



# Proposed Plan for Soil Cleanup at Seven Sites

Air Force Real Property Agency  
3411 Olson Street  
McClellan, CA 95652-1003

Final Copy - September 2003

## A. Introduction

The Air Force Real Property Agency, referred to as the Air Force, requests public comment on its **Proposed Plan** to clean up seven sites at the former McClellan Air Force Base. *A public comment period and a public community meeting are described at the bottom of this page.* The Air Force will make a final cleanup decision after all comments are considered.

The Air Force presents this Proposed Plan to provide the public with a chance to be involved with the cleanup decisions at McClellan. This Proposed Plan summarizes the past actions, investigations, and studies that the Air Force has performed at each of these sites. It also lists the alternatives the Air Force believes are the best solution for protecting human health and the environment.

This Proposed Plan addresses soils contaminated with **non-volatile organic compounds (non-VOCs)**. Non-VOCs include **metals, total petroleum hydrocarbons (TPH), polychlorinated biphenyl (PCB) and semi-volatile organic compounds (SVOC)**. It does not address other contaminants in soil or any groundwater contamination. Future Proposed Plans will address these other contaminants.

The Proposed Plan discusses the details of the Air Force's **Preferred Cleanup Alternative** and other cleanup alternatives that were considered.

### *Public Comment Period and Public Meeting*

#### **Public Comment Period**

- September 15 through October 15, 2003

We encourage you to comment on this Proposed Plan and the alternatives during the public comment period.

Mail your written comments to:

Air Force Real Property Agency  
Attention: Community Relations  
3411 Olson Street  
McClellan, CA 95652-1003

Comments must be received by close of business on October 15, 2003.

#### **Public Meeting**

- September 30, 2003
- 6 p.m.
- Location - Dry Creek Elementary  
1230 G Street, Rio Linda CA

You may come to a community meeting on Sept. 30, 2003. The Air Force will present a summary of the cleanup alternatives. You can ask questions and make comments on the Proposed Plan. The Air Force will record oral comments.

For additional information contact the McClellan environmental community coordinator, at (916) 643-1742, extension 257 or 232.

To assist the reader, as each key term is introduced, it appears in **bold type**. A glossary of key terms is provided on Page 13.

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The Air Force, the United States Environmental Protection Agency (U.S. EPA) and the State of California, represented by the Department of Toxic Substances Control (DTSC) and the Central Valley Regional Water Quality Control Board (RWQCB) work as a team to investigate and cleanup McClellan. The Air Force is the lead agency for environmental activities at the former base.

Based on the consideration of public comments or new information, the final cleanup choice may be different from this Proposed Plan. The Air Force will respond to comments received during the official comment period in the **Responsiveness Summary** section of the **Record of Decision**.

The Air Force issues this Proposed Plan to fulfill the requirements under the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** and the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)**. CERCLA is commonly known as Superfund. The U.S. EPA has final authority for selecting remedies at federal facilities on the **National Priorities List**, like McClellan.

This Proposed Plan leads to a Record of Decision, in which the final cleanup decision is established.

This Proposed Plan is based on the **Remedial Investigation (RI)** and the **Initial Parcel Feasibility Study (FS)**, as well as other site-specific reports. The RI looks at the nature

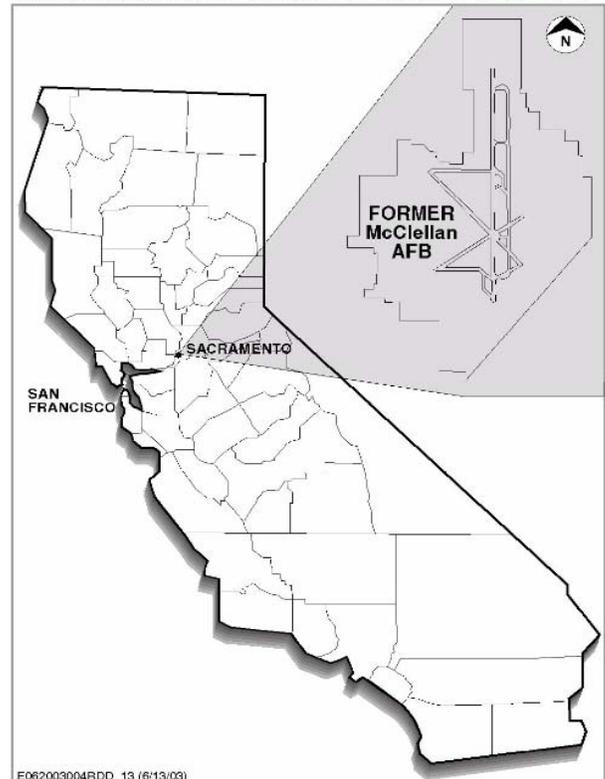
and extent of contamination at the sites. The FS presents cleanup options, including No Action, for addressing the contamination. The feasibility study also looks at methods and costs for cleaning up the sites.

The RI, FS and other related documents are included in McClellan's Administrative Record, located at 3411 Olson Street, McClellan, CA. The phone number is (916) 643-1742, extension 239 for further information. The Air Force encourages the public to review these documents at the Administrative Record office 8 am -3 pm M-Th and every other F, or at [www.afarpa.hq.af.mil/mcclellan](http://www.afarpa.hq.af.mil/mcclellan).

