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**MATHER AFB  
CALIFORNIA**

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**ADMINISTRATIVE RECORD  
COVER SHEET**

AR File Number 1746



DEPARTMENT OF THE AIR FORCE  
AIR FORCE BASE CONVERSION AGENCY

18 September 1998

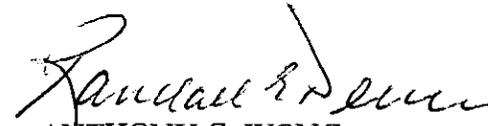
MEMORANDUM FOR AFBCA/DA

Attn: Frank Duncan

FROM: AFBCA/DA Mather  
10503 Armstrong Avenue  
Mather, CA 95655

SUBJECT: Transmittal of the most recent revision of the "Final Explanation of Significant Differences (ESD) from the ROD for the Soils Operable Unit Sites and Groundwater Operable Unit Plumes" for signature coordination.

1. Transmitted herein please find the subject document. The ESD has been revised from the version transmitted to you in February 1998 for signature coordination by the change of Site 7 acceptance criteria for disposal of soil containing dieldrin, chlordane, and polyaromatic hydrocarbons, and by allowing the disposal at Site 7 of clay pigeon shards from Site 87. These acceptance criteria changes are based upon site-specific modeling as described and referenced in the ESD. The disposal of shards has been proposed to U.S. EPA, DTSC and RWQCB, and has received concurrence from these agencies.
2. Please coordinate signature and return to me for incorporation into the Administrative Record and distribution to the remedial project managers and other stake holders.
3. Questions should be addressed to Bill Hughes at (916) 364-4007.

*for*   
ANTHONY C. WONG  
BRAC Environmental Coordinator

Attachment: Final ESD

cc: U.S. EPA, Attn: Kathleen Salyer, (SFD-8-1)  
DTSC, Attn: Linda Hogg  
RWQCB, Attn: James Taylor  
IWMB, Attn: Glenn Young

**Soil Operable Unit**  
**Mather AFB, California**

**Final Explanation of Significant Differences**  
**from the Record of Decision**

**Disposal of Contaminated Soil at Site 7/11**

18 September 1998

AFBCA/DA Mather  
10503 Armstrong Avenue  
Mather, CA 95655  
(916) 364-4009

## 1. Introduction

This decision document presents an explanation of significant differences (ESD) from the Final Record of Decision (ROD) for Soil Operable Unit Sites and Groundwater Operable Unit Plumes at Mather Air Force Base, California [U.S. Air Force, 1996]. The significant differences described in this ESD are in the planned remediation of Site 7/11. The ESD is developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments Reauthorization Act of 1986 (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Under Section 117 (c) of CERCLA an ESD is required when significant (but not fundamental to the remedy selected in the ROD) changes are made to the final remedial action as described in the record of decision. This ESD follows recommendations in the US Environmental Protection Agency Guide to Addressing Pre-ROD and Post-ROD Changes [EPA, 1991].

The concept of disposal of contaminated soils into Site 7 was presented for public comment in the Proposed Plan for Environmental Cleanup at the Basewide Operable Unit Sites during the public comment period from May 23 through June 23, 1997, and at a community meeting on May 29, 1997. This document was issued in draft on August 8, 1997, for review and comment by regulatory agencies and the Restoration Advisory Board under the terms of the Federal Facility Agreement Under CERCLA Section 120 for Mather Air Force Base, and the draft final revision incorporating resolutions to comments was issued on November 14, 1997. By terms of the FFA, this document became final on 15 December, 1997. Portions of the text were modified based upon review by Air Force Base Conversion Agency and transmitted on 2 February 1998 to allow signature coordination. However, it was anticipated that modifications to the acceptance criteria for disposal of soil at Site 7 would be proposed, and for this reason the remedial project managers for the Air Force, U.S. EPA, and the state of California decided to delay the signature of the ESD until these proposed changes were considered. The remedial project managers reviewed and approved two proposed changes to the Site 7 acceptance criteria (see references in Section 5), and at the Mather BRAC Cleanup Team (BCT) meeting on September 9 and 10, 1998, agreed to add the approved changes to Table 1 and consider the ESD final under the Federal Facility Agreement in order to allow the approved disposal to proceed at Site 7. In addition to the establishing the acceptance criteria for disposal of soil in this ESD, the remedial project managers decided at the September 9 and 10 BCT meeting to allow the disposal at Site 7 of clay pigeon fragments from Site 87 if this disposal met approval of their respective agencies. Concurrence letters were issued by the Department of Toxic Substances Control and the Regional Water Quality Control Board on September 17 and 18, 1998, respectively. Therefore this ESD also explicitly allows disposal of these clay pigeon fragments as long as they are screened to remove soil and fine particles that do not meet the Site 7 acceptance criteria presented in this ESD. An estimated 600 cubic yards of clay pigeon fragments will be eligible for disposal after removing the soil and finer fragments.

