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April 18, 2006

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RE: OMYA Solid Waste Facility Interim Certification Application – Technically Incomplete

Dear Mr. Laurent:

The Solid Waste Management Program (Program) has completed its initial technical review of the Interim Certification Application – Tailings Management Areas – Verpol Plant, prepared for Omya by Sanborn, Head & Associates (SHA), and received by the Solid Waste Management Program on August 15, 2005. The application was found to be administratively complete on October 11, 2005. The application consists of *Volumes I, II, and III* of the submittal referenced above, and the Numerical Groundwater Fate and Transport Modeling Report, also prepared by SHA, and received on December 27, 2005. The Program also received the December 22, 2005, "Semi Annual Water Testing" results during the application review, and consider that document to be supplemental information.

A number of items need to be addressed before the application can be considered "technically complete" and a draft certification and fact sheet issued. Some of the following comments are meant as a confirmation of the material presented, or as a simple statement of our position, but the comments in *italics* require a response from Omya. Please address the following comments, and if changes to the application are warranted, our preference is that Omya simply revise the application text and resubmit the amended sections. In this way, the amended application is a stand alone, corrected, final version.

The process from the initial request for an exemption from the Rules to a complete application has been lengthy, and has resulted in a plethora of reports, correspondence, data, and commentary. Much of the accumulated record has some relevance, but it also means that there is a substantial amount of repetition as this record has grown, and that the application does not "flow". This is not intended as a criticism, but only an acknowledgement of the complexity and challenge of producing a quality application package. The Program's comments will follow the order of the application as much as possible, but quite frankly that was difficult as there are many cross references and inter-related attachments throughout the document.

Volume I of III – Administrative Documents and Facility Management Plan:

Executive Summary

In the Executive Summary, and in many other locations in the application, the facility is referred to as a "storage" facility, and the tailings are exhibited as being "stored" at the facility. While the Program is comfortable with the term "management" as in Tailings Management Areas, the facility is being certified as a disposal facility, and the tailings that are being placed in the TMAs are being disposed of, and not stored. The Program recognizes and applauds Omya's initiatives towards creating a market for the beneficial use of the tailings, but currently none exists, and therefore the tailings need to be disposed.

- *The application should be revised and all references to "storage" should be removed from the application.*

Any comments regarding the individual subsections of the Executive Summary will be incorporated with the detailed sections, attachments, and appendices of the application.

PART A - Administrative

No comments on Parts A-1 through A-6. These sections were assessed as part of the previous administrative review of the Application and found to be satisfactory. Included are the signed application form, property deeds, location maps, notices, and list of surrounding property owners. Omya needs to ensure that any copies of revisions and additions to the application be sent to the Pittsford Town Office and be kept at the Omya office to keep the both of those files current.

Part A-7 of the application addresses the planning requirements of the statutes and Rules. The relevant statute for interim certifications, 10 V.S.A. §6605b(b)(5), states… "that the operation of the facility is consistent with an approved plan, for the area in which the facility is located, or the state solid waste management plan." The relevant Rule, §6-306(5), states that the applicant must submit "evidence that the construction, alteration, continued operation of the facility or continuation of the activity is consistent with regional solid waste plans, if any, and the state waste management plan." Our review considers whether the operation of the Omya facility is consistent with both the Rutland County Solid Waste Management District (RCSWD) Solid Waste Implementation Plan (SWIP) and the State Solid Waste Management Plan (State Plan).

Regarding the RCSWD Plan, the Department has determined that the tailings are a solid waste, and that the Verpol Plant operation is a solid waste management facility. In its currently approved SWIP, the RCSWD "grandfathers" certain solid waste facilities. Section 6.6, entitled *Siting and Private Facilities,* states that the RCSWD grandfathers existing facilities in existence as of May 1, 1993. On July 7, 2005 RCSWD issued a statement finding that under the RCSWD SWIP the facility meets this grandfathering provision, which was included in the application.

Further, in the most recent version of the draft revised RCSWD SWIP, dated February 17, 2006, the OMYA facility is contained in a list of "Facilities Included in this Plan." While the draft plan has not been approved by the Secretary, and certification applications are judged against current plans, the 2006 draft SWIP does further support the "inclusion" finding. Because the Solid Waste Program approved the RCSWD's SWIP (June 30, 1993), as being in conformance with the State Plan, the operation of the facility is thereby consistent with the RCSWD's SWIP.

In order to issue a certification, the Program must find that the regional solid waste plan, that includes the facility applying for certification, is in conformance with the regional plan adopted under 24 VSA ch. 117. In other words, the RCSWD SWIP must be in conformance with the Rutland Regional Plan. The Program has evaluated the conformance of these two particular plans previously in the context of other certification applications. As a result, it has been found that the RCSWD SWIP conforms to the Rutland Regional Plan.

The State Plan is entitled "Revised Solid Waste Management Plan" and was adopted by the Agency of Natural Resources on August 31, 2001. Section I of the plan discusses progress in waste management since the 1989 State Plan and the status of current solid waste management. Section II of the plan presents the critical issues facing the State and sets forth action plans and goals for addressing these critical issues. Overall, very few of the action steps apply to specific facilities because the State Plan was developed and written primarily as a plan for ANR to implement and for municipal solid waste planning entities to use a standard by which to develop their own plans. With this in mind, several critical issues and action steps apply to the Omya application, and the following findings can be made:

- The determination of "consistency" with the State Plan cannot be based on any discussion of "wastes from mining operations" since the plan does not specifically mention this waste stream.

- Landfilling is recognized as a legitimate waste management option for industrial wastes. The operation of such a landfill would be consistent with the State Plan.

- The first critical issue identified in the State plan is to reduce waste through waste prevention, reuse and recycling and reducing the amount and toxicity of waste generated. The application for interim certification contains information that identifies recent OMYA process changes to limit discharges by recirculation process water (Part A-10, Page 8), and efforts to improve tailings environmental and reuse market quality (Part A-9, Page 10; and Part A-9, Golder Associates' Paste Technology Evaluation). It is in Omya's best interest to reduce the quantity of tailings produced, to lessen the chemical contamination load of the tailings, and to establish a viable market for the tailings.

- The third critical issue identified in the State Plan is Ensuring Environmentally Sound Waste Management Facilities. Given the regulatory history of this facility, this critical issue is being addressed by Omya's submittal of an application for certification and the State's review of that application and is consistent.

Based on the information presented, for the purposes of interim certification, the operation of the facility is consistent with the State Plan.

