



**Final**

## **Action Memorandum for Installation Restoration Site 16**

**Naval Air Station Fallon  
Fallon, Nevada**

**November 2011**

Prepared by:

**ChaduxTt, A Joint Venture of St. George Chadux Corp. and  
Tetra Tech EM Inc.  
1230 Columbia Street, Suite 1000  
San Diego, California 92101**

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## ACRONYMS AND ABBREVIATIONS

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§	Section
§§	Sections
°F	Degrees Fahrenheit
µg/L	Micrograms per liter
ARAR	Applicable or relevant and appropriate requirement
AST	Aboveground storage tank
ATSDR	Agency for Toxic Substances and Disease Registry
BASH	Bird aircraft strike hazard
bgs	Below ground surface
BOR	U.S. Bureau of Reclamation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DoD	Department of Defense
DSMOA	Defense and State Memorandum of Agreement
EE/CA	Engineering evaluation/cost analysis
EPA	U.S. Environmental Protection Agency
ERH	Electrical resistance heating
FS	Feasibility study
ft/day	Feet per day
lb	Pound
MCL	Maximum contaminant level
NAAS	Naval Air Auxiliary Station
NAS	Naval Air Station
Navy	Department of the Navy
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NDEP	Nevada Division of Environmental Protection
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
ORNL	Oak Ridge National Laboratory
PA	Preliminary assessment
PCE	Tetrachloroethene
RAB	Restoration Advisory Board
RI	Remedial investigation
ROI	Radius of influence
SHPO	State Historic Preservation Office

## ACRONYMS AND ABBREVIATIONS (CONTINUED)

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SI	Site inspection
SOU	Southern Operable Unit
SVE	Soil vapor extraction
TBC	To be considered
TCE	Trichloroethene
TCRA	Time-critical removal action
Tetra Tech	Tetra Tech EM Inc.
U.S.C.	<i>United States Code</i>
UST	Underground storage tank
VOC	Volatile organic compound
WWTP	Wastewater treatment plant
ZVI	Zero-valent iron

## ACTION MEMORANDUM

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Naval Air Station Fallon  
Fallon, Nevada 89406

November 2011

**SUBJECT: Action Memorandum for Time-Critical Removal Action at  
Installation Restoration Site 16, Naval Air Station Fallon, Nevada**

Site Status: Non-NPL  
Category of Removal: Time-Critical Removal Action  
CERCLIS ID: NV9170022173  
Site ID: Installation Restoration Site 16

### 1.0 PURPOSE

The purpose of this Action Memorandum is to document, for the administrative record, the Department of the Navy's (Navy) decision to undertake a time-critical removal action (TCRA) at Installation Restoration Site 16, Naval Air Station (NAS) Fallon, Nevada (Figure 1-1). The TCRA will prevent potential migration of contaminated groundwater into the E4X Drain and treat contamination in groundwater, specifically targeting tetrachloroethene (PCE) and trichloroethene (TCE) found in groundwater on the east side of the E4X Drain (Figure 1-2). The PCE and TCE plumes are shown on Figures 1-3 and 1-4. The Department of Defense (DoD) has the authority to undertake Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response actions, including removal actions, under Title 42 of the *United States Code* (U.S.C.) Section (§) 9604, 10 U.S.C. § 2705, and federal Executive Orders 12580 and 13016.

Site 16 is part of the Southern Operable Unit (SOU), which includes active CERCLA Sites 1, 14, and 16. This TCRA will not be the final action for the SOU; additional investigation and, if necessary, subsequent remedial actions will be undertaken.

The primary objectives of the TCRA are to (1) prevent potential migration of contamination in groundwater to E4X Drain surface water, and (2) reduce the concentrations of hazardous substances in groundwater. The TCRA will include backfilling northern portions of the E4X Drain to above the highest observed groundwater elevation, thereby eliminating the potential for future groundwater/surface water interaction. The drain will be partially backfilled to prevent contaminated groundwater at Site 16 from potentially entering the drain during gaining stream conditions (when shallow groundwater may seep into the drain) and contaminating surface water. In addition, the TCRA will consist of treating a portion of the PCE and TCE contamination in groundwater, focusing on the higher concentrations of the contaminants east of the E4X Drain. The treatment area is shown on Figure 1-3. The groundwater will be treated by injection of ozone and hydrogen peroxide to oxidize the contaminants and reduce their concentrations.

The TCRA for Site 16 is consistent with the factors set forth in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at Title 40 of the *Code of Federal Regulations* (CFR) Part 300. One of the factors set forth within the NCP pertains to Site 16:

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants. 40 CFR § 300.415(b)(2)(i).

This finding is discussed in more detail in [Section 3.0](#).

No nationally significant or precedent-setting issues exist for this site.

## **2.0 SITE CONDITIONS AND BACKGROUND**

This section presents the description, location, and background for Site 16, as well as the physical characteristics, past releases from the site, the regulatory status, and previous and current actions.

### **2.1 SITE DESCRIPTION**

The following sections describe the site location, characteristics, history, and contamination at Site 16.

#### **2.1.1 Physical Location**

NAS Fallon is located 7 miles southeast of Fallon, Nevada, the county seat of Churchill County, at 39° 25' N, 118° 42' W ([Figure 1-1](#)). The main station encompasses 8,583 acres and is located in the central part of the Carson Desert, commonly referred to as the Lahontan Valley.

Site 16 is located in the southern portion of NAS Fallon, southwest of the runways and south of Apron 7 ([Figure 1-2](#)). The Site 16 study area includes the Old Tank Farm (located north of the intersection of A Street and 6<sup>th</sup> Street) and the E4X Drain (north of the Lower Diagonal Drain). A conceptual site model for Site 16 is provided on [Figure 2-1](#).

In general, there is very little topographical relief at NAS Fallon except that formed by the built-up areas of runways, taxiways, and aircraft parking aprons. Surface water flows east toward the Stillwater Lakes, a chain of small lakes, ponds, and marshes in the northern half of the Carson Desert (Stillwater Wildlife Management Area). Groundwater beneath the facility generally flows in a southeasterly direction toward Carson Lake, located about 3 miles south of the facility. Much of the area around the facility is irrigated, with several canals or drains delivering water and two drains removing excess water.

NAS Fallon is located in an arid region with a high evaporation rate. Annual precipitation ranges from about 4 to 7.5 inches per year, with an average of 5.01 inches per year for the period from 1903 to 2008 ([Western Regional Climate Center 2008](#)). The average maximum

temperature (92.2 degrees Fahrenheit [°F]) occurs during July, and the average minimum temperature (18.1 °F) occurs during January. Prevailing wind patterns are from northwest to southeast. Winds rarely blow from NAS Fallon toward the community of Fallon (Agency for Toxic Substances and Disease Registry [ATSDR] 2003).

Surface water at NAS Fallon occurs primarily in irrigation ditches and drains. Water distribution systems located at NAS Fallon include the L-Line Canal in the northern part of the facility, Lower Diagonal No. 1 Drain in the central portion, and Lower Diagonal Drain in the southern portion. These surface water systems converge 2 miles from the station boundary and feed into the Stillwater Point Diversion Drain, eventually draining into the Stillwater National Wildlife Refuge and the Stillwater Reservoir (ATSDR 2003), which is more than 10 miles east of the site. Additionally, several small, lateral drains, including the E4X Drain, are located in the eastern part of the Site 16 study area.

NAS Fallon is located within the Lahontan Valley groundwater basin. Groundwater is encountered about 4 to 12 feet below ground surface (bgs), and the natural hydraulic gradient is toward the south-southeast. Hydraulic conductivity ranges from 0.19 to 13.17 feet per day (ft/day), with an average of 3.2 ft/day (Battelle 2002). The shallow aquifer is approximately 10 to 18 feet thick.

### **2.1.2 Site Characteristics**

NAS Fallon is owned by the Federal Government and is under the jurisdiction of the DoD and the Navy. It is an active base with no plans for closure or transfer. It includes airfield and maintenance facilities, aerial weapons training ranges, public works and supply facilities, and housing.

NAS Fallon was originally established as a military facility in 1942, when the Civil Aviation Administration and Army Air Corps constructed four airfields in Nevada as part of the Western Defense Program. In 1943, the Navy assumed control of the facility, and on June 10, 1944, Naval Air Auxiliary Station (NAAS) Fallon was commissioned. The facility provided training, servicing, and support to air groups sent to the facility for combat training. After a brief period of inactivity during the late 1940s and early 1950s, NAS Fallon was placed in caretaker status until designated as an auxiliary landing field for NAS Alameda in 1951.

NAS Fallon was re-established on October 1, 1953. From 1958 to 1972, the station was designated Van Voorhis Airfield in honor of a Medal of Honor recipient from Fallon. The station was expanded and upgraded in the early 1960s to prepare air crews for Vietnam duty. On January 1, 1972, NAAS Fallon was upgraded to its current status of NAS Fallon.

NAS Fallon's mission is "To provide the most realistic integrated air warfare training support available to carrier air wings, tenant commands, and individual units participating in training events including joint and multinational exercises." NAS Fallon is home to the Naval Strike and Air Warfare Center, the Strike Fighter Wing Pacific Detachment, Navy Munitions Command-Fallon Detachment, Fleet Readiness Center West-Detachment Fallon, Fighter Composite Squadron 13, and Construction Battalion Maintenance Unit 303. As of 2009, the NAS Fallon

base population was approximately 3,000 active duty personnel, civilian employees, and DoD contractors.

The E4X Drain is within the installation boundaries, but the U.S. Bureau of Reclamation (BOR) is the federal landholding agency with respect to the drain. The drain was constructed in 1926 as part of the Newlands Reclamations Act. The E4X Drain currently provides stormwater drainage for a portion of NAS Fallon and provides a surface water conduit for discharge from the NAS Fallon wastewater treatment plant (WWTP) to the Lower Diagonal Drain. WWTP discharge to the E4X Drain has been authorized by Nevada Division of Environmental Protection (NDEP) through National Pollutant Discharge Elimination System (NPDES) permit NV0110001 and by the BOR through a Memorandum of Agreement (09-LC-20-0063). Discharge of stormwater at NAS Fallon has been authorized through State of Nevada general NPDES permit NVR050000 for stormwater associated with industrial activities and permit NVR100000 for stormwater associated with construction activities. [Figure 2-2](#) shows the drain in its current condition. Topography of the E4X Drain slopes slightly from north to south. The NAS Fallon WWTP is located south of the proposed TCRA area and approximately 1,100 feet north of the confluence of the E4X Drain with the Lower Diagonal Drain. The WWTP discharges in batches every 3 hours for 15 to 20 minutes. The average discharge is 250,000 gallons per day with a maximum allowable discharge of 750,000 gallons per day. WWTP flow is higher during working hours than nonworking hours ([Navy 2006b](#)).

In general, the northern portion of the E4X Drain (north of A Street) is dry in the winter, except during precipitation events. This portion of the E4X Drain is dry because surface water levels are low and because the bottom of the drain in this area is typically above the elevation of the groundwater. The section of the drain between the WWTP discharge and A Street may become a gaining stream when groundwater levels rise above the bottom of the drain. During the irrigation season (early April through mid-November), high surface water levels in the Lower Diagonal Drain (resulting from irrigation return flows) raise surface water levels in the E4X Drain. During high surface water levels, treated wastewater discharges and surface water can be observed flowing upstream (toward the north) in the E4X Drain. These high water levels result in standing water in the E4X Drain as far as 200 feet north of A Street. The high surface water levels create losing stream conditions, thereby, preventing groundwater from entering the drain.

The area targeted for groundwater treatment is the southeastern PCE plume (shown on [Figure 1-3](#)). The west side of the treatment area, directly adjacent to the E4X Drain, consists of the sloped bank of the drain and a gravel access road leading from A Street past the NAS Fallon WWTP. The eastern portion of the treatment area is within the fenced area near the runways. Access to this area is controlled separately from the rest of NAS Fallon; this area is open space with no buildings or improvements.

The Navy is currently completing a remedial investigation (RI) addendum/feasibility study (FS) report for the SOU, which includes Site 16. The RI addendum/FS includes an assessment of potential risks to human receptors. These receptors include current and future industrial workers, future construction workers, and future residents. Unacceptable risks identified by the risk assessment in the RI addendum/FS will be addressed by the remedial action for the SOU.

### 2.1.3 Site History

Formally, Site 16 consists of a 200- by 200-foot area that housed the Old Fuel Farm. However, the Site 16 groundwater study area has been expanded significantly because contaminated groundwater has been detected outside of the Old Fuel Farm. The Site 16 study area includes the former tank locations and the northern portion of the E4X Drain (Figure 1-2).

The Old Fuel Farm consisted of four 50,688-gallon concrete and steel underground storage tanks (UST) that were in use between 1943 and 1985. In 1963, active operations were transferred to the new fuel farm, and the tanks were used for dead storage until they were emptied in 1985. The tanks contained various fuels, including JP4, JP5, fuel oil, diesel, and gasoline. The concrete tanks were demolished in 1992 and partially removed, and the tank pits were backfilled with soil. The two northern tank pits were backfilled with contaminated soil from the site, and the two southern tank pits were backfilled with clean soil (Oak Ridge National Laboratory [ORNL] 2000).

In addition to the Old Fuel Farm, several other petroleum sources are present in the area of Site 16. A fuel oil distribution system and associated storage tanks supplied fuel oil to boilers in many buildings. The known extent of this pipeline network is shown on Figure 1-2. Several other USTs and aboveground storage tanks (AST) were located near Site 16. All known tanks containing petroleum have been removed. Concurrent investigation by the Navy of the extent of potential contamination resulting from this oil distribution system is proceeding under a separate program.

Contaminants associated with Site 16 include benzene, toluene, ethylbenzene, xylenes, naphthalene, and total petroleum hydrocarbons. Free-phase fuel product has historically been detected in several wells and has recently been detected in three wells near Site 16, two near Sites 10 and 19 and one along the fuel oil pipeline adjacent to the Site 16 study area. The extent of free product has been additionally characterized using a laser-induced fluorescence Site Characterization and Analysis Penetrometer System rig (Richard Brady and Associates 2007). No free product or significant petroleum hydrocarbon contamination has been detected near the TCRA treatment area.

In 2004 and 2005, groundwater sampling and analysis found PCE and TCE in two wells in the northern portion of the Site 16 study area – MW-16-3 and BAT-16-P. This area was further evaluated during sampling from October 2007 through October 2008. The source or sources of the chlorinated solvents for this “northwestern plume” (near MW-16-3) have not been identified, despite installation of more than 60 passive soil gas sampling points, four new groundwater monitoring wells, and 23 soil boring and grab groundwater sample locations. The investigation was expanded to the eastern side of the E4X Drain because high concentrations of PCE and TCE were detected in a monitoring well east of the E4X Drain. The investigation found a second, higher-concentration PCE and TCE plume on the east side of the E4X Drain, centered near boring TT16-MW17. The plume near well TT16-MW17 is referred to as the “southeastern plume” and is the TCRA groundwater treatment area.

The origins of the two solvent plumes are unknown, but they likely resulted from localized point sources such as an accidental spill or other unknown releases on the ground surface. No potential release points such as floor drains or industrial sinks were observed in buildings near these plumes. No outfalls were observed along the banks of the E4X Drain. No underground piping or tanks are known to exist in either area, and magnetometer, EM61, and EM31 geophysical surveys of the area found no metallic anomalies.

Investigations and reports at NAS Fallon and Site 16 include a preliminary assessment (PA) and site inspection (SI), a UST removal preliminary investigation report, a RI report, an engineering evaluation/cost analysis (EE/CA), an assessment of intrinsic remediation, a trend analysis and updated plume assessment, a data summary and recommendation report related to a preliminary FS, an ATSDR public health assessment, and an action memorandum/removal action work plan for the groundwater containment system. Investigations in the TCRA area are described in [Section 2.1.4](#). The Navy is currently completing a combined RI addendum/FS report for the SOU at NAS Fallon, which includes Site 16. The RI addendum/FS report will address other contaminant issues within the SOU that do not pose an immediate concern.

#### **2.1.4 Removal Site Evaluation**

The PA/SI was completed for NAS Fallon in April 1988. This investigation identified 21 sites at NAS Fallon with potential environmental impacts and recommended these sites for Phase II activities (RI/FS), including Site 16, the Old Fuel Farm. Since that time, a number of groundwater investigations have been conducted at Site 16, including groundwater sampling in 1994 as part of the RI and other sampling completed to support an assessment of intrinsic remediation (the results of which are documented in the Trend Analysis and Updated Plume Assessment Report [[Battelle 2003a](#)] and the Data Summary and Recommendations Report [[Battelle 2003b](#)]). These previous reports concluded that concentrations of chlorinated solvents in groundwater at Site 16 were stable; however, these reports were completed before the full nature and extent of groundwater contamination was characterized.

Investigations of the chlorinated solvent plumes at Site 16 were initially conducted because of detections of chlorinated solvents in wells MW-16-3 and BAT-16-P. In 2005, a Gore-Sorber passive soil gas survey was conducted in the area north of A Street to ascertain the areal extent of the chlorinated solvent plume and identify the possible source of the contamination. The results indicated that the highest concentrations of PCE and TCE were approximately 50 feet west of well MW-16-3. Subsequent visual inspection of this location found a small debris pile consisting of soil, with wood and masonry debris, approximately 2 feet high and 10 feet in diameter—suspected to be the source of the contamination. The Gore-Sorber survey indicated that the PCE and TCE contamination extended toward the southeast, south of A Street, beyond the extent of the 2005 survey.

In 2007 and 2008, during the RI addendum/FS field activities, groundwater samples were collected from the chlorinated solvent plumes at nine newly installed monitoring wells, 27 soil borings, and two existing monitoring wells (MW-16-3 and MW-74). Samples were analyzed for volatile organic compounds (VOC) and, in some instances, total petroleum hydrocarbons, polycyclic aromatic hydrocarbons, semivolatile organic compounds, and total dissolved solids.

Chlorinated solvents were the only contaminants consistently detected in the Site 16 chlorinated solvent plume areas, however. Soil boring TT16-SB01 was advanced directly on top of the suspected source (debris pile), but vadose zone soil samples did not indicate any soil contamination at this location. Groundwater sample results from well TT16-MW09, located on the eastern side of the E4X Drain, indicated high concentrations of PCE and TCE, thus instigating further investigation of groundwater contamination on the eastern side of the E4X Drain.

In 2008, the Gore-Sorber survey was extended throughout the entire Site 16 study area to further define the extent of contamination at the site and to identify potential source areas. The expanded Gore-Sorber survey delineated the southeastern chlorinated solvent plume, and the results were used to guide placement of four soil borings (TT16-SB36 through TT16-SB39) and three monitoring wells (TT16-MW17 through TT16-MW19).

All of these investigations form the removal site evaluation on which the Navy based its determination that a TCRA was appropriate. The Navy used the site-specific information on the nature and extent of PCE and TCE in its evaluation of the factors identified in the NCP at 40 CFR § 300.415(b)(2) for determining the appropriateness of undertaking a removal action. The Navy's evaluation of these factors is presented in [Section 3.0](#).

### **2.1.5 Releases or Threatened Releases into the Environment of a Hazardous Substance or Pollutant or Contaminant**

Elevated concentrations of PCE and TCE in groundwater (that is, exceeding 5 micrograms per liter [ $\mu\text{g/L}$ ]) have been measured over approximately 3 acres of Site 16, with PCE concentrations typically greater than TCE concentrations. The most recent concentrations of PCE and TCE detected in groundwater are shown on [Figures 1-3 and 1-4](#). The highest PCE concentration observed was 49,000  $\mu\text{g/L}$  in October 2009 in a sample from well TT16-MW17, located just east of the E4X Drain. The estimated total contaminant mass in the northwestern plume is 4.9 pounds (lb) of PCE (with 3.6 lbs in the dissolved phase and 1.3 lbs sorbed to the soil matrix of the aquifer) and 1.9 lbs of TCE (1.8 lbs in the dissolved phase and 0.1 lb sorbed to the soil matrix) – equivalent to approximately 0.4 gallon of PCE and 0.2 gallon of TCE ([Tetra Tech EM Inc. \[Tetra Tech\] 2011](#)). Calculations for the southeastern plume indicate 28.3 lbs of PCE (21 lbs in the dissolved phase and 7.3 lbs sorbed) and 1.8 lbs of TCE (1.7 lbs in dissolved phase and 0.1 lb sorbed to soil) – equivalent to approximately 2.1 gallons of PCE and 0.2 gallon of TCE. During gaining stream conditions, when the elevation of the groundwater surface rises above the elevation of surface water in the drain or above the elevation of the E4X Drain bottom, contaminants from both groundwater plumes could enter the E4X Drain and potentially impact surface water quality. However, PCE and TCE are usually short-lived in surface water because of natural attenuation caused primarily by volatilization and photodegradation.

The sources of the PCE and TCE groundwater plumes are unknown. The presumed sources of the plumes are small volumes of spent or excess solvent released to the ground surface at single locations - near monitoring well MW-16-3 for the northwestern plume and possibly into or on the bank of the E4X Drain, near boring TT16-MW17, for the southeastern plume. The

northwestern plume has migrated toward the southeast, along the regional groundwater flow path. The southeastern solvent plume appears to have spread primarily toward the southeast along the regional groundwater flow gradient. During gaining stream conditions, the plume may migrate toward the southwest and the E4X Drain.

Chlorinated solvents have not been detected in samples collected from the E4X Drain or the Lower Diagonal Drain as part of the monthly surface water sampling program. Surface water samples were collected annually from the E4X Drain for 8 years from 1996 through 2003. Surface water samples have been collected from the Lower Diagonal Drain since 2006 and sampling has been conducted monthly since June 2010.

Solvent released on the ground surface would migrate downward through the thin 6- to 8-foot-thick vadose zone and into the shallow aquifer (present from approximately 8 to 20 feet bgs). The presence of the basewide clay confining layer and the upward hydraulic gradient of the intermediate aquifer limit the potential for downward migration of the denser-than-water contaminants to the deeper confined aquifers.

### **2.1.6 National Priorities List Status**

Site 16 is not listed on the National Priorities List (NPL); nor has it been proposed for the NPL.

### **2.1.7 Maps, Pictures, and Other Graphic Representations**

All figures relevant to this action memorandum are presented at the end of this report, under the “Figures” tab. [Figures 1-1](#) and [1-2](#) show the locations of NAS Fallon and Site 16. [Figures 1-3](#) and [1-4](#) show the groundwater plumes of PCE and TCE at Site 16. The groundwater treatment area for the proposed TCRA is delineated on [Figure 1-3](#). A conceptual site model for Site 16 is presented on [Figure 2-1](#). The E4X Drain is shown in its current condition on [Figure 2-2](#), and under gaining and losing stream conditions on [Figure 3-1](#). [Figure 5-1](#) illustrates the modifications to the E4X Drain.

## **2.2 OTHER ACTIONS TO DATE**

In 2003, trace amounts of petroleum hydrocarbons were detected in samples from the E4X Drain; concentrations in these samples were below U.S. Environmental Protection Agency (EPA) screening levels (both drinking water federal maximum contaminant levels [MCL] and preliminary remediation goals). Although Site 16 was never confirmed as the source of the contaminants, a plume containment system was constructed at Site 16 in 2004 under a TCRA to provide hydraulic control of site contaminants and prevent migration to the E4X Drain ([SulTech 2004](#)). In January 2006, the Navy determined that the plume containment system was not effective and ceased operation with concurrence from the NDEP. The Navy’s primary reasons for shutdown were the system’s modest effect on plume containment and concern that continued operation of the treated water infiltration gallery likely increases the migration velocity of chlorinated solvents near wells MW-16-3 and BAT-16-P toward the E4X Drain ([Tetra Tech 2007](#)).

An air sparging/soil vapor extraction (SVE) pilot test was conducted at Site 16, near monitoring well TT16-MW19, to obtain design parameters for a full-scale air sparging/SVE system. The pilot test was conducted in October 2009. The pilot test demonstrated that air sparging is feasible at Site 16. The observed radius of influence (ROI) for air sparging was 25 feet (typically, air sparging is considered cost effective at ROIs of 15 to 20 feet or greater). However, the pilot test also found that, because of the shallow water table, recovery of sparged vapors by a SVE system would not be cost effective. The observed ROI for SVE was 15 feet. This ROI was only possible at very high flow rate and vacuum, which resulted in the collection of large volumes of groundwater. The small SVE ROI is caused by short-circuiting of atmospheric air through the vadose zone and into the SVE extraction well. Because of the small ROI, the large number of SVE wells necessary to cover the treatment area, and the large volume of groundwater collected when extracting at high vacuum, full-scale SVE was not determined to be feasible at the site.

Conversations with and comments from NDEP representatives indicated a concern that the air sparging/SVE pilot test might cause migration of contaminants toward and possibly into the E4X Drain (NDEP 2008). In response to this concern, water samples were collected from three locations and tested using AQR Color-Tec field test kits (<http://www.aqrcolortec.com>) to provide real-time VOC concentration data to monitor for contaminant migration. Samples were collected from existing well TT16-MW17, a temporary well installed adjacent to the E4X Drain (TT16-TW01), and a stilling well installed within the drain. Samples were collected from these three locations before, during, and after the pilot test. Samples collected from TT16-MW17 showed that contaminant concentrations decreased during and after the pilot test. Samples collected from the temporary well (TT16-TW01) indicated a 360 to 414 percent increase in contaminant concentrations near the E4X Drain during and after the pilot test. These results indicate that operation of an air sparging system may result in contaminants migrating into surface water in the E4X Drain under its current condition. However, contaminants were not detected in samples collected from the stilling well in the E4X Drain before, during or after the pilot test.

Current investigations at Site 16 are associated with the ongoing RI addendum/FS for the SOU. These activities include continued monitoring for contamination in and along the E4X Drain, and collection of groundwater and soil gas samples to evaluate the potential for vapor intrusion to indoor air. In addition, groundwater samples are collected from monitoring wells in the SOU as part of the basewide monitoring program. Additional characterization and potential removal actions associated with the fuel oil pipeline (and associated USTs and ASTs) near the Site 16 study area will be undertaken via a separate program.

### **2.3 STATE AND LOCAL AUTHORITIES' ROLES**

This section discusses the roles of regulatory agencies with potential involvement in the removal action for Site 16.

### **2.3.1 State and Local Actions to Date**

The Navy is the lead federal agency at Site 16 pursuant to the Defense Environmental Restoration Act at 10 U.S.C. §§ 2701 through 2710, CERCLA, the NCP, and the delegation of Presidential authority under Executive Orders 12580 and 13016.

Pursuant to 10 U.S.C § 2705, the Navy is required to ensure state and local officials are given timely opportunity to review and comment on the Navy's proposed response actions. Accordingly, NDEP provides technical advice and environmental regulatory oversight during investigations and activities at Site 16. NDEP has been involved in planning meetings for this TCRA, and supports and accepts the Navy's decision to execute a TCRA at Site 16. NDEP reviewed the draft Action Memorandum for Installation Restoration Site 16 and provided comments in a letter dated October 7, 2011. Navy responses to NDEP comments are presented in [Appendix E](#) of this document.

The Restoration Advisory Board (RAB) consists of interested community members and public interest groups, and provides input and feedback on the Navy's Environmental Restoration Program. Presentations regarding groundwater investigations and the air sparging/SVE pilot study at Site 16 were made to the RAB on July 16, 2008, July 23, 2009, and July 23, 2010. A summary of the Site 16 TCRA was presented at the RAB meeting on August 31, 2011.

### **2.3.2 Potential for Continued State and Local Response**

NDEP has provided and is expected to continue to provide technical advice, environmental regulatory oversight, and assistance throughout the Navy's Installation Restoration Program at NAS Fallon. The Navy and the State of Nevada have entered a Defense and State Memorandum of Agreement (DSMOA) to enhance the involvement of the State in the cleanup NAS Fallon. The primary purpose of the DSMOA is to specify the conditions under which the Navy will reimburse the State for costs of providing services in direct support of environmental restoration funded activities. The Navy's Environmental Restoration Program funds are expected to remain the source of funding for this TCRA.

The E4X Drain is within the boundaries of NAS Fallon but is administered by BOR. On March 21, 2011, the Navy informed BOR of the proposed changes to the drain. The Navy will continue to coordinate with BOR on actions impacting the E4X Drain.

By letter dated July 14, 2011, the Navy informed the Nevada State Historic Preservation Office (SHPO) of its plan to conduct the removal action at Site 16 described herein, and presented its finding of "no adverse effect" on historic properties for the overall undertaking. This removal action is not subject to the procedural consultation requirements of Section 106 of the National Historic Preservation Act as a formal matter (see 42 U.S.C. § 9621[e]); however, in order to comply with the substantive requirements of the Act, the Navy provided SHPO with an opportunity to submit any comments it might have on the project. SHPO concurred with the Navy's determination of "no adverse effect" in a letter dated August 19, 2011. These letters are included in this action memorandum as [Attachment 1](#).

### **3.0 THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES**

In accordance with the NCP at 40 CFR § 300.415(b)(2), the following factors must be considered in evaluating the appropriateness of a removal action to address threats to public health and the environment:

- Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants
- Actual or potential contamination of drinking water supplies or sensitive ecosystems
- Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release
- High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate
- Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released
- Threat of fire or explosion
- Availability of other appropriate federal or state response mechanisms to respond to the release
- Other situations or factors that may pose threats to public health or welfare of the United States or the environment.

This section discusses threats to public health or welfare and the environment from contamination at Site 16.

#### **3.1 THREATS TO PUBLIC HEALTH OR WELFARE**

One of the threats listed in 40 CFR § 300.415(b)(2) applies to conditions at Site 16:

- Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants

A preliminary screening-level human health risk assessment was conducted for a construction worker working in the E4X Drain. This screening-level risk assessment used the construction trench model and conservative assumptions to qualitatively assess the potential risk to construction workers from contamination in groundwater in the southeastern groundwater plume. The results of this assessment indicated that there is a potentially unacceptable risk to

construction workers who may be working in the E4X Drain (cancer risk above 1E-04 and noncancer hazard above 1) from contamination in the southeastern groundwater plume.

A more detailed assessment of potential risks to human health is being evaluated as part of the combined RI addendum/FS for the SOU. This TCRA is designed to address immediate threats to public health and the environment and is not expected to be the final action at Site 16.

### 3.2 THREATS TO THE ENVIRONMENT

One of the threats listed in 40 CFR § 300.415(b)(2) applies to conditions at Site 16:

- Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants

Contamination in groundwater at Site 16, from the northwestern and southeastern groundwater plumes, may migrate to the E4X Drain during gaining stream conditions, and may impact ecological receptors in the drain or downstream of the site (the Lower Diagonal Drain).

The northern reach of the E4X Drain (from approximately 200 feet north of A Street to 100 feet north of the WWTP outfall) changes seasonally between a gaining and a losing stream ([Tetra Tech 2007](#)). Based on data collected from paired piezometers in 2007 and 2008, the northern reach of the E4X Drain was a losing stream (water from the drain infiltrates down to the groundwater) in the spring to late fall and a gaining stream (shallow groundwater may seep into the drain) intermittently during the late fall to early spring, which is consistent with previous studies in 2004 to 2005. In general, the seasonal fluctuation occurs because surface water levels are higher from irrigation and groundwater levels are lower from lack of precipitation in summer and fall. Conversely, surface water levels are low in winter and spring from the lack of irrigation, and groundwater levels are higher because of increased precipitation.

Because of the volatility of PCE and TCE, these chemicals typically evaporate when released to surface water and are not expected to adsorb onto sediment. Moreover, PCE and TCE are unlikely to accumulate in aquatic organisms. However, at high enough concentrations both chemicals may be toxic, and thus may pose a hazard to ecological receptors, if any exist in the E4X Drain.

A conceptual site model of Site 16 under gaining and losing stream conditions is shown on [Figure 3-1](#). During losing stream conditions, the groundwater gradient in the area of the E4X Drain appears to return to the regional flow patterns, that is, groundwater flows to the southeast. Under these conditions, groundwater appears to flow underneath the E4X Drain along this regional groundwater gradient. Under gaining stream conditions, however, information obtained from sensors at the drain indicate that the direction of groundwater flow along the northern reach of the drain near where the southeastern plume is currently located may be impacted as groundwater is potentially discharging into the drain. This localized impact to the direction of groundwater flow may in fact be helping to stabilize the movement of the southern plume and minimize the plumes migration along the regional flow path.

After drain modifications are complete, the E4X Drain will become a losing stream at all times and groundwater is expected to then continuously flow along the regional groundwater gradient (that is, to the southeast). As a result of the drain modification, the southeastern plume may then begin to migrate farther downgradient because the drain is no longer collecting groundwater from the plume or affecting the local groundwater gradient near the E4X Drain. To help alleviate this concern, this TCRA is also designed to chemically treat the southeastern plume so that drain modifications do not contribute to enlarging the plume and allowing it to migrate farther downgradient to the southeast.

#### **4.0 ENDANGERMENT DETERMINATION**

Actual or threatened releases of hazardous substances from this site may present an imminent and substantial endangerment to public health or welfare, or the environment. Contaminants in groundwater at Site 16, specifically PCE and TCE, could migrate to the E4X Drain, possibly contaminating surface water at NAS Fallon and posing an unacceptable risk to human receptors. In addition, the groundwater contaminants may continue to migrate along regional flow paths and may spread to a larger area if not mitigated by this TCRA.

#### **5.0 PROPOSED ACTIONS AND ESTIMATED COSTS**

This section describes the TCRA designed to prevent the potential migration of the contaminated groundwater into surface water via the E4X Drain and to reduce concentrations of chlorinated solvents in groundwater in the southeastern plume. This section also describes alternative technologies considered, discusses applicable or relevant and appropriate requirements (ARAR), and presents the estimated costs for the TCRA.

##### **5.1 REMOVAL ACTION**

This section describes the actions for groundwater treatment and backfill of the E4X Drain and also identifies other alternatives that were analyzed by the Navy, but which were determined to be not as effective or appropriate as the selected actions. ARARs and the proposed schedule are also discussed. Details on the design and monitoring program for the removal action will be provided in a separate work plan and sampling and analysis plan.

##### **5.1.1 Removal Action Description**

The removal action at Site 16 consists of the following two tasks:

- Partially backfilling the northern portion of the E4X Drain to prevent the potential migration of contaminated groundwater into surface water in the drain
- Reducing concentrations of PCE and TCE in groundwater in the southeastern plume through treatment with ozone-peroxide injections.

The initial phase of the TCRA includes partially backfilling approximately 1,700 feet of the northern portion of the E4X Drain. A conceptual design of the modifications to the drain is shown on [Figure 5-1](#).

A sheet pile weir will be installed to a height of 3,920 feet above mean sea level (approximately 2 feet above the existing drain bed elevation) upstream of the WWTP outfall to prevent water from the WWTP or the Lower Diagonal Drain from flowing north toward the solvent plumes. North of the weir, the E4X Drain will be partially backfilled to an elevation of at least 3,920 feet above mean sea level, which is higher than the highest observed elevation of the groundwater in the area.

After the sheet pile weir is installed and the drain is partially backfilled, the northern portion of the drain will be dry except during storm events. Preliminary stormwater flow calculations have been completed for the drainage area of the E4X Drain. These preliminary calculations show that after the northern portion of the E4X Drain is partially backfilled, it will still be capable of draining runoff from a 100-year, 24-hour storm event without risk of flooding. The stormwater calculations are presented in [Appendix A](#). The design of the drain modifications will be based on more detailed stormwater flow calculations.

None of the activities contemplated in the E4X Drain constitute the discharge of dredged or fill material into waters of the United States. The E4X Drain is an isolated ditch that does not carry a permanent flow of water. Potentially contaminated groundwater that infiltrates into the drain during construction will be collected, treated with granular activated carbon, and discharged to the WWTP.

The second phase of the TCRA includes installation and operation of an ozone-peroxide injection system to reduce concentrations of PCE and TCE in the southeastern solvent plume. The northwestern PCE/TCE plume will be addressed as part of the combined RI addendum/FS for the SOU. The southeastern plume will be treated as part of this TCRA because it contains the highest concentrations of PCE and TCE at Site 16 and is directly adjacent to the E4X Drain. The treatment area is shown on [Figure 1-3](#). The treatment area is delineated as portions of the southeastern solvent plume where concentrations of PCE exceed 5 µg/L. The treatment area is approximately 33,000 square feet.

Ozone-peroxide injection involves pulsed injections of liquid hydrogen peroxide and gaseous ozone. The two oxidants, ozone (O<sub>3</sub>) and hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>), combine to form an even stronger oxidant, hydroxyl radicals (OH). The hydroxyl radicals oxidize the PCE, TCE, and other VOCs (including daughter products of PCE and TCE degradation, such as cis-1,2-dichloroethene and vinyl chloride) to carbon dioxide, water, and chloride ions. Approximately 20 injection points will be installed in the groundwater treatment area. Assumptions and calculations of the contaminant mass, number of injection points, and costs for the treatment system are included in [Appendix B](#).

The groundwater treatment system will operate until further reduction of the concentrations through ozone-peroxide injection is not cost effective, sustainable, or technically feasible. Treatment will also stop if concentrations of PCE and TCE are at or below 5 µg/L because these

concentrations would allow for unrestricted use of the groundwater. It is anticipated that the system will operate for 8 months to reduce concentrations of PCE and TCE. However, the performance of the system will be monitored during treatment, and the groundwater treatment system may be shut down earlier if contaminant concentrations are found to have reached an asymptote, if ozone-peroxide injection is no longer the most cost-effective or sustainable treatment option, or if concentrations of PCE and TCE are less than 5 µg/L. Conversely, the system may operate for up to 12 months if the treatment is effective but additional time is needed to achieve the objectives of this TCRA.

The removal action and the results of samples collected before, during, and after the TCRA will be documented in a removal action completion report.

### **5.1.2 Contribution to Remedial Performance**

The proposed TCRA is not intended to be the final remedy for the SOU. The Navy is currently completing a RI addendum/FS for the SOU that evaluates potential risks to human health and the environment from contamination in soil, groundwater, and soil gas. If the proposed groundwater treatment system reduces concentrations of PCE and TCE in the southeastern solvent plume below federal MCLs, additional action may still be required at the SOU to address the northwestern solvent plume, contamination in soil, or soil gas vapor intrusion into indoor air. This removal action is expected to be compatible with future remedial actions undertaken at the SOU.

### **5.1.3 Description of Alternative Technologies**

An EE/CA was not conducted for this removal action because it has been deemed time-critical (40 CFR § 300.415[b][4]). However, this section presents a brief description of alternative technologies that were analyzed and considered for effectiveness, implementability, and cost.

#### ***E4X Drain Modification Alternatives***

The Navy considered the following alternatives to minimize entry of contaminated groundwater into the E4X Drain:

- **Alternative 1, Backfilling:** This alternative includes installation of a sheet pile weir upstream of the WWTP outfall and partially backfilling the northern portion of the E4X Drain. This alternative is appropriate because the bottom of the drain would be raised above the highest observed groundwater elevation. Thus, the groundwater level would always be below the bottom of the drainage at the site, effectively preventing contaminated groundwater from contacting surface water in the drain. The backfilled E4X Drain would be dry during normal conditions, but would still have sufficient capacity to provide surface water drainage for a 100-year storm ([Appendix A](#)). The sheet pile weir would prevent discharge from the WWTP and water from the Lower Diagonal Drain from flowing upstream (north) toward the chlorinated solvent plumes, and reduce erosion of the backfill during storm events. Alternative 1 is also easily implemented, cost-effective, and complies with federal and state regulations.

- **Alternative 2, Relocation of Wastewater Treatment Plant Discharge:** Alternative 2 consists of moving the WWTP outfall so that it discharges directly into the Lower Diagonal Drain, and installing a sheet pile weir at the confluence of the E4X Drain and the Lower Diagonal Drain. This alternative would prevent water from the WWTP and the Lower Diagonal Drain from entering the E4X Drain. This would also prevent potentially contaminated water in the E4X Drain from entering the Lower Diagonal Drain. However, this alternative would not be effective at preventing contaminated groundwater from potentially entering the drain and might actually increase the volume of contaminated groundwater entering the drain because it would reduce surface water levels and create more frequent gaining stream conditions. Thus, contaminated groundwater could potentially pond in the southern portion of the drain. During storm events, any such contaminated water in the drain would likely be flushed over the E4X Drain outlet weir and into the Lower Diagonal Drain. Therefore, this alternative is not appropriate for this TCRA.
- **Alternative 3, Installation of Constant-head Weirs:** This alternative includes installation of a sheet pile weir just downstream of the WWTP outfall. The weir would prevent stormwater and the WWTP discharge from entering the Lower Diagonal Drain until the water level rises and overflows the weir. The result of this alternative would be a new high water level that would always maintain losing stream conditions in the E4X Drain, thereby preventing groundwater from entering the drain. This alternative is not appropriate for Site 16 because (1) it may affect the natural groundwater flow patterns of the chlorinated solvent plumes, potentially mobilizing contamination toward the boundary of NAS Fallon, and (2) the additional water in the northern portion of the drain may attract birds and increase the potential for bird aircraft strike hazard (BASH) at the adjacent runways.
- **Alternative 4, Concrete Lining:** This alternative includes lining the bottom of the E4X Drain with concrete or other impermeable material to prevent contaminated groundwater from potentially entering the drain. Excavation of some sediment at the bottom of the drain may be necessary to provide a stable base for the impermeable liner. Sampling the sediment would be required, and, if contaminated, the sediment must be disposed of at an appropriate disposal facility. This alternative would not be as effective as the other alternatives because the concrete would likely develop cracks that would allow groundwater to enter the drain, and would also potentially alter the local groundwater flow direction. This alternative would also be less cost effective than Alternative 1 and would require ongoing maintenance and monitoring to maintain its effectiveness.

The selected alternative to minimize potential entry of contaminated groundwater into the E4X Drain is Alternative 1, partially backfilling the northern portion of the drain. This alternative should effectively prevent contaminated groundwater from the northwestern and southeastern solvent plumes from entering surface water by raising the elevation of the E4X Drain bottom above the groundwater table and eliminating the potential groundwater to surface water migration pathway. Installing a sheet pile weir and partially backfilling the drain are common construction actions, and multiple contractors are available to complete this work. In addition,

this removal action can be completed within 6 weeks. The estimated cost for this alternative is \$251,000 (see [Appendix B](#)).

### **Groundwater Treatment Alternatives**

The Navy considered the following alternatives for groundwater treatment at Site 16:

- **Alternative 1, Ozone-Peroxide Injection:** This alternative consists of pulsed injection of liquid hydrogen peroxide and gaseous ozone. The ozone and hydrogen peroxide combine to create hydroxyl radicals, which are strong oxidizers, to treat PCE, TCE, and other VOCs. Because the system uses both liquid and gas injections and injects the oxidants repeatedly during the entire course of the remediation, the oxidant is more evenly distributed throughout the treatment zone than it would be using liquid oxidant alone. In addition, the injection is pulsed, allowing for smaller volumes of oxidant to be injected at one time, thus reducing the potential to “push” contaminated groundwater into previously uncontaminated areas. Ozone-peroxide injection is more cost effective than other forms of groundwater remediation, including injection of other oxidants such as sodium or potassium permanganate (see [Appendix B](#)).
- **Alternative 2, Air Sparging/Soil Vapor Extraction:** Air sparging/SVE was evaluated at Site 16 during a pilot test in 2009. This pilot test concluded that air sparging was effective at treating PCE and TCE in groundwater; however, SVE was not cost effective for collecting the sparged vapors. Because air sparging physically removes dissolved contaminants, instead of oxidizing them, it would likely take up to two to three times longer than an oxidant treatment system to reach treatment goals.
- **Alternative 3, Zero-valent Iron Injection:** This alternative includes injecting nano-scale zero-valent iron (ZVI) or iron-impregnated granular activated carbon into the aquifer to treat PCE and TCE. ZVI is effective at treating PCE and TCE in groundwater and persists in the subsurface much longer than chemical oxidants. However, achieving even distribution of ZVI throughout the entire depth and areal extent of contamination often requires overlapping injections. Finally, ZVI is not as cost effective as ozone-peroxide injection for treating groundwater at Site 16 (see [Appendix B](#)).
- **Alternative 4, Electrical Resistance Heating:** Electrical resistance heating (ERH) uses controlled electrical currents to heat the groundwater and volatilize the contaminants. The vapor is extracted with an SVE system and treated. ERH is significantly more expensive than other groundwater treatment alternatives ([Appendix B](#)), and the air sparging/SVE pilot test has demonstrated that an SVE system is not cost effective at Site 16.