Site 7/11 requires an estimated 43,000 cubic yards of material to fill in the remaining depression at the former gravel excavation. In addition, the cleanup of ditch sites 13, 15, 80, 85, and 88, excavation of sediment from Site 69, and cleanup of gun range sites 86 and 87 are expected to generate a large volume of soil and sediment (perhaps 30,000 cubic yards) that will require disposal. This ESD describes changes to the Soil OU ROD to allow discharge of contaminated soil to Site 7/11 consistent with regulation of Site 7 as a Class III solid waste disposal facility, the construction of a prescriptive cap at the site as required for a Class III landfill, and changing the commitment to excavate soil from Site 11.

The United States (US) Air Force is the owner of Site 7/11, and sites 13, 15, 85, 86 and 87 that are the potential sources for the contaminated soil; is the responsible party for the contamination; and has been delegated authority by executive order to provide the necessary remedial action consistent with the NCP and CERCLA Section 104. The US EPA Region IX and the State of California provide regulatory support and concurrence for the investigations and cleanup activities through the Mather AFB Federal Facilities Agreement [US Air Force 1989]. The Department of Toxic Substances Control is the designated single state agency to represent the State of California to ensure compliance with appropriate California laws and regulations. Both the US EPA and State of California concur with this ESD.

This ESD has been included in the Administrative Record for the Soil Operable Unit (OU) as required in the NCP 300.825 (a)(2). The Administrative Record is located at 10503 Armstrong Avenue, Mather, CA, and is open for inspection by the public weekdays between the hours of 8:00 a.m. to 4:00 p.m. The final document is also located at an off-site public repository at the Rancho Cordova Community Library. The library is located at 9845 Folsom Boulevard, Sacramento 95827, and is open Tuesday from 1:00 p.m. to 8:00 p.m.; Wednesday 11:00 a.m. to 6:00 p.m.; Thursday 11:00 a.m. to 8:00 p.m.; and Friday and Saturday 1:00 to 5:00 p.m. (hours subject to change without notice). A public comment period is not required for this ESD; however the Air Force is notifying the public of the availability of the final ESD for the Soil OU ROD in a fact sheet and a notice in the Sacramento Bee and the Grapevine Independent Newspaper.

## **2.0 Site Background**

This section provides a brief description of Site 7/11, its history, contamination problems, and the selected remedy. Further details can be found in the ROD and in the Administrative Record.

### **2.1 Site Description and History: Site 7/11 - "7100 Area" Disposal Site/Existing Fire Protection Training Area**

Mather AFB is an inactive military facility located approximately 10 miles east of Sacramento in Sacramento County, California, as shown in Figure 1. Mather AFB closed on 30 September 1993, under the Base Realignment and Closure Act. At the time of closure the base encompasses 5845 acres in an unsurveyed part of Township 8 North, Ranges 6 East and 7 East. Since closure portions of base have undergone reuse under long-term lease to Sacramento County for a regional park and the airfield and flight line for general aviation. Transfer of title to the property at Mather is pending Air Force declaration that all action necessary to protect public health and the environment has been taken, in accordance with CERCLA Section 120(h)(3).

Site 7/11 is located near the southern boundary of Mather AFB, as shown in Figure 2. For purposes of remediation, Sites 7 and 11 were grouped together based on proximity and common contaminants.

#### **2.1.1 Site 7 - "7100 Area" Disposal Site**

Site 7 is located in the southwest corner of the base and has been used as a disposal area since 1953. The site was originally a gravel borrow pit excavated to a depth of approximately 40 feet. From 1953 until approximately 1966, this site was a major disposal area for petroleum, oil, and lubricant (POL) wastes. Other waste reportedly disposed of includes empty drums, sludge from plating-shop dip tanks, absorbent sand used for cleaning oil and solvent spills, paint chips, waste paint and thinners, and at least one load of transformer oil that may have contained polychlorinated biphenyls (PCBs).

