

H. 532 Study Support

Monthly Progress Report Period Covering May 1, 2007 to May 31, 2007

Prepared for:

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Background:

The Section 5 RFP describes two Phases for the Section 5 study. Phase I of the Section 5 Study was completed in January 2007, culminated by 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 the continued delineation and implementation of Phase II data collection.

Progress on Phase II Tasks:

Phase II data collection and assessment was initiated in May 2007. Major activities included the start of field work on the Omya property for the hydrogeological investigation (which has progressed according to schedule) and detailed planning for the Dust Monitoring Study.

Phase II progress highlights

- Hydrogeology and Surface Water
 - Much of the activity in May 2007 was geared toward the installation and development of new monitoring wells. These new wells will serve two purposes. First, they will allow the Section 5 Study to more accurately determine the directions of groundwater flow at the Omya site. Second, they will allow for sampling and analysis of groundwater immediately downgradient of Tailings Management Areas (TMAs) to determine whether chemicals are entering groundwater due to disposal of tailings in the TMAs.
 - As outlined in the work plan, six new bedrock wells (J, K, L, M, N, P) were completed using air rotary drilling. These wells were drilled by Cushing and Sons under the direction of Geosyntec, including on-site logging of borehole geology. Well depths ranged from 180 to 340 feet deep with total well yields varying from 1 to 30 gallons per minute. Water levels were monitored using electronic water level recorders in nearby wells during drilling to develop qualitative information on the degree of hydraulic connection between different areas of bedrock.
 - Strike and dip measurements were taken on fractures at various outcrops throughout the site. These measurements together with the borehole geophysical data (discussed below) are used to provide information on fracture orientation which may be important to determine preferred zones of groundwater flow.
 - According to the workplan, borehole geophysical testing was completed in the new boreholes as well as existing monitoring wells 2 and B to identify water yielding fracture zones. The full suite of borehole geophysical testing was not completed in the new Well J due to an unstable borehole. This well is located downgradient of the dolomite quarry and yielded 30 gpm during drilling. The bedrock in this area is karstic and unstable. Due to collapsing of the rock walls of the borehole, an interior smaller diameter casing was installed as an attempt to seal off the unstable portion of the borehole. This met with some success,

however, one borehole geophysical tool became stuck in the well after the seal was installed. The tool was able to be retrieved, but further geophysical logging and discrete zone sampling using packers was considered too risky and was not completed. However, the well will be sampled during the larger groundwater well sampling round. The sampling method will be similar to the other wells that are not undergoing discrete sampling (*i.e.*, dropping the intake for the sample pump to the suspected fracture zone that is yielding water). The limited geophysical logging data collected at Well J indicate that the producing fracture zones are very distinct, allowing us to position the sampling intake point exactly at the producing fracture zone. This modified sampling method is the best approach to evaluate if chemicals from the Dolomite Quarry are migrating in groundwater.

- Discrete zone sampling was completed at wells K and L in May with wells B and 2 to be completed during the first week in June. Discrete zone sampling has an improved chance of detecting any chemical contamination that might be occurring because it focuses on potential zones of concentrated flow.
 - A representative from Heindel and Noyes gave Geosyntec personnel a tour of off-site surface water sampling locations.
 - Data input requirements for conducting the PIQ water balance were reviewed with Omya personnel. Omya will be installing equipment to help gather water level and flow data for the PIQ and the Johnson Quarry. The PIQ water balance is potentially important to understanding the pattern of groundwater flow and the interaction surface water and groundwater at the Site.
 - An on-site tour was conducted with long-time Omya personnel to discuss and field locate possible non-TMA sources to groundwater identified in the Phase 1. Based on these discussions and the site walkover, the initial areas of the investigation were refined, and it was determined that test pits will be excavated in certain areas for visual subsurface assessment of these possible non-TMA potential source areas. These test pits will help us evaluate whether disposal activities that may have occurred in the past might be potential sources of groundwater contamination.
- Air
 - An informational meeting was held on May 14th at the Maclure Library in Pittsford to explain plans for the Dust Monitoring Study that will begin in July. Project Team Members Michael Ames, Britt Holmén (University of Vermont Researcher, and Stephen Zemba were joined at the meeting by citizens and Oversight Team members. The scope of the Dust Monitoring Study was presented and discussed at a more detailed level than presented at the March 26th Oversight Team meeting, and the meeting was attended by many people living close to the Omya facility in the areas that the study. Pictures of monitoring instruments were provided to give residents an idea of what will take place during the period of the Dust Monitoring Study and how the data collected may help to determine the significance of Omya's contributions to ambient dust levels.

- Air monitoring instrumentation and supplies were ordered for the Dust Monitoring Study. Further effort was also made to identify more precise locations for monitoring stations.
- A meeting was held on May 15th at Omya to discuss additional data collected by Omya relevant to the Hazardous Air Pollutant (HAP) Study. The meeting was attended by Project Team members Michael Ames and Stephen Zemba. Information on source emission testing was provided by Omya along with an explanation of the origins of various chemicals detected in emissions and their relationship to Omya's manufacturing processes. This new information covers testing at the Verpol (main) manufacturing facility and should allow us to evaluate the significance of HAP emissions across the entire Omya facility. Further review and evaluation of the Omya emissions testing was conducted subsequent to the meeting and will accelerate in June 2007.
- Noise
 - Lawrence Copley (the Project Team's noise consultant) contacted Omya to (1) learn of progress on noise assessment and (2) set up procedures for monitoring Omya's progress. Equipment problems have slowed down Phase II work on noise, but work is expected to accelerate in coming months .

Anticipated Work:

The following activities are anticipated as next steps. Details of these activities are provided in the Phase II Workplans.

- Hydrogeology and Surface Water
 - Continued discrete zone sampling in bedrock monitoring wells
 - Installation of an overburden well near Bedrock Well A
 - Continued assessment of PIQ Water balance
 - Subsurface evaluation of Non-TMA potential source areas
 - Groundwater and surface water sampling round
 - Water level gauging
 - Water quality and habitat survey of Smith Pond and tributaries
- Air
 - The Hazardous Air Pollutant (HAP) Study will develop significantly based on detailed review and assessment of data received from Omya. An evaluation will be made as to whether Omya's additional data are sufficient to complete the HAP Study or whether additional Phase II data are required. Air dispersion modeling conducted for Omya by TRC Environmental Corporation, which estimates HAP concentrations in air based on measured emission levels, will also be reviewed and evaluated.
 - A second informational meeting targeted to members of the Florence community is planned to provide additional information on ambient air sampling within the Dust Monitoring Study (tentative date June 22nd). Plans for the meeting include

demonstration of monitoring devices and presentation of updated monitoring locations.

- Equipment for the Dust Monitoring Study will be tested and sampling filters will be conditioned and pre-weighed at the University of Vermont (Britt Holmén's laboratory) to prepare for mobilization of sampling (to begin in July).
- Noise
 - A meeting with Omya is scheduled for June 21, 2007, to review their progress on noise assessment and to develop a plan for Phase II noise monitoring and evaluation.