraction interim measure.

   - The ground water monitoring network consisted of 20 monitoring wells on the Facility and seven monitoring wells located off of the Facility, all of which are screened in the Cedarville Aquifer or the storm sewer backfill. In addition, a surface water sample (ST02-05) was collected from the storm sewer outfall to the unnamed creek located northeast of the Facility. Monitoring well locations are shown on Figure 2.

- The field activities associated with the monitoring event followed the project QAPP and the Payne Firm Standard Operating Procedures (SOPs), which are consistent with the May 2002 US EPA guidance document entitled *Ground Water Sampling Guidelines for Superfund and RCRA Project Managers*.
- The ground water samples were analyzed for VOCs by US EPA Method SW846-8260B; SVOCs by US EPA Method SW846-8270C; and chromium (total), copper, and zinc by US EPA Method SW846-6010B.
- Detected concentrations of VOCs are summarized on Table 2. Detected concentrations of SVOCs and metals are summarized on Table 3. Detected concentrations of VOCs in surface water are summarized on Table 4. An electronic version of the laboratory analytical report is included in Appendix III.
- The data quality assessment and validation process followed procedures presented in Section 10.0 of the project QAPP. This process included the completion of a Data Validation Checklist (Appendix III), which is summarized in the Payne Firm April 3, 2003 Data Validation Memorandum. The data associated with the monitoring event exhibited acceptable levels of precision and accuracy.

7. On February 14, 2003, water samples were collected from the pre-treatment discharge of the two pumping wells in order to assess specific parameters potentially influencing the treatment system, such as hardness, sulfate, total dissolved solids, total suspended solids, calcium, iron, magnesium, and manganese. An electronic version of the laboratory analytical report is included in Appendix III.

8. Vernay is currently preparing a technical memorandum presenting the sampling list of chemicals to be used during the facility investigation. The purpose of the technical memorandum is to document the methodology and rational in developing the site-specific sampling list of chemicals. It is anticipated that this technical memorandum will be completed during the second quarter of 2003.

9. On February 7, 2003, the November 25, 2002 Current Conditions Report for the Facility was submitted to the US EPA in electronic format on a compact disk (cd).

10. As required by Section VI.11. of the AOC, Vernay commenced an investigation of the potential for *in situ* treatment of the areas beneath the Facility with the highest concentration of soil contamination. Ongoing activities include analysis of available potential *in situ* treatment remedial technologies, and the screening of these potential technologies to determine their applicability as an interim measure at the Facility. Vernay will complete this analysis and, if appropriate, commence *in situ* treatment by June 1, 2003.

11. As required by Section VI.18.a. of the AOC, Vernay has commenced the development of appropriate risk screening criteria under current use scenarios and is providing the basis and justification for the use of these criteria.

- A conceptual site model defining potential pathways for human and ecological exposures is being developed.
- Conservative risk-based screening criteria are being developed that are appropriate for each environmental medium and receptor identified for the Facility. This information is being assembled for use in the identification of potential needs for additional sampling that may be required to support a reliable estimate of exposure concentrations at the Facility, and to complete the Ground

Water and Human Health Environmental Indicators consistent with Section VI.24.f of the AOC.

12. Data associated with the existing ground water interim measure were collected. These data include water level measurements from the Facility monitoring well network and collecting water samples analyzed for VOCs from the ground water treatment systems of the capture zone and the utility tunnel sump. Ground water elevations are summarized in Table 5.

    - 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 post-sump sample after treatment. The VOC data collected from the treatment systems are summarized on Tables 6 and 7. Electronic versions of the laboratory analytical reports are included in Appendix III.

C. PROBLEMS ENCOUNTERED DURING THE QUARTER

No difficulties were encountered during this quarter with the exception of a temporary shut-down of the pump installed in CW01-01. During the monthly operations and maintenance of the ground water extraction system on March 4, 2003, it was observed that the electrical circuit switch to operate the CW01-01 pump was shut off, possibly due to an electrical surge. The switch was turned back on, and the pump in CW01-01 began to operate normally.

D. ACTIONS TAKEN TO RECTIFY PROBLEMS

No actions to rectify problems were required this quarter with the exception of re-starting pumping well CW01-01 following a brief period of shut-down.

E. PROJECT SCHEDULE

The following activities are planned for next quarter (Q2-2003).

- Conduct the second quarterly ground water monitoring event at the Facility.
- Continue monthly monitoring of existing interim measures.
- Complete the investigation of the potential for in situ treatment of the areas beneath the Facility with the highest concentrations of soil contamination.
- Complete the risk screening process.
- Complete the facility investigation sampling list technical memorandum.

A project schedule showing the percent project completed is included in Table 8.

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