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Grower-Shipper Vegetable Association
of Santa Barbara and San Luis Obispo Counties

January 18, 2007

Mr. Tim Ness, Administrator
City of Santa Maria
110 East Cook Street
Santa Maria, California 93454

Subject: Review & Comments of Environmental Impact Report (EIR) Report dated
May 2004 for the Santa Maria Landfill Site

Dear Mr. Ness:

Enclosed are six copies of an opinion letter submitted by Buena Resources, Inc for your review
and to be distributed to the Santa Maria City Council.

Thank you.

Sincerely,

Richard S. Quandt
President

bk

Enclosures

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Buena Resources, Inc.

A State Certified Small Business

November 6, 2006

Mr. Richard Quant
Grower Shipper Vegetable Association
P.O. Box 10
Guadalupe, CA. 93434

Subject: Review & Comments of Environmental Impact Report (EIR) Report dated
May 2004 for the Santa Maria Landfill Site

Dear Richard:

Buena Resources, Inc. was asked to review the above document, which was prepared in 2004 for the City of Santa Maria Public Works Department, by your office and provide an opinion letter.

Introduction:

The EIR document reviews the existing landfill's expansion plans to expand to the current waste stream by adding green waste recycling, plastic recycling, asphalt & concrete recycling, demolition materials recycling, and metal bailing & recycling. In addition, the City plans to extend operating hours, modify access to the new lined landfill, along with several other modifications to the facilities permit. Included with this expansion is disposal of bio-solids and non-hazardous impacted soils (NHIS) for the foundation layer on a filled section of the old landfill, use the material as alternative daily cover (ADC) of the normal solid waste stream. These various items were approved by both the Regional Water Quality Control Board and the County of Santa Barbara Environmental Health Department with the various permit modifications included into the current operations.

History of Operations:

The landfill has been in operation as a Class III solid waste landfill for many years with the far eastern portion utilized as a burn area for the solid waste material. With the exception of the new section of landfill, which has liners and leachate collection systems installed per the Sub-

Title D Federal regulations, the landfill is an earthen landfill with **no liners or leachate collection system** in place to collect any fluids which might migrate through the waste. This landfill was sited many years ago along the banks of the Santa Maria River, which is the up gradient or highpoint of the upper most aquifer, where it extends to a depth of approximately 100' below ground surface (bgs) to the top of the Paso Robel aquifer.

The Paso Robels is a confined aquifer with a clay separation from the upper aquifer, which is the aquifer the landfill was constructed. The Paso Robels is the higher yielding zone where most of the high volume ag wells are located. The upper aquifer is recharged primarily from the flows in the river that are allowed to permeate into the soil, recharging the zone which extends across the Santa Maria Valley to the Casmalia Hills. The gradient for this migration is south-southwest or toward the Casmalia Hills. During wet years, the deeper placed waste in the landfill are actually located in the groundwater which is percolating through the waste.

The landfill has had monitoring wells around the perimeter of the site for many years, as required by State and Federal law. These wells have reported low levels of chlorinated liquids including Freon. These items are considered both California and RCRA (Federal) hazardous at high enough concentrations. It should be noted here that hazardous materials found in house hold waste streams such as bleach, cleaners, etc. are exempt from the hazardous designation and regulations that impact the manufactures of these materials. The materials have migrated outside the landfill perimeter onto the neighboring properties to the southwest, which is down gradient of the landfill.

New Waste Streams:

NHIS Soils

The addition of the NHIS (crude oil impacted soils) waste stream is a very important milestone at this facility. Typically the State of California has required that petroleum impacted soils which are considered Class II materials be placed in a landfill designated as a Class II TSD facility. These materials have previously not been allowed to be mixed with the Class III (solid waste-trash) landfills. As an informational note, Class I TSD facilities are considered hazardous waste landfills.

To my knowledge, this is the only Class III landfill that allows Class II waste to be mixed with the solid waste stream by the State of California, permitted in conjunction with a local environmental oversight agency.