Alternative 1, injection of ozone and peroxide, was selected as the preferred alternative for groundwater treatment because it is more cost effective than the other technologies, would result in the best distribution of the treatment chemicals in the subsurface, and would have the least impact on the natural groundwater gradient. Ozone-peroxide injection is expected to permanently reduce the concentrations of PCE, TCE, and other VOCs in the groundwater

Because the treatment is in situ, current site workers and the environment would not be exposed to the contaminated groundwater, except for minimal exposure during system installation and groundwater sampling. This alternative uses common remedial technologies, such as in situ chemical oxidation and drilling, and vendors are available to implement these technologies. It is expected that the system would operate for approximately 8 months. The estimated cost for ozone-peroxide injection is \$510,400 ([Appendix B](#)).

#### **5.1.4 Applicable or Relevant and Appropriate Requirements for the Removal Action**

CERCLA § 121(d) (42 U.S.C. § 9621[d]), as amended, states that remedial actions at CERCLA sites must attain (or the decision document must justify the waiver of) any federal or more stringent state environmental standards, requirements, criteria, or limitations determined to be legally applicable or relevant and appropriate. Although CERCLA § 121 does not itself expressly require that CERCLA removal actions comply with ARARs, EPA has promulgated a requirement in the NCP mandating that CERCLA removal actions "...shall, to the extent practicable considering the exigencies of the situation, attain applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws" (40 CFR § 300.415[j]). It is Navy policy to follow this requirement. Certain specified waivers may be used for removal actions, as is the case with remedial actions.

Applicable requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address circumstances at a CERCLA site. The requirement is applicable if the jurisdictional prerequisites of the standard show a direct correspondence when objectively compared to the conditions at the site. An applicable federal requirement is an ARAR. An applicable state requirement is an ARAR only if it is more stringent than federal ARARs. On March 30, 2011, the Navy requested that NDEP identify potential state ARARs for the TCRA. NDEP responded to the request on April 13, 2011. ARARs identified by NDEP and accepted by the Navy are discussed in more detail in [Appendix C](#).

If the requirement is not legally applicable, the requirement is evaluated to determine whether it is relevant and appropriate. Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not applicable, address problems or situations similar to the circumstances of the proposed response action and are well suited to the conditions of the site ([EPA 1988](#)). A requirement must be determined to be both relevant *and* appropriate to be considered an ARAR.

The criteria for determining relevance and appropriateness are listed in 40 CFR § 300.400(g)(2) and include the following:

- The purpose of the requirement and the purpose of the CERCLA action
- The medium regulated or affected by the requirement and the medium contaminated or affected at the CERCLA site

- The substances regulated by the requirement and the substances found at the CERCLA site
- The actions or activities regulated by the requirement and the response action contemplated at the CERCLA site
- Any variances, waivers, or exemptions of the requirement and their availability for the circumstances at the CERCLA site
- The type of place regulated and the type of place affected by the release or CERCLA action
- The type and size of structure or facility regulated and the type and size of structure or facility affected by the release or proposed in the CERCLA action
- Any consideration of use or potential use of affected resources in the requirement and the use or potential use of the affected resources at the CERCLA site.

According to CERCLA ARARs guidance ([EPA 1988](#)), a requirement may be “applicable” or “relevant and appropriate,” but not both. ARARs must be identified on a site-specific basis and involve a two-part analysis: first, a determination whether a given requirement is applicable; then, if it is not applicable, a determination whether it is both relevant and appropriate. If the analysis determines that a requirement is both relevant and appropriate, such a requirement must be complied with to the same degree as if it were applicable ([EPA 1988](#)).

Tables included in [Appendix C](#) present each ARAR with a determination of ARAR status (that is, applicable, relevant and appropriate, or not an ARAR). For the determination of relevance and appropriateness, the pertinent criteria were examined to determine whether the requirements addressed problems or situations sufficiently similar to the circumstances of the release or removal action contemplated, and whether the requirement was well suited to the site. Negative determinations are discussed in the text, but are documented in the tables only for specific cases.

To constitute an ARAR, a requirement must be substantive. Therefore, only the substantive provisions of requirements identified as ARARs are considered to be ARARs. Permits are considered to be procedural or administrative requirements. Provisions of generally relevant federal and state statutes and regulations that were determined to be procedural or nonenvironmental, including permit requirements, are not considered to be ARARs. CERCLA § 121(e)(1), 42 U.S.C. § 9621(e)(1), states, “No Federal, State, or local permit shall be required for the portion of any removal or remedial action conducted entirely on-site, where such remedial action is selected and carried out in compliance with this section.” The term *on-site* is defined for purposes of this ARARs discussion as “the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action” (40 CFR § 300.5).

Nonpromulgated advisories or guidance issued by the federal government or state governments are not legally binding and do not have the status of ARARs. Such requirements may, however, be useful and are “to be considered” (TBC) criteria. TBC requirements (40 CFR §

300.400[g][3]) complement ARARs but do not override them. They are useful for guiding decisions regarding cleanup levels or methodologies when regulatory standards are not available.

Pursuant to EPA guidance ([EPA 1988](#)), ARARs are generally divided into three categories: chemical-, location-, and action-specific requirements. This classification was developed to aid in the identification of ARARs; some ARARs do not fall exactly into one group or another. ARARs are identified on a site-specific basis for response actions where CERCLA authority is the basis for cleanup.

As the lead federal agency, the Navy has primary responsibility for identifying ARARs for the TCRA at Site 16 at NAS Fallon. The Navy identified federal ARARs for the selected removal action are presented in [Appendix C](#). Table C-1 presents chemical-specific ARARs; Table C-2 presents location-specific ARARs; and Table C-3 presents action-specific ARARs. On March 30, 2011, the Navy requested NDEP identify potential state ARARs. NDEP responded to the Navy's request on April 13, 2011. State ARARs that the Navy accepts for the selected removal action are presented in Table C-4. The Navy's responses to the potential ARARs identified by the State are presented in Table C-5. The removal action will meet all identified federal ARARs and accepted state ARARs.

### **5.1.5 Project Schedule**

The TCRA (groundwater treatment with ozone-peroxide injection and partial backfill of sections of the E4X Drain) is anticipated to begin in November 2011. Backfill of the E4X Drain is scheduled to be completed by the end of December 2011. Installation of the groundwater treatment system will require approximately 4 weeks, followed by approximately 8 months of operation to treat groundwater contaminants. Completion of monitoring requirements is anticipated by November 2012.

The project schedule will be regularly updated as the project proceeds. The Navy will inform all key project personnel of any known or anticipated delays or acceleration of project activities. If schedule modifications are needed or anticipated, the Navy will develop and outline the methods necessary to try to maintain the overall project schedule.

## **5.2 ESTIMATED COSTS**

The Navy has estimated the present worth cost of the removal action. These costs were estimated before completion of the design of the systems. Because this action is considered time-critical, an EE/CA with a more detailed cost estimate was not completed. The estimated costs include construction, operation and maintenance, and planning and reporting documents (design and completion reports). Post-removal site control costs are not anticipated for this TCRA. The estimated costs are presented in [Appendix B](#).

The costs for modifications to the E4X Drain and groundwater treatment are summarized as follows:

Description	Estimated Cost
<b>Modification to E4X Drain</b>	
Construction Costs	\$150,800
Planning and Reporting Documents	\$50,000
Contingency Costs (25%)	\$50,200
<b>Total</b>	<b>\$251,000</b>
<b>Groundwater Treatment</b>	
Construction Costs	\$225,600
Operation, Maintenance, and Monitoring	\$154,800
Planning and Reporting Documents	\$130,000
<b>Total</b>	<b>\$510,400</b>
<b>Total TCRA Cost</b>	<b>\$761,400</b>

## 6.0 EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If action should be delayed or not taken, concentrations of PCE and TCE would remain in groundwater east of the E4X Drain. Contaminated groundwater from the northwestern and southeastern solvent plumes may migrate into surface water in the E4X Drain, potentially impacting human and ecological receptors. Without groundwater treatment as part of this TCRA, migration of contamination in groundwater would continue, thereby potentially resulting in a greater volume of material requiring subsequent remediation. This greater volume would necessitate increased costs for groundwater treatment.

## 7.0 PUBLIC INVOLVEMENT

This Action Memorandum will be made available to the public at the Information Repository located at the Churchill County Library, and will be included in the Administrative Record. The Navy will comply with 40 CFR § 300.415(n), which requires publication of a notice of availability of the Action Memorandum in the Administrative Record in a major local newspaper within 60 days after the on-site removal action begins. An index of the Administrative Record for Site 16 at NAS Fallon is included as [Appendix D](#). The NCP (40 CFR § 300.820[b][3]) also requires provision of a public comment period of not less than 30 days from the time the Action Memorandum is made available to the public, and preparation of a written response to significant comments. The Navy will respond to significant public comments on the TCRA in the removal action completion report.

## 8.0 OUTSTANDING POLICY ISSUES

No outstanding policy issues are associated with Site 16.

## 9.0 RECOMMENDATION

This Action Memorandum was developed in accordance with current EPA and Navy guidance documents for removal actions under CERCLA (EPA 2009, Navy 2006a). This Action Memorandum documents, for the Administrative Record, the Navy's decision to undertake a TCRA at Site 16. To date, the Navy has not acquired evidence that would identify other potentially responsible parties at this site.

The recommended removal action is to partially backfill the northern portion of the E4X Drain and to treat groundwater using ozone-peroxide injection in the southeastern solvent plume. These actions are recommended because they provide a high degree of protection for human health and the environment, do not involve significant administrative or technical constraints, and are not cost-prohibitive. In arriving at this decision, four alternatives for drain modifications and four groundwater treatment alternatives were identified, evaluated, and ranked, as described in Section 5.1.3. These alternatives included:

### E4X Drain Modification Alternatives:

- Alternative 1: Backfilling
- Alternative 2: Relocation of WWTP Discharge
- Alternative 3: Installation of Constant-head Weirs
- Alternative 4: Concrete Lining

### Groundwater Treatment Alternatives:

- Alternative 1: Ozone-Peroxide Injection
- Alternative 2: Air Sparging/SVE
- Alternative 3: ZVI Injection
- Alternative 4: ERH

This decision document represents the selected removal action for Site 16 at NAS Fallon, Nevada, developed in accordance with CERCLA as amended by the Superfund Amendments and Reauthorization Act, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the site.



CAPTAIN RINEHART WILKE, IV  
Installation Commanding Officer  
NAS Fallon



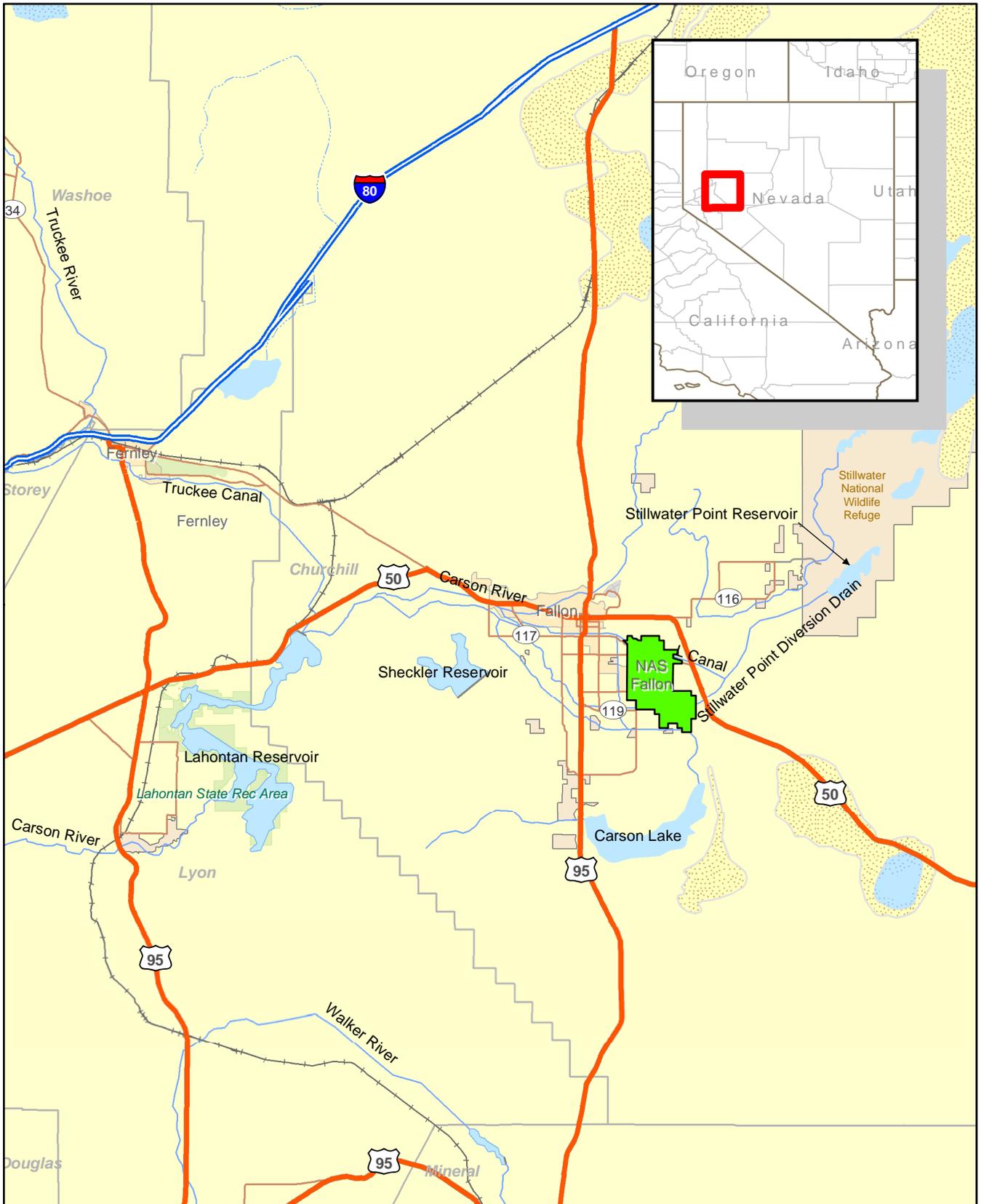
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- Western Regional Climate Center. 2008. On-line address:  
<http://www.wrcc.dri.edu/Climsun.html>. Accessed December 5, 2008.

## FIGURES

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**Legend**

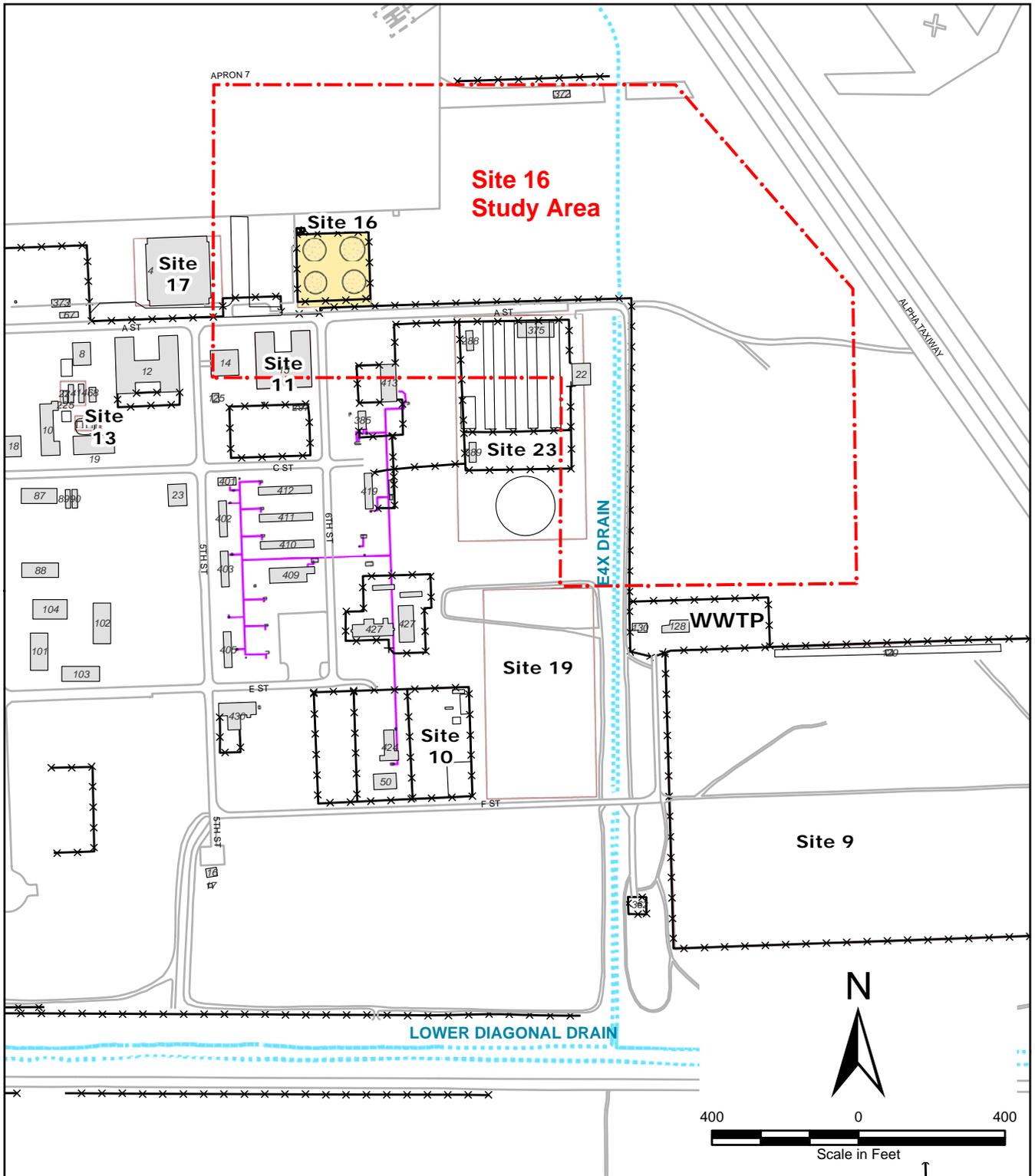
NAS FALLON

N

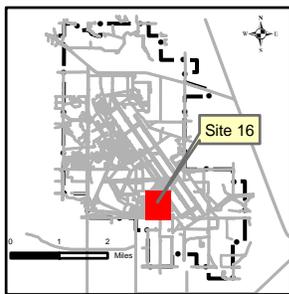


**NAVAL AIR STATION FALLON**  
U.S. Navy, NAVFAC Southwest, San Diego, CA

**Figure 1-1**  
**Facility Location Map**  
Action Memorandum for  
Installation Restoration Site 16



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NAS Fallon Locator Map

**Legend**

- Road
- Fuel Oil Pipeline
- × × × Fence
- Site Boundary
- Building
- Former Underground Storage Tank (Demolished and Partially Removed)

WWTP - Wastewater Treatment Plant

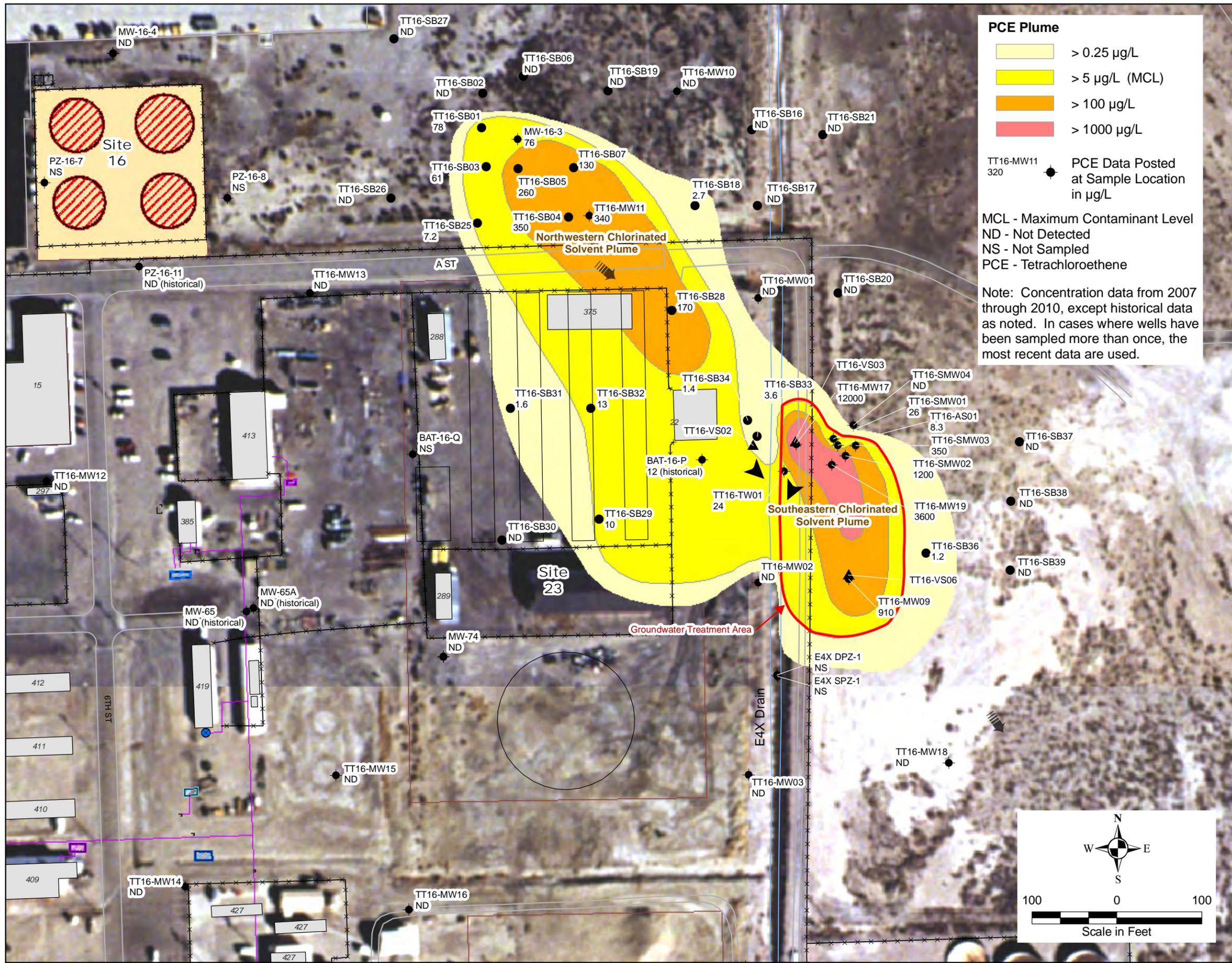


**NAVAL AIR STATION FALLON**  
U.S. Navy, NAVFAC Southwest, San Diego, CA

**Figure 1-2**  
**Site Location Map**

Action Memorandum for  
Installation Restoration Site 16

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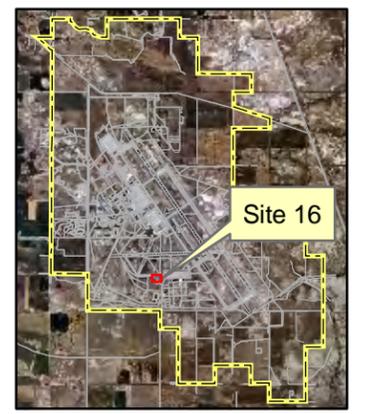
**PCE Plume**

- > 0.25 µg/L
- > 5 µg/L (MCL)
- > 100 µg/L
- > 1000 µg/L

TT16-MW11 320 ● PCE Data Posted at Sample Location in µg/L

MCL - Maximum Contaminant Level  
 ND - Not Detected  
 NS - Not Sampled  
 PCE - Tetrachloroethene

Note: Concentration data from 2007 through 2010, except historical data as noted. In cases where wells have been sampled more than once, the most recent data are used.



NAS Fallon Locator Map

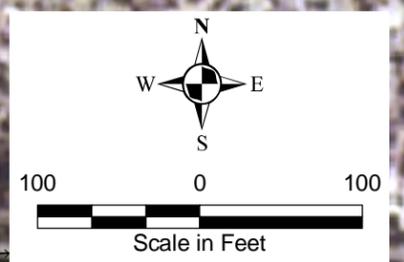
- Road
  - Site Boundary
  - Building
- RI Sample Locations**
- Soil Boring with Temporary Monitoring Well
  - Monitoring Well
  - ▲ Velocity Sensor
  - ➔ Approximate Regional Direction of Groundwater Flow
  - Approximate Local Direction of Groundwater Flow
  - Former Aboveground Fuel Oil Storage Tank
  - Former Underground Fuel Oil Storage Tank
  - Former Aboveground Gasoline Storage Tank
  - Former Underground JP-5 Storage Tank
  - Fuel Oil Pipeline
  - Former Small Capacity (300-400 Gallon) Fuel Oil Storage Tank

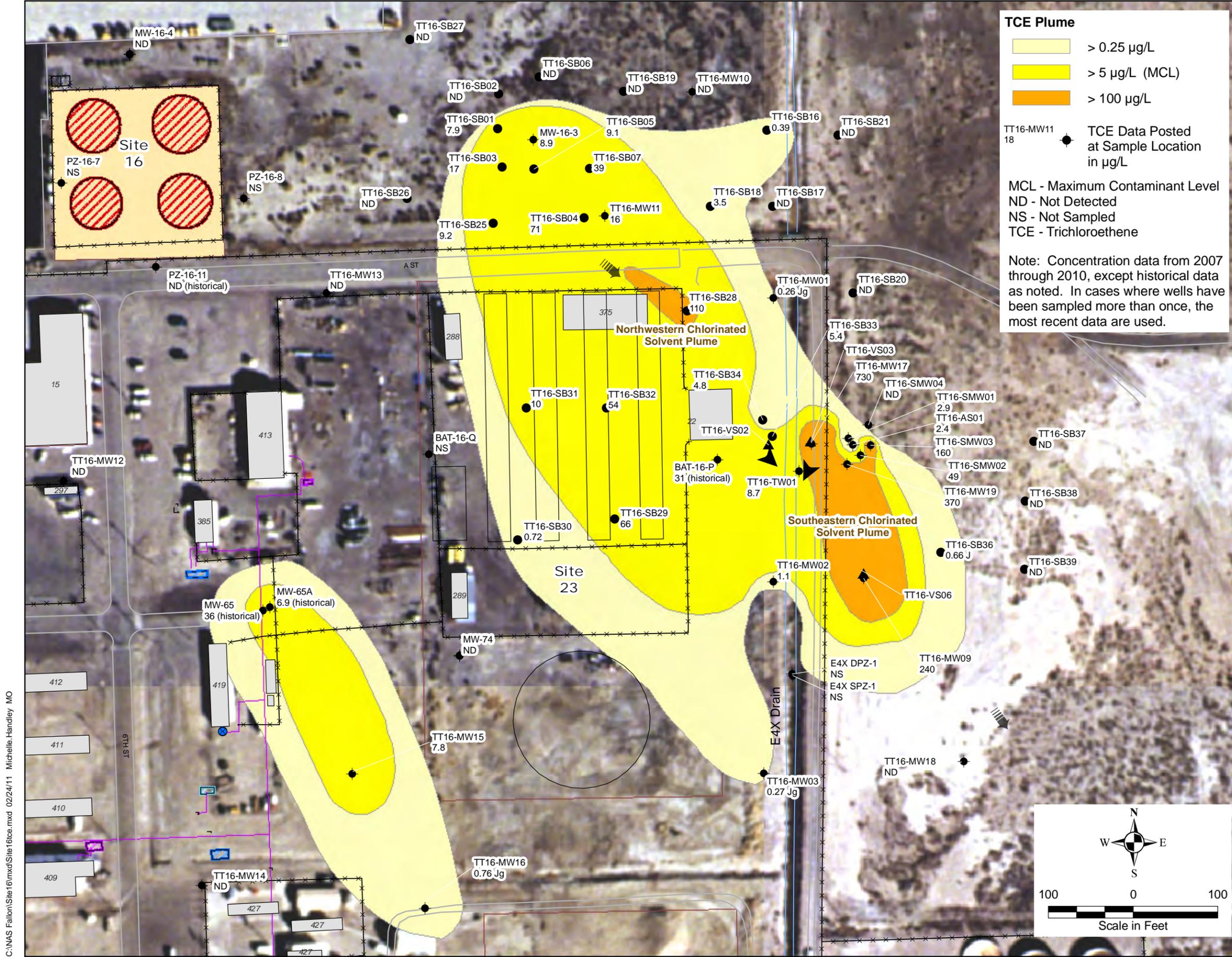


**NAVAL AIR STATION FALLON**  
 U.S. Navy, NAVFAC Southwest, San Diego, CA

**Figure 1-3**  
**Distribution of Tetrachloroethene**  
**in Groundwater**

Action Memorandum for  
 Installation Restoration Site 16





**TCE Plume**

- > 0.25 µg/L
- > 5 µg/L (MCL)
- > 100 µg/L

TT16-MW11 18 ● TCE Data Posted at Sample Location in µg/L

MCL - Maximum Contaminant Level  
 ND - Not Detected  
 NS - Not Sampled  
 TCE - Trichloroethene

Note: Concentration data from 2007 through 2010, except historical data as noted. In cases where wells have been sampled more than once, the most recent data are used.



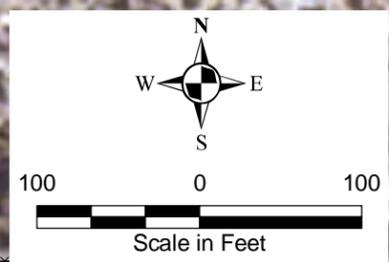
- Road
  - Site Boundary
  - Building
- RI Sample Locations**
- Soil Boring with Temporary Monitoring Well
  - Monitoring Well
  - ▲ Velocity Sensor
  - ➔ Approximate Regional Direction of Groundwater Flow
  - Approximate Local Direction of Groundwater Flow
  - Former Aboveground Fuel Oil Storage Tank
  - Former Underground Fuel Oil Storage Tank
  - Former Aboveground Gasoline Storage Tank
  - Former Underground JP-5 Storage Tank
  - Fuel Oil Pipeline
  - Former Small Capacity (300-400 Gallon) Fuel Oil Storage Tank



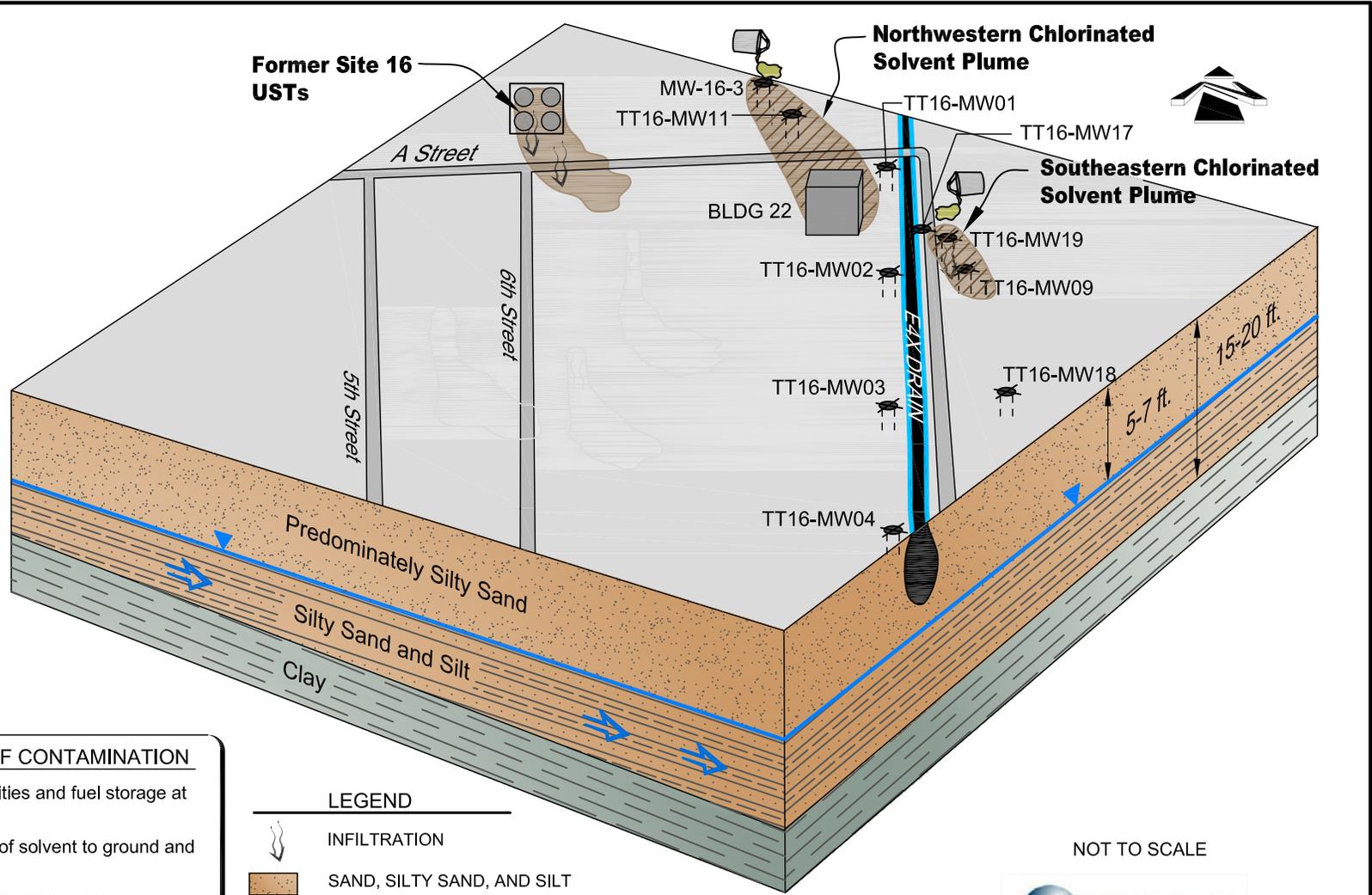
**NAVAL AIR STATION FALLON**  
 U.S. Navy, NAVFAC Southwest, San Diego, CA

**Figure 1-4**  
**Distribution of Trichloroethene**  
**in Groundwater**

Action Memorandum for  
 Installation Restoration Site 16



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**PRIMARY SOURCES OF CONTAMINATION**

- Leaks / spills from activities and fuel storage at Old Fuel Farm
- Historical point release of solvent to ground and E4X Drain

**PRIMARY MIGRATION PATHWAYS**

- Infiltration to groundwater
- Vapor intrusion to indoor air
- Migration to E4X Drain during gaining stream conditions (not shown)

**POTENTIAL RECEPTORS**

- Site worker (current and future)
- Construction worker (current and future)
- Hypothetical resident (future)
- Plants, wildlife

**LEGEND**

- INFILTRATION
- SAND, SILTY SAND, AND SILT
- CLAY
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER TABLE
- MONITORING WELL
- PRESUMED HISTORICAL RELEASE
- CHLORINATED SOLVENT PLUME
- PETROLEUM HYDROCARBON PLUME

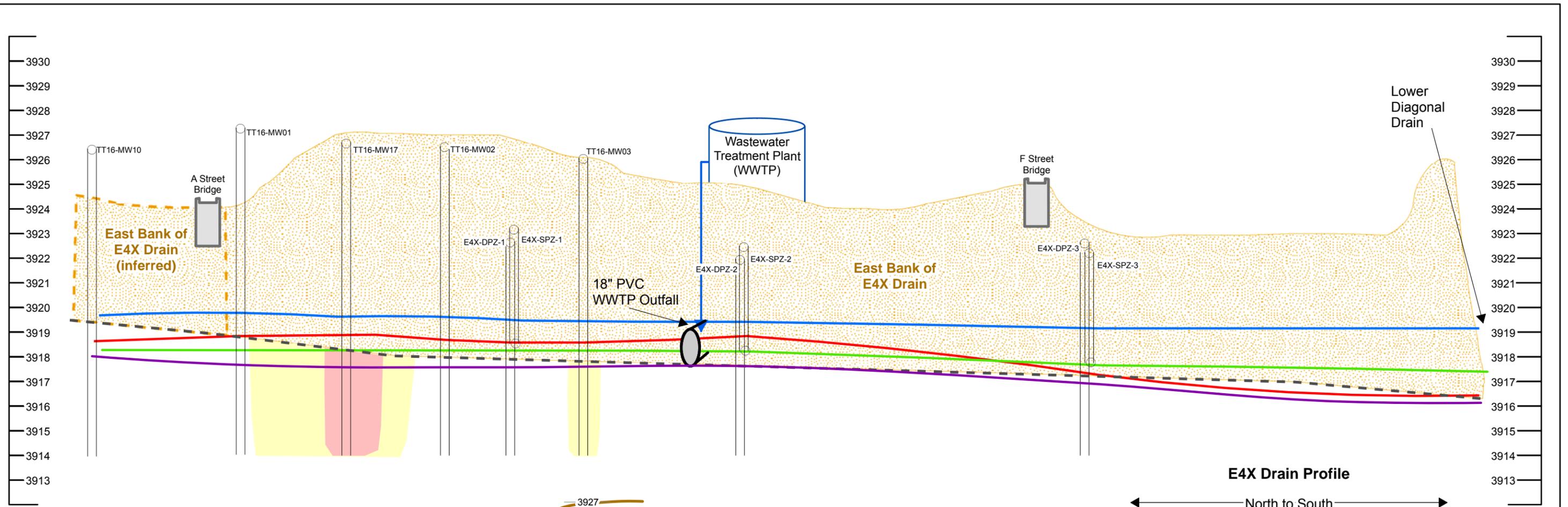
NOT TO SCALE



**NAVAL AIR STATION FALLON**  
U.S. Navy, NAFAC Southwest, San Diego, CA

**FIGURE 2-1**  
**SITE 16**  
**CONCEPTUAL SITE MODEL**

Action Memorandum for Installation Restoration  
Site 16

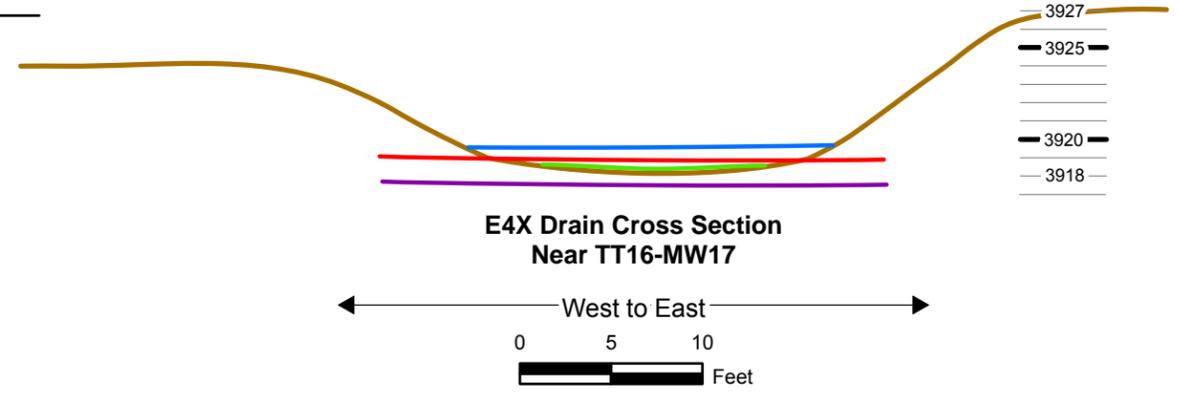


**E4X Drain Profile**

North to South

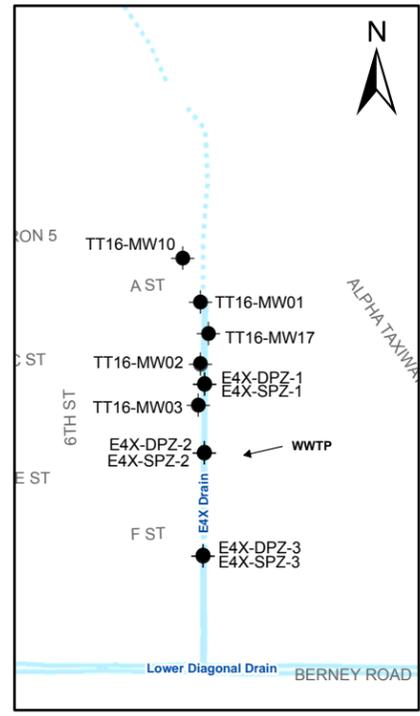
0 80 160 Feet

Vertical Scale = 1" = 4'  
Vertical Exaggeration = 40X



- Approximate Surface Water Elevation (High Water)
- Approximate Surface Water Elevation (Low Water)
- - - Approximate Bottom of E4X Drain (according to 2008 topographic survey)
- Approximate Groundwater Elevation (High Water)\*
- Approximate Groundwater Elevation (Low Water)\*
- Area of Low Chlorinated Solvent-Contamination Groundwater (0.5 to 499 µg/L)
- Area of High Chlorinated Solvent-Contamination Groundwater (> 500 µg/L)

PVC - Polyvinyl Chloride  
\* Elevations are given in feet above mean sea level.