Part A-8, Financial Assurance - For the application to be technically complete a specific plan for financial assurance evidence must be included with the Application. This plan would include the type of instrument and the financial institution to be used.

- *Please revise the application to indicate which financial institution will be capitalizing the surety bond.*

The Application states that the surety bond will be posted after issuance of the interim certification. Please note that the financial instrument must be capitalized prior to us issuing a final certification. Also please see Appendix B of the Rules- Financial responsibility and capability; discussion and forms. You will note that a Financial Guarantee Bond (a surety bond) must also have a standby trust established.

The remainder of the language in the application in regard to the surety bond conforms to that of Appendix A of the Rules and is acceptable.

Part A-9, Background Disclosure, was reviewed as an element of the administrative completeness review. Omya was informed on November 30, 2005, that the Program was anticipating denying the application as a result of past environmental violations. OMYA preemptively submitted information on November 11, 2005, intending to demonstrate its rehabilitation as allowed under 10 V.S.A. §6605f. On December 16, 2005, the Program determined that Omya has rehabilitated the past violations, and that the technical review would commence.

Part A-10, Statutory and Regulatory Responses, is, effectively, justification for interim certification. That is, facilities that do not qualify for "full" certification may be issued an interim certification if additional information is submitted in accordance with Rule §6-306 and 10 V.S.A. §6605b, and the Secretary makes affirmative findings.

Omya lists the following deficiencies or areas of Rule non-compliance which presently preclude the site from full certification:

a. Minimum isolation distance to seasonal high water table (§6-503(b)(4))
b. Minimum isolation distance to bedrock (§6-503(b)(4))
c. Minimum isolation distance to a property line (§6-503(b)(4))
d. No liner or leachate collection system (§6-606(b)(2)(A))
e. Final cover system design (§6-606(b)(2)(M))
f. Maximum finished slope grades (§6-606(b)(2)(N))

On Page 2, Omya asserts that tailings disposal in the Kane & Drake and Loveland areas commenced prior to July 1, 1987, so that these areas are not required to be lined in accordance with Rule §6-606(b)(2)(A). This assertion is irrelevant since 10 V.S.A. § 6605b(b)(4) requires that the facility be operated in a manner that will not create an unreasonable risk to public health or the environment. The Program believes that this is best accomplished by both the Kane & Drake and Loveland TMAs demonstrating conformance with the performance standard of the Rules. That is, the facility shall be located such that an emission or discharge will not unduly harm the public health and have the least reasonable impact on the environment (§6-503), must be in compliance with all applicable environmental quality standards (§6-603), and must be designed to minimize the possibility of an emission or discharge (§6-606)(a)(1).

- *Please delete all references to the issue of applicability of the 1987 liner requirement date*.

Necessity and Public Benefits (2.0) - Omya asserts (1) that the tailings are an unavoidable byproduct of the calcium carbonate refinement process, given present methodology, (2) that transporting the tailings to an alternative disposal facility is impractical, expensive, and environmentally damaging, if feasible at all, and (3) that the continued operation of the Verpol Plant is economically beneficial to the Rutland region and Vermont as a whole.

The Program does not require any additional information under this portion of the application.

Assessment of Currently Available Management Methods (3.0) - Omya states that in the future they will alter the process to (1) discontinue the use of the initial settling cells for dewatering, (2) discontinue the use of the Kane & Drake Quarry for dewatering, (3) reduce the liquid fraction of the tailings, (4) institute "paste technology," and (5) continue to explore the markets for beneficial uses of the tailings. The Program agrees that these changes are constructive by resulting in less process water potentially entering the environment and making for a more manageable material. And, of course, finding a market for some percentage of the tailings would be an economic plus. Conversely, paste technology does not reduce the volume of tailings needing to be managed. See comment in (4.0) below.

Regarding paste technology, we recognize the benefit of the process in regards to materials handling, but there is insufficient information to determine why the amended tailings would be more marketable as a product.

- *Please provide the Program with information on the benefits to tailings that contain a low percentage of bentonite, other than a drier consistency.*

- *Explain whether not having clay in the mix would detract from the marketability of the material.*

Assessment of Reasonable Alternatives (4.0) - For "reasonable alternatives" Omya cites the high cost of off-site disposal, the lack of landfill capacity, and the environmental consequences of remote disposal. These are all legitimate validations for disposal in the existing areas, but there was no discussion of increasing the efficiency of the calcium carbonate process, and thus decreasing the volume of tailings produced. Waste prevention is always preferable to reuse or recycling.

- *Please provide the Program with information explaining whether there is any expectation of reducing the volume of tailings produced at some future time*.

- *Please provide the Program with information discussing potential technological changes to the beneficiation process that would reduce in less waste produced.*

Schedule to Close or Obtain Full Certification (5.0) - This portion of the application states that Omya will use the interim certification period to pursue new technologies for improving the operations and for marketing the tailings. The application also states that a full certification application will be submitted for the remaining capacity in the Kane & Drake, Loveland, and Dolomite Quarries but variances are not discussed nor is there other information demonstrating that full certification would be plausible in two years.

The schedule to obtain full certification, or closure, needs to be detailed with definitive actions and timeframes for each. Omya cannot simply continue to operate the TMAs as accustomed for an interim certification period, if one is issued, then re-apply for second two-year period. In accordance with the provisions in 10 V.S.A. §6605b, the application must contain specific information concerning how Omya will meet all requirements for full certification or proper closure after the initial interim certification period, and we need to find the information sufficient and realistic, in order to issue the interim certification. **This is a major omission in the application.**

- *Please provide the program with amendments to the application that show a schedule to obtain full certification under existing rules, or closure for the facility, and definitive actions and timeframes for each activity.*

Monitoring (6.0) and Risk Evaluation (7.0) - Both of these topics are detailed in later sections of the application and the comments will track those sections.

PART B – Facility Management Plan

The Facility Management Plan is a condensation of many of the other sections of the application. Comments on the FMP are included below, but may be detailed or repeated in related sections.

Introduction (1.0), General Site Information (2.0), Site Characterization (3.0) - No comments on these subsections of the FMP. Specific comments on risk, hydrogeology, tailings characteristics, environmental monitoring will be made in the later review of Volume II of III of the application.

Facility Design (4.0) - Subsection 4.1 repeats the assumption that the Kane & Drake quarry is exempted from the statutory and Rule requirement that landfill be lined. See comment under Part a-10 above.

