FINAL
WORK PLAN
BASEWIDE LONG-TERM MONITORING
AT
AIR FORCE PLANT 59
JOHNSON CITY, NEW YORK

Contract Number FA8903-10-D-8596
Task Order: 0061

Project Number:
ACHQ20125001
CDRL A005

Prepared for

Air Force Center for Engineering and the Environment

Prepared by

HydroGeoLogic, Inc.

June 2012

HGL
HydroGeoLogic, Inc

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

AFCEE	Air Force Center for Engineering and the Environment
AFP 59	Air Force Plant 59
ALPHA	Alpha Analytical Laboratory
CDUT	Contractor Data Upload Tool
CoC	chain-of-custody
DoD	Department of Defense
ERPIMS	Environmental Restoration Program Management System
FSP	Field Sampling Plan
HGL	HydroGeoLogic, Inc.
IDW	investigation-derived waste
LTM	Long-Term Monitoring
MCL	maximum contaminant level
MS	matrix spike
MSD	matrix spike duplicate
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compounds
WP	work plan

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1.0 INTRODUCTION

This Work Plan (WP) describes the procedures and techniques that will be used to conduct a one-time groundwater monitoring event in support of long-term monitoring (LTM) activities at Air Force Plant 59 (AFP 59) in Johnson City, New York (Figure 1.1). HydroGeoLogic, Inc. (HGL) has prepared this WP under contract to the Air Force Center for Engineering and the Environment (AFCEE) as part of the requirements for Contract FA8903-10-D-8596, Task Order 0061. This WP contains the proposed project scope and objectives, reporting requirements, and Project Schedule (Appendix A).

1.1 PROPOSED PROJECT ACTIVITIES

The following activities will be completed during the execution of this task order:

1. Preparation of this WP and other supporting documents.
2. One round of groundwater sampling of six on-site AFP 59 monitoring wells and four off-site monitoring wells. Samples will be analyzed for volatile organic compounds (VOC) and 1,4-dioxane.
3. Collection of one groundwater sample at the Camden Street Well Field. The sample will be analyzed for VOCs and 1,4-dioxane.
4. Preparation of a report presenting the data collected during the field investigation.

1.2 SUMMARY OF PREVIOUS INVESTIGATIONS

For a summary of previous investigations at AFP 59, refer to the *Final Work Plan for the Vapor Intrusion Investigation, Monitoring Well Abandonment, Groundwater Monitoring, and Fire Suppression Reservoir Investigation, AFP 59, Johnson City, New York* (AECOM, 2009a).

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2.0 PROJECT SCOPE AND OBJECTIVES

2.1 OBJECTIVES

The LTM objectives for this project are to sample and evaluate VOC levels in groundwater that are above current maximum contaminant level (MCL) standards.

2.2 SAMPLE ANALYSIS SUMMARY

The proposed laboratory analyses for the groundwater samples are based on the types of chemicals used at AFP 59 and the chemicals previously detected in samples collected in the study area. A summary of the proposed laboratory analyses, including the number of environmental samples and quality assurance/quality control (QA/QC) samples, is provided below in Table 2-1.

Table 2-1
Sample Analysis Summary

Method	Matrix	Samples	Equipment Blanks	Ambient Blanks	Trip Blanks	Field Duplicates	MS/MSD Samples	Total Samples
8260B	Groundwater	12	1	1	1	1	1	17
8260SIM (1,4-dioxane)	Groundwater	12	1	0	1	1	1	16

The groundwater samples will be analyzed for VOCs (U.S. Environmental Protection Agency [USEPA] Method SW8260B) and 1,4-dioxane (USEPA Method 8260C SIM). The samples will be analyzed by Alpha Analytical Laboratory (Alpha).

Groundwater QA/QC samples will be collected as described in the Quality Assurance Project Plan (QAPP) (AECOM, 2009c). The QA/QC samples will be collected at the following rates:

- Trip Blanks – One trip blank will be sent with each cooler.
- Ambient Blanks – One ambient blank will be collected during groundwater sampling.
- Duplicate Samples – One duplicate will be collected from a groundwater sampling location that represents a target frequency of approximately 10 percent of project samples and analyzed using an off-site laboratory.
- Equipment Blanks – One equipment blank will be collected from groundwater sampling equipment.
- Matrix Spike (MS)/Matrix Spike Duplicate (MSD) – One MS/MSD sample will be collected from a groundwater sampling location that represents a target frequency of approximately 5 percent of project samples and analyzed using an off-site laboratory.

