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INSTALLATION RESTORATION PROGRAM

DRAFT

CONFIRMATORY STUDY
SAMPLING AND ANALYSIS PLAN

174th TFW/HANCOCK FIELD
NEW YORK AIR NATIONAL GUARD
(NYANG)

MAY 13, 1994

HAZWRAP SUPPORT CONTRACTOR OFFICE
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AIR NATIONAL GUARD
INSTALLATION RESTORATION PROGRAM

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CONFIRMATORY STUDY
SAMPLING AND ANALYSIS PLAN

174th Tactical Fighter Wing
New York Air National Guard
Hancock Field
Syracuse, NY

Submitted by:

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MAY 13, 1994

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1.0 INTRODUCTION

In 1990, HAZWRAP procured the services of Metcalf & Eddy (M&E) under General Order NO. 91B-99791C to perform Site Investigation (SI) activities at the New York Air National Guard (NYANG) Hancock Field Pesticide & Petroleum, Oil, and Lubricant (POL) Area located in Syracuse, New York. This work was performed in accordance with the Installation Restoration Program (IRP) and the Hancock Field Work Plans which were prepared by M&E in 1990, and amended in February of 1991.

The final SI report for this work was delivered in 1992. In this report, M&E recommended that the Pesticide Storage Area be eliminated from further IRP action under a Decision Document (DD) as the site did not pose significant risk. M&E also recommended that further investigation of the POL area was necessary, and that a Remedial Investigation (RI) be conducted.

In March of 1994, a meeting was held at Hancock Field with the National Guard Bureau, HAZWRAP, Hancock Field personnel, New York State Department of Environmental Conservation (NYSDEC), and M&E. This meeting resulted in a decision to conduct further sampling of the Pesticide and POL Areas in order to confirm the presence of contamination described in the SI report approximately five years ago. It was also decided that a RI of the POL Area be conducted subsequent to the confirmatory study. Under General Order NO. 91B-99-99791C/Work Order K-06, HAZWRAP issued a new scope of work (SOW) to M&E.

This document is an abbreviated Sampling and Analysis Plan (SAP) for the above-mentioned confirmatory study at Hancock Field NYANG in Syracuse, New York. This abbreviated Sampling and Analysis Plan consists of references to and modifications of the Sampling and Analysis Plan written for the Hancock Field NYANG Site Investigation (M&E, 1990 amended 1991). While the SI SAP contained a Management Work Plan (WP), a Field Sampling Plan (FSP), a Quality Assurance Project Plan (QAPP), and a Health and Safety

Plan (HSP); this abbreviated confirmatory study SAP consists largely of a WP followed by a series of references to the SI FSP, QAPP, and HSP. While the HSP from the Site Investigation required no modifications in order to be appropriate for this confirmatory study, both the FSP and the QAPP were modified. The modifications are clearly indicated where necessary. This document should therefore be used in conjunction with the Hancock Field NYANG SI SAP as well as DOE/HWP-65R1, 69R11, and 100, and not as a stand-alone document.

2.0 MANAGEMENT WORK PLAN

2.1 INTRODUCTION

As stated section 1.0, the following is an abbreviated Management Work Plan (WP) for Hancock Field NYANG which refers frequently to the WP for the Site Investigation of Hancock performed in 1990 by Metcalf & Eddy. The SI WP is located in the Site Investigation Sampling and Analysis Plan and should be available for use alongside this document.A brief history leading to the decision to conduct this confirmatory study of Hancock Field NYANG is presented in section 1.0.

The basic field program for the confirmatory study will consist of the following activities:

Pesticide Storage Area

- Seven soil borings drilled to determine the extent of potential soil contamination with pesticides
- Collection of groundwater samples from three (3) existing groundwater monitoring wells to characterize any contamination of groundwater with pesticides
- Installation of a temporary groundwater monitoring well and subsequent sampling of this well to establish background conditions

POL Area

- Collection of groundwater samples from ten (10) existing groundwater monitoring wells to characterize any contamination of groundwater with PCBs and fuel

2.2 INSTALLATION RESTORATION PROGRAM

For a complete description of the Installation Restoration Program (IRP) of the Department of Defense (DOD), please refer to section 2.0 of the SI Management WP.

2.3 SITE BACKGROUND AND SETTING

Section 3.0 of the SI Management WP includes all necessary background information on the site available prior to the SI. Similar information may also be found in section 2.0 of the SI FSP and section 2.0 of the SI QAPP. The following is a supplement to the site descriptions contained in these sections, which incorporates information acquired during the SI in 1990.

2.3.1 Pesticide Storage Area

Analytical Results. Three shallow borings were advanced and completed as groundwater monitoring wells in November 1990. Groundwater and soil samples were taken and analyzed. Detected compounds consisted of four (4) organochlorine pesticides: DDT and two of its metabolites (DDD and DDE) were detected in all three composite soil samples and in one groundwater sample. Concentrations were as high as 27 μg/Kg for DDT, and 17 μg/Kg for each of the two metabolites. Dieldrin was present in one soil sample at 13 μg/Kg. Malathion, which was present in tank water in 1986, was not detected in any samples.

Geology and Hydrology. These three shallow borings were advanced to a maximum of sixteen (16) feet into overburden soils consisting of fine-grained sediments typical of a glaciofluvial or glaciolacustrine depositional environment. Water levels were three (3) to six (6) feet below the ground surface. Groundwater flow is southeast in the direction of North Branch Ley Creek. Recharge rates were low during well development, indicating that well yields from the glacial materials are low.