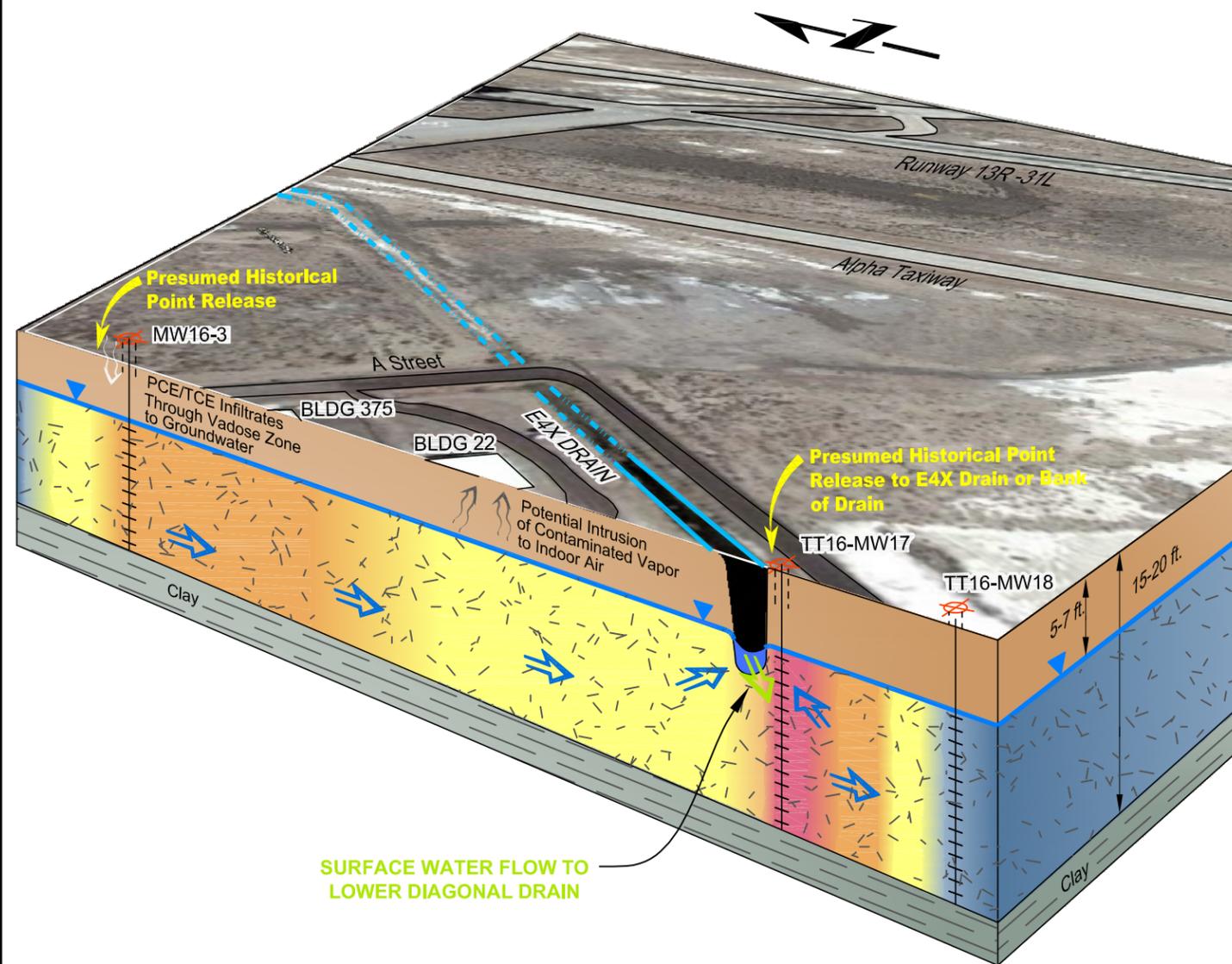


**NAVAL AIR STATION FALLON**  
U.S. Navy Southwest Division, NAVFAC, San Diego

**Figure 2-2**  
**E4X Drain Existing Conditions**

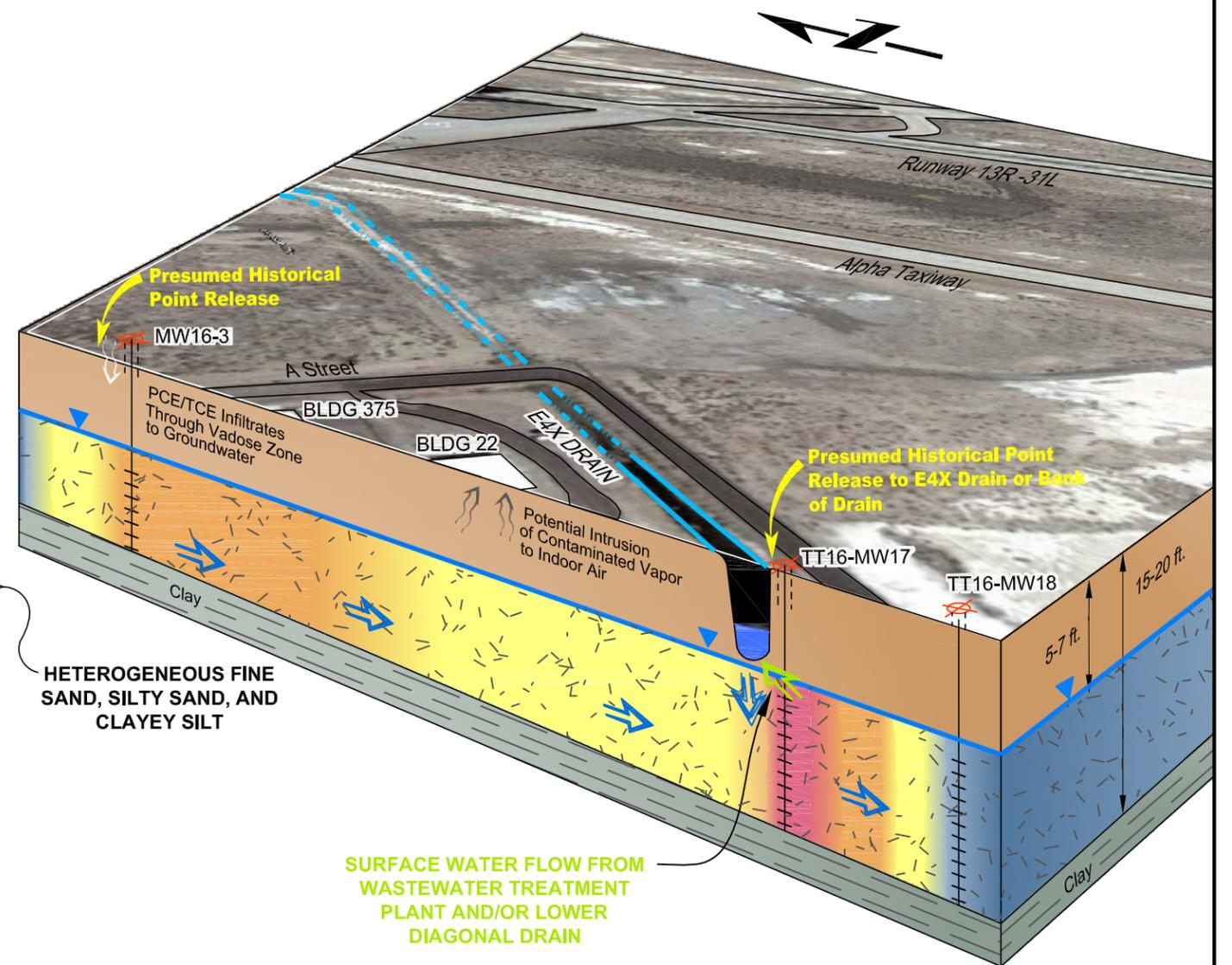
Action Memorandum for  
Installation Restoration Site 16

### GAINING STREAM CONDITIONS



SURFACE WATER FLOW TO LOWER DIAGONAL DRAIN

### LOSING STREAM CONDITIONS



SURFACE WATER FLOW FROM WASTEWATER TREATMENT PLANT AND/OR LOWER DIAGONAL DRAIN

HETEROGENEOUS FINE SAND, SILTY SAND, AND CLAYEY SILT

#### PRIMARY SOURCE OF CONTAMINATION

- Dumping of spent solvent to ground and possibly to E4X Drain

#### PRIMARY MIGRATION PATHWAY

- Infiltration to groundwater
- Vapor intrusion to indoor air
- Migration to E4X Drain during gaining stream condition, only potential migration of diluted contaminants to Lower Diagonal Drain

#### POTENTIAL RECEPTORS

- Site worker (current and future)
- Hypothetical resident (future)
- Construction worker (current and future)
- Plants, wildlife

#### LEGEND

- INFILTRATION / INTRUSION
- LOW PCE AND TCE CONTAMINATION (0.5 TO 10 ug/L)
- MODERATELY CONTAMINATED GROUNDWATER (10 - 1,000 ug/L)
- HIGHLY CONTAMINATED GROUNDWATER (1,000 - 20,000 ug/L)
- UNCONTAMINATED GROUNDWATER
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER TABLE
- MONITORING WELL
- SURFACE WATER FLOW

#### NOTES:

- PCE TETRACHLOROETHENE
- TCE TRICHLOROETHENE
- µg/L MICROGRAMS PER LITER

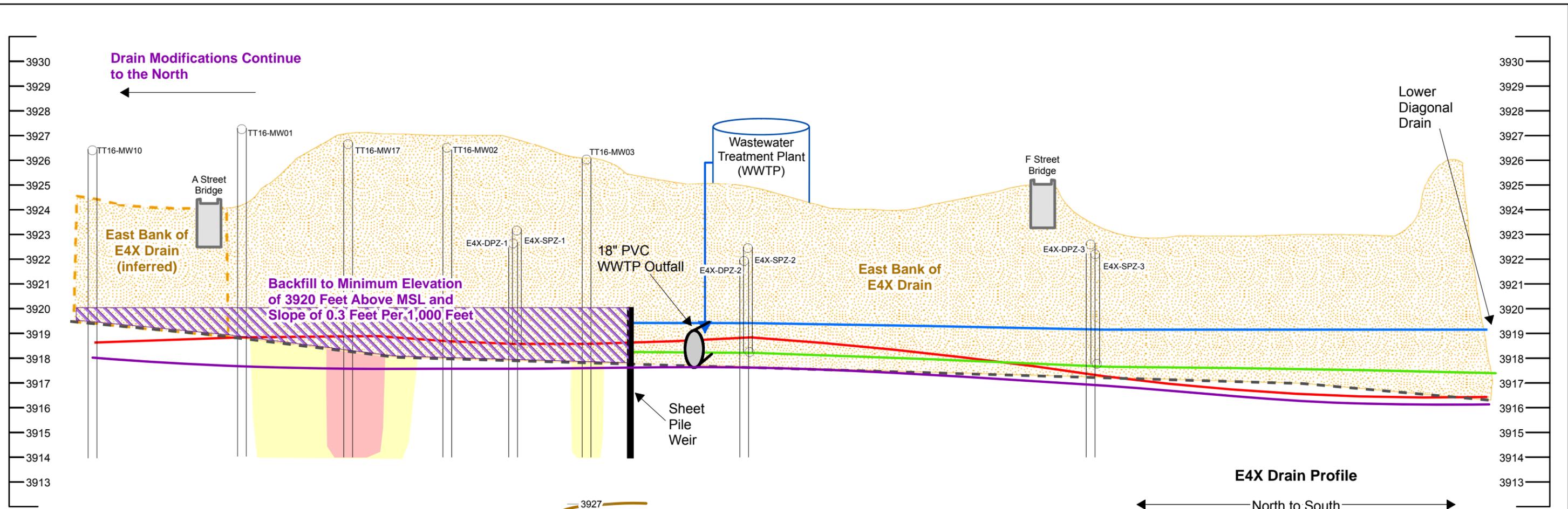
NOT TO SCALE



NAVAL AIR STATION FALLON  
U.S. Navy, NFEC Southwest, San Diego, California

### FIGURE 3-1 E4X DRAIN UNDER GAINING AND LOSING STREAM CONDITIONS

Action Memorandum for Installation Restoration  
Site 16

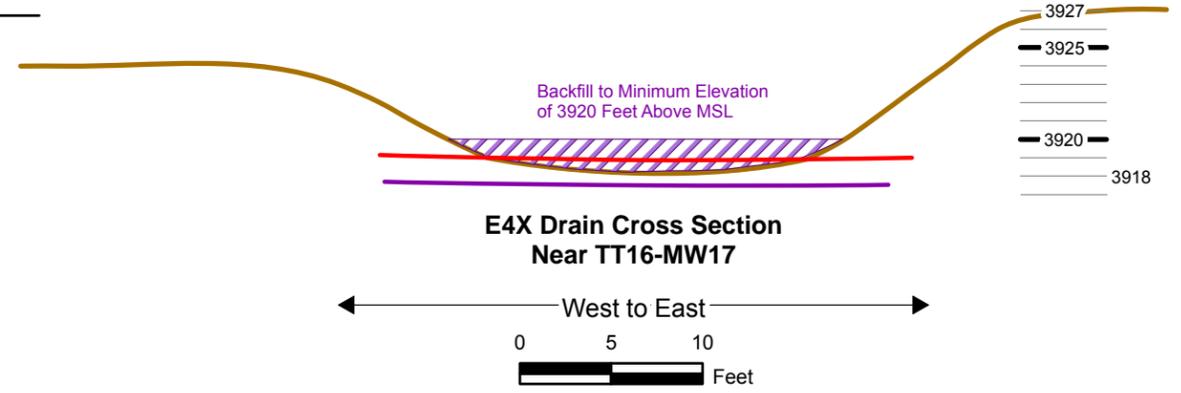


**E4X Drain Profile**

North to South

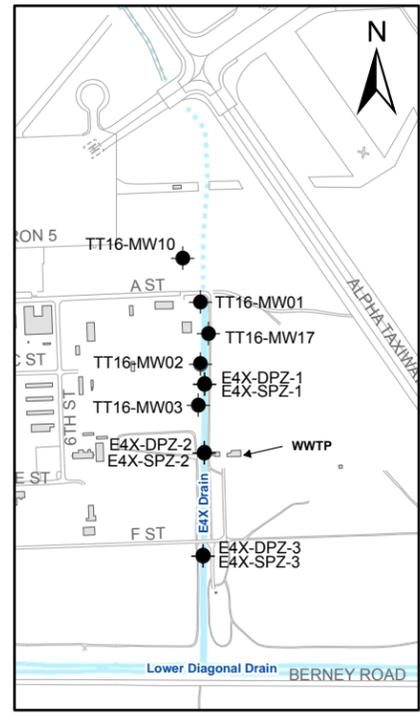
0 80 160 Feet

Vertical Scale = 1" = 4'  
Vertical Exaggeration = 40X



- Approximate Surface Water Elevation (High Water)
- Approximate Surface Water Elevation (Low Water)
- - - Approximate Bottom of E4X Drain (according to 2008 topographic survey)
- Approximate Groundwater Elevation (High Water)
- Approximate Groundwater Elevation (Low Water)
- Area of Low Chlorinated Solvent-Contamination Groundwater (0.5 to 499 µg/L)
- Area of High Chlorinated Solvent-Contamination Groundwater (> 500 µg/L)

PVC - Polyvinyl Chloride  
\* Elevations are given in feet above mean sea level (MSL).



**NAVAL AIR STATION FALLON**  
U.S. Navy, NAVFAC Southwest, San Diego, CA

**Figure 5-1**  
**Conceptual Design of Backfilling E4X Drain**

Action Memorandum for Installation Restoration Site 16

**APPENDIX A**  
**STORMWATER CALCULATIONS FOR E4X DRAIN**

---

## **DRAINAGE AREA 20 – STORMWATER DESCRIPTION**

Peak runoff was calculated for an area within drainage area (DA) 20 at Naval Air Station (NAS) Fallon and compared to the capacity of the E4X Drain near monitoring well TT16-MW17. The analysis shows that a proposed new configuration for the drain will handle runoff from a 100-year, 24-hour storm event for DA20.

### **Runoff Analysis**

Drainage design calculations were developed using the rational method for small basins and Manning's equation for open channel hydraulic design. The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Technical Release (TR)-55 program, based on *Soil Conservation Service Engineering Field Manual*, "Chapter 2 – Estimating Runoff and Peak Discharges" was used. The TR-55 program is appropriate for basins encompassing less than 16,000 acres and involving fewer than 10 sub-basins.

Runoff was calculated for the 100-year, 24-hour, type II storm event that results in 2.04 inches of wet precipitation reported for Fallon Experimental Station 26-2780. The period of record is June 1903 to December 2000 as reported by *NOAA Atlas 14 - Precipitation-Frequency Atlas of the United States Volume 1, Version 4.0: Semiarid Southwest (Arizona, Southeast California, Nevada, New Mexico, Utah)*, National Oceanic and Atmospheric Administration, 2006.

A sub-basin of DA20 was modeled with one outlet located near well TT16-MW17. The existing conditions of DA20 are a mix of impervious surfaces and graded soils on very shallow slopes. The NRCS Web Soil Survey (accessed August 2010) for the area reports the average characteristics listed below. The listing also includes data used as inputs to the TR-55 hydrologic model:

Area	214 acres
Sheet flow distance	50 feet
Shallow concentrated flow distance	4,150 feet
Manning's n	0.011 for sheet flow; 0.050 for shallow flow
Average slope	0.0001 feet/feet
Land use category	Natural desert (pervious areas only)
Hydrologic soil groups	B (50 percent); D (50 percent)
Weighted Curve No. (CN)	83
100-year storm event rainfall depth	2.04 inches

The following data resulted from application of the model:

Peak flow	17.53 cubic feet per second
Time of concentration	7.3 hours
Flow duration	16.9 hours

### **Ditch Analysis**

Runoff flow velocities, flow area, and shear stresses were determined using Manning's equation. Manning's "n" for surface roughness was chosen from a candidate channel type in Chow 1959. The channel type and corresponding "n" (min | normal | max) are as follows:

4. Excavated or Dredged Channels
  - a. Earth, straight, and uniform
    2. clean, after weathering 0.018 | 0.022 | 0.025

Source: Chow 1959

([http://www.fsl.orst.edu/geowater/FX3/help/8\\_Hydraulic\\_Reference/Mannings\\_n\\_Tables.htm](http://www.fsl.orst.edu/geowater/FX3/help/8_Hydraulic_Reference/Mannings_n_Tables.htm))

For the E4X Drain, a Manning’s “n” of 0.022 was chosen, modeled after a constructed, trapezoidal ditch. One ditch was modeled after existing conditions, and another ditch was modeled after proposed conditions. The following data show the inputs and outputs for the models of the drain discharge near well TT16-MW17:

#### EXISTING CONDITIONS

##### Inputs

Manning’s “n”	0.022
Slope	0.000135 feet per foot
Bottom width of channel	15 feet
Side slopes of channel	1.67H:1V
Peak flow rate	17.53 cubic feet per second

##### Outputs

Flow depth	1.25 feet
Flow velocity	0.82 feet per second
Maximum shear stress	0.01 pounds per square foot

#### PROPOSED CONDITIONS

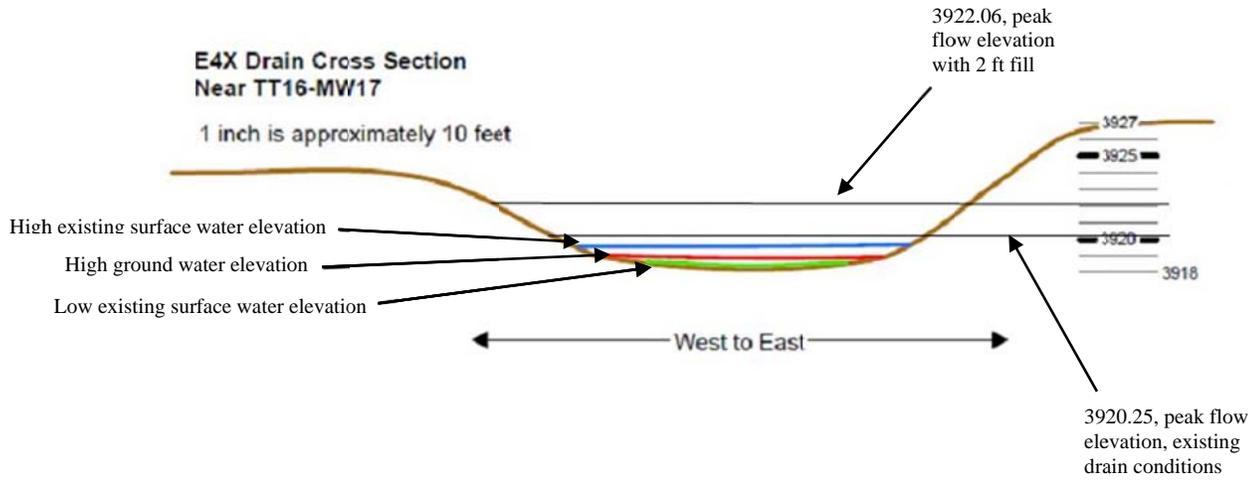
##### Inputs

Manning’s “n”	0.022
Slope	0.000135 feet per foot
Bottom width of channel	20 feet
Side slopes of channel	1.67H:1V
Peak flow rate	17.53 cubic feet per second

##### Outputs

Flow depth	1.06 feet
Flow velocity	0.76 feet per second
Maximum shear stress	0.01 pounds per square foot

Based on the above analysis, the figure below depicts projected water surface elevations for the E4X Drain near monitoring well TT16-MW17 during peak flow. Existing drain conditions would result in a water surface elevation of 3920.25 feet. Proposed drain conditions would raise the bottom surface by 2 feet. This would effectively widen the bottom surface and reduce the flow velocity. The resulting water surface elevation for this scenario is 3922.06 feet. This elevation still allows for more than the customary 1 foot of freeboard for ditch design, and approximately 2 feet of freeboard is available. Both the existing and the new configuration of the E4X Drain are projected to handle the 100-year, 24-hour storm event. The proposed drain profile should incorporate gradual transitions upstream and downstream of the location near well TT16-MW17 to avoid ponding of water, throat conditions, or change in hydraulic regime.



**APPENDIX B  
ESTIMATED COSTS FOR REMOVAL ACTION AND ALTERNATIVE  
TECHNOLOGIES**

---

**ESTIMATED COSTS FOR E4X DRAIN MODIFICATIONS**

**CONSTRUCTION BUDGETARY COST OPINION**

Backfilling E4X Drain

Project duration 1.1 months 5.0 weeks 25 days 198 hrs  
 Material and equipment profit 10.0% 1  
 Labor overhead and profit multiplier 1.719 Includes Level D PPE consideration  
 Professional labor multiplier 2.25

Quantity A	Description	Quantity B	Unit	Unloaded Labor Unit Cost	Total Labor (Including O&P)	Unloaded Equipment Unit Cost	Total Equipment (Including profit)	Unloaded Material Unit Cost	Total Material (Including profit)	Total Unit Cost (Including O&P)	Total Cost (Including O&P)	Comments	
<b>Site Wide Costs - Distributive Costs (includes professional labor, report generation, support, and construction oversight)</b>													
<b>Project Support Staffing<sup>1</sup></b>													
1	Senior Engineer/Project Manager	50% on project	99	hr	\$ 50.00	\$ 11,138.00	\$ -	\$ -	\$ -	\$ 113.00	\$ 11,138	Part time on and off site. Labor rate and hours based on past similar work.	
1	Engineering and Field Support	100% on project	396	hr	\$ 32.00	\$ 28,512.00	\$ -	\$ -	\$ -	\$ 72.00	\$ 28,512	Full time on site - report preparation, oversight, and documentation. Labor rate and hours based on past similar work.	
<b>Project Support Staffing Subtotal</b>											<b>\$ 39,650</b>		
<b>Planning and Reporting Documents</b>													
1	Work Plan (Draft and Final)		1	ea	\$ -	\$ -	\$ -	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00	\$ 25,000	Based on past similar work. Other documents, such as the Health and Safety Plan and Sampling and Analysis Plan will be completed in conjunction with the groundwater treatment system design.	
1	Completion Report		1	ea	\$ -	\$ -	\$ -	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00	\$ 25,000	Full time on site - report preparation, oversight, and documentation. Labor rate and hours based on past similar work.	
<b>Planning and Reporting Documents Subtotal</b>											<b>\$ 50,000</b>		
<b>Temporary Facilities</b>													
1	Vehicles for Project Staff		25	days	\$ -	\$ -	\$ -	\$ 91.00	\$ 2,477.48	\$ 100.10	\$ 2,477	Used while on site. Enterprise rental rates for SUV/pickup trucks. www.enterprise.com accessed 02/2011. Includes all fees.	
<b>Temporary Facilities Subtotal</b>											<b>\$ 2,477</b>		
<b>Mobilization</b>													
1	12-yd Dump Truck	Transport of fill	1	ea	\$ 96.62	\$ 166.09	\$ 149.19	\$ 164.11	\$ -	\$ -	\$ 330.00	\$ 330	Means 015436500100 (2010 Q4). Up to 50 miles distance. Material transport on site.
1	Loader	Loading	1	ea	\$ 96.62	\$ 166.09	\$ 149.19	\$ 164.11	\$ -	\$ -	\$ 330.00	\$ 330	Means 015436500100 (2010 Q4). Up to 50 miles distance. General earthwork.
1	Dozer	Moving fill	1	ea	\$ 96.62	\$ 166.09	\$ 149.19	\$ 164.11	\$ -	\$ -	\$ 330.00	\$ 330	Means 015436500100 (2010 Q4). Up to 50 miles distance. General earthwork.
1	2250 G Water Truck	Dust Control and compaction	1	ea	\$ 96.62	\$ 166.09	\$ 149.19	\$ 164.11	\$ -	\$ -	\$ 330.00	\$ 330	Means 015436500100 (2010 Q4). Up to 50 miles distance. Dust control and compaction.
<b>Mobilization Subtotal</b>											<b>\$ 1,320</b>		
<b>Demobilization</b>													
1	12-yd Dump Truck		1	ea	\$ 96.62	\$ 166.09	\$ 149.19	\$ 164.11	\$ -	\$ -	\$ 330.00	\$ 330	Means 015436500100 (2010 Q4). Up to 50 miles distance. Material transport on site.
1	Loader		1	ea	\$ 96.62	\$ 166.09	\$ 149.19	\$ 164.11	\$ -	\$ -	\$ 330.00	\$ 330	Means 015436500100 (2010 Q4). Up to 50 miles distance. General earthwork.
1	Dozer		1	ea	\$ 96.62	\$ 166.09	\$ 149.19	\$ 164.11	\$ -	\$ -	\$ 330.00	\$ 330	Means 015436500100 (2010 Q4). Up to 50 miles distance. General earthwork.
1	2250 G Water Truck		1	ea	\$ 96.62	\$ 166.09	\$ 149.19	\$ 164.11	\$ -	\$ -	\$ 330.00	\$ 330	Means 015436500100 (2010 Q4). Up to 50 miles distance. Dust control and compaction.
<b>Demobilization Subtotal</b>											<b>\$ 1,320</b>		
<b>Total Site Wide Capital Coats</b>											<b>\$ 94,767</b>		
<b>Channel Backfill to Constant Elevation and Armor</b>													
	Import Fill, Delivery, and Spread		1,500	lcy	\$ 3.13	\$ 8,070.71	\$ 5.97	\$ 9,850.50	\$ 22.50	\$ 37,125.00	\$ 37.00	\$ 55,046	Means 310513100200 (2011 Q1) and Means 310513100200 (2011 Q1). 5 mile haul, dozer spread without compaction. Material costs inflated for clay material.
	Compaction - 24 inch walk behind vibrating roller		1,500	lcy	\$ 0.60	\$ 1,547.10	\$ -	\$ -	\$ 0.17	\$ 280.50	\$ 1.00	\$ 1,828	Means 312323237600 (2011 Q1). 12 inch lifts 2 passes per lift.
	Fine grade fill		3,000	sy	\$ 0.96	\$ 4,950.72	\$ 0.91	\$ 3,003.00	\$ -	\$ -	\$ 3.00	\$ 7,954	Means 312216101050. Fine grading for irregular areas less than 15,000 sy
	Channel Armoring - riprap		50	lcy	\$ -	\$ -	\$ -	\$ 26.78	\$ 1,472.90	\$ 29.00	\$ 1,473	Means 310513100200 (2011 Q1) and Means 310513100200 (2011 Q1). 5 mile haul, dozer spread without compaction	
	Dump riprap along channel length		50	lcy	\$ 1.50	\$ 128.93	\$ 2.05	\$ 112.75	\$ -	\$ -	\$ 5.00	\$ 242	Means 312323170020 (2010 Q4). Dozer spread dumped material along channel length.
	A Street Culvert modification		27	cy	\$ 43.00	\$ 1,995.76	\$ 50.00	\$ 1,485.00	\$ 15.00	\$ 445.50	\$ 145.00	\$ 3,926	Means 033053403200 (2010 Q4). Raise base elevation. 4000 psi
	Erosion Controls - Polypropylene Fence Normal Conditions		1,500	lf	\$ 0.37	\$ 954.05	\$ -	\$ -	\$ 0.63	\$ 1,039.50	\$ 1.00	\$ 1,994	Means 31251301000 (2010 Q4). Polypropylene fence and silt curtain under normal conditions
	Erosion Controls - Hay Bales		300	lf	\$ 0.29	\$ 149.55	\$ 0.07	\$ 23.10	\$ 6.05	\$ 1,996.50	\$ 7.00	\$ 2,169	Means 31251301250. Hay bales at catch basins.
2	Topographic surveys (construction confirmation)		1	ac	\$ 472.88	\$ 1,625.76	\$ 23.31	\$ 51.28	\$ 19.85	\$ 43.67	\$ 1,721.00	\$ 1,721	Means 022113090020 (2010 Q4). Minimum cost used.
<b>Total Backfilling Capital Coats</b>											<b>\$ 76,353</b>		

**CONSTRUCTION BUDGETARY COST OPINION**

Backfilling E4X Drain

Sheet Pile Weir														
Sheet piling				625	ea	\$ 3.74	\$ 4,022.46	\$ 4.42	\$ 3,038.75	\$ 29.25	\$ 20,109.38	\$ 43.00	\$ 27,171	Means 314116101500 (2011 Q1). Sheet piling to 10 ft bgs. Includes all associated materials, equipment (crane and vibratory hammer), and labor. Adjustment factor of 30% included to account for non-typical application and installation.
											<b>Sheet Pile Weir Installation Subtotal</b>	<b>\$ 27,171</b>		
<b>Total Sheet Pile Weir Capital Costs</b>											<b>\$ 27,171</b>			
Final Site Completion														
Final Site Topographic Survey				1	ac	\$ 1,329.44	\$ 2,285.31	\$ 140.15	\$ 154.17	\$ 36.93	\$ 40.62	\$ 2,480.00	\$ 2,480	Means 022113090020 and 022113090020 (2011 Q1) average of costs.
											<b>Final Site Completion Subtotal</b>	<b>\$ 2,480</b>		

Notes

1 Project support staffing includes estimated costs for production of reports, meeting support, and other tasks associated with the construction of the remedy.

- ac Acre
- cy Cubic yard
- sy Square yard
- sf Square feet
- ea Each
- lf Linear feet
- t Tons
- hr Hour
- mo Month
- ea Each
- ls Lump sum
- mi Mile
- ft Feet
- sf ea Square feet each
- O&P Overhead and profit

**Total Construction Cost \$ 200,771**  
**25% Contingency \$ 50,193**  
**Total Construction Cost with 25% Contingency \$ 250,964**

**ESTIMATED COSTS FOR GROUNDWATER TREATMENT ALTERNATIVES**

**ALTERNATIVE 1**  
**IN-SITU CHEMICAL OXIDATION USING OZONE-PEROXIDE INJECTION**

**Description**

Install dual-depth ozone/hydrogen peroxide injection wells throughout plume, operate for 12 months

**Assumptions**

- a. Only treat area east of E4X drain
- b. Treat PCE plume to 5 ppb and TCE plume to 5 ppb concentration
- c. Water will be supplied by base
- d. Electricity will be supplied by base, electrical consumption of 25 kWh/day
- e. H2O2 concentration of 35% by weight. Cost at \$4/lb
- f. APT Water recommended operating P1500T system at 17 wells for 8 months--this estimate was increased to 20 wells for 8 months.
- g. Groundwater monitoring would be conducted for baseline, two events during remediation, and two post remedial events

Number of injection points

Injection Duration  months

Remedy Cost					
Item	Description	Quantity	Unit	Unit Price	Total Cost
	<b>Ozone/Hydrogen Peroxide System Installation and O&amp;M</b>				<b>\$ 225,615</b>
2	Pulse-Ox System Rental (P100T)	8	mo	\$ 12,500.00	\$ 100,000
2	MaxOx Injection Points	20	pairs	\$ 1,200.00	\$ 24,000
2	Ozone/Peroxide Well Vaults	20	pairs	\$ 625.00	\$ 12,500
2	1/2-inch OD 304 stainless tubing	700	ft	\$ 4.10	\$ 2,870
2	1/2-inch OD 304 stainless compression fittings	40	ea	\$ 22.63	\$ 905
2	Teflon PFA Tubing 1/2-inch OD (for ozone)	2,000	lf	\$ 4.10	\$ 8,200
2	System Mob/Demob	2	ea	\$ 1,500.00	\$ 3,000
2	Pulse-Ox system startup and training	1	ea	\$ 7,000.00	\$ 7,000
2	3/8-inch OD polyethylene tubing (for peroxide)	2,000	lf	\$ 0.57	\$ 1,140
3	Well drilling and injection point installation	20	ea	\$ 2,500.00	\$ 50,000
3	Construction Oversight	10	day	\$ 1,200.00	\$ 12,000
3	Electrical Connection (from overhead power line)	1	ea	\$ 4,000.00	\$ 4,000
	<b>Operation and Maintenance</b>				<b>\$ 43,260</b>
3	Site visits (weekly for month, every other week for rest of operation)	20	ea	\$ 915.00	\$ 18,300
2	Electrical Cost (assume \$0.10/kWh)	8	mo	\$ 1,800.00	\$ 14,400
2	H2O2 cost (\$1320/month)	8	mo	\$ 1,320.00	\$ 10,560
	<b>Monitoring</b>				<b>\$ 111,500</b>
3	Monitoring Well Installation (incl. oversight)	11	ea	\$ 5,000.00	\$ 55,000
3	Monitoring Well Sampling	110	ea	\$ 200.00	\$ 22,000
3	VOC 8260b analyses (20 wells, 5 events)	110	ea	\$ 150.00	\$ 16,500
3	Metals Analyses	40	ea	\$ 150.00	\$ 6,000
3	Monitoring Reports	4	ea	\$ 3,000.00	\$ 12,000
	<b>Planning and Reporting Documents</b>				<b>\$ 130,000</b>
3	Work Plan (Draft and Final)	1	ea	\$ 50,000.00	\$ 50,000
3	Health and Safety Plan (Draft and Final)	1	ea	\$ 10,000.00	\$ 10,000
3	Sampling and Analysis Plan	1	ea	\$ 25,000.00	\$ 25,000
3	Completion Report	1	ea	\$ 45,000.00	\$ 45,000
<b>Total Remedy Cost</b>					<b>\$ 510,375</b>

**Item Cost Source**

- 1 Means 2009. Item No. 015626500020
- 2 APT Water. Quote from James White. January 21, 2011.
- 3 Previous work at NAS Fallon

**ALTERNATIVE 1B**  
**IN-SITU CHEMICAL OXIDATION WITH PERMANGANATE**

**Description**

Inject oxidant into saturated zone in source area via direct-push drilling.

**Assumptions**

- a. Only treat area east of E4X drain
- b. Treat PCE plume to 5 ppb and TCE plume to 5 ppb concentration
- c. Water will be supplied by base
- d. Soil oxidant demand is 8 g/Kg. There is no typical value. Assumption based on sandy soil with minimal organic matter.
- e. Followup injection necessary for 50 percent of plume
- f. Monitoring to consist of 5 events: Baseline, after 1st injection, after 2nd injection, post remedial and final.
- g. **50 percent of site requires subsequent followup injection to reach treatment goals**

**Capital Cost**

Treatment zone characteristics		Duration	
(1) Plan view area	30,000 sf	(6) Pumping rate	20 gpm
Depth to groundwater	7 ft	Pumping time	97 hrs
Depth to clay aquitard	20 ft		10 days
Treatment zone thickness	13 ft	(7) Drilling rate	24 pts/day
(2) Porosity	0.3	Drilling time	5 days
Pore volume	117,000 cf	Site prep/restoration time	1 days
	875,160 gal	Total field activity duration	16 days
Injection			
(3) Mass of 40% NaMnO <sub>4</sub> soln	121,520 lbs		
Permanganate inj concentration	5%		
Volume of injectant	116,535 gal		
Pore volume replaced	13%		
(4) Injection ROI	10 ft		
(5) ROI Overlap	82%		
Number of injection points	117 ea		
Project duration	0.7 months		

Notes:

- (1) Area of PCE plume with concentration higher than 5 ug/L
- (2) Assumed for sandy aquifer
- (3) Calculated in dosing spreadsheet provided by manufacturer
- (4) Assumed for sandy aquifer
- (5) Assumed hexagonal injection grid
- (6) Expected flow rate in sandy aquifer injecting simultaneously at 4 boreholes
- (7) Four rigs drilling simultaneously

Remedy Cost					
Item	Description	Quantity	Unit	Unit Price (Incl. O&P)	Total Cost
	<b>Initial Oxidant Injection</b>				<b>\$ 519,152</b>
2	Sodium permanganate (material only)	121,520.0	lbs	\$ 2.83	\$ 343,902
2	Permanganate freight	1.0	ea	\$ 16,875.00	\$ 16,875
3	Drilling and injection service	16.0	day	\$ 9,898.44	\$ 158,375
	<b>Followup Oxidant Injection</b>				<b>\$ 296,814</b>
2	Sodium permanganate (material only)	60,760.0	lbs	\$ 2.83	\$ 171,951
2	Permanganate freight	1.0	ea	\$ 16,875.00	\$ 16,875
3	Construction Oversight	24	day	\$ 1,200.00	\$ 28,800
3	Drilling and injection service	8.0	day	\$ 9,898.44	\$ 79,188
	<b>Monitoring</b>				<b>\$ 103,000</b>
3	Monitoring Well Installation (incl. oversight)	10	ea	\$ 5,000.00	\$ 50,000
3	Monitoring Well Sampling	100	ea	\$ 200.00	\$ 20,000
3	VOC 8260b analyses (20 wells, 5 events)	100	ea	\$ 150.00	\$ 15,000
3	Metals Analyses	40	ea	\$ 150.00	\$ 6,000
3	Monitoring Reports	4	ea	\$ 3,000.00	\$ 12,000
	<b>Planning and Reporting</b>				<b>\$ 130,000</b>
3	Work Plan (Draft and Final)	1	ea	\$ 50,000.00	\$ 50,000
3	Health and Safety Plan (Draft and Final)	1	ea	\$ 10,000.00	\$ 10,000
3	Sampling and Analysis Plan	1	ea	\$ 25,000.00	\$ 25,000
3	Completion Report	1	ea	\$ 45,000.00	\$ 45,000
<b>Total Remedy Cost</b>					<b>\$ 1,048,966</b>

**Item Cost Source**

- 1 Means 2009. Item No. 015626500020
- 2 Professional judgment based on previous design or cost estimates of similar permanganate injection systems
- 3 Previous work at NAS Fallon

**ALTERNATIVE 2**  
**AIR SPARGING / SOIL VAPOR EXTRACTION**

**Description**

Install air sparging (AS) / soil vapor extraction (SVE) system, operate for 3 years

**Assumptions**

- a. Only treat area east of E4X Drain
- b. Treat PCE plume to 5 ppb and TCE plume to 5 ppb concentration
- c. Water will be supplied by base
- d. Electricity will be supplied by base, electrical consumption of 25 kWh/day
- e. 20 AS wells at 5 acfm per well = 100 acfm, 20-hp PD blower
- f. 300 acfm @ 120" wc for SVE trench system (i.e. 3 x sparge flow rate); 20-hp centrifugal blower
- g. Groundwater monitoring would be conducted for baseline, semiannually (6 events) during remediation, and two post remedial events (9 events total)

Number of AS points

Duration  months

Remedy Cost					
Item	Description	Quantity	Unit	Unit Price	Total Cost
	<b>Air Sparging/SVE System Installation and O&amp;M</b>				<b>\$ 437,020</b>
2	Air Sparging/SVE system	1	ea	\$ 225,000.00	\$ 225,000
2	SVE Trenching (7 ft deep, 4" perf. Pipe, parallel lines 20 ft on center)	2,000	lf	\$ 24.41	\$ 48,820
2	40-mil PVC liner to improve SVE recovery)	37,500	sf	\$ 2.00	\$ 75,000
4	AS Piping (1-inch HDPE)	2,000	ft	\$ 4.10	\$ 8,200
2	AS piping to well connections	20	ea	\$ 200.00	\$ 4,000
2	System Mob/Demob	2	ea	\$ 1,500.00	\$ 3,000
2	AS/SVE Startup	1	ea	\$ 7,000.00	\$ 7,000
3	Well drilling and injection point installation	20	ea	\$ 2,500.00	\$ 50,000
5	Construction Oversight	10	day	\$ 1,200.00	\$ 12,000
3	Electrical Connection (from overhead power line)	1	ea	\$ 4,000.00	\$ 4,000
	<b>Operation and Maintenance</b>				<b>\$ 172,200</b>
5	Site visits (weekly for month, every other week for 3 years)	80	ea	\$ 915.00	\$ 73,200
2	Electrical Cost (assume \$0.10/kWh)	36	mo	\$ 2,500.00	\$ 90,000
2	Vapor phase GAC cost (assume 1 2,000-lb changeout/yr)	3	yr	\$ 3,000.00	\$ 9,000
	<b>Monitoring</b>				<b>\$ 155,000</b>
5	Monitoring Well Installation (incl. oversight)	10	ea	\$ 5,000.00	\$ 50,000
5	Monitoring Well Sampling	180	ea	\$ 200.00	\$ 36,000
5	VOC 8260b analyses (20 wells, 9 events)	180	ea	\$ 150.00	\$ 27,000
5	Monitoring Reports	12	ea	\$ 3,000.00	\$ 36,000
5	Metals Analyses	40	ea	\$ 150.00	\$ 6,000
	<b>Planning and Reporting Documents</b>				<b>\$ 200,000</b>
5	Work Plan (Draft and Final)	1	ea	\$ 50,000.00	\$ 50,000
2	Air Sparge /SVE System Design	1	ea	\$ 70,000.00	\$ 70,000
5	Health and Safety Plan (Draft and Final)	1	ea	\$ 10,000.00	\$ 10,000
5	Sampling and Analysis Plan	1	ea	\$ 25,000.00	\$ 25,000
5	Completion Report	1	ea	\$ 45,000.00	\$ 45,000
	<b>Total Remedy Cost</b>				<b>\$ 964,220</b>

Item	Cost Source
1	Means 2009. Item No. 015626500020
2	Tt NASA Ames AS/SVE system/ Tt DPS Hillton AS/SVE System
3	Means 025630 2100
4	Means 02500 740 1120
5	Previous work at NAS Fallon

**ALTERNATIVE 3A**  
**IN-SITU CHEMICAL REDUCTION WITH ZERO-VALENT IRON AND ZVI-IMPREGNATED GAC**

**Description**

Inject ZVI into hot spot around TT16-MW17 via direct-push drilling. Inject ZVI-impregnated GAC into dilute plume (<1000 ug/L)

**Assumptions**

- a. Only treat area east of E4X drain
- b. Treat PCE plume to 5 ppb and TCE plume to 5 ppb concentration
- c. Water will be supplied by base
- d. Monitoring to consist of 4 events: Baseline, after injection, post remedial and final.