#### **2.1.2 Site 11 - Existing Fire Protection Training Area**

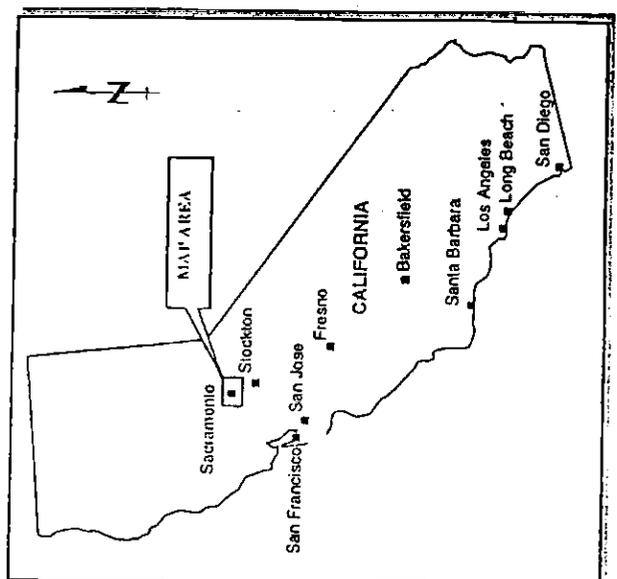
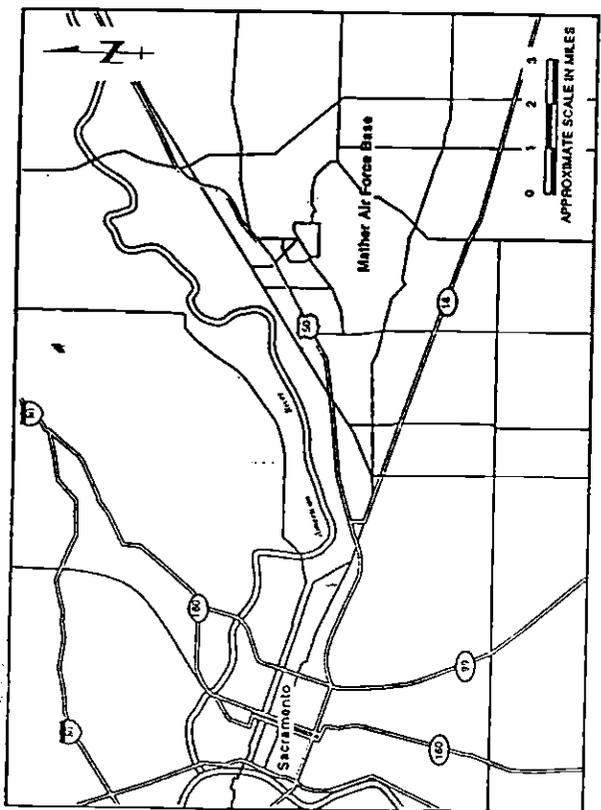
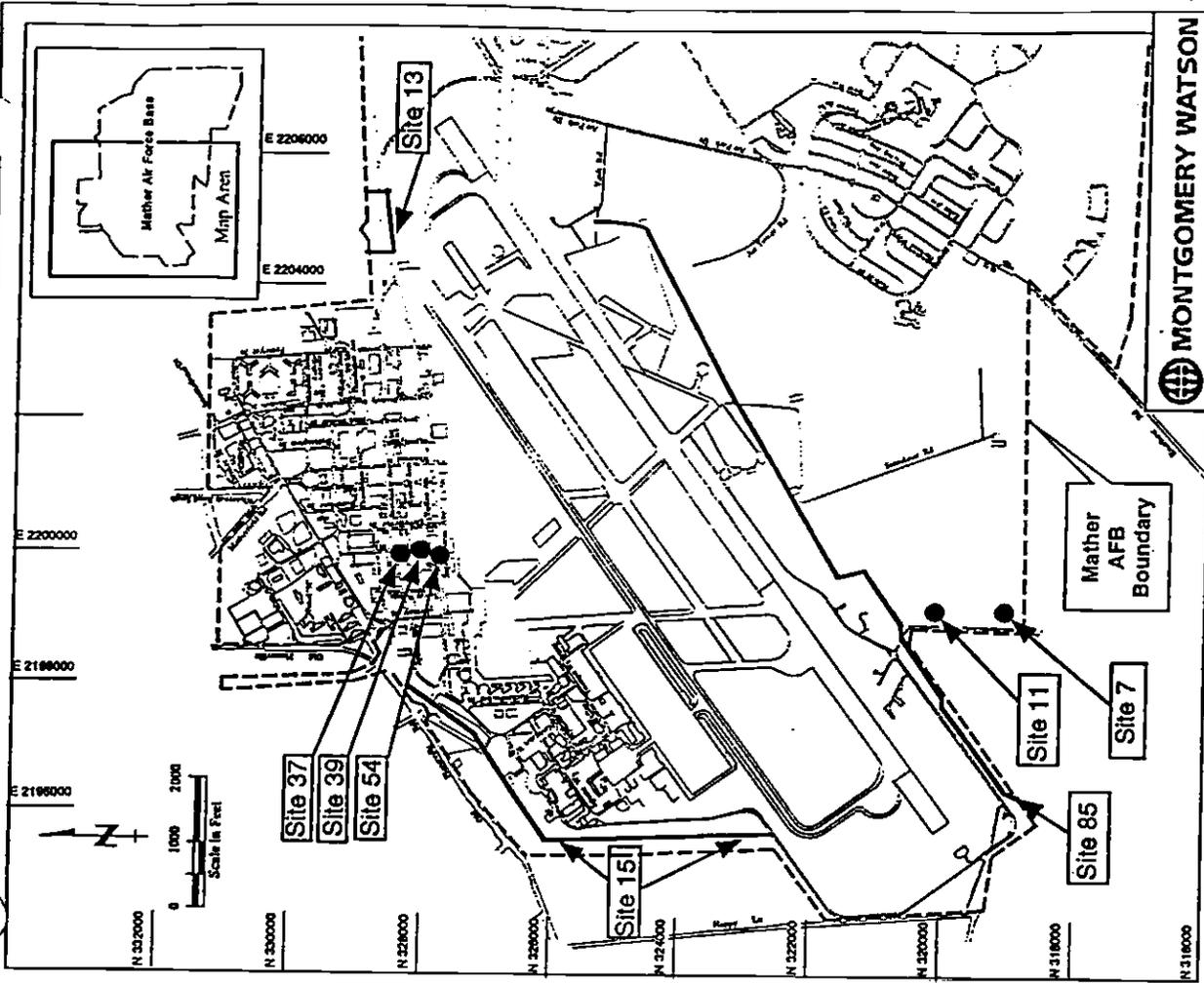
Site 11 is located south of the Sewage Treatment Plant and adjacent to Site 7. Fire training exercises were conducted there from 1958 until 1993. Two jet propellant fuel (JP-4) aboveground storage tanks (ASTs) were installed in 1974; these have since been replaced. The facility was upgraded to include a lined burn pit in the mid-1980's. One of three samples from the site analyzed for dioxins had detectable concentrations, but the concentrations were below the cleanup level established for the Soil OU ROD.