- *Please delete the language referencing the Kane & Drake Quarry as exempt from the liner requirements.*

Subsection 4.1 contains a brief discussion of the potential for gas generation from the tailings. Omya's conclusion that the inorganic nature of the tailings will preclude the generation of significant decomposition gases appears reasonable. A gas monitoring plan is required under the interim certification section of the Rule §6-306(b)(4*).*

- *Does Omya contend that a gas monitoring plan is unnecessary? If so, please make this position clear in the application.*

Subsection 4.2 briefly discusses the final grading plan, which is then presented (and will be reviewed) in depth in the later Engineering Design and Operations Plan. Supplementing the final grading plan is the slope stability assessment that is also presented in the Engineering Design and Operations Plan. That stated, the subsection relates that some existing final slopes are steeper than the 3H:1V slope allowed by Rule §6-606(b)(2)(N). Omya is contending that these slopes are stable and is proposing not to regrade them to conform to the Rules. The Program has comments on the slope stability analysis, but does not disagree with these conclusions. As such, under the allowances of an interim certification, the currently finished slopes may remain as they are; however, this area of non-compliance must be corrected during the interim certification period, or a variance must be obtained, in order to gain full certification

Subsections 4.3, 4.4, and 5.0, regarding stormwater management, the final cover system, and facility operations are detailed further in Volume III of the application, and will be commented on later in this letter.

Volume II of III – Site Characterization Report, Monitoring Plan, and Supporting Data:

Part C-1, Site Characterization Report

Much of the information and data that is incorporated into this Part of the application has been submitted and reviewed previously during the original solid waste rule exemption determination, then the Commissioner's Final Determination process, then the reconsideration of that determination, and finally during the planning of the numerical modeling and environmental monitoring program. Over time, the information has been augmented and refined, and additional data have been collected and validated. In the process, many site and tailings characterization issues have been raised and addressed. In general, the Program has accepted Omya's and the consultants' site characterization efforts and work products thus far. Those efforts now have to be linked to the certification requirements including the additional justifications for issuing an interim certification.

Executive Summary

Any comments on the Executive Summary are withheld to correspond to specific sections of the Site Characterization.

I. Introduction

No comments.

II. Tailings Characterization Methods

"Worst Case" design concentrations for several of the substances listed in Table 1 were derived from mass balance equations. These include TOHI, Polyacrylates, and Phosphorus.

- *Please provide copies of the mass balance equations referenced above and discuss the contents of those equations.*

A Draft Discharge Permit from the Wastewater Management Division was issued for the OMYA facility in Florence on April 10, 2006. Appendix A of the draft permit includes a list of chemicals used in the industrial processes at the facility. The list in Appendix A of the draft permit does not match information provided to the Program in the Application. On page 3 of the Site Characterization Report there is a table with a column showing "substances Listed on the NPDES Permit". There is no reference in the table to the date of the NPDES Permit referenced in the Application. In order to characterize the tailings, the list included in the application should be updated to include all chemicals used at the OMYA plant. It is understood that chemicals with different names may have the same chemical composition depending on the supplier or concentration. However, it is important for the purposes of reviewing this application to have a complete list of the chemical compounds used in calcium carbonate processing at the OMYA plant.

- *Please provide Material Safety Data Sheets (MSDS) for chemicals used at the OMYA Plant.*

- *Provide an explanation for the differences in the list of chemicals in the August 2005 Application submittal and the list in the March 2006 submittal to the Wastewater Management Division. Identify any chemicals on the list which are not currently used in the process.*

- *Historically, were there any chemicals used in the process which are not included in analytical test methods used by OMYA in recent years on tailings samples or water quality samples? If so, provide information about these chemicals.*

III. Site Characterization Methods

No comments. This section is basically a description of geologic methods, monitoring well installations and the resulting well network, and past water quality sampling and analyses.

IV. Tailings Description

Section A., Physical Description, states that tailings particle size ranges from 1 to 100 micrometers, based on past testing performed by GeoDesign. That represents a large range in size, and the reference in Appendix 3 shows this graphically.

The samples were taken at one time in different surficial locations of one settling basin, and therefore may not represent older tailings, or homogenous tailings. We are aware that Omya has done extensive characterization of the recent tailings in an effort to market the material for a beneficial use.

- *Please provide the conclusions of the Geodesign tailings size study, particularly in regard to particle size variability.*

- *Please provide other available grain size data, and compare with the range presented in the application.*

Both the second and third bullets of the discussion of tailings permeability should have references included.

- *Please provide the Program with copies of the GeoDesign, GeoTesting Express, and Golder Associates permeability data.*

Section B, Chemical Profile. Perhaps this issue should have been addressed before, as "typical" chemical concentrations of the tailings and their leaching characteristics have been presented for quite some time. The Program does not agree that the use of a 95% confidence level is appropriate in this instance for typical TOHI leachate concentrations. Parameters in Table 7, the concentrations of contaminants in the tailing themselves, are presented as "worst case." The Groundwater Rules require, with exception, the calculation of the 95% confidence level when comparing groundwater quality data (the mean, specifically) to a known standard. But that is different from a calculation of the theoretical design concentration.

Using TOHI as an example, H&N calculated the mean as 203 ppb, and a 95% confidence interval of 178 to 228 ppb. Interpreting the statistics, the data indicate that we are 95% confident that the true mean falls between 178 and 228 ppb. The upper confidence level does not indicate that, for instance, 95% of the samples will be below that concentration, which seems to be the implication from the application. This is quite obvious from the TOHI leachate results on page 12 of Appendix 3, where 20 out of 49 sample results were greater than the 228 ppb upper confidence limit.

- *The Program believes that worst case numbers should be applied in consideration of leachate data or Omya should provide a detailed explanation on why worst case numbers should not be applied, taking into account the information contained in the above paragraph.*

Initially, EPA Method 8270C was employed for the analysis of TOHI. Questions arose about the suitability of this method due to the instability of the compound at the high temperatures of a gas chromatograph. The Program concluded that Method 8270C was not suitable for accurately quantifying TOHI. Commissioner Jeff Wennberg, in a June 20, 2005, letter to James Reddy, specified a strategy and timeframe by which OMYA needed to develop and validate an acceptable method for TOHI analysis. This work progressed through the summer of 2005 and culminated in the Department's acceptance of Method AG-24 as performed by Endyne Inc., for water samples being analyzed for tailings floatation reagents.

