

**Solid Waste Management Facility
Fact Sheet**

Date: December 18, 2009

OPERATOR/APPLICANT: Omya, Inc.
61 Main Street
Proctor, Vermont 05765

AUTHORIZED REPRESENTATIVE: Michael Laurent, Environmental Manager

SOLID WASTE I.D. NUMBER: RU995
DEC PROJECT I.D. NUMBER: RU95-0193

FACILITY DESIGNATION: Solid Waste Disposal Facility

I. GENERAL

This Fact Sheet is required by Section 6-305(a)(5) of the Vermont Solid Waste Management Rules, effective June 12, 2006 (Rules) and pertains to certification of the OMYA Tailings Management Facilities (TMFs) at the Verpol Plant, located on Whipple Hollow Road in Pittsford, Vermont. The application was filed on May 8, 2009. This application was reviewed in accordance with the Solid Waste Management Rules.

The Omya Verpol Plant is located on approximately 385 acres, south of Whipple Hollow Road in Florence, within the Town of Pittsford, Rutland County, Vermont. Currently, tailings are disposed in unlined Tailings Management Areas (TMAs) located in former quarry areas identified as: (i) the Dolomite (aka Hard Rock) Quarry; (ii) the Kane & Drake Quarry; and (iii) the Loveland (aka Dog Leg) Quarry. Phase 1 of the proposed lined TMF is located in the Kane & Drake and Loveland TMAs; partially on previously disposed tailings, and partially on native ground. Subsequent lined phases are proposed for over the Dolomite TMA, and the valley between the Kane & Drake and Dolomite TMAs

The TMF design also includes a stormwater management basin that functions as a contingency tailings storage unit, and a leachate collection and conveyance system.

The unlined TMAs are being operated and closed under the authority of a 2-year interim certification issued on October 21, 2008. The interim certification will remain in force for those aspects of site management pertaining to the TMAs. This full certification will condition construction and operation of the lined TMFs, financial responsibility, and overall Verpol site environmental monitoring.

II. NOTICE OF APPLICATION

On May 8, 2009, Omya submitted an application to the Agency for Interim Certification for the disposal areas of the Verpol Plant.

On May 21, 2009, the Agency found that Omya's application for Interim Certification was Administratively Complete.

On August 14, 2009, the Agency issued a determination that the application was technically incomplete, and outlined deficiencies, omissions, and additional information needed for the application to conform to the Rules. On September 9, 2009, Omya submitted to the Agency a Response to Technical Review Comments.

On October 13, 2009, the application was found to be technically complete.

III. DETERMINATION OF CONFORMANCE WITH THE VERMONT SOLID WASTE MANAGEMENT STATUTES, RULES AND APPLICABLE PROCEDURES

SUBCHAPTER 3 - Applicability and Administration

Rule 6-303(d) Certification

Except for facilities that qualify for a categorical certification under 6-309, the Secretary may not certify a discrete disposal facility unless it is in compliance with the Groundwater Protection Rule and Strategy, as may be amended, adopted pursuant to 10 V.S.A. Chapter 48 Groundwater Protection; Vermont Water Quality Standards, as may be amended, adopted pursuant to 10 V.S.A. Chapter 47; and the laws of Vermont.

In accordance with the Groundwater Protection Rule and Strategy, the Secretary may not permit or approve of any activity in Class III groundwater that causes a violation of a primary or secondary enforcement standard (or a 110% increase in a secondary background concentration) at a compliance point. For the Verpol facility in its entirety, the compliance point is the downgradient property line. While iron and manganese have been detected above secondary groundwater standards beyond the property line, the data set is minimal and variable and the concentrations are within the range that is commonly found in area groundwater. There have been on-site detections of arsenic above the groundwater enforcement standard of 10 µg/l, and a single detection of arsenic at 10.4 µg/l in Well V, located on the north side of Whipple Hollow Road. As with iron and manganese, arsenic concentrations in groundwater in and around the site are variable without a clear contaminant plume.

As such, the Secretary finds that the facility is in compliance with the Groundwater Protection Rule and Strategy.