## B. History, Site Background

The former base is seven miles northeast of downtown Sacramento, CA (see below). It currently comprises about 3,000 acres bounded by the city of Sacramento to the west and southwest, the unincorporated areas of Antelope on the north, Rio Linda on the northwest, and North Highlands on the east.

**FIGURE 1:  
LOCATION OF FORMER McCLELLAN AIR FORCE BASE**



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Land use at the former base was a combination of open grassland, industrial (aircraft operations / maintenance), light industrial (warehouse, laboratories, support services), aircraft runways, taxiways and ramps, office buildings and residential uses. Current Sacramento County redevelopment plans include similar use of property and existing facilities

Founded in 1936, McClellan was an aircraft repair depot and supply base. Its mission was to provide logistics and maintenance support for aircraft, communications and electronic systems. In 1995, the federal government decided to close McClellan. It closed in July 2001. The Air Force used a wide-range of toxic and hazardous chemicals at the former base. These chemicals were mostly industrial solvents/cleaners/aviation fuels and a variety of oils/lubricants. Radioactive compounds, mainly radium used in the painting of aircraft instruments, were used as well.

The Air Force put wastes in disposal pits and landfills on the base. Past disposal practices, spills, releases and leaking tanks and pipelines caused soil and groundwater contamination at McClellan.

The Environmental Protection Agency put McClellan on its National Priorities List as a Superfund site in July 1987 due to the groundwater contamination. Under the Superfund program, the Air Force funds and conducts cleanup of the former base.

McClellan has had an active community relations/public participation program to increase communication between the Air Force and the neighboring community. This includes a **Restoration Advisory Board**. The Air Force also held public outreach meetings and speaking engagements with local organizations.

### C. Site Characteristics

The sites contained in this Proposed Plan are a combination of buildings, storage areas, parking lots and grassy areas.

During the past years, the Air Force has studied the nature and extent of contamination at the former base. The studies found a variety of chemicals and waste products that have been designated as **Contaminants of Concern**. Generally, the non-VOC contamination is only in the upper 15 feet of soil. The site history, non-VOC contaminants of concern (shown in parenthesis below) and the nature and extent of contamination at the Initial Parcel sites addressed in this Proposed Plan are as follows:

1. *PRL S-014 (proposed for cleanup of PCBs):* Site was a former motor pool area. Two underground storage tanks and a pump island, a paint facility, a hazardous waste storage area, and a washrack were present. The site has PCB contamination from a transformer located on the north side of Building 22 and from the electrical ballast storage area on the south side of Building 22. Metals were generally detected at background levels.
2. *PRL S-033 (removal action completed for Polynuclear Aromatic Hydrocarbons (PAHs), proposed for No Action):* Site includes Building 786A, a warehouse that formerly served as a collection point for chemical wastes from other industrial activities on the base, and the surrounding loading docks. The contamination at this site was cleaned up under a removal action in 2002.
3. *SA 003 (proposed for cleanup of Metals and TPH):* Site consists of an uncovered vehicle washrack and a former hazardous waste storage area. These features and the industrial waste line lift station are sources of TPH and metals contamination.
4. *SA 035 (Arsenic and bis2CEE contamination present; proposed for No Action):* Site includes Building 20 and surrounding parking lot. Served as a quartermaster's warehouse with SVOCs, fuels, oils, and solvents identified as materials used or handled at the site. From 1966 on, it has

Detailed site information is available in the Initial Parcel Feasibility Study 1 and the Environmental Site Folders.

been a telecommunications coordination center. The Air Force found elevated concentrations of arsenic and bis2CEE in one sample. No bis2CEE was detected in a deeper sample or in four samples collected less than 20 feet away.