We have not received additional information or communication on the analytical methodologies since Dr. Gerald DiVincenzo's letter of August 11, 2005, which is included in Appendix 9. Therefore, it remains our understanding that the Initial Demonstration of Capability (IDOC) process for the LC/MS method is incomplete, as is the IDOC for solid samples using AG-24.

- *Please provide the Program with a validated method that will be used for sampling tailings solids if such testing were required as a condition of the certification, if issued, and how will they be analyzed.*

Section C., Tailings Evaluation. In the discussion of Flocculent, it is stated that the acrylamide monomer is biogradeable and has a half-life in moist soils of less than two days. Evidence has shown that the half-life of TOHI deep in the tailings mass is much greater than predicted under ideal conditions. Given this uncertainty:

- *Please provide the Program with information on the degradation of acrylamide monomer in an anaerobic environment such as the buried tailings, and whether the acrylamide monomer's degradation in an anaerobic environment will make a difference in groundwater quality.*

There were detections of other contaminants in groundwater samples not listed in the site characterization report but included in the Appendix 5.

- *Please provide the Program with additional information on the following contaminants found in groundwater samples and explain why they were not considered in the site characterization report:*

    - Isopropyl Benzene
      Detected in Well #2
      Sample Date: 7/27-8/20/01
      Concentration: 1.8 ppb
      VGES: none

    - Bis (2 ethyl hexyl) phthalate
      Detected in Well 96-1
      Sample Date: 7/26/01
      Concentration: 5.3 ppb
      VGES: none

Page 20 states that acetone concentrations in groundwater are below standards. However, on 3/30/01 acetone concentration in Well B exceeded the VGES (700 ppb) at a concentration of 780 ppb.

- *Please make the appropriate modifications to the text regarding acetone concentrations in groundwater or provide a detailed explanation on why such changes are not necessary.*

Section D., Results of Testing of Old Tailings Product, contains a brief discussion and several graphs of the results of thermogravimetric analysis (TGA) of the tailings. Detailed information is lacking, so it is difficult to interpret the results. For instance, there is no discussion about how, or if, TGA accounts for the differences in moisture content in the original samples. While there is some indication from the TGA that the volatile fraction of the tailings is less at greater depth, the results are not consistent. Further, given the variability of TOHI analytical results in solids, there is no way of knowing what the original concentration of chemicals was in any particular core sample. As written the TGA results are interesting, but unless the information presented can be elaborated upon, or confirmed with additional research, the Program does not believe the data provides supplementary evidence that is particularly useful in the tailings evaluation or supportive of the application.

The same conclusions are applicable to the TOHI testing that was performed on the core samples. While the Program believes that TOHI biodegrades in the tailings, the coring analytical results are not consistent, the original concentrations are unknown, and the relationship between anaerobic and aerobic decomposition is not well established. Also, the correlation between bacteria counts and the concentration of TOHI at the various depths is not well understood. Without additional confirmatory work, the conclusions presented are of limited value in the application review.

V. Site Description

On Page 27 of the Site Characterization Report, there is a reference to a 1997 Geomapping Associates Report.

- *Please provide a copy of the 1997 Geomapping Associates Report to the Program.*

The assumption of this section is that all groundwater underlying the site discharges on the Omya property or close by.

- *Please provide the program with information showing how Omya excluded the possibility that some or all groundwater may not be discharged at the surface features listed and measured but may continue to travel through bedrock fractures off-site to the north or northwest in the general direction of groundwater flow.*

The application discusses the north plunging fractures in bedrock that bedrock flow is to the north - northeast. Also, according to the discussion on page 29, bedrock fractures occur from 20 to 420 feet below the ground surface.

- *That being the case, is it accurate to assume that all groundwater discharges along these surface features near the property boundary?*

- *Could groundwater migrating further than the proximal discharge points also account for the difference between the calculated discharge rates on Page 34 (122 and 156 GPM) and the measured discharge rate of 31 to 33 GPM?*

VI. Conceptual Model

With two exceptions, the Program agrees with the factors presented in the model and generally accepts the conclusions presented in the geologic and hydrogeologic site investigation, including groundwater seepage rates, the areal extent groundwater flow system, the groundwater flow pattern, the relationship between gravel and bedrock aquifers, and groundwater discharge points and rates. The two areas where additional questions arise are related to the discharge of groundwater (noted above) and the biodegradation of TOHI (noted below).

At the bottom of Page 36 is another discussion of the biodegradation of TOHI. While it is accepted that TOHI decomposes in the environment, and it is likely that decomposition has been experienced in the older tailings at the base of the TMAs, there is not adequate evidence justifying an approximate 50% reduction in TOHI concentrations over time.

VII. Compliance with the Siting Standards for the Vermont Solid Waste Management Regulations

A. Prohibited Areas

Based on the evidence submitted, the Program concurs that the Verpol Plant and TMAs are not in any of the prohibited areas listed in Rule §6-502.

B. General Performance Standard

The application asserts that surface water and groundwater sampling data have shown that *all* groundwater at the site in compliance with applicable groundwater standards. This subject will be discussed further in the review of the contaminant transport model, but that statement is somewhat misleading since it is impossible to completely monitor the groundwater over the entire site. The program would agree that groundwater currently being monitored, and groundwater at compliance points is currently in compliance with established groundwater standards. No off site wells have shown detectable concentrations of tailings-related compounds, and similarly, no off site surface waters have had detectable concentrations of tailings-related compounds. However, please note the following comments below on the various subsections of the General Performance Standard.

1. Groundwater and Surface Water Monitoring Results

The discussion involving the 95% confidence level should be revised as discussed on page 9 above.

- *Please revise Table 9 to include a column for "highest concentration detected" and exclude "highest 95% CL."*

- *The table would then reference the 780 ppb of acetone detected in Well B on 3/30/01, a result that was above the 700 ppb groundwater enforcement standard.*

According to Table 13 in Appendix 5, secondary groundwater standards for Total Dissolved Solids have been exceeded in three monitoring locations. The source of this information is the 2001 Johnson Company, Inc., Waste Characterization Investigation Report.

- *Please provide the Program with the identity of the wells sampled for TDS.*

2. Fate and Transport Modeling

Results of the Golder Associates work, referenced in this section and included in Appendix A are similar to the results of the Sanborn, Head and Associates "Numerical Groundwater Fate and Transport Modeling Report," which is reviewed separately below. Golder Associates' report corroborates the conclusion of SHA that the flotation reagent's affinity to the tailings and its biodegradability greatly limit its transport in the groundwater. The Golder report concludes that TOHI, and Amine Acetate, two of the components of the floatation reagent, will biodegrade to below detection level nearly within the footprint of the tailings disposal areas. The third component, Aminoethyl-ethanolamine (AEEA), is present in initial concentrations at below detection levels.