Rule 6-304 Application for Certification

The applicant submitted all components required when submitting an application for certification. The application can be reviewed at the Solid Waste Program Office in Waterbury, the Pittsford Town Office, or at http://www.omyainvermont.com/lib_reg.htm

Rule 6-304 (13) Planning

Evidence that the application complies with the planning requirements of 10 V.S.A. 6605(c). Such evidence may consist of a written supporting statement from the appropriate municipality, solid waste management district, solid waste alliance or regional planning commission that identifies the relevant part(s) of the plan(s). This evidence is not required in the case of a sludge or septage land application project;

On November 7, 2007, the Rutland County Solid Waste Management District adopted a Solid Waste Implementation Plan, and that plan was approved by the Agency on February 4, 2008. The Omya Verpol Plant facility is included in the Plan. Therefore, the solid waste planning requirements have been met.

SUBCHAPTER 13 – Management of mining and mineral processing waste**§ 6-1303. Application for mining waste or mineral processing waste facility certification.**

(a) **Any owner or operator of a facility not eligible for categorical mining waste certification pursuant to § 6-1302 shall apply to the Secretary on a form approved by the Secretary. The application shall include, at a minimum, the following information:**

(1) **A waste characterization report pursuant to § 6-1308.**

A waste characterization report was submitted with the application. See details below.

(2) **Information which sufficiently addresses the requirements and standards of § 6-1305.**

The application included information regarding the facility's compliance with the requirements and standards for mineral processing facilities.

(3) **A plan for effective public notice of the application.**

The application included an effective plan for public notice, including a notice for newspaper publication, nearby residents and landowners, and local and state governmental entities.

- (4) Evidence of fee simple title of the property to be used for the facility.**

Included with the application.
- (5) The name, mailing address, and phone number of the facility, and the name, signature, mailing address, and phone number of the owner of the facility, the operator of the facility, and the owner of the land on which the facility is located. If the operator is a different person from the owner of the land on which the facility is to be located, the owner of the land must sign the application for certification as a co-applicant and agree to be bound by the terms of the certification; and**

Included with the application.
- (6) The name, signature, mailing address and phone number of the person preparing the application.**

Included with the application.
- (7) The location of the facility using the Vermont plane coordination system on the appropriate Vermont orthophoto tax map or through the use of a global positioning system. The application shall also include a description of the limits on its horizontal and vertical development of the facility.**

Included with the application.
- (8) A list of all facility components used for the management of mining and mineral processing waste.**

Included with the application.
- (9) Evidence that the application complies with the planning requirements of 10 V.S.A. § 6605(c). Such evidence may consist of a written supporting statement from the appropriate municipality, solid waste management district, solid waste alliance or regional planning commission that identifies the relevant part(s) of the plan(s).**

Included with the application. See §6-304 (13) Planning, above.
- (10) Evidence of compliance with the disclosure requirements of the waste management personnel background review, pursuant to 10 V.S.A. 6605f unless the elements of the exception contained in 10 V.S.A. § 6605f(k) are met.**

During the 2005 the interim certification process, Omya filed the background disclosure forms that disclosed five environmental violations. Subsequently, the Secretary found those violations to have the potential to significantly harm the public health, public safety, or the environment.

10 V.S.A §6605f(b)(4) allows the Secretary to determine that an applicant with disqualifying criteria has demonstrated rehabilitation. Evidence of rehabilitation includes mitigation of any environmental damage caused, the post-violation compliance record, the retention of environmental compliance staff, contracting for independent compliance audits, and the institution of policies and practices to prevent reoccurrence of violations.

Omya submitted evidence in support of a demonstration of rehabilitation in the form of the development of an Integrated Contingency Plan, changes to control systems, additional staff training, site improvements, improved recordkeeping, and compliance with corrective measure requirements, and other rehabilitative steps. Prior to issuance of the interim certification, the Secretary found that Omya successfully demonstrated rehabilitation.