**MONTGOMERY WATSON**

MATHER AIR FORCE BASE  
SACRAMENTO COUNTY, CALIFORNIA

SITE LOCATION MAP

Figure 1



11/88/001 12/1/88



MATHER AIR FORCE BASE  
SACRAMENTO, CALIFORNIA

**SURFACE WATER FEATURES MAP**

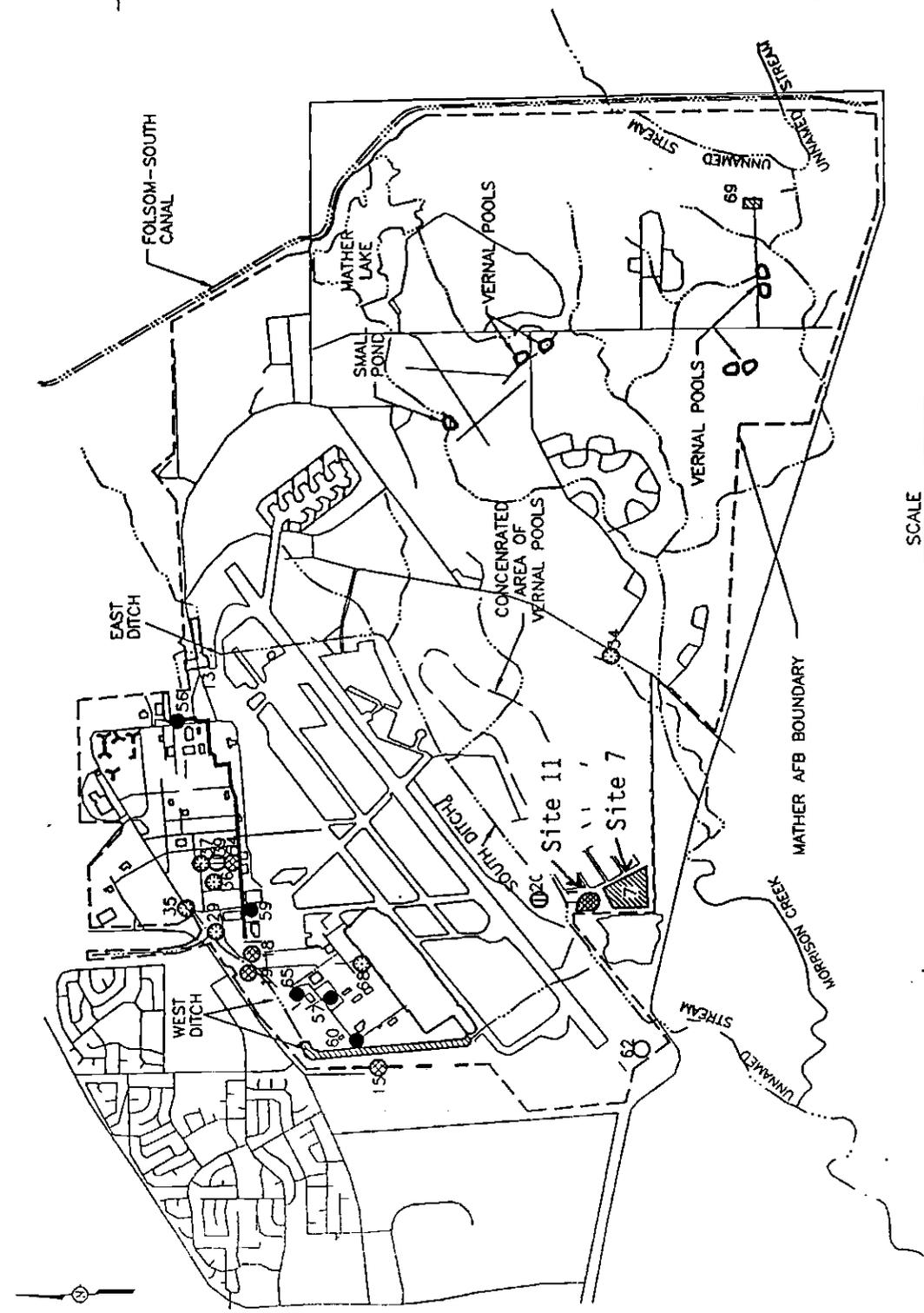
SOIL, OU SITES  
AND

Figure 2

PREPARED FOR

**LEGEND**

- ⊗ Disposal Site
- ⊙ Discharge Associated Site
- ⊘ UST Site
- Oil/Water Separator & Discharge Associated Site
- Oil/Water Separator Site
- ⊖ UST & Discharge Associated Site



### 2.1.3 Contamination at Site 7/11

Contamination at Site 7 has been identified in the shallow and deep subsurface soils. The COCs identified at the site are diesel, gasoline, lead, and thallium. Contamination at Site 11 has been identified in the surface soils. The COCs identified at Site 11 are dioxins and dibenzofurans.

## 2.2 Description of the Selected Remedy for Site 7/11 - "7100 Area" Disposal Site/Existing Fire Protection Training Area

Alternative 7.3 was selected by the Air Force in the 1996 Record of Decision, with concurrence by the USEPA and the State of California, as the remedy for Site 7/11. The major components of this remedy include:

- filling in the depression at Site 7 with inert fill
- treating the contaminated shallow and deep soils at Sites 7 and 11 by in situ bioremediation and possibly soil vapor extraction (SVE). The in situ bioremediation system could be converted to a SVE system if significant amounts of solvents are encountered, in order to speed up remediation;
- installing a prescriptive landfill cover over the Site 7 impacted area if site conditions indicates it is appropriate, or a vegetative cover if there is no threat to groundwater quality nor generation of landfill gases, using inert soils and/or non-designated soils to construct the foundation for the cap/cover; and
- monitoring the groundwater (if contamination remains in place that threatens groundwater quality).