2.3.2 POL Area

Analytical Results. In November and December 1990, PCBs were detected in samples of seepage water taken from inside the pump house and in near-surface soil samples collected from soil borings in the vicinity of the pump house. In the seepage water, positive results were as high as 120 μg/L for Aroclor-1260 and 15 μg/L for Aroclor-1254. There were

indications that mobile PCBs were present beneath the pump house. Positive results for the subsurface soils ranged from non-detectable to 240,000 μg/Kg for Aroclor-1260 with the area immediately south of the building being the most contaminated, and that to the west being the least contaminated. Limits of the PCB contamination to the south and east of the pump house were not established, nor was the extent of the PCB-contaminated soil beneath the building determined.

Also at this time, samples of groundwater, sump-house seepage, surface water and sediment were analyzed for jet fuel contamination. Petroleum hydrocarbons consistent with a jet fuel source were detected in some samples of groundwater, sediment and sump water. No hydrocarbons were detected in the surface water. Contamination was greatest (2.3 mg/L TPH and 3,020 mg/L BTEX) in the monitoring well closest to, and down-gradient of the south side of the pump house. The contemporary extent of the petroleum contamination in groundwater was defined. The results obtained from seepage water samples indicated that there were mobile hydrocarbons, perhaps as free product, beneath the sump house.

Geology and Hydrology. Sediments similar to those encountered in the Pesticide Storage Area were encountered here. Water levels measured from five to ten feet below the ground surface. Groundwater flow was east in the direction of Ley Creek. Low hydraulic conductivities and gradients indicated low linear groundwater flow velocities.

2.4 INITIAL EVALUATION

A summary of known and suspected waste sources, potential pathways, and a list of Applicable or Relevant and Appropriate Requirements (ARARs) is given in section 4.0 of the SI WP. While the information presented in sections 4.1 and 4.2 is relevant, the data gaps identified in section 4.3 are replaced with the following data gaps identified in conjunction with the confirmatory study.

Identified Data Gaps

Currency of data: As sampling for the SI was conducted in late 1990, it is necessary to obtain a more current definition of the extent of contamination present at both sites. With respect to the POL Area, contaminant plumes may have migrated significantly over the period of time since the SI.

Lack of Background Data in the Pesticide Storage Area: The possibility of background pesticide contamination in the soil and/or groundwater has not yet been addressed.

2.5 WORK PLAN RATIONALE

This section briefly describes the rationale for the selection of field activities to be conducted for the confirmatory study at Hancock Field NYANG.

2.5.1 Confirmatory Study Objectives

The specific objectives of the confirmatory study are as follows:

- Collect field data to provide an update on the nature and extent of contamination as previously determined during the SI and in support of a Technical Memorandum for the Pesticide and POL Areas
- Collect field data to provide an update on the nature and extent of contamination as previously determined during the SI and in support of a Decision Document for the Pesticide Storage Area, and the subsequent Remedial Investigation of the POL Area

To accomplish the objectives of this study, the following activities are proposed:

Pesticide Storage Area

- Soil borings drilled to determine the current extent of soil contamination with pesticides
- Collection of groundwater samples to characterize any contamination of groundwater with pesticides
- Installation of a temporary background groundwater monitoring well to characterize any background contamination with pesticides
- Water level measurements

POL Area

- Collection of groundwater samples to characterize any contamination of groundwater with fuel and PCBs
- Water level measurements

2.5.2 Data Quality Objective (DQO) Needs

The chemical analysis data which will be generated from this work must be of sufficient quality and quantity to be used in a comparison with the corresponding data from the SI and to confirm that no further work at the Pesticide Storage Area is required. In addition, since the data may be used in support of the RI of the POL Area, it must be of sufficient quality to be used in a risk assessment.

In order to accomplish these objectives, comparisons must be made to chemical-specific ARARs. This would require detection limits as low as the chemical-specific ARARs defined in Table 4-2 of the SI WP. Data that is highly representative and of known precision and accuracy will be necessary to generate a Decision Document for the Pesticide Storage Area, and highly advantageous for use in the RI.

2.5.3 Technical Approach to the Work

This section briefly describes the activities planned to accomplish the objectives discussed above. Table 2-1 summarizes the activities planned for both sites.

2.5.3.2 Field Activities at the Pesticide Storage Area. Work at the Pesticide Storage Area consists of the following activities:

- Drilling seven (7) shallow boreholes to a maximum depth of four (4) feet with one (1) borehole positioned upgradient of the Pesticide Storage Area
- Collecting two soil samples per borehole and submitting them for analysis for organochlorine pesticides by method SW8080
- Installing one (1) temporary background groundwater monitoring well and, subsequent to sampling, removing it

- Collecting samples from the three (3) existing groundwater monitoring wells and the one (1) temporary well and submitting them for analysis for organochlorine pesticides, both filtered and unfiltered, by method SW8080