Omya re-filed the background disclosure forms for this full certification application. The disclosure statements represented no violations of environmental statutes, rules, orders, certifications or permits issued by any jurisdiction in the five years preceding the date of the certification application, May 8, 2009. All violations noted during the interim certification process were committed prior to May 8, 2004.

(11) Evidence of compliance with the financial responsibility and capability requirements of subchapter 9 of these rules, or a plan for achieving compliance with these requirements prior to the issuance of a draft certification.

The closure cost estimate for Phase 1 is \$2,351,480.00 and the cost estimate for 30 years of post-closure care is \$861,000.00. The Permittee has previously obtained an irrevocable standby letter of credit to ensure performance of closure and post-closure care for the existing TMAs. The total amount of the existing instrument is \$12,182,000.00. Of that, \$1,482,000.00 is to be used for closure of the Facility. \$10,700,000.00 is designated for post closure care of the TMAs. The existing letter of credit will be increased to incorporate closure and post-closure costs of the TMFs when the full certification is issued

(b) An application submitted by a corporation shall be signed by a principal executive officer of at least the level of vice-president or a duly authorized representative who is responsible for the operation of the facility.

The application was signed by Michael Laurent, Environmental Manager for Omya, and the company's duly authorized representative.

- (c) **The application shall be made under the direction of a professional engineer licensed in the State of Vermont, unless it is an application for recertification and the Secretary specially waives the requirement. The engineer shall make appropriate use of other disciplines including experts in geology, hydrogeology, and soils science, to assure compliance with all applicable standards contained or referenced in these rules. The engineer shall certify that to the best of his or her information, knowledge and belief the application is in compliance with such standards.**

The application was prepared under the direction of Eric Steinhauser, P.E., of Sanborn, Head, and Associates.

§ 6-1305. Facility requirements and standards

- (a) **The applicant shall provide the Secretary with detailed information on how the applicant will site, design, operate and close the facility, and manage and monitor the facility during the post-closure period.**

The certification application contains information regarding site characterization, engineering design of the facility, operations, monitoring, closure, and post-closure care.

- (b) **General performance standard. Facilities shall be sited, designed, operated, closed, and managed and monitored during the post-closure period, such that an emission or discharge from the facility will not unduly harm the public health and will have the least possible reasonable impact on the environment, as determined by the Secretary of Natural Resources.**

The application includes a characterization of the beneficiation waste, a study of the geology and hydrogeology of the Verpol site, updated environmental monitoring data, a numerical groundwater fate and transport model, and a facility management plan. As with the interim certification review process, the Agency also heavily relied upon the Section 5 Study report as the report contains supplementary information on site hydrogeology, water quality sampling and analytics, sampling methodologies, and a toxicological analysis of beneficiation waste.

The facility is designed with a single, 60-mil HDPE geosynthetic liner and leachate collection system, designed to capture the liquid percolating through the waste, and returning this liquid to Omya's calcium chloride production process. In effect, the TMF is a closed loop system.

Monitoring of the tailings, leachate, groundwater, surface water, and nearby drinking water supplies will be performed on a quarterly or semi-annual basis depending on the particular location. Monitoring required under this certification will incorporate both the unlined TMAs and the new lined TMF.

If necessary during the term of this certification, closure of the TMF will consist of a 40-mil LDPE geosynthetic overlain with appropriate soils.

Post closure care of the closed and capped TMAs is ongoing. Post-closure care of the TMF is provided for in the application, but should not be warranted during this five-year certification period.

Detailed information regarding the application's conformance with the general performance standard is found below in the remainder of Section 6-1305 and Section 6-1308.

(c) In order to meet the general performance standard in section (b) of 6-1305 the applicant must demonstrate the following:

(1) Site characterization standards, and requirements . The application shall include the following information on the siting of the facility:

(A) A site map which shows the location of the facility, access roads, and facility buildings.

The application included a detailed site map with general location of the facility, the facility "footprint," roads, buildings, appurtenances, stormwater management features, and monitoring locations.

(B) Information demonstrating that the facility is not sited in a prohibited area pursuant to § 6-502.