The selected remedy dictates that remediation at Site 7/11 will be implemented in a phased approach, whereby the depression at Site 7 would be filled with inert material, after which SVE, bioventing, and soil gas monitoring will be implemented prior to a final determination on the need for a prescriptive landfill cover pursuant to Article 8 of 23 California Code of Regulations (CCR), Division 3, Chapter 15. However, this ESD changes a portion of the remedy selected in the ROD. Details are presented in Section 3; in summary the change consists of the use of soil with contaminant concentrations above background but below designated levels, to fill the depression at Site 7; eliminating the commitment to excavate soils from Site 11 (these soils meet the cleanup standard for dioxins, and therefore do not require remediation), and the decision to employ a landfill cap as prescribed for a Class III waste disposal facility.

Initial site grading will be accomplished in conjunction with drilling in order to allow site access for the drill rigs; the Site 7 depression may or may not be filled above grade at this time. Further grading may be accomplished to minimize infiltration of surface water into Site 7 during SVE and bioventing. Final site construction will be accomplished at the completion of SVE and bioventing.

The basis for cleanup at Site 7/11 is compliance with ARARs for waste disposal sites, and mitigating a potential source of current/future groundwater contamination to protect groundwater quality for its beneficial uses. Table 2-19 presents the Site 7/11 cleanup levels.

**Table 2-19. Site 7/11 Cleanup Levels**

Contaminant of Concern	Cleanup Level (ppm)
Subsurface Soils	
TPH as Diesel	10
TPH as Gasoline	1

TPH = total petroleum hydrocarbon

ppm = parts per million

### 3.0 Description of Significant Change to the Selected Remedy

This ESD changes one portion of the Record of Decision for Soil Operable Sites and Groundwater Operable Unit Plumes (ROD). To the extent that this ESD differs from the ROD, it supersedes it.

