

N61331.AR.001736  
NSA PANAMA CITY  
5090.3a

FINAL WORK PLAN FOR WELL AND PIEZOMETER GROUND TRUTHING NSA PANAMA  
CITY FL  
5/1/2014  
TETRA TECH

# Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62467-04-D-0055



Rev. 0  
05/22/14

## Work Plan for Well and Piezometer Ground Truthing

Naval Support Activity Panama City  
Panama City Beach, Florida

Contract Task Order 0066

May 2014



NAS Jacksonville  
Jacksonville, Florida 32212-0030

**WORK PLAN FOR WELL AND PIEZOMETER GROUND TRUTHING  
AT THE  
NAVAL SUPPORT ACTIVITY PANAMA CITY  
PANAMA CITY BEACH, FLORIDA**

**COMPREHENSIVE LONG-TERM  
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Prepared for:  
Naval Facilities Engineering Command Southeast  
Ajax Street Building 135N  
P.O. Box 30A  
Jacksonville, Florida 32212-0030**

**Prepared by:  
Tetra Tech  
661 Anderson Drive, Foster Plaza 7  
Pittsburgh, Pennsylvania 15220**

**CONTRACT NUMBER N62467-04-D-0055  
CONTRACT TASK ORDER 0066**

**MAY 2014**

**PREPARED UNDER THE SUPERVISION OF:**

  
**TOM JOHNSTON, PhD  
TASK ORDER MANAGER  
TETRA TECH  
PITTSBURGH, PENNSYLVANIA**

**APPROVED FOR SUBMITTAL BY:**

  
**KELLY CARPER  
QUALITY ASSURANCE MANAGER  
TETRA TECH  
PITTSBURGH, PENNSYLVANIA**

## TABLE OF CONTENTS

<b><u>SECTION</u></b>	<b><u>PAGE</u></b>
<b>ACRONYMS</b> .....	iv
<b>1.0 INTRODUCTION</b> .....	<b>1-1</b>
1.1 SITE DESCRIPTION.....	1-1
1.2 PURPOSE.....	1-2
1.3 PROJECT GUIDANCE .....	1-2
<b>2.0 DESCRIPTION OF GROUND TRUTHING ACTIVITIES</b> .....	<b>2-1</b>
2.1 WELL AND PIEZOMETER GROUND TRUTHING FIELD WORK.....	2-1
2.2 REPORT PREPARATION AND INFORMATION ARCHIVING .....	2-3
<b>REFERENCES</b> .....	<b>R-1</b>
<b>FIGURES</b>	
1-1 Facility Location Map	
1-2 Site Location Map	
2-1 Well and Piezometer Location Map	
<b>TABLES</b>	
2-1 Well and Piezometer Status Tracking Table	

## ACRONYMS

CLEAN	Comprehensive Long-Term Environmental Action Navy
FOL	Field Operations Leader
NAVFAC SE	Naval Facilities Engineering Command Southeast
NSA	Naval Support Activity
PM	Project Manager
PWD	Public Works Department
RPM	Remedial Project Manager

## 1.0 INTRODUCTION

This Work Plan governs verification (i.e., ground truthing) of groundwater well and piezometer inventory at Naval Support Activity (NSA) Panama City. This plan was prepared for the Naval Facilities Engineering Command Southeast (NAVFAC SE) by Tetra Tech to gather information necessary to establish current site conditions and to support future well-related activities such as abandonment, if desired.

### 1.1 SITE DESCRIPTION

NSA Panama City is located on the western shore of St. Andrew Bay in Panama City Beach, Bay County, Florida. A facility location map is provided as Figure 1-1. The facility is bounded by US Highway 98 to the north, St. Andrew Bay to the east, State Road 292B (Magnolia Beach Road) to the south, and State Road 292 (Thomas Drive) to the west as shown on Figure 1-2.

NSA Panama City had its origin in the mine countermeasures research conducted during World War II at the U.S. Naval Mine Warfare Test Station, Solomons, Maryland. In 1945, equipment, facilities, and personnel were transferred from Solomons to Panama City, Florida, to occupy a 373-acre tract along St. Andrew Bay. This same tract was used as a Naval Section Base in 1942, the U.S. Naval Amphibious Training Base in 1944, and was deactivated in June 1945. It was established as the U.S. Navy Mine Countermeasures Station July 20, 1945.