2.5.3.3 Field Activities at the POL Area. The activities at the POL Area will include the following:

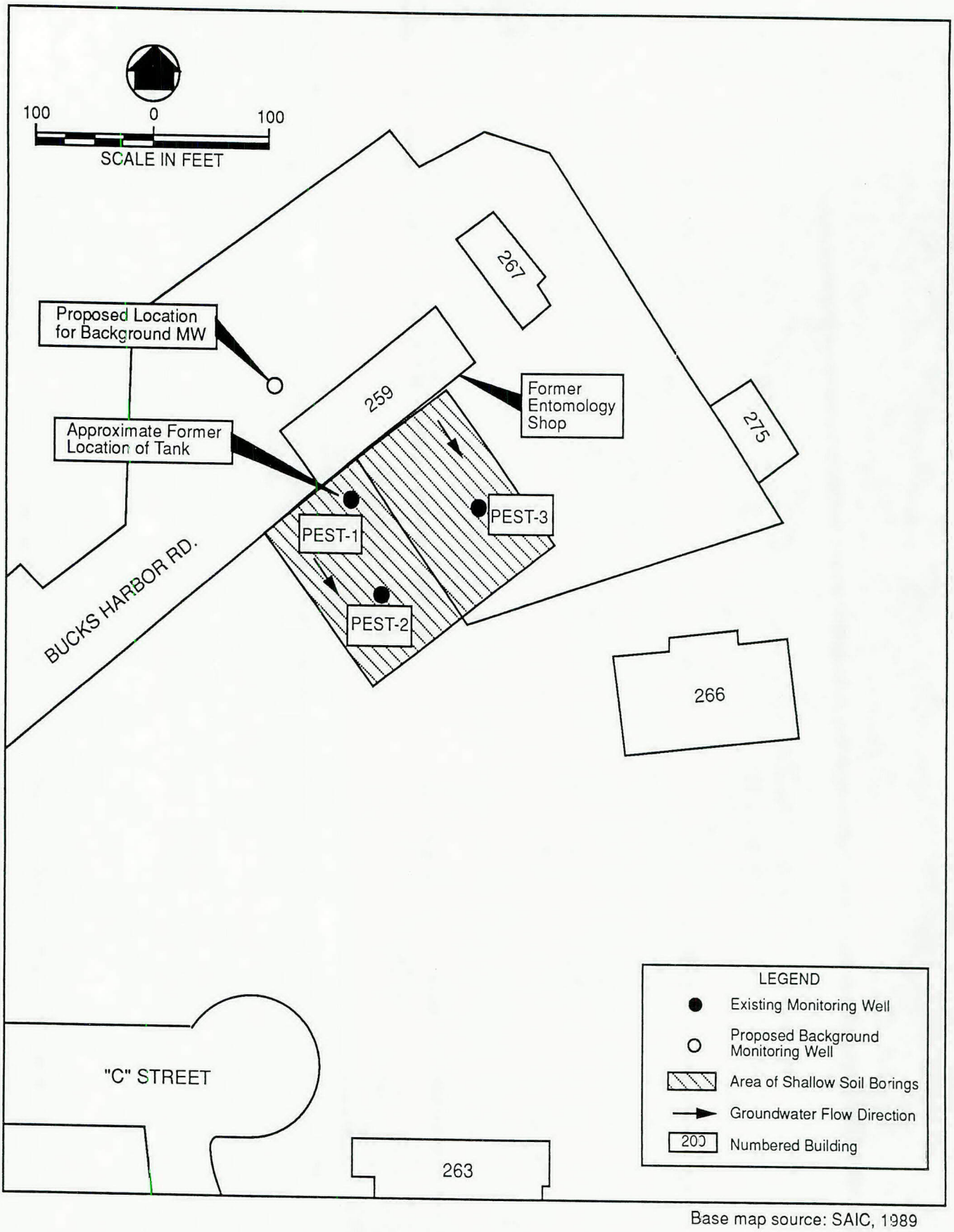
- Sampling the ten (10) existing groundwater monitoring wells
- Analyzing for Pesticide/PCBs by method SW8080, for Total Petroleum Hydrocarbons (TPH) by method 8015 (California Modified or LUFT Method), and for the BTEX Volatile Organic Compounds (VOCs) by method SW8260

Figures 2-1 and 2-2 indicate the locations of the groundwater monitoring wells that will be sampled in the Pesticide Storage Area and the POL Area, respectively. Figure 2-1 also illustrates the areas in which the shallow soil borings and the background monitoring well will be installed.

TABLE 2–1. SUMMARY OF CONFIRMATORY STUDY ACTIVITIES HANCOCK FIELD, SYRACUSE, NY

	Soil Borings	Well Installations	No. of Existing Wells	Suspected Contaminants	Analyses	No. of Aq. Samples[1]	No. of Soil Samples[1]
Pesticide Area	7 shallow	1 temporary	3	Pesticides	Organochlorine pesticides (CLP)	8[2]	14
POL Area	--	--	10	PCBs	Pest/PCBs (CLP)	10	--
				JP–4	TPH (CA Modified)	10	--
					VOC (CLP)	10	--

NOTES: (1) – QC not included.
(2) – Includes four (4) filtered samples and four (4) unfiltered samples.