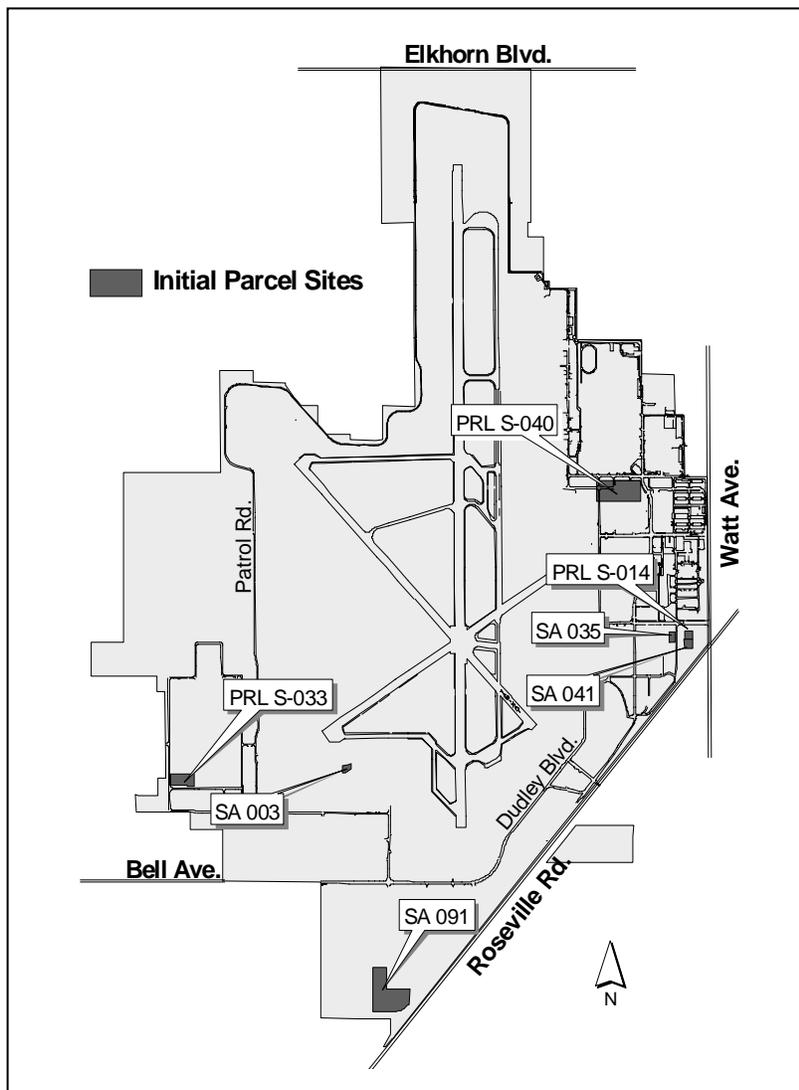
5. SA 041 (proposed for No Action): Site includes Building 54, which contained a welding and sheet metal fabrication shop, and a carpentry shop. Building features prevented contaminant releases to the environment. Therefore, the Air Force didn't collect any soil samples.
6. SA 091 (proposed for No Action): Site includes former warehouse Building 621 (Bays A through D) and an associated

## SITES INCLUDED IN THIS ROD

storage lot east of the building. Bay A was remodeled and used for hazardous material storage from 1981 to the early 90's. The Air Force cleaned up all reported spills. The Air Force collected several soil samples from the storage lot and tested them for pesticides and other contaminants. They found very low levels of pesticides.

7. PRL S-040 (proposed for No Action under CERCLA). The FS and the ROD address a seventh site (PRL S-040), that only has fuel contamination (TPH). Petroleum and petroleum-derived constituents are exempt under CERCLA, but will be handled under State requirements. Therefore, the Air Force proposes PRL S-040 for No Action under CERCLA and in

**FIGURE 2:**



this Proposed Plan. Because the site only has petroleum contamination it is not discussed in detail in this Proposed Plan. The Air Force will clean up the petroleum contamination under State requirements.

Three sites (PRL S-033, SA 041 and SA 091) have no contaminants of concern in soil and were recommended for No Action early in the FS process. The Air Force did not evaluate alternatives for these three sites in the Feasibility Study due to the lack of contamination.

## D. Scope and Role

The Proposed Plan addresses contaminated soils, summarizes the evaluation of cleanup options for each of the contaminated sites, and presents the preferred cleanup alternatives.

The Proposed Plan addresses non-VOC contaminated soils for six Initial Parcel sites. The goal of the actions is to reduce the potential

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exposure to contaminated soil and to protect surface water and groundwater.

Cleanup goals support **unrestricted land use** and protect human health and the environment. Unrestricted use allows for anything to be built, including homes and schools. The cleanup goals for this Proposed Plan meet the federal and state requirements for PCBs, SVOCs, metals, and petroleum products (such as gasoline and diesel). Future Proposed Plans will address other contaminants in soil and groundwater before unrestricted land use will be allowed.

The Air Force proposes No Action at four sites (PRL S-033, SA 035, SA 041 and SA 091) for non-VOCs in soil. The Air Force proposes Cleanup at the remaining two sites (SA 003 and PRL S-014).

## E. Summary of Site Risks

Risk assessments have been done to determine the effects of contaminants on human health and the environment. A risk assessment is a scientific procedure that uses both facts and conservative assumptions to evaluate the potential adverse effects on human health and the environment from exposure to chemicals.

The potential risk for individual compounds could be somewhat lower or greater than calculated. This is because there are uncertainties in the risk assessment process. The Air Force bases the risk numbers on conservative assumptions to protect human health.

For cancer-causing contaminants, the target risk range is from 1 to 100 additional cancer cases caused by site contaminants in a population of 1,000,000 people exposed over a lifetime. The background probability of getting cancer in California is approximately 1 in 3 chances (or 333,000 in 1,000,000) over a lifetime.

The Air Force and regulators consider risks greater than the target risk range unacceptable, and generally recommend action. For risks that fall within the target risk

range, the Air Force evaluates site-specific information to determine whether action is warranted.

In some cases, such as arsenic, the naturally occurring background values exceed levels of concern. There is no requirement under CERCLA to clean up below background values.

The Air Force completed human health risk assessments at all the sites described in this Proposed Plan, except for SA 041. SA 041 did not require a risk assessment because there are no contaminants of concern at the site. A complete discussion of the risks from these sites is in the RI and FS reports.

The sites presented in this Proposed Plan do not require ecological risk assessments because they do not have ecological habitat. The RI recommended all sites for no further ecological investigation.

