

Base Realignment and Closure
Program Management Office West
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CONTRACT No. N62473-06-D-2201
CTO No. 0012

ADDENDUM 2
TO THE
FINAL SAMPLING AND ANALYSIS PLAN
(Field Sampling Plan and Quality Assurance Project Plan)
May 5, 2008

DATA GAP SAMPLING
FOR OPERABLE UNITS 2A AND 2B
ALAMEDA POINT
ALAMEDA, CALIFORNIA

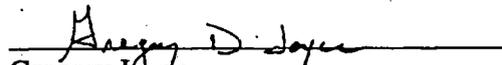
DCN: ECSD-2201-0012-0002.A2



TETRA TECH EC, INC.

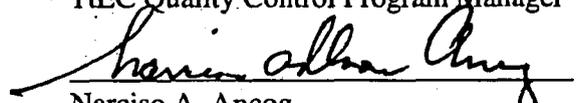
1230 Columbia Street, Suite 750
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Review Signature:


Gregory Joyce
TtEC Quality Control Program Manager

5/5/08
Date

Approval Signature:


Narciso A. Ancog
NAVFAC SW Quality Assurance Officer

5/12/2008
Date



TRANSMITTAL/DELIVERABLE RECEIPT

Contract No. N62473-06-D-2201 (RAC IV) Document Control No. ECSD-2201-0012-0002.A2 File Code: 5.0

TO: Contracting Officer, Naval Facilities Engineering Command SW, Ms. Beatrice Appling, AOE.BA, Building 127, Room 108, 1220 Pacific Highway, San Diego, CA 92132-5198 DATE: 10/09/08 CTO: 0012 LOCATION: Alameda Point, CA FROM: A. N. Bolt, Program Manager

DESCRIPTION: Addendum 2 to the Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan) May 5, 2008 Data GAP Sampling for Operable Units 2A and 2B Alameda Point, Alameda, California

TYPE: [] Contract/Deliverable [x] CTO Deliverable [] Notification [] Other

VERSION: Final REVISION #: N/A (e.g. Draft, Draft Final, Final, etc.)

ADMIN RECORD: Yes [x] No [] Category [] Confidential [] (PM to Identify)

SCHEDULED DELIVERY DATE: 10/09/08 ACTUAL DELIVERY DATE: 10/09/08

NUMBER OF COPIES SUBMITTED: 0/8C/6E Copy of SAP to N. Ancog [x]

COPIES TO: (Include Name, Navy Mail Code, and Number of Copies)

Table with columns: NAVY, TtEC, OTHER: (Distributed by TtEC). Rows include D. Evans (BRAC) 0/1C, D. Silva (EVR.DS) 6C/6E, N. Ancog (EVR.NA) 1 CD, Basic Contract File (AOE)IC, and P. Everds.

Date/Time Received: 08-10-09 15:08 RCVD

FINAL
DATA GAP SAMPLING WORK PLAN
FOR OPERABLE UNITS 2A AND 2B

DATED 11 OCTOBER 2007

THIS RECORD IS ENTERED IN THE DATABASE AND FILED
AS

RECORD NO. AR_N00236_002829

FINAL ADDENDUM 1 TO THE
DRAFT FINAL SAMPLING AND ANALYSIS PLAN
(FIELD SAMPLING PLAN AND QUALITY ASSURANCE
PROJECT PLAN)
DATA GAP SAMPLING FOR OPERABLE UNITS 2A AND 2B

DATED 17 OCTOBER 2007

THIS RECORD IS ENTERED IN THE DATABASE AND FILED
AS

RECORD NO. AR_N00236_003162

INTRODUCTION

Tetra Tech EC, Inc (TtEC) is submitting this addendum to the *Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan) Data Gap Sampling for Operable Units (OU) 2A and 2B, Alameda Point, Alameda, California* (hereafter referred to as the Final SAP) to the Naval Facilities Engineering Command, Southwest (NAVFAC SW) Quality Assurance Officer (QAO) for review and approval. This addendum supplements the Final SAP (TtEC, 2007) that was approved by the NAVFAC SW QAO on October 17, 2007 (Document Control Number: ECSD-2201-0012-0002.R1).

The scope of this addendum is to include the addition of 10 wells to the OU-2A/2B groundwater monitoring well sampling effort. Based on results obtained by TtEC during the data gap sampling conducted in conjunction with the Final SAP, TtEC is proposing, with Navy concurrence, to sample 10 additional existing wells that were not accounted for in the Final SAP. The wells and rationale for adding each are as follows:

- **OU-2A, Site 9:** Wells DVE 3 and DVE11 located along the north side of the vinyl chloride plume and M09-05 along the southeast side of the plume will help define the extent of the plume in these areas. In addition, well P-9-MWI03 will be added to the rebound sampling wells for the in-situ chemical oxidation pilot test area.
- **OU-2B, First Water-Bearing Zone (FWBZ) Site-wide groundwater Investigation:** Site 21 wells 398-MW03, 398-A19, and M03-08A located around the benzene plume will help define the extent of the benzene plume. Site 11 well M11-02 and Site 4 well M04-07 are located within the main VOC plume and may help refine VOC plume interior concentrations. Site 11 well 37-MJ-MW3 will help refine the southwest plume boundary in the FWBZ.