Base map source: SAIC, 1989

FIGURE 2-1. SAMPLING LOCATION MAP OF PESTICIDE STORAGE AREA, HANCOCK FIELD, SYRACUSE, NEW YORK

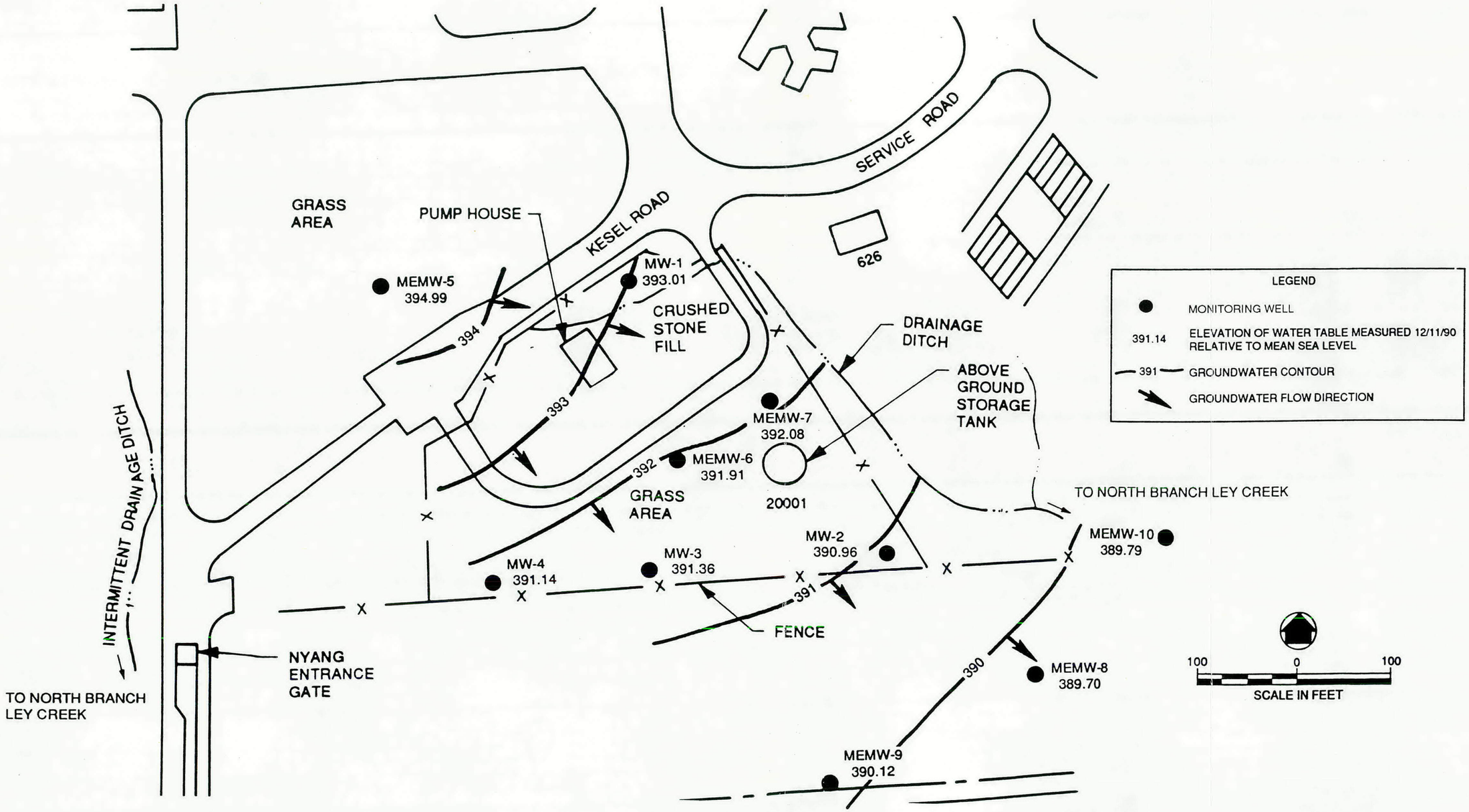


FIGURE 2-2.
SAMPLING LOCATION MAP
POL AREA, HANCOCK FIELD,
SYRACUSE, NEW YORK

2.6 SCHEDULE AND REPORTING

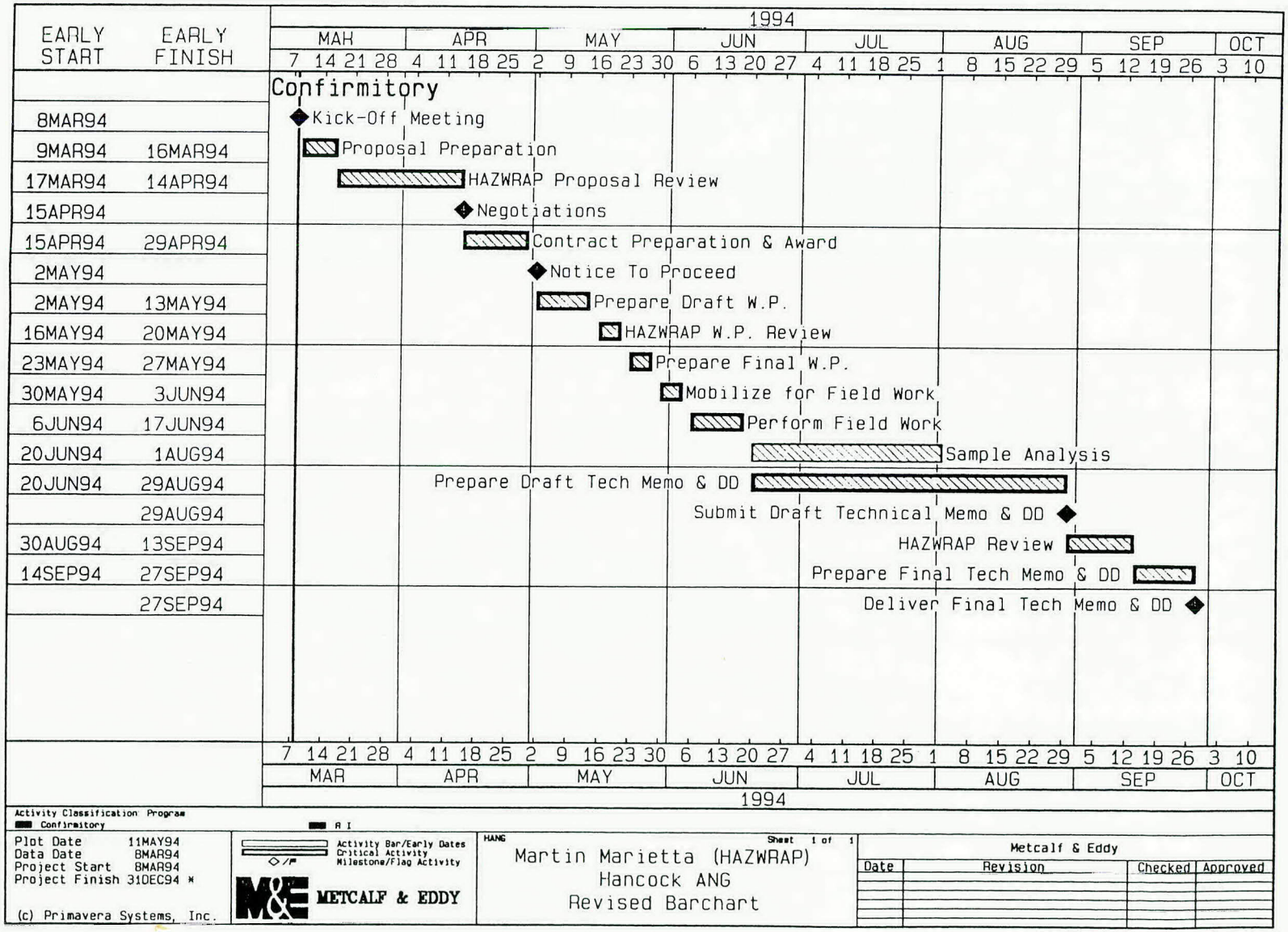
2.6.1 Schedule

Figure 2-3 presents a schedule for accomplishing the Confirmatory Study tasks. Although the schedule was prepared April 14,1994, actual progress since that date has proceeded very close to schedule and this schedule figure does not require revision.

2.6.2 Reporting

The reporting mechanisms that will be used in the confirmatory study are the same as those used in the SI. They are described in section 7.2 of the SI WP.