Groundwater duplicate and MS/MSD sample identification codes are described below. An example identification code for QA/QC samples not related to sampling location (trip blanks, ambient blanks and equipment blanks) follows:

- **Trip Blanks** = TBMMDDYY; if more than one trip blank is required in 1 day, an A or B will be used to distinguish between blanks.
- **Ambient Blanks** = ABMMDDYY; if more than one ambient blank is required in 1 day, an A or B will be used to distinguish between blanks, and a note will be made in the logbook and chain of custody (CoC) describing location and conditions that warranted collection of second sample.
- **Equipment Blanks** = EBMMDDYY; if more than one equipment blank is required in 1 day, an A, B, C, etc., will be used to distinguish between blanks, and a note will be made in the logbook and CoC to describe the equipment sampled.

3.0 PROJECT TASKS

This section describes the required field and laboratory tasks to be completed during this event.

3.1 LONG-TERM MONITORING TASKS

The objectives of the LTM sampling activities will be achieved through field sampling, which will include the following activities: (1) mobilization to and from the site by HGL personnel; (2) sampling of 11 groundwater wells; and (3) disposal of investigative-derived wastes (IDW). A brief description of each field activity is provided in the following sections.

3.1.1 Mobilization

Groundwater sampling for all 11 on-site and off-site wells will be accomplished during one field mobilization. Activities associated with the initiation of the field investigation (e.g., securing identification badges and vehicle passes, and identifying and staging areas for equipment) will be coordinated with the facility point-of-contact.

3.1.2 Groundwater Sampling

Groundwater samples will be collected using the procedures found in the AFP 59 *Draft Field Sampling Plan (FSP) Addendum* (HGL, 2012) to AECOM's 2009 Final FSP (AECOM, 2009b). Up to 11 groundwater samples will be collected and analyzed at a fixed, off-site laboratory for VOCs (USEPA Method 8260B) and 1,4-Dioxane (USEPA Method 8260SIM). Monitoring well locations are presented on Figure 3.1.

Groundwater samples will be obtained from six on-site AFP 59 monitoring wells and five off-site monitoring wells. One additional groundwater sample will be collected from the Municipal Well Field. HGL will contact each of the property owners and facility operators (in accordance with past sampling practices at the site) prior to mobilization. HGL personnel will meet with each resident to answer additional questions if deemed necessary.

3.1.3 Waste Containment

HGL will use low-flow sampling where specified to limit the volume of purge water generated. Purge water will be disposed of by pouring directly onto the ground in the vicinity of each monitoring well for the on-site wells. Purge water will be collected and disposed of properly from the off-site residential area wells. HGL also will limit the use of disposable materials to the extent practicable.

3.1.4 Site Personnel

Table 3-1 lists anticipated project personnel.

Table 3-1
Personnel Responsibilities

Title	Name
AFCEE Project Manager	George Walters
HGL Project Manager	Peter Dacyk
HGL Site Manager	Mike Jackson
Analytical Laboratory-Groundwater	Alpha Analytical Laboratory
Health and Safety Professional	Mark McGowan
Site Health and Safety Officer	Mike Jackson

3.2 SUBCONTRACTORS

The laboratory selected for this project based on cost and technical merit is Alpha, located in Westborough, Massachusetts. Alpha will provide analytical data for the samples in a 3-week (21 working days) turnaround time and is a Department of Defense (DoD) Environmental Laboratory Accreditation Program-certified laboratory. Alpha meets all applicable certification requirements and data quality and reporting requirements outlined in the QAPP.

4.0 DATA ASSESSMENT, RECORDS, AND REPORTING REQUIREMENTS

4.1 DATA ASSESSMENT

HGL will validate and review the analytical data generated from the analyses of the groundwater samples. HGL will receive data from the laboratory as an electronic deliverable that is consistent with the U.S. Air Force's Environmental Restoration Program Management System (ERPIMS) format. Each ERPIMS deliverable will be submitted utilizing the validation and delivery requirements established in ERP tools. ERPIMS submissions will be made using the ERPIMS 5.0 software suite and will be accompanied by a transmittal letter that will address any warnings generated during the validation process along with a data usability summary report (DUSR) and an electronic data delivery (EDD).

4.2 ABBREVIATED MONITORING REPORT

Upon receipt and validation of analytical analyses, HGL will prepare and submit an Abbreviated Monitoring Report that will fully document the groundwater monitoring activities completed and detail the findings of the data analysis. Based on the findings of the data analysis, recommendations for further investigation may or may not be included in the report. Draft and Final Abbreviated Monitoring Reports will be submitted by e-mail or compact disk and will be uploaded to the AFCEE Contractor Data Upload Tool (CDUT) website. The Abbreviated Monitoring Report will be consistent with past deliverables submitted for the project.

