



DEPARTMENT OF THE NAVY  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CA 92132-5190

N00236.000252  
ALAMEDA POINT  
SSIC NO. 5090.3

5090  
Ser 06CA.GL1057  
October 4, 2001

Ms. Anna-Marie Cook  
Project Manager  
US EPA Region IX (SFD-8-2)  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Dear Ms. Cook:

Subj: ALAMEDA POINT OU-1 AND OU-2 DATA GAP SAMPLING ADDENDUM C

Enclosed is a copy of Addendum C, Field Sampling Plan, Supplemental Remedial Investigation, Data Gap Sampling for Operable Units 1 and 2.

Please call me at (619) 532-0953, if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Gregory A. Lorton".

GREGORY A. LORTON, P.E., R.E.A.  
Remedial Project Manager  
Alameda Point Team

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ADDENDUM C  
FINAL FIELD SAMPLING PLAN  
SUPPLEMENTAL REMEDIAL INVESTIGATION  
DATA GAP SAMPLING FOR  
OPERABLE UNITS 1 AND 2  
Contract Task Order 00385

ALAMEDA POINT  
ALAMEDA, CALIFORNIA

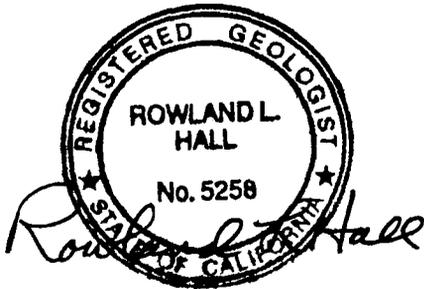
Prepared for  
U.S. DEPARTMENT OF THE NAVY

REVIEW AND APPROVALS

TtEMI Project Geologist: Rowland L Hall Date: 10/02/01  
Rowland Hall, R.G.  
TtEMI Sacramento

TtEMI QA Manager: Greg Swanson Date: 10/02/01  
Greg Swanson  
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Navy QA Officer: Narciso A. Ancog Date: 10/02/01  
Narciso A. Ancog



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TETRA TECH EM INC.

TRANSMITTAL/DELIVERABLE RECEIPT

Contract No. N62474-94-D-7609

Document Control No. DS . 0385 . 17352

TO: Mr. Ron Fuller, Code 02R1.RF
Contracting Officer
Naval Facilities Engineering Command
Southwest Division
1230 Columbia Street, Suite 1100
San Diego, CA 92101-8517

DATE: 10/04/01
CTO: 0385
LOCATION: Alameda Point, California

FROM: Daniel Chow, Program Manager

DOCUMENT TITLE AND DATE:

Final Addendum C to Final Field Sampling Plan Supplemental Remedial Investigation
Data Gap Sampling for Operable Units 1 and 2
October 4, 2001

TYPE: Contractual Deliverable (checkbox) Technical Deliverable (DS) (checked) Other (TC) (checkbox)

VERSION: Final REVISION #: NA
(e.g., Draft, Draft Final, Final)

ADMIN RECORD: Yes (checkbox) No (checked) CATEGORY: Confidential (checkbox)

SCHEDULED DELIVERY DATE: 10/05/01 ACTUAL DELIVERY DATE: 10/05/01

NUMBER OF COPIES SUBMITTED TO NAVY: O/7C/7E
O = original transmittal form
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ALAMEDA POINT  
SSIC NO. 5090.3

DRAFT FINAL  
FIELD SAMPLING PLAN/QUALITY ASSURANCE  
PROJECT PLAN  
SUPPLEMENTAL REMEDIAL INVESTIGATION  
DATA GAP SAMPLING

DATED 14 MAY 2001

IS ENTERED IN THE DATABASE AND FILED AT  
ADMINISTRATIVE RECORD NO. **N00236.000187**

**Addendum C to Final Field Sampling Plan  
Supplemental Remedial Investigation Data Gap Sampling  
for Operable Units 1 and 2, Alameda Point, Alameda, California  
Clean II Contract No. N62474-94-D-7609  
Contract Task Order (CTO) No. 385**