The human health and environmental risks posed by the sites help determine whether or not cleanup action is needed. The Air Force analyzed various risk assessment scenarios for each site to evaluate future land uses. Following is a summary of the risks determined in the RI and FS.

### PRL S-014

The Air Force found PCBs in the soil in the northern area, and PCBs and arsenic in soils in the southern areas of the site. In the northern area, the primary potential risk (5-in-100,000) is due to eating homegrown produce grown in PCB-contaminated soil. The risk associated with PCBs and arsenic (1-in-10,000) in the southern area is 98% attributed to the ingestion of the arsenic in homegrown produce. The arsenic appears to be present at only background levels and poses no increased risk.

**Volatile organic compounds (VOCs)** are also present at the site and have a risk of less than 1-in-1,000,000. The VOCs are in a different area of the site than the PCBs. A future Proposed Plan will address VOCs.

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The Air Force proposes a cleanup action in the northern area because of the increased risk from PCBs in soil.

### **SA 003**

The risk assessment is considered incomplete because the nature and extent of contamination in soil is not fully defined. Lead and barium are contaminants of concern for protection of human health. Lead is also a contaminant of concern for protection of surface water. TPH is a contaminant of concern for protection of groundwater. The Air Force proposes a cleanup action for the protection of human health, surface water and groundwater.

VOCs are also present at the site, which may present additional risk. A risk assessment for VOCs is pending.

### **SA 035**

Contaminants of concern at this site are arsenic and bis2CEE. Bis2CEE is a component in solvents and could have been used to clean paint equipment. The contaminants are only found outside the northwest corner of Building 20. Results of a human health risk assessment show that the additional cancer risk for the resident adult is 2-in-1,000. The risk is entirely attributable to the homegrown produce ingestion pathway in soil for arsenic and bis2CEE. A portion of the risk is from naturally occurring arsenic. Sampling demonstrated there is limited extent to the bis2CEE contamination. A total of 10 soil samples at the site were tested for arsenic and 14 were tested for bis2CEE. The Air Force found elevated concentrations of arsenic and bis2CEE in one sample collected 6 inches below the ground surface. Bis2CEE wasn't detected in a sample collected 2 feet deeper or in four samples collected less than 20 feet away. Although the Air Force proposes that cleanup action is not needed, the State believes additional characterization is warranted, or cleanup action is needed.

### **PRL S-033**

Contaminants of concern at PRL S-033 were PAHs in the soil. A human health risk assessment showed that PAHs caused an adult residential cancer risk of 7-in-10,000. However, soil contaminated with PAHs was removed in 2002, and the cancer risk was lowered to 0.6-in-1,000,000. The Air Force proposes no additional action.

### **SA 041**

The Air Force did not perform a human health risk assessment at this site because it found no contaminants of concern during the RI. Building features prevented contaminant releases to the environment. Therefore, the Air Force proposes no cleanup action at this site.

### **SA 091**

Very low levels of pesticides were reported sporadically across the site. Risk assessment results (0.06-in-1,000,000) showed that these reported detections do not pose a threat to human health. Therefore, the Air Force proposes no cleanup action at this site.

## **Summary**

It is the Air Force's current judgment that the preferred cleanup alternatives identified in this Proposed Plan are protective of human health and the environment.

## **F. Remedial Action Objectives**

Remedial action objectives are goals established for protecting human health and the environment. Some remedial action objectives can be shown in numbers while others may be shown as goals for the cleanup action. The remedial action objectives for non-volatile organic compounds in soil include the following:

- Prevent and reduce human exposure to soil contaminants.
- Prevent or reduce the impact to groundwater and surface water.

- Reduce risks to ecological receptors to a level consistent with habitat quality.
- Achieve compatibility with other remedial actions at McClellan (i.e., actions to address volatile organic compound contamination).
- Reduce the volume of contaminated soil.
- Protect surface water and groundwater quality.
- Maximize, to the extent practicable, the amount of land available for unrestricted use, and where not possible, to the land's best use.
- Achieve lowest cleanup levels that are technically and economically feasible.
- Restore cleaned areas to a condition compatible with the existing surrounding environment and land use.
- Expedite site cleanup and restoration.
- Consider innovative technologies to reduce the length and cost of cleanup actions.

## G. Summary of Alternatives

Following is a summary of the alternatives evaluated for the three sites (PRL S-014, SA 003, and SA 035) with identified non-VOC contaminants of concern in soil. The Air Force did not evaluate alternatives for three sites (PRL S-033, SA 041, and SA 091) because there were no contaminants of concern. At one site (PRL S-040), the Air Force will take no action under CERCLA because the only contamination is from fuels. Fuels are exempt from CERCLA and will be cleaned up under State requirements.

The Air Force's preferred cleanup alternative for SA 035 is Alternative 1, while the Air Force's preferred cleanup alternative for PRL S-014 and SA 003 is Alternative 3A. The State believes that Alternative 3A is appropriate for

SA 035. The Air Force asks the public to comment on both the preferred alternatives and the other alternatives presented.

Cost estimates for all of the alternatives are in accordance with EPA guidance. The table on page 11 shows the costs and volume of contamination for each site. The numbering of the alternatives corresponds to the numbers presented in the feasibility study.