Part C, Section 3.0 of the application includes a statement that the facility is not located in any of the listed prohibited areas. Also included is a map indicating setbacks to property lines, water supplies, wetlands and surface waters, and Groundwater Source Protection Areas.

(C) That the facility is not located in areas that have serious development limitations, such as highly erodible soils, steep slopes, or do not have the physical capability to support the facility.

The application contains a statement that the proposal facility does not have serious development limitations, as the majority of it is sited on an existing TMA or former quarry. A portion of the TMF is location on steep slopes, but the design of the lining system accounts for this factor.

(D) That the facility is accessible from a state or federal highway or a Class III or better town highway.

As stated in the application narrative, the facility is located off Whipple Hollow Road, a Class 2 Town Highway.

- (E) Site characterization for disposal facilities. The characterization shall include information necessary to determine all paths of emission or discharge to the environment and shall be sufficient to model contaminant transport as required in subsection (c)(3) of this section utilizing waste characterization information required in § 6-1308. The site characterization must address, unless deemed non-applicable by the Secretary:**
- (i) Soils and surficial geology.**
 - (ii) Bedrock geology.**
 - (iii) Integrated groundwater geology and geochemistry.**
 - (iv) Topography.**
 - (v) Surface water.**
 - (vi) Groundwater location and flow direction.**
 - (vii) Prevailing wind speed and direction.**

Legislative Act 65 of 2005 required the Secretary of the Agency of Natural Resources to require through a certification that Omya complete a study of the human health and environmental effects of Omya's mineral processing of calcium carbonate in Florence, Vermont. A report of the results of the study (Section 5 Study) was to be submitted to the legislature before January 15, 2008. In general, tasks of the study included an evaluation of existing data/information and prospective additional studies pertaining to hydrogeology; ground water sampling and analytics; sampling methodologies; toxicological analysis of beneficiation waste and other waste; air quality, dust, noise and odor; data QA/QC and other research as necessary. OMYA chose to commence with this study in advance of issuance of a solid waste facility certification. Omya retained CLF Ventures to facilitate the process of completing this study through an oversight committee composed of interested parties. Cambridge Environmental, Inc. and Geosyntec Consultants, Inc., (Consultants) were selected by the oversight committee and contracted through CLF Ventures to complete the study. The Consultants commenced their work in July 2006, and the report was completed and submitted to the Legislature on February 19, 2008.

The Section 5 Study was designed to determine the health and environmental effects of the entire Verpol Plant area. Thus the site characterizations and conclusions reached in the study are applicable to the full certification, as the proposed lined tailings disposal area is within the study area. Additionally, since the completion of the Study, refinements of groundwater elevations and flows, and surface and groundwater interactions, have been ongoing as a function of the environmental monitoring program conditioned by the Interim Certification

(2) Design standards and requirements. The application shall include the following information about the design of the facility:

(A) Detailed information about the facility design.

The application contains sufficient detailed information about the disposal facility design, and the process that led to the chosen single-liner design. The application includes a design narrative, numerous plan sheets of various stages of facility development and construction details, and engineering calculations in support of the chosen design.

(B) Provisions for contingencies for the proper management of mining wastes or mineral processing wastes during both planned and unplanned events.

The application contains a contingency plan in the event of a prolonged stoppage of the Tailings Dewatering Facility. In such an event, a lined stormwater management basin with a capacity of 3.5 million gallons would be used to store the tailings slurry. Depending on the production rate of the Verpol Plant, this equates to two or three weeks of capacity. If repairs to the TDF could not be made during this period, the plant would be forced to cease production.

(C) For treatment facilities, an explanation of the treatment process and information that demonstrates that the method, technique, or process is designed to change the physical, chemical or biological character or composition of any mining waste or mineral processing waste, so as to neutralize such mining waste or mineral processing waste, or so as to recover energy or material resources from the mining waste or mineral processing waste, or so as to render such mining waste or mineral processing waste safer for transport, amenable for recovery, amenable for storage, or reduced in volume.

Although not considered a treatment facility, the installation of the TDF has allowed for drier, more consistently-sized tailings, which are believed to then be more marketable for other uses. The TDF is not an element of this certification.