The Navy is conducting supplemental remedial investigation (RI) data gap sampling for Operable Unit (OU)-1 and OU-2 at Alameda Point, Alameda, California. This Addendum C with the attached approval page amends the Final Field Sampling Plan (FSP), Supplemental Remedial Investigation, Data Gap Sampling for Operable Units (OU) 1 and 2, Alameda Point, Alameda, California, dated May 14, 2001 and provides for additional groundwater well sampling at Corrective Action Area 9A (CAA 9A). This work will be performed under Contract Task Order (CTO) No. 385, as received from the U.S. Department of the Navy (Navy) Southwest Division Naval Facilities Engineering Command under Comprehensive Long-term Environmental Action Navy (CLEAN) II Contract No. N62474-94-D-7609. This addendum (Addendum C) addresses additional data gap sampling. As discussed in Addendum A to the FSP, sampling was added at CAA 9A and other sites outside the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sites (referred to as Non-CERCLA sites). Such adding of non-CERCLA sites is beneficial to the Navy, because it accelerates cleanup decisions at these sites, and allows the Navy to take advantage of economies of scale through the sharing of sampling and analytical costs that are common among various environmental programs.

Additional samples will be collected from three monitoring wells located at CAA 9A as shown on Figure 1; such sampling will follow the data quality objectives previously identified in the FSP for groundwater sampling. The quality assurance project plan (QAPP) is not affected by this proposal. All other aspects of the FSP remain unchanged. Sampling of the three monitoring wells (584-MW1, 584-MW2, 584-MW3) at CAA 9A will be conducted to monitor the current total petroleum hydrocarbons (TPH) plume and evaluate whether the groundwater poses a risk to human health and the environment. The following sections of this addendum present further details concerning the additional data gaps at CAA 9A and the objectives of the proposed additional sampling to be conducted under Addendum C.

**Additional Data Gaps at CAA9A**

The Navy recently received concurrence from the Regional Water Quality Control Board (RWQCB) and Department of Toxic Substances Control (DTSC) on the Navy's TPH strategy for addressing sites that are impacted by petroleum products only. These sites are not usually considered to be part of the CERCLA remedial investigation/feasibility study (RI/FS) investigation and subsequently were not included in the

preparation of the original FSP/QAPP. The TPH strategy contains a decision tree, which is used to evaluate data from a certain location to determine if corrective action is necessary to remediate petroleum products. During an evaluation of the petroleum data for each parcel at Alameda Point, additional data gaps were identified that require data to determine if corrective action is necessary.

One of the decisions contained within the TPH strategy (“Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites at Alameda Point” dated May 16, 2001) is to evaluate whether a TPH - contaminated groundwater plume is infiltrating the storm drain and creating a potential exposure to marine ecological receptors in the San Francisco Bay through the storm drain pathway. According to the TPH strategy, if groundwater near a storm drain is contaminated with TPH and TPH-associated compounds (benzene, toluene, ethylbenzene, xylenes [BTEX], methyl tertiary butyl ether [MTBE], and lead) exceeding preliminary remediation criteria (PRC) for groundwater, corrective action will be evaluated. PRC are listed in Tables 1 through 4 of the TPH strategy. Corrective action may not be warranted if natural bioremediation is shown to be occurring, based on plume migration and contaminant concentrations. Corrective action may not be recommended if there is no storm drain pathway. Another decision within the TPH strategy is to screen the groundwater data (analytical results for TPH, BTEX, MTBE, and lead) against PRC protective of human health through the exposure scenarios of ingestion, and inhalation of vapors to indoor air.