**Capital Cost**

Treatment zone characteristics		Duration	
(1) Plan view area	30,000 sf	(6) Drilling and injection rate	6 pts/day
Depth to groundwater	7 ft	Remedial duration	19 days
Depth to clay aquitard	20 ft	Mob/demob	2 days
Treatment zone thickness	13 ft	Total	21 days
(2) Porosity	0.3		
Pore volume	117,000 cf		
	875,160 gal		
Soil unit weight	100 pcf		
Injection			
ZVI dose	0.45% wt/wt soil		
(3) Mass of ZVI	175,500 lbs		
(4) Injection ROI	10 ft		
(5) ROI Overlap	82%		
Number of injection points	117 ea		
Project duration	1.0 months		

Notes:

- (1) Area of PCE plume with concentration higher than 5 ug/L
- (2) Assumed for sandy aquifer
- (3) Calculated in dosing spreadsheet provided by manufacturer
- (4) Assumed for sandy aquifer
- (5) Assumed hexagonal injection grid
- (6) Expected flow rate in sandy aquifer

Remedy Cost					
Item	Description	Quantity	Unit	Unit Price (Incl. O&P)	Total Cost
	<b>ZVI Injection</b>				<b>\$ 245,861</b>
2	ZVI (material only; HCA-150)	35,100.0	lbs	\$ 0.81	\$ 28,431
2	ZVI freight	1.0	ls	\$ 2,000.00	\$ 2,000
5	Construction Oversight	21	day	\$ 1,200.00	\$ 25,200
3	Drilling and injection service	6.0	day	\$ 31,705.00	\$ 190,230
	<b>ZVI-impregnated GAC Injection</b>				<b>\$ 371,636</b>
4	Pre-design investigation (drilling)	5.0	day	\$ 5,893.59	\$ 29,468
4	Pre-design investigation (media sampling; 2-person crew; 10-hr days)	5.0	day	\$ 1,964.53	\$ 9,823
4	Pre-design investigation (sample analysis; 60 soil and 75 GW)	1.0	ls	\$ 4,297.41	\$ 4,297
4	Carbon-Impregnated ZVI (material and installation)	17,395.0	lbs	\$ 17.80	\$ 309,631
4	Tax and freight	1.0	ls	\$ 18,417.47	\$ 18,417
	<b>Monitoring</b>				<b>\$ 93,000</b>
5	Monitoring Well Installation (incl. oversight)	10	ea	\$ 5,000.00	\$ 50,000
5	Monitoring Well Sampling	80	ea	\$ 200.00	\$ 16,000
5	VOC 8260b analyses (20 wells, 4 events)	80	ea	\$ 150.00	\$ 12,000
5	Monitoring Reports	4	ea	\$ 3,000.00	\$ 12,000
5	Metals Analyses	20	ea	\$ 150.00	\$ 3,000
	<b>Planning and Reporting Documents</b>				<b>\$ 130,000</b>
5	Work Plan (Draft and Final)	1	ea	\$ 50,000.00	\$ 50,000
5	Health and Safety Plan (Draft and Final)	1	ea	\$ 10,000.00	\$ 10,000
5	Sampling and Analysis Plan	1	ea	\$ 25,000.00	\$ 25,000
5	Completion Report	1	ea	\$ 45,000.00	\$ 45,000
<b>Total Remedy Cost</b>					<b>\$ 840,497</b>

Item	Cost Source
1	Means 2009. 015626500020
2	ARS Technologies 2010. Quote from Steve Chen on Jan 19, 2010
3	ARS Technologies 2010. Verbal quote from Mike Liskowitz on Dec 23, 2010.
4	Quote from Scott Noland, RPI, on Jan 21, 2011
5	Previous work at NAS Fallon

**ALTERNATIVE 3B**  
**IN-SITU CHEMICAL REDUCTION WITH ZERO-VALENT IRON**

**Description**

Inject ZVI into saturated zone in source area via direct-push drilling.

**Assumptions**

- a. Only treat area east of E4X drain
- b. Treat PCE plume to 5 ppb and TCE plume to 5 ppb concentration
- c. Water will be supplied by base
- d. Monitoring to consist of 4 events: Baseline, after injection, post remedial and final.

**Capital Cost**

<p>Treatment zone characteristics</p>		<p>Duration</p>																																					
<p>(1) Plan view area</p> <p>Depth to groundwater</p> <p>Depth to clay aquitard</p> <p>Treatment zone thickness</p> <p>(2) Porosity</p> <p>Pore volume</p> <p>Soil unit weight</p> <p>Injection</p> <p>ZVI dose</p> <p>(3) Mass of ZVI</p> <p>(4) Injection ROI</p> <p>(5) ROI Overlap</p> <p>Number of injection points</p> <p>Project duration</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">30,000</td><td style="text-align: right;">sf</td></tr> <tr><td style="text-align: center;">7</td><td style="text-align: right;">ft</td></tr> <tr><td style="text-align: center;">20</td><td style="text-align: right;">ft</td></tr> <tr><td style="text-align: center;">13</td><td style="text-align: right;">ft</td></tr> <tr><td style="text-align: center;">0.3</td><td></td></tr> <tr><td style="text-align: center;">117,000</td><td style="text-align: right;">cf</td></tr> <tr><td style="text-align: center;">875,160</td><td style="text-align: right;">gal</td></tr> <tr><td style="text-align: center;">100</td><td style="text-align: right;">pcf</td></tr> <tr><td style="text-align: center;">0.45%</td><td style="text-align: right;">wt/wt soil</td></tr> <tr><td style="text-align: center;">175,500</td><td style="text-align: right;">lbs</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: right;">ft</td></tr> <tr><td style="text-align: center;">82%</td><td></td></tr> <tr><td style="text-align: center;">117</td><td style="text-align: right;">ea</td></tr> <tr><td style="text-align: center;">1.0</td><td style="text-align: right;">months</td></tr> </table>	30,000	sf	7	ft	20	ft	13	ft	0.3		117,000	cf	875,160	gal	100	pcf	0.45%	wt/wt soil	175,500	lbs	10	ft	82%		117	ea	1.0	months	<p>(6) Drilling and injection rate</p> <p>Remedial duration</p> <p>Mob/demob</p> <p>Total</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">6</td><td style="text-align: right;">pts/day</td></tr> <tr><td style="text-align: center;">19</td><td style="text-align: right;">days</td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: right;">days</td></tr> <tr><td style="text-align: center;">21</td><td style="text-align: right;">days</td></tr> </table>	6	pts/day	19	days	2	days	21	days
30,000	sf																																						
7	ft																																						
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19	days																																						
2	days																																						
21	days																																						

Notes:

- (1) Area of PCE plume with concentration higher than 5 ug/L
- (2) Assumed for sandy aquifer
- (3) Calculated in dosing spreadsheet provided by manufacturer
- (4) Assumed for sandy aquifer
- (5) Assumed hexagonal injection grid
- (6) Expected flow rate in sandy aquifer

Remedy Cost					
Item	Description	Quantity	Unit	Unit Price (Incl. O&P)	Total Cost
	<b>ZVI Injection</b>				<b>\$ 835,160</b>
2	ZVI (material only; HCA-150)	175,500.0	lbs	\$ 0.81	\$ 142,155
2	ZVI freight	1.0	ls	\$ 2,000.00	\$ 2,000
4	Construction Oversight	21	day	\$ 1,200.00	\$ 25,200
3	Drilling and injection service	21.0	day	\$ 31,705.00	\$ 665,805
	<b>Monitoring</b>				<b>\$ 93,000</b>
4	Monitoring Well Installation (incl. oversight)	10	ea	\$ 5,000.00	\$ 50,000
4	Monitoring Well Sampling	80	ea	\$ 200.00	\$ 16,000
4	VOC 8260b analyses (20 wells, 4 events)	80	ea	\$ 150.00	\$ 12,000
4	Monitoring Reports	4	ea	\$ 3,000.00	\$ 12,000
4	Metals Analyses	20	ea	\$ 150.00	\$ 3,000
	<b>Planning and Reporting Documents</b>				<b>\$ 130,000</b>
4	Work Plan (Draft and Final)	1	ea	\$ 50,000.00	\$ 50,000
4	Health and Safety Plan (Draft and Final)	1	ea	\$ 10,000.00	\$ 10,000
4	Sampling and Analysis Plan	1	ea	\$ 25,000.00	\$ 25,000
4	Completion Report	1	ea	\$ 45,000.00	\$ 45,000
<b>Total Remedy Cost</b>					<b>\$ 1,058,160</b>

Item	Cost Source
1	Means 2009. 015626500020
2	ARS Technologies 2010. Quote from Steve Chen on Jan 19, 2010
3	ARS Technologies 2010. Verbal quote from Mike Liskowitz on Dec 23, 2010.
4	Previous work at NAS Fallon

**ALTERNATIVE 4**  
**Electrical Resistance Heating**

**Description**

Install ERH probes to heat aquifer and volatilize PCE and TCE. Vapors collected with SVE system.

**Assumptions**

- a. Only treat area east of E4X drain
- b. Treat PCE plume to 5 ppb and TCE plume to 5 ppb concentration
- c. Water will be supplied by base
- d. Electricity will be supplied by base
- e. Groundwater monitoring would be conducted for baseline, two events during remediation, and two post remedial events

30,000 sq. ft	Electrical Resistance Heating Treatment Area:
7 ft	Average Shallow Extent of ERH:
20 ft	Average Deep Extent of ERH:
7 ft	Typical Depth to Groundwater:
14,400 cu. yd	Treatment Volume:
0.25%	Assumed Total Organic Carbon Content of Soil:
107	Number of Electrodes:
44-inch wide	Electrode Sheet Pile Width (in.):
18 ft	Average Distance Between Electrodes:
21 ft	Total Depth of Electrodes:
7 ft	Depth to Top of Electrode Conductive Zone:
107	Number of Co-located Vapor Recovery Wells:
12 (4 sensors each)	Number of Temperature Monitoring Points:
no	Is a New Surface Cap Required?
PCE	Controlling Contaminant:
99.9%	Average Clean-up Percent:
2,000 lb	Assumed VOC Mass:
	This VOC mass is based on an assumed average conc. of 50 mg/kg.
	Vapor Recovery Air Flow Rate:
	860 scfm using a 25-hp vapor recovery blower
7 gpm	Condensate Production Rate:
carbon	Vapor Treatment Method:
9,000 lb	Assumed Activated Carbon Required:
2000 kW	Power Control Unit (PCU) Capacity:
1350 kW	Average Electrical Heating Power Input:
142 - 190 days	Total Heating Treatment Time:
5,120,000	Design Remediation Energy (kWh):
Assumed Number of Confirmatory Borings:	
12	With 3 soil samples per boring. Budget for 58 total confirmatory samples.
Injection Duration	12 months

Remedy Cost					
Item	Description	Quantity	Unit	Unit Price	Total Cost
	<b>Electrical Resistance Heating Installation and Operation</b>				<b>\$ 2,235,253</b>
2	Design, Work Plans, Permits	1	LS	\$ 61,000.00	\$ 61,000
2	Electrode Materials Mobilization	1	LS	\$ 237,000.00	\$ 237,000
2	Subsurface Installation	1	LS	\$ 45,000.00	\$ 45,000
2	Surface Installation and Start-up	1	LS	\$ 301,000.00	\$ 301,000
2	Remediation System Operation	1	LS	\$ 551,000.00	\$ 551,000
2	Demobilization and Final Report	1	LS	\$ 53,000.00	\$ 53,000
2	Pile Driving and Soil Sampling	147	ea	\$ 2,602.00	\$ 381,193
2	Electrical Permit and Utility Connection	1	LS	\$ 20,000.00	\$ 20,000
2	Electrical Energy Usage (assumes \$0.10 per kWh)	5,210,000	kWh	\$ 0.10	\$ 521,000
2	Carbon Usage, Transportation & Regeneration	8,950	lb	\$ 2.80	\$ 25,060
3	Construction Oversight	10	day	\$ 1,200.00	\$ 12,000
2	Other Operational Costs (includes vapor sampling)	1	LS	\$ 28,000.00	\$ 28,000
	<b>Monitoring</b>				<b>\$ 103,000</b>
3	Monitoring Well Installation (incl. oversight)	10	ea	\$ 5,000.00	\$ 50,000
3	Monitoring Well Sampling	100	ea	\$ 200.00	\$ 20,000
3	VOC 8260b analyses (20 wells, 5 events)	100	ea	\$ 150.00	\$ 15,000
3	Monitoring Reports	4	ea	\$ 3,000.00	\$ 12,000
3	Metals Analyses	40	ea	\$ 150.00	\$ 6,000
	<b>Planning and Reporting Documents</b>				<b>\$ 130,000</b>
3	Work Plan (Draft and Final)	1	ea	\$ 50,000.00	\$ 50,000
3	Health and Safety Plan (Draft and Final)	1	ea	\$ 10,000.00	\$ 10,000
3	Sampling and Analysis Plan	1	ea	\$ 25,000.00	\$ 25,000
3	Completion Report	1	ea	\$ 45,000.00	\$ 45,000
<b>Total Remedy Cost</b>					<b>\$ 2,468,253</b>

**Item Cost Source**

- 1 Means 2009. Item No. 015626500020
- 2 TRS Group Inc. Quote from David Fleming. February 8, 2011
- 3 Previous work at NAS Fallon

**APPENDIX C**  
**APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

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**TABLE C-1: FEDERAL CHEMICAL-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Requirement	Prerequisite	Citation <sup>a</sup>	ARAR Determination	Comments
<b>GROUNDWATER</b>				
<b>Resource Conservation and Recovery Act (42 U.S.C., chapter 82, §§ 6901–6991[i])<sup>b</sup></b>				
NAC § 444.8632 incorporates by reference the federal RCRA requirements contained in 40 CFR part 261. Defines RCRA hazardous waste. A solid waste is characterized as toxic, based on the TCLP, if the concentration exceeds the TCLP maximum concentrations.	Waste.	NAC § 444.8632 40 CFR §§ 261.21, 261.22(a)(1), 261.23, 261.24(a)	Applicable	The substantive provisions of these requirements are applicable to characterizing waste generated in the implementation of the TCRA. Waste will be generated in the construction of groundwater injection and monitoring wells and may be generated when preparing the E4X Drain for backfilling. The Navy would characterize the waste at the time it is generated for appropriate off-site disposal.

Notes:

<sup>a</sup> Only the substantive provisions of the requirements cited in this table are ARARs.

<sup>b</sup> Statutes and policies, and their citations, are provided as headings to identify general categories of ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the Navy accepts the entire statutes or policies as ARARs. Specific ARARs are addressed in the table below each general heading, and only the pertinent substantive requirements of the specific citations are considered ARARs.

§	Section
ARAR	Applicable or relevant and appropriate requirement
CFR	<i>Code of Federal Regulations</i>
NAC	Nevada Administrative Code
RCRA	Resource Conservation and Recovery Act
TCLP	Toxicity characteristic leaching procedure
TCRA	Time critical removal action
U.S.C.	<i>United States Code</i>

**TABLE C-2: FEDERAL LOCATION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Location	Requirement	Prerequisite	Citation <sup>a</sup>	ARAR Determination	Comments
<b>National Historic Preservation Act of 1966, as Amended (16 U.S.C. § 470-470x-6)<sup>b</sup></b>					
Historic project owned or controlled by federal agency	Action to preserve historic properties; planning of action to minimize harm to properties listed on or eligible for listing on the National Register of Historic Places.	Property included in or eligible for the National Register of Historic Places.	16 U.S.C. § 470-470x-6 36 CFR part 800 40 CFR § 6.301(b)	Relevant and appropriate	The first phase of the TCRA includes backfilling the northern portion of the E4X Drain. The E4X Drain is eligible for listing on the National Register of Historic Places. The backfilling will not result in an adverse affect on the E4X Drain because the backfill will not be visible and the clay material to be used in the backfill is consistent with the original materials used to construct the drain. The Navy has coordinated with the State Historic Preservation Office to develop this finding and has therefore complied with this ARAR (See Attachment 1).
<b>Clean Water Act of 1977, as Amended, Section 404 (33 U.S.C. § 1344)<sup>b</sup></b>					
Wetland	Discharge of dredged or fill material into wetland without permit is prohibited.	Discharge of dredged or fill material into waters of the US, including adjacent wetlands.	33 U.S.C. § 1344	Not an ARAR	The E4X Drain is not a jurisdictional wetland. Therefore, backfilling a portion of the drain does not constitute the discharge of dredged or fill material into waters of the US.
<b>Executive Order Number 11990, Protection of Wetlands<sup>b</sup></b>					
Wetland	Avoid, to the extent possible, the adverse impacts associated with the destruction or loss of wetlands and avoid support of new construction in wetlands if practicable alternatives exist	Wetland	Executive Order 11990	Not an ARAR	The E4X Drain is not a jurisdictional wetland. Therefore, backfilling a portion of the drain does not constitute adverse impacts, destruction of, loss of, or construction in a wetland.

Notes:

<sup>a</sup> Only the substantive provisions of the requirements cited in this table are ARARs.

<sup>b</sup> Statutes and policies, and their citations, are provided as headings to identify general categories of ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the Navy accepts the entire statutes or policies as ARARs. Specific ARARs are addressed in the table below each general heading, and only the pertinent substantive requirements of the specific citations are considered ARARs.

**TABLE C-2: FEDERAL LOCATION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

§	Section
ARAR	Applicable or relevant and appropriate requirement
CFR	<i>Code of Federal Regulations</i>
TCRA	Time Critical Removal Action
US	United States
U.S.C	<i>United States Code</i>

**TABLE C-3: FEDERAL ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
<b>Backfilling E4X Drain</b>					
<b>Resource Conservation and Recovery Act (42 U.S.C., Chapter 82, §§ 6901-6991[i])<sup>a</sup></b>					
Prepare drain for backfill	Person who generates waste shall determine if the waste is a RCRA hazardous waste.	Generator of waste.	NAC § 444.8632 <sup>b</sup> 40 CFR § 262.10(a), 262.11	Applicable	These requirements are applicable to activities that generate waste. The Navy will generate waste when preparing the E4X Drain for backfilling. The Navy will characterize the waste at the time it is generated for appropriate off-site disposal.
Prepare drain for backfill	NAC § 444.8632 incorporates by reference the federal RCRA requirements contained in 40 CFR part 260. Provides requirements for analyzing waste for determining whether waste is hazardous.	Generator of waste.	NAC § 444.8632 <sup>b</sup> 40 CFR §264.13(a) and (b)	Applicable	These requirements are applicable to activities that generate waste. The Navy will generate waste when preparing the E4X Drain for backfilling. The Navy will characterize the waste at the time it is generated for appropriate off-site disposal.
Temporary storage of waste in containers	NAC § 444.8632 incorporates by reference the federal RCRA requirements contained in 40 CFR part 260. Containers of RCRA hazardous waste must be: (1) maintained in good condition; (2) compatible with hazardous waste to be stored; and (3) closed during storage except to add or remove waste.	Storage in a container of RCRA hazardous waste not meeting small-quantity generator before treatment, disposal, or storage elsewhere.	NAC § 444.8632 <sup>b</sup> 40 CFR §§ 264.171, 264.172, and 264.173	Applicable	If the generated waste is a RCRA hazardous waste, the Navy will temporarily store it in drums that will comply with these requirements.
Temporary storage of waste in containers	NAC § 444.8632 incorporates by reference the federal RCRA requirements contained in 40 CFR part 260. Inspect container storage areas weekly for deterioration	Storage in a container of RCRA hazardous waste not meeting small-quantity generator before treatment, disposal, or storage elsewhere.	NAC § 444.8632 <sup>b</sup> 40 CFR § 264.174	Applicable	If the generated waste is a RCRA hazardous waste, the Navy will temporarily store it in drums that will comply with these requirements.
Temporary storage of waste in containers	NAC § 444.8632 incorporates by reference the federal RCRA requirements contained in 40 CFR part 260. Place containers on a sloped, crack-free base, and protect from contact with accumulated liquid.	Storage in a container of RCRA hazardous waste not meeting small-quantity generator before treatment, disposal, or storage elsewhere.	NAC § 444.8632 <sup>b</sup> 40 CFR §264.175(a) and (b)	Applicable	If the generated waste is a RCRA hazardous waste, the Navy will temporarily store it in drums that will comply with these requirements.

**TABLE C-3: FEDERAL ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
Temporary storage of waste in containers	Provide containment system with a capacity of 10 percent of the volume of containers of free liquids. Remove spilled or leaked waste in a timely manner to prevent overflow of the containment system.  At closure, remove all hazardous waste and residues from the containment system, and decontaminate or remove all containers and liners.	Storage in a container of RCRA hazardous waste not meeting small-quantity generator before treatment, disposal, or storage elsewhere.	NAC § 444.8632 <sup>b</sup> 40 CFR § 264.178	Applicable	If the generated waste is a RCRA hazardous waste, the Navy will temporarily store it in drums that will comply with these requirements.
<b>Clean Water Act of 1977, as Amended (33 U.S.C., Chapter 26, §§ 1251–1387)<sup>a</sup></b>					
Construction dewatering	National pretreatment standards: prohibited discharges. A User may not introduce into a POTW any pollutant(s) which cause Pass Through in Interference.	User introducing pollutant into POTW	40 CFR § 403.5(a)(1)	Relevant and appropriate	The Navy will dewater the E4X Drain prior to backfilling. Potentially contaminated groundwater that may be encountered in the dewatering will be treated on-site with GAC units before being discharged to the WWTP. This treatment is expected to reduce concentrations of site-related contaminants to levels below MCLs, which will comply with this ARAR. None of the waste water discharged to the WWTP from the construction dewatering will cause any pollutant to pass through or interfere with the WWTP.
Construction dewatering	National pretreatment standards: specific prohibitions. The following pollutants shall not be introduced to a POTW: (1) pollutants which create a fire or explosion hazard; (2) pollutants which will cause corrosive structural damage to the POTW (3) solid or viscous pollutants in amounts which will cause obstruction to the flow of the POTW (4) any pollutant, including oxygen demanding pollutants released at a flow rate and/or	User discharging to POTW	40 CFR § 403.5(b)	Relevant and appropriate	The Navy will dewater the E4X Drain prior to backfilling. Potentially contaminated groundwater that may be encountered in the dewatering will be treated on-site with GAC units before being discharged to the WWTP. This treatment is expected to reduce concentrations of site-related contaminants to levels below MCLs, which will comply with this ARAR. None of the waste discharged to the WWTP from construction dewatering will violate any specific prohibition.

**TABLE C-3: FEDERAL ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
Construction dewatering	<p>concentration which will cause interference</p> <p>(5) heat in amounts which will inhibit biological activity</p> <p>(6) petroleum oil, Non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through</p> <p>(7) pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems</p> <p>(8) any trucked or hauled pollutants, except as discharge point designated by the POTW</p> <p>National pretreatment standards: categorical standards. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls.</p>	Discharge associated with construction activity required to obtain a stormwater permit.	40 CFR § 450.21(c)	Relevant and appropriate	<p>The Navy has determined that this requirement is not applicable because backfilling the E4X Drain will not affect one or more acres, and the Navy is not required to get NPDES stormwater discharge permits because CERCLA response actions are not subject to permit requirements (Section 121[e] of CERCLA). The Navy has determined that this requirement is relevant and appropriate because waste water from construction dewatering on the E4X Drain will need proper disposal. The Navy will treat the potentially contaminated groundwater on-site with GAC units, prior to discharging it to the WWTP, thereby complying with this ARAR.</p>

**TABLE C-3: FEDERAL ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
<b>Groundwater Treatment Ozone-Peroxide Injection</b>					
<b>Resource Conservation and Recovery Act (42 U.S.C., Chapter 82, §§ 6901-6991[i])<sup>a</sup></b>					
Construct wells	Person who generates waste shall determine if the waste is a RCRA hazardous waste.	Generator of waste.	NAC § 444.8632 <sup>b</sup> 40 CFR § 262.10(a), 262.11	Applicable	These requirements are applicable to activities that generate waste. The Navy will generate waste in the construction of groundwater injection or monitoring wells. The Navy will characterize the waste at the time it is generated for appropriate off-site disposal.
Construct wells	NAC § 444.8632 incorporates by reference the federal RCRA requirements contained in 40 CFR part 260. Provides requirements for analyzing waste for determining whether waste is hazardous.	Generator of waste.	NAC § 444.8632 <sup>b</sup> 40 CFR §264.13(a) and (b)	Applicable	These requirements are applicable to activities that generate waste. The Navy will generate waste in the construction of groundwater injection or monitoring wells. The Navy will characterize the waste at the time it is generated for appropriate off-site disposal.
Temporary storage of waste in containers	NAC § 444.8632 incorporates by reference the federal RCRA requirements contained in 40 CFR part 260. Containers of RCRA hazardous waste must be: (1) maintained in good condition; (2) compatible with hazardous waste to be stored; and (3) closed during storage except to add or remove waste.	Storage in a container of RCRA hazardous waste not meeting small-quantity generator before treatment, disposal, or storage elsewhere.	NAC § 444.8632 <sup>b</sup> 40 CFR §§ 264.171, 264.172, and 264.173	Applicable	If the generated waste is a RCRA hazardous waste, the Navy will temporarily store it in drums that will comply with these requirements.
Temporary storage of waste in containers	NAC § 444.8632 incorporates by reference the federal RCRA requirements contained in 40 CFR part 260. Inspect container storage areas weekly for deterioration.	Storage in a container of RCRA hazardous waste not meeting small-quantity generator before treatment, disposal, or storage elsewhere.	NAC § 444.8632 <sup>b</sup> 40 CFR § 264.174	Applicable	If the generated waste is a RCRA hazardous waste, the Navy will temporarily store it in drums that will comply with these requirements.
Temporary storage of waste in containers	NAC § 444.8632 incorporates by reference the federal RCRA requirements contained in 40 CFR part 260. Place containers on a sloped, crack-free base, and protect from contact with accumulated liquid.	Storage in a container of RCRA hazardous waste not meeting small-quantity generator before treatment, disposal, or storage elsewhere.	NAC § 444.8632 <sup>b</sup> 40 CFR §264.175(a) and (b)	Applicable	If the generated waste is a RCRA hazardous waste, the Navy will temporarily store it in drums that will comply with these requirements.

**TABLE C-3: FEDERAL ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
	Provide containment system with a capacity of 10 percent of the volume of containers of free liquids. Remove spilled or leaked waste in a timely manner to prevent overflow of the containment system.				
Temporary storage of waste in containers	At closure, remove all hazardous waste and residues from the containment system, and decontaminate or remove all containers and liners.	Storage in a container of RCRA hazardous waste not meeting small-quantity generator before treatment, disposal, or storage elsewhere.	NAC § 444.8632 <sup>b</sup> 40 CFR § 264.178	Applicable	If the generated waste is a RCRA hazardous waste, the Navy will temporarily store it in drums that will comply with these requirements.
Monitor groundwater	In conjunction with a corrective action program, the owner or operator must establish and implement a groundwater monitoring program to demonstrate the effectiveness of the corrective action program and be effective in determining compliance with the groundwater protection standard and in determining the success of the corrective action measures under subsection (c) of this section.	RCRA facility that treats, stores, or disposes of hazardous waste	NAC § 444.8632 <sup>b</sup> 40 CFR § 264.100(d)	Relevant and appropriate	These requirements are not applicable because the release of PCE and TCE into groundwater that the Navy is addressing is not from a RCRA facility that treats, stores, or disposes of hazardous waste. Instead, the Navy is conducting a CERCLA removal action to address the release. The Navy has determined that these requirements are relevant and appropriate to its CERCLA removal action and will establish a corrective action groundwater monitoring program that complies with the requirements. CERCLA § 121(e) exempts on-site actions from the requirement to obtain permits, so the Navy will not obtain a RCRA permit to conduct the groundwater monitoring. The Navy will describe its groundwater monitoring program in a CERCLA work plan/sampling and analysis plan.
Monitor groundwater	The facility permit will identify the hazardous constituents to which the groundwater protection standard of § 264.92 applies. Hazardous constituents are constituents identified in 40 CFR § 264.93, appendix VIII that have been detected in groundwater in the uppermost aquifer underlying a regulated unit and that are	RCRA facility that treats, stores, or disposes of hazardous waste	NAC § 444.8632 <sup>b</sup> 40 CFR § 264.93	Relevant and appropriate	These requirements are not applicable because the release of PCE and TCE into groundwater that the Navy is addressing is not from a RCRA facility that treats, stores, or disposes of hazardous waste. Instead, the Navy is conducting a CERCLA removal action to address the release. The Navy has determined that these requirements are relevant and appropriate to its CERCLA removal action and will establish a corrective

**TABLE C-3: FEDERAL ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
	reasonably expected to be in or derived from waste contained in a regulated unit, unless a hazardous constituent has been excluded.				action groundwater monitoring program that complies with the requirements. CERCLA § 121(e) exempts on-site actions from the requirement to obtain permits. Accordingly, the Navy will not obtain a RCRA permit to conduct the groundwater monitoring. The Navy will describe its groundwater monitoring program in a CERCLA work plan/sampling analysis plan.
Monitor groundwater	General groundwater monitoring requirements	RCRA facility that treats, stores, or disposes of hazardous waste	NAC § 444.8632 <sup>b</sup> 40 CFR § 264.97(a), (c), (e), (f), (g), (h), (i)	Relevant and appropriate	These requirements are not applicable because the release of PCE and TCE into groundwater that the Navy is addressing is not from a RCRA facility that treats, stores, or disposes of hazardous waste. Instead, the Navy is conducting a CERCLA removal action to address the release. The Navy has determined that these requirements are relevant and appropriate to its CERCLA removal action and will establish a corrective action groundwater monitoring program that complies with the requirements. CERCLA § 121(e) exempts on-site actions from the requirement to obtain permits. Accordingly, the Navy will not obtain a RCRA permit to conduct the groundwater monitoring. The Navy will describe its groundwater monitoring program in a CERCLA work plan/sampling analysis plan.

Notes:

<sup>a</sup> Statutes and policies, and their citations, are provided as headings to identify general categories of ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the Navy accepts the entire statutes or policies as ARARs. Specific ARARs follow each general heading, and only substantive requirements of the specific citations are considered ARARs.

<sup>b</sup> NAC § 444.8632 incorporates by reference the federal RCRA requirements contained in 40 CFR parts 262 and 264.

§	Section	GAC	Granular activated carbon
§§	Sections	MCL	Maximum contaminant level
ARAR	Applicable or relevant and appropriate requirement	NAC	Nevada Administrative Code
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PCE	Tetrachloroethene
CFR	<i>Code of Federal Regulations</i>	POTW	Publicly owned treatment works

**TABLE C-3: FEDERAL ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

RCRA	Resource Conservation and Recovery Act
SDWA	Safe Drinking Water Act
TBC	To be considered
TCE	Trichloroethene
UIC	Underground injection control
U.S.C.	<i>United States Code</i>
WWTP	Waste water treatment plant

**TABLE C-4: STATE ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
<b>Backfilling E4X Drain</b>					
Construction in the E4X Drain to raise the bottom of the drain above the highest observed groundwater elevation.	A person shall not commence any new land-disturbing activity or additional use of land which is likely to cause pollution from a diffuse source without first filing a notice with the municipality in which the activity or use it to occur. The municipality must review the notice and advise the person filing it whether or not the use or activity is likely to cause water pollution from a diffuse source. If pollution is likely, the municipality must give the person a written recommendation of the best practices to apply to the use or activity or request the person to submit a written plan of best practices.	Land-disturbing activity	NAC §§ 445A.327(1) and 445A.328(3)	Relevant and appropriate	The Navy accepts the substantive provisions of these regulations as ARARs for the TCRA. The Navy does not accept the portions of the regulations that apply to a municipality approved to administer the program or that require a written notice or written best management plan because these are procedural requirements. Only substantive provisions are considered potential ARARs. The Navy will identify best management practices for the construction activities associated with backfilling the E4X Drain in the removal action design (the work plan) and NDEP will have the opportunity to review and comment.
<b>Groundwater Treatment Ozone-Peroxide Injection</b>					
<b>Water Pollution Control (NRS §§ 445A.300- 445A.730)<sup>a</sup></b>					
Inject liquid hydrogen peroxide and gaseous ozone into groundwater	Except as authorized by regulation adopted by the Commission, it is unlawful to inject fluids through a well into waters of the state	Injection of fluids through a well	NRS § 445A.465(1)(b)	Applicable	Nevada has an EPA-approved UIC program. The Navy accepts this statutory provision as enabling legislation for the UIC program. The UIC program requires permits for injection of fluids through wells into waters of the state. The Navy will inject liquid hydrogen peroxide and gaseous ozone into the groundwater through a Class V well. NDEP has established UIC General Permit GU07RL001 for long term remediation projects (more than 6 months). The Navy is conducting this TCRA according to the requirements of CERCLA. CERCLA § 121(e) exempts removal or remedial actions conducted entirely on-site from the requirement to obtain permits. Accordingly, the Navy does not need to obtain a permit for its injection or submit a notice of intent to inject pursuant to a general permit; however, the Navy will comply

**TABLE C-4: STATE ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
					with the substantive requirements of General Permit GU07RL001 as a means of complying with the substantive requirements of the UIC program.
<b>Underground Injection Control (NAC §§ 445A.810- 445A.925)<sup>a</sup></b>					
Inject liquid hydrogen peroxide and gaseous ozone into groundwater	A Class V well is any injection well not included in Classes I, II, III, and IV, including injection wells used to inject fluids for the chemical or microbiological treatment of contaminated groundwater or soil.	Injection of fluids through a well	NAC § 445A.849	Applicable	The Navy accepts the substantive provisions of this regulation as ARARs for the TCRA. The hydrogen peroxide and ozone injection wells will be Class V wells.

Notes:

<sup>a</sup> Statutes and policies, and their citations, are provided as headings to identify general categories of ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the Navy accepts the entire statutes or policies as ARARs. Specific ARARs follow each general heading, and only substantive requirements of the specific citations are considered ARARs.

<sup>b</sup> NAC § 444.8632 incorporates by reference the federal RCRA requirements contained in 40 CFR parts 262 and 264.

§	Section
§§	Sections
ARAR	Applicable or relevant and appropriate requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EPA	United State Environmental Protection Agency
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NRS	Nevada Revised Statutes
PCE	Tetrachloroethene
TCE	Trichloroethene
TCRA	Time Critical Removal Action
UIC	Underground injection control

**TABLE C-5: NAVY RESPONSE TO ARARs IDENTIFIED BY NEVADA DIVISION OF ENVIRONMENTAL PROTECTION IN A LETTER DATED APRIL 13, 2011**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Requirement	Prerequisite	Statutes and Regulations identified by NDEP	Accepted ARAR Citation	ARAR Determination	Comments
Except as authorized by regulation adopted by the Commission, it is unlawful to: (a) discharge from any point source any pollutant into any waters of the State or any treatment works; (b) inject fluids through a well into any waters of the State; (c) discharge from a point source a pollutant or inject fluids through a well that could be carried into the waters of the State; (d) allow a pollutant discharged from a point source or fluids injection through a well to remain in place where they would be carried into waters of the State.	Discharge from any point source or injection of fluid into waters of the State through a well.	NRS §§ 445A.465	NRS § 445A.465(1)(b)	Applicable	The Navy only accepts the substantive provisions of NRS § 445A.465(1)(b), which is identified in the accepted ARAR citation column, as state ARARs for the TCRA. The remaining provisions of NRS § 445A.465 are either procedural and do not present substantive environmental requirements or are not applicable, relevant or appropriate to actions planned as part of the TCRA. NRS § 445A.465(1)(b) prohibits the injection of fluids through a well, except as authorized by regulations. Injection of liquid hydrogen peroxide and gaseous ozone into the groundwater at Site 16 is part of the TCRA. CERCLA §121(e) exempts removal or remedial actions conducted entirely on-site from the requirement to obtain permits. Accordingly, the Navy does not need to obtain a UIC permit for its injection activities. However, the Navy will comply with the substantive requirements of the UIC permit as a way of complying with the substantive requirements of this ARAR (see discussion below).
These regulations provide a framework for responding to releases of hazardous substances, hazardous waste, and regulated substances to soil, groundwater, or surface water	Release of a hazardous substance, hazardous waste, or regulated substance to soil, groundwater, or surface water	NAC §§ 445A.226-445A.22755	--	Not ARARs	The Navy has determined that a TCRA is necessary to address contaminated groundwater and is addressing this environmental release under the CERCLA framework. The framework outlined in NAC §§ 445A.226 through 445A.22755 is not more stringent or broader in scope than similar requirements of the CERCLA process; thus none of these regulations are accepted as state ARARs for this TCRA. This TCRA is intended to be an interim action to prevent volatile organic contaminants from migrating into surface water; thus it is not establishing numerical goals for potentially contaminated soil or groundwater. The substantive portions of these regulations that establish action levels and

**TABLE C-5: NAVY RESPONSE TO ARARs IDENTIFIED BY NEVADA DIVISION OF ENVIRONMENTAL PROTECTION IN A LETTER DATED APRIL 13, 2011**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Requirement	Prerequisite	Statutes and Regulations identified by NDEP	Accepted ARAR Citation	ARAR Determination	Comments
					remediation standards for soil and groundwater may be evaluated as potential ARARs as part of the RI Addendum/FS process. Other portions of these regulations represent either procedural requirements and therefore cannot constitute ARARs in light of the permit exemption at CERCLA § 121(e), or represent requirements relevant to the Director and the Division.
Revised regulations promulgated under Action Levels for Contaminated Sites	Release of a hazardous substance, hazardous waste, or regulated substance to soil groundwater, or surface water	Adopted Regulation R198-08A	--	Not an ARAR	The Navy could not find Adopted Regulation R189-08A; and so could not review it for acceptance as a state ARAR. The Navy does have the Final Adopted Regulation R189-08, dated August 25, 2009. The Navy notes that Adopted Regulation R189-08 contains within it a number of new or amended state requirements which could independently be identified as potential state ARARs. Accordingly, the Navy believes R189-08 is most appropriately viewed as serving essentially an administrative function (bundling requirements together as part of a legislative process), and accordingly need not be analyzed as a potential ARAR in and of itself.
An owner or operator shall immediately take any action necessary to mitigate and abate imminent and substantial hazards to public health or safety created by the release of a hazardous substance, hazardous waste, or regulated substance. The Director may waive certain provisions of NAC §§ 445A.226-445A.22755 and require an owner or operator to take	Release of a hazardous substance, hazardous waste, or regulated substance	NAC § 445A.22695 (as amended by R189-08)	--	Not an ARAR	The Navy does not accept NAC § 445A.22695 as amended by R189-08 as a state ARAR, because the Navy is already required to take action to mitigate site risks in accordance with CERCLA. The requirements of NAC § 445A.22695 (1) (as amended by R189-08) are not more stringent or broader in scope than the requirements for a TCRA under CERCLA; thus NAC § 445A.22695 (1) does not meet criteria to be considered a state ARAR under CERCLA.

**TABLE C-5: NAVY RESPONSE TO ARARs IDENTIFIED BY NEVADA DIVISION OF ENVIRONMENTAL PROTECTION IN A LETTER DATED APRIL 13, 2011**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Requirement	Prerequisite	Statutes and Regulations identified by NDEP	Accepted ARAR Citation	ARAR Determination	Comments
immediate action after a release if the release or contamination: (a) has actual or imminent effect on groundwater or surface water; or (b) is hazardous to public health and safety.					
Establishes action levels for soil based on background concentrations, presence of a hazardous substance, hazardous waste, or a regulated substance in soil at an appropriate level of concentration based on protection of waters of the State, public health and safety, and the environment. The regulation also provides requirements for determining the soil action level when there is more than one soil action level.	Release of a hazardous substance, hazardous waste, or regulated substance into soil that needs a corrective action	NAC § 445A.2272 (as amended by R189-08)	--	Not an ARAR	The Navy does not accept NAC § 445A.2272 as a state ARAR for the TCRA because soil is not a medium of concern for the TCRA. The TCRA will address the potential discharge of groundwater to surface water in the E4X Drain. The Navy is investigating soil, and if necessary, will address potential contamination in soil in the upcoming RI Addendum/FS.
Establishes action levels for groundwater based on the presence of ½ inch or more of a petroleum substance; the presence of a hazardous substance, hazardous waste, or regulated substance in groundwater equal to	Release of a hazardous substance, hazardous waste, or regulated substance into groundwater that need a corrective action	NAC § 445A.22735	--	Not an ARAR	The Navy does not accept NAC § 445A.22735 as a state ARAR for the TCRA. This TCRA is intended to be an interim action to prevent volatile organic contaminants from migrating into surface water; thus the Navy is not establishing numerical goals for PCE and TCE in groundwater at Site 16 at this time. The primary purpose of the TCRA is to prevent the discharge of contaminated groundwater into surface water in the E4X Drain. The Navy will backfill the bottom of the Drain to an elevation above the highest

**TABLE C-5: NAVY RESPONSE TO ARARs IDENTIFIED BY NEVADA DIVISION OF ENVIRONMENTAL PROTECTION IN A LETTER DATED APRIL 13, 2011**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Requirement	Prerequisite	Statutes and Regulations identified by NDEP	Accepted ARAR Citation	ARAR Determination	Comments
the MCL; background concentrations; or an appropriate level based on protection of public health and safety and the environment. The regulation also provides requirements for determining the groundwater action level when there is more than one groundwater action level.					observed groundwater level. In addition, the Navy will reduce the concentrations of PCE and TCE in the groundwater to mitigate potential risk to human health or the environment. The Navy will investigate, and if necessary, address any other potential human health or ecological exposure to PCE and TCE in groundwater in the upcoming RI Addendum/FS.
Definitions for requirements relating to notification of release of a hazardous substance.	Release of a hazardous substance	NAC §§ 445A.345-445A.348	--	Not ARARs	The Navy does not accept these regulations as state ARARs for the TCRA. These regulations contain definitions and do not present a substantive environmental cleanup standard, standard of control, or facility siting requirements.
Requirements for a local authority to administer the Diffuse Sources program and procedures for controlling water pollution that could result from new land disturbing activity or additional use of land	New land disturbing activity or additional land use	NAC §§ 445A.305-445A.340	NAC §§ 445A.327(1) and 445A.328(3)	Applicable	The Navy accepts the substantive provisions of these regulations as ARARs for the TCRA. The Navy does not accept the portions of the regulations that apply to a municipality approved to administer the program or that require a written notice or written best management plan because these are procedural requirements. Only substantive provisions are considered potential ARARs. The Navy will identify best management practices for the construction activities associated with backfilling the E4X Drain in the removal action design (the work plan), and NDEP will have the opportunity to review and comment.
Requirements for installing, operating, monitoring, and closing underground injection wells.	Injection of fluids into waters of the State through a well	NAC §§ 445A.810-445A.925	NAC § 445A.849	Applicable	The Navy only accepts the substantive provisions of NAC § 445A.849, which is identified in the citation column, as state ARARs for the TCRA. The other regulations are not applicable, relevant, or appropriate to the injection of liquid hydrogen peroxide and gaseous ozone into the groundwater at

**TABLE C-5: NAVY RESPONSE TO ARARs IDENTIFIED BY NEVADA DIVISION OF ENVIRONMENTAL PROTECTION IN A LETTER DATED APRIL 13, 2011**

Action Memorandum for Installation Restoration Site 16, Naval Air Station Fallon, Nevada

Requirement	Prerequisite	Statutes and Regulations identified by NDEP	Accepted ARAR Citation	ARAR Determination	Comments
					Site 16 nor do the regulations present procedural requirements. The liquid hydrogen peroxide and gaseous ozone injection wells will be Class V wells. NDEP has established UIC General Permit GU07RL001 for long term remediation projects (more than 6 months). CERCLA § 121(e) exempts removal or remedial actions conducted entirely on-site from the requirement to obtain permits. Accordingly, the Navy does not need to obtain a permit for its injection activities, nor does it need to submit a notice of intent to inject pursuant to General Permit GU07RL001. The Navy will, however, use the substantive provisions of General Permit GU07RL001 as a means of ensuring compliance with the substantive requirements of the state ARARs pertaining to underground injection activities.
Requirements for installing, operating, monitoring, and closing underground storage tanks	Underground storage tank	NAC §§ 459.9921-459.999	--	Not ARARs	The Navy does not accept any of these regulations as state ARARs for the TCRA. The purpose of the TCRA is to prevent the potential for PCE and TCE contaminated groundwater to discharge to surface water in the E4X Drain. The Navy cannot specifically identify a source of the PCE and TCE in groundwater; however, the PCE and TCE did not come from USTs at Site 16. In addition, none of the activities planned in the TCRA will affect or include current USTs.