- (D) Liner requirements. Disposal facilities shall have liner and leachate collection systems and appropriate provisions for leachate treatment unless the Secretary waives the liner requirement for disposal facilities, or portions of disposal facilities, that are designated solely to receive particular mining waste or mineral processing waste components that the facility has demonstrated will not be the source of leachate harmful to human health and safety or the environment or the creation of nuisance conditions.**

The design includes a single 60-mil HDPE liner installed over bedding soils or existing, compacted tailings, with a leachate collection system. The leachate collection system is designed to return the collected leachate back to the thickener in the TDF, where it becomes supernatant that is pumped to the Verpol Plant for use in the beneficiation process. There is no treatment for the leachate, as there is no discharge into the environment.

- (E) For discrete disposal facilities a description of how the facility design will adequately address:**
- (i) Seismic impact for lined disposal facilities.**
 - (ii) Closure of operational units during the facility life (capping plan). Operational units shall be designed for a life not to exceed five (5) years unless otherwise approved by the secretary.**
 - (iii) Control of surface water run on and run off.**
 - (iv) Drainage and ponding of water on the facility surface during operational and post closure periods.**
 - (v) A final cover system that is stable, minimizes infiltration, minimizes erosion, and is capable of sustaining native plant growth.**
 - (vi) A final cover system design that has a minimum slope of five (5) percent and a maximum slope of thirty-three and one third (33 1/3) percent. The maximum slope may be adjusted on a case by case basis.**

The application included an evaluation of the stability of the liner and capping systems under static and seismic conditions, utilizing the methodology in the ANR's Procedure for Incorporating Seismic Event Considerations into Municipal Solid Waste Landfill Siting and Design in Vermont. The evaluation determined that there are adequate factors of safety in the liner and capping systems.

The design capacity of Phase 1 of the TMF is 538,000 cubic yards. The maximum quantity of tailings to be disposed of per year is 100,500 cubic yards, although plant production is currently less, and beneficial reuse of the tailings is expected to decrease the disposal rate further. Omya expects to dispose of approximately 50,000 cubic yards of tailings per year; at that annual rate, Phase 1 has a lifespan of over 10 years. Phase 1 is divided into three cells, which will be incrementally closed as each is filled.

(F) Design of lined disposal facilities must also include:

- (i) A double liner system consisting of synthetic material with leak detection and leachate collection or a single liner with leachate collection.**
- (ii) Leachate collection systems designed to insure the depth of leachate does not exceed 12 inches over the liner.**
- (iii) A final cover system that includes a flexible membrane liner with a minimum thickness of 40-mil and if determined necessary, a gas collection system.**

The design includes a single 60-mil HDPE liner installed over bedding soils or existing, compacted tailings, with a leachate collection system. The leachate collection system is designed for a leachate depth on the liner not to exceed 12 inches, except following a 25year/24 hour storm. Leachate levels will be monitored daily, and an alarm system in the facility control room will notify the operator of high leachate levels.

The final cover system includes a Low Linear Density Polyethylene liner with a thickness of 40-mil. No gas is generated from the tailings; therefore, no provisions for gas venting are necessary.

- (G) Before the facility may commence operations, a professional engineer licensed in the State of Vermont must certify it was built in accordance with requirements of the certification and furnish a complete set of as-built drawings to the Secretary.**

Condition 8 of the Certification requires this information.

(3) Standards and performance.**(A) All facilities shall demonstrate:**

- (i) That the isolation distances from the high seasonal water table, bedrock, and waters are sufficient to assure that an emission or discharge from the facility will meet all applicable environmental quality and public health standards and rules;**

Assurance that the facility will meet all applicable environmental quality and public health standards and rules is based on the results of the contaminant transport model, and empirical evidence from past TMA operations. The model indicates that, given the composition of the tailings, the liner and leachate collection system will effectively reduce leachate discharge to the environment, regardless of the horizontal separation distance to groundwater or bedrock. The site characterization work and subsequent monitoring of groundwater, surface water, and drinking water, have not indicated that the existing, unlined TMAs, containing higher concentrations of the chemical of concern, have caused violations of environmental standards and rules. Therefore, the issue of vertical separation is primarily one of constructability of the lined TMF. Omya shall ensure that two feet of separation from the bottom of the liner to groundwater and bedrock shall exist prior to lining.

