US EPA ARCHIVE DOCUMENT

FIRST QUARTER 2007
PROGRESS REPORT

VERNAY LABORATORIES, INC.
PLANT 2/3 FACILITY
Yellow Springs, Ohio

Project No. 0292.11.26

April 12, 2007

Prepared For

VERNAY LABORATORIES, INC.
875 Dayton Street
Yellow Springs, Ohio 45387

Prepared By

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US EPA ARCHIVE DOCUMENT

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VIA FEDERAL EXPRESS
2-Day

April 12, 2007

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 2007)
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 First Quarter 2007, as agreed to in 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. Eric Swansen – Village of Yellow Springs
Ms. Connie Collett – Yellow Springs Community Library

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PROGRESS REPORT – FIRST QUARTER 2007
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. Post-RFI First Quarter 2007 Monitoring Event

With the completion of the RFI, the post-RFI corrective action process consists of the corrective measures evaluation. Post-RFI ground water monitoring data will continue to be collected to further support the assessment of the need for additional corrective action tasks. The approved Phase II RFI identified four ground water data needs during this post-RFI period, including:

1. Monitor plume stability for the CA750 demonstration.
2. Monitor the effectiveness of the existing ground water interim measures.
3. Monitor to support the calibration of the contaminant fate and transport ground water model.
4. Monitor to support the conclusion of the risk assessment and the CA725.

The sampling locations, data quality objectives and sampling frequency is listed on Table 1 and each monitoring location for the upper, middle, and lower zones of the Cedarville Aquifer is shown on Figure 1. Vernay re-evaluates the sampling frequency and number of locations following each sampling event. The sampling frequency (monthly, quarterly, semi-annual or annual) and rationale are described below:

Semi-Annual Monitoring
In order to meet these post-RFI ground water monitoring data needs, the RFI Phase II stated future ground water monitoring events will occur on a semi-annual basis until the final corrective action is determined by the U.S. EPA.

To verify that VOCs in ground water at the outer perimeter of the area of "contamination" are not moving beyond the three-dimensional extent, a sufficient number of monitoring wells are being sampled on a semi-annual frequency. Monitoring wells to be sampled on a semi-annual basis are also sufficient to verify the calibration of the contaminant fate and transport ground water model.

These 26 semi-annual monitoring wells include:

- MW01-01, MW01-02CD, MW01-02SE, MW01-03, MW01-03CD, MW01-04SE, MW02-05CD, MW01-07, MW02-02, MW02-03, MW02-03CD, MW02-03SE, MW02-04, MW02-05, MW02-05CD, MW02-06CD, MW02-07, MW02-08SE,

MW02-10, MW02-11, MW02-11SE, MW02-13, MW02-14, MW02-15, MW02-17, and MW02-17CD.

To monitor the effectiveness of the existing ground water interim measure important to understanding concentrations of contaminants over time and to assist in determining if any additional ground water interim measures are necessary, the following seven monitoring wells are being sampled on a semi-annual basis:

- MW01-02, MW01-04, MW01-04CD, MW02-08, MW02-08CD, MW02-06, and MW02-09.
- The two extraction wells (CW01-01 and CW01-02) are sampled monthly as part of the routine maintenance of the ground water treatment system.
- In addition to ground water samples, one surface water sample is collected from the storm sewer outfall location to the unnamed creek on a semi-annual basis to verify the CA725 determination.

Quarterly Monitoring

Based on the U.S. EPA approval with comments to the revised RFI Phase II Report (U.S. EPA, 2005), the U.S. EPA included an enclosure with a list of monitoring wells to be sampled quarterly for the purposes of "time-dependency and area coverage in mind" which include the following 19 monitoring wells:

- MW01-02, MW01-04, MW01-04CD, MW01-10, MW01-13 (sewer backfill), RW01-05, MW02-03, MW02-03CD, MW02-03SE, MW02-06, MW02-06CD, MW02-08, MW02-08CD, MW02-08SE, MW02-09, MW02-10, MW02-11, MW02-11SE, and MW02-13.

The U.S. EPA also requested that hydrogeologic cross-sections be prepared quarterly utilizing the analytical results from each quarterly monitoring event. The completed cross-sections are provided in Appendix III.

In order to evaluate certain remedial treatment options for the development of proposed corrective measures on and off the Facility, Vernay is collecting a suite of ground water monitoring data from six monitoring wells quarterly:

- MW02-06, MW02-06CD, MW02-08, MW02-08CD, MW02-09, and MW02-10.

Annual Monitoring

To support the verification of the CA725 determination and the RFI risk assessment conclusions, Vernay is following up annually with the property owners having water wells identified in the water well survey area. In addition, during the corrective measures study, Vernay is resampling those water wells annually that are identified as currently being used for potable or non-potable purposes within the defined survey area downgradient from the Facility. During the Third quarter 2006, Vernay verified that five private water wells are being used within the survey area, downgradient of the facility. These used water wells were sampled during the 2006 annual water well survey follow up. The water well sampling activities completed in 2006 verified the conclusions of the approved CA725 EI. All current human exposures to ground water contamination are under control.