The permit modification allows the City to use the petroleum impacted soils in several areas of the landfill operation, including as a foundation layer on top of the old landfill which has been filled with trash. This layer would allow the top of the landfill to have adequate surface slope to allow run-off without ponding water on the landfill surface, thus minimizing any infiltration and subsequent leachate generation. This foundation layer then is overlain with a synthetic liner to further impede any run-off migration into the waste material. The other area which would receive this NHIS material is the new lined landfill cell located to the east of the closed landfill. This material would be used as daily cover over the normally placed waste stream (trash).

All NHIS material brought to this facility must pass a stringent waste acceptance profile. This profile requires the material to be analyzed for a CCR Title 22 suite of parameters to determine if this material is considered hazardous by California parameters specified in Title 22. This suite consists of a wide range of tests including, PCBs, volatile organics compounds, CAM metals, polynuclear aromatic compounds, reactive sulfide/cyanide, pH, flashpoint and other analyses as noted in the permit. In addition, the waste is further analyzed by the DI-WET method which provides a determination of leachability of the hydrocarbon ranges in the waste stream. In other words, how much will "liquify" and move into the groundwater/surface water and possibly move off-site.

The WET test is performed by placing a specific weight of the waste soil in a specific volume of de-ionized water. This material is placed in a sealed jar tumbler and allowed to spin or mix by agitation for 48 hours of continuous mixing. The resultant mixture is then filtered and the liquids which pass a 5 micron filter are analyzed for gasoline range, diesel range and motor oil range hydrocarbons. This is a very aggressive test to reflect the effects of rainfall and water flowing over and through TPH impacted soils.

The levels reported give an idea of how much oil will be leached by groundwater or surface water passing through the waste. This is the area of real concern, as this is the fraction that is mobile and could impact the waters of the State. According to the new permit, the landfill DI-

WET results may not exceed 1.0 mg/l for gasoline range, 5 mg/l for diesel range and 10 mg/l for motor oil range hydrocarbons.

Mg/l is considered part per million concentration for liquid waste streams. **The State of California regulates petroleum in groundwater because of secondary drinking water standards of taste and odor only**—not because of a health hazard such as benzene or other defined components which can be found in petroleum impacted soils.

Comments:

The addition of NHIS material to this site could pose, in my opinion, a slight threat to the groundwaters of the State under and immediately down gradient of the site simply for the fact that it is an addition of a large volume of waste to a man made landfill containment facility.

In my opinion, the threat to groundwater in the Santa Maria Valley is minimal due to several factors, namely: 1) the low leachable levels (DI-WET) allowed by the landfill, 2) the very high attenuation (dilution) of any migration to the ground water especially as it migrates westward toward the City, and 3) the fact that petroleum in groundwater is a *taste and odor impact and not a health impact*. As you move away from the landfill perimeter, the dilution of any release would make the levels so low that they likely could not be detected by any laboratory methods typically utilized to analyze hydrocarbons.

It is important to note that the above points are valid as long as the waste acceptance profiling is performed adequately. If the sampling of the waste stream is not done properly, then the safety parameters built into the above levels are negated. For example, if the generator does not take sufficient samples or does not analyze the *worst case or highest TPH material*, the DI-WET results will be understated with actual concentrations possibly meeting or exceeding hazardous concentrations. This process should have some third party audits separate from the City operations to insure compliance by the City.

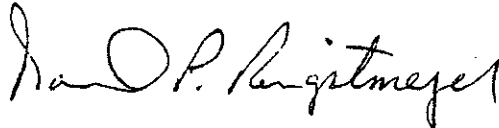
The largest threat, in my opinion, associated with the landfill operation is in the hazardous components found in the house hold hazardous waste delivered with the trash that has be disposed at this facility for many, many years. These components are hazardous and have been detected in the perimeter monitoring wells. Fortunately, the distance of migration and the levels of detection due to dilution are very small.

This dilution and migration distance for the NHIS material would likely be the same scenario for any release of the NHIS material or less.

Thank you for the opportunity to be of service. If you have any questions, please contact this office at (805) 346-1766.

Sincerely,

Buena Resources, Inc.



Daniel P. Ringstmeyer, P.E. (043540), R.E.A.
Owner/Engineer