The ROD determined that the remedy for Site 7/11 (remedial alternative 7.3) included the following components that are changed by this Explanation of Significant Difference:

- filling in the depression at Site 7 with inert fill
- installing a prescriptive landfill cover over the Site 7 impacted area in accordance with the Soil OU ROD ARARs, which call for cover per 23 CCR subchapter 15, section 2581(1) or an engineered alternative per 14 CCR, section 17773(b)-(e). Note that these regulations have been repealed and superseded by new regulations in Article 2 of Title 27 of the California Code of Regulations.
- changing a commitment to excavate soils from Site 11 to an optional activity (remediation of surface soils was not required or selected in the ROD)

The Air Force discussed the acceptability of using soil and/or sediments excavated during remediation of contaminated sites at Mather to fill the depression at Site 7 with the regulatory agencies over the course of several Base Closure Team Meetings. This proposal was based upon the material being acceptable for disposal at Site 7; i.e. not a designated nor hazardous waste, and upon potential cost savings that could be realized by using an on-site disposal site, and by reducing or eliminating the amount of fill from other sources that would need to be imported to fill the depression at Site 7 if this waste material were not used.

Regulatory comments addressing the proposed use of contaminated soil to fill the depression at Site 7 were generated during the review of the Basewide Operable Unit RI/FS documents.

In addition, Section 2.5.1.1 of the ROD states that even though the dioxins and furans are not selected by the ROD for remediation, the Air Force will use borrow from the surface soils at Site 11 to fill in the depression at Site 7. This is not mentioned in Section 2.2.9.1 describing the selected remedy. The use of soil from Site 11 as borrow to fill the depression was included in the ROD because the soil had one detection of dioxins (below the cleanup standard) and Site 11 is conveniently adjacent to Site 7. Upon closer inspection, it was found that excavation of surface soils from Site 11 would be significantly more expensive than alternative sources of borrow. This is due to underground utilities which would complicate the borrow of soil, and the drainage of the Site 11 area that would be adversely affected by removal of significant amounts of

borrow. Therefore, soil from Site 11 will only be used at Site 7 to the extent it is less costly than soil from other sources. This ESD clarifies that there is not a requirement to remove soil from Site 11, and clarifies that the commitment in Section 2.2.5.1 of the ROD was not explicitly a part of the remedial action required to protect public health or the environment.

### **3.1 Compliance with Applicable or Relevant and Appropriate Requirements**

There are three categories of ARARs that a remedial action must comply with in addition to being protective of human health and the environment. The categories include chemical-specific requirements that establish numerical standards such as chemical concentrations; action-specific requirements are usually technology- or activity-based requirements or limitations on actions; and location-specific requirements which place restrictions on remedial activities solely because they are in specific locations.

#### **3.1.1 Federal and State Chemical-Specific ARARs**

No chemical-specific federal or state ARARs identified for the Site 7 disposal option. Numerical standards for the disposal of contaminated soil to Site 7 are established by action-specific ARARs.

#### **3.1.2 Federal and State Location-Specific ARARs**

There are no location-specific federal or state ARARs identified for the disposal of contaminated soil at Site 7.

#### **3.1.3 Federal and State Action-Specific ARARs**

ARARs for this action were identified in the ROD. The ROD established that the need for a prescriptive cap or engineered alternative as required by 14 CCR 17773 (b through e) [which references 23 CCR 2581(a)] would be evaluated based upon the success of the in situ treatment at the site. Note that these regulations have been repealed and superseded by new regulations under Article 2 of Title 27 of the California Code of Regulations. The significant difference of adding soil/sediments with contaminants above background at the site changes the Air Force plans such that a prescriptive cap or engineered alternative meeting the requirements of 14 CCR 17773 will be added to the site during or after in situ treatment is accomplished. The footprint of the cap will cover all contaminated waste added to the site under this ESD. Some consolidation of existing debris may occur if it will allow a more compact area for capping.

The waste to be placed in Site 7 must not be classified as hazardous nor designated at the time of disposal. Acceptance criteria established for the waste material are shown in Table 3-1. Table 3-1 presents soluble designated levels for all contaminants of concern; for selected metals and TPH constituents, the table also presents total concentrations that are the lesser of (1) a calculated total designated level (2) a level negotiated with the RWQCB, or (3) the total threshold limit concentration (TTLC) for that constituent. For the latter metals and TPH constituents, the total concentrations will be used as the initial acceptance criteria for disposal. If the waste material exceeds the total concentration shown in Table 3-1, then soluble designated levels from Table 3-1 will be used for acceptance criteria with respect to threat to water quality. If the waste exceeds the TTLC, it can not be placed at Site 7 unless the waste is reclassified as a nonhazardous waste or managed under a Corrective Action management Unit as described below.