### Common Elements

Many of these alternatives include common components. The remedial alternatives address non-VOC contamination in soil only at the sites that may require remediation. Each alternative, except for Alternative 1, requires institutional controls until the cleanup action is done. Institutional controls restrict uses of land and limit exposure to the contaminants. Institutional controls may include fences or deed restrictions. Institutional controls can be part of the remedy or they can be the entire remedy.

### Alternative 1 - No Action

CERCLA requires a No Action alternative to establish a basis for comparison with other alternatives. No cleanup activities take place; therefore this alternative does not reduce contamination, if present. There are no cleanup costs for this alternative.

### Alternative 2 - Institutional Controls Only

**Institutional controls** include permitting, zoning, deed restrictions, fencing, inspections, and enforcement. Institutional controls reduce exposure by keeping the site secure and limiting land use.

Institutional controls allow the contamination to remain in place while still protecting human health and the environment. Institutional controls remain with the land indefinitely. Alternative 2 doesn't allow residential land use. The Air Force, Sacramento County and the State each carry out specific institutional controls.

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### **Alternatives 3A and 3B - Excavation/Landfill**

Under Alternatives 3A and 3B, the Air Force takes the contaminated soil to a landfill. The land use under Alternative 3A is unrestricted. Under Alternative 3B, the land use is restricted and institutional controls will be applied because some petroleum contamination is left at the site. For restricted land use, homes or schools are not usually permitted to be built.

Under alternative 3A and 3B, the Air Force will meet the respective cleanup goals when they finish removing the contaminated soil.

### **Alternatives 4A and 4B - Bioventing**

**Bioventing** injects air into TPH-contaminated soil. The addition of air enhances the natural breakdown of TPH; reducing the TPH levels in soil. Alternatives 4A and 4B will be used at sites only contaminated with TPH.

The land use under Alternative 4A is unrestricted. Under Alternative 4B, the land use is restricted because not all TPH is cleaned up. Bioventing isn't effective for other contaminants. Bioventing systems take months to construct and will operate for years.

### **Alternative 5 - Excavation/Treatment/Backfill**

Under Alternative 5, the Air Force removes and cleans the contaminated soil using a **Thermal Desorption** process. The Air Force places the cleaned soil back into the hole. This will take several months to complete and then the site will be available for unrestricted use. This alternative doesn't treat metals.

### **Alternative 6 - Multilayer Cap**

*The Air Force screened out Alternative 6 before the detailed analysis and did not estimate costs. Please see Section H of this Proposed Plan or the Feasibility Study.*

Under Alternative 6, the Air Force covers the contaminated soil with a multilayer cap. Caps protect human health and the environment but require restricted land use. Multilayer caps are built with clay, soil, asphalt or plastic. Caps require institutional controls to prevent damage and control exposure. Caps require ongoing inspections and repairs. Many other State requirements may apply.

### **Alternative 7 - Excavation/CAMU**

*The Air Force screened out Alternative 7 before the detailed analysis and did not estimate costs. Please see Section H of this Proposed Plan or the Feasibility Study.*

Under Alternative 7 the Air Force excavates the contaminated soil from multiple sites and combines the soil into a single landfill, called a **Corrective Action Management Unit (CAMU)**. The cleaned up sites are available for unrestricted use. The landfill requires institutional controls. If this alternative is implemented, the Air Force likely would use a location at McClellan for the landfill.

## **H. Evaluation of Alternatives**

Nine criteria are used to evaluate the different alternatives in order to select a cleanup alternative. The text box below lists the nine criteria. Three groups make up the nine criteria: threshold criteria, primary balancing criteria and modifying criteria. The selected alternative must meet the threshold criteria.

<b>Nine Criteria</b>	
Threshold Criteria	
	1. Overall Protection of Human Health and the Environment
	2. Compliance with <b>Applicable or Relevant and Appropriate Requirements (ARARs)</b> .
Primary balancing criteria	
	3. Long-Term Effectiveness and Permanence
	4. Reduction of Toxicity, Mobility, or Volume,
	5. Short-Term Effectiveness
	6. Implementability
	7. Costs
Modifying Criteria	
	8. State Acceptance
	9. Community Acceptance

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The Air Force screened out Alternatives 6 and 7 because they have a moderate to high cost and will need long-term institutional controls. The landfill or capped areas will also have land use restrictions.

The following evaluation of alternatives focuses on Alternatives 1, 2, 3A, 3B, and 5. The evaluation is summarized by criteria. Alternatives 4A and 4B were not evaluated because they only apply to TPH contamination. Sites that are only contaminated with TPH are handled under State requirements.

### **1. Overall Protection of Human Health and the Environment**

For PRL S-014 and SA 003, all of the alternatives, except Alternative 1 (No Action), protect human health. For PRL S-014, Alternatives 2 (Institutional Controls Only) and 3A (Excavation/Landfill) protect the environment. For SA 003, only Alternative 3A protects the environment.

For the other sites (PRL S-033, SA 035, SA 041, and SA 091), the Air Force believes that Alternative 1 protects human health and the environment. The State however, believes that Alternative 1 doesn't protect human health for SA 035.

