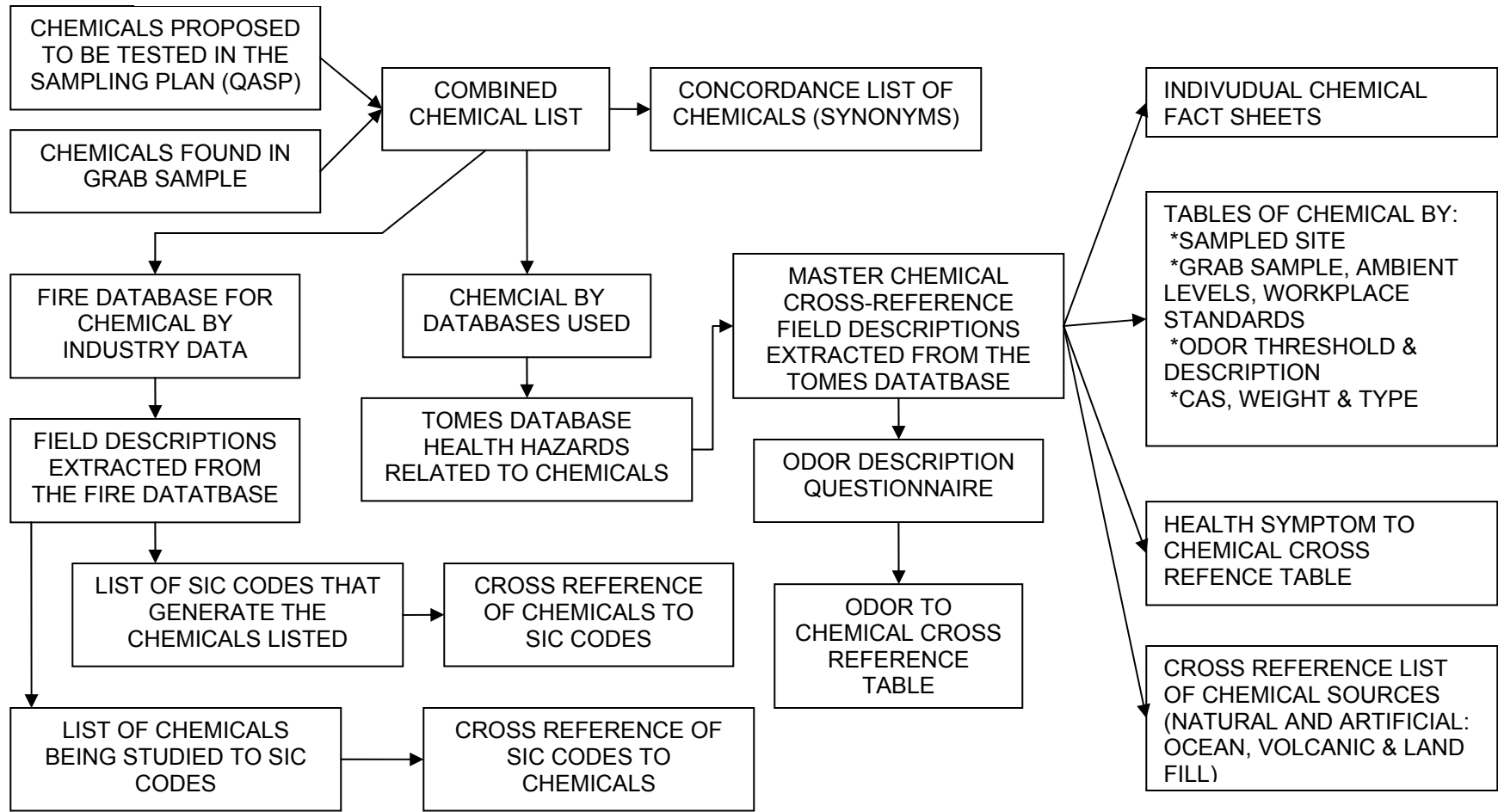


ABSTRACT

Masters (Public Health - 1996) - Summer field training at the Department of Health, Hazardous Evaluation and Emergency Response. The project was titled the Campbell Industrial Park Air Quality Assurance Sampling Plan Resource Manual. The project was the compilation of an over 800 page resource manual and associated hypertext software which contained a history of the air quality problem, area maps, air contaminants cross reference and air quality monitoring issues. The field experience involved extensive use of Toxic, Occupational & Medicine Environmental database and field visits to the emergency response sites (e.g., Chevron oil spill cleanup & hazardous fire sites)

RESOURCE MANUAL FOR THE PREPARATION OF AN AIR QUALITY ASSURANCE SAMPLING PLAN FOR CAMPBELL INDUSTRIAL PARK



BACKGROUND RESOURCES USED:

- * AMBIENT AIR STANDARDS
- * MONITORING * TECHNOLOGY REVIEW
- * SUMMARY OF PAST STUDIES
- * LIST OF HAZARDOUS AIR POLLUTANTS IN HAWAII

- * METEROLOGICAL CONDITION
- * AREA HISTORY
- * DRAFT OF THE AIR QUALITY MONITORING PLAN

- * MAP OF GRAB AREA
- * LIST OF COMPANIES AT CIP
- * LIST OF COMPANIES REPORTING CHEMICAL USAGE IN CIP
- * AREA DEMOGRAPHICS

OVERVIEW

Since November 21, 1995 when 26 workers were sent to the hospital after a sulfur dioxide leak at Campbell Industrial Park (CIP), industries in the park have been under close public and political scrutiny. The source of the November emissions was found to be the two refineries in the area, but complaints from area neighbors and schools about strong odors have continued and sources of these complaints have not been identified. Factors besides industrial activity that could be contributing to the degradation of air quality include volcanic fog (VOG), ocean gases and Kona winds.

In December 1995, prompted by the airborne contaminants emitted from industrial sources in CIP, the Environmental Protection Agency (EPA) tasked their Technical Assistance Team (TAT) to prepare a Quality Assurance Sampling Plan (QASP). The QASP would detail the air sampling investigation to be implemented by the Department of Health - Hazardous Evaluation and Emergency Response (DOH-HEER) representatives. The purpose of the QASP is to, with acceptable scientific quality, determine the nature, concentration, toxicological effects and sources of potential contaminants, then report the results to the public. Initial drafts of the QASP have been written with the participation of the EPA, TAT, CIP Air Quality Study Group and the DOH-HEER.

In February and March of 1996, the DOH-HEER conducted a preliminary air quality survey and has found over fifty chemical compounds in the air around the Campbell Industrial Park region. The chemical compounds found in the grab sample data, but not in the QASP were added to the list of chemicals referenced in the resource manual.

Field Study Objective

The objective of this field study was to construct a resource manual to aid the DOH-HEER representatives to help prepare the QASP and aid in the interpretation of the results from the QASP. For the resource manual to aid in the preparation of the QASP and the interpretation of results from the QASP, the resource manual would need to contain information organized to facilitate the answering of four primary public health questions:

1. What are the possible health effects of the air contaminants found in the grab samples performed at Campbell Industrial Park?
2. What are the possible health effects of the air contaminants that may be found during the planned air quality study as proposed in the Quality Assurance Sampling Plan air sampling draft?
3. What are the possible sources of these air contaminants?
4. What are the ambient levels of these air contaminants and at what level do these air contaminants pose a risk to public health?

Providing background research in the resource manual to addressing these public health questions is critical to meeting the major purpose of the QASP. The resource manual provides the background research, systematically organized, to address these questions and many other subordinate questions.