- *Please revise the application to remove references to the 95% confidence level and use the "highest concentration detected" as the input parameter for the partitioned floatation reagent.*

C. Specific Standards

1. Isolation distances from high seasonal water table, bedrock, and waters - The TMAs do not meet the numerical standards for groundwater (6') and bedrock (10') separation distances of Rule §6-503, Table A, as the tailings are being disposed in an unlined quarry, at times directly against bedrock, and originally in groundwater. (The TMAs do meet the required 300' separation distance to surface water.) The failure to conform with these two minimum siting requirements are two of the reasons why the Omya facility does not qualify for a certification. Omya has presented siting evidence that regardless of the lack of buffer distance to groundwater and bedrock, "that the an emission or discharge from the facility will meet all applicable environmental quality and public health standards and rules" as required by Rule §6-503(b)(1).

    - *Please revise the application to address how this section will ultimately be complied with, and provide a schedule to obtain compliance or note your intention of closing the facility at the end of the two year period. Further, the Program does not believe that reliance on the proposed amendments to the Solid Waste Rule is an appropriate justification for how the facility will come into compliance. The proposal needs to be based upon the rules in effect on the date the application was determined administratively complete.*

2. Isolation distances to public and private drinking water sources – The distance from the closest edge of a TMA (Kane and Drake) to a water supply (the Sandillo well) is approximately 1600', greater than the minimum required distance in Table A of 1000'. Further, as noted in (1) above, Omya has presented evidence that off site groundwater is not being adversely affected by leachate from the tailings, and that contamination is not, and will not be, present beyond a short distance from the footprint of the TMAs.

    - *What is the distance and identity of the closest water supply to the TMAs in the presumed downgradient direction?*

3. Isolation distances to property lines, residences, schools, day care facilities, hospitals, and nursing homes – Isolation distances to property lines (300') and occupied buildings (1000') are intended to ensure that the facility does not result in objectionable odors, unreasonable noise or visual impacts, or otherwise adversely affect public health. Although these standards appear in the Siting subchapter of the Rules, the design and operation of the facility ultimately dictates whether or not there is an odor, noise, aesthetic, or other nuisance or public health impact.

   While there has been some concern about odors, the concerns are focused on the OMYA manufacturing operations, which are not regulated by the Program and are not a part of this review. As the application states, there is no evidence that odors are associated with the tailings or TMAs.

   - *Please expand upon the discussion of the visibility of the TMAs and screening by topography and vegetation. For example, from which direction(s) are the TMAs concealed by landforms, and from which direction are they concealed by vegetation only. Explain whether screening will remain effective throughout the theoretical design life of the facility, or will there be a point in time when the TMAs are visible above the ground surface or treeline, particularly considering the closest property boundary is only 110' away. Explain whether the TMAs are or will be visible when the leaves are off the trees?*

   The Rule addressing noise mandates that a facility not unreasonably increase the level of noise detectable off site of the facility. There is obviously some noise attributable to the management of the tailings: dump truck and earth moving equipment engines, back up alarms, pumps, etc. There are also noises associated with transportation of the raw ore, and production and transportation of the finished calcium carbonate. The Program considers any noise resulting from the production process as background, and noise resulting from tailings management as the potential "increase" cited in the Rule. This section of the application is silent – no pun intended – on noise from the tailing management operation, and thus a positive finding on this cannot be made.

   - *Please provide convincing evidence that tailings management does not unreasonably increase noise levels.*

4. Table A criteria – The Program is in agreement with the distances referred to in Table 11, with the following exception. The closest property line is approximately 110' from the southeast corner of the Kane and Drake quarry, but from the phased operations plan it does not appear that any fresh tailings will be disposed of this close to the line as the lower perimeter of the disposal area is at final grade. Scaling off the map, it appears that the new tailings will be placed no closer that 200' from the boundary.

   - *Please clarify whether the nearest adjoining property is 110 feet from the non-operating perimeter of the disposal area, or from the area which future disposal will occur.*

- *Please include in the application a schedule and strategy for obtaining compliance with this provision of the solid waste management rule.*

5. Serious development limitations – No comments.

6. Access from highways – No comments

7. Distance to airports – Not applicable as the tailings are not attractive to birds.

VIII. Conclusions

This section is a brief compendium of the previously detailed sections of this Volume of the application. Although the Program has numerous comments and requests for additional information on the site characterization and associated information, nothing in the Conclusion section requires explanation or revision.

Omya, Inc., Verpol Plant Tailings Monitoring Plan (dated August 15, 2005)

An earlier version of the Omya site monitoring plan was submitted on June 29, 2005. This plan was in response to the requirements of the Commissioner's June 20, 2005, letter referenced above, and was treated as an interim monitoring plan to be implemented while the application for certification was being prepared and processed. The interim plan was commented on, revised, and approved by the Program. One round of environmental monitoring was performed at the Omya site in accordance with the revised plan, and those monitoring results were submitted and reviewed by the Program.

The August 15th version of the Omya, Inc., Verpol Plant Tailings Monitoring Plan was also included in the application for certification package. Although the original plan was intended as short term guideline to allow a rapid development of site monitoring, much of the document is applicable to future routine monitoring, if a certification is issued. Also, with one round of monitoring having been completed, and the data assessed, we know where the plan is adequate, and where there may be gaps. In all, there are no major issues with this monitoring plan, but specific comments include:

1. On page 9, footnote 4, there is a discussion of the pending Liquid Chromatography/Mass Spectroscopy (LC/MS), and its use in lieu or in conjunction with Method AG24. Because the LC/MS method has not been approved, and may not even be necessary, the footnote may be deleted. *If the method is approved and its use is warranted, the plan can be revised at that time.*

2. With the Fall 2005 Monitoring Report, there were some questions about the process for gaining permission to sample off-site wells, and providing that information to the program, and follow up if permission was denied. The property owners who are included in the regularly scheduled monitoring program but who declined testing will have it offered again prior to each sampling event. The monitoring results report should include a description and/or table that explains the process of asking permission, whether permission was granted, and, if not any reason that was given. The report should also indicate any changes to the off site water supplies, e.g., reported problems, new well, new property owners, etc. *Please revise the plan as necessary.*

3. *Please revise the plan to require collection of field data (pH, temperature, conductivity, oxidation reduction potential) for off-site locations.*

4. *Please revise the plan to coincide with the QA/QC provisions of the Program's Groundwater Quality Monitoring Procedure.* This includes the collection of duplicate samples, the use of trip blanks, and the collection of equipment blanks.