From July 1945 to January 1992, NSA Panama City has undergone multiple name changes. In January 1992, the facility was re-designated the Coastal Systems Station, Dahlgren Division, Naval Surface Warfare Center, reporting to the Naval Sea Systems Command. On October 1, 2003, Coastal Systems Station was reorganized as a part of the alignment under Commander, Navy Installations. During this reorganization, the base was renamed NSA Panama City, reporting to the Commander, Navy Region Southeast. The research and development mission workforce was renamed the Naval Surface Warfare Center, Panama City Division. The primary mission and work areas of the base have remained unchanged.

NSA Panama City totals 657 acres and houses 221 buildings. The unique conditions in the Gulf of Mexico, coupled with mission synergy, make NSA Panama City an ideal location for fleet training and littoral warfare missions. NSA Panama City employs approximately 3,000 civilian and military personnel. Throughout its existence, NSA Panama City and its tenants have continued to evolve to meet the demanding requirements of the U.S. Navy - to defend today and to plan for tomorrow in response to national needs (Navy, 2014).

## **1.2 PURPOSE**

The variety of activities that have occurred on base since 1945 have resulted in the need for environmental assessments at multiple sites at the facility, some of which required the installation of monitoring wells, extraction wells, and piezometers for assessment and remediation purposes. The current monitoring well inventory identifies over 200 wells and piezometers within the confines of the facility, but it is unclear whether the inventory is accurate. The purpose of the ground truthing exercise is to verify the presence and conditions of previously installed wells and piezometers as identified in the facility records and investigation reports. Sample collection, chemical analyses, project assessments, and chemical data validation are not required and are not included in this plan.

## **1.3 PROJECT GUIDANCE**

The project work will adhere to methods and procedures specified in this work plan and in the accompanying Health and Safety Plan (Tetra Tech, 2014).

## 2.0 DESCRIPTION OF GROUND TRUTHING ACTIVITIES

Key project personnel are as follows:

Name	Role/Responsibilities	Contact information
Brian Syme	NAVFAC SE Remedial Project Manager (RPM), responsible for overall and direction of the project	Phone: (904) 542-6151 Email: brian.syme1@navy.mil
Mike Clayton	NSA Panama City Public Works Department Environmental Office Director, responsible for overall scheduling and coordination of the ground truthing event	Phone: (850) 235-5859 Email: michael.d.clayton@navy.mil
Richard Lee	NSA Panama City Public Works Department (PWD) Environmental Engineer, responsible for daily oversight and coordination of daily ground truthing activities for NSA Panama City during field work	Phone: (850) 230-7060 Email: richard.f.lee1@navy.mil
Tom Johnston	Tetra Tech Project Manager (PM), responsible or oversight of Tetra Tech functions, including ground truthing and report generation	Phone: (412) 921-8615 Email: tom.johnston@tetrattech.com
Amber Igoe	Tetra Tech Field Operations Leader (FOL), responsible for daily ground truthing activities	Phone: (850) 385-1352 Email: amber.igoe@tetrattech.com

### 2.1 WELL AND PIEZOMETER GROUND TRUTHING FIELD WORK

A brief telephone call or face-to-face coordination meeting among Tetra Tech project personnel, NSA Panama City PWD Environmental Office and NAVFAC SE personnel (if available) will occur at the initiation of the ground truthing event. Following the coordination meeting, Tetra Tech personnel will begin the ground truthing field operations. Figure 2-1 shows the monitoring well and piezometer locations identified in the Tetra Tech NSA Panama City database as adjusted for the previously completed NSA Panama City Monitoring Well Inventory prepared by NAVFAC SE in draft form. Table 2-1 lists the individual monitoring wells/piezometers and provides the Site name, well or piezometer name/designation, and monitoring survey coordinates. Space is provided for capturing pertinent information during the inventory field work. The Tetra Tech FOL will report to and communicate with the Tetra Tech PM daily to apprise him of progress and any difficulties encountered in completing the work. The Tetra Tech PM will report to the NAVFAC SE RPM, and will communicate with the NAVFAC SE RPM and NSA Panama City base personnel (primarily Richard Lee) as needed based on the coordination meeting discussions. Verbal and electronic mail will be the primary means of communication during the ground truthing event. After the coordination meeting, the field work is anticipated to require less than

one week with little need for communication among the various parties. The schedule for work conducted after completion of field work will be determined in consultation among NAVFAC SE, NSA Panama City, and Tetra Tech with an expectation that the well and piezometer inventory will be completed by June 30, 2014.

