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By Express Mail

November 4, 2008

Mr. Wade Cornwell
Northern California Permitting and Corrective Action Branch
Hazardous Waste Management Program
Department of Toxic Substances Control
8800 Cal Center Drive, R1-2
Sacramento, CA 95826

Re: **Hazardous Waste Facility Post-Closure Permit
Permit No. 05-SAC-10
Waste Characterization Report**

Dear Mr. Cornwell:

As you know, the above RCRA Facility Post-Closure Permit provides three options for long-term care at the Chemical Waste Management, Inc. (CWM) facility near Bakersfield (Facility). Those options include (i) declassification¹ (Option 1) (ii) clean closure² (Option 2), or (iii) complying with the permit's post-closure care provisions (Option 3).

To determine the viability of these options, CWM has undertaken three studies: (i) a "waste-in" analysis showing the wastes that the Facility accepted for disposal during its active life; (ii) a geophysical survey to identify any buried drums or other un-permitted materials at the Facility; and (iii) a waste characterization showing the nature of the materials remaining at the Facility. The first two studies were submitted to DTSC on February 7, 2008 and November 26, 2007. We now submit the Waste Characterization Report.

1.0 Summary: Waste Characterization Report

Scope of Work. The Waste Characterization Report was prepared by AMEC Geomatrix, Inc. (AMEC) on behalf of CWM. The report was prepared in accordance with the February 7, 2008, Waste Characterization Work Plan by AMEC (formerly Geomatrix Consultants, Inc.) and DTSC's March 27, 2008, Conditional Approval of the Waste Characterization Work Plan.

AMEC collected 238 samples from below the cover, but above native material at the Facility. As directed by DTSC, the sample locations were biased toward known waste disposal areas. The

¹ See California Code of Regulations, title 22, section 66260.200 (22 C.C.R. § 66260.200).

² See 22 C.C.R. § 66265.111 et seq.

samples were analyzed for hazardous characteristics (e.g. whether constituents exhibited any hazardous waste characteristics as defined in 22 C.C.R. § 66261.20 et seq.).

Results. The results of the sampling are as follows:

- No hazardous characteristics were detected in any of the 68 samples from outside the waste cells.
- No hazardous characteristics were detected in any of the 41 samples from the former EWMU ponds.
- No hazardous characteristics were detected in any of the 14 samples from the former WWMU ponds.
- No hazardous characteristics were detected in 66 of the 68 samples from the S-1 landfill in the EWMU. Mercury was reported at a concentration of 52,000 ug/kg in one of the 68 samples and sulfide was reported at a concentration of 790 mg/kg in another of the 68 samples. However, mercury reanalysis of two extracts, outside hold time, from the same sample, resulted in mercury concentrations substantially less than the concentration for the toxicity characteristic -- 9 µg/kg and 14 µg/kg.
- No hazardous characteristics were detected in 28 of the 31 samples from the B-1W landfill in the WWMU. Soluble lead was reported at concentrations of 13, 16, and 20 mg/L in 3 samples from the B-1W landfill. None of the samples exceeded the toxicity characteristic for total lead concentration (1,000 mg/kg).
- No hazardous characteristics were reported in 15 of the 16 samples from the drilling mud spreading area in the WWMU. Soluble lead was reported at a concentration of 5.6 mg/L in 1 sample from the drilling mud spreading area. None of the samples exceeded the toxicity characteristic for total lead concentration (1,000 mg/kg).
- In total, none of the constituents in 232 of the 238 samples collected from the Bakersfield Facility exceeded an applicable hazardous characteristic.

Even given the sampling bias directed by DTSC, of 238 samples, only the following six samples exhibited possible hazardous characteristics:

- Sample S1C-40 collected at 40 feet below ground surface (bgs) contained 790 milligrams per kilogram (mg/kg) sulfides, which exceeds the DTSC recommended sulfide concentration for the reactivity characteristic (500 mg/kg). However, because this sample was collected from 40 feet bgs, the landfill cover and 40 feet of material prevents direct exposure to this elevated concentration of sulfides.
- Sample S1A-05 collected at 5 feet bgs contained 52,000 micrograms per kilogram (µg/kg) mercury, which exceeds the toxicity characteristic for mercury (20,000 µg/kg TTL). However, reanalysis, outside hold time, of two extracts from the same sample (9 µg/kg and 14 µg/kg) did not exceed the toxicity characteristic for mercury.

- Samples DMA-10, B1WB-35, B1WC-40, and B1WC-45 contained 5.6 to 20 milligrams per liter (mg/L) soluble lead, which exceeds the toxicity characteristic for soluble lead (5.0 mg/L STLC). The soluble lead analytical result for DMA-10 is suspect because the soluble lead concentration (5.6 mg/l) is greater than the total lead concentration (4.1 mg/kg) in that sample. Additionally, because samples B1WB-35, B1WC-40 and B1WC-45 all were collected from at least 35 feet bgs, the landfill cover and at least 35 feet of material prevents direct exposure to these slightly elevated concentrations of lead.

Conclusion. This waste characterization data clearly show there is no technical justification for managing the Facility as a hazardous waste facility. Results from the extensive sampling directed by DTSC show that the Facility does not present a significant risk to human health or the environment.

2.0 Not A Hazardous Waste Facility

The Waste-In Report prepared for CWM by Professional Environmental Group, Inc. (PEG) and submitted to DTSC on February 7, 2008 concludes that **99.76 percent** of the documented waste accepted at the Facility clearly was non-hazardous. Approximately 0.23 percent of the documented waste could have been considered to be a characteristic hazardous waste, *but was not so-designated* by the generator of the waste. Finally, three shipments of waste accepted at the Facility for disposal, approximately 0.006 percent of the documented waste, could have been considered to be a listed K051 hazardous waste. Again, however, these shipments were *not designated* as K051 listed waste by the generator. None of the manifests reviewed by PEG indicated that a RCRA hazardous waste (characteristic or listed) was accepted at the Facility for disposal.