- (ii) That the isolation distance to public and private drinking water sources is sufficient to assure that an emission or discharge from the facility will not adversely affect drinking water;**

The distance to the closest public and private drinking water supplies are greater than 1000 feet. No drinking water supplies will be affected by the operation of the facility.

- (iii) that the isolation distances to property lines, or any of the following not owned by the applicant: residences, schools, day care facilities, hospitals, and nursing homes, are sufficient to assure that the facility will not:**

(I) result in objectionable odors off site of the facility;

(II) result in an unreasonable visual impact off site of the facility;

(III) unreasonably increase the level of noise detectable off site of the facility; or

(IV) otherwise adversely affect public health.

The distance from the edge of the TMF liner to the closest property line is greater than 300 feet, with the distance to residences commensurately greater. There are no schools, day care facilities, hospitals, or nursing homes in the area. The distances are sufficient to assure no objectionable odors, visual impacts, an objectionable increase in noise, or other adverse health effects.

(iv) The Secretary may request any additional information necessary to determine if a proposed facility meets the standards contained in this section.

(B) For disposal facilities, the demonstration required under subsection (c)(3)(A) of this section shall involve modeling of contaminant transport with a level of resolution sufficient to determine compliance with applicable environmental quality standards at applicable compliance points (e.g., drinking water, surface water or groundwater quality) taking into account waste characterization, site characterization, and facility design and operation. Specifically, the applicant shall demonstrate the mining waste disposal facility complies with the Groundwater Protection Rule and Strategy, as amended; and the Vermont Water Quality Standards, as may be amended.

A contaminant transport model was developed in 2006 for the interim certification application, and the model concluded that contaminants of concern would not leachate in the groundwater at concentrations that would exceed groundwater enforcement standards at the property line. The model was revised for the full certification application, accounting for the lined landfill design, recent analytical results from tailings solids testing, changes to the beneficiation chemicals, and further ongoing refinements of the site characterization. AEEA was the single contaminant modeled, as it was the only chemical to be leached for the dry tailings in concentrations above environmental or health standards. As should be expected, the model indicated that the single liner is effective in preventing leachate from entering the groundwater. The contaminant transport model concluded that the TMF should not cause violations of groundwater quality standards at the applicable points of compliance.

(C) For a new disposal facility or a lateral expansion of an existing disposal facility the minimum isolation distance from the waste management boundary to:

- (i) **public and private drinking water sources is 1000 feet.**

Public and private drinking water supplies are greater than 1000 feet from the proposed TMF.

- (ii) **residences, schools, day care facilities, hospitals or nursing homes, not owned by the applicant, is 1000 feet.**

Residences, schools, day care facilities, hospitals or nursing homes are greater than 1000 feet from the proposed TMF.

- (D) **The minimum isolation distance from the waste management boundary to property lines is:**

- (i) **300 feet for new facilities; or**

- (ii) **100 feet for the lateral expansion of an existing facility.**

The distance from the edge of the TMF liner to the closest property line is greater than 300 feet.

- (d) **Facility management plan - Operation requirements and standards.**

- (1) **The facility management plan for all mining waste or mineral processing waste facilities shall provide the following information:**

- (A) **A description of how adequate and qualified personnel will be retained to operate the facility.**
- (B) **An operator training plan that assures all personnel involved in the handling of mining waste or mineral processing waste receive training to ensure the facility's compliance with these rules and conditions of certification.**
- (C) **Identify a contact person or persons who will be on site during the hours of operation and a contact person or persons in case of emergency.**
- (D) **Information demonstrating how the facility shall be operated to minimize an emission or a discharge of contaminants from the facility and to minimize the threat from an emission or discharge should one occur.**

- (E) **Information to demonstrate that the facility shall be operated only for treating, storing, recycling, or disposing of mining waste or mineral processing waste and shall not be used for the disposal of any other solid waste.**

Part D of the application contains Operational Information. Part D and the Response to Technical Review Comment Letter describe daily operations, disposal facility development, leachate collection, and contingency planning. The information presented in the Facility Management Plan is fitting and of sufficient detail to comply with the above standards.