Some alternatives provide greater protection of human health and the environment than others. Alternative 2 is the least protective because contaminants remain in place. For SA 003, Alternative 2 is not effective for the protection of groundwater because TPH will move through the soil to groundwater. However for PRL S-014, as long as institutional controls are in place, the alternative is effective.

Alternatives 3A and 5 (Excavation/Treatment/Backfill) provide a high level of protection of human health and the environment. The Air Force removes the contaminants from the site.

The Air Force believes Alternative 5 is more protective than Alternative 3A. Alternative 5 treats the contaminants, but in Alternative 3A the contamination remains in a landfill. Alternative 3B is less protective because some TPH is left in place.

### **2. Compliance with ARARs**

ARARs are the federal and state requirements that a cleanup alternative must meet.

Alternative 1 doesn't meet the requirements for cleanup of contamination at SA 003 and PRL S-014, but does at the other sites.

Alternative 2 meets the requirements at all sites except SA 003. All other alternatives (Alternatives 3A, 3B, and 5) meet the requirements.

### **3. Long-term Effectiveness and Permanence**

For PRL S-014 and SA 003, Alternative 1 (No Action) is not effective for the long-term because unacceptable risks remain at the sites. For SA 035, the Air Force believes that Alternative 1 is effective, but the State disagrees. Alternative 2 is protective for all three sites, but institutional controls are hard to maintain over time. As long as institutional controls are inspected and enforced, they can be effective over the long-term.

Alternatives 3A, 3B, and 5 each provide permanent and long-term effectiveness in protecting human health and the environment. Under these alternatives the Air Force removes the contamination. Under Alternative 5, the Air Force also treats contaminated soil.

### **4. Reduction of Toxicity, Mobility or Volume through Treatment**

Of all the alternatives, only Alternative 5 meets this criterion. Alternative 5 significantly reduces contaminant toxicity, mobility and volume through treatment. The treatment is permanent.

Alternative 1 does not reduce the toxicity, mobility or volume of contamination because

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treatment isn't used. Alternative 2 may reduce the mobility of contamination by restricting digging and disturbance of surface covers. For both Alternatives 1 and 2, contaminants may break down naturally over time, reducing toxicity and volume.

Alternatives 3A and 3B do not reduce the toxicity or volume of contaminants unless the soil is treated prior to landfill disposal. However, excavating and disposing of contaminated soil off site effectively reduces toxicity, mobility and volume at the site. After being placed in the landfill, the Air Force could still be liable. For example, if the contaminated soil was dug up, it could impact human health. Or if the landfill cap leaked, the contaminants could leach to groundwater.

### **5. Short-term Effectiveness**

Alternative 1 has no cleanup actions, so no short-term risks or environmental impacts occur. Alternative 2 leaves contaminants in place and uses institutional controls.

Alternative 2 doesn't disturb contaminants so it protects human health and surface water in the short-term. However, some sites don't achieve protection of groundwater.

Alternatives 3A, 3B and 5 require removal and transport of contaminated soil presenting a potential for short-term exposure. Alternatives 3A and 3B have a greater risk because the distance traveled for off site disposal is longer. Alternative 5 requires temporary storage of contaminated soils, which may increase the level of dust.

### **6. Implementability**

Alternative 1 is not evaluated for this criterion because no action occurs.

Alternative 2 is implementable. However, institutional controls may reduce the reuse of the sites, and there is a possible risk of future exposure.

Each of the other alternatives can be constructed and operated. Materials, equipment, vendors and services are also

available. However, Alternative 3B requires institutional controls, which may reduce the reuse of the sites. Alternative 3B also has a possible risk of future exposure. Alternative 5 has potential storage and capacity limitations.

All alternatives require coordination with other cleanup programs that are addressing VOCs in soil and groundwater.

### **7. Cost**

Based on the total costs, Alternative 3A is the least costly of the acceptable alternatives for PRL S-014 and SA 003. Alternative 1 is the least costly of the acceptable alternatives for SA 035. See table on page 11 for a comparison of costs for each alternative by site.

The Air Force evaluated PRL S-014 for Alternatives 1, 2, 3A, and 5, but not for Alternative 3B because TPH is not a contaminant of concern at the site. Costs for Alternative 5 are significantly greater than for the other alternatives because of the high cost required to treat the soil. Although there are no costs for Alternative 1, this alternative does not reach the cleanup goals. *Therefore, Alternative 3A has the most benefit for the least cost.*

The Air Force evaluated SA 003 for Alternatives 1, 2, 3A, and 3B, but not for Alternative 5 because TPH and metals are mixed together at the site. Alternatives 2 and 3B are more expensive than Alternative 3A because they require long-term institutional controls. Although there are no costs for Alternative 1, this alternative does not reach the cleanup goals. *Therefore, Alternative 3A has the most benefit for the least cost.*

The Air Force evaluated SA 035 for Alternatives 1, 2, and 3A, but not for Alternative 3B because TPH is not a contaminant of concern at this site. Alternative 2 is more expensive than the other alternatives due to the costs of long-term institutional controls. For SA 035, Alternatives 1, 2, and 3A meet the cleanup goals. *Therefore, Alternative 1 is the most cost effective.*

## State Acceptance

*The State agrees with all proposed actions with the exception of SA 035*

## Community Acceptance

The Air Force will evaluate community acceptance of the preferred cleanup alternative after the public meeting and the public comment period. The Air Force will describe community acceptance in the Record of Decision.