Material excavated from IRP sites 86 and 87 will be evaluated for disposal at Site 7. If the waste material has soluble concentrations (either with or without stabilization) that are (1) below the Toxicity Characteristic Leaching Procedure (TCLP), (2) below the Soluble Threshold Limit Concentration (STLC), and (3) below the total concentrations listed in Table 3-1, the wastes will be considered suitable for disposal at Site 7. If the waste material meets the TCLP, STLC, and the soluble criteria listed in Table 3-1, but has total concentrations (either with or without stabilization) that are above the Total Threshold Limit Concentration (TTLC) criteria for defining hazardous waste, then the Air Force will consider pursuing reclassification under 22 CCR 66260.200 to allow the material to be managed as a non-hazardous waste. This would be a reclassification from a non-RCRA hazardous waste to a non-hazardous waste. If reclassification (with or without stabilization) is justified and consequent on-site disposal of the material at Site 7 is economically feasible, then this will be pursued. If the waste material cannot be reclassified under 22 CCR 66260.200, then the Air Force will consider treating and disposing of the wastes under a Corrective Action Management Unit (CAMU) according to 22 CCR 66264.552, and also consider disposal off-base at a suitable landfill.

Table 3-1. Acceptance Criteria for Site 7

Site 7 Acceptance Criteria	Water Quality Goal or Beneficial Use Limit (mg/L)	Soil Quantitation Limit (mg/kg)	EAF	Soluble Designated Level (DI-WET) (mg/L)	WET Dilution	Background Concentration (ppm)	Total Concentration Criteria (mg/kg)
Arsenic	0.05 (1)	2.0	100	0.5	10	16	500 (A)
Barium	1 (1)	40.0	100	10.0	10	1300	10000 (A)
Cadmium	0.005 (1)	1.0	100	0.05	10	1	50 (A)
Chromium	0.05 (1)	2.0	100	0.5	10	92	1250 (A)
Cobalt	0.05 (4)	10.0	100	0.5	10	35	
Copper	1.3 (1)	5.0	1000	130.0	10	93	
Lead	0.015 (1)	0.6	1000	1.5	10	81	1000 (A)
Manganese	0.05 (1)	3.0	100	0.5	10	5720	
Mercury	0.002 (1)	0.2	100	0.02	10	ND	20 (A)
Nickel	0.1 (1)	8.0	100	1.0	10	81	1000 (A)
Selenium	0.05 (1)	1.0	100	0.5	10	ND	
Silver	0.1 (1)	2.0	100	1.0	10	5	
Vanadium	0.05 (4)	10.0	100	0.5	10	139	
Zinc	5 (1)	4.0	1000	500.0	10	116	
Aroclor-1248	0.000045 (3)	0.033	100	0.001 (B)	10	NA	
Aroclor-1254	0.000045 (3)	0.033	100	0.001 (B)	10	NA	
Aroclor-1260	0.000045 (3)	0.033	100	0.001 (B)	10	NA	
4,4-D,D,D	0.00015 (3)	0.0033	1000	0.015	10	NA	
4,4-D,D,E	0.0001 (3)	0.0033	1000	0.01	10	NA	
4,4-D,D,T	0.0001 (3)	0.0033	1000	0.01	10	NA	
Alpha-Chlordane	0.000029 (3)	0.0017	100	0.25	10	NA	2.5 (D)
Gamma-Chlordane	0.000029 (3)	0.0017	100	0.25	10	NA	2.5 (D)
Dieldrin	0.000022 (3)	0.0033	100	0.8	10	NA	8 (D)
Dioxin & associated congeners	0.000000002 (3)	0.0000055	100	0.001 (C)	10	NA	0.01 (B)
Oil & Grease	NA (4)	50.0	NA	NA	10	NA	570 (A)
TPH as Diesel	0.1 (4)	10.0	100	1.0	10	NA	300 (A)
TPH as Gasoline	0.005 (4)	1.0	NA	NA	10	NA	ND
Benzene	0.001 (1)	0.01	NA	NA	10	NA	ND
Carbon Tetrachloride	0.0005 (1)	0.01	NA	NA	10	NA	ND
Ethylbenzene	0.7 (1)	0.01	NA	NA	10	NA	ND
Toluene	0.15 (1)	0.01	NA	NA	10	NA	ND
Xylenes	1.75 (1)	0.01	NA	NA	10	NA	ND
Acenaphthylene	0.00039 (2)	0.33	NA	2.5	10	NA	25 (E)
Anthracene	0.000016 (2)	0.33	NA	10	10	NA	100 (E)
Benzo(a)Anthracene	0.000021 (2)	0.33	NA	10	10	NA	100 (E)
Benzo(a)Pyrene	0.000002 (3)	0.33	NA	10	10	NA	100 (E)
Benzo(b)Fluoranthene	0.000012 (2)	0.33	NA	10	10	NA	100 (E)
Benzo(k)Fluoranthene	0.000015 (2)	0.33	NA	10	10	NA	100 (E)
Benzo(g,h,i)Perylene	0.000031 (2)	0.33	NA	10	10	NA	100 (E)
Chrysene	0.000016 (2)	0.33	NA	10	10	NA	100 (E)
Dibenz(a,h)Anthracene	0.0000085 (3)	0.33	NA	10	10	NA	100 (E)
Fluoranthene	0.000015 (2)	0.33	NA	10	10	NA	100 (E)
Fluorene	0.000081 (2)	0.33	NA	0.08	10	NA	0.8 (E)
Indeno(1,2,3-c,d)Pyrene	0.000014 (2)	0.33	NA	10	10	NA	100 (E)
Naphthalene	0.00024 (2)	0.33	NA	0.033	10	NA	0.33 (E)
Phenanthrene	0.000039 (2)	0.33	NA	10	10	NA	100 (E)
Pyrene	0.00011 (2)	0.33	NA	10	10	NA	100 (E)