FIGURE 2-3. SCHEDULE OF CONFIRMATORY STUDY ACTIVITIES



2.7 PROJECT MANAGEMENT

2.7.1 Project Team Organization and Responsibilities

The M&E project team for the confirmatory study will include the following positions:

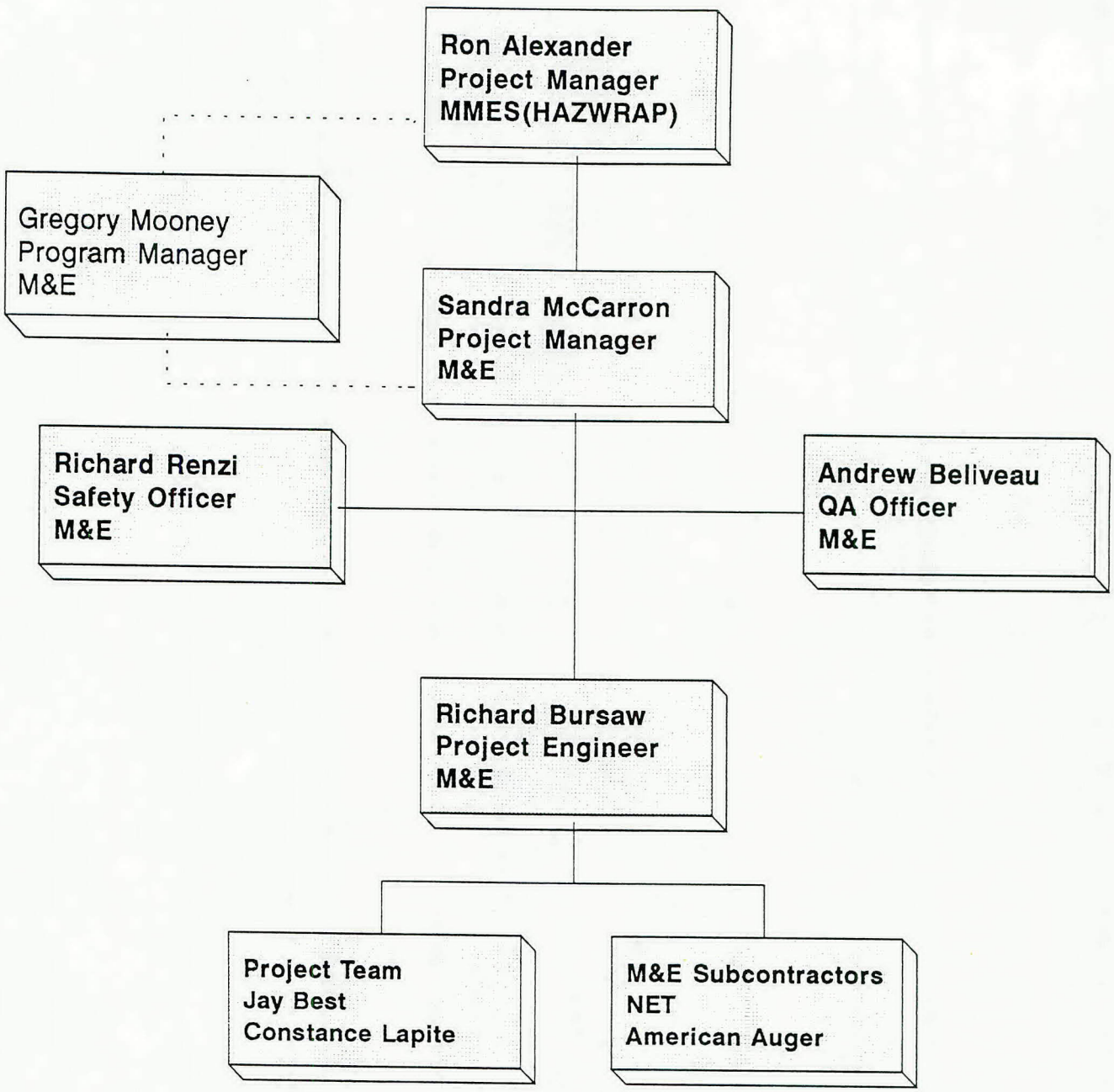
- Program Manager
- Project Manager
- Quality Assurance Officer
- Health and Safety Officer
- Hydrogeologist
- Chemist

A description of the responsibilities associated with these positions is presented in section 8.0 of the SI WP. Figure 2-4 provides the project management structure and includes the names and titles of all project team members.