## I. Air Force Preferred Cleanup Alternatives

- PRL S-014 and SA 003: Alternative 3A
- PRL S-033, SA 035, SA 041 and SA 091: Alternative 1
- PRL S-040: The Air Force will handle fuel contamination under State requirements and not Superfund.

The Air Force proposes Alternative 1 at SA 035 because they detected only isolated hits of arsenic and bis2CEE. Results of a human health risk assessment show that the excess cancer risk for the resident adult is 2 in 1000.

The risk is entirely from eating vegetables grown in the site soil. The Air Force found elevated concentrations of arsenic and

bis2CEE in one sample collected 6 inches below the ground surface. Bis2CEE wasn't detected in a sample collected 2 feet deeper or in four surrounding samples collected less than 20 feet away. Therefore, the Air Force proposes no cleanup action.

Under Alternative 3A, the Air Force will excavate non-VOC contamination to achieve the cleanup goals and transport soils to a landfill. Reaching the cleanup goals will achieve unrestricted land use.

Under the Preferred Alternative, the Air Force estimates it will take one year to clean up SA 003 and PRL S-014. The Air Force prefers Alternative 3A because it has no land use restrictions, meets federal and state ARARs and is cost-effective. Removing the contaminated soil eliminates risk and reduces toxicity, mobility and volume at the site. The Air Force will use institutional controls until they complete the cleanup. The sites will not need long-term operation and maintenance.

Cost Summary of Alternatives by Site									
Site (volume)	Alternative 1 <sup>a</sup>	Alternative 2		Alternative 3A		Alternative 3B		Alternative 5	
	No Action (Unrestricted Land Use)	Institutional Controls (Restricted Land Use)		Excavation/ Landfill (Unrestricted Land Use)		Excavation/ Landfill (Restricted Land Use)		Excavation/ Treatment/ Backfill (Unrestricted Land Use)	
	Total Cost	Total Cost	Present Worth <sup>b</sup>	Total Cost	Present Worth	Total Cost	Present Worth	Total Cost	Present Worth
PRL S-014 (280 cy)	\$0	\$453,000	\$280,000	\$139,000	\$134,000	Site not evaluated <sup>c</sup> .		\$820,000	\$790,000
SA 003 (2,400 cy)	\$0	\$453,000	\$280,000	\$362,000	\$348,000	\$608,000	\$482,000	Site not evaluated <sup>d</sup> .	
SA 035 (130 cy)	\$0	\$453,000	\$280,000	\$118,000	\$113,000	Site not evaluated <sup>c</sup> .		Site not evaluated <sup>d</sup> .	

### Notes:

- There are no costs associated with Alternative 1.
- A means of comparing project cost alternatives discounted for the time-value of money.
- Site was not evaluated because TPH was not a contaminant of concern.
- Site was not evaluated because this alternative does not address metals contamination.

Based on information currently available, the Air Force believes that the Preferred Cleanup Alternatives are protective of human health and the environment. Furthermore, the Air Force believes the proposed alternatives meet all requirements and are cost-effective. The Preferred Cleanup Alternatives can change in response to public comments or new information. The Air Force invites community comments on the Preferred Cleanup Alternatives, as well as the other alternatives presented in this Proposed Plan.

## Installation Restoration Program Process

<i>Site Discovery</i>	<i>NPL Listing/ Federal Facilities Agreement Signed</i>	<i>Remedial Investigation and Feasibility Study</i>	<i>Proposed Plan/ Public Comment Period</i>	<i>Responsiveness Summary/Record of Decision</i>
<b>Done</b>			<b>We Are Here</b>	<b>TO BE DONE</b>
Potential contamination was initially assessed in 1979.	U.S. EPA placed McClellan on the National Priorities List in 1987.	The RI identified the sources and areas of contamination, and evaluated potential risks.	The public now has the opportunity to comment on this Proposed Plan.	After review of all comments, the Air Force will document its decisions for the sites in the Record of Decision

**WE ARE HERE:** A 30-day comment period will be held from September 15 - October 15, 2003, to receive public comments on this Proposed Plan. In addition, a public meeting will be held September 30, 2003 at 6 p.m. to receive both verbal and written comments on the Air Force's proposed decision. Information on where to send written comments throughout the comment period is located on the front page. The Air Force will respond to all comments to its proposed decision in a document called a Responsiveness Summary, which will be published in the Record of Decision and available in the Administrative Record.

### What is next?

The Air Force will choose a cleanup remedy based on the RI and the FS, plus other site related reports and comments received during the public comment period.

The decision will be presented in the Initial Parcel Record of Decision. The record of decision will include a responsiveness summary addressing public and regulatory comments received during the public comment period.

The Air Force expects to sign the Initial Parcel Record of Decision by January 2004. This will be announced by public notice.

The record of decision will be available to the public on the McClellan website, and at the Administrative Library or by contacting Community Relations at (916) 643-1742, Ext. 257.

The dates for the public comment period, the public meeting and the location of the Administrative Record Library are provided on the front page of this Proposed Plan.