Monitoring well and piezometer ground truthing activities will consist of the following activities:

- Arrival at each identified well or piezometer location (see Figure 2-1) by way of vehicle or on foot.
- Use of a Magellan Global Positioning System (Mobile Mapper CE with Fast Survey Software) and a Schonstedt metal detector to assist in locating the monitoring wells and piezometers, as necessary.
- Confirmation of the monitoring well or piezometer presence and location, and determination of the monitoring well and piezometer condition and identifying information. Information to be included during the inspection of the monitoring well and piezometer condition will include (as applicable):
  - Presence of well cap and lock (or access limiting devices).
  - Condition of lock.
  - Condition of well/piezometer riser, identification tags, surface pad, bollard posts or other protective devices, and accessibility.
  - If necessary, notations regarding poor legibility of well/piezometer tags, mismatches between well/piezometer tags and Figure 2-1 that could be useful to personnel considering the viability of using the well/piezometer for future monitoring activities. All tags should be legible and securely attached so that, in the judgment of the person conducting the inventory, the tag will remain intact for many years.
- Up to 15 wells will be selected for depth sounding and water level measurement at the direction of the NAVFAC SE RPM.
- At least one photograph will be taken at each location to document the aforementioned items. For each photograph, Figure 2-1 or similar figure(s) will be marked with an arrow indicating the position of the photographer and orientation of the camera during the photograph.
- Prior to demobilization, the FOL will verify that conditions at all wells and piezometers on Figure 2-1 and Table 2-1 have been accounted for. If a well or piezometer cannot be located, the inability to find the well or piezometer must be noted. Coordination between the FOL and NSA Panama City Environmental Department Environmental Engineer should occur in those cases to ensure that all reasonable effort has been made to locate all wells and piezometers.

No significant investigation derived waste will be generated during this event.

## **2.2 REPORT PREPARATION AND INFORMATION ARCHIVING**

At the conclusion of ground truthing, a draft report will be prepared to summarize the findings in the format of Table 2-1 or similar format, with accompanying explanatory text. The text will summarize the sequence of ground truthing activities, important observations related to the field work, and the status of the wells and piezometers. Photographs with a photo key indicating the orientations (direction of view) of each photograph will be included.

The draft report will be revised based on Navy comments and will be issued as final when all Navy comments have been addressed satisfactorily.

The final well inventory data will be uploaded to the Navy Installation Restoration information System database and the NSA Panama City Administrative Record.

## REFERENCES

Navy (United States Department of the Navy), 2014. NSA Panama City facility history information obtained from a Navy website. Accessed on February 21.

[http://www.cnmc.navy.mil/regions/cnrse/installations/nsa\\_panama\\_city/about/history/](http://www.cnmc.navy.mil/regions/cnrse/installations/nsa_panama_city/about/history/)

Tetra Tech, 2014. Health and Safety Plan for Ground Truthing Activities at Naval Support Activity Panama City, Florida, Contract Task Order 0066, April.