Upon review of the Final SAP, Table A.5-1 (Worksheet #18) is the only place that the well locations are listed; and therefore, a supplement to that table to include the additional wells is included in this addendum. Otherwise, the addition of these 10 wells does not affect any other sections of the Final SAP including the data quality objectives for the project.

This addendum will be used in conjunction with the Final SAP and will be distributed to the recipients listed in the Distribution List (UFP-QAPP Worksheet #3). In addition, the sign-off sheet in UFP-QAPP Worksheet #4 will be signed by project personnel involved with the field effort described in this addendum 2.

**DISTRIBUTION LIST
(UFP-QAPP Worksheet #3)**

This document will be distributed to the following project participants listed below once all approval signatures have been received.

SAP Addendum Recipients^a	Title	Organization	Telephone Number	E-mail Address
Mr. Curtis Moss	Remedial Project Manager	NAVFAC SW	(619) 532-0775	curtis.moss@navy.mil
Mr. Narciso Ancog	Quality Assurance Officer	NAVFAC SW	(619) 532-3046	narciso.ancog@navy.mil
Ms. Diane Silva	Administrative Record Manager	NAVFAC SW	(619) 532-3676	diane.silva@navy.mil
Mr. Pete Everds	Project Manager	TtEC	(619) 471-3504	pete.everds@tteci.com
Mr. Gregory Joyce	Quality Control Program Manager	TtEC	(360) 780-0371	greg.joyce@tteci.com
Ms. Lisa Bienkowski	Program Chemist	TtEC	(949) 756-7592	lisa.bienkowski@tteci.com

Note:

^aThis document will not be submitted to regulatory agencies.

Abbreviations and Acronyms:

NAVFAC SW – Naval Facilities Engineering Command, Southwest
 SAP – Sampling and Analysis Plan
 TtEC – Tetra Tech EC, Inc
 UFP-QAPP – Uniform Federal Policy for Quality Assurance Project Plans

PROJECT PERSONNEL SIGN-OFF SHEET
(UFP-QAPP Worksheet #4)

I have read and understood this Addendum 2 and will perform the task as described herein. (A signed copy of this sheet will be provided in the project file.)

Project Personnel	Organization	Title	Signature	Date Addendum Read
Mr. Pete Everds	TtEC	Project Manager		
Ms. Diane Suzuki	TtEC	Project Chemist		
Mr. Walt Craig	BBC	Sampling subcontractor		

Abbreviations and Acronyms:

SAP – Sampling and Analysis Plan

TtEC – Tetra Tech EC Inc.

UFP-QAPP – Uniform Federal Policy for Quality Assurance Project Plans

TABLE A.5-1 (Additional Wells)

**SAMPLING LOCATIONS, SAMPLE DEPTHS, SAMPLE ANALYSES, AND SAMPLING PROCEDURES
(UFP-QAPP Worksheet #18)**

Sampling Location			Matrix	Depth (ft bgs)	Analytical Group	SAP Section
OU	Site	Location				
2A	9	DVE 3 DVE 11 M09-05 P-9-MW103	Water	Midscreen	VOCs, SVOCs, TPH-purgeable, TPH-extractable, PCBs, dissolved metals, microbial ^a , and natural attenuation parameters ^b	Section 6.3.4
2B	4	M04-07	Water	Midscreen	VOCs, TPH-purgeable, TPH-extractable, dissolved metals, microbial parameters ^a , and natural attenuation parameters ^b	Section 6.3.4
2B	11	M11-02 37-MJ-MW3	Water	Midscreen	VOCs, TPH-purgeable, TPH-extractable, dissolved metals, microbial parameters ^a , and natural attenuation parameters ^b	Section 6.3.4
2B	21	398-MW03 398-A19 M03-08A	Water	Midscreen	VOCs, TPH-purgeable, TPH-extractable, dissolved metals, microbial parameters ^a , and natural attenuation parameters ^b	Section 6.3.4

Notes:

- ^a For site 9 and 19, microbial analysis will include cell counts for Eubacteria (EBAC), Dehalococcoides spp. (DHC), and methanogenic bacteria (MGN) via nucleic acid analysis, and total biomass and microbial community structure via ester-linked phospholipid fatty acid (PFLA). For all other sites, microbial analyses will include qEBAC, qPAH, qNAH and qBSS.
- ^b Natural attenuation parameters will include field monitoring parameters (dissolved oxygen and oxidation reduction potential), field test kit analysis (for ferrous iron and carbon dioxide), and laboratory analysis (nitrate, sulfate, and alkalinity). Nutrients include laboratory analysis for ammonia as nitrogen, TKN, and phosphate. (Nitrate is also considered a nutrient.)