5. The timeframes for reporting the monitoring results was also an issue with the first sampling event. *Assuming a 30-day turnaround time from the laboratory, we are suggesting that routine results be submitted to this office within 60 days of completed sample collection, which is the standard for landfills that we regulate*. Reporting for abnormal results should be identical to the procedures outlined in Section 7 – Contingency Plan.

6. The monitoring plan includes no provisions for analyzing the tailings themselves. *Representative samples from representative locations must be collected and analyzed for total and leachable contaminants of concern, during each semi-annual monitoring event*. This is particularly important to track any process changes that may result in different levels of chemicals in the tailings. As noted in an earlier comment, our continued understanding is that Method AG-24 has not been accepted for use with solid matrix samples. *Please provide additional information on how tailing samples be collected and analyzed.*

Volume III of III – Engineering Design and Operations Plan

Part D: Engineering Design

Sections 1.0 – 4.0. No comments on these sections.

***Section 5.0,* TMA Development**, contains fill progression plans for each year for the first eight years of operation. For the record, according to the narrative and confirmed by the plan sheets, the tailings will continually be graded to between 5% and 33%. As such, final closure could occur at any time in that eight year period; for example, after one or two two-year interim certification periods. Further, at least through year eight, no tailings will be placed on virgin areas, therefore the footprints of the TMAs will not be expanded beyond the present limits of waste.

Section 5.3, Final Grading: No regrading of the existing finished 2.5:1 tailings slopes are proposed in the application. These steep slopes do not comply with Rule §6-606(b)(2)(N), and this represents another area of non-compliance that needs to be addressed during the interim certification period. While the proposed "mining waste" subchapter of the rules may alleviate such a requirement, these rule revisions are not finalized.

- *If Omya has no future plans to regrade these slopes, the application must clarify this and contain a schedule for a variance application.*

Section 5.4, Slope Stability. Omya performed a slope stability evaluation as outlined in the "Seismic Procedure." Although this procedure only applies to Municipal Solid Waste Landfills, the methodology for determining stability is applicable to other solid waste facilities.

Material property parameters for the stability calculations are contained in the Appendix entitled "Slope Stability Calculations," Table 1, which in turn references the August 2005, Golder Associates report on paste technology for unit weight, friction angle, and cohesion of various materials used in the calculations.

- *Please provide a reference to a page in the Golder report for these parameters or any other document from which these parameters come.*

- *Further, regarding specific parameters: the tailings are assigned a friction angle of 0 to 45^{o} and cohesion of 0 to 250 psf. Please explain the range on these parameters and supply a report page reference.*

In the Slope Stability Calculations section of Appendix D-3, since the existing 2.5:1 slopes are not currently sloughing, SHA assumes that they have a factor of safety of greater than 1.0. From that assumption, lower bound internal friction angle was calculated for the factors of safety of 1.1 to 1.5. The assumptions are reasonable.

Appendix "Slope Stability Calculations" – The slope stability analysis states that the disposed tailings "have a relatively dense outer shell" likely as the results of compactive equipment, and that the tailings density decreases with depth. One would think that the tailings in the TMAs were spread and compacted similarly over time, and that assumed densities observed during the borings were only a function of moisture content. The upper surface of the TMA was dry, seemingly denser, while beneath the crust were wet tailings, seemingly less dense.

Two tailings samples were collected to characterize the internal strength of the in-situ tailings, and the samples were to represent the range of in-situ relative densities of the tailings. *There are notes on three of the boring logs (2, 3, and 8) and it is not clear which of these were the samples used for the direct shear testing.* All three were collected from deep in the waste mass (16-18', 28-30', and 33-35') and it is not explained how these are representative of the different apparent densities of the tailings. *Please clarify that these samples are representative of the different apparent densities in the tailings, and if they are not please explain why they are not.* Regardless, does it matter what the apparent density of the particular samples were if the tailings themselves are homogenous over time. *That is, should not a sample of older tailings from the bottom of the TMA be identical to a fresh sample out of the discharge pipe if the moisture content and compactive effort during remolding is the same?*

Appendix "Slope Stability Calculations" – Contains an excerpt (Attachment C) from a 2002 Geodesign study of the OMYA tailings. Findings from this study form the basis of some of the physical properties of the tailings used in the slope stability calculations. Geodesign estimated the "compacted tailings" (tailings in the disposal area that were worked with compactive equipment) have 100% percent solids. *Please provide additional information on how 100% solids are achieved and any additional sampling of compacted tailings to determine this figure.* Recompacted tailings samples molded to mimic field conditions were tested at 13% moisture. *Please provide additional information on how this was determined.*

The Program requested that the VTrans Geotechnical Engineer review the Slope Stability Calculations, and ultimately the Program's findings. Although some of his comments likely stem from his unfamiliarity with the overall project; but so that no questions remain unanswered, *the Program is forwarding the comments verbatim, and would ask that each be addressed:*

1. *The boring logs provide no information about the relative moisture content in the materials encountered during the boring operations. It also appears that no groundwater measurements (sic) made during the subsurface investigation. Were piezometers installed to measure seasonal fluctuations in the water table? Were the split spoon samples tested?*

2. *No mention of ground water conditions is provided in the report and no water table boundary has been shown on the schematics depicting the minimum factors of safety. What assumptions were made in the computer model? This should be clearly stated and data provided to support the assumptions.*

3. *It would seem that the tailings placed in a slurry would have a very high moisture content. Has this material been dewatered? If not, how has the moisture content been accounted for in the modeling?*

4. *The color coding on the computer generated sections from the slope stability analysis should be keyed to the legend identifying the soil and rock properties.*

5. *The 3rd reference listed on sheet 1 of 5 has a 1967 publishing date. Attachment "B" which is supposed to have been excerpted from this reference has a footnote which refers to NAVAFAC DM 7 (1971). Which is correct?*

The slope stability analyses indicate that the factor of safety for static stability of the finished disposal areas will be greater than 1.5, which meets our standard from the (non-applicable) Seismic Event Procedure, and that the FS under seismic conditions will be greater than our standard of 1.0. Unless the comments above radically change these conclusions, it appears that the existing and proposed finished disposal areas are stable under static and seismic conditions.