Notes:

--	No statute or regulation identified by NDEP was accepted by the Navy as an ARAR.	TCE	Trichloroethene
§	Section	TCRA	Time Critical Removal Action
§§	Sections	UIC	Underground injection control
ARAR	Applicable or relevant and appropriate requirement	UST	Underground storage tank
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act		
EPA	United States Environmental Protection Agency		
NAC	Nevada Administrative Code		
NDEP	Nevada Division of Environmental Protection		
NRS	Nevada Revised Statutes		
PCE	Tetrachloroethene		

**APPENDIX D**  
**INDEX OF ADMINISTRATIVE RECORD FOR SITE 16**

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FALLON NAS

DRAFT ENVIRONMENTAL RESTORATION RECORD INDEX - UPDATE (SORTED BY RECORD NUMBER)

FILTERED DATA BY KEYWORDS/SITES

UIC No. _ Rec. No.	Record Date							
Doc. Control No.	Prc. Date	Author						
Record Type	SSIC No.	Author Affil.					Location	FRC Accession No.
Contract No.	CTO No.	Recipient					SWDIV Box No(s)	FRC Warehouse
Approx. # Pages		Recipient Affil.	Subject	Distribution	Sites	CD No.	— FRC Box No(s) —	
AR_N60495_000001	04-01-1988		PRELIMINARY ASSESSMENT/SITE	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	02-25-2004	DAMES & MOORE	INSPECTION (VOLUME I AND II OF II)		SITE 00002		SOUTHWEST	
REPORT	5090.3.A.				SITE 00003			
N62474-85-C-3385	NONE	NAVAL ENERGY			SITE 00004			
300		AND			SITE 00005			
		ENVIRONMENTAL			SITE 00006			
		SUPPORT			SITE 00007			
		ACTIVITY			SITE 00008			
		(NEESA) - PORT			SITE 00009			
		HUENEME, CA			SITE 00010			
					SITE 00011			
					SITE 00012			
					SITE 00013			
					SITE 00014			
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					SITE 00026			
					SITE 00027			

UIC No. _ Rec. No.	Record Date	Author	Author Affil.	Subject	Distribution	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)
Doc. Control No.	Prc. Date	Author	Author Affil.					
Record Type	SSIC No.	Author Affil.	Author Affil.					
Contract No.	CTO No.	Recipient	Recipient					
Approx. # Pages		Recipient Affil.	Recipient Affil.					
<b>AR_N60495_000003</b>	<b>04-01-1988</b>			DOCUMENTATION RECORDS FOR HAZARD RANKING SYSTEM	ADMIN RECORD	SITE 00001	NAVFAC - SOUTHWEST	
NONE	02-25-2004	DAMES & MOORE	DAMES & MOORE			SITE 00002		
REPORT	5090.3.A.					SITE 00003		
NONE	NONE	NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY (NEESA) - PORT HUENEME, CA				SITE 00004		
250						SITE 00006		
						SITE 00007		
						SITE 00009		
						SITE 00010		
						SITE 00011		
						SITE 00012		
						SITE 00013		
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UIC No. _ Rec. No.	Record Date	Author							
Doc. Control No.	Prc. Date	Author Affil.							
Record Type	SSIC No.	Recipient		Subject	Distribution	Sites	Location	FRC Accession No.	
Contract No.	CTO No.	Recipient Affil.					SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages							CD No.	FRC Box No(s)	
<b>AR_N60495_000008</b>	<b>01-01-1992</b>			PRELIMINARY SITE CHARACTERIZATION SUMMARY INSTALLATION RESTORATION PROGRAM	ADMIN RECORD	SITE 00002 SITE 00004 SITE 00006 SITE 00007 SITE 00009 SITE 00010 SITE 00011 SITE 00012 SITE 00013 SITE 00014 SITE 00016 SITE 00017 SITE 00019 SITE 00021 SITE 00022 SITE 00023	NAVFAC - SOUTHWEST		
NONE	11-19-2003	OAK RIDGE NATIONAL LABORATORY							
REPORT	5090.3.A.								
NONE	NONE	NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY (NEESA) - PORT HUENEME, CA							
300									

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_000009	08-01-1989		REMEDIAL INVESTIGATION/FEASIBILITY	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	11-19-2003	OAK RIDGE	STUDY PROJECT WORK PLAN - WORK		SITE 00002		SOUTHWEST	
CORRESPONDENCE	5090.3.A.	NATIONAL	PLAN, PART 1 (VOLUME I OF IV)		SITE 00003			
DE-AC05-	NONE	LABORATORY			SITE 00004			
84OR21400					SITE 00006			
250		NAVAL ENERGY			SITE 00007			
		AND			SITE 00009			
		ENVIRONMENTAL			SITE 00010			
		SUPPORT			SITE 00011			
		ACTIVITY			SITE 00012			
		(NEESA) - PORT			SITE 00013			
		HUENEME, CA			SITE 00014			
					SITE 00016			
					SITE 00017			
					SITE 00018			
					SITE 00019			
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					SITE 00021			
					SITE 00022			
					SITE 00023			
					SITE 00024			

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_000010	08-01-1989		REMEDIAL INVESTIGATION/FEASIBILITY	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	11-19-2003	OAK RIDGE	STUDY PROJECT WORK PLAN - HEALTH		SITE 00002		SOUTHWEST	
CORRESPONDENCE	5090.3.A.	NATIONAL	AND SAFETY PLAN, PART II (VOLUME II OF		SITE 00003			
DE-AC05-	NONE	LABORATORY	IV)		SITE 00004			
84OR21400					SITE 00006			
300		NAVAL ENERGY			SITE 00007			
		AND			SITE 00009			
		ENVIRONMENTAL			SITE 00010			
		SUPPORT			SITE 00011			
		ACTIVITY			SITE 00012			
		(NEESA) - PORT			SITE 00013			
		HUENEME, CA			SITE 00014			
					SITE 00016			
					SITE 00017			
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UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_000011	08-01-1989		REMEDIAL INVESTIGATION/FEASIBILITY	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	11-19-2003	OAK RIDGE	STUDY PROJECT WORK PLAN - SAMPLING		SITE 00002		SOUTHWEST	
CORRESPONDENCE	5090.3.A.	NATIONAL	AND ANALYSIS PLAN, PART III: QUALITY		SITE 00003			
DE-AC05-	NONE	LABORATORY	ASSURANCE PROJECT PLAN, PART IV:		SITE 00004			
84OR21400			FIELD SAMPLING PLAN (VOLUME III OF IV)		SITE 00006			
500		NAVAL ENERGY			SITE 00007			
		AND			SITE 00009			
		ENVIRONMENTAL			SITE 00010			
		SUPPORT			SITE 00011			
		ACTIVITY			SITE 00012			
		(NEESA) - PORT			SITE 00013			
		HUENEME, CA			SITE 00014			
					SITE 00016			
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UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_000012	08-01-1989		REMEDIAL INVESTIGATION/FEASIBILITY	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	11-19-2003	OAK RIDGE	STUDY PROJECT WORK PLAN -		SITE 00002		SOUTHWEST	
CORRESPONDENCE	5090.3.A.	NATIONAL	COMMUNITY RELATIONS PLAN, PART V		SITE 00003			
DE-AC05-	NONE	LABORATORY	(VOLUME IV OF IV)		SITE 00004			
84OR21400					SITE 00006			
40		NAVAL ENERGY			SITE 00007			
		AND			SITE 00009			
		ENVIRONMENTAL			SITE 00010			
		SUPPORT			SITE 00011			
		ACTIVITY			SITE 00012			
		(NEESA) - PORT			SITE 00013			
		HUENEME, CA			SITE 00014			
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UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_000015	04-01-1988		HAZARD RANKING SYSTEM (HRS)	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	02-25-2004	DAMES & MOORE	WORKSHEETS		SITE 00002		SOUTHWEST	
MISC	5090.3.A.				SITE 00003			
NONE	NONE	NAVAL ENERGY			SITE 00004			
50		AND			SITE 00006			
		ENVIRONMENTAL			SITE 00007			
		SUPPORT			SITE 00009			
		ACTIVITY			SITE 00010			
		(NEESA) - PORT			SITE 00011			
		HUENEME, CA			SITE 00012			
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UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Warehouse	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
<b>AR_N60495_000044</b>	<b>06-13-1994</b>	BAKER, C.	TRANSMITTAL OF THE 11 MAY 1994	ADMIN RECORD	HANGAR 0005		NAVFAC -	
NAS FALLON SER	02-24-2004	NAS FALLON -	TECHNICAL REVIEW COMMITTEE MEETING		HANGAR 0300		SOUTHWEST	
187/0808	5090.3.A.	FALLON, NV	MINUTES (W/ENCLOSURE)		SITE 00001			
MINUTES	NONE				SITE 00002			
NONE		NAVFAC - PORT			SITE 00003			
8		HUENEME			SITE 00004			
					SITE 00006			
					SITE 00007			
					SITE 00009			
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					SITE 00024			
<b>AR_N60495_000048</b>	<b>09-19-1994</b>	KANE, N.	LETTER REGARDING INSTALLATION	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	11-20-2003	STATE OF	RESTORATION PROGRAM ISSUES AND		SITE 00002		SOUTHWEST	
CORRESPONDENCE	5090.3.A.	NEVADA -	DECISIONS MADE DURING TECHINCAL		SITE 00003			
NONE	NONE	CARSON CITY, NV	MEETING HELD ON 25 AND 26 AUGUST 1994		SITE 00006			
26		BONHAM, D.			SITE 00013			
		NAVY PUBLIC			SITE 00014			
		WORKS CENTER -			SITE 00016			
		FALLON, NV			SITE 00017			
					SITE 00018			
					SITE 00020			
					SITE 00021			
					SITE 00022			

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	Location	FRC Accession No.	
Contract No.	CTO No.	Recipient Affil.				SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages						CD No.	FRC Box No(s)	
<b>AR_N60495_000079</b>	<b>12-29-1995</b>	ISELIN, S.	TRANSMITTAL OF THE NEWSPAPER	ADMIN RECORD	SITE 00001	NAVFAC -		
NAS FALLON SER	02-24-2004	NAS FALLON -	ADVERTISEMENTS ON PUBLIC COMMENT		SITE 00006	SOUTHWEST		
187/1802	5090.3.A.	FALLON, NV	PERIOD, ENGINEERING EVALUATION/COST		SITE 00013			
CORRESPONDENCE	NONE		ANALYSES FOR SITES 1, 6, 13, 14 AND 16		SITE 00014			
NONE		NAVAL ENERGY			SITE 00016			
6		AND						
		ENVIRONMENTAL						
		SUPPORT						
		ACTIVITY						
		(NEESA) - PORT						
		HUENEME, CA						
<b>AR_N60495_000087</b>	<b>01-26-1996</b>	KANE, N.	CONCURRENCE WITH PROPOSED	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	02-25-2004	NEVADA DIVISION	REMOVAL ACTIONS FOR 5 SITES		SITE 00002	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	OF			SITE 00006			
NONE	NONE	ENVIRONMENTAL			SITE 00014			
2		PROTECTION -			SITE 00016			
		CARSON CITY, NV						
		BONHAM, D.						
		NAS FALLON -						
		FALLON, NV						
<b>AR_N60495_000098</b>	<b>06-15-1999</b>	JOHNSON, J.	LETTER REGARDING THE REMEDIAL	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	11-19-2003	NEVADA DIVISION	INVESTIGATION/FEASIBILITY STUDY		SITE 00013	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	OF	ISSUES PERTAINING TO THE BACKFILLING		SITE 00016			
NONE	NONE	ENVIRONMENTAL	WITH TPH CONTAMINATED SOILS AS					
4		PROTECTION -	BACKFILLING WHEN TPH					
		CARSON CITY, NV	CONCENTRATIONS EXCEEDS STATE					
		DIRICKSON, J.	ACTION LEVEL					
		NAS FALLON -						
		FALLON, NV						
<b>AR_N60495_000100</b>	<b>08-19-1999</b>	JOHNSON, J.	LETTER REQUESTING NAVY TO EXPEDITE	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	11-19-2003	NEVADA DIVISION	CORRECTIVE ACTION WORK AT SITES 1, 2,		SITE 00002	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	OF	14, AND 16 (WITH ATTACHMENT)		SITE 00014			
NONE	NONE	ENVIRONMENTAL			SITE 00016			
6		PROTECTION -						
		CARSON CITY, NV						
		DIRICKSON, J.						
		NAS FALLON -						
		FALLON, NV						

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient						
Contract No.	CTO No.	Recipient Affil.	Subject	Distribution	Sites	Location	FRC Accession No.	
Approx. # Pages						SWDIV Box No(s)	FRC Warehouse	
						CD No.	FRC Box No(s)	
<b>AR_N60495_000114</b>	<b>08-13-1999</b>	JEMTRUD,E.	TRANSMITTAL OF THE QUARTERLY	ADMIN RECORD	SITE 00002	NAVFAC -		
EFAW SER	11-19-2003	NAVFAC - EFA	MEETING MINUTES FROM THE MEETING		SITE 00016	SOUTHWEST		
7022/049	5090.3.A.	WEST	HELD ON 22 JULY 1999 (WITH ENCLOSURE)					
MINUTES	NONE							
NONE		MULTIPLE						
3		AGENCIES						
<b>AR_N60495_000119</b>	<b>11-15-1995</b>	KANE, N.	REVIEW AND COMMENTS ON THE DRAFT	ADMIN RECORD	SITE 00016	NAVFAC -		
NONE	02-25-2004	STATE OF	ENGINEERING EVALUATION/COST			SOUTHWEST		
CORRESPONDENCE	5090.3.A.	NEVADA -	ANALYSIS FOR REMEDIAL ACTIONS AT					
NONE	NONE	CARSON CITY, NV	SITE 16, OLD FUEL FARM DATED JULY 1995					
4		BONHAM, D.						
		NAVFAC -						
		SOUTHWEST						
		DIVISION						
<b>AR_N60495_000125</b>	<b>09-05-1996</b>	ISELIN, S.	TRANSMITTAL OF THE FINAL	ADMIN RECORD	SITE 00016	NAVFAC -		
NAS FALLON SER	02-25-2004	NAS FALLON -	ENGINEERING EVALUATION/COST			SOUTHWEST		
187/1079	5090.3.A.	FALLON, NV	ANALYSIS FOR REMOVAL ACTIONS AT					
CORRESPONDENCE	NONE	KANE, N.	SITE 16, OLD FUEL FARM DATED JULY 1996					
NONE		STATE OF	AND THE ERRATA FOR THE ABOVE					
2		NEVADA -	DOCUMENT					
		CARSON CITY, NV						
<b>AR_N60495_000181</b>	<b>08-01-2007</b>	POWELL, K.	FINAL ACCIDENT PREVENTION PLAN FOR	ADMIN RECORD	SITE 00001	NAVFAC -		
SULT.5104.0051.000	08-22-2007	SULTECH	INVESTIGATION OF ACTIVE INSTALLATION	BASE	SITE 00002	SOUTHWEST		
3	5090.3.A.		RESTORATION AND UNDERGROUND		SITE 00003			
REPORT	00051	NAVFAC -	STORAGE TANK SITES (INCLUDES		SITE 00004			
N68711-03-D-5104		SOUTHWEST	RESPONSES TO COMMENTS ON THE		SITE 00006			
30			DRAFT AND CD COPY)		SITE 00014			
					SITE 00016			
					UST R1			
					UST R2			
<b>AR_N60495_000192</b>	<b>02-03-1994</b>	PURSEL, D.	TRANSMITTAL OF THE ENVIRONMENTAL	ADMIN RECORD	SITE 00001	NAVFAC -		
NAS FALLON SER	11-19-2003	NAS FALLON -	INVESTIGATION / MONITORING /		SITE 00002	SOUTHWEST		
187/0189	5090.3.A.	FALLON, NV	REMEDIAION PROGRESS REPORT FOR		SITE 00006			
REPORT	NONE	KANE, N.	THE FOURTH QUARTER OF 1993 WITH		SITE 00014			
NONE		STATE OF	ENCLOSURES		SITE 00016			
30		NEVADA -						
		CARSON CITY, NV						

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	Location	FRC Accession No.	
Contract No.	CTO No.	Recipient Affil.				SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages						CD No.	FRC Box No(s)	
<b>AR_N60495_000196</b>	<b>04-19-1994</b>	PURSEL, D.	TRANSMITTAL OF THE ENVIRONMENTAL	ADMIN RECORD	SITE 00001	NAVFAC -		
NAS FALLON SER	11-19-2003	NAS FALLON -	INVESTIGATION / MONITORING /		SITE 00002	SOUTHWEST		
187/0508	5090.3.A.	FALLON, NV	REMEDATION PROGRESS REPORT FOR		SITE 00014			
REPORT	NONE	KANE, N.	THE FIRST QUARTER OF 1994 WITH		SITE 00016			
NONE		STATE OF	ENCLOSURES					
40		NEVADA -						
		CARSON CITY, NV						
<b>AR_N60495_000197</b>	<b>08-01-1996</b>		INSTALLATION RESTORATION PROGRAM	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	11-19-2003	NAVY PUBLIC	SEMI-ANNUAL PROGRESS REPORT FOR		SITE 00002	SOUTHWEST		
REPORT	5090.3.A.	WORKS CENTER -	THE REPORTING PERIOD OCTOBER 1995 -		SITE 00006			
NONE	NONE	FALLON, NV	MARCH 1996		SITE 00014			
60		STATE OF			SITE 00016			
		NEVADA						
<b>AR_N60495_000199</b>	<b>05-20-1994</b>	BAKER, C.	SUMMARY OF ISSUES DISCUSSED DURING	ADMIN RECORD	BLDG 0000220	NAVFAC -		
NAS FALLON SER	11-20-2003	NAS FALLON -	THE 03 MAY 1994 MEETING		SITE 00002	SOUTHWEST		
187/0674	5090.3.A.	FALLON, NV			SITE 00013			
CORRESPONDENCE	NONE	KANE, N.			SITE 00015			
NONE		STATE OF			SITE 00016			
3		NEVADA -			UST 000019			
		CARSON CITY, NV			UST 000044			
					UST 000062			
					UST 000204			
					UST 000204-6			
					UST 000204-7			
					UST 000220			
					UST 000396			
					UST 000396A			
					UST 000396B			
					UST 000806			
					UST R16C			
					UST R16S			
					UST R17N			
					UST R17S			
					UST R19E			

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	Location	FRC Accession No.	
Contract No.	CTO No.	Recipient Affil.				SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages						CD No.	FRC Box No(s)	
<b>AR_N60495_000203</b>	<b>07-22-1994</b>	ISELIN, S.	TRANSMITTAL OF THE ENVIRONMENTAL INVESTIGATION / MONITORING / REMEDIATION PROGRESS REPORT FOR THE SECOND QUARTER OF 1994 WITH ENCLOSURES	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00006 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER 187/1034 REPORT NONE 30	11-19-2003 5090.3.A. NONE	NAS FALLON - FALLON, NV KANE, N. STATE OF NEVADA - CARSON CITY, NV						
<b>AR_N60495_000204</b>	<b>09-01-1994</b>		COMMUNITY RELATIONS PLAN DATED SEPTEMBER 1994	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00004 SITE 00006 SITE 00007 SITE 00009 SITE 00010 SITE 00011 SITE 00012 SITE 00013 SITE 00014 SITE 00016 SITE 00017 SITE 00018 SITE 00019 SITE 00020 SITE 00021 SITE 00022 SITE 00023 SITE 00024	NAVFAC - SOUTHWEST		
NONE CORRESPONDENCE NONE 28	02-24-2004 5090.3.A. NONE	NAS FALLON - FALLON, NV  NAVFAC - EFA WEST						
<b>AR_N60495_000206</b>	<b>02-01-2000</b>		INSTALLATION RESTORATION PROGRAM ANNUAL PROGRESS REPORT, OCTOBER 1998 THROUGH SEPTEMBER 1999	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		
NONE REPORT NONE 75	11-19-2003 5090.3.A. NONE	NAVY PUBLIC WORKS CENTER - FALLON, NV  STATE OF NEVADA - CARSON CITY						

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	Location	FRC Accession No.	
Contract No.	CTO No.	Recipient Affil.				SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages						CD No.	FRC Box No(s)	
<b>AR_N60495_000208</b>	<b>11-01-1994</b>	ISELIN, S.	TRANSMITTAL OF THE ENVIRONMENTAL INVESTIGATION / MONITORING / REMEDIATION PROGRESS REPORT FOR THE THIRD QUARTER OF 1994 WITH ENCLOSURES	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00006 SITE 00014 SITE 00016 SITE 00020 SITE 00021	NAVFAC - SOUTHWEST		
NAS FALLON SER 187/1657 REPORT NONE 60	11-19-2003 5090.3.A. NONE	NAS FALLON - FALLON, NV KANE, N. STATE OF NEVADA - CARSON CITY, NV						
<b>AR_N60495_000209</b>	<b>11-16-1994</b>	ISELIN, S.	RESPONSE TO LETTER DATED 21 OCTOBER 1994 REGARDING VARIOUS INSTALLATION RESTORATION PROGRAM ISSUES	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00006 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER 187/1711 CORRESPONDENCE NONE 2	11-20-2003 5090.3.A. NONE	NAS FALLON - FALLON, NV KANE, N. STATE OF NEVADA - CARSON CITY, NV						
<b>AR_N60495_000210</b>	<b>06-15-1999</b>	JOHNSON, J.	REVIEW AND COMMENTS ON THE BASEWIDE MONITORING WORK PLAN FOR FY99	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		
NONE CORRESPONDENCE NONE 3	02-25-2004 5090.3.A. NONE	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV FISHER, A. NAS FALLON - FALLON, NV						
<b>AR_N60495_000211</b>	<b>12-01-1994</b>	N. KANE	LETTER REGARDING ISSUES PERTAINING TO ENGINEERING EVALUATION/COST ANALYSIS (EE/CA) FOR REMOVAL ACTIONS FOR VARIOUS SITES	ADMIN RECORD BASE INFO REPOSITORY	SITE 00001 SITE 00006 SITE 00013 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		
NONE CORRESPONDENCE NONE 2	06-09-2004 5090.3.A. NONE	NDEP D. BONHAM PWC - NAS FALLON						
<b>AR_N60495_000215</b>	<b>01-30-1995</b>	ISELIN, S.	TRANSMITTAL OF THE ENVIRONMENTAL INVESTIGATION / MONITORING / REMEDIATION PROGRESS REPORT FOR THE FOURTH QUARTER OF 1994 WITH ENCLOSURES	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00006 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER 187/0126 REPORT NONE 40	11-19-2003 5090.3.A. NONE	NAS FALLON - FALLON, NV KANE, N. STATE OF NEVADA - CARSON CITY, NV						

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Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient						
Contract No.	CTO No.	Recipient Affil.	Subject	Distribution	Sites	Location	FRC Accession No.	
Approx. # Pages						SWDIV Box No(s)	FRC Warehouse	
						CD No.	FRC Box No(s)	
<b>AR_N60495_000216</b>	<b>02-01-1999</b>		INSTALLATION RESTORATION PROGRAM	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	11-19-2003	NAVY PUBLIC	ANNUAL PROGRESS REPORT, OCTOBER		SITE 00002	SOUTHWEST		
REPORT	5090.3.A.	WORKS CENTER -	1997 THROUGH SEPTEMBER 1998		SITE 00003			
NONE	NONE	FALLON, NV			SITE 00006			
40		STATE OF			SITE 00014			
		NEVADA -			SITE 00016			
		CARSON CITY						
<b>AR_N60495_000222</b>	<b>04-25-1995</b>	ISELIN, S.	TRANSMITTAL OF THE ENVIRONMENTAL	ADMIN RECORD	SITE 00001	NAVFAC -		
NAS FALLON SER	11-19-2003	NAS FALLON -	INVESTIGATION / MONITORING /		SITE 00002	SOUTHWEST		
187/0514	5090.3.A.	FALLON, NV	REMEDICATION PROGRESS REPORT FOR		SITE 00006			
REPORT	NONE	KANE, N.	THE FIRST QUARTER OF 1995 WITH		SITE 00014			
NONE		STATE OF	ENCLOSURES		SITE 00016			
50		NEVADA -						
		CARSON CITY, NV						
<b>AR_N60495_000227</b>	<b>08-09-1995</b>	PURSEL, D.	TRANSMITTAL OF THE ENVIRONMENTAL	ADMIN RECORD	SITE 00001	NAVFAC -		
NAS FALLON SER	11-19-2003	NAS FALLON -	INVESTIGATION / MONITORING /		SITE 00002	SOUTHWEST		
187/1056	5090.3.A.	FALLON, NV	REMEDICATION PROGRESS REPORT FOR		SITE 00003			
REPORT	NONE	KANE, N.	THE SECOND QUARTER OF 1995 WITH		SITE 00006			
NONE		STATE OF	ENCLOSURES		SITE 00013			
100		NEVADA -			SITE 00014			
		CARSON CITY, NV			SITE 00016			
<b>AR_N60495_000228</b>	<b>08-18-1995</b>		RESPONSE TO LETTER DATED 14 AUGUST	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	11-20-2003	NAS FALLON, NV	1995 REGARDING GROUNDWATER		SITE 00002	SOUTHWEST		
ANALYTICAL DATA	5090.3.A.	KANE, N.	MONITORING AT INSTALLATION		SITE 00003			
NONE	NONE	STATE OF	RESTORATION PROGRAM SITES (WITH		SITE 00014			
45		NEVADA -	ENCLOSURES)		SITE 00016			
		CARSON CITY, NV			SITE 00018			
					SITE 00020			
					SITE 00021			
					SITE 00022			

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.					Location	FRC Accession No.
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.				CD No.		
Approx. # Pages								
<b>AR_N60495_000241</b>	<b>07-01-1997</b>		INSTALLATION RESTORATION PROGRAM AND LEAKING UNDERGROUND STORAGE TANK (LUST) SEMI-ANNUAL PROGRESS REPORT FOR THE REPORTING PERIOD OCTOBER 1996 - MARCH 1997	ADMIN RECORD	BLDG 0000348 BLDG 0000395 BLDG 0000806 SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 SITE 00023	NAVFAC - SOUTHWEST		
NONE	11-19-2003	NAVY PUBLIC WORKS CENTER - FALLON, NV						
REPORT	5090.3.A.							
NONE	NONE	STATE OF NEVADA - CARSON CITY, NV						
60								
<b>AR_N60495_000242</b>	<b>01-01-1997</b>		INSTALLATION RESTORATION PROGRAM SEMI-ANNUAL PROGRESS REPORT FOR THE REPORTING PERIOD APRIL 1996 - SEPTEMBER 1996	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00006 SITE 00014 SITE 00016 SITE 00023	NAVFAC - SOUTHWEST		
NONE	11-19-2003	NAVY PUBLIC WORKS CENTER - FALLON, NV						
REPORT	5090.3.A.							
NONE	NONE	STATE OF NEVADA						
100								
<b>AR_N60495_000244</b>	<b>12-01-1995</b>		INSTALLATION RESTORATION PROGRAM SEMI-ANNUAL PROGRESS REPORT FOR THE REPORTING PERIOD JULY 1995 - SEPTEMBER 1995	ADMIN RECORD	BLDG 0000395 BLDG 0000806 SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00013 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		
NONE	11-19-2003	NAVY PUBLIC WORKS CENTER - FALLON, NV						
REPORT	5090.3.A.							
NONE	NONE	STATE OF NEVADA - CARSON CITY, NV						
200								
<b>AR_N60495_000268</b>	<b>10-24-1996</b>	KANE, N.	REVIEW AND APPROVAL OF THE FINAL ENGINEERING EVALUATION/COST ANALYSIS FOR REMOVAL ACTIONS AT SITE 16, OLD FUEL FARM	ADMIN RECORD	SITE 00016	NAVFAC - SOUTHWEST		
NONE	02-25-2004	STATE OF NEVADA - CARSON CITY, NV						
CORRESPONDENCE	5090.3.A.	BONHAM, D.						
NONE	NONE	NAS FALLON						
1								

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.					Location	FRC Accession No.
Record Type	SSIC No.	Recipient		Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse
Contract No.	CTO No.	Recipient Affil.					CD No.	FRC Box No(s)
Approx. # Pages								
<b>AR_N60495_000288</b>	<b>05-26-1999</b>	FISHER, A.		TRANSMITTAL OF THE MONITORING	ADMIN RECORD	SITE 00001	NAVFAC -	
NONE	11-19-2003	NAS FALLON -		WELLS TO BE SAMPLED DURING THE		SITE 00002	SOUTHWEST	
CORRESPONDENCE	5090.3.A.	FALLON, NV		SEPTEMBER 1999 BI-ANNUAL SAMPLING		SITE 00003		
NONE	NONE	JOHNSON, J.		EVENT (WITH ATTACHMENT)		SITE 00006		
10		NEVADA DIVISION				SITE 00014		
		OF				SITE 00016		
		ENVIRONMENTAL						
		PROTECTION -						
		CARSON CITY, NV						
<b>AR_N60495_000290</b>	<b>03-06-1998</b>			ADDENDUM TO THE WORK PLAN FOR	ADMIN RECORD	SITE 00001	NAVFAC -	
NONE	11-19-2003	NAVFAC - EFA		ASSESSING THE FEASIBILITY STUDY OF		SITE 00002	SOUTHWEST	
CORRESPONDENCE	5090.3.A.	NORTHWEST		INTRINSIC REMEDIATION, DATED		SITE 00003		
NONE	NONE			OCTOBER 1996		SITE 00006		
35		NAVY PUBLIC				SITE 00014		
		WORKS CENTER -				SITE 00016		
		FALLON, NV						
<b>AR_N60495_000295</b>	<b>07-01-1996</b>			FINAL ENGINEERING EVALUATION/COST	ADMIN RECORD	SITE 00016	NAVFAC -	
NONE	06-08-2004	OAK RIDGE		ANALYSIS FOR REMOVAL ACTIONS AT	BASE		SOUTHWEST	
REPORT	5090.3.A.	NATIONAL		SITE 16, OLD FUEL FARM	INFO REPOSITORY			
NONE	NONE	LABORATORY						
100								
		NAVFAC - EFA						
		WEST						
<b>AR_N60495_000296</b>	<b>10-01-1996</b>			FINAL WORK PLAN FOR ASSESSING THE	ADMIN RECORD	SITE 00001	NAVFAC -	
NONE	11-19-2003	OAK RIDGE		FEASIBILITY OF INTRINSIC REMEDIATION		SITE 00002	SOUTHWEST	
CORRESPONDENCE	5090.3.A.	NATIONAL		AT INSTALLATION RESTORATION		SITE 00003		
DE-AC05-	NONE	LABORATORY		PROGRAM (IRP) SITES		SITE 00006		
960R22464						SITE 00014		
100		NAVFAC - EFA				SITE 00016		
		WEST						
<b>AR_N60495_000297</b>	<b>01-20-1998</b>			DRAFT STATUS REPORT - ASSESSMENT	ADMIN RECORD	SITE 00001	NAVFAC -	
NONE	11-19-2003	BATTELLE		OF THE FEASIBILITY OF INTRINSIC		SITE 00002	SOUTHWEST	
REPORT	5090.3.A.			REMEDICATION AT SIX INSTALLATION		SITE 00003		
NONE	NONE	PUBLIC WORKS		RESTORATION PROGRAM (IRP) SITES		SITE 00006		
50		DEPT - NAS				SITE 00014		
		FALLON				SITE 00016		

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Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient						
Contract No.	CTO No.	Recipient Affil.	Subject	Distribution	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)	
<b>AR_N60495_000299</b>	<b>12-14-1998</b>							
NONE	11-19-2003	BATTELLE	INTERIM DRAFT PROGRESS REPORT -	ADMIN RECORD	SITE 00001	NAVFAC -		
REPORT	5090.3.A.		ASSESSMENT OF INTRINSIC REMEDIATION		SITE 00002	SOUTHWEST		
NONE	NONE	PWC - NAS	AT SIX INSTALLATION RESTORATION		SITE 00003			
400		FALLON	PROGRAM SITES, SUMMARY OF THE		SITE 00006			
			SEPTEMBER 1998 SAMPLING EVENT		SITE 00014			
					SITE 00016			
<b>AR_N60495_000302</b>	<b>02-01-1998</b>							
NONE	11-18-2003	NAVY PUBLIC	INSTALLATION RESTORATION PROGRAM	ADMIN RECORD	BLDG 0000348	NAVFAC -		
REPORT	5090.3.A.	WORKS CENTER -	AND LEAKING UNDERGROUND STORAGE		BLDG 0000395	SOUTHWEST		
NONE	NONE	FALLON, NV	TANK (LUST) SEMI ANNUAL PROGRESS		BLDG 0000427			
150			REPORT		BLDG 0000806			
		STATE OF			SITE 00001			
		NEVADA -			SITE 00002			
		CARSON CITY, NV			SITE 00003			
					SITE 00014			
					SITE 00016			
					SITE 00023			
<b>AR_N60495_000303</b>	<b>02-01-2000</b>							
NONE	11-19-2003	JBR	GROUNDWATER MONITORING REPORT -	ADMIN RECORD	SITE 00001	NAVFAC -		
REPORT	5090.3.A.	ENVIRONMENTAL	1999		SITE 00002	SOUTHWEST		
NONE	NONE	CONSULTANTS			SITE 00003			
600					SITE 00006			
		NAVY PUBLIC			SITE 00014			
		WORKS CENTER -			SITE 00016			
		FALLON, NV						
<b>AR_N60495_000305</b>	<b>08-01-2007</b>							
SULT.5104.0050.000	09-21-2007	T. PELHAM	FINAL WELL INSTALLATION AND	ADMIN RECORD	SITE 00001	NAVFAC -		
3	5090.3.A.	TETRA TECH EM,	ABANDONMENT SUMMARY REPORT (CD	BASE	SITE 00003	SOUTHWEST		
REPORT	00050	INC.	COPY IS ENCLOSED)		SITE 00014			
N68711-03-D-5104					SITE 00016			
50		NAVFAC -						
		SOUTHWEST						

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Record Type	SSIC No.	Author Affil.								SWDIV Box No(s)	FRC Warehouse
Contract No.	CTO No.	Recipient		Subject	Distribution	Sites				CD No.	FRC Box No(s)
Approx. # Pages		Recipient Affil.									
<b>AR_N60495_000365</b>	<b>06-01-2001</b>			SCARBOROUGH, K.	REVIEW AND COMMENTS ON THE PROPOSED SEPTEMBER 2001 WELL SAMPLING	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016			NAVFAC - SOUTHWEST	
NONE	11-19-2003			NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV							
CORRESPONDENCE	5090.3.A.			DIRICKSON, J.							
NONE	NONE			NAS FALLON - FALLON, NV							
2											
<b>AR_N60495_000506</b>	<b>04-02-2002</b>			G. WICKRAMANAYAK E	FINAL TREATABILITY STUDY WORK PLAN FOR GROUNDWATER PILOT STUDIES AT SITES 1, 2, 3, 6, 14, AND 16	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016			NAVFAC - SOUTHWEST	
NONE	11-19-2003			BATTELLE							
CORRESPONDENCE	5090.3.A.			NAVFAC - EFA NORTHWEST							
N47408-95-D-0730	DO 0137										
550											
<b>AR_N60495_000673</b>	<b>12-08-2000</b>			NOACK, R.	REVIEW AND COMMENTS ON THE DRAFT SAMPLING AND ANALYSIS PLAN GROUNDWATER MONITORING AND QUALITY ASSURANCE PROJECT PLAN GROUNDWATER MONITORING	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 UST 000395			NAVFAC - SOUTHWEST	
NONE	02-25-2004			NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV							
CORRESPONDENCE	5090.3.A.			BONHAM, D.							
NONE	NONE			NAVY PUBLIC WORKS CENTER - FALLON, NV							
2											
<b>AR_N60495_000750</b>	<b>01-09-2002</b>			KRISHNAMOORTH Y, R.	LETTER REGARDING PROJECT TO CONSTRUCT AN ATV STORAGE SHED AND TO PROVIDE STATUS OF BURIED ASBESTOS WEST OF THE EOD COMPOUND, SITE 10 AND 16	ADMIN RECORD	SITE 00010 SITE 00016			NAVFAC - SOUTHWEST	
NAS FALLON SER	02-25-2004			NAS FALLON - FALLON, NV							
N45F/013	5090.3.A.			SCARBOROUGH, K.							
CORRESPONDENCE	NONE			NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV							
NONE											
2											

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Doc. Control No.	Prc. Date	Author Affil.		Subject	Distribution	Sites		SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient						CD No.	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.							
Approx. # Pages									
<b>AR_N60495_000756</b>	<b>07-01-2001</b>			FINAL GROUNDWATER MONITORING REPORT FOR 2001 FOR SITES 1, 2, 3, 6, 14, 16, AND UST 395	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 UST 000395		NAVFAC - SOUTHWEST	
NONE	11-19-2003	JBR							
REPORT	5090.3.A.	ENVIRONMENTAL CONSULTANTS							
NONE	NONE								
200		BATTELLE							
<b>AR_N60495_000760</b>	<b>08-28-2001</b>			REVIEW AND COMMENTS ON THE DRAFT FINAL ASSESSMENT OF INTRINSIC REMEDIATION	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 UST 000395		NAVFAC - SOUTHWEST	
NONE	02-24-2004	SCARBOROUGH, K.							
CORRESPONDENCE	5090.3.A.	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV							
NONE	NONE	BONHAM, D.							
8		NAVY PUBLIC WORKS CENTER - FALLON, NV							
<b>AR_N60495_000781</b>	<b>04-04-2002</b>			TRANSMITTAL OF THE FINAL TREATABILITY STUDY WORK PLAN FOR GROUNDWATER PILOT STUDIES FOR SITES 1, 2, 3, 6, 14, AND 16	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016		NAVFAC - SOUTHWEST	
NAS FALLON SER N45F/167	11-19-2003	KRISHNAMOORTH Y, R.							
CORRESPONDENCE	5090.3.A.	NAS FALLON - FALLON, NV							
NONE	NONE	NOACK, E.							
1		NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV							
<b>AR_N60495_000806</b>	<b>10-01-2002</b>			FINAL SPRING 2002 GROUNDWATER SAMPLING DATA REPORT (INCLUDES ANALYTICAL DATA)	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 UST 000395		NAVFAC - SOUTHWEST	
NONE	11-19-2003	THE ENVIRONMENTAL COMPANY, INC							
REPORT	5090.3.A.								
N44255-D-98-4416	DO 0031								
2000		NAVFAC - EFA NORTHWEST							

UIC No. _ Rec. No.	Record Date	Author							
Doc. Control No.	Prc. Date	Author Affil.							
Record Type	SSIC No.	Recipient							
Contract No.	CTO No.	Recipient Affil.	Subject	Distribution	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)		
AR_N60495_000808	09-01-2002		FINAL SAMPLING AND ANALYSIS PLAN FALL 2002 GROUNDWATER MONITORING	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 UST 000395	NAVFAC - SOUTHWEST			
NONE	02-25-2004	THE ENVIRONMENTAL COMPANY, INC							
CORRESPONDENCE	5090.3.A.								
N44255-98-D-4416	00047	NAVFAC - EFA WEST							
150									

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Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.		FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_000824	12-20-2002		FINAL ASSESSMENT OF INTRINSIC REMEDIATION, VOLUMES I THROUGH IV OF IV (INCLUDES ANALYTICAL DATA - PAPER ONLY, AND RESPONSES TO COMMENTS)	ADMIN RECORD	HANGAR 0001	FRC - PERRIS		PT-181-2010- BX 0001
NONE	11-19-2003	BATTELLE		SENSITIVE	SITE 00001			0453 BX 0002
REPORT	5090.3.A.				SITE 00002	IMAGED		BX 0003
NONE	NONE	NAS FALLON - FALLON, NV			SITE 00003	FALN_001		BX 0004
9056					SITE 00006			BX 0005
					SITE 00014			BX 0006
					SITE 00016			BX 0007
					WELL MW-14			
					WELL MW-15			
					WELL MW-16			
					WELL MW-17			
					WELL MW-19			
					WELL MW-21			
					WELL MW-22			
					WELL MW-23			
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					WELL MW-46			
					WELL MW-47			
					WELL MW-48			
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					WELL MW-50			
					WELL MW-51			
					WELL MW-52			
					WELL MW-53			

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Record Type	SSIC No.	Author	Author Affil.					
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						WELL MW-54 WELL MW-55 WELL MW-56 WELL MW-57 WELL MW-58 WELL MW-63 WELL MW-64 WELL MW-65 WELL MW-66 WELL MW-67 WELL MW-68 WELL MW-69 WELL MW-70 WELL MW-71 WELL MW-72 WELL MW-73 WELL MW-75 WELL MW-76 WELL MW-77 WELL MW-78 WELL MW-79		
<b>AR_N60495_000843</b>	<b>04-01-2003</b>			FINAL FALL 2002 GROUNDWATER SAMPLING DATA REPORT (INCLUDES ANALYTICAL DATA)	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 UST 000395	NAVFAC - SOUTHWEST	
NONE	11-19-2003	THE ENVIRONMENTAL COMPANY, INC						
REPORT	5090.3.A.							
N44255-98-D-4416	00047							
6000		NAVFAC - EFA NORTHWEST						

UIC No. _ Rec. No.	Record Date	Author						
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Record Type	SSIC No.	Recipient						
Contract No.	CTO No.	Recipient Affil.	Subject	Distribution	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)	
AR_N60495_000862	03-24-2004	KRISHNAMOORTH Y, R.	TRANSMITTAL OF THE DRAFT FINAL SAMPLING AND ANALYSIS PLAN [SAP] (FIELD SAMPLING PLAN/QUALITY ASSURANCE PROJECT PLAN [FSP/QAPP]) [W/ ENCLOSED SUBJECT REPORT]	ADMIN RECORD BASE INFO REPOSITORY	SITE 00002 SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER N45F/162	06-08-2004	NAS FALLON - FALLON, NV						
CORRESPONDENCE	5090.3.A.	NARANJO, R.						
NONE	NONE	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
80								
AR_N60495_000864	02-25-2004	R. KRISHNAMOORTH Y	NOTIFICATION OF POTENTIAL DISCHARGE TO SURFACE WATER OF COMPOUNDS FROM AN INSTALLATION RESTORATION PLUME	ADMIN RECORD BASE INFO REPOSITORY	SITE 00006 SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER N45F/090	06-08-2004	NAS FALLON - FALLON, NV						
CORRESPONDENCE	5090.3.A.	R. POWELL						
NONE	NONE	NAVFAC - EFA WEST						
9								
AR_N60495_000865	03-05-2004	KRISHNAMOORTH Y, R.	TRANSMITTAL OF THE SUMMARY OF JANUARY 2004 GROUNDWATER SAMPLING RESULTS DATED 25 FEBRUARY 2004 (W/ ENCLOSED SUBJECT REPORT)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00006 SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER N45F/122	06-08-2004	NAS FALLON - FALLON, NV						
CORRESPONDENCE	5090.3.A.	NARANJO, R.						
NONE	NONE	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
6								
AR_N60495_000866	03-05-2004	ELGES, M.	LETTER REGARDING GROUNDWATER CONTAINMENT SYSTEM PILOT TEST AT SITE 16	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NONE	06-08-2004	NEVADA DIVISION OF						
CORRESPONDENCE	5090.3.A.	ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
NONE	NONE	GOETSCH. B. NAS FALLON - FALLON, NV						
2								