## TABLE



















## FIGURES



Naval Support Activity  
Panama City



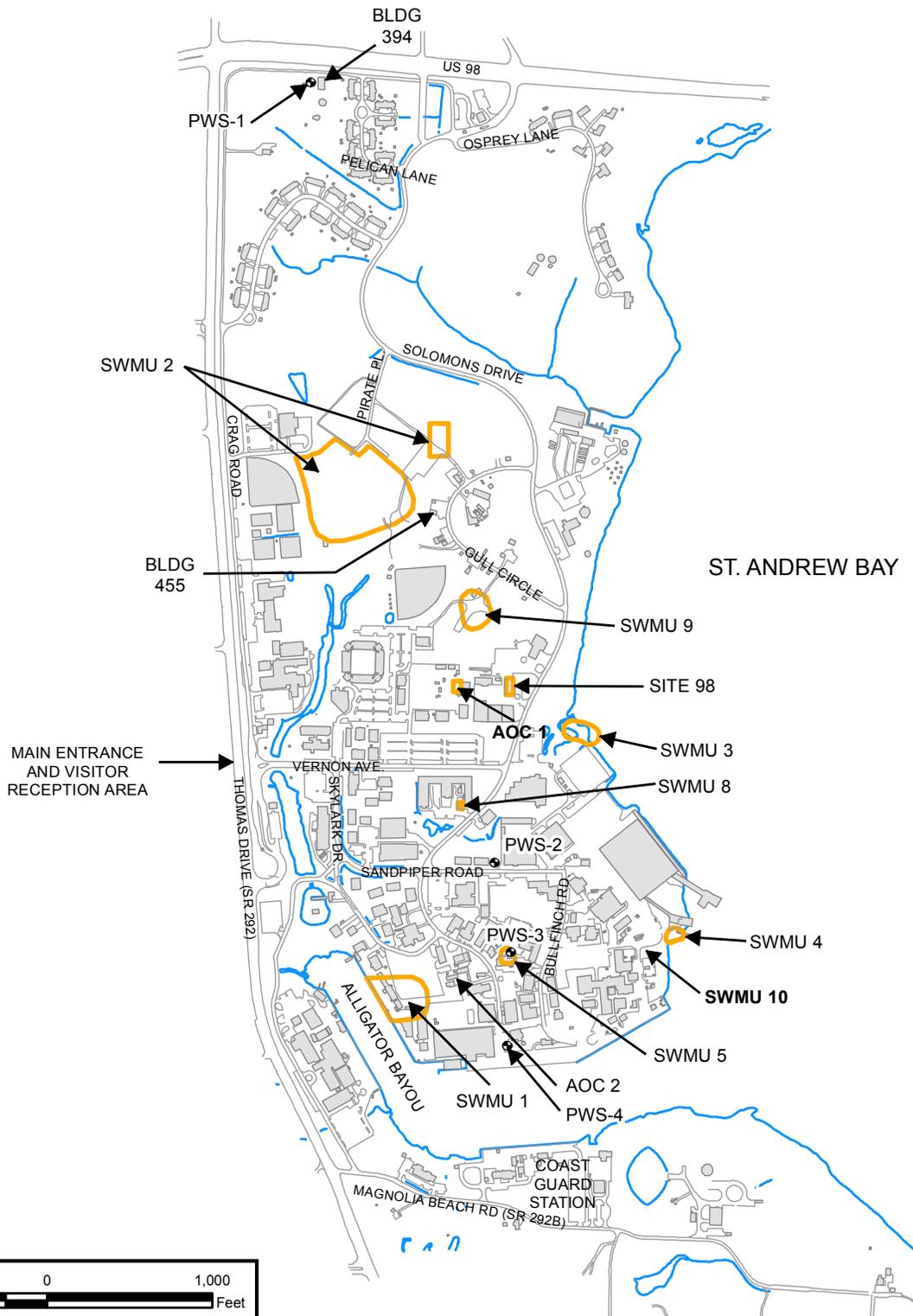
DRAWN BY	DATE
J.MADDEN	02/25/14
CHECKED BY	DATE
M.TRAXLER	02/25/14
REVISED BY	DATE



SCALE  
AS NOTED

FACILITY LOCATION MAP  
SITE 98 SUPPLEMENTAL SITE INVESTIGATION  
NSA PANAMA CITY  
PANAMA CITY BEACH, FLORIDA

CONTRACT NUMBER	CTO NUMBER
	0066
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO.	REV
1-1	0



DRAWN BY	DATE
J.MADDEN	02/25/14
CHECKED BY	DATE
M.TRAXLER	02/25/14
REVISED BY	DATE
SCALE AS NOTED	



**SITE LOCATION MAP**  
**SITE 98 SUPPLEMENTAL SITE INVESTIGATION**  
**NSA PANAMA CITY**  
**PANAMA CITY BEACH, FLORIDA**

CONTRACT NUMBER	CTO NUMBER
---	0066
APPROVED BY	DATE
---	---
APPROVED BY	DATE
---	---
FIGURE NO.	REV
1-2	0



- Legend**
- Background Well
  - Extraction Well
  - Piezometer
  - Monitoring Well
  - Environmental Restoration Site
  - AOC Boundary
  - Storage Tank Farm Area
  - Gas Service Area
  - Installation Area



FIGURE 2-1  
WELL LOCATION MAP  
NSA PANAMA CITY  
PANAMA CITY BEACH, FLORIDA