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5.0 REFERENCES

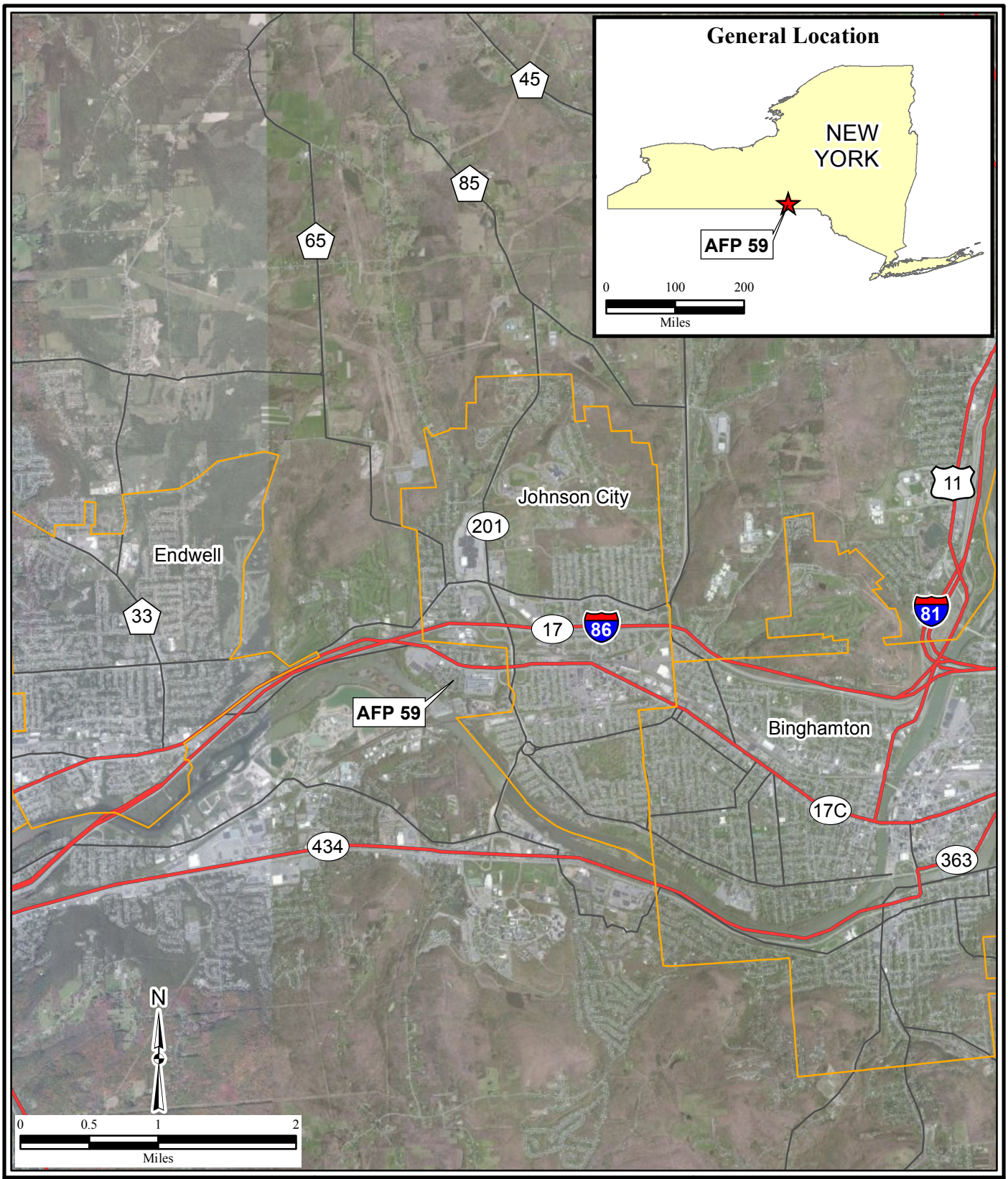
AECOM, 2009a. *Final Work Plan for the Vapor Intrusion Investigation, Monitoring Well Abandonment, Groundwater Monitoring, and Fire Suppression Reservoir Investigation, AFP 59, Johnson City, New York.* August.

AECOM, 2009b. *Final Field Sampling Plan for the Vapor Intrusion Investigation, Monitoring Well Abandonment, Groundwater Monitoring, and Fire Suppression Reservoir Investigation, AFP 59, Johnson City, New York.* August.

AECOM, 2009c *Final Quality Assurance Project Plan Vapor Intrusion Investigation, Groundwater Monitoring Activities, and Well Abandonment at Air Force Plant 59 Johnson City, New York.* August

HydroGeoLogic, Inc. (HGL), 2012. *Draft Field Sampling Plan Addendum for Basewide Long-Term Monitoring at AFP 59, Johnson City, New York* May.