2.7.2 Training

Training will be provided according to section 8.3 of the SI WP, with the exception that all personnel will receive this modified SAP in addition to those documents already listed.

FIGURE 2-4. PROJECT TEAM ORGANIZATION CHART



3.0 FIELD SAMPLING PLAN

The Field Sampling Plan for the Hancock Field NYANG Site Investigation (M&E, 1990 amended 1991) should be used to perform this confirmatory study. Specifically, the following sections of the SI FSP should be referenced:

- Section 6.0 Project Planning
- Section 7.0 Soil Borings and Monitoring Well Installation
- Section 8.0 Sampling Procedures
- Section 9.0 Decontamination Procedures
- Section 10.0 Sample Handling For Analysis
- Section 11.0 Disposal of Study-Derived Wastes

Of these sections, the following required some modification for performance of the confirmatory study:

- Section 7.0 Soil Borings and Monitoring Well Installation
- Section 8.0 Sampling Procedures

The modifications to these sections are described in the following pages.

3.1 SOIL BORINGS AND MONITORING WELL INSTALLATION

Advancement of the shallow soil borings at the Pesticide Storage Area will be conducted according to section 5.2 of the SI FSP with the following modification: The completion depth of each borehole will be approximately four (4) feet below ground surface.

Installation of the temporary monitoring well upgradient of the Pesticide Storage Area will be conducted according to the procedure presented in section 5.3 of the SI FSP with the following modifications:

- One groundwater monitoring well will be installed at the Pesticide Storage Area
- This monitoring well will be temporary
- The well will be removed and the borehole will be grouted to the surface after groundwater sampling of this well has been completed
- No well cap, traffic box, brass marker, or concrete pad around the well head will be installed

With respect to monitoring well development, the temporary well will be developed according to section 5.4 of the SI FSP with the following modifications:

- The well will be developed by M&E personnel after the grout seal has set for a minimum of twelve (12) hours
- The procedure for developing the slowly recharging well should be disregarded
- The temporary well will not be surveyed
- The Well Completion Log (see Figure 5-2 in the SI FSP) will clearly indicate that the well did not rise above the ground surface

3.2 SAMPLING PROCEDURES

The following section outlines the equipment and sampling procedures that shall be used for the collection of soil and groundwater samples at both sites.

3.2.1 Borehole Sampling Methods

Sampling of the boreholes in the Pesticide Storage Area will be conducted according to the borehole soil sampling procedures described in section 6.1.3 of the SI FSP with the following modifications:

- Boreholes will only be advanced to a depth of four (4) feet, and a sample will be collected for laboratory analysis from each consecutive two-foot depth for a total of two samples per borehole
- Samples will not, therefore, be screened with an HNu photoionization detector to be selected for laboratory analysis

3.2.2 Groundwater Sampling Methods

Sampling of the groundwater monitoring wells in both areas will be conducted according to the groundwater monitoring well sampling procedures described in section 6.2.3 of the SI FSP.

3.2.3 Quality Control Samples

A description of the different types of QC samples is provided in section 6.3 of the SI FSP. However, the number and frequency of the QC sample collection is determined by the individual project requirements. Table 4-2 in section 4.3 of this document includes all samples and QC samples to be collected during the confirmatory study.

4.0 QUALITY ASSURANCE PROJECT PLAN

The Quality Assurance Project Plan (QAPP) for the Hancock Field NYANG Site Investigation (M&E, 1990 amended 1991) should be used to perform this confirmatory study. Specifically, the following sections of the SI QAPP should be referenced:

- Section 4.0 Laboratory Data Quality Objectives
- Section 5.0 Sampling
- Section 6.0 Sample Identification and Custody
- Section 7.0 Calibration Procedures and Frequencies
- Section 8.0 Analytical Procedures
- Section 9.0 Data Reduction, Validation, and Reporting
- Section 10.0 Internal Quality Control Checks
- Section 11.0 Performance and System Audits
- Section 12.0 Preventative Maintenance
- Section 13.0 Procedures for Assessing Precision, Accuracy, and Completeness
- Section 14.0 Corrective Action Procedures
- Section 15.0 Quality Assurance Reports

Of these sections, the following required modification for use on the confirmatory study:

- Section 4.0 Laboratory Data Quality Objectives
- Section 5.0 Sampling
- Section 8.0 Analytical Procedures

- Section 11.0 Performance and System Audits

The modifications to these sections are presented in the following sections.

4.1 LABORATORY DATA QUALITY OBJECTIVES

The major characteristics of laboratory data quality; accuracy, precision, completeness, representativeness, and comparability; as well as procedures for data assessment are described in section 4.0 of the SI QAPP. Since the laboratory analyses conducted for the confirmatory study differ from those conducted for the SI, modifications to the tables containing the method-specific summary of laboratory DQOs were necessary. Therefore, the DQOs for all laboratory analyses conducted for the confirmatory study are presented on the following pages in Tables 4-1 (A and B). All laboratory methods are Contract Laboratory (CLP) methods. The field methods to be performed for the confirmatory study are the same that were used for the SI. Therefore, the DQOs for the field analyses can be found in the SI QAPP on Table 4-1c.