First Quarter Monitoring Results

The monitoring well network and first quarter sampling locations are shown on Figure 1. In addition to showing the monitoring well network for the upper, middle and lower zones of the

Cedarville Aquifer, Figure 1 shows the verification that constituents of concern (COCs) are below a drinking water criteria at the outer perimeter of the area of "contamination" (COCs include tetrachloroethene, trichloroethene, cis-1,2 dichloroethene, vinyl chloride and 1,2-dichloropropane). Concentrations of all VOCs from the monitoring well network are summarized on Table 2. Detected concentrations of VOCs from aqueous QA/QC samples are also summarized on Table 3. Treatability parameters are summarized on Table 4. Electronic copies of the laboratory analytical reports, data validation memoranda and ground water sampling forms are included on a CD-Rom in Appendix I.

2. Monthly Operation and Maintenance Activities

Data associated with the existing ground water interim measure were collected monthly during the third quarter. These data include water samples analyzed for VOCs from the ground water treatment systems of the capture zone and the utility tunnel sump operating on the Facility. Water level measurements from the entire RFI monitoring well network are collected on a quarterly basis during the post-RFI. Quarterly water level elevations are summarized in Table 5. Potentiometric contour maps generated for the Cedarville Aquifer during the first quarter are presented in Appendix II. As part of the routine maintenance of the GWCTS, the pump in CW01-02 was replaced on February 23, 2006.

Water samples collected from the Ground Water Capture Treatment System (GWCTS) 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 (UTSTS) 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.

3. Environmental Indicators Report for Ground Water (CA750)

To fulfill the requirements agreed to under the Corrective Action Order, Vernay submitted a draft CA750 EI for U.S. EPA review on April 11, 2006, 60 days prior to the required date. On September 15, 2006, Vernay submitted a CA750 EI report based on comments received during teleconference meetings with the U.S. EPA on July 20 and 21, 2006 relating to the April 11, 2006 draft CA750 EI. The U.S. EPA provided supplemental comments on during a teleconference meeting on December 13, 2006. These supplemental comments focused on the potential for DNAPL at the Cedarville/Springfield formational contact. Prior to the U.S. EPA approval of the CA750 EI report, Vernay agreed to provide a response to these supplemental comments in the first quarter of 2007. Draft comments were provided to the U.S. EPA on March 15, 2007 in Technical Memorandum #5: Potential for Occurrence of DNAPL at the Cedarville/Springfield Formational Bedrock Contact.

4. Evaluation of Corrective Measures Objectives and Preliminary Remediation Goals

In order to propose a final remedy for the Facility (with implementation to follow after U.S. EPA approval of the proposed remedy), Vernay continued the process of determining corrective measures objectives (CMOs) consisting of goals for protecting human health and the environment.

5.

Water Well Survey Follow-Up and Sampling

During the first quarter, Vernay completed its follow-up with known water well owners within a defined survey area beyond the Facility. Vernay also determined the property transactions that occurred within the well survey area, and followed-up with these new owners to document any changes that may have occurred with respect to the original well survey response that was obtained (i.e. was a water well installed by the new owner?). The conclusions of the 2006 water well survey included the following:

- The 2006 change-in-water well use survey generated a response rate of 93 percent (13 of 14 identified properties). No property owners responding to the 2006 survey reported a change-in-use for their water wells.
- The 2006 new property owner survey generated a response rate of 100 percent (15 of 15 identified properties). Five properties from the 2006 new property owner survey indicated a different response from the initial 2003 well survey. However, no new water wells were reported by the property owners.
- The well survey, sampling, and closure activities completed in 2006 verified the conclusions of the CA725 EI; all current human exposures to known ground water contamination are under control.

Vernay documented the methodology and results of the annual well survey, sampling and abandonment in the March 16, 2007 "2006 RCRA Corrective Action Annual Water Well Survey Report" which is provided in Appendix IV.

C. PROBLEMS ENCOUNTERED DURING THE QUARTER

No problems were encountered during the quarter.

D. ACTIONS TAKEN TO RECTIFY PROBLEMS

No actions to rectify problems were required this quarter.

E. PROJECT SCHEDULE

The following activities are planned for next quarter (Q2-2007).

- Continue monthly monitoring of existing interim measures and quarterly water level measurements.
- Perform the second quarter sampling event.
- Continue the determination of preliminary remediation goals and corrective measures objectives for the Facility.
- Continue corrective measures evaluation.
- Await any comments from the U.S. EPA regarding the draft Technical Memorandum #5.

Future SOWs will be based on the project schedule presented on Table 8 and on potential U.S. EPA comments to the CA750.

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I: CD-Rom Containing Adobe Acrobat® Documents:
A. First Quarter 2007 Progress Report (excluding laboratory analytical reports)
B. First Quarter 2007 Laboratory Analytical Reports
C. First Quarter 2007 Data Validation Memoranda
D. First Quarter 2007 Ground Water Sampling Forms

II: First Quarter 2007 Potentiometric Contour Map for the Cedarville Aquifer

III: First Quarter 2007 Hydrogeologic Cross-Sections with Contaminant-Concentration Contours

IV: 2006 RCRA Corrective Action Annual Water Well Survey Report