6.0 Stormwater Management – The stormwater management plans indicate a series of stormwater channels almost surrounding the Kane and Drake, Loveland, and Dolomite Quarries. The system is designed to control surface water run-on and run-off from a 25 year, 24- hour storm event. Surface water collected from runoff from the Loveland Quarry will be directed to an adjacent settling basin. *Is it correct to assume that runoff from the Dolomite and Kane and Drake Quarries will be directed to an existing culvert that discharges to the Pittsford-Italian Quarry?* This transition from the proposed collection system to the existing culvert is not well detailed. The existing culvert is 1800' long. *Why is a culvert conveying this water rather than an open channel? In what condition is the culvert and what and where is the outfall?*

Please contact the Water Quality Division for information regarding other stormwater related permits that may be needed for the facility.

- *Please confirm with the Solid Waste Program that this has been accomplished.*

Part D-4 Closure/Post-Closure Plan
Sections 1.0 – 4.0: There are no specific comments that need to be addressed on these portions of the plan narrative. The plan is advantageously designed with a yearly phased closure plan for years 1 – 8, meaning that the facility can be closed at any point during that timeframe without modification to the plan, including after this interim certification, or the next, if issued.

Section 5.0 Closure Design: The closure plan specifies using tailings as the "barrier layer" and as the "vegetative layer" in the TMA capping system. The Rules require an earthen material for these layers in the final cover system for an unlined landfill, or an approved alternative that is demonstrated to achieve equivalent performance. Omya's tailings have been determined to be "earthen material" in accordance with Commissioner Wennberg's, April 29, 2005, declaratory ruling. That determination also indicates that the tailings are not an alternative material, but that they would only need to meet the performance standards of the Rules. The application infers that data indicate that the tailings should have an in-place hydraulic conductivity of $<1 \times 10^{-5}$ cm/sec, but the data are not readily presented, and the range that is cited from three different studies is quite broad, and is not sufficient evidence that the 1×10^{-5} cm/sec standard will be met. Rule 6-606(b)(2)(M) also requires that the capping soil be less permeable than the facility base soils. Because the tailings at the bottom of the quarries reside on bedrock the Program interprets this Rule section to mean that the capping soils must be less permeable than the bedrock. In the "Numerical Groundwater Fate and Transport Modeling Report," the bedrock hydraulic conductivity parameter used is the geometric mean of 4×10^{-5} cm/sec or slightly "faster" than the standard for capping soils.

- *Please provide clearer information demonstrating that the tailing used as a barrier layer will have a permeability of less than 1×10^{-5} cm/sec.*

OMYA is also proposing to use tailings as the vegetative layer, citing the physical evidence of the grassed-over previously capped slopes that the tailings will support vegetation. OMYA also contracted with Heindel & Noyes to perform a laboratory study of the tailings' ability to sustain plant growth. The Grass Growth in Tailings Study Report, dated February 28, 2005, concluded that unadulterated tailings (as well as those mixed with 1 and 2% bentonite) would sustain grass growth, and therefore, no imported vegetative medium is needed. The study was short term and performed in a greenhouse setting, and in those very controlled conditions, it would appear that the tailings performed similarly to the control soil in respect to germination and plant growth. Because of the timeframe and tightly controlled conditions, if the study was the only evidence presented that the tailings would perform in the field, it would be inadequate, but grass cover has been established on the TMAs, and this vegetation has prospered through the change in Vermont seasons, and varying weather changes we have experienced in that time. The greenhouse study, much like the groundwater model, is a confirmation of site specific data and observations.

The vegetative growth on the capped areas of the TMAs will be monitored as this growing season progresses regardless of the status of interim certification, and our observations will be large factor in ultimately determining whether the tailings can act as the vegetative layer or not, or need to be amended.

In most instances, capping a landfill involves importing a large quantity of topsoil from some distance source. Soil is a precious and finite resource, and landfill capping is not considered its highest and best use. Based on past field conditions, and augmented by the results the H&N grass growth study, we will accept the use of tailings as a vegetative layer during capping. However, the H&N study concludes that fertilizer does not need be added to the tailings to sustain vegetation, while the closure cost estimate contains a line item for fertilizer.

- *This section needs additional specificity, specifically amendments should include whether fertilizer or any other additive will be incorporated into the material used as a cap, it should specify whether there will be an organic fraction, and if so what percentage, and specify the seed type and seeding rate.*

The proposed CQA testing methods and frequency during placement of the capping "soils" is acceptable.

6.0 Post – Closure Plan - Section 6.2 states that post-closure monitoring consists of the surface water and groundwater sampling and testing found in the Monitoring Plan of Part C-2.

- *The post-closure modeling discussion should read surface water, groundwater, and* ***drinking water***.

- *The Post-Closure maintenance plan does not include regularly scheduled vegetation cutting. Please amend the post closure plan to include the frequency of mowing. The Plan should further detail what the quarterly inspection will consist of, and what the responses will be if a deficiency or problem is discovered. Examples include poor vegetation growth, eroded areas of the cap, and siltation of drainage appurtenances.*

Closure Cost Estimates (Attachment A) include 3600 feet of 36" CPP culvert. It is not clear what this is for, but it is assumed that it is the culvert that collects most of the TMA surface water drainage for discharge into the PIQ quarry.

Closure Cost unit costs and quantities appear reasonable, although it is not clear whether the cost estimate applies to full capacity of the site, or site conditions after the two year interim certification period, or if that distinction matters.

Post-Closure Cost unit costs and quantities appear reasonable.

- *Does "Project Management" include the cost of re-certifying the facility? If not, please include a line item for this cost.*

Part E – Operations Plan:

General: An interim certification period is, at most, two years. *Please consider revising the management plan to take into consideration operational changes that would maximize the use of one quarry for disposal activities. For example, transporting dry tailings from the Kane & Drake Quarry to the Dolomite Quarry in an effort to fill one quarry as much as possible, rather than spread tailings over two areas. Provide the Program with information that explains whether the dewatering berm configuration of the Kane & Drake Quarry would hamper closure if the operation was forced to closure after one interim certification period. Please describe any other operational areas or operational changes that should be considered during the term of an interim certification that will result in the facility achieving or moving towards full compliance with the solid waste management rules.*

Section 3.2 Dewatering – The operations plan states that the tailings slurry is pumped into one of two settling cells. On the "Existing Conditions" plansheet, it is very difficult to distinguish these cells from the Loveland Quarry.