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	Location	FRC Accession No.	
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Approx. # Pages						CD No.	FRC Box No(s)	
AR_N60495_000867	03-16-2004	R. KRISHNAMOORTH Y	DISCHARGE AUTHORIZATION FORM WITH ATTACHMENTS FOR PILOT SYSTEM AT SITE 16	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER N45F/146 MISC NONE 20	06-08-2004 5090.3.A. NONE	NAS FALLON - FALLON, NV T. PELHAM NDEP						
AR_N60495_000869	04-13-2004	R. NARANJO NDEP	REVIEW AND RESPONSE TO NOTIFICATION OF POTENTIAL DISCHARGE TO SURFACE WATER OF COMPOUNDS FROM AN INSTALLATION RESTORATION PLUME	ADMIN RECORD BASE INFO REPOSITORY	SITE 00006 SITE 00016	NAVFAC - SOUTHWEST		
NONE CORRESPONDENCE NONE 2	06-08-2004 5090.3.A. NONE	R. KRISHNAMOORTH Y NAS FALLON						
AR_N60495_000871	05-28-2004	R. KRISHNAMOORTH Y	NOTIFICATION OF PILOT STUDY PLUME CONTAINMENT SYSTEM SHUT DOWN	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NONE CORRESPONDENCE NONE 2	06-08-2004 5090.3.A. NONE	NAS FALLON - FALLON, NV R. NARANJO NDEP						
AR_N60495_000872	04-01-2004	THE ENVIRONMENTAL COMPANY, INC	FINAL DATA REPORT, FALL 2003 GROUNDWATER SAMPLING (INCLUDES ANALYTICAL DATA) COMPLETE RECORD IS 4 FOLDERS	ADMIN RECORD BASE INFO REPOSITORY	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 UST 000395	NAVFAC - SOUTHWEST		
NONE REPORT N44255-98-D-4416 700	06-08-2004 5090.3.A. 00067	NAVAFAC - EFA WEST						
AR_N60495_000873	04-05-2004	OSGOOD, R. THE ENVIRONMENTAL COMPANY, INC	TRANSMITTAL OF THE FINAL DATA REPORT, FALL 2003 GROUNDWATER SAMPLING	ADMIN RECORD BASE INFO REPOSITORY	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 UST 000395	NAVFAC - SOUTHWEST		
NONE CORRESPONDENCE N44255-98-D-4416 1	06-08-2004 5090.3.A. 00067	GALANG, E. NAVFAC - EFA WEST						

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Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse
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<b>AR_N60495_000874</b> NONE CORRESPONDENCE N47408-95-D-0730 500	<b>05-20-2004</b> 06-08-2004 5090.3.A. DO 0137	BATTELLE  NAVFAC - EFA WEST	FINAL WORK PLAN (WP) FOR A GROUNDWATER CONTAINMENT PILOT STUDY	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
<b>AR_N60495_000875</b> NONE CORRESPONDENCE N68711-01-D-6009 1	<b>05-21-2004</b> 06-08-2004 5090.3.A. NONE	KELLEY, M. BATTELLE DEVERIN, C. NAS FALLON - FALLON, NV	TRANSMITTAL OF THE DRAFT WORK PLAN FOR A GROUNDWATER CONTAINMENT PILOT STUDY	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
<b>AR_N60495_000885</b> NONE CORRESPONDENCE NONE 2	<b>03-25-2004</b> 06-08-2004 5090.3.A. NONE	KING, V. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV	REQUIRES NAS FALLON TO DETERMINE THE SOURCE OF CONTAMINANTS THAT HAVE BEEN IDENTIFIED IN THE DIAGONAL DRAIN CONVEYANCE SYSTEM	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
<b>AR_N60495_000886</b> NONE CORRESPONDENCE NONE 2	<b>04-15-2004</b> 06-08-2004 5090.3.A. NONE	NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV	REVIEW AND COMMENTS ON THE SUMMARY OF JANUARY 2004 GROUNDWATER SAMPLING RESULTS DATED 25 FEBRUARY 2004	ADMIN RECORD BASE INFO REPOSITORY	SITE 00006 SITE 00016	NAVFAC - SOUTHWEST	
<b>AR_N60495_000888</b> NONE CORRESPONDENCE N47408-95-D-0730 31	<b>02-27-2004</b> 06-08-2004 5090.3.A. DO 0137	BATTELLE  NAVFAC - EFA WEST	DRAFT WORK PLAN FOR A GROUNDWATER CONTAINMENT PILOT STUDY AT SITE 16	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	

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Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	Location	FRC Accession No.	
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AR_N60495_000889	02-27-2004	KRISHNAMOORTH Y, R.	TRANSMITTAL OF THE DRAFT WORK PLAN FOR A GROUNDWATER CONTAINMENT PILOT STUDY	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER N45F/0017 CORRESPONDENCE NONE 1	06-08-2004 5090.3.A. NONE	NAS FALLON - FALLON, NV NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
AR_N60495_000890	03-23-2004	NARANJO, R.	REVIEW AND COMMENTS ON THE DRAFT WORK PLAN FOR A GROUNDWATER CONTAINMENT PILOT STUDY AT SITE 16	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NONE CORRESPONDENCE NONE 2	06-08-2004 5090.3.A. NONE	ENVIRONMENTAL PROTECTION - CARSON CITY, NV KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV						
AR_N60495_000891	04-23-2004	T. MAIZE	LETTER REGARDING SUSPECTED CONTAMINATED GROUNDWATER DISCHARGE INTO UNNAMED DRAIN.	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NONE CORRESPONDENCE NONE 2	06-08-2004 5090.3.A. NONE	NDEP R. KRISHNAMOORTH Y NAVFAC - EFA WEST						
AR_N60495_000892	05-27-2004	J. FARRY	RESPONSE TO LETTER OF 23 APRIL 2004 REGARDING THE SUSPECTED CONTAMINATED GROUNDWATER DISCHARGE INTO UNNAMED DRAIN	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
EFAW SER 052JF04/101 CORRESPONDENCE NONE 2	06-08-2004 5090.3.A. NONE	NAVFAC - EFA WEST T. MAIZE NDEP						

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<b>AR_N60495_000895</b>	<b>02-07-2003</b>	R. KRISHNAMOORTH	SUMMARY OF DISCUSSION BETWEEN THE NAVY AND NEVADA DEPARTMENT CONSERVATION AND NATURAL RESOURCES DIVISION OF ENVIRONMENTAL PROTECTION (NDEP) DURING THE 09 JANUARY 2003 MEETING	ADMIN RECORD BASE INFO REPOSITORY	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER N45F/067 CORRESPONDENCE NONE 4	11-01-2004 5090.3.A. NONE	NAS FALLON - FALLON, NV R. NARANJO NDEP						
<b>AR_N60495_000907</b>	<b>06-18-2004</b>	R. KRISHNAMOORTH	UPDATE FOR PLUME CONTAINMENT SYSTEM PILOT STUDY	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER N45FCW/0312 CORRESPONDENCE NONE 7	11-01-2004 5090.3.A. NONE	NAS FALLON - FALLON, NV R. NARANJO NDEP						
<b>AR_N60495_000908</b>	<b>06-23-2004</b>	BATTELLE	DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, REPORT 1: MAY 1- MAY 31, 2004	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NONE REPORT N68711-01-D-6009 70	11-01-2004 5090.3.A. DO 0009	NAVFAC - EFA WEST						
<b>AR_N60495_000909</b>	<b>06-28-2004</b>	R. KRISHNAMOORTH	PILOT STUDY PLUME CONTAINMENT SYSTEM - NOTIFICATION OF PRIMARY CARBON BREAKTHROUGH	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER N45F/0316 CORRESPONDENCE NONE 4	11-01-2004 5090.3.A. NONE	NAS FALLON - FALLON, NV T. PELHAM NDEP						
<b>AR_N60495_000910</b>	<b>06-30-2004</b>	KRISHNAMOORTH	TRANSMITTAL OF THE DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, REPORTING PERIOD: MAY 2004	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER N45F/321 CORRESPONDENCE NONE 1	11-01-2004 5090.3.A. NONE	Y, R. NAS FALLON - FALLON, NV NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						

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AR_N60495_000914	07-20-2004	R. NARANJO	REVIEW OF SUMMARY OF SURFACE	ADMIN RECORD	SITE 00016	NAVFAC -		
NONE	11-01-2004	NDEP	WATER SAMPLING RESULTS - SPRING 2004	BASE		SOUTHWEST		
CORRESPONDENCE	5090.3.A.	R.		INFO REPOSITORY				
NONE	NONE	KRISHNAMOORTH						
2		Y						
		NAS FALLON						
AR_N60495_000915	07-29-2004	KRISHNAMOORTH	TRANSMITTAL OF THE 1) PRESENTATION	ADMIN RECORD	SITE 00002	NAVFAC -		
NAS FALLON SER	11-01-2004	Y, R.	HANDOUTS FROM 22 JULY 2004	BASE	SITE 00016	SOUTHWEST		
N45FCS/0409	5090.3.A.	NAS FALLON -	RESTORATION ADVISORY BOARD (RAB)	INFO REPOSITORY	SITE 00018			
MINUTES	NONE	FALLON, NV	MEETING, AND 2) 22 JULY 2004					
NONE		FARRY, J.	RESTORATION ADVISORY BOARD (RAB)					
16		NAVFAC - EFA	MEETING MINUTES [W/ENCLOSURES]					
		WEST						
AR_N60495_000921	08-01-2004		DRAFT ACTION MEMORANDUM/REMOVAL	ADMIN RECORD	SITE 00016	NAVFAC -		
NONE	11-03-2004	BATTELLE	ACTION WORK PLAN FOR REMOVAL	BASE		SOUTHWEST		
CORRESPONDENCE	5090.3.A.		ACTION	INFO REPOSITORY				
NONE	NONE	NAS FALLON -						
30		FALLON, NV						
AR_N60495_000922	08-12-2004	KRISHNAMOORTH	TRANSMITTAL OF THE DRAFT ACTION	ADMIN RECORD	SITE 00016	NAVFAC -		
NONE	11-03-2004	Y, R.	MEMORANDUM/REMOVAL ACTION WORK	BASE		SOUTHWEST		
CORRESPONDENCE	5090.3.A.	NAS FALLON -	PLAN FOR REMOVAL ACTION AT SITE 16	INFO REPOSITORY				
NONE	NONE	FALLON, NV	(SEE AR #921 - DRAFT WORK PLAN)					
1		NARANJO, R.						
		NEVADA DIVISION						
		OF						
		ENVIRONMENTAL						
		PROTECTION -						
		CARSON CITY, NV						
AR_N60495_000923	08-05-2004	R. NARANJO	REVIEW OF UPDATE FOR PLUME	ADMIN RECORD	SITE 00016	NAVFAC -		
NONE	11-03-2004	NDEP	CONTAINMENT SYSTEM PILOT STUDY FOR	BASE		SOUTHWEST		
CORRESPONDENCE	5090.3.A.	R.	SITE 16, LETTER DATED 18 JUNE 2004	INFO REPOSITORY				
NONE	NONE	KRISHNAMOORTH						
1		Y						
		NAS FALLON						

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AR_N60495_000925	08-17-2004	PELHAM, T.	REVIEW AND COMMENTS ON THE DRAFT ACTION MEMORANDUM/REMOVAL ACTION WORK PLAN FOR REMOVAL ACTION AT SITE 16	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NONE	11-03-2004	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
CORRESPONDENCE	5090.3.A.	FARRY, J.						
NONE	NONE	NAVFAC - EFA WEST						
2								
AR_N60495_000927	08-24-2004	KRISHNAMOORTH Y, R.	TRANSMITTAL OF THE DRAFT ACTION MEMORANDUM/REMOVAL ACTION WORK PLAN FOR REMOVAL ACTION AT SITE 16 (SEE AR #921 - DRAFT WORK PLAN)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER	11-03-2004	NAS FALLON - FALLON, NV						
N45FCW/497	5090.3.A.	NARANJO, R.						
CORRESPONDENCE	NONE	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
NONE								
1								
AR_N60495_000928	08-25-2004	KRISHNAMOORTH Y, R.	TRANSMITTAL OF THE DRAFT ACTION MEMORANDUM/REMOVAL ACTION WORK PLAN FOR REMOVAL ACTION AT SITE 16 (SEE AR #921 - DRAFT WORK PLAN)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER	11-03-2004	NAS FALLON - FALLON, NV						
N45FCW/499	5090.3.A.	PELHAM, T.						
CORRESPONDENCE	NONE	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
NONE								
1								
AR_N60495_000929	08-26-2004	R. KRISHNAMOORTH Y	NOTIFICATION TO DISCONTINUE AIR DISCHARGE FROM GROUNDWATER CONTAINMENT SYSTEM PILOT TEST AT SITE 16	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER	11-03-2004	NAS FALLON - FALLON, NV						
N45FCW/515	5090.3.A.	K. REGAN						
CORRESPONDENCE	NONE	NDEP						
NONE								
1								

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Doc. Control No.	Prc. Date	Author Affil.					
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse
Contract No.	CTO No.	Recipient Affil.				CD No.	FRC Box No(s)
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AR_N60495_000931	08-27-2004	R. KRISHNAMOORTH Y	UPDATE OF PLUME CONTAINMENT SYSTEM PILOT STUDY FOR SITE 16	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
NAS FALLON SER N45FCW/0518	11-03-2004 5090.3.A.	NAS FALLON - FALLON, NV					
CORRESPONDENCE NONE	NONE	R. NARANJO NDEP					
7							
AR_N60495_000932	08-27-2004	R. KRISHNAMOORTH Y	REQUEST FOR MODIFICATION OF DISCHARGE LIMIT FOR TOTAL PETROLEUM HYDROCARBONS IN AQUEOUS EFFLUENT FROM GROUNDWATER CONTAINMENT SYSTEM AT SITE 16	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
NAS FALLON SER N45FCW/0517	11-03-2004 5090.3.A.	NAS FALLON - FALLON, NV					
CORRESPONDENCE NONE	NONE	T. PELHAM NDEP					
4							
AR_N60495_000933	08-30-2004	T. PELHAM NDEP	DISCHARGE SANCTION - NEV2004505, TIME CRITICAL REMOVAL ACTION, GROUNDWATER CONTAINMENT SYSTEM, SITE 16, TREATED WATER INFILTRATION	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
NONE	11-03-2004	R. KRISHNAMOORTH Y					
CORRESPONDENCE	5090.3.A.	NAS FALLON					
NONE	NONE						
4							
AR_N60495_000934	08-31-2004	NARANJO, R.	REVIEW AND COMMENTS ON THE DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, REPORTING PERIOD: MAY 2004	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
NONE	11-03-2004	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV					
CORRESPONDENCE	5090.3.A.	KRISHNAMOORTH Y, R.					
NONE	NONE	NAS FALLON - FALLON, NV					
2							
AR_N60495_000937	08-26-2004	BATTELLE	DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, REPORT 2: JUNE 1 - JULY 31, 2004 (SEE AR #938 - TRANSMITTAL LETTER)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
NONE	11-03-2004	NAVAFAC - EFA WEST					
REPORT	5090.3.A.						
N68711-01-D-6009	DO 0009						
50							

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Approx. # Pages						CD No.	FRC Box No(s)	
AR_N60495_000938 NAS FALLON SER N45FCS/534 CORRESPONDENCE NONE 1	09-03-2004 11-03-2004 5090.3.A. NONE	KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV	TRANSMITTAL OF THE DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, REPORTING PERIOD: JUNE 1 - JULY 31, 2004 (SEE AR #937 - DISCHARGE MONITORING REPORT)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
AR_N60495_000939 NAS FALLON SER N45FCW/542 CORRESPONDENCE NONE 10	09-10-2004 11-03-2004 5090.3.A. NONE	R. KRISHNAMOORTH Y NAS FALLON - FALLON, NV K. REGAN NDEP	RESULTS OF VAPOR PHASE SAMPLING CONDUCTED DURING THE GROUNDWATER CONTAINMENT SYSTEM PILOT TEST AT SITE 16	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
AR_N60495_000942 NONE CORRESPONDENCE NONE 40	09-01-2004 11-03-2004 5090.3.A. NONE	BATTELLE  NAS FALLON - FALLON, NV	FINAL ACTION MEMORANDUM/REMOVAL ACTION WORK PLAN FOR REMOVAL ACTION	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
AR_N60495_000943 DS.B045.14458 CORRESPONDENCE N68711-03-D-5104 200	10-01-2004 11-03-2004 5090.3.A. 00045	DOBREI, C. SULTECH  NAVFAC - EFA WEST	DRAFT WORK PLAN ANNUAL GROUNDWATER MONITORING (SEE AR #946 - TRANSMITTAL LETTER)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 SITE 00020 SITE 00021 SITE 00022	NAVFAC - SOUTHWEST		

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	Location	FRC Accession No.	
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Approx. # Pages						CD No.	FRC Box No(s)	
AR_N60495_000956 NONE CORRESPONDENCE NONE 2	12-02-2004 04-14-2005 5090.3.A. NONE	NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV	REVIEW AND COMMENTS ON THE DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM AT SITE 16, REPORTING PERIOD AUGUST - SEPTEMBER 2004, DATED 29 OCTOBER 2004 (AR # 1023) (SEE AR # 1022 FOR SUBMISSION TO NDEP)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
AR_N60495_000961 DS.B045.14459 REPORT N68711-03-D-5104 150	01-01-2005 04-14-2005 5090.3.A. 00045	DOBREI, C. SULTECH  NAVFAC - IPT WEST	FINAL WORK PLAN ANNUAL GROUNDWATER MONITORING FOR SITES 1, 2, 3, 6, 14, 16, 20, 21 AND 22 (INCLUDES ELECTRONIC PDF VERSION ON CD) [SEE AR #1046 - DRAFT ADDENDUM 02 WORK PLAN ANNUAL GROUNDWATER MONITORING]	ADMIN RECORD BASE INFO REPOSITORY	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 SITE 00020 SITE 00021 SITE 00022	NAVFAC - SOUTHWEST		
AR_N60495_000962 NONE CORRESPONDENCE NONE 2	03-09-2005 04-14-2005 5090.3.A. NONE	NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV	REVIEW AND COMMENTS ON THE DRAFT WORK PLAN FOR A GROUNDWATER CONTAINMENT PILOT STUDY AT SITE 16, DATED MAY 2004 (SEE AR # 874)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
AR_N60495_000969 IPT WEST SER 05/476 CORRESPONDENCE NONE 9	04-06-2005 04-14-2005 5090.3.A. NONE	FARRY, J. NAVFAC - IPT WEST NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV	IDENTIFICATION OF STATE APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS) FOR SITES 1, 14 AND 16	ADMIN RECORD BASE INFO REPOSITORY	SITE 00001 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient						
Contract No.	CTO No.	Recipient Affil.	Subject	Distribution	Sites	Location	FRC Accession No.	
Approx. # Pages						SWDIV Box No(s)	FRC Warehouse	
						CD No.	FRC Box No(s)	
<b>AR_N60495_000973</b> DS.B056.19534 REPORT N68711-03-D-5104 50	<b>01-26-2005</b> 04-14-2005 5090.3.A. 00056	DOBREI, C. SULTECH  NAVFAC - IPT WEST	FINAL SITE 16 TECHNICAL REVIEW AND ALTERNATIVES REPORT	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
<b>AR_N60495_000975</b> NONE REPORT N68711-01-D-6009 175	<b>03-01-2005</b> 04-14-2005 5090.3.A. NONE	BATTELLE  NAVFAC - IPT WEST	FINAL GROUNDWATER CONTAINMENT SYSTEM	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST		
<b>AR_N60495_000976</b> DS.B045.14460 AND DS.B045.14460-1 REPORT N68711-03-D-5104 175	<b>04-01-2005</b> 04-14-2005 5090.3.A. 00045	DELA BARRE, B. SULTECH  NAVFAC - IPT WEST	2004 ANNUAL GROUNDWATER MONIORING PRELIMINARY DATA SUMMARY REPORT (INCLUDES REPLACEMENT PAGES AND NEW COVER PAGE TO REFLECT A NEW DATE FROM MARCH 2005 TO APRIL 2005)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00001 SITE 00002 SITE 00004 SITE 00006 SITE 00014 SITE 00016 SITE 00020	NAVFAC - SOUTHWEST		
<b>AR_N60495_001022</b> NAS FALLON SER N45FCW/0652 CORRESPONDENCE NONE 1	<b>10-29-2004</b> 04-14-2005 5090.3.A. NONE	KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV SILSBY, D. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV	TRANSMITTAL OF THE DISCHARGE MONITORING REPORT FOR GROUNDWATER CONTAINMENT SYSTEM, REPORT 3: 1 AUGUST - 30 SEPTEMBER 2004	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
<b>AR_N60495_001023</b> NONE REPORT N68711-01-D-6009 45	<b>10-28-2004</b> 04-14-2005 5090.3.A. DO 0009	BATELLE MEMORIAL INSTITUTE  NAVFAC - IPT WEST	DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, REPORT 3: 1 AUGUST - 30 SEPTEMBER 2004	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		

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Doc. Control No.	Prc. Date	Author Affil.					Location	FRC Accession No.
Record Type	SSIC No.	Recipient		Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse
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AR_N60495_001024 NONE CORRESPONDENCE NONE 1	11-01-2004 04-14-2005 5090.3.A. NONE	KRISHNAMOORTH Y, R. NAS FALLON, NV SILSBY, D. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV		TRANSMITTAL OF THE DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, REPORT 2: 1 MAY - 31 JULY 2004 (W/OUT ENCLOSURE)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
AR_N60495_001025 DS.B050.19624 REPORT N68711-03-D-5104 22	04-13-2005 08-22-2005 5090.3.A. NONE	NAVAFAC - IPT WEST		DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, SITE 16: 1ST QUARTER 2005	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
AR_N60495_001026 NAS FALLON SER N45FCW/0151 CORRESPONDENCE NONE 1	04-28-2005 08-22-2005 5090.3.A. NONE	KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV SILSBY, D. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV		TRANSMITTAL OF THE DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, SITE 16: REPORTING PERIOD 01 JANUARY - 31 MARCH 2005 (SEE AR #1027 - REPORT)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
AR_N60495_001027 DS.B050.19625 REPORT N68711-03-D-5104 30	04-27-2005 08-22-2005 5090.3.A. 00050	SULTECH  NAVAFAC - IPT WEST		FINAL DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, SITE 16: 1ST QUARTER 2005 (01 JANUARY - 31 MARCH 2005) (SEE AR #1026 - TRANSMITTAL LETTER)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
AR_N60495_001028 DS.050.19626 REPORT N68711-03-D-5104 30	07-07-2005 08-22-2005 5090.3.A. 00050	SULTECH  NAVAFAC - IPT WEST		DRAFT DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, SITE 16: 2ND QUARTER 2005 (01 APRIL - 30 JUNE 2005)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	

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Doc. Control No.	Prc. Date	Author Affil.					Location	FRC Accession No.
Record Type	SSIC No.	Recipient		Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse
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AR_N60495_001029	07-26-2005	KRISHNAMOORTH Y, R.		DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, SITE 16: REPORTING PERIOD 01 APRIL - 30 JUNE 2005 (SEE AR #1030 - REPORT)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
NAS FALLON SER N45FCW/306 CORRESPONDENCE NONE 1	08-22-2005 5090.3.A. NONE	NAS FALLON - FALLON, NV HOGAN, J. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
AR_N60495_001030	07-22-2005	SULTECH		FINAL DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, SITE 16: 2ND QUARTER 2005 (01 APRIL - 30 JUNE 2005) (SEE AR #1029 - NAS FALLON TRANSMITTAL LETTER)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
DS.B050.19627 REPORT N68711-03-D-5104 30	08-22-2005 5090.3.A. 00050	NAVAFAC - SOUTHWEST DIVISION						
AR_N60495_001033	04-19-2005	BATTELLE		FINAL GROUNDWATER CONTAINMENT SYSTEM	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
NONE REPORT NONE 200	08-22-2005 5090.3.A. NONE	NAVAFAC - EFA WEST						
AR_N60495_001036	08-25-2005	BATTELLE		SUMMARY OF REVISIONS/ADDENDUMS TO THE FINAL WORK PLAN (WP) FOR A GROUNDWATER (GW) PILOT STUDY (SEE AR #874 - FINAL WP FOR GW PILOT STUDY)(DOCUMENT UNDATED, PROCESS DATE USED AS RECORD DATE)	ADMIN RECORD	SITE 00016	NAVFAC - SOUTHWEST	
NONE MISC NONE 20	08-25-2005 5090.3.A. NONE	NAVAFAC - EFA WEST						
AR_N60495_001038	08-09-2005	NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV		REVIEW AND COMMENTS ON THE FINAL REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
NONE CORRESPONDENCE NONE 2	11-01-2005 5090.3.A. NONE							

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Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	Location	FRC Accession No.	
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Approx. # Pages						CD No.	FRC Box No(s)	
<b>SF_N60495_001042</b>	<b>08-01-2005</b>	T. PELHAM	DRAFT WORK PLAN ANNUAL	SITE FILE	SITE 00001	NAVFAC -		
DS.B054.19897	11-21-2005	SULTECH	GROUNDWATER MONITORING (CD COPY		SITE 00002	SOUTHWEST		
REPORT	5090.3.C.		ENCLOSED) [INCLUDES SAMPLING AND		SITE 00003			
N68711-03-D-5104	00054	NAVFAC - IPT	ANALYSIS PLAN (SAP) & HEALTH AND		SITE 00006			
250		WEST	SAFETY PLAN (HSP)]		SITE 00014			
					SITE 00016			
<b>AR_N60495_001043</b>	<b>10-06-2005</b>	T. PELHAM	DRAFT DISCHARGE MONITORING REPORT	ADMIN RECORD	SITE 00016	NAVFAC -		
DS.B050.19628	11-21-2005	SULTECH	FOR THE GROUNDWATER CONTAINMENT	BASE		SOUTHWEST		
REPORT	5090.3.A.		SYSTEM, 3RD QUARTER 2005	INFO REPOSITORY				
N68711-03-D-5104	00050	NAVFAC - IPT						
20		WEST						
<b>AR_N60495_001044</b>	<b>10-13-2005</b>	T. PELHAM	FINAL DISCHARGE MONITORING REPORT	ADMIN RECORD	SITE 00016	NAVFAC -		
DS.B050.19629	11-21-2005	SULTECH	FOR THE GROUNDWATER CONTAINMENT	BASE		SOUTHWEST		
REPORT	5090.3.A.		SYSTEM, 3RD QUARTER 2005	INFO REPOSITORY				
N68711-03-D-5104	00050	NAVFAC - IPT						
20		WEST						
<b>AR_N60495_001046</b>	<b>09-01-2005</b>	PELHAM, T.	DRAFT ADDENDUM 02 WORK PLAN	ADMIN RECORD	SITE 00016	NAVFAC -		
DS.B050.19633	11-21-2005	SULTECH	ANNUAL GROUNDWATER MONITORING,		WELL MW-16-3	SOUTHWEST		
REPORT	5090.3.A.		MONITORING WELL INSTALLATION AND			CHECKED OUT BY		
N68711-03-D-5104	00050	NAVFAC - IPT	TEST BORING EVALUATION (SEE AR #961 -			ERIC GREEN ON		
250		WEST	FINAL WORK PLAN ANNUAL			1/6/05 (X 2-1021)		
			GROUNDWATER MONITORING)					
<b>AR_N60495_001047</b>	<b>10-01-2005</b>	T. PELHAM	FINAL WORK PLAN ANNUAL	ADMIN RECORD	SITE 00001	NAVFAC -		
DS.B054.19898	12-28-2005	SULTECH	GROUNDWATER MONITORING (CD COPY		SITE 00002	SOUTHWEST		
REPORT	5090.3.A.		ENCLOSED)		SITE 00003	CHECKED OUT BY		
N68711-03-D-5104	00054	NAVFAC - IPT			SITE 00006	ERIC GREEN ON		
250		WEST			SITE 00014	1/6/05 (X 2-1021)		
					SITE 00016			

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Record Type	SSIC No.	Recipient						
Contract No.	CTO No.	Recipient Affil.	Subject	Distribution	Sites	Location	FRC Accession No.	
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<b>AR_N60495_001051</b>	<b>08-01-2003</b>							
NONE	05-09-2006	BATTELLE	TREND ANALYSIS AND UPDATED PLUME ASSESSMENT (CD COPY ENCLOSED)	ADMIN RECORD	SITE 00001	NAVFAC -		
REPORT	5090.3.A.				SITE 00002	SOUTHWEST		
N47408-01-D-8207	00056	NAVFAC - EFA			SITE 00003			
150		WEST			SITE 00006			
					SITE 00014			
					SITE 00016			
<b>AR_N60495_001052</b>	<b>10-31-2003</b>							
NONE	05-09-2006	BATTELLE	FINAL TREND ANALYSIS AND UPDATED PLUME ASSESSMENT (INCLUDES RESPONSE TO COMMENTS ON TREND ANALYSIS AND UPDATED PLUME ASSESSMENT DATED AUGUST 2003) [CD COPY ENCLOSED]	ADMIN RECORD	SITE 00001	NAVFAC -		
REPORT	5090.3.A.				SITE 00002	SOUTHWEST		
N47408-01-D-8207	00056	NAVFAC - EFA			SITE 00003			
200		WEST			SITE 00006			
					SITE 00014			
					SITE 00016			
<b>AR_N60495_001053</b>	<b>11-25-2003</b>							
NONE	05-09-2006	BATTELLE	DRAFT DATA SUMMARY AND RECOMMENDATIONS REPORT RELATED TO FOCUSED FEASIBILITY STUDY FOR INSTALLATION RESTORATION SITES	ADMIN RECORD	SITE 00001	NAVFAC -		
REPORT	5090.3.A.				SITE 00002	SOUTHWEST		
N47408-01-D-8207/02	00002	NAVFAC - EFA			SITE 00003			
400		WEST			SITE 00006			
					SITE 00014			
					SITE 00016			
<b>AR_N60495_001059</b>	<b>10-29-2004</b>							
DS.B056.19533	05-10-2006	DOBREI, C.	DRAFT TECHNICAL REVIEW AND ALTERNATIVES REPORT	ADMIN RECORD	SITE 00016	NAVFAC -		
REPORT	5090.3.A.	SULTECH				SOUTHWEST		
N68711-03-D-5104	00056	NAVFAC -						
30		SOUTHWEST						
		DIVISION						
<b>AR_N60495_001060</b>	<b>04-25-2005</b>							
NONE	05-10-2006	R. NARANJO	RESPONSE TO REQUEST FOR IDENTIFICATION OF APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS) FOR A FOCUSED FEASIBILITY STUDY	ADMIN RECORD	SITE 00001	NAVFAC -		
CORRESPONDENCE	5090.3.A.	NDEP			SITE 00014	SOUTHWEST		
NONE	NONE	J. FARRY			SITE 00016			
2		NAVFAC - IPT						
		WEST						

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Contract No.	CTO No.	Recipient Affil.						
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AR_N60495_001069	01-01-2002		INSTALLATION RESTORATION PROGRAM	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	06-07-2006	NAS FALLON -	2002 - 2003		SITE 00002		SOUTHWEST	
PUBLIC NOTICE	5090.3.A.	FALLON, NV			SITE 00003			
NONE	NONE				SITE 00004			
12		PUBLIC INTEREST			SITE 00005			
					SITE 00006			
					SITE 00007			
					SITE 00008			
					SITE 00009			
					SITE 00010			
					SITE 00011			
					SITE 00012			
					SITE 00013			
					SITE 00014			
					SITE 00015			
					SITE 00016			
					SITE 00017			
					SITE 00018			
					SITE 00019			
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					SITE 00027			

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Contract No.	CTO No.	Recipient Affil.						
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<b>AR_N60495_001070</b>	<b>07-27-2005</b>		27 JULY 2005 RESTORATION ADVISORY BOARD (RAB) [INCLUDES AGENDA AND VARIOUS PRESENTATIONS]	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	06-07-2006	NAS FALLON - FALLON, NV			SITE 00002		SOUTHWEST	
PUBLIC NOTICE	5090.3.A.				SITE 00003			
NONE	NONE				SITE 00004			
24		PUBLIC INTEREST			SITE 00005			
					SITE 00006			
					SITE 00007			
					SITE 00008			
					SITE 00009			
					SITE 00010			
					SITE 00011			
					SITE 00012			
					SITE 00013			
					SITE 00014			
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					SITE 00027			

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Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
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<b>AR_N60495_001071</b>	<b>11-01-2005</b>	DICK, A.	ENVIRONMENTAL RESTORATION	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	06-07-2006	NAVFAC -	PROGRAM OVERVIEW (INCLUDES		SITE 00002		SOUTHWEST	
PUBLIC NOTICE	5090.3.A.	SOUTHWEST	VARIOUS PRESENTATIONS)		SITE 00003			
NONE	NONE				SITE 00004			
15		PUBLIC INTEREST			SITE 00005			
					SITE 00006			
					SITE 00007			
					SITE 00008			
					SITE 00009			
					SITE 00010			
					SITE 00011			
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					SITE 00026			
					SITE 00027			
<b>AR_N60495_001075</b>	<b>10-26-2006</b>		QUARTERLY STATUS REPORT,	ADMIN RECORD	SITE 00016		NAVFAC -	
NONE	11-16-2006	NAS FALLON -	GROUNDWATER CONTAINMENT SYSTEM,	BASE			SOUTHWEST	
REPORT	5090.3.A.	FALLON, NV	3RD QUARTER 2006	INFO REPOSITORY				
N68711-03-D-5104	NONE	E. GREEN						
5		NAVFAC -						
		SOUTHWEST						

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<b>AR_N60495_001076</b> DS.B050.20656 REPORT N68711-03-D-5104 75	<b>10-26-2006</b> 11-16-2006 5090.3.A. 00050	S. BRADLEY SULTECH E. GREEN NAVFAC - SOUTHWEST	FINAL DISCHARGE MONITORING REPORT, GROUNDWATER CONTAINMENT SYSTEM, 3RD QUARTER 2006	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
<b>AR_N60495_001079</b> SW SER OPDE.EG/7013 CORRESPONDENCE NONE 1	<b>01-26-2007</b> 02-13-2007 5090.3.A. NONE	GREEN, E. NAVFAC - SOUTHWEST  NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV	TRANSMITTAL OF THE DISCHARGE MONITORING REPORT, REPORTING PERIOD: OCTOBER 1 - DECEMBER 31, 2006 (W/OUT ENCLOSURE) [SEE AR #1080 - DISCHARGE MONITORING REPORT]	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
<b>AR_N60495_001080</b> DS.B050.20658 REPORT N68711-03-D-5104 70	<b>01-23-2007</b> 02-13-2007 5090.3.A. 00050	R. KRISHNAMOORTH Y NAS FALLON - FALLON, NV E. GREEN NAVFAC - SOUTHWEST DIVISION	FINAL DISCHARGE MONITORING REPORT, GROUNDWATER CONTAINMENT SYSTEM, 4TH QUARTER 2006 (SEE AR #1079 - NAVFACSW TRANSMITTAL LETTER BY E. GREEN)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
<b>AR_N60495_001081</b> SW SER OPDE.EG/7014 CORRESPONDENCE NONE 1	<b>01-26-2007</b> 02-13-2007 5090.3.A. NONE	GREEN, E. NAVFAC - SOUTHWEST NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV	TRANSMITTAL OF THE QUARTERLY STATUS REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM (W/OUT ENCLOSURE) [SEE AR #1082 - QUARTERLY STATUS REPORT]	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		

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<b>AR_N60495_001082</b> DS.B050.20658 REPORT N68711-03-D-5104 7	<b>01-24-2007</b> 02-13-2007 5090.3.A. 00050	R. KRISHNAMOORTH Y NAS FALLON - FALLON, NV E. GREEN NAVFAC - SOUTHWEST	QUARTERLY STATUS REPORT, GROUNDWATER CONTAINMENT SYSTEM, 4TH QUARTER 2006 (SEE AR #1081 - NAVFACSW TRANSMITTAL LETTER BY E. GREEN)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
<b>AR_N60495_001085</b> DS.B050.20654 REPORT N68711-03-D-5104 150	<b>07-24-2006</b> 02-23-2007 5090.3.A. 00050	SULTECH E. GREEN NAVFAC - SOUTHWEST DIVISION	FINAL DISCHARGE MONITORING REPORT, GROUNDWATER CONTAINMENT SYSTEM, 2ND QUARTER REPORT 2006	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
<b>AR_N60495_001104</b> NONE REPORT N44255-02-D-2008 175	<b>02-11-2004</b> 03-02-2007 5090.3.A. DO 013	NAS FALLON - FALLON, NV  NAVFAC - EFA WEST	FINAL HEALTH AND SAFETY PLAN (HASP) FOR THE INSTALLATION RESTORATION PROGRAM (IRP)	ADMIN RECORD	SITE 00001 SITE 00002 SITE 00003 SITE 00004 SITE 00006 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		
<b>AR_N60495_001118</b> SULT.5104.0050.000 1 REPORT N68711-03-D-5104 25	<b>06-25-2007</b> 08-02-2007 5090.3.A. 00050	T. PELHAM SULTECH  NAVFAC - SOUTHWEST DIVISION	FINAL WORK PLAN FOR WELL INSTALLATION AND ABANDONMENT	ADMIN RECORD BASE INFO REPOSITORY	SITE 00001 SITE 00003 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
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Approx. # Pages						CD No.	FRC Box No(s)	
<b>AR_N60495_001123</b>	<b>08-31-2007</b>							
SULT.5104.0051.0005	11-13-2007	SULTECH	FINAL WORK PLAN REMEDIAL INVESTIGATION ADDENDUM FOR ACTIVE SITES (CD COPY ENCLOSED)	ADMIN RECORD BASE	SITE 00001 SITE 00002 SITE 00003 SITE 00004 SITE 00006 SITE 00014 SITE 00016 SITE 00018 UST R395 UST R800	NAVFAC - SOUTHWEST		
REPORT N68711-03-D-5104 150	5090.3.A. 00051	NAVFAC - SOUTHWEST						
<b>AR_N60495_001124</b>	<b>06-25-2007</b>							
RBAE.4302.7016.0004	02-26-2008	SHIELDS, T. RICHARD BRADY & ASSOCIATES	FINAL REPORT OF SCAPS LASER INDUCED FLUORESCENCE INVESTIGATION (CD COPY ENCLOSED)	ADMIN RECORD BASE	SITE 00001 SITE 00002 SITE 00014 SITE 00016 UST 000395 UST 000806	NAVFAC - SOUTHWEST		
REPORT N68711-03-D-4302 800	5090.3.A. DO 237716 OP	NAVFAC - SOUTHWEST						
<b>AR_N60495_001125</b>	<b>11-26-2007</b>							
SW SER OPDE.EG/7201 CORRESPONDENCE NONE 1	03-07-2008	GREEN, E. NAVFAC - SOUTHWEST HOGAN, J. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV	TRANSMITTAL OF THE FINAL PLUME CONTAINMENT SYSTEM, EVALUATION TECHNICAL MEMORANDUM (W/OUT ENCLOSURE) [SEE AR # 1126 - FINAL PLUME CONTAMINATION SYSTEM, EVALUATION TECHNICAL MEMORANDUM]	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST		
	5090.3.A. NONE							
<b>AR_N60495_001126</b>	<b>11-28-2007</b>							
TTEM.0055.0300.0014	03-07-2008	DE ANGELIS, B. TETRA TECH EM, INC.	FINAL PLUME CONTAINMENT SYSTEM, EVALUATION TECHNICAL MEMORANDUM (CD COPY ENCLOSED) [SEE AR # 1125 - NAVFAC SW TRANSMITTAL LETTER]	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST		
REPORT N62467-04-D-0055 90	5090.3.A. CTO 0300	NAVFAC - SOUTHWEST						

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient					Location	FRC Accession No.
Contract No.	CTO No.	Recipient Affil.	Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse	FRC Box No(s)
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<b>AR_N60495_001127</b>	<b>04-02-2007</b>	GREEN, E.	TRANSMITTAL OF THE DRAFT PLUME CONTAINMENT SYSTEM, EVALUATION TECHNICAL MEMORANDUM, AND NOTICE OF INTENT FOR PERMANENT SHUTOFF (W/OUT ENCLOSURE) [SEE AR # 1128 - DRAFT PLUME CONTAMINATION SYSTEM, EVALUATION TECHNICAL MEMORANDUM]	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST		
SW SER OPDE.EG/7054 CORRESPONDENCE NONE 8	03-17-2008 5090.3.A. NONE	NAVFAC - SOUTHWEST NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
<b>AR_N60495_001128</b>	<b>03-30-2007</b>	MONKS, K.	DRAFT PLUME CONTAINMENT SYSTEM, EVALUATION TECHNICAL MEMORANDUM (CD COPY ENCLOSED) [SEE AR # 1127 - NAVFAC SW TRANSMITTAL LETTER]	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST		
TC.C300.1236.1 REPORT N62467-04-D-0055 60	03-17-2008 5090.3.A. CTO 0300	TETRA TECH EM, INC.  NAVFAC - SOUTHWEST						

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<b>AR_N60495_001138</b>	<b>08-22-2008</b>	DE ANGELIS, B.	TETRA TECH EM, INC.	FINAL AREA GEOPHYSICAL INVESTIGATION EVALUATION TECHNICAL MEMORANDUM (CD COPY ENCLOSED)	ADMIN RECORD BASE	AA 0000001 AA 0000001-1 AA 0000001-2 AA 0000001-3 AA 0000001-4 AA 0000002 AA 0000002-1 AA 0000002-2 AA 0000002-3 AA 0000002-4 AA 0000003 AA 0000003-1 AA 0000003-2 AA 0000003-3 AA 0000003-4 AA 0000004 AA 0000004-1 AA 0000004-2 AA 0000004-3 AA 0000004-4 AA 0000005 AA 0000005-1 AA 0000005-2 AA 0000005-3 AA 0000005-4 AA 0000005-5 AA 0000006 AA 0000006-1 AA 0000006-2 AA 0000006-3 AA 0000006-4 AA 0000006-5 AA 0000007 AA 0000008 AA 0000009	NAVFAC - SOUTHWEST	
TTEM.0055.0300.00 24 REPORT N62467-04-D-0055 28	09-11-2008 5090.3.A. CTO 0300	NAVFAC - SOUTHWEST						

UIC No. _ Rec. No.	Record Date	Author	Author Affil.	Recipient	Recipient Affil.	Subject	Distribution	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)
								AA 000010 AA 000011 AA 000012 SITE 00016 SITE 00023		
<b>AR_N60495_001143</b> SW SER OPDE.MQ/8375 CORRESPONDENCE NONE 2	<b>09-15-2008</b> 09-30-2008 5090.3.A. NONE	QUESADA, R. NAVFAC - SOUTHWEST NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV				TRANSMITTAL OF THE DRAFT WORK PLAN, AIR SPARGING/SOIL VAPOR EXTRACTION PILOT TEST (W/OUT ENCLOSURE) [SEE RECORD # 1144 - DRAFT WORK PLAN]	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST	
<b>SF_N60495_001144</b> TTEM.0055.0300.00 20 REPORT N62467-04-D-0055 55	<b>09-15-2008</b> 09-30-2008 5090.3.C. DO 0300	DE ANGELIS, B. TETRA TECH EM, INC.  NAVFAC - SOUTHWEST				DRAFT WORK PLAN, AIR SPARGING/SOIL VAPOR EXTRACTION PILOT TEST (CD COPY ENCLOSED)	SITE FILE	SITE 00016 WELL BAT-16-P WELL MW-16-3 WELL MW-16-4 WELL MW-74 WELL TT16- AS01 WELL TT16- MW11 WELL TT16- SMW01 WELL TT16- SMW02 WELL TT16- SMW03 WELL TT16- SMW04 WELL TT16- SVE01 WELL TT16- VP01 WELL TT16- VP02 WELL TT16- VP03	NAVFAC - SOUTHWEST	