TABLE 4-1A (AQUEOUS ANALYSES)
LABORATORY: SUMMARY OF ESTIMATED OBJECTIVES FOR PRECISION, ACCURACY, AND COMPLETENESS

Parameter	Method[1] Reference	Precision[2] (as RPD)	Accuracy[3] (Recovery)	Completeness
Aromatic Volatiles				
Benzene	CLP	11%	76-127%	90%
Chlorobenzene	CLP	13%	75-130%	90%
1,2-Dichlorobenzene	CLP	NDG/30%	NDG	90%
1,3-Dichlorobenzene	CLP	NDG/30%	NDG	90%
1,4-Dichlorobenzene	CLP	NDG/30%	NDG	90%
Ethyl Benzene	CLP	NDG/30%	NDG	90%
Toluene	CLP	13%	76-125%	90%
Xylenes	CLP	NDG/30%	NDG	90%
Organochlorine Pesticides & PCBs				
Aldrin	CLP	22%	40-120%	90%
α-BHC	CLP	NDG/30%	NDG	90%
β-BHC	CLP	NDG/30%	NDG	90%
δ-BHC	CLP	NDG/30%	NDG	90%
γ-BHC (Lindane)	CLP	15%	56-123%	90%
Chlordane (technical)	CLP	NDG/30%	NDG	90%
4,4'-DDD	CLP	NDG/30%	NDG	90%
4,4'-DDE	CLP	NDG/30%	NDG	90%
4,4'-DDT	CLP	27%	38-127%	90%
Dieldrin	CLP	18%	52-126%	90%
Endosulfan I	CLP	NDG/30%	NDG	90%
Endosulfan II	CLP	NDG/30%	NDG	90%
Endosulfan Sulfate	CLP	NDG/30%	NDG	90%
Endrin	CLP	NDG/30%	NDG	90%
Endrin Aldehyde	CLP	NDG/30%	NDG	90%
Heptachlor	CLP	NDG/30%	NDG	90%
Heptachlor Epoxide	CLP	NDG/30%	NDG	90%
Methoxychlor	CLP	NDG/30%	NDG	90%
Toxaphene	CLP	NDG/30%	NDG	90%
Aroclor-1016	CLP	NDG/30%	NDG	90%
Aroclor-1221	CLP	NDG/30%	NDG	90%
Aroclor-1232	CLP	NDG/30%	NDG	90%

TABLE 4-1A (AQUEOUS ANALYSES) Continued
LABORATORY: SUMMARY OF ESTIMATED OBJECTIVES FOR PRECISION, ACCURACY, AND COMPLETENESS

Parameter	Method[1] Reference	Precision[2] (as RPD)	Accuracy[3] (Recovery)	Completeness
Organochlorine Pesticides and PCBs (continued)				
Aroclor-1242	CLP	NDG/30%	NDG	90%
Aroclor-1248	CLP	NDG/30%	NDG	90%
Aroclor-1254	CLP	NDG/30%	NDG	90%
Aroclor-1260	CLP	NDG/30%	NDG	90%
Total Petroleum Hydrocarbons (TPH)				
TPH	8015	NDG	NDG	85%

NDG No data generated for this analysis.

(1) All methods with the exception of the TPH method are U.S. EPA Contract Laboratory Program (CLP) methods. Analyses and deliverables will be performed according to U.S.EPA Statement of Work for Organic Analysis (3/90), Revision OLM01.8, U.S. EPA, August 1991.

Method 8015
Leaking Underground Fuel Tank Manual, State of California, Oct. 1989

(2) Precision - Relative Percent Difference (RPD) between duplicate matrix spike recoveries, or duplicate analyses, except where noted for organics.

(3) Accuracy - Expected recovery for QC check samples or as specified by the method, for matrix spike recoveries, except where noted for organics.

TABLE 4-1B (SOIL ANALYSES)
LABORATORY: SUMMARY OF ESTIMATED OBJECTIVES FOR PRECISION, ACCURACY, AND COMPLETENESS

Parameter	Method[1] Reference	Precision[2] (as RPD)	Accuracy[3] (Recovery)	Completeness
Organochlorine Pesticides				
Aldrin	CLP	43%	34-132%	90%
α-BHC	CLP	NDG/50%	NDG	90%
β-BHC	CLP	NDG/50%	NDG	90%
δ-BHC	CLP	NDG/50%	NDG	90%
γ-BHC (Lindane)	CLP	50%	46-127%	90%
Chlordane (technical)	CLP	NDG/50%	NDG	90%
4,4'-DDD	CLP	NDG/50%	NDG	90%
4,4'-DDE	CLP	NDG/50%	NDG	90%
4,4'-DDT	CLP	50%	23-134%	90%
Dieldrin	CLP	38%	31-134%	90%
Endosulfan I	CLP	NDG/50%	NDG	90%
Endosulfan II	CLP	NDG/50%	NDG	90%
Endosulfan Sulfate	CLP	NDG/50%	NDG	90%
Endrin	CLP	NDG/50%	NDG	90%
Endrin Aldehyde	CLP	NDG/50%	NDG	90%
Heptachlor	CLP	NDG/50%	NDG	90%
Heptachlor Epoxide	CLP	NDG/50%	NDG	90%
Methoxychlor	CLP	NDG/50%	NDG	90%
Toxaphene	CLP	NDG/50%	NDG	90%

NDG No data generated for this analysis.

