

H. 532 Section 5 Study

Monthly Progress Report August 2007

Prepared for:

CLF Ventures

Compiled by:

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Background:

The Section 5 study is being conducted in two Phases. Phase I of the Section 5 Study was completed in January 2007, culminating in a detailed Phase I project report. Phase I focused on the assessment of existing data and studies, and led to the identification of new data to be collected in Phase II. The current stage of the Section 5 Study involves continued data collection and interpretation, leading to an holistic assessment of environmental and public health impacts.

Phase II progress highlights:

- Hydrogeology and Surface Water
 - As a result of last month's perchlorate sampling results at the Hogback Quarry, additional water samples were taken for perchlorate analyses. These samples included groundwater from residential wells near the Hogback quarry, surface water from a new sump in the quarry floor, and water at the surface discharge locations. The surface water was sampled on August 7, 2007; the residential wells were sampled on August 17, 2007. Additionally, replicate samples of groundwater from the residential wells adjacent to the Verpol Plant as well as the site monitoring wells were also analyzed for perchlorate. Results of some of this sampling were reported in our memorandum of August 23, 2007; additional results will be available in September.
 - Residential wells near the Verpol Site were sampled on August 6, 2007. Surface water samples on and off-site were sampled on August 7, 2007. These wells and surface water locations were sampled according to methods outlined in the Field Sampling Plan (FSP). Samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), flotation agent compounds, metals, and other parameters, as presented in the FSP. Results will be available in September 2007.
 - As discussed in our July 2007 monthly progress report, a sample from a discrete depth (intended to maximize groundwater flow) in Well B had been reported to contain 17 µg/L of arsenic. This result had been qualified by the laboratory with an "E," indicating the value was only an estimate, due to interference from other chemicals. We thus analyzed a resample from the same well, at the same depth, using a more specific analytical method (Method 7062/6020 Hydride Generation/ICP-MS): the reported concentration was 10µg/L of dissolved arsenic and 13 µg/L of total arsenic.

- Supplementary work at Smith Pond and its tributaries was conducted, including additional surface water sampling, fish collection and stream assessment. Preliminary results of this work do not indicate significant impacts.
 - The non-TMA potential source areas were investigated on August 9-10, 2007. This work included the excavation of a number of test pits ranging in depth from approximately 11 to 20 feet in depth. The excavated areas were selected based on discussions with existing and former long-time Omya employees. Preliminary results do not indicate that non-TMA are sources of pollution to groundwater in these areas.
- Air
 - The Hazardous Air Pollutant (HAP) Modeling Study has progressed through the stage of estimating pollutant concentrations in ambient air due to Omya emission sources facility-wide. Effort is now underway to determine whether any HAP concentrations present significant risks to health.
 - The data collection phase of the Dust Monitoring Study continued throughout August. Preliminary results are beginning to become available, subject to additional quality assurance checks.
 - Equipment problems have led to the loss of some data. There were some initial start-up problems with the solar power supply on the meteorological data station. A malfunctioning microbalance prohibited sampling on three days. The sampling program may be extended until late October to recover lost sampling days. Sporadic data losses at individual sampling locations are not expected to significantly affect the utility of the study.
 - Preliminary results from the July 23rd sampling event are depicted in attached Figure 1. The particulate matter concentrations are measured over a 24-hour period (midnight to midnight) and are measured by the filter-based PQ samplers (as described in the Phase II Air Work Plan). The pattern of concentrations depicted in Figure 1 should not necessarily be construed as typical — the pattern, as well as the magnitude of concentrations, will likely vary with each sampling event. In interpreting these concentration maps, we will be looking for trends among multiple sampling events. In Figure 1, the variability among concentrations measured at the nine locations may in part be due to the sensitivity/accuracy of measurement methods, a factor that will be considered in quality

assurance checks. Superimposed on Figure 1 is a wind rose (upper left) that depicts the pattern of winds at the Rutland Airport during the 24-hour period. The wind rose contains sixteen different arms, with the relative lengths of the arms indicating the frequency that winds originated from a particular direction. Each arm of the wind rose is broken into categories of wind speeds according to the color-coded legend. The longest arms of the Figure 1 wind rose indicate that most winds on July 23rd blew from the east toward the west — this sector accounts for more than 30% of all winds. Within this east-to-west sector, most winds are measured at speeds within the 7-10 miles/hour range (as indicated by the red coloring that makes up the largest portion of the arm). Wind rose data, in conjunction with concentration patterns, may be useful in identifying potential sources of ambient dust.