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
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<b>SF_N60495_001162</b>	<b>03-01-1993</b>		DRAFT TECHNICAL MEMO NO. 3, DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES PHASE II - FEASIBILITY STUDY	SITE FILE	SITE 00001 SITE 00002 SITE 00006 SITE 00011 SITE 00012 SITE 00013 SITE 00014 SITE 00016 SITE 00019	NAVFAC - SOUTHWEST		
NONE	11-18-2008	NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY (NEESA) - PORT HUENEME, CA						
REPORT	5090.3.C.							
NONE	NONE							
350								
<b>AR_N60495_001164</b>	<b>11-05-2008</b>	QUESADA, R.	TRANSMITTAL OF THE DRAFT WORK PLAN, AIR SPARGING/ SOIL VAPOR EXTRACTION PILOT TEST (W/OUT ENCLOSURE)	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST		
SW SER	11-25-2008	NAVFAC - SOUTHWEST						
OPDE.RQ/8404	5090.3.A.	NARANJO, R.						
CORRESPONDENCE	NONE	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
NONE								
2								
<b>SF_N60495_001165</b>	<b>11-07-2008</b>	DE ANGELIS, B.	DRAFT WORK PLAN, AIR SPARGING / SOIL VAPOR EXTRACTION PILOT TEST (CD COPY ENCLOSED)	SITE FILE	SITE 00016	NAVFAC - SOUTHWEST		
TTEM.0055.0300.00	11-25-2008	TETRA TECH EM, INC.						
20	5090.3.C.							
REPORT	DO 0300	NAVFAC - SOUTHWEST						
N62467-04-D-0055								
59								
<b>PF_N60495_001168</b>	<b>02-25-2004</b>	BATTELLE	SUMMARY OF JANUARY 2004 GROUNDWATER SAMPLING RESULTS (INCLUDES ANALYTICAL DATA)	POST DECISION FILE	SITE 00006 SITE 00016	NAVFAC - SOUTHWEST		
NONE	11-26-2008							
REPORT	5090.3.B.							
NONE	NONE	NAVFAC - FALLON, NV						
2000								

UIC No. _ Rec. No.	Record Date	Author						
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Record Type	SSIC No.	Recipient						
Contract No.	CTO No.	Recipient Affil.	Subject	Distribution	Sites	Location	FRC Accession No.	
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<b>AR_N60495_001172</b>	<b>09-18-1995</b>	KANE, N.	NOTIFICATION THAT FORMAL REVIEW OF	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	12-17-2008	STATE OF	REPORTS HAS NOT BEEN COMPLETED	BASE	SITE 00013	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	NEVADA -			SITE 00014			
NONE	NONE	CARSON CITY, NV			SITE 00016			
2		BONHAM, D.			SITE 00220			
		NAS FALLON -			SITE R16C			
		FALLON, NV			SITE R16S			
					SITE R17N			
					SITE R17S			
					SITE R19E			
					UST 000395			
					UST 000396			
					UST 000806			
<b>AR_N60495_001173</b>	<b>07-16-2008</b>		16 JULY 2008 DRAFT RESTORATION	ADMIN RECORD	SITE 00002	NAVFAC -		
TTEM-0055-0300-0027	12-23-2008	TETRA TECH EM, INC.	ADVISORY BOARD MEETING MINUTES (CD COPY ENCLOSED)	BASE	SITE 00006	SOUTHWEST		
MINUTES	5090.3.A.				SITE 00016			
N62467-04-D-0055	CTO 0300	NAVFAC -						
6		SOUTHWEST						
<b>AR_N60495_001175</b>	<b>12-08-2008</b>	NARANJO, R.	REVIEW AND COMMENTS ON THE DRAFT	ADMIN RECORD	SITE 00016	NAVFAC -		
NONE	01-08-2009	NEVADA DIVISION	WORK PLAN, AIR SPARGING / SOIL VAPOR	BASE		SOUTHWEST		
CORRESPONDENCE	5090.3.A.	OF	EXTRACTION PILOT TEST					
NONE	NONE	ENVIRONMENTAL						
2		PROTECTION -						
		CARSON CITY, NV						
		NAVFAC -						
		SOUTHWEST						
		DIVISION						

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Doc. Control No.	Prc. Date	Author Affil.					Location	FRC Accession No.
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Contract No.	CTO No.	Recipient Affil.				CD No.		
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<b>AR_N60495_001176</b>	<b>01-08-2009</b>	QUESADA, R.	TRANSMITTAL OF THE DRAFT WORK PLAN,	ADMIN RECORD	SITE 00016	NAVFAC -		
NONE	01-08-2009	NAVFAC -	AIR SPARGING / SOIL VAPOR EXTRACTION	BASE		SOUTHWEST		
DRAWING	5090.3.A.	SOUTHWEST	PILOT TEST (W/OUT ENCLOSURE)	INFO REPOSITORY				
NONE	NONE	VEGA, R.						
2		NEVADA DIVISION						
		OF						
		ENVIRONMENTAL						
		PROTECTION -						
		CARSON CITY, NV						
<b>AR_N60495_001182</b>	<b>04-15-2003</b>	NARANJO, R.	REVIEW AND COMMENTS ON THE FINAL	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	01-28-2009	NEVADA DIVISION	FALL 2002 GROUNDWATER SAMPLING	BASE	SITE 00002	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	OF	DATA REPORT		SITE 00003			
NONE	NONE	ENVIRONMENTAL			SITE 00006			
2		PROTECTION -			SITE 00014			
		CARSON CITY, NV			SITE 00016			
		KRISHNAMOORTH			UST 000395			
		Y, R.						
		NAS FALLON -						
		FALLON, NV						
<b>AR_N60495_001204</b>	<b>02-06-2004</b>	NOACK, R.	EXPENDITURE PROJECTIONS FOR ALL	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	01-28-2009	NEVADA DIVISION	FACILITIES UNDER THE DEPARTMENT OF	BASE	SITE 00002	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	OF	DEFENSE (DOD) JURISDICTION (INCLUDES		SITE 00004			
NONE	NONE	ENVIRONMENTAL	SIGNED COPIES OF NEVADA'S 2 YEAR		SITE 00006			
4		PROTECTION -	WORK PLAN'S APPENDICES E AND F)		SITE 00010			
		CARSON CITY, NV			SITE 00011			
		POWELL, R.			SITE 00014			
		NAVFAC - EFA			SITE 00016			
		WEST			SITE 00018			
<b>AR_N60495_001206</b>	<b>02-25-2004</b>	KRISHNAMOORTH	LETTER OF NOTIFICATION OF POTENTIAL	ADMIN RECORD	SITE 00006	NAVFAC -		
NAS FALLON SER	01-28-2009	Y, R.	DISCHARGE TO SURFACE WATER	BASE	SITE 00016	SOUTHWEST		
N45F/105	5090.3.A.	NAS FALLON -	COMPOUNDS FROM AN INSTALLATION					
CORRESPONDENCE	NONE	FALLON, NV	RESTORATION PLUME (INCLUDES					
NONE		NARANJO, R.	ANALYTICAL RESULTS ON PROPERTY					
10		NEVADA DIVISION	BOUNDARY, ANALYTICAL RESULTS ON					
		OF	UNNAMED DRAIN, UNNAMED DITCH					
		ENVIRONMENTAL	WATER SAMPLES, AND FIGURES)					
		PROTECTION -						
		CARSON CITY, NV						

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AR_N60495_001207	04-05-2004	PELHAM, T.		REVIEW AND COMMENTS ON THE DRAFT WORK PLAN (WP) FOR A GROUNDWATER CONTAINMENT PILOT STUDY	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST	
NONE	01-28-2009	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
CORRESPONDENCE	5090.3.A.	KRISHNAMOORTH Y, R.						
NONE	NONE	NAS FALLON - FALLON, NV						
4								
AR_N60495_001209	05-27-2004	ELGES, M.		REVIEW AND COMMENTS ON THE DRAFT WORK PLAN (WP) FOR A GROUNDWATER CONTAINMENT PILOT STUDY	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST	
NONE	01-28-2009	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
CORRESPONDENCE	5090.3.A.	GOETSCH, B.						
NONE	NONE	NAS FALLON - FALLON, NV						
1								
AR_N60495_001211	06-16-2004	KRISHNAMOORTH Y, R.		TRANSMITTAL OF THE DRAFT WORK PLAN (WP) FOR A GROUNDWATER CONTAINMENT PILOT STUDY	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST	
NAS FALLON SER N45F/311	01-28-2009	NAS FALLON - FALLON, NV						
CORRESPONDENCE	5090.3.A.	NARANJO, R.						
NONE	NONE	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
1								
AR_N60495_001212	09-15-2004	NARANJO, R.		REVIEW AND CONCURRENCE WITH THE DRAFT ACTION MEMORANDUM/REMOVAL ACTION WORK PLAN FOR REMOVAL ACTION	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST	
NONE	01-28-2009	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
CORRESPONDENCE	5090.3.A.	KRISHNAMOORTH Y, R.						
NONE	NONE	NAS FALLON - FALLON, NV						
2								

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<b>AR_N60495_001213</b> NAS FALLON SER N45FCW/0569 CORRESPONDENCE NONE 1	<b>09-23-2004</b> 01-28-2009 5090.3.A. NONE	KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV	TRANSMITTAL OF THE FINAL ACTION MEMORANDUM/REMOVAL ACTION WORK PLAN FOR REMOVAL ACTION (W/OUT ENCLOSURE)	ADMIN RECORD BASE	SITE 00016			NAVFAC - SOUTHWEST	
<b>AR_N60495_001219</b> NAS FALLON SER N45FCW/720 CORRESPONDENCE NONE 2	<b>12-13-2004</b> 01-28-2009 5090.3.A. NONE	KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV	REQUEST OF CONFIRMATION OR REITERATION OF THE PARTICULAR CRITERIA AND REGULATORY CITATIONS APPROPRIATE FOR CONSIDERATION WITH RESPECT TO HYDRAULIC IMPLICATIONS OF GROUNDWATER QUALITY PARAMETERS	ADMIN RECORD BASE	SITE 00016			NAVFAC - SOUTHWEST	
<b>AR_N60495_001222</b> TTEM-0055-0300- 0031 MINUTES N62467-04-D-0055 8	<b>07-16-2008</b> 02-19-2009 5090.3.A. CTO 0300	TETRA TECH EM, INC.  RESTORATION ADVISORY BOARD	16 JULY 2008 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES (CD COPY ENCLOSED)	ADMIN RECORD BASE	SITE 00002 SITE 00005 SITE 00006 SITE 00016			NAVFAC - SOUTHWEST	
<b>SF_N60495_001225</b> TTEM-0005-0300- 0030 MINUTES N62467-04-D-0055 70	<b>12-09-2008</b> 02-19-2009 5090.3.C. CTO 0300	TETRA TECH EM, INC.  NAVFAC - SOUTHWEST	09 DECEMBER 2008 DRAFT REMEDIAL PROJECT MANAGER (RPM) MEETING MINUTES (INCLUDES THE PROPOSED RISK ASSESSMENT METHODOLOGY AND CD COPY)	SITE FILE	SITE 00001 SITE 00002 SITE 00003 SITE 00004 SITE 00006 SITE 00014 SITE 00016 UST 000395 UST 000806			NAVFAC - SOUTHWEST	

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<b>AR_N60495_001227</b> NONE CORRESPONDENCE NONE 2	<b>02-17-2009</b> 03-02-2009 5090.3.A. NONE	VEGA, F. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV GLASER, M. NAS FALLON - FALLON, NV	REVIEW AND COMMENTS ON THE DRAFT WORK PLAN, AIR SPARGING / SOIL VAPOR EXTRACTION PILOT TEST	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST		
<b>AR_N60495_001228</b> NONE REPORT N68711-01-D-6009 150	<b>08-15-2004</b> 03-04-2009 5090.3.A. DO 0009	NAS FALLON - FALLON, NV  NAVFAC - EFA WEST	DISCHARGE MONITORING REPORT FOR THE GROUNDWATER CONTAINMENT SYSTEM, REPORT 2: MAY 1 - JULY 31, 2004	ADMIN RECORD BASE	SITE 00016	NAVFAC - SOUTHWEST		
<b>SF_N60495_001232</b> TTEM-0055-0300- 0033 MINUTES N62467-04-D-0055 69	<b>12-09-2008</b> 03-18-2009 5090.3.C. CTO 0300	TETRA TECH EM, INC.  NAVFAC - SOUTHWEST	09 DECEMBER 2008 FINAL REMEDIAL PROJECT MANAGER (RPM) MEETING MINUTES (INCLUDES FINAL RISK ASSESSMENT METHODOLOGY AND CD COPY)	SITE FILE	SITE 00001 SITE 00002 SITE 00003 SITE 00004 SITE 00006 SITE 00014 SITE 00016 UST 000395 UST 000806	NAVFAC - SOUTHWEST		
<b>SF_N60495_001238</b> TTEM-0055-0300- 0037 MINUTES N62467-04-D-0055 8	<b>05-13-2008</b> 08-05-2009 5090.3.C. CTO 0300	TETRA TECH EM, INC.  NAVFAC - SOUTHWEST	13 MAY 2008 FINAL REMEDIAL PROJECT MANAGER (RPM) MEETING MINUTES [CD COPY ENCLOSED]	SITE FILE	SITE 00001 SITE 00002 SITE 00003 SITE 00004 SITE 00006 SITE 00014 SITE 00016 UST 000001 UST 000002	NAVFAC - SOUTHWEST		

UIC No. _ Rec. No.	Record Date	Author				Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse
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<b>AR_N60495_001244</b> SW SER OPDE.MQ/9242 CORRESPONDENCE NONE 1	<b>08-04-2009</b> 09-17-2009 5090.3.A. NONE	QUESADA, R, NAVFAC - SOUTHWEST NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV	TRANSMITTAL OF THE DRAFT FINAL WORK PLAN AIR SPARGING / SOIL VAPOR EXTRACTION PILOT TEST (W/OUT ENCLOSURE)	ADMIN RECORD BASE INFO REPOSITORY	SITE 00016	NAVFAC - SOUTHWEST	
<b>SF_N60495_001245</b> TTEM-0055-0300- 0039 REPORT N62467-04-D-0055 80	<b>07-31-2009</b> 09-17-2009 5090.3.C. DO 0300	DE ANGELIS, B. TETRA TECH EM, INC. NAVFAC - SOUTHWEST	DRAFT FINAL WORK PLAN AIR SPARGING / SOIL VAPOR EXTRACTION PILOT TEST (CD COPY ENCLOSED)	SENSITIVE SITE FILE	SITE 00016	NAVFAC - SOUTHWEST	
<b>SF_N60495_001254</b> TTEM-0055-0300- 0043 MINUTES N62467-04-D-0055 9	<b>07-23-2009</b> 10-27-2009 5090.3.C. CTO 0300	TETRA TECH EM, INC. NAVFAC - SOUTHWEST	23 JULY 2009 DRAFT REMEDIAL PROJECT MANAGER (RPM) MEETING MINUTES [CD COPY ENCLOSED]	SITE FILE	BLDG 0000314 SITE 00002 SITE 00003 SITE 00016 SITE 00021 SITE 00022 WELL BW22- MW03 WELL TT16- MW17 WELL TTBW- MW02	NAVFAC - SOUTHWEST	

UIC No. _ Rec. No.	Record Date	Author	Author Affil.	Location	FRC Accession No.	
Doc. Control No.	Prc. Date	Author	Author Affil.	SWDIV Box No(s)	FRC Warehouse	
Record Type	SSIC No.	Recipient	Recipient Affil.	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Subject	Distribution	Sites		
Approx. # Pages						
<b>AR_N60495_001256</b>	<b>07-23-2009</b>					
TTEM-0055-0300-0041	11-05-2009	TETRA TECH EM, INC.	23 JULY 2009 DRAFT RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES [INCLUDES CD COPY AND VARIOUS HANDOUTS]	ADMIN RECORD	SITE 00001	NAVFAC - SOUTHWEST
MINUTES	5090.3.A.			BASE	SITE 00002	
N62467-04-D-0055	CTO 0300	NAVFAC - SOUTHWEST		INFO REPOSITORY	SITE 00003	
52					SITE 00004	
					SITE 00006	
					SITE 00014	
					SITE 00016	
					SITE 00018	
					SITE 00020	
					SITE 00021	
					SITE 00022	
					UST 000001	
					UST 000002	
					UST 000395	
<b>AR_N60495_001259</b>	<b>11-10-2009</b>					
SW SER	12-11-2009	QUESADA, M.	LETTER OF NOTIFICATION OF THE COMPLETION OF THE AIR SPARGE / SOIL VAPOR EXTRACTION (AS / SVE) PILOT TEST	ADMIN RECORD	SITE 00016	NAVFAC - SOUTHWEST
JE30.MQ/0026	5090.3.A.	NAVFAC - SOUTHWEST		BASE		
CORRESPONDENCE	NONE	VEGA, F.		INFO REPOSITORY		
NONE		NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV				
2						
<b>AR_N60495_001265</b>	<b>07-23-2009</b>					
TTEM-0055-0300-0044	03-02-2010	TETRA TECH EM, INC.	23 JULY 2009 FINAL REMEDIAL PROJECT MANAGER MEETING MINUTES (CD COPY ENCLOSED)	ADMIN RECORD	BLDG 0000314	NAVFAC - SOUTHWEST
MINUTES	5090.3.A.			BASE	SITE 00002	
N62467-04-D-0055	CTO 0300	NAVFAC - SOUTHWEST		INFO REPOSITORY	SITE 00003	
6					SITE 00016	
					SITE 00021	
					SITE 00022	

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient					Location	FRC Accession No.
Contract No.	CTO No.	Recipient Affil.	Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse	FRC Box No(s)
Approx. # Pages						CD No.		
<b>AR_N60495_001288</b>	<b>09-28-2009</b>	QUESADA, R.	TRANSMITTAL OF THE FINAL WORK PLAN	ADMIN RECORD	SITE 00016	NAVFAC -		
SW SER	06-08-2010	NAVFAC -	AIR SPARGING / SOIL VAPOR EXTRACTION	BASE READY		SOUTHWEST		
OPDE.MQ/9276	5090.3.A.	SOUTHWEST	PILOT TEST	IR READY				
CORRESPONDENCE	NONE	NARANJO, R.						
NONE		NEVADA DIVISION						
2		OF						
		ENVIRONMENTAL						
		PROTECTION -						
		CARSON CITY, NV						
<b>AR_N60495_001289</b>	<b>09-01-2009</b>	DE ANGELIS, B.	FINAL WORK PLAN AIR SPARGING / SOIL	ADMIN RECORD	SITE 00016	NAVFAC -		
TTEM-0055-0300-	06-08-2010	TETRA TECH EM,	VAPOR EXTRACTION PILOT TEST (CD	BASE READY		SOUTHWEST		
0040	5090.3.A.	INC.	COPY ENCLOSED)	IR READY				
REPORT	DO 0300			SENSITIVE				
N62467-04-D-0055		NAVFAC -						
84		SOUTHWEST						

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Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_001295	01-01-1992		PRELIMINARY SITE CHARACTERIZATION SUMMARY	ADMIN RECORD SENSITIVE	HANGAR 0004 HANGAR 0300	NAVFAC - SOUTHWEST		
NONE	07-12-2010	OAK RIDGE NATIONAL LABORATORY			SITE 00001			
REPORT	5090.3.A.				SITE 00002			
DE-AC05-84OR21400	NONE	NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY (NEESA) - PORT HUENEME, CA			SITE 00003			
225					SITE 00006			
					SITE 00007			
					SITE 00009			
					SITE 00010			
					SITE 00011			
					SITE 00012			
					SITE 00013			
					SITE 00014			
					SITE 00016			
					SITE 00017			
					SITE 00018			
					SITE 00019			
					SITE 00020			
					SITE 00021			
					SITE 00022			
					SITE 00023			
					SITE 00024			

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_001299	05-01-1989		REMEDIAL INVESTIGATION / FEASIBILITY	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	07-13-2010	OAK RIDGE	STUDY WORK PLAN FOR THE EVALUATION	SENSITIVE	SITE 00002		SOUTHWEST	
REPORT	5090.3.A.	NATIONAL	OF POTENTIAL CONTAMINATION		SITE 00003			
DE-AC05-	NONE	LABORATORY			SITE 00004			
84OR21400					SITE 00006			
125		NAVAL ENERGY			SITE 00007			
		AND			SITE 00009			
		ENVIRONMENTAL			SITE 00010			
		SUPPORT			SITE 00011			
		ACTIVITY			SITE 00012			
		(NEESA) - PORT			SITE 00013			
		HUENEME, CA			SITE 00014			
					SITE 00016			
					SITE 00017			
					SITE 00018			
					SITE 00019			
					SITE 00020			
					SITE 00021			
					SITE 00022			
					SITE 00023			
					SITE 00024			

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_001300	03-01-2003		DRAFT DATA REPORT FALL 2002	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	07-13-2010	THE	GROUNDWATER SAMPLING, LONG-TERM	SENSITIVE	SITE 00002		SOUTHWEST	
REPORT	5090.3.A.	ENVIRONMENTAL	MONITORING		SITE 00003			
N44255-98-D-4416	CTO 0047	COMPANY, INC.			SITE 00006			
300		NAVFAC - EFA			SITE 00014			
		NORTHWEST			SITE 00016			
					UST 000395			
					WELL 00395D			
					WELL 00395F			
					WELL 00395H			
					WELL BAT-14-B			
					WELL BAT-14-D			
					WELL BAT-14-F			
					WELL BAT-14-H			
					WELL BAT-1-B			
					WELL BAT-1-E			
					WELL BAT-3-D			
					WELL BAT-6-C			
					WELL EW-20			
					WELL GTI-14-3			
					WELL GTI-16-1			
					WELL GTI-25			
					WELL MW-1			
					WELL MW-10			
					WELL MW-13			
					WELL MW-15U			
					WELL MW-16U			
					WELL MW-19			
					WELL MW-2			
					WELL MW-22			
					WELL MW-23			
					WELL MW-26			
					WELL MW-27			
					WELL MW-29U			
					WELL MW-39U			

UIC No. _ Rec. No.	Record Date	Author						Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.						SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient		Subject		Distribution	Sites	CD No.	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.							
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							WELL MW-4		
							WELL MW-41U		
							WELL MW-43U		
							WELL MW-45		
							WELL MW-47		
							WELL MW-48		
							WELL MW-51U		
							WELL MW-54		
							WELL MW-57		
							WELL MW-60		
							WELL MW-63		
							WELL MW-65		
							WELL MW-66		
							WELL MW-7		
							WELL MW-70		
							WELL MW-73		
							WELL MW-75		
							WELL MW-77		
							WELL PZ-1-10		

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
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AR_N60495_001301	05-01-1993		DRAFT REMEDIAL INVESTIGATION REPORT	ADMIN RECORD	HANGAR 0004	NAVFAC -		
NONE	07-13-2010	OAK RIDGE		SENSITIVE	HANGAR 0300	SOUTHWEST		
REPORT	5090.3.A.	NATIONAL			SITE 00001			
DE-AC05-	NONE	LABORATORY			SITE 00002			
84OR21400					SITE 00003			
500		NAVAL ENERGY			SITE 00004			
		AND			SITE 00006			
		ENVIRONMENTAL			SITE 00007			
		SUPPORT			SITE 00009			
		ACTIVITY			SITE 00010			
		(NEESA) - PORT			SITE 00011			
		HUENEME, CA			SITE 00012			
					SITE 00013			
					SITE 00014			
					SITE 00016			
					SITE 00017			
					SITE 00018			
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					SITE 00020			
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					SITE 00022			
					SITE 00023			
					SITE 00024			

UIC No. _ Rec. No.	Record Date	Author						Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.						SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites			CD No.	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.							
Approx. # Pages									
AR_N60495_001302	01-01-1994		DRAFT REMEDIAL INVESTIGATION REPORT, VOLUMES I THROUGH III OF III (INCLUDES BASELINE RISK ASSESSMENT)	ADMIN RECORD SENSITIVE	HANGAR 0005 HANGAR 0300 SITE 00001 SITE 00002 SITE 00003 SITE 00004 SITE 00006 SITE 00007 SITE 00009 SITE 00010 SITE 00011 SITE 00012 SITE 00013 SITE 00014 SITE 00016 SITE 00017 SITE 00018 SITE 00019 SITE 00020 SITE 00021 SITE 00022 SITE 00023 SITE 00024		NAVFAC - SOUTHWEST		
NONE	07-13-2010	OAK RIDGE NATIONAL LABORATORY							
REPORT	5090.3.A.								
DE-AC05-84OR21400	NONE	NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY (NEESA) - PORT HUENEME, CA							
1475									

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
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Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
<b>PF_N60495_001316</b>	<b>10-01-2000</b>		DRAFT SAMPLING AND ANALYSIS PLAN	POST DECISION	SITE 00001		NAVFAC -	
NONE	07-13-2010	THE	GROUNDWATER MONITORING, LONG	FILE	SITE 00002		SOUTHWEST	
REPORT	5090.3.B.	ENVIRONMENTAL	TERM MONITORING	SENSITIVE	SITE 00003			
N44255-98-D-4416	CTO 0014	CO., INC.			SITE 00006			
75		NAVFAC - EFA			SITE 00014			
		NORTHWEST			SITE 00016			
					UST 000395			
					WELL BAT-14.E5			
					WELL BAT-14-C6			
					WELL BAT-14D4			
					WELL BAT-14-D5			
					WELL BAT-14H			
					WELL BAT-16G			
					WELL BAT-16K			
					WELL BAT-1F			
					WELL BAT-3D			
					WELL BAT-6H			
					WELL MW-16U			
					WELL MW-27			
					WELL MW-30			
					WELL MW-395-D			
					WELL MW-395-F			
					WELL MW-395-H			
					WELL MW-60			
					WELL MW-75			
<b>AR_N60495_001317</b>	<b>03-17-1999</b>		WORK PLAN FOR THE FIFTH INTRINSIC	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	07-13-2010	BATTELLE	REMEDIAION SAMPLING EVENT	SENSITIVE	SITE 00003		SOUTHWEST	
REPORT	5090.3.A.				SITE 00006			
N47408-95-D-0730	DO 0023	NAS FALLON -			SITE 00014			
75		FALLON, NV			SITE 00014			
					SOUTHERN			
					SITE 00016			

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Record Type	SSIC No.	Author	Author Affil.					
Contract No.	CTO No.	Recipient	Recipient Affil.					
Approx. # Pages		Recipient	Recipient Affil.					
AR_N60495_001325	11-16-1993			FIELD SAMPLING PLAN (INCLUDES ANALYTICAL DATA)	ADMIN RECORD	SITE 00001	NAVFAC - SOUTHWEST	
NONE	07-15-2010	ALPHA				SITE 00003		
REPORT	5090.3.A.	ANALYTICAL, INC.				SITE 00006		
N62474-93-Q-8331	NONE					SITE 00012		
1200		NAVFAC -				SITE 00013		
		SOUTHWEST				SITE 00014		
						SITE 00016		
						WELL MW14		
						WELL MW15L		
						WELL MW15U		
						WELL MW16L		
						WELL MW16U		
						WELL MW17		
						WELL MW18L		
						WELL MW18U		
						WELL MW19		
						WELL MW20		
						WELL MW21		
						WELL MW22		
						WELL MW23		
						WELL MW24		
						WELL MW25L		
						WELL MW25U		
						WELL MW26		
						WELL MW27		
						WELL MW28		
						WELL MW29U		
						WELL MW38		
						WELL MW39U		
						WELL MW41L		
						WELL MW41U		
						WELL MW42U		
						WELL MW43U		
						WELL MW46		
						WELL MW47		

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Record Type	SSIC No.	Recipient						CD No.	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.							
Approx. # Pages									
						WELL MW48			
						WELL MW49			
						WELL MW51U			
						WELL MW53			
						WELL MW54			
						WELL MW55			
						WELL MW56			
						WELL MW57			
						WELL MW58			
						WELL MW63			
						WELL MW64			
						WELL MW65			
						WELL MW66			
						WELL MW67			
						WELL PZ011			
						WELL PZ0110			
						WELL PZ04			
						WELL PZ06			
						WELL PZ141			
<b>AR_N60495_001329</b>	<b>08-01-2002</b>			DRAFT DATA REPORT SPRING 2002	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	07-15-2010	THE		GROUNDWATER SAMPLING, LONG-TERM	SENSITIVE	SITE 00002		SOUTHWEST	
REPORT	5090.3.A.	ENVIRONMENTAL		MONITORING		SITE 00003			
N44255-98-D-4416	CTO 0031	COMPANY, INC.				SITE 00006			
200		NAVFAC - EFA				SITE 00014			
		NORTHWEST				SITE 00016			
						UST 000395			
<b>AR_N60495_001330</b>	<b>10-01-2002</b>			FINAL DATA REPORT SPRING 2002	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	07-15-2010	THE		GROUNDWATER SAMPLING, LONG-TERM	SENSITIVE	SITE 00002		SOUTHWEST	
REPORT	5090.3.A.	ENVIRONMENTAL		MONITORING		SITE 00003			
N44255-98-D-4416	CTO 0031	COMPANY, INC.				SITE 00006			
200		NAVFAC - EFA				SITE 00014			
		NORTHWEST				SITE 00016			
						UST 000395			

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Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Warehouse	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
<b>AR_N60495_001331</b>	<b>10-01-1992</b>		DRAFT BASELINE RISK ASSESSMENT	ADMIN RECORD	HANGAR 0004	NAVFAC -		
NONE	07-15-2010	AUTOMATED		SENSITIVE	HANGAR 0300	SOUTHWEST		
REPORT	5090.3.A.	SCIENCES			SITE 00001			
DE-AC05-	NONE	GROUP, INC.			SITE 00002			
84OR21400					SITE 00003			
200		NAVAL ENERGY			SITE 00004			
		AND			SITE 00006			
		ENVIRONMENTAL			SITE 00007			
		SUPPORT			SITE 00009			
		ACTIVITY			SITE 00010			
		(NEESA) - PORT			SITE 00011			
		HUENEME, CA			SITE 00012			
					SITE 00013			
					SITE 00014			
					SITE 00016			
					SITE 00017			
					SITE 00018			
					SITE 00019			
					SITE 00020			
					SITE 00021			
					SITE 00022			
					SITE 00023			
					SITE 00024			
<b>AR_N60495_001332</b>	<b>07-01-2001</b>		DRAFT TREATABILITY STUDY WORK PLAN	ADMIN RECORD	HANGAR 0001	NAVFAC -		
NONE	07-15-2010	BATTELLE	FOR GROUNDWATER PILOT STUDIES	SENSITIVE	SITE 00001	SOUTHWEST		
REPORT	5090.3.A.				SITE 00002			
N47408-95-D-0730	DO 0137	NAS FALLON -			SITE 00003			
375		FALLON, NV			SITE 00006			
					SITE 00014			
					SITE 00016			

UIC No. _ Rec. No.	Record Date	Author							
Doc. Control No.	Prc. Date	Author Affil.							
Record Type	SSIC No.	Recipient		Subject	Distribution	Sites	Location	FRC Accession No.	
Contract No.	CTO No.	Recipient Affil.					SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages							CD No.	FRC Box No(s)	
<b>AR_N60495_001333</b>	<b>03-01-2001</b>			DRAFT FINAL ASSESSMENT OF INTRINSIC REMEDIATION, VOLUMES I THROUGH IV OF IV	ADMIN RECORD SENSITIVE	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		
NONE	07-15-2010	BATTELLE							
REPORT	5090.3.A.								
NONE	NONE	NAS FALLON - FALLON, NV							
1400									
<b>AR_N60495_001335</b>	<b>09-01-1995</b>			DRAFT DECISION DOCUMENTS	ADMIN RECORD SENSITIVE	HANGAR 0005 HANGAR 0300 SITE 00001 SITE 00002 SITE 00003 SITE 00004 SITE 00006 SITE 00007 SITE 00009 SITE 00010 SITE 00011 SITE 00012 SITE 00013 SITE 00014 SITE 00016 SITE 00017 SITE 00018 SITE 00019 SITE 00020 SITE 00021 SITE 00022 SITE 00023 SITE 00024	NAVFAC - SOUTHWEST		
NONE	07-19-2010	OAK RIDGE NATIONAL LABORATORY							
REPORT	5090.3.A.								
DE-AC05- 84OR21400	NONE	NAVFAC - WESTERN DIVISION							
80									

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_001336	02-12-2003	HOWIE, M.	PUBLIC HEALTH ASSESSMENT	ADMIN RECORD	HANGAR 0005	NAVFAC -		
NONE	07-19-2010	AGENCY FOR		SENSITIVE	HANGAR 0300	SOUTHWEST		
REPORT	5090.3.A.	TOXIC			SITE 00001			
NONE	NONE	SUBSTANCES			SITE 00002			
160		AND DISEASE			SITE 00003			
		REGISTRY -			SITE 00004			
		ATLANTA, GA			SITE 00006			
		NAVFAC - EFA			SITE 00007			
		NORTHWEST			SITE 00009			
					SITE 00010			
					SITE 00011			
					SITE 00012			
					SITE 00013			
					SITE 00014			
					SITE 00016			
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					SITE 00018			
					SITE 00019			
					SITE 00020			
					SITE 00021			
					SITE 00022			
					SITE 00023			
					SITE 00024			

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.		FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_001360	09-01-1992		DRAFT TECHNICAL MEMO NO. 2	ADMIN RECORD	HANGAR 0004		NAVFAC -	
NONE	07-21-2010	OAK RIDGE	SCREENING OF REMEDIAL PROCESS	SENSITIVE	SITE 00002		SOUTHWEST	
REPORT	5090.3.A.	NATIONAL	OPTIONS PHASE II - FEASIBILITY STUDY		SITE 00004			
DE-AC05-	NONE	LABORATORY			SITE 00006			
84OR21400					SITE 00007			
223		NAVAL ENERGY			SITE 00009			
		AND			SITE 00010			
		ENVIRONMENTAL			SITE 00012			
		SUPPORT			SITE 00014			
		ACTIVITY			SITE 00016			
		(NEESA) - PORT			SITE 00017			
		HUENEME, CA			SITE 00018			
					SITE 00019			
					SITE 00020			
					SITE 00021			
					SITE 00022			
					SITE 00023			
					SITE 00024			

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_001440	09-01-2002		DRAFT SAMPLING AND ANALYSIS PLAN	ADMIN RECORD	HANGAR 0300		NAVFAC -	
NONE	08-02-2010	THE	FALL 2002 GROUNDWATER MONITORING	SENSITIVE	SITE 00001		SOUTHWEST	
REPORT	5090.3.A.	ENVIRONMENTAL			SITE 00002			
N44255-98-D-4416	CTO 0047	CO., INC.			SITE 00003			
125		NAVFAC - EFA			SITE 00006			
		NORTHWEST			SITE 00014			
					SITE 00016			
					UST 000395			
					WELL 00395-D			
					WELL 00395-F			
					WELL 00395-H			
					WELL BAT-14B			
					WELL BAT-14D			
					WELL BAT-14H			
					WELL BAT-1B			
					WELL BAT-1E			
					WELL BAT-39U			
					WELL BAT-3D			
					WELL BAT-6C			
					WELL EW-20			
					WELL GTI 16-1			
					WELL GTI-14-3			
					WELL GTI-25			
					WELL MW-1			
					WELL MW-10			
					WELL MW-13			
					WELL MW-15U			
					WELL MW-16U			
					WELL MW-19			
					WELL MW-2			
					WELL MW-22			
					WELL MW-23			
					WELL MW-26			
					WELL MW-27			
					WELL MW-29U			

UIC No. _ Rec. No.	Record Date	Author						Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.						SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient		Subject		Distribution	Sites	CD No.	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.							
Approx. # Pages									
							WELL MW-4		
							WELL MW-41U		
							WELL MW-43U		
							WELL MW-45		
							WELL MW-47		
							WELL MW-48		
							WELL MW-51U		
							WELL MW-54		
							WELL MW-57		
							WELL MW-60		
							WELL MW-63		
							WELL MW-65		
							WELL MW-66		
							WELL MW-7		
							WELL MW-70		
							WELL MW-73		
							WELL MW-75		
							WELL MW-77		
							WELL PZ1-10		
							WELL PZ-14-6		

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.					Location	FRC Accession No.
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.				CD No.		
Approx. # Pages								
<b>AR_N60495_001466</b>	<b>12-18-1992</b>	GREENE, D.	08-10 DECEMBER 1992 REMEDIAL INVESTIGATION / FEASIBILITY STUDY MEETING SUMMARY NOTES	ADMIN RECORD	HANGAR 0004	NAVFAC -		
NONE	08-03-2010	OAK RIDGE NATIONAL LABORATORY		BASE READY	HANGAR 0300	SOUTHWEST		
MINUTES	5090.3.A.	LABORATORY			SITE 00001			
NONE	NONE	VAN DUYN, S.			SITE 00002			
7		NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY (NEESA) - PORT HUENEME, CA			SITE 00003			
					SITE 00004			
					SITE 00006			
					SITE 00007			
					SITE 00009			
					SITE 00010			
					SITE 00011			
					SITE 00012			
					SITE 00013			
					SITE 00014			
					SITE 00016			
					SITE 00017			
					SITE 00018			
					SITE 00019			
					SITE 00020			
					SITE 00021			
					SITE 00022			
					SITE 00023			
					SITE 00024			
<b>AR_N60495_001517</b>	<b>03-01-2001</b>		RESPONSES TO COMMENTS ON THE DRAFT FINAL DECISION DOCUMENT, PAINT SHOP	ADMIN RECORD	SITE 00011	NAVFAC -		
0101-508	08-05-2010	URS CORPORATION		BASE READY	SITE 00016	SOUTHWEST		
53F4074100-01-S-12	5090.3.A.				WELL MW-25			
CORRESPONDENCE	NONE	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV			WELL MW-63			
NONE					WELL MW-64			
15								

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.					Location	FRC Accession No.
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.				CD No.		
Approx. # Pages								
<b>AR_N60495_001536</b>	<b>11-16-1992</b>	FRANZEN, P.	INSTALLATION RESTORATION PROGRAM	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	08-10-2010	MARTIN	MONTHLY STATUS REPORT FOR	BASE READY	SITE 00002	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	MARIETTA	SEPTEMBER 1992		SITE 00006			
NONE	NONE	ENERGY			SITE 00014			
6		SYSTEMS, INC.			SITE 00016			
		VAN DUYN, S.						
		NAVAL ENERGY						
		AND						
		ENVIRONMENTAL						
		SUPPORT						
		ACTIVITY						
		(NEESA) - PORT						
		HUENEME, CA						
<b>AR_N60495_001541</b>	<b>04-20-1993</b>	GREENE, D.	CLARIFICATION OF BACKGROUND METALS	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	08-10-2010	OAK RIDGE	SOIL CONCENTRATIONS IN PRELIMINARY	BASE READY	SITE 00003	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	NATIONAL	SITE CHARACTERIZATION SUMMARY		SITE 00016			
NONE	NONE	LABORATORY			SITE 00020			
2		BONHAM, D.			WELL MW06			
		NAS FALLON -			WELL MW11			
		FALLON, NV			WELL MW12			
<b>AR_N60495_001544</b>	<b>05-14-1993</b>	FANNING, G.	RESPONSE TO COMMENTS ON THE	ADMIN RECORD	SITE 00011	NAVFAC -		
NONE	08-10-2010	NAVAL ENERGY	PRELIMINARY DRAFT REMEDIAL	BASE READY	SITE 00012	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	AND	INVESTIGATION REPORT		SITE 00013			
NONE	NONE	ENVIRONMENTAL			SITE 00014			
15		SUPPORT			SITE 00016			
		ACTIVITY						
		(NEESA) - PORT						
		HUENEME, CA						
		GREENE, D.						
		OAK RIDGE						
		NATIONAL						
		LABORATORY						

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
<b>AR_N60495_001560</b>	<b>04-19-1993</b>	FRANZEN, P.	INSTALLATION RESTORATION PROGRAM	ADMIN RECORD	SITE 00001		NAVFAC -	
NONE	08-11-2010	MARTIN	MONTHLY STATUS REPORT FOR APRIL	BASE READY	SITE 00006		SOUTHWEST	
CORRESPONDENCE	5090.3.A.	MARIETTA	1993		SITE 00014			
NONE	NONE	ENERGY			SITE 00016			
6		SYSTEMS, INC.						
		FANNING, G.						
		NAVAL ENERGY						
		AND						
		ENVIRONMENTAL						
		SUPPORT						
		ACTIVITY						
		(NEESA) - PORT						
		HUENEME, CA						
<b>AR_N60495_001566</b>	<b>06-17-2010</b>	QUESADA, R.	TRANSMITTAL OF THE DRAFT TECHNICAL	ADMIN RECORD	SITE 00016		NAVFAC -	
SW SER	08-12-2010	NAVFAC -	MEMORANDUM RESULTS, AIR	BASE READY			SOUTHWEST	
JE30.MQ/0200	5090.3.A.	SOUTHWEST	SPARGING/SOIL VAPOR EXTRACTION	IR READY				
CORRESPONDENCE	NONE	NARANJO, R.	PILOT TEST					
NONE		NEVADA DIVISION						
1		OF						
		ENVIRONMENTAL						
		PROTECTION -						
		CARSON CITY, NV						

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Warehouse	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
SF_N60495_001567	06-17-2010	DEANGELIS, B.	DRAFT TECHNICAL MEMORANDUM	SENSITIVE	SITE 00016		NAVFAC -	
TTEM-0055-0300-0056	08-12-2010	TETRA TECH EM, INC.	RESULTS, AIR SPARGING/SOIL VAPOR EXTRACTION PILOT TEST (CD COPY ENCLOSED)	SITE FILE	WELL TT16-AS01		SOUTHWEST	
REPORT	5090.3.C.				WELL TT16-MW09			
N62467-04-D-0055	DO 0300	NAVFAC - SOUTHWEST			WELL TT16-MW17			
197					WELL TT16-MW18			
					WELL TT16-MW19			
					WELL TT16-SMW02			
					WELL TT16-SMW03			
					WELL TT16-SMW04			
					WELL TT16-SW01			
					WELL TT16-TW01			
					WELL TT16-VP01			
					WELL TT16-VP02			
					WELL TT16-VP03			

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_001575	05-02-1994							
NONE	08-16-2010	NAS FALLON - FALLON, NV	02 MAY 1994 DRAFT REMEDIAL INVESTIGATION REPORT MEETING MINUTES (INCLUDES TECHNICAL REVIEW COMMITTEE MEMBERSHIP LIST AND 11 MAY 1994 TECHNICAL REVIEW COMMITTEE MEETING AGENDA)	ADMIN RECORD	HANGAR 0300	NAVFAC - SOUTHWEST		
MINUTES	5090.3.A.			BASE READY	SITE 00001			
NONE	NONE	NAS FALLON - FALLON, NV		SENSITIVE	SITE 00002			
7					SITE 00003			
					SITE 00006			
					SITE 00010			
					SITE 00011			
					SITE 00012			
					SITE 00013			
					SITE 00014			
					SITE 00016			
					SITE 00017			
					SITE 00019			
					SITE 00020			
					SITE 00021			
					SITE 00022			
					SITE 00023			
					SITE 00024			