Three monitoring wells, which at one time contained concentrations of TPH greater than the PRC, are located downgradient of the TPH source (former diesel underground storage tanks [UST] 584-1 and 584-2). One of the monitoring wells (584-MW3) is located near the storm drain. The trend based on the last three sampling events does show that total TPH is decreasing; however, these monitoring wells were not sampled frequently enough to confirm that the TPH concentrations within the plume are no longer a threat to the storm drain seasonally. Therefore, Tetra Tech is proposing additional sampling of these three wells for collection of current TPH and TPH-associated compounds data to confirm the apparent trend of decreasing TPH concentrations and to provide analytical data collected within the same season (during similar groundwater elevations as the Fall 1998 sampling event). The analytical results from these additional samples will be used to support the recommendation of no further action and closure of the CAA and associated USTs.

If the data from the monitoring wells do not show a consistent decreasing trend in TPH and TPH-associated compounds, and confirm that there is no threat to the storm drain exposure pathway, then corrective action will be required and documented in a corrective action plan.

## **Sampling Objectives**

The groundwater samples will be analyzed at a fixed laboratory for total extractable petroleum hydrocarbons (TEPH) as diesel and motor oil, total purgeable petroleum hydrocarbons as gasoline, BTEX, MTBE, and lead. Sample identification numbers, depth intervals, and analyses are presented in Table 1. In addition, the groundwater flow direction at the time of sampling will be calculated. Data associated with the USTs will be submitted electronically to the Regional Water Quality Control Board (RWQCB) Geotracker database as specified by the RWQCB requirements.

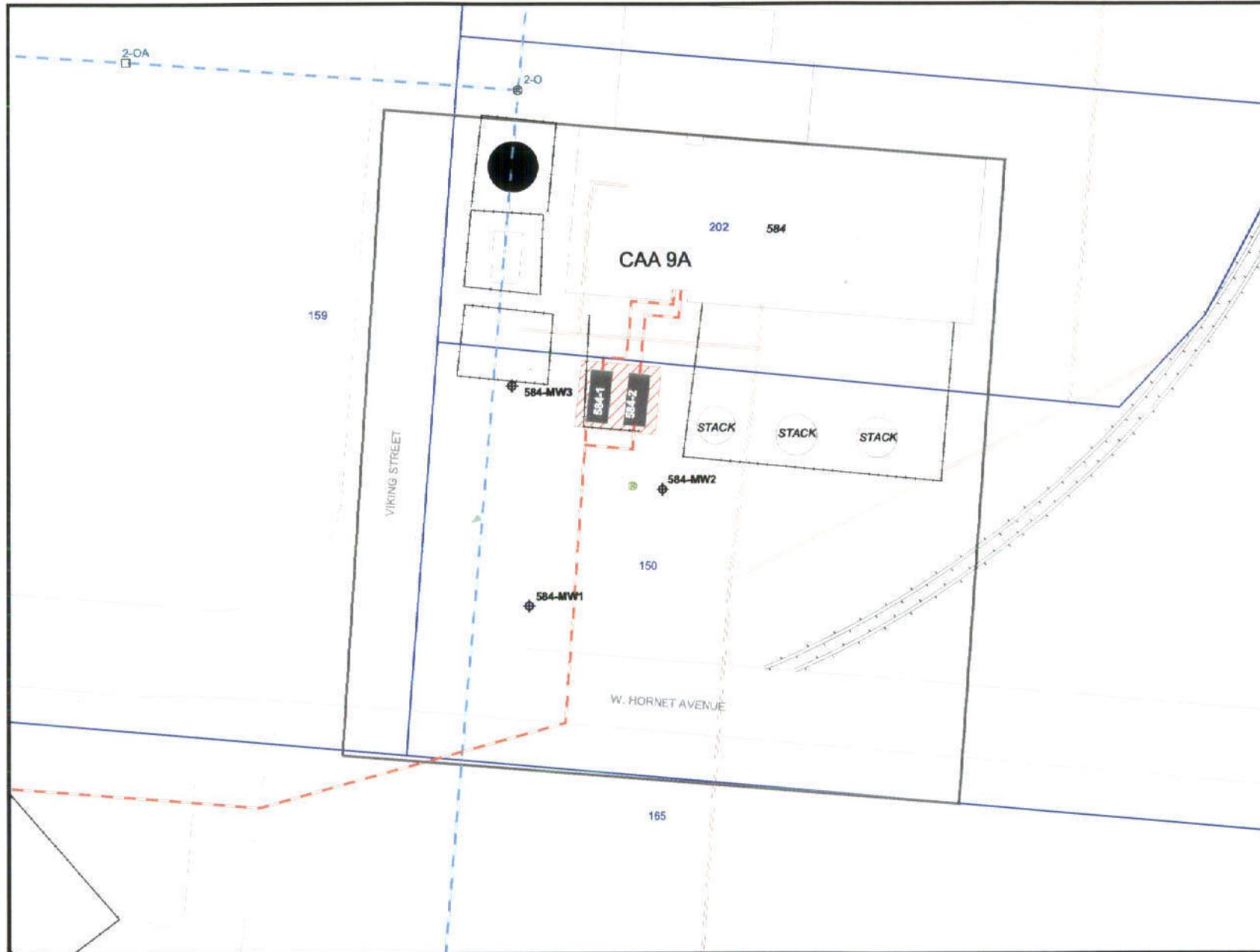
**TABLE 1**  
**SAMPLE IDENTIFICATION NUMBERS**  
**FOR GROUNDWATER SAMPLES**  
**ADDITIONAL DATA GAP SAMPLING LOCATIONS**  
**ALAMEDA POINT**