- *Please inform the Program whether the settling cells are part of the quarry that has been bermed off in some manner.*

Section 3.3 Dewatering - This section states that "the dewatered tailings in the setting cells is periodically excavated and transferred to the TMAs."

- *Please provide the Program with additional information on the frequency of excavation of tailings from the settling cells. This should include the number of trucks transferring material during a transfer and the amount of material transferred.*

Section 3.4 Placement in TMAs

- *Provide an approximate percentage of the tailings that are lower moisture and sent to the Dolomite Quarry versus what is higher moisture content tailings and sent to the Kane & Drake Quarry. If tailings are moved from the Kane & Drake to the Dolomite Quarry please detail the process, amount, timing, etc.*

The slope stability analysis that was presented concluded that the tailings management areas are stable, and yet made no mention of incorporating a stone layer.

- *Please provide additional clarifying information on the purpose of the incorporation of a six-inch stone layer into the tailings at the Dolomite Quarry. This information should include whether this stone layer is incorporated at the surface and what size stone is used.*

- *Please explain in detail how the residual decant water and stormwater which is ponded in drying cells in the Kane and Drake TMAs are conveyed back into the process water system.*

The Operations plan indicates that seed, mulch and fertilizer is placed "within days" of reaching final elevations of any portion of a TMA, which is beneficial from an erosion control standpoint. The Operations Plan also states that the fertilizer will be added regularly due to the alkaline nature of the tailings.

- *Please clarify whether fertilizers will be added regularly during the post-closure period. If this is the case, such a statement should be added to the closure or post-closure plan.*

Numerical Groundwater Fate and Transport Modeling Report, Sanborn, Head & Associates, dated December 22, 2005:

SHA performed a three dimensional groundwater flow and transport model encompassing the Verpol Plant site. The modeling was performed in response to Rule §6-603 that requires that the site characterization "allow modeling with a resolution sufficient to determine compliance with applicable environmental quality standards…". Generally speaking, for disposal facilities, this requirement has meant the development of a contaminant transport model that indicates the concentrations of contaminants of concern at the Design Management Zone over time. The model is another tool by which the Program determines whether the facility poses a risk to the environment or public health.

The model was based on information originally developed by others, most notably, site characterization information previously presented by Heindel & Noyes. As you know, a schedule for the model was established, the Program had been reviewing H&N's work prior to its use by SHA in the model development, and had met on several occasions with SHA staff during development of model inputs and parameters as explained below.

It is understood that the model is a simulation of flow conditions at the site and not a calibrated flow model. Further, the model represents macro scale groundwater flow in bedrock, and not micro scale flow of individual fractures as this level of effort becomes immensely complicated and the results increasingly uncertain. Given what the Program knows about the character of the site and the nature and concentrations of the contaminants in the tailings, the model as presented is sensible.

SHA developed input parameters and a preliminary model and submitted these to Program staff on October 14, 2005. The Program responded in writing and both parties met on November 7, 2005, to discuss the results. An interim summary of the simulations and sensitivity analysis was submitted to the Program on November 22, 2005, and the parties met again on December 5, 2005. The Program informed Omya that final comments would be forthcoming as an element of the certification application review process. The result of all these communications is that we have recognized the work SHA has done to date, and the conclusions that have been reached regarding the fate of tailings' contaminants in the groundwater at the Verpol Plant site. The model corroborates the early numerical model that H&N developed, as well as provides added evidence that detectable concentrations of contamination from the tailings will not migrate very far from the TMAs; certainly well within a DMZ or 1/3 the distance from the TMA to a property line. Although the model supports the other evidence presented in the application that the risk to groundwater is low, there remain a number of specific issues with the model that need to be clarified. Please address the following:

On Page 11 it is stated that "In keeping with the Groundwater Protection Rule and Strategy (2000), "Base Case" values representing 95% confidence levels…"

- *The reference to the Groundwater Protection Rule and Strategy is outdated, the most recent rule was adopted 2/25/05.*

- *As noted in several instances above, §12-706 of the Groundwater Protection Rule and Strategy refers to using the 95% confidence level to determine if a groundwater quality standard has been exceeded and it is at the discretion of the Secretary when it is applicable. The statistic is not meant to be used in predictive scenarios. Please revise accordingly.*

- *If the actual results of the preliminary analytical modeling are available please provide them for our review.*

Table 2 in the SHA report shows Fetter, 1993, as the reference for the estimated retardation factor.

- *Please explain why SHA did not use retardation factor data previously determined by Heindel and Noyes (2005) and Golder (2005).*

- A table in Appendix 8 - page 2 and page 3 of the Application, H&N shows retardation factor calculations much lower then the values presented in Table 2 for TOHI and amine acetate. The table on Page 3 shows estimated retardation factors for TOHI at 144.6 and amine acetate at 130.7. This is in contrast to the base case values used in the SHA modeling report of 5860 for TOHI and 54,400 for amine acetate. *Please explain the differences between these values, and why SHA used these factors and not the H&N retardation factor calculations.*

The tables in Appendix 8 also reference bulk density data for tailings from the Omya Proctor Laboratory.

- *Please provide references to this information within the application or supplement the application with this information. Please explain why SHA choose to use 2.6 kg/L for a bulk density value in Table 2 when H&N presented two values for bulk density of 1.6 and 2.565 kg/L.*

The tables in Appendix 8 also show porosity values ranging from .05 to 0.4.

- *Please compare these values to the total porosity values used in the SHA report. What is the difference between total porosity according to the SHA report and the porosity values presented in Appendix 8 conducted by GeoDesign?*
- *Provide the data for porosity calculations presented in the Application.*

Table 2 also references Fetter, 1993 for the Organic Carbon Partitioning Coefficient (K_{oc}).

- *Please explain why SHA did not include the values for K_{oc} developed by H&N (2005) in Appendix 8.*

This concludes the Program's technical comments and questions on the application for certification. Again, those comments that are *italicized* represent outstanding issues that require a response from Omya, but be at liberty to reply to any statement. In order to keep the application process progressing in a timely manner, your responses shall be submitted within 60 days of receipt of this letter, unless an extension is granted by the Program. Feel free to contact Julie Hackbarth or Buzz Surwilo with any questions or if the comments above need further explanation. Otherwise, I will await your written reply.

Sincerely,

Andrea Cohen, Manager
Solid Waste Management Program

C : Meddie Perry, Heindel & Noyes, Inc.
Eric Steinhauser, Sanborn, Head, & Associates