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Warehouse	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
<b>AR_N60495_001576</b>	<b>05-11-1994</b>							
NONE	08-16-2010	NAS FALLON - FALLON, NV	11 MAY 1994 TECHNICAL REVIEW COMMITTEE MEETING AGENDA (INCLUDES MEMBERSHIP LIST AND PRESENTATION HANDOUTS)	ADMIN RECORD	HANGAR 0005	NAVFAC - SOUTHWEST		
MINUTES	5090.3.A.			BASE READY	HANGAR 0300			
NONE	NONE	TECHNICAL REVIEW COMMITTEE		SENSITIVE	SITE 00001			
75					SITE 00002			
					SITE 00003			
					SITE 00004			
					SITE 00006			
					SITE 00007			
					SITE 00009			
					SITE 00010			
					SITE 00011			
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					SITE 00022			
					SITE 00023			
					SITE 00024			
<b>AR_N60495_001578</b>	<b>09-08-1994</b>							
NAS FALLON SER 187/1354	08-16-2010	PURSEL, D. NAS FALLON - FALLON, NV	TRANSMITTAL OF THE 1) REVIEW AND COMMENTS ON THE DRAFT TECHNICAL MEMO NO. 3, DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES; 2) INTRINSIC REMEDIATION TECHNICAL PROTOCOL; AND 3) 3.5 INCH COMPUTER DISKETTE [W/ENCLOSURES 1 AND 2]	ADMIN RECORD	SITE 00001	NAVFAC - SOUTHWEST		
CORRESPONDENCE	5090.3.A.			BASE READY	SITE 00006			
NONE	NONE	NAVAL FACILITIES ENGINEERING SERVICE CENTER (NFESC) - PORT HUENEME, CA			SITE 00013			
17					SITE 00014			
					SITE 00016			

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.					Location	FRC Accession No.
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.				CD No.		
Approx. # Pages								
AR_N60495_001593	10-21-1994	KANE, N.	APPROVAL OF VERBAL REQUEST TO 1)	ADMIN RECORD	SITE 00001	NAVFAC -		
NONE	08-17-2010	NEVADA DIVISION	EXTEND SUBMITTAL DATE FOR THE DRAFT	BASE READY	SITE 00002	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	OF	ENGINEERING EVALUATIONS AND COST		SITE 00006			
NONE	NONE	ENVIRONMENTAL	ANALYSES TO 15 NOVEMBER 1994; AND 2)		SITE 00014			
2		PROTECTION -	CHANGE SCHEDULE FOR INSTALLATION		SITE 00016			
		CARSON CITY, NV	OF FREE PRODUCT RECOVERY WELLS					
		BONHAM, D.						
		NAS FALLON -						
		FALLON, NV						
AR_N60495_001594	11-08-1994	FLOR, T.	TRANSMITTAL OF THE 1) REVIEW AND	ADMIN RECORD	SITE 00001	NAVFAC -		
NFESC SER 413/	08-17-2010	NAVAL	COMMENTS ON THE DRAFT ENGINEERING	BASE READY	SITE 00006	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	FACILITIES	EVALUATION / COST ANALYSIS FOR		SITE 00013			
NONE	NONE	ENGINEERING	INTERIM REMOVAL ACTIONS AT DEFUEL		SITE 00014			
7		SERVICE CENTER	DISPOSAL AREA; 2) RESPONSE TO		SITE 00016			
		(NFESC) - PORT	COMMENTS ON THE DRAFT TECHNICAL					
		HUENEME, CA	MEMO NO. 3, DETAILED ANALYSIS OR					
			REMEDIAL ALTERNATIVES; ...					
		NAS FALLON -						
		FALLON, NV						
AR_N60495_001599	02-01-1995	STEWART, T.	REVIEW AND COMMENTS ON THE FREE	ADMIN RECORD	SITE 00002	NAVFAC -		
NONE	08-17-2010	NAS FALLON -	PRODUCT REMOVAL TECHNOLOGY	BASE READY	SITE 00006	SOUTHWEST		
CORRESPONDENCE	5090.3.A.	FALLON, NV	COMPARISON REPORT		SITE 00014			
NONE	NONE	FANNING, G.			SITE 00016			
13		NAVAL			WELL RW10A			
		FACILITIES			WELL RW10B			
		ENGINEERING			WELL RW4A			
		SERVICE CENTER			WELL RW6A			
		(NFESC) - PORT			WELL RW6B			
		HUENEME, CA			WELL RW7A			
					WELL RW7B			
					WELL RW7C			
					WELL RW8A			
					WELL RW8B			
					WELL RW8C			
					WELL RW9A			
					WELL RW9B			

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	Location	FRC Accession No.	
Contract No.	CTO No.	Recipient Affil.				SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages						CD No.	FRC Box No(s)	
<b>AR_N60495_001609</b>	<b>06-26-1995</b>	FANNING, G.	TRANSMITTAL OF THE 1) COMMENTS ON DRAFT ENGINEERING EVALUATION / COST ANALYSIS CRASH CREW TRAINING AREA; 2) PROPOSED LOCATIONS FOR WELLS; 3) REDUCTIVE DECHLORINATION PROJECT; 4) COMMENTS ON DRAFT ENGINEERING EVALUATION / COST ANALYSIS OLD FUEL FARM; AND..	ADMIN RECORD BASE READY SENSITIVE	SITE 00001 SITE 00016 WELL MW14 WELL MW15L WELL MW15U WELL MW16L WELL MW16U WELL MW17 WELL MW50L WELL MW50U WELL MW51L WELL MW51U WELL PW02	NAVFAC - SOUTHWEST		
NONE	08-17-2010	NAVAL FACILITIES ENGINEERING SERVICE CENTER (NFESC) - PORT HUENEME, CA						
CORRESPONDENCE	5090.3.A.	SEDAY, P.						
NONE	NONE	MARTIN MARIETTA ENERGY SYSTEMS, INC.						
33								
<b>AR_N60495_001611</b>	<b>09-07-1995</b>	ISELIN, S.	TRANSMITTAL OF THE 1) DRAFT ENGINEERING EVALUATION / COST ANALYSIS FOR THE OLD CRASH CREW TRAINING AREA, AND 2) DRAFT ENGINEERING EVALUATION / COST ANALYSIS FOR THE OLD FUEL FARM	ADMIN RECORD BASE READY	SITE 00001 SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER	08-17-2010	NAS FALLON - FALLON, NV						
187/1154	5090.3.A.	KANE, T.						
CORRESPONDENCE	NONE	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
NONE								
2								
<b>AR_N60495_001613</b>	<b>09-08-1995</b>	ISELIN, S.	TRANSMITTAL OF THE 1) INSTALLATION RESTORATION PROGRAM PROGRESS REPORT; 2) IMRP REPORT; 3) ENGINEERING EVALUATION / COST ANALYSIS FOR OLD CRASH CREW TRAINING AREA; AND 4) ENGINEERING EVALUATION / COST ANALYSIS FOR OLD FUEL FARM	ADMIN RECORD BASE READY SENSITIVE	SITE 00001 SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER	08-18-2010	NAS FALLON - FALLON, NV						
187/1167	5090.3.A.	STEPHENS, W.						
CORRESPONDENCE	NONE	PUBLIC CITIZEN						
NONE								
2								

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_001632	04-18-1996	ISELIN, S.	TRANSMITTAL OF THE PLANNED	ADMIN RECORD	SITE 00001		NAVFAC -	
NAS FALLON SER	08-18-2010	NAS FALLON -	COMPLETION DATES FOR VARIOUS	BASE READY	SITE 00002		SOUTHWEST	
187/0459	5090.3.A.	FALLON, NV	DOCUMENTS AND INVESTIGATIONS, AND		SITE 00004			
CORRESPONDENCE	NONE	KANE, T.	NOTIFICATION THAT RAJAGOPAL		SITE 00006			
NONE		NEVADA DIVISION	KRISHNAMOORTHY HAS REPLACED TROY		SITE 00007			
1		OF	STEWART (W/ENCLOSURE)		SITE 00009			
		ENVIRONMENTAL			SITE 00010			
		PROTECTION -			SITE 00011			
		CARSON CITY, NV			SITE 00012			
					SITE 00013			
					SITE 00014			
					SITE 00016			
					SITE 00017			
					SITE 00018			
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					SITE 00020			
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					SITE 00023			
					SITE 00024			

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.					Location	FRC Accession No.
Record Type	SSIC No.	Recipient		Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse
Contract No.	CTO No.	Recipient Affil.					CD No.	FRC Box No(s)
Approx. # Pages								
<b>AR_N60495_001633</b>	<b>04-25-1996</b>	KANE, N.		REVIEW AND APPROVAL OF PROPOSED	ADMIN RECORD	SITE 00001	NAVFAC -	
NONE	08-18-2010	NEVADA DIVISION		PLANNING SCHEDULE, WITH REVISIONS	BASE READY	SITE 00002	SOUTHWEST	
CORRESPONDENCE	5090.3.A.	OF		AS NOTED ON ENCLOSURE		SITE 00003		
NONE	NONE	ENVIRONMENTAL				SITE 00004		
3		PROTECTION -				SITE 00006		
		CARSON CITY, NV				SITE 00007		
		BONHAM, D.				SITE 00009		
		NAS FALLON -				SITE 00010		
		FALLON, NV				SITE 00011		
						SITE 00012		
						SITE 00013		
						SITE 00014		
						SITE 00016		
						SITE 00017		
						SITE 00018		
						SITE 00019		
						SITE 00020		
						SITE 00021		
						SITE 00022		
						SITE 00023		
						SITE 00024		
<b>AR_N60495_001643</b>	<b>02-25-1998</b>	SOUBA, J.		NOTICE THAT THE COMPLETED INTERIM	ADMIN RECORD	SITE 00001	NAVFAC -	
NAS FALLON SER	08-18-2010	NAS FALLON -		INTRINSIC REMEDIATION REPORT WILL BE	BASE READY	SITE 00002	SOUTHWEST	
187/0198	5090.3.A.	FALLON, NV		SUBMITTED BY 01 MARCH 1998; SUMMARY		SITE 00003		
CORRESPONDENCE	NONE	KANE, N.		OF PLANNED WORK AT EACH SITE		SITE 00006		
NONE		NEVADA DIVISION				SITE 00014		
2		OF				SITE 00016		
		ENVIRONMENTAL						
		PROTECTION -						
		CARSON CITY, NV						

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient						
Contract No.	CTO No.	Recipient Affil.	Subject	Distribution	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)	
<b>AR_N60495_001656</b>	<b>07-30-2001</b>							
NONE	08-23-2010	LAHONTAN VALLEY NEWS AND FALLON EAGLE STANDARD - FALLON, NV	NOTICE OF PUBLIC COMMENT PERIOD ON THE DRAFT TREATABILITY STUDY WORK PLAN FOR GROUNDWATER PILOT STUDIES	ADMIN RECORD BASE READY	SITE 00001 SITE 00014 SITE 00016	NAVFAC - SOUTHWEST		
PUBLIC NOTICE	5090.3.A.							
NONE	NONE							
2								
		PUBLIC						
<b>AR_N60495_001669</b>	<b>11-06-2002</b>							
NONE	08-23-2010	NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV	REVIEW AND COMMENTS ON THE FINAL SPRING 2002 GROUNDWATER SAMPLING DATA REPORT	ADMIN RECORD BASE READY	SITE 00014 SITE 00016 WELL BAT-14D2 WELL MW-78	NAVFAC - SOUTHWEST		
CORRESPONDENCE	5090.3.A.							
NONE	NONE							
2								
<b>AR_N60495_001683</b>	<b>04-15-2003</b>							
NONE	08-23-2010	NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV KRISHNAMOORTH Y, R. NAS FALLON - FALLON, NV	REVIEW AND COMMENTS ON THE DRAFT DATA REPORT FALL 2002 GROUNDWATER SAMPLING	ADMIN RECORD BASE READY	SITE 00001 SITE 00002 SITE 00003 SITE 00006 SITE 00014 SITE 00016 UST 000395	NAVFAC - SOUTHWEST		
CORRESPONDENCE	5090.3.A.							
NONE	NONE							
2								

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
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Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
<b>AR_N60495_001688</b>	<b>06-27-1994</b>	KANE, N.	REVIEW AND COMMENTS ON THE	ADMIN RECORD	SITE 00002		NAVFAC -	
NONE	09-01-2010	NEVADA DIVISION	SUMMARY OF ISSUES DISCUSSED DURING	BASE READY	SITE 00013		SOUTHWEST	
CORRESPONDENCE	5090.3.A.	OF	THE 03 MAY 1994 MEETING		SITE 00015			
NONE	NONE	ENVIRONMENTAL			SITE 00016			
2		PROTECTION -			UST 000019			
		CARSON CITY, NV			UST 000044			
		BONHAM, D.			UST 000062			
		NAS FALLON -			UST 000204			
		FALLON, NV			UST 000220			
					UST 000311			
					UST 000396			
					UST 000806			
					UST R16C			
					UST R16-GS			
					UST R16N			
					UST R16S			
					UST R17N			
					UST R17S			
					UST R19E			
					UST R19W			
<b>SF_N60495_001698</b>	<b>02-01-2010</b>	HOCH, K.	DRAFT SAMPLING AND ANALYSIS PLAN	SENSITIVE	BLDG 0000395		NAVFAC -	
TTEM-0055-0300-0047	09-27-2010	TETRA TECH EM, INC.	(FIELD SAMPLING PLAN/QUALITY ASSURANCE PROJECT PLAN) FOR SOIL GAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY AT ACTIVE SITES (CD COPY ENCLOSED)	SITE FILE	BLDG 0000806		SOUTHWEST	
REPORT	5090.3.C.				SITE 00001			
N62467-04-D-0055	DO 0300	NAVFAC -			SITE 00002			
396		SOUTHWEST			SITE 00003			
					SITE 00004			
					SITE 00006			
					SITE 00014			
					SITE 00016			
					UST R			

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
<b>AR_N60495_001700</b>	<b>05-01-2010</b>	DEANGELIS, B.	FINAL WORK PLAN FOR SOIL GAS	ADMIN RECORD	BLDG 0000004		NAVFAC -	
TTEM-0055-0300-0048	10-08-2010	TETRA TECH EM, INC.	REMEDIAL INVESTIGATION/FEASIBILITY STUDY AT ACTIVE SITES [INCLUDES FINAL SAMPLING AND ANALYSIS PLAN, FIELD SAMPLING PLAN/QUALITY ASSURANCE PROJECT PLAN] (CD COPY ENCLOSED)	BASE READY	BLDG 0000012		SOUTHWEST	
REPORT	5090.3.A.			IR READY	BLDG 0000014			
N62467-04-D-0055	CTO 0300	NAVFAC - SOUTHWEST		SENSITIVE	BLDG 0000015			
272					BLDG 0000018			
					BLDG 0000022			
					BLDG 0000023			
					BLDG 0000050			
					BLDG 0000052			
					BLDG 0000059			
					BLDG 0000228			
					BLDG 0000229			
					BLDG 0000290			
					BLDG 0000300			
					BLDG 0000311			
					BLDG 0000371			
					BLDG 0000374			
					BLDG 0000376			
					BLDG 0000378			
					BLDG 0000431			
					BLDG 0000432			
					BLDG 0000455			
					BLDG 0000482			
					BLDG 0000483			
					BLDG 0000484			
					BLDG 0000485			
					BLDG 0000486			
					BLDG 0000806			
					BLDG 0003500			
					BLDG 0003600			
					SITE 00002			
					SITE 00003			
					SITE 00004			
					SITE 00014			
					SITE 00016			

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
							WELL MW-10 WELL MW-2 WELL MW-4 WELL MW-5L WELL MW-60 WELL MW-6U WELL MW-7 WELL MW-9 WELL TT02-MW01 WELL TT02-MW02 WELL TT02-MW03 WELL TT02-MW04 WELL TT04-MW01 WELL TT04-MW02	
<b>AR_N60495_001701</b> NONE CORRESPONDENCE NONE 2	<b>10-05-2010</b> 10-25-2010 5090.3.A. NONE	NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV QUESADA, R. NAVFAC - SOUTHWEST	REVIEW AND COMMENTS ON THE DRAFT TECHNICAL MEMORANDUM RESULTS, AIR SPARGING/SOIL VAPOR EXTRACTION PILOT TEST (CD COPY ENCLOSED)	ADMIN RECORD BASE READY IR READY	SITE 00016 WELL TT16- MW17	NAVFAC - SOUTHWEST		
<b>SF_N60495_001724</b> TTEM-0055-0300- 0074 MINUTES N62467-04-D-0055 50	<b>09-29-2010</b> 03-29-2011 5090.3.C. CTO 0300	TETRA TECH EM, INC.  NAVFAC - SOUTHWEST	29 SEPTEMBER 2010 REMEDIAL PROJECT MANAGER (RPM) FINAL MEETING MINUTES (INCLUDES AGENDA, VARIOUS HANDOUTS, AND CD COPY)	SENSITIVE SITE FILE	BLDG 0000806 SITE 00002 SITE 00003 SITE 00004 SITE 00014 SITE 00016 UST R	NAVFAC - SOUTHWEST		

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
<b>AR_N60495_001725</b>	<b>06-17-2010</b>	QUESADA, R.	TRANSMITTAL OF THE DRAFT TECHNICAL MEMORANDUM RESULTS OF AIR SPARGING / SOIL VAPOR EXTRACTION PILOT TEST	ADMIN RECORD BASE READY IR READY	SITE 00016	NAVFAC - SOUTHWEST		
SW SER JE30.MQ/0200 CORRESPONDENCE NONE 1	03-29-2011 5090.3.A. NONE	NAVFAC - SOUTHWEST NARANJO, R. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
<b>SF_N60495_001726</b>	<b>06-17-2010</b>	DEANGELIS, B.	DRAFT TECHNICAL MEMORANDUM RESULTS OF AIR SPARGING / SOIL VAPOR EXTRACTION PILOT TEST (CD COPY ENCLOSED)	SENSITIVE SITE FILE	SITE 00016 WELL TT16- AS01 WELL TT16- MW09 WELL TT16- MW17 WELL TT16- MW18 WELL TT16- MW19 WELL TT16- SMW01 WELL TT16- SMW02 WELL TT16- SMW03 WELL TT16- SMW04 WELL TT16- SW01 WELL TT16- TW01 WELL TT16- VP01 WELL TT16- VP02 WELL TT16- VP03	NAVFAC - SOUTHWEST		
TTEM-0055-0300- 0056 REPORT N62467-04-D-0055 199	03-29-2011 5090.3.C. DO 0300	TETRA TECH EM, INC.  NAVFAC - SOUTHWEST						

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Box No(s)	
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
AR_N60495_001728	03-30-2011	QUESADA, R.	LETTER IDENTIFYING STATE APPLICABLE	ADMIN RECORD	SITE 00001	NAVFAC -		
SW SER	03-31-2011	NAVFAC -	OR RELEVANT AND APPROPRIATE	BASE READY	SITE 00014	SOUTHWEST		
JE30.RQ/0453	5090.3.A.	SOUTHWEST	REQUIREMENTS FOR THE TIME CRITICAL	IR READY	SITE 00016			
CORRESPONDENCE	NONE	SMALE, S.	REMOVAL ACTION AT THE SOUTHERN		WELL BAT-16-P			
NONE		NEVADA DIVISION	OPERABLE UNIT (CD COPY ENCLOSED)		WELL MW-16-3			
5		OF						
		ENVIRONMENTAL						
		PROTECTION -						
		CARSON CITY, NV						

UIC No. _ Rec. No.	Record Date	Author					Location	FRC Accession No.
Doc. Control No.	Prc. Date	Author Affil.					SWDIV Box No(s)	FRC Warehouse
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	CD No.	FRC Warehouse	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.						
Approx. # Pages								
<b>SF_N60495_001732</b>	<b>02-01-2011</b>	WIKE, R.	DRAFT FIVE-YEAR REVIEW, LANDFILL	SENSITIVE	HANGAR 0003	NAVFAC -		
CHAD-3213-0060-0003	03-31-2011	CHADUX TT, JOINT VENTURE	SITES (CD COPY ENCLOSED)	SITE FILE	HANGAR 0007	SOUTHWEST		
REPORT	5090.3.C.				SITE 00001			
N62473-07-D-3213	CTO 0060	NAVFAC -			SITE 00002			
120		SOUTHWEST			SITE 00003			
					SITE 00004			
					SITE 00005			
					SITE 00006			
					SITE 00007			
					SITE 00008			
					SITE 00009			
					SITE 00010			
					SITE 00011			
					SITE 00012			
					SITE 00013			
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					SITE 00026			
					SITE 00027			

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.						
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	Location	FRC Accession No.	
Contract No.	CTO No.	Recipient Affil.				SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages						CD No.	FRC Box No(s)	
AR_N60495_001737	01-14-2011	QUESADA, R.	TRANSMITTAL OF THE FINAL TECHNICAL MEMORANDUM RESULTS OF AIR SPARGING/SOIL VAPOR EXTRACTION PILOT TEST	ADMIN RECORD BASE READY IR READY	SITE 00016	NAVFAC - SOUTHWEST		
SW SER JE30.MQ/0380 CORRESPONDENCE NONE 2	04-12-2011 5090.3.A. NONE	NAVFAC - SOUTHWEST SMALE, S. NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV						
AR_N60495_001738	01-14-2011	DEANGELIS, B.	FINAL TECHNICAL MEMORANDUM RESULTS OF AIR SPARGING/SOIL VAPOR EXTRACTION PILOT TEST (CD COPY ENCLOSED)	ADMIN RECORD BASE READY IR READY SENSITIVE	SITE 00016 WELL TT16- MW01 WELL TT16- MW09 WELL TT16- MW17 WELL TT16- MW18 WELL TT16- MW19 WELL TT16- SMW01 WELL TT16- SMW02 WELL TT16- SMW03 WELL TT16- SMW04 WELL TT16- TW01	NAVFAC - SOUTHWEST		
TTEM-0055-0300- 0079 REPORT N62467-04-D-0055 206	04-12-2011 5090.3.A. DO 0300	TETRA TECH EM, INC.  NAVFAC - SOUTHWEST						
AR_N60495_001739	03-24-2011	SMALE, S.	REVIEW AND COMMENTS ON THE FINAL TECHNICAL MEMORANDUM RESULTS OF AIR SPARGING/SOIL VAPOR EXTRACTION PILOT TEST (CD COPY ENCLOSED)	ADMIN RECORD BASE READY IR READY	SITE 00016	NAVFAC - SOUTHWEST		
NONE CORRESPONDENCE NONE 1	04-12-2011 5090.3.A. NONE	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION - CARSON CITY, NV QUESADA, R. NAVFAC - SOUTHWEST						

UIC No. _ Rec. No.	Record Date	Author						
Doc. Control No.	Prc. Date	Author Affil.					Location	FRC Accession No.
Record Type	SSIC No.	Recipient	Subject	Distribution	Sites	SWDIV Box No(s)	FRC Warehouse	FRC Box No(s)
Contract No.	CTO No.	Recipient Affil.				CD No.		
Approx. # Pages								
AR_N60495_001741	03-25-2011	WILKE, R.	LETTER REGARDING PROPOSED ENVIRONMENTAL REMEDIATION INVOLVING E4X DRAIN (W/ENCLOSURES)	ADMIN RECORD	SITE 00016	NAVFAC - SOUTHWEST		
NAS FALLON SER N0000CF/0106	04-18-2011	NAS FALLON - FALLON, CA		BASE READY				
CORRESPONDENCE	5090.3.A.	PARR, K.		IR READY				
NONE	NONE	BUREAU OF RECLAMATION - CARSON CITY, NV		SENSITIVE				
8								
AR_N60495_001746	03-02-2011	DEANGELIS, B.	FINAL SITE MANAGEMENT PLAN (CD COPY ENCLOSED)	ADMIN RECORD	BLDG 0000314	NAVFAC - SOUTHWEST		
TTEM-0055-0300-0082	05-16-2011	TETRA TECH EM, INC.		BASE READY	BLDG 0000395			
REPORT	5090.3.A.			IR READY	SITE 00001			
N62467-04-D-0055	CTO 0300	NAVFAC - SOUTHWEST		SENSITIVE	SITE 00002			
470					SITE 00003			
					SITE 00004			
					SITE 00005			
					SITE 00006			
					SITE 00014			
					SITE 00016			
					SITE 00028			
SF_N60495_001752	09-29-2010		29 SEPTEMBER 2010 DRAFT REMEDIAL PROJECT MANAGER MEETING MINUTES (INCLUDES AGENDA, VARIOUS HANDOUTS, AND CD COPY)	SENSITIVE	BLDG 0000806	NAVFAC - SOUTHWEST		
TTEM-0055-0300-0073	05-18-2011	TETRA TECH EM, INC.		SITE FILE	SITE 00002			
MINUTES	5090.3.C.				SITE 00003			
N62467-04-D-0055	CTO 0300	NAVFAC - SOUTHWEST			SITE 00004			
55					SITE 00014			
					SITE 00016			
					UST 000002			
AR_N60495_001761	06-23-2010		23 JUNE 2010 RESTORATION ADVISORY BOARD (RAB) FINAL MEETING MINUTES (INCLUDES VARIOUS HANDOUTS AND CD COPY)	ADMIN RECORD	SITE 00001	NAVFAC - SOUTHWEST		
TTEM-0055-0300-0063	06-09-2011	TETRA TECH EM, INC.		BASE READY	SITE 00002			
MINUTES	5090.3.A.			IR READY	SITE 00003			
N62467-04-D-0055	CTO 0300	RESTORATION ADVISORY BOARD		SENSITIVE	SITE 00004			
55					SITE 00014			
					SITE 00016			
					SITE 00021			
					SITE 00022			
					UST 000001			
					UST 000002			

UIC No. _ Rec. No.	Record Date	Doc. Control No.	Prc. Date	Author	Record Type	SSIC No.	Author Affil.	Contract No.	CTO No.	Recipient	Location	FRC Accession No.
Approx. # Pages	Recipient Affil.	Subject	Distribution	Sites	SWDIV Box No(s)	CD No.	FRC Warehouse	FRC Box No(s)				

**Total Estimated Record Page Count: 40,806**

**Total Records: 236**

[UIC NUMBER]='N60495'

No Keywords

Sites=SITE 00016

No Classification

**APPENDIX E  
RESPONSES TO COMMENTS ON THE DRAFT ACTION MEMORANDUM FOR  
INSTALLATION RESTORATION SITE 16, NAVAL AIR STATION FALLON, FALLON,  
NEVADA**

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## RESPONSES TO COMMENTS ON THE DRAFT ACTION MEMORANDUM FOR INSTALLATION RESTORATION SITE 16, NAVAL AIR STATION FALLON, FALLON, NEVADA

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The following are comments received on the Draft Action Memorandum for Installation Restoration Site 16 from Ms. Alison Oakley of the Nevada Division of Environmental Protection (NDEP). NDEP comments were provided in a letter dated October 7, 2011. NDEP comments are in bold and the Navy response follows each comment.

**Comment No. 1:** **Page 1, Purpose – The Purpose section, Section 1, reads more like an Executive Summary than a discussion of the necessity of doing a TCRA. Paragraphs two, three, and four would fit better into Section 2, Site Conditions and Background, as they really are not a necessary part of explaining why a TCRA was chosen. If the intent of the first section was an overview rather than a statement of purpose, then the additional site description and history information is relevant, but the section title should be changed.**

**Response:** Paragraphs 2 and 4 of Section 1 were deleted. Portions of paragraph 2 that explain that Site 16 is part of the Southern Operable Unit and that the TCRA is not the final action for the site were retained.

**Comment No. 2:** **Page 3, Site History – The first line of the first paragraph states that Site 16 is located “immediately east of Hangar 7, Facility 4” and has Figure 1-2 as a reference. Neither Figure 1-2 nor any figure shows Hangar 7, Facility 4, so the reference is irrelevant. There could, however, be a reference to Apron 5, which is adjacent to Site 16.**

**Response:** This sentence has been deleted because Sections 2.1.3 and 2.1.4 were moved in response to Comment No. 4. However, the description of the site location in the Section titled “Physical Location” was changed to indicate that Site 16 is south of Apron 7 instead of Apron 5. Apron 7 was erroneously labeled as Apron 5 on Figure 1-2 and in the document text. Figure 1-2 will be updated with this change.

**Comment No. 3:** **Page 3, Site History – The last paragraph, 4<sup>th</sup> sentence on page 3 states that “The investigation was expanded to the eastern side of the E4X Drain”, but it does not explain why the investigation was expanded. It would be useful to have a brief explanation at this point of why the decision was made for the increased investigation, especially as this eastern area is the focus of the TCRA. (Note: the explanation for increasing the investigation is presented on Page 5 at the end of the top paragraph, but that discussion of rationale is after the contaminant extent discussion.)**

**Response:** The referenced sentence in the “Site History” section has been changed to “The investigation was expanded to the eastern side of the E4X Drain

because high concentrations of PCE and TCE were detected in a monitoring well east of the E4X Drain. The investigation found a second, higher-concentration PCE and TCE plume on the east side of the E4X Drain, centered near boring TT16-MW17.”

**Comment No. 4:** Page 5, Physical Location – Sections 2.1.3, Physical Location, and 2.1.4, Site Characteristics, would probably be better placed before Section 2.1.1, Site History, as they describe the physical site setting and give a background of the Drain. This is good overall information to have before reading about contaminants and would preclude the need to describe the site location in the first paragraph of Site History as is currently done. If this change is made, my comment #3 above becomes moot.

**Response:** Sections 2.1.3 and 2.1.4 (Physical Location and Site Characteristics) have been moved before the “Site History” section. The sections in Section 2 have been renumbered accordingly.

**Comment No. 5:** Page 8, Sec. 2.1.5 – It would be useful to reference existing Figures 1-3 and 1-4 when discussing the highest detections for TCE and PCE as the figures are already included in the report.

**Response:** A reference to Figures 1-3 and 1-4 has been added to Section 2.1.5. (Note: these figures show the most recent concentrations detected at Site 16, not the maximum concentrations detected.)

**Comment No. 6:** Page 13, Editorial – Third full paragraph, first line: suggest removing the “and” before “E4X” and remove the “,” after “times”. Sec. 5, first line: suggest adding “designed” before “TCRA”.

**Response:** Section 3.2 has been changed as suggested. The first line of Section 5 has been changed to add “designed” after “describes the TCRA.”

**Comment No. 7:** Page 14, Editorial – Last full paragraph, third line: suggest removing “relatively” from before “permanent flow”.

**Response:** The change has been made as suggested.

**Comment No. 8:** Page 22, Section 7 – This section states that the Action Memo will be available for RAB review and comment. The RAB meets only once per year in Fall and, as far as I understand it, there really is no organized Board set up to accommodate reviews. I suggest that the part of the sentence referencing the RAB be removed and leave in the section that states the Action Memorandum will be made available to the public.

**Response:** The change has been made as suggested.

**Comment No. 9:** Appendix A, Stormwater Calculations – The cross section of the E4X Drain on page 3 labels the 3920 elevation as “exist” (existing?) I understood that 3920 is the elevation after construction. Please make that clear in the cross-section.

**Response:** The paragraph directly before the cross-section of the E4X drain states “Based on the above analysis, the figure below depicts projected water surface elevations for the E4X Drain near monitoring well TT16-MW17 during peak flow. Existing drain conditions would result in a water surface elevation of 3920.25 feet.”

The label “3920.25 exist” on the cross-section will be modified to “3920.25 peak flow elevation existing drain conditions” and “3922.06 w/2 ft fill” will be changed to “3922.06 peak flow elevation with 2 ft fill.”

**ATTACHMENT 1  
NOTIFICATION AND CONCURRENCE LETTERS FROM NEVADA STATE  
PRESERVATION OFFICE**

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DEPARTMENT OF THE NAVY  
NAVAL AIR STATION FALLON  
4755 PASTURE ROAD  
FALLON, NV 89496-5000

5090  
Ser PRF4/0253  
July 14, 2011

Rebecca Palmer  
Deputy State Historic Preservation Officer  
Nevada State Historic Preservation Office  
Dept. of Conservation and Natural Resources  
901 S. Stewart Street, Suite 5004  
Carson City, Nevada 89701

Dear Ms. Palmer:

SUBJECT: MODIFICATIONS TO E4X DRAIN, NAS FALLON MAIN STATION

The Department of the Navy (Navy) is planning to raise the elevation of the bottom of a segment of the E4X Drain at Naval Air Station (NAS) Fallon to prevent potential discharge of chlorinated solvents into the drain from underlying shallow groundwater, as part of a Time-Critical Removal Action (TCRA) conducted pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). 42 U.S.C. § 9601 et seq; 40 C.F.R. § 300.415. This letter and Figures 1 through 3 provide a description of the planned TCRA undertaking, the Area of Potential Effects, data regarding the identification of historic properties, and a finding of no adverse effect<sup>1</sup>.

#### UNDERTAKING

Pursuant to CERCLA, the Navy is currently conducting a remedial investigation and feasibility study (RI/FS) at Installation Restoration (IR) Site 16 at NAS Fallon, an area historically used for bulk fuel storage in underground storage tanks. These tanks have all been taken out of service and removed, and the Navy is currently conducting an environmental contamination investigation related to the tanks and the other facilities in

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<sup>1</sup> This letter is provided in compliance with substantive provisions of the National Historic Preservation Act and its implementing regulations as federal applicable or relevant and appropriate requirements (ARARs) pursuant to Section 121 (d) of CERCLA. CERCLA's implementing regulations define ARARs as substantive requirements and specifically exclude administrative (procedural) requirements. In addition, Section 121(e) of CERCLA specifically exempts CERCLA actions, such as the activities described herein, from procedural and permit requirements.

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this area. As shown in Figure 1, IR Site 16 is bordered on the east by the E4X Drain.

During recent sampling activities, the Navy has identified chlorinated solvents in the shallow groundwater near Site 16. Based on extensive studies, the potential exists for these solvents to enter the E4X Drain. Currently, the drain provides storm water drainage for a portion of NAS Fallon and is a surface water conduit for daily discharge from the NAS Fallon wastewater treatment plant (WWTP) to the Lower Diagonal Drain (eventually reaching the Stillwater Wildlife Refuge). The Navy currently samples surface water downstream of the E4X Drain on a monthly basis and has not detected any solvent contamination. However, the Navy is addressing potential discharge of solvents to the drain at this time.

The Navy is developing a plan to address this potential discharge as part of a CERCLA TCRA. The plan involves slightly altering 1000 feet of the E4X Drain to prevent groundwater from entering the ditch from below. This would require the installation of a sheet pile weir upstream of the WWTP to prevent water from either the WWTP or the Lower Diagonal Drain from flowing north toward the chlorinated solvent plumes. North of the weir, the E4X Drain would be backfilled with approximately 2 feet of compacted clay, thereby eliminating the potential groundwater/surface water interaction in this portion of the drain adjacent to the plume. It is believed that this option would make the backfilled section of the E4X Drain a dry ditch except during storm events when the ditch would continue to handle storm water runoff. Calculations indicate that raising the ditch bottom by approximately 2 feet would have no significant effect on the ability of the ditch to handle storm water runoff, while eliminating potential exposure pathways for groundwater discharge to the drain.

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#### AREA OF POTENTIAL EFFECTS AND IDENTIFICATION OF HISTORIC PROPERTIES

Consistent with the definition under 36 CFR 800.16(d), the Area of Potential Effects (APE) is the geographic area within which the Undertaking could affect historic properties, either directly or indirectly. The Area of Potential Effects is the 1000 ft. of the E4X Drain that will be raised by 2 ft. The E4X Drain was constructed prior to 1926 and is a contributing element to the Newlands Project Historic District. The Navy has determined that the E4X drain would not be eligible for listing on the National Register of Historic Places by itself due to integrity issues, but it is eligible for listing as an element of the Historic District.

#### FINDING OF EFFECT

The E4X drain is an earthen ditch (Figure 2) with no visible concrete shoring or features aside from two culverts that appear to be modern additions. It is currently approximately 15 ft. wide and 8 ft. deep. Portions of the drain are heavily overgrown with cattails. Integrity is difficult to assess but the drain does not appear to retain integrity of feeling, association, setting, and design due to construction of a military base in its vicinity. Erosion and natural in-filling detract from its integrity of materials and workmanship. The drain's integrity of location was severely impacted in the 1940s when the original base runway was constructed, effectively cutting off the southern half of the drain from the northern half.

Consistent with substantive portions of Section 106 of the National Historic Preservation Act (36 CFR 800.5(b)), the Navy has applied the criteria of adverse effect to the current project, which proposes to raise the bottom of the drain by 2 ft. using compacted clay and adding a sheet pile weir, and finds

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that the project will not adversely affect either the E4X Drain or the Newlands Project Historic District. The clay lining will not be visible and is consistent with the original materials of the drain (as opposed to lining it with concrete, for example).

Therefore, the Navy's finding of effect for this overall undertaking is "no adverse effect" on historic properties. Because of the time-sensitive nature of the actions described above, the Navy must promptly proceed with this action. Please provide any comments or concerns that you may have by August 15, 2011. The Navy will consider any comments or concerns received and provide a formal response to comments. Considering the required schedule, the Navy plans to proceed with this project by September 2011, if no objections are received.

Please feel free to direct any questions you may have to Robin Bowers at 775-426-3027 or robin.bowers@navy.mil.

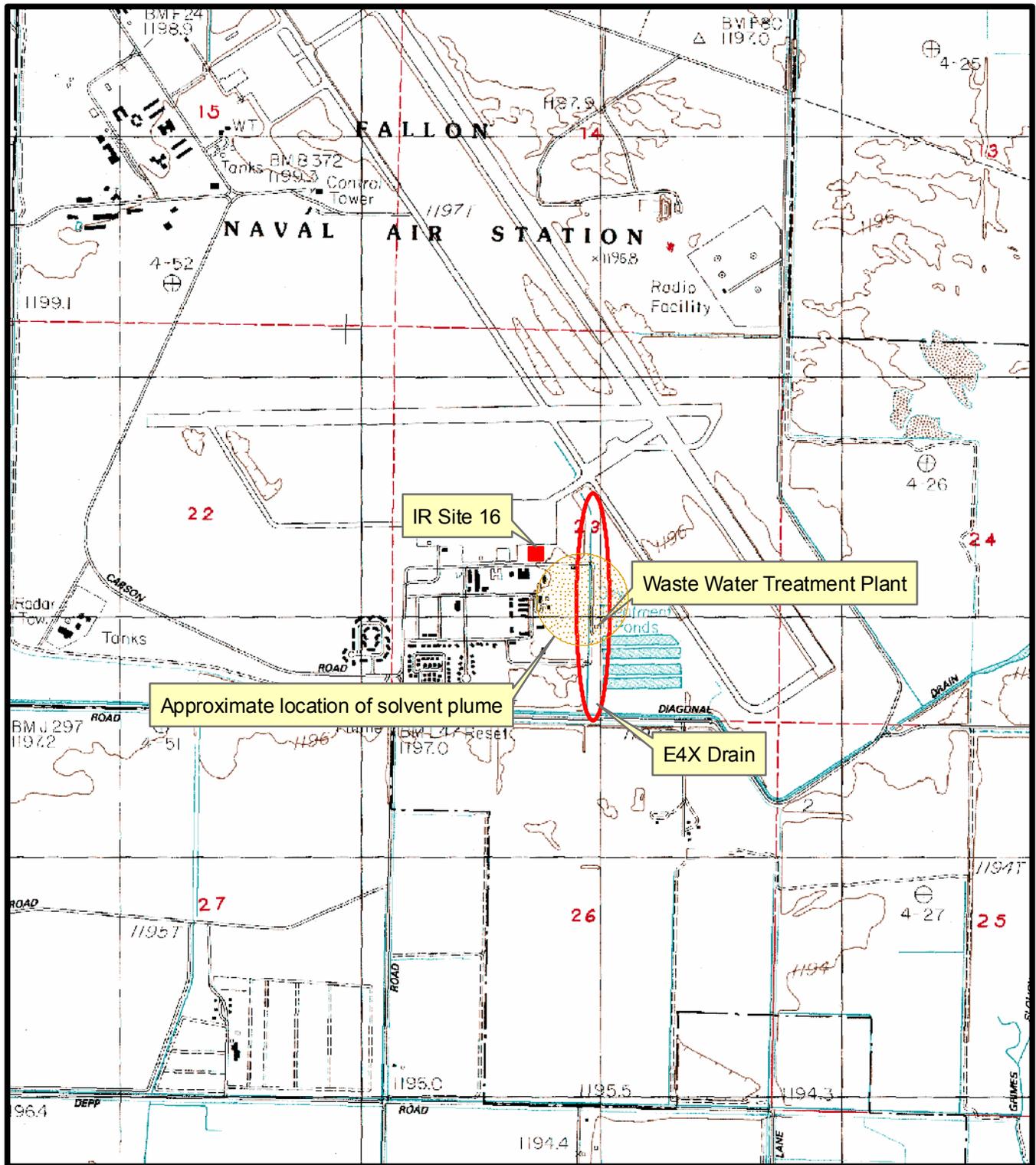
Sincerely,



DEBORA E. WAXER, P.E.  
Environmental Program Manager  
By direction of  
the Commanding Officer

Enclosures: Figures 1-3

Copy to: Debora Waxer, NAS Fallon  
CDR Jeff Dryden, PWO NAS Fallon  
✓ Robin Bowers, NAS Fallon  
Becky Kurtz, NAS Fallon  
Michael Klapac, NAS Fallon  
Mike Quesada, NAVFAC SW (via e-mail)  
Mike Waters, NAVFAC SW (via e-mail)  
Anastasia Leigh, Bureau of Reclamation, 2800 Cottage  
Way MP-153, Sacramento, CA 95825



**Alterations to E4X Drain  
Project Location Map  
NAS Fallon Main Station**



Figure 2. Alterations to E4X Drain  
NAS Fallon Main Station  
Overview Photos of E4X Drain



E4X Drain looking north (top).  
E4X Drain looking south (bottom).

Figure 2. Alterations to E4X Drain  
NAS Fallon Main Station  
Overview Photos of E4X Drain



View of E4X Drain adjacent to waste water treatment plant,  
looking north (top) and south (bottom)



LEO M. DROZDOFF, P.E.  
*Director*  
Department of Conservation and  
Natural Resources

RONALD M. JAMES  
*State Historic Preservation Officer*

BRIAN SANDOVAL  
*Governor*

STATE OF NEVADA



*Robert*  
Address Reply to:  
901 S. Stewart Street, Suite 5004  
Carson City, NV 89701-5248  
Phone: (775) 684-3448  
Fax: (775) 684-3442

[www.nvshpo.org](http://www.nvshpo.org)

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES  
STATE HISTORIC PRESERVATION OFFICE

August 19, 2011

Debora E. Waxer, P.E.  
Environmental Program Manager  
Department of the Navy  
Naval Air Station Fallon  
4755 Pasture Road  
Fallon NV 89496-5000

RE: Modifications to the E4X Drain, Naval Air Station Fallon, Churchill County  
(Undertaking #2011-1701).

Dear Ms. Waxer:

The Nevada State Historic Preservation Office (SHPO) reviewed the subject undertaking. The SHPO concurs with the Navy's determination that the following drain is a contributing element to the Newlands Project National Historic District:

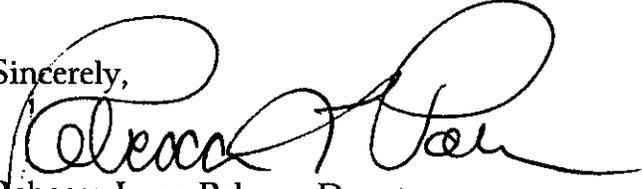
E4X.

The SHPO concurs with the Navy's determination that the proposed undertaking will not pose an adverse effect to the above segment for the justification outlined in your letter of July 14, 2011 (received on July 22, 2011).

If buried and previously unidentified resources are located during project activities, the SHPO recommends that all work in the vicinity cease and this office be contacted for additional consultation per 36 CFR 800.13.b.3. and NRS 383.150-383.190.

Debra E. Waxer  
August 19, 2011  
Page 2 of 2

If you have any questions concerning this correspondence, please feel free to contact me at (775) 684-3443 or by e-mail at [rlpalmer@shpo.nv.gov](mailto:rlpalmer@shpo.nv.gov).

Sincerely,  
  
Rebecca Lynn Palmer, Deputy  
State Historic Preservation Officer