Page 1 of 1

Laboratory Identification	Point Name	Field Identification	Matrix	VOC Fixed Lab	TPPH Fixed Lab	TEPH Fixed Lab	Lead
<b>CAA-9A</b>							
<b>Groundwater Investigation for Corrective Action Decision</b>							
385-CAA9A-008	584-MW1	CAA9A-584-MW1-GW	Water	X <sup>1</sup>	X	X	X
385-CAA9A-009	584-MW2	CAA9A-584-MW2-GW	Water	X <sup>1</sup>	X	X	X
385-CAA9A-010	584-MW3	CAA9A-584-MW3-GW	Water	X <sup>1</sup>	X	X	X
385-CAA9A-901	QC	CAA9A-TB-1	Water	X <sup>1</sup>			

Notes:

CAA	=	Corrective Action Area	<u>VOC Fixed Lab Analysis (X<sup>1</sup>)</u>
GW	=	Groundwater sample	Benzene
MW	=	Monitoring well	Toluene
QC	=	Quality Control	Ethylbenzene
TEPH	=	Total extractable petroleum hydrocarbon	Xylenes
TPPH	=	Total purgeable petroleum hydrocarbon	Methyl Tertiary Butyl Ether
VOC	=	Volatile organic compound	



**LEGEND**

- BOUNDARIES**
- CORRECTIVE ACTION AREA (CAA) BOUNDARY
  - LAND COVER
  - ENVIRONMENTAL BASELINE SURVEY (EBS) PARCEL
- POINT TYPE**
- MONITORING WELL
- SITE FEATURES**
- BUILDING
  - CATCH BASIN
  - MANHOLE
  - RESOURCE CONSERVATION RECOVERY ACT (RCRA) SITE
  - FENCE LINE
  - FUEL LINE
  - GAS LINE
  - GROUNDWATER FLOW
  - RAILROAD
  - SANITARY SEWER LINE
  - STORM SEWER LINE
  - ABOVEGROUND STORAGE TANK
  - UNDERGROUND STORAGE TANK
  - EXCAVATION

(SAMPLE CONCENTRATIONS ARE IN mg/L)



**FIGURE 1**  
**MONITORING WELL**  
**SAMPLING LOCATIONS**  
**USTs 584-1 AND 584-2**  
 ALAMEDA POINT  
 ALAMEDA, CALIFORNIA  
 SEPTEMBER 5, 2001