(A) Total concentration criteria were developed from vadose zone modeling (Montgomery Watson, September 1997) and negotiations with the RWQCB (September 1997).

(B) The soluble designated level is below the practical quantitation limit; therefore, the practical quantitation limit will be used.

(C) The soluble designated level has been established for Site 7 by the RWQCB as the hazardous level expressed as 2,3,7,8 - TCDD equivalent

(D) The total concentrations established from a separate modeling study of dieldrin and chlordane (MW, Feb. 1998). RWQCB acceptance letter Mar. 17, 1998

(E) The total concentrations established from a separate modeling study of PAH constituents (MW, Aug. 1998). RPM Consensus Statement dated Sept., 1998.

(1) CalEPA or EPA Prim/Sec Drinking Water Standard

(2) Beneficial use set at Method Detection Limit (MDL)

(3) Beneficial use set at  $10^{-6}$  (cancer potency factor or SNARL)

(4) No water quality goal or beneficial use goal available

DDD = dichlorodiphenyldichloroethane

DDE = dichlorodiphenyldichloroethylene

DDT = dichlorodiphenyltrichloroethane

TPH = total petroleum hydrocarbon

mg/L = milligrams per liter

mg/kg = milligrams per kilogram (ppm)

ppm = parts per million

ND = non-detect

#### 4.0 Statutory Determinations

Considering the changes made to the selected remedial action within this ESD, the Air Force, US EPA, and the State of California believe that the remedy remains protective of human health and the environment, complies with federal and state requirements that were identified in the ROD as applicable or relevant and appropriate to this remedial action, and is cost-effective. In addition, the revised remedial action uses permanent solutions and alternative treatment technologies to the maximum extent practical for this site. The change contained herein is significant, but does not fundamentally change the remedy.

Air Force Signature:

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Albert F. Lowas, Jr.  
Acting Director  
Air Force Base Conversion Agency

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Date

## 5.0 References

California Department of Toxic Substances Control, 1998a, memo to Mr. Anthony C. Wong, AFBCA/DA, titled, "Hazardous Waste Determination on Clay Shards at Site 87, Former Mather AFB, Sacramento County", dated September 17, 1998

California Department of Toxic Substances Control, 1998b, memo to Steve Kreuger, Montgomery Watson, dated September 16, 1998, indicating that the toxic threshold limit concentration does not apply to elemental lead fragments exceeding 100 microns.

Central Valley Regional Water Quality Control Board, 1998, memo to Mr. Anthony Wong, AFBCA/DBM, titled, "Modification to Site 7.11 Acceptance Criteria, Results of PAH Modeling, Former Mather Air Force Base, Sacramento County, dated September 18, 1998

Montgomery Watson, 1998a, memo to Mr. Ralph Rosales, AFCEE/ERB, titled, "Modification to Site 7/11 Acceptance Criteria, Results of Dieldrin and Chlordane Modeling, Contract F41624-94-D-8090", dated February 19, 1998

Montgomery Watson, 1998b, memo to Mr. Ralph Rosales, AFCEE/ERB, titled, "Modification to Site 7/11 Acceptance Criteria, Results of PAH Modeling, Contract F41624-94-D-8090", dated August 18, 1998

U.S. Air Force (US Air Force, 1997), Draft Record of Decision for Basewide Operable Unit Sites.

U.S. Air Force (US Air Force, 1996), Record of Decision for Soil Operable Unit Sites and Groundwater Operable Unit Plumes.

U.S. Air Force (US Air Force, 1989), Federal Facility Agreement, July 21, 1989

U.S. EPA, (EPA, 1991), Guide to Addressing Pre-ROD and Post-ROD Changes, April 1991.

U.S. EPA, (EPA, 1989), Guidance on Preparing Superfund Decision Documents: The Proposed Plan, The Record of Decision, Explanation of Significant Differences, The Record of Decision Amendment, Interim Final. EPA/540/G-89/007, July 1989.

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**ADMINISTRATIVE RECORD**

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