FIGURES



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5/15/2012 PD
Source: HGL,
ArcGIS Online Bing Maps Aerial

Legend

- Major Road
- Highway
- City Limit

Figure 1.1
Site Location

Figure 3.1
Monitoring Well Locations

Legend

- AFP 59 Monitoring Well
- Offsite Monitoring Well
- URS-9S — Monitoring Well Identification
- Road

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Source: HGL, AECOM,
ArcGIS Online Bing Maps Aerial

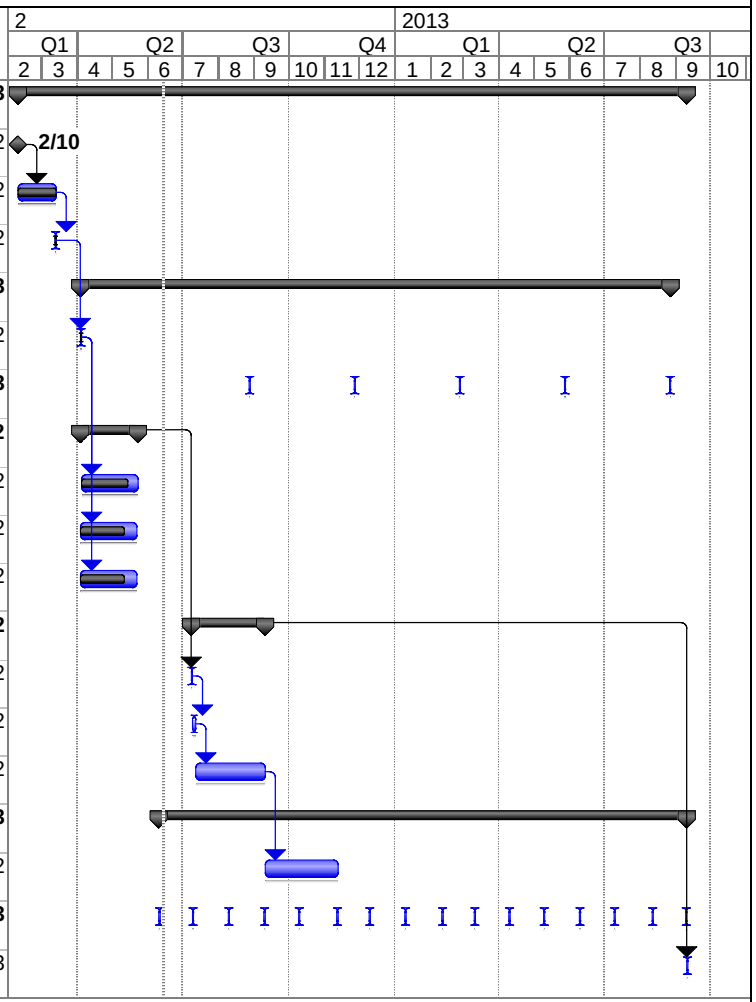
HydroGeoLogic, Inc

APPENDIX A

PROJECT SCHEDULE

Appendix A
Air Force Plant 59
Project Planning Chart

ID	Task Name	Duration	Start	Finish
1	**LTM AFP-59**	**413 days**	**Fri 2/10/12**	**Tue 9/10/13**
2	Submit Proposal	0 days	Fri 2/10/12	Fri 2/10/12
3	Proposal Review (Proposal Valid for 90 days)	32.38 edays	Fri 2/10/12	Tue 3/13/12
4	Notice to Proceed	1 day	Tue 3/13/12	Tue 3/13/12
5	**Project Meetings**	**365 days**	**Wed 4/4/12**	**Tue 8/27/13**
6	Kickoff Meeting	1 day	Wed 4/4/12	Wed 4/4/12
7	**Quarterly Meeting/Teleconfernce**	**261 days**	**Tue 8/28/12**	**Tue 8/27/13**
13	**Planning Documents**	**36 days**	**Wed 4/4/12**	**Wed 5/23/12**
14	Work Plan (Draft, Final)	35 days	Thu 4/5/12	Wed 5/23/12
15	Health and Safety Plan (Draft, Final)	35 days	Wed 4/4/12	Tue 5/22/12
16	Sampling and Analysis Plan (Draft, Final)	35 days	Wed 4/4/12	Tue 5/22/12
17	**LTM Field Work**	**46 days**	**Mon 7/9/12**	**Mon 9/10/12**
18	Field Preparation	1 day	Mon 7/9/12	Mon 7/9/12
19	LTM Sampling and Analysis	3 days	Tue 7/10/12	Thu 7/12/12
20	Data Validation/Management/ERPIMS	60 edays	Thu 7/12/12	Mon 9/10/12
21	**Reports**	**327 days**	**Mon 6/11/12**	**Tue 9/10/13**
22	Abbreviated Monitoring Report (Draft, Final)	45 days	Tue 9/11/12	Mon 11/12/12
23	**CPSMR**	**327 days**	**Mon 6/11/12**	**Tue 9/10/13**
40	Project Close Out	1 day	Wed 9/11/13	Wed 9/11/13



Project: Appendix A Project Schedule
Date: Thu 6/14/12

Task
Split
Milestone
Summary
Project Summary
External Tasks
External Milestone
Progress
Deadline