To: Chuck Campbell Date: 4/23/81

From: Joe Loschiavo

Status of C-8 Program

I. C-8 Levels In Air

The following is a list of air samples given collected to date for your information:

DATE	LOCATION	WINDS	C-8 CONCENTRATION (ppb)
3/27/81	Outside trailer west of Bldg. 168	NNE-12mph	0.64
3/31/81	"	SSW-5 to 6 mph	<0.1
3/31/81	"	"	<0.1
3/27/81	Inside Bldg. 168 Small Conference Room	NNE-12mph	0.18
4/2/81	"	W-5mph	<0.1
3/27/81	Outside trailer approx. 100' west of Bldg. 164	NNE-12mph	<0.1
3/31/81	Inside trailer approx. 100' West of Bldg. 164	SSW-5 to 6 mph	<0.1
4/1/81	"	SSW-4mph	<0.1
4/8/81	Outside the Carr Bldg. at west door	SW-15mph	0.15
4/15/81	"	N-7mph	<0.1
4/8/81	Inside the Carr Bldg. on 1st floor	SW-15mph	<0.1
4/14/81	3rd floor of Carr Bldg. at north wall	W-17mph	0.95*
4/14/81	Bldg. 162 Warehouse west end	W-17mph	0.25

Wash water collected when east fine powder dryer wall was hosed down contained > 1.3 ppm C-8.

* On 4/14/81, there was a very noticeable odor on the 3rd floor of the Carr Building. Another air sample was collected there on 4/21/81 after air was exhausted and the odor disappeared. ↙ <0.1

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Other air samples that have been collected and will be analyzed this week are: Fine powder office areas — C. McCutcheon's office (0.24), R. Sink's office (0.64), and the Conference Room (<0.01); Bldg. 162 Warehouse - west end near ramp (<0.1); Bldg. 162 Warehouse - at extreme west end (0.23).

The remaining sampling work you requested should be completed sometime next week.

II. C-8 Analysis

The present method used to analyze C-8 content in the air is the methylene blue method. Although this method is relatively quick and easy to perform it has 2 major drawbacks:

1.) It requires the use of chloroform which is a carcinogen

2.) It lacks specificity

The second drawback (non-specificity) is the one I'd like to elaborate on. Certain other compounds, when present in the air, can interfere with the analysis. For example, the chemicals present in the air on the 3rd floor of the Carr Building could be causing high C-8 readings when C-8 may not even be present. Detergents are known to interfere.

However, the C-8 specific G.C. method will soon be used — hopefully be the end of May. Although this test procedure takes longer, is more complicated, and more expensive to run, we will be much more confident that the test results indicate only the presence of C-8.

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III. C-8 Mapping

I planned initially to collect a series of air samples at various distances and directions from both FEP and TFE stack sources. This would be time-consuming, expensive, and would prove inconclusive since we'd be at the mercy of such weather conditions as: changeable winds, inversions, rainfall, humidity, etc.

I contacted Bob Wevodau (ESD) to see if he could map out the C-8 concentrations by computer. He said he could compute downstream center-of-plume ground-level C-8 concentrations at for various distances from the stacks. The work could be completed within 2 or 3 weeks after receipt of the appropriate C-8 emissions data. The numbers we'd receive from Bob would represent maximum ground-level C-8 concentrations we'd encounter.

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