Chemtura Bethany Site

- Final Status Survey Results
- Proposed Additional Remediation
- Proposed Re-sampling Plan

Radiation Safety Associates, Inc.

October 19, 2010

EXECUTIVE SUMMARY

Soil sample results from the MARSSIM-compliant license termination survey indicated that only one point in the Peach Tree area (of 36 samples) was contaminated in excess of the established limits. Based on a telephone conversation with Betsy Ullrich on October 14, 2010, Chemtura is therefore amending its original plan. It is still proposing to remove 8 ft^3 of soil from the affected area around this one sample, but to only resample the affected area post remediation. Contaminated soil will be disposed of through a licensed radioactive waste broker.

INTRODUCTION

The analyses of the soil samples indicate that the Apple Tree Area, Grape Area and Corral Area each meet the unconditional free-release criterion. One of the 36 samples in the Peach Tree Area, however, exceeded the criterion. Chemtura previously proposed to remediate any area found to exceed the DCGLw, then to resample the entire survey unit. Because only a single sample was found in just one survey unit that exceeded the $DCGL_W$, Chemtura is modifying its proposed re-sampling plan based on the principles of ALARA. Chemtura still proposes to remediate the 8 ft^3 of soil around this single sample location, but then modifies its proposal to obtain three samples from the bottom of the newly excavated section (4 ft^2) at a depth of 0" to 6" (a distance of approximately 42" - 48" below local grade).

PURPOSE

The purpose of this document is twofold.

1. Describe the additional remediation activities necessitated by one sample result that exceeds the $DCGL_W$;
2. Submit a substitute re-sampling plan for regulatory approval that will represent the final radiological status of the Peach Tree area.

INFORMATION PREVIOUSLY PROVIDED

The Facility Description, Data Quality Objectives and Acceptance Criteria are the same as were reported in the June 15, 2010 and August 5, 2010. In the document dated October 11, 2010, final status soil sample results that met the $DCGL_W$ free-release criterion were provided for the Corral, Apple Tree area and Grape areas. This same document contained sample results for the Peach Tree area that indicated one sample point of 36 total samples (plus one duplicate) exceeded the acceptance criterion. Finally, in a document dated October 13, 2010, the Sign statistical test was applied to reject the null hypothesis.

PROPOSED FINAL REMEDIATION AND SAMPLING OF PEACH TREE AREA

In the letter to Betsy Ulrich, NRC Region I, dated August 5, 2010, Chemtura committed to remediate any spots found contaminated, then re-sample the entire survey unit. Since only one of the 36 samples from this round of testing exceeded the $DCGL_W$, and 14 biased scoping samples of this same area taken prior to the random final status sampling also met the free-release criterion, Chemtura is proposing to modify its sampling plan after this final volume of contaminated soil is removed.

Chemtura still proposes to excavate an area 2 feet by 2 feet around sample FSP-11(depth of 6-12 inches), in the Peach Tree Area to a depth of 2 feet (total soil volume = 8 ft^3). All but one of the sample results described for the Peach Tree area meet the stated acceptance criterion, and application of the Sign test to the sample data resulted in rejection of the null hypothesis. Evaluation of the data minus the single outlier demonstrates that each of the other sample results was less than the mean plus 3 standard deviations [1.37 + (3 × 1.42)]. Chemtura is proposing to accept the 35 other sample results as evidence that those areas of the survey unit meet the release criterion, but instead of re-sampling the entire survey unit, taking three (3) samples from the bottom of the new excavation (4 ft^2)-at a depth of 0-6 inches from the bottom of the hole. Due to the previous excavation (approximately 18") and the new excavation proposed here (24"), the depth of these three new samples will actually be 42" to 48" below grade.

There are currently total 52 data points from this area that were obtained after the initial major remediation was performed. One of these is located only 18 inches from FSP-11 (06"-12"). Only this FSP-11 (6"-12") has exceeded the $DCGL_W$. This is strong evidence that the current sample FSP-11 (6"-12") is an anomalous outlier. Locations of these previous sample points were previously provided. Chemtura believes that re-sampling the entire Peach Tree area that has already been extensively sampled is not ALARA in that expenses incurred are not justified by any potential dose reduction to any member of the public.

Waste Disposal

The approximately 8 ft^3 of potentially contaminated soil proposed to be removed from the Peach Tree area as part of this remediation will be placed in DOT-approved shipping containers and turned over to a licensed waste broker.

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Date