- (F) **Information to demonstrate compliance with closure and post closure requirements of subchapter 10 of this rule. Subchapter 10 states:**

The closure plan must identify steps necessary to completely close the facility at any point during its intended life.

- (1) A description of the steps necessary to close the facility;**
- (2) a listing of labor, materials, and testing necessary to close the facility;**
- (3) an estimate of the expected year of closure;**
- (4) a schedule for final closure including, at a minimum, the total time required to close the facility and the time required for the various steps or phases in the closure process;**
- (5) a cost estimate for facility closure that satisfies the requirements of Section 6-1004;**
- (6) a description of the methods for compliance with the closure requirements; and**
- (7) any remedial action necessary prior to closure, if required by the Secretary pursuant to Section 6-311.**

The closure plan is contained in Part D-2 of the application. The closure plan adequately describes the steps necessary to close the facility, the schedule and timeframe for closure, and the cost estimate of closure.

The closure cost estimate shall be based on the work required for a third party contractor to effect proper closure at the point in the life of the facility when closure would be most expensive. Those factors to be considered in estimating the closure cost shall include at least:

- (1) the size and topography of the facility;**
- (2) the daily and weekly tonnage to be received at the facility;**
- (3) the availability of cover and fill material needed for facility grading;**
- (4) expected amounts of leachate production and requirements for treatment and disposal;**

- (5) **plans and methods of disposal at the facility;**
- (6) **the location of the facility and the character of the surrounding area;**
- (7) **requirements for surface drainage;**
- (8) **leachate and gas collection and treatment systems, as required;**
- (9) **environmental quality monitoring systems, as required;**
- (10) **structures and other improvements to be dismantled and removed;**
- (11) **facility storage capacity for the types of wastes being received;**
- (12) **off-site disposal requirements;**
- (13) **an appropriate forecasted average rate of inflation over the active life of the facility; and**
- (14) **vector control requirements.**

The post-closure plan is included in Part D-2, and adequately describes surface water, groundwater, and drinking water monitoring; and maintenance activities. Post-closure cost estimates are reasonable, and consider of the factors above.

- (2) **For disposal facilities, the facility management plan shall provide the following information:**
 - (A) **The identification of adequate horizontal and vertical benchmarks to be maintained throughout the life of the facility.**

Horizontal and vertical controls are in place throughout the site, and will be maintained. Additionally, the Certification requires Omya to install and maintain markers indicating the edge of the landfill liner.
 - (B) **Engineering plans that demonstrate how lift development ensures proper drainage and prevents ponding.**

The Facility Management Plan and the Response to Technical Review Comment Letter contain the narrative that describes lift development, transitions between cells, and grading to promote stormwater runoff.
 - (C) **An intermediate and final cover plan, as may be necessary, to control any potential odors, dust, or nuisance conditions.**

There are no intermediate cover plans. Odors, dust, and nuisance conditions are not expected. Final cover plans are detailed in Part D-2 of the Application.

- (D) A final cover plan. The plan shall ensure that the operator of the facility inform the Secretary when final grades or capacity limits have been reached. The plan shall ensure that the final cover system will be in place within ninety (90) days of attaining final grades, final capacity, or of the last date of receipt of solid waste for disposal. The plan shall ensure that grass or ground cover will be established within four (4) months of final cover. The Secretary may extend the requirement for grass or ground cover due to weather conditions.**

No response necessary.