- Noise
 - On August 7, 2007, an all-day meeting was held at the Verpol Plant to review progress on addressing noise issues, and to establish a plan for further effort. This meeting was led by Mike Laurent, with assistance from Mallory McDonnell (Engineering Intern). Also present were Jason Ross of HMMH (Omya's acoustical consultant) and Lawrence Copley from the Section 5 team. In addition, two neighbors were present for the first hour or so — Umbert and David Rosato.
 - Omya's new acoustical monitoring instrument was received on June 21, 2007. Since that time it has been used to measure the acoustic signatures of numerous noise sources within the plant site. These sources were selected as being likely potential candidates for contributing significant noise at neighboring residences. In addition, the instrument has been used for monitoring noise at two nearby residences that have experienced noise from the Omya plant.
 - One of the exceptional features of the new instrument is its ability to capture audio recordings of selected events or for specified time periods. During the initial meeting with the neighbors, audio recordings of selected sources were played in order to determine if neighbors could recognize significant sources of noise. This subjective evaluation did identify two potential sources of tonal sound. However, it was evident to all that identification of noise sources is difficult, and further investigation will be needed in order to identify the dominant noise sources with any degree of certainty.

- After the neighbors left the meeting, there was a working session involving the following:
 - Collective review of acoustic signature data charts and associated audio recordings; discussion as to likely significant noise sources that merit further investigation.
 - Discussion of technical details for measuring noise source acoustical signatures, together with geometrical parameters, in order to determine the sound power levels by 1/3-octave.
 - Field reconnaissance to identify a suitable proxy location, unaffected by Omya noise, at which to conduct ambient noise monitoring. The purpose of this effort is to establish a goal for Omya's noise mitigation efforts.
- Quality Assurance / Quality Control
 - We have been examining the Liquid Chromatography/Tandem Mass Spectrometry method developed by TestAmerica (formerly Severn Trent Laboratories, or STL) to identify and quantify flotation agent chemicals in water samples. We are also undertaking a 100% validation check of each analysis of a single sample set (*i.e.*, analytical batch). (Remaining sample sets will be given a cursory review to ensure that the associated QC samples are acceptable). We are also performing a 100% validation check of all arsenic and perchlorate data.

Anticipated Work:

The following activities are planned for September 2007. Details of some of these activities are provided in the Phase II Workplans.

- Hydrogeology and Surface Water
 - Evaluation and analysis of groundwater and surface water testing results.
 - Evaluation of water levels, geophysical data, and hydrogeology.
 - Preparation of the Phase II report.
 - Follow up analyses for perchlorate.
- Air
 - Hazardous Air Pollutant Study
 - Preliminary estimation of health risks based on estimated pollutant concentrations in air.
 - Documentation for Phase II report.
 - Dust Monitoring Study
 - Continued sampling at monitoring locations.

- Collection of bulk dust samples and preparation of samples for chemical analysis.
 - Preliminary data evaluation and selection of filter samples for chemical analysis.
 - Submittal of filter samples to RTI for chemical analysis.
- Noise
 - Further measurements of noise source acoustic signatures, together with geometric parameters, in order to calculate the sound power levels by 1/3-octave for the likely candidate sources.
 - Noise monitoring at noise affected residences, with a different technique for audio capture that will give a more representative indication of the noise that has been found bothersome.
 - Ambient noise monitoring at a proxy location to determine typical ambient sound levels at residences unaffected by Omya noise.
 - Analysis, possibly computer modeling, to define the most significant noise sources that may require mitigation.

Preliminary TSP Concentrations (PQ Samplers) and 24-Hour Wind Data July 23rd, 2007