Similarly, using the waste characterization sampling protocol required by DTSC regulations, none of the samples collected by AMEC as part of the waste characterization effort indicate the presence of hazardous waste.

DTSC's hazardous waste characterization regulations require that:

Sampling and sample management of wastes and other materials for analysis and testing pursuant to this article shall be in accord with the sampling planning, methodology and equipment, and the sample processing, documentation and custody procedures specified in chapter nine of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd edition, U.S. Environmental Protection Agency, 1986.³

The U. S. Environmental Protection Agency guidance on hazardous waste characterization (SW-846, Chapter 9, Sampling Plans, 1986) states:

The contaminant of concern is not considered to be present in the waste at a hazardous level if the upper limit of the CI [confidence interval] is less than the applicable RT [regulatory threshold]. [¶]

³ 22 C.C.R. § 66261.20(c).

For the purposes of evaluating solid wastes, the probability level (confidence interval) of 80% has been selected.⁴

To evaluate whether the residual concentrations of sulfides, total mercury and soluble lead detected at the Facility are consistent with a hazardous waste characterization, AMEC calculated the 80 percent upper confidence limit (80% UCL) for the entire data set and compared the result to the corresponding RT, as follows:

Constituent	Units	80% UCL Concentration	Regulatory Threshold	Characteristic Hazardous Waste?
Sulfides	mg/kg	19.6	500 (Guidance)	No
Total Mercury	ug/kg	299	20,000 (TTLC)	No
Soluble Lead	mg/l	0.53	5 (STLC)	No

This analysis shows that none of the detected constituents of concern (COCs) are present in the waste at the Facility at a hazardous level.

The result is the same even if we limit the geographic area of waste to be characterized. Three of the four samples that contained elevated concentrations of soluble lead were in soils between 35 and 45 feet below ground surface in the landfill designated B-1W. To evaluate soluble lead concentrations in B-1W, AMEC calculated the 80% UCL for soluble lead in the 33 samples collected from B-1W. The 80% UCL is compared to the soluble lead RT (STLC) in the following table:

Constituent	Units	80% UCL Concentration	Regulatory Threshold	Characteristic Hazardous Waste?
Soluble Lead	mg/l	2.85	5 (STLC)	No

Again, this analysis shows that the lead is not present in the waste in landfill B-1W at a hazardous level.

Finally, to more conservatively evaluate soluble lead concentrations in B-1W, AMEC calculated the 80% UCL for soluble lead for the 19 samples from B-1W that were discolored from oil field wastes (20 to 50 feet below ground surface in B-1W). The 80% UCL for the discolored wastes from B-1W is compared to the soluble lead RT (STLC) in the following table:

Constituent	Units	80% UCL Concentration	Regulatory Threshold	Characteristic Hazardous Waste?
Soluble Lead	mg/l	4.86	5 (STLC)	No

⁴ SW-846, Chapter 9, Sampling Plans, Section 9.1.1.1, page Nine-6 and Table 9-1, note a.

The result is the same: lead is not present at a hazardous level.

In summary, there is no evidence that the Facility ever accepted any RCRA hazardous waste (characteristic or listed) and, following DTSC waste characterization sampling protocol, no COCs are present in the waste at the Facility at hazardous levels (i.e., the waste is not hazardous).

3.0 Conclusion – Risk-Based Clean Closure

As discussed above, there is no evidence that the Facility accepted hazardous waste for disposal or that the waste now at the Facility should be considered to be hazardous waste. Accordingly, we believe Permit Option 2 (clean closure) is a viable option for long-term care.

“Closure” is the term used to describe taking a RCRA regulated unit out of service. The closure performance standard requires that a facility be closed in a manner that:

- (a) minimizes the need for further maintenance, and*
- (b) controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated rainfall or run-off, or waste decomposition products to the ground or surface waters or to the atmosphere, and*
- (c) [complies with unit specific closure requirements].⁵*

Generally, two types of closure are allowed for specific units: closure by removal or decontamination (commonly referred to as “clean closure”) and closure with waste in place.

Since 1987, U.S. EPA has interpreted “clean closure” to allow for some limited quantity of hazardous constituents to remain in environmental media after clean closure provided they are at concentrations below levels that may pose a risk to human health and the environment and provided there is no hazardous waste at the closing unit. See U.S. EPA *Risk-Based Clean Closure* Memo, March 16, 1998.

Given the results of the Waste-In Report and Waste Characterization Report showing no hazardous waste at the Facility and no significant risk to human health or the environment, there is no public policy rationale for spending significant sums of money to comply with the extensive RCRA post-closure care regulations which were designed for disposal facilities at which long term hazards present a public health or environmental concern.

CWM respectfully requests that DTSC approve Permit Option 2 by making a determination to clean close the Facility, completing its RCRA obligations for formal post-closure care. The Regional Water Quality Control Board, Central Valley Region is the appropriate agency to provide oversight for ongoing monitoring of the Facility, including groundwater monitoring and maintenance of the cap.

We would like to meet with you and your technical staff within the next six weeks to discuss these reports and the path forward for the CWM Bakersfield facility. Please let us know your

⁵ 22 C.C.R. § 66165.111.

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availability between now and December 15th for a meeting to discuss these technical reports and any additional requirements for the agency to act on our request.

Sincerely,

Chemical Waste Management, Inc.

//original signed by//

Philip C. Perley
Closed Sites Project Manager

Enclosure

cc: (All with encl.)
James M. Pappas, DTSC
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