- (3) The Secretary may require additional measures within a facility management plan if the Secretary determines such measures are necessary to protect human health and safety, the environment, or to prevent the creation of a nuisance.**

The Certification requires Omya to continue to perform environmental monitoring in accordance with the *Approved Site Monitoring Plan (ASMP) – Omya Verpol Plant*, prepared by Geosyntec Consultants, Inc. The plan is a modification of the site monitoring plan approved under the Interim Certification. Modifications to the plan are based on monitoring results to date, tailings analyses, and an enhanced understanding of the hydrology and hydrogeology of the site. Modifications include the elimination of redundant monitoring locations and extraneous parameters. Site monitoring remains comprehensive and capable of detecting possible groundwater, surface water and drinking water impacts.

The Facility is not a source for vectors, wind blown debris or odors. The operations at the facility are designed to prevent spills. Beneficiation waste is moist, and dust is not expected to be problematic during normal transport and disposal operations. Dust control procedures include routine watering of service roads during dry periods, and the incremental closure of portions of the TMAs that have attained final elevations.

- (g) The operator shall take all practicable steps to prevent the inclusion of hazardous wastes, as defined and regulated by Vermont's Hazardous Waste Management Regulations, into the waste stream being managed by the facility.**

The facility is a monofill and does not accept any waste materials other than the tailings from the beneficiation process.

- (h) Access to the facility shall be controlled, as appropriate, in a manner approved by the Secretary**

Access to the site is controlled by a gate at the entrance on Whipple Hollow Road.

§ 6-1308. Mining or mineral processing waste characterization report.

At the request of the Secretary, or as required by § 6-1303(a)(1), the applicant shall provide the Secretary with a mining waste or mineral processing waste characterization report showing the following information:

- (1) A description of the mining and industrial process or processes that are taking place at the facility including a process flow diagram.**

Part B-I of the Application comprehensively describes the mining and mineral processing that occurs at the Verpol Plant, and results in the generation of tailings to be disposed of in the TMF. A process diagram is included.

- (2) A detailed description of all materials processed which generate mining waste or mineral processing waste including identification of:**

- (A) reagents, chemicals or additives used in the mining and industrial process and the point added in that process including the amount used per year and an estimate of the amount in the waste using a mass balance analysis. A copy of the material safety data sheets for each reagent, chemical or additive used in the industrial process shall be included; and**

- (B) natural contaminants (including heavy metals, metal salts, fluorine, radioisotopes, asbestos, arsenic) present in the material that is processed.**

Part B-II of the Application includes a detailed description of all the additives used in the beneficiation process, with MSDS sheets as attachments. Analytical results of the total and leachable inorganic contaminants present in the tailings are also included.

- (3) The annual amount of mining wastes or mineral processing wastes proposed to be treated, stored, or disposed.**

Part B-III of the Application reiterates the quantities of wastes represented in Part A (Administrative). The operating capacity of the Facility at the time of issuance of this Certification is 49,489 tons per year, and the maximum capacity is 150,000 tons per year.

- (4) The results of analytical tests of extract from representative samples of the mining waste or mineral processing waste to determine the concentration of metals, organic compounds, volatile compounds, semi-volatile compounds or other contaminants. The analytical results shall be presented in a format approved by the Secretary.**

Part B-III of the Application contains this information. Representative samples of the tailings have been collected, and the liquid extracts analyzed for volatile organic compounds, semi volatile organic compounds, perchlorate, acrylamide monomer, metals, and flotation reagents compounds (TOHI, TAA, and AEEA).

- (5) A statement that the applicant has examined alternatives to reduce the amount of reagents, chemicals, or additives in the mining waste or mineral processing waste. The statement shall include potential reuse and recycling options explored by the applicant for the waste. The statement should include a brief description of the alternatives considered and the conclusions reached.**

Part B-III of the Application describes the efforts Omya has made to develop markets for the tailings, including lessening the concentration of AEEA, a contaminant of concern, in the beneficiation process, and the construction of a mechanical tailings dewatering facility. Pilot projects have been undertaken for the use of tailings in several markets. A condition in the certification requires yearly reports to the Secretary on the status of beneficial use of the material.

- (6) Any additional information that the applicant or the Secretary believes would assist the Secretary in accurately characterizing the mining waste or mineral processing waste.**

END OF FACT SHEET