(1) U.S.EPA Statement of Work for Organic Analysis (3/90), Revision OLM01.8, U.S. EPA, August 1991.

(2) Precision - Relative Percent Difference (RPD) between duplicate matrix spike recoveries, or duplicate analyses, except where noted for organics.

(3) Accuracy - Expected recovery for QC check samples or as specified by the method, for matrix spike recoveries, except where noted for organics.

4.2 SAMPLING

Table 4-2 summarizes the samples, including the QC samples, to be collected during the sampling activities. The rationale for sample location and frequency was provided in sections 2.4 and 2.5 of this document. The standard operating procedures for the collection of samples was described in section 3.0. Sample preservation methods are discussed in section 5.3 of the SI QAPP. Method-specific sampling containers, preservation methods, and holding times are presented on the following page in Table 4-3.

TABLE 4–2. SUMMARY OF LABORATORY ANALYSES

10–May–94

PESTICIDE STORAGE AREA

PARAMETER	METHOD	NUMBER OF SAMPLES	QUALITY CONTROL SAMPLES					TOTAL SAMPLES
			MS/MSD[1]	FIELD DUP[2]	TRIP BLANK[3]	EQUIP. BL.[2]	FIELD BL.[4]	
SOIL SAMPLES								
Organochlorine Pesticides	CLP	14	2	2		2	2	22
AQUEOUS SAMPLES								
Organochlorine Pesticides[5]	CLP	8	4	2		2	2	18

PETROLEUM OIL LUBRICATION (POL) AREA

PARAMETER	METHOD	NUMBER OF SAMPLES	QUALITY CONTROL SAMPLES					TOTAL SAMPLES
			MS/MSD[1]	FIELD DUP[2]	TRIP BLANK[3]	EQUIP. BL.[2]	FIELD BL.[4]	
AQUEOUS SAMPLES								
VOC	CLP	10	2	1	3	1	2	19
TPH	8015[6]	10	2	1		1	2	16
PCBs	CLP	10	2	1		1	2	16

NOTES:

(1) – Each MS/MSD is indicated as two samples.
(2) – Equipment blanks and field duplicates must be collected at a 10% frequency. Equipment blanks must also be collected for each type of sampling equipment.
(3) – A trip blank must be included for each cooler containing volatile samples shipped to the laboratory.
(4) – A field blank must be collected for each source of decontamination water used. Both tap water and the DIUF water will be analyzed.
(5) – Both filtered and unfiltered samples will be collected and analyzed for organochlorine pesticides.
(6) – California Modified method.

TABLE 4-3. SAMPLING PARAMETERS, CONTAINERS, PRESERVATION AND HOLDING TIMES

Parameter	Container[1]	Preservative	Holding Time
AQUEOUS			
Organochlorine Pesticides	3 1-liter amber glass bottle with Teflon-lined lid	Ice to 4°	Extract within 7 days; analyze within 40 days of extraction
Volatile Organic Compounds	2 40-mL glass vial with Teflon-lined lid	HCl to pH<2; Ice to 4°	14 days
Total Petroleum Hydrocarbons	2 1-liter amber glass bottle with Teflon-lined lid	HCl to pH<2; Ice to 4°	28 days
PCBs	3 1-liter amber glass bottle with Teflon-lined lid	Ice to 4°	Extract within 7 days; analyze within 40 days of extraction
SOIL			
Organochlorine Pesticides	1 8-oz. wide-mouth amber jar with Teflon-lined lid	Ice to 4°	Extract within 14 days; analyze within 40 days of extraction

(1) The number of containers listed provides volume for one analysis only. An additional volume, equal to that provided for the sample analysis, will be provided for each QA/QC analysis.

4.3 ANALYTICAL PROCEDURES

4.3.1 Standard Analytical Methods

The standard analytical methods to be utilized for the confirmatory study are summarized on Table 8-1. Further information on the procedural techniques are included in the method references listed.

4.3.2 Contract Required Quantitation Limits

The contract required quantitation limits (CRQLs) required by the Contract Laboratory Program (CLP) methods for the analyses which will be used for the confirmatory study can be found in the U.S. EPA CLP Statement of Work for Organic Analysis (3/90), Revision OLM01.8. Detection limit for the modified Total Petroleum Hydrocarbon method (Method 8015) is 500.0 μg/L for aqueous samples.

4.3.3 Laboratory Standards and Reagents

The suppliers of laboratory standards and reagents are described in section 8.3 of the SI QAPP.

TABLE 8-1. ANALYTICAL PROCEDURES

Laboratory Analyses		
Volatile Organics	CLP	U.S. CLP Statement of Work for Organic Analysis (3/90), U.S. EPA/CLP, August 1991
Organochlorine Pesticides & PCBs (aqueous & soil)	CLP	U.S. CLP Statement of Work for Organic Analysis (3/90), U.S. EPA/CLP, August 1991
Total Petroleum Hydrocarbons (TPH)	8015 (CA Modified)	Leaking Underground Fuel Tank Manual, State of California, Oct. 1989
Field Analyses		
Temperature	EPA 170.1	Methods for Chemical Analysis of Water and Wastes, EPA-600/4/79-020, March 1983.
Specific Conductance	EPA 120.1	
pH	EPA 150.1	

5.0 HEALTH AND SAFETY PLAN

As the investigative activities to be performed during the confirmatory study at Hancock Field NYANG are of a nature similar to those performed during the Site Investigation and there is no knowledge of any additional sources of potential hazards that were not present at the time the SI was conducted, the Health and Safety Plan (HSP) written for the Site Investigation for Hancock Field NYANG should be used for the performance of the confirmatory study.