## J. Community Participation

The Air Force provides cleanup information through public meetings, the Administrative Record and announcements published in community newspapers. The Air Force, along with the Federal and State Regulatory agencies, encourages the public to gain a better understanding of the Superfund activities that have been conducted.

The public comment period begins Sept. 15 and runs through Oct. 15. The public meeting is Sept. 30.

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## Glossary/Acronyms

**Air Force Real Property Agency** - A field-operating agency activated by the secretary of the Air Force. The mission is to execute the environmental programs and real and personal property disposal for major Air Forces bases in the U.S. being closed.

**Applicable or Relevant and Appropriate Requirements (ARARs)** – Federal laws and more stringent state laws that apply or are determined to be relevant and appropriate to the remedy.

**Arsenic** – A naturally occurring metallic element used in insecticides, weed killers, solid-state devices and various alloys.

**Bioventing** – A technique used to reduce fuel-related contaminants in soil by introducing air to increase the oxygen content in the soils. The increased oxygen promotes biological activity, allowing microorganisms to break down contaminants.

**Bis-2-Chloroethyl Ether (Bis2CEE)** – Bis2CEE has been used as a solvent for fats, waxes, greases and esters. It has also been used as a constituent of paints and varnishes, as a cleaning fluid for textiles, in the purification of oils and gasoline, in the manufacture of medicines and pharmaceuticals, as an intermediate in the synthesis of other chemicals, and as an insecticide and a soil fumigant.

**Cleanup Goals (CGs)** – Clean up goals set for the protection of human health. The set risk level is one in a million - one person out of a million people may contract cancer.

**Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)** – Was passed in 1980 and was designed to respond to the past disposal of hazardous substances, which in many cases created inactive, hazardous waste sites. The act was extensively amended in 1986 by the Superfund Amendments and Reauthorization Act, which added many provisions and clarified unclear areas in the original law.

**Contaminants of Concern** – Substances selected for remediation based on: (1) predicted impacts to surface water or groundwater resources; (2) concentration measurements above maximum contaminant levels; and (3) health risk posed by the contaminant.

**Corrective Action Management Unit (CAMU)** – Materials generated during the cleanup of an industrial property are consolidated, treated and contained in CAMU. Cleanup materials are

stored, treated and placed in a CAMU containment unit cell. The bottom of the cell is lined with several layers of soil, clay, drainage material and high density plastic.

**Environmental Summary Folder (ESF)** - a file of all document information related to a site that is available in the administrative record for public review.

**Feasibility Study (FS)** – A study of a hazardous waste site that must be completed before a cleanup remedy can be chosen and implemented. The FS identifies and evaluates alternatives for addressing contamination.

**Groundwater** – Underground water that fills pores between particles of soil, sand, and gravel or openings in rocks to the point of saturation. Where groundwater occurs in significant quantity, it can be used as a source of drinking water.

**Initial Parcel #1** - A group of 7 sites at the former base being addressed in the FS/PP/ROD process.

**Institutional Controls** - Administrative or legal mechanisms that protect property users and the public from existing contamination that continues to be present during use of a site.

**Metals** – A group of naturally occurring chemical elements characterized by their luster and ability to conduct electricity and heat.

**National Oil and Hazardous Substances Pollution Contingency Plan (NCP)** – The federal regulation that guides determination of the sites to be cleaned up under the Superfund program. This plan also provides the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances in accordance with CERCLA and the Clean Water Act.

**National Priorities List** – EPA's published list of the highest priority hazardous waste sites in the United States for investigation and cleanup.

**Polychlorinated Biphenyl (PCB)** – Any of a family of industrial compounds produced by chlorination of biphenyls. These compounds accumulate in organisms and concentrate in the food chain with resultant pathogenic and teratogenic effects.

**Polynuclear Aromatic Hydrocarbons (PAHs)** - a family of compounds naturally present in fuels and also produced as a by-product of combustion.

**Preferred Cleanup Alternative** – The Air Force's suggested cleanup method for the contaminated site. The preferred alternative is protective of human health and the environment, complies with ARARs and is cost-effective.

**Present Worth** – Like the Total Cost, Present Worth includes construction and annual operation and maintenance costs over the life of the alternative. It is the amount of money that would need to be invested today in order to yield the funds required over the life of the alternative.

**Proposed Plan** - A summary of remedial alternatives for a contaminated site, including a preferred alternative and the reasons for its selection. This step is the community's opportunity to review and comment on all cleanup alternatives under consideration. The responses to the comments are presented in the Record of Decision. All changes from the Proposed Plan are explained in the ROD.

**Record of Decision (ROD)** – A document explaining and legally committing the lead agency to the cleanup alternative(s) that will be used at a site. The ROD is based on information and technical analyses generated during the remedial investigation, the feasibility study, and consideration of public comments and community concerns.

**Remedial Investigation (RI)** – A hazardous waste site study to examine the nature and extent of site contamination.

**Responsiveness Summary** – The section within the Record of Decision that summarizes comments received from the public during the public comment period, and provides lead agency response to them.

**Restoration Advisory Board** – A board consisting primarily of members of the public. RAB members have the opportunity to review cleanup reports and provide advice to decision makers on investigation and cleanup matters. The RAB is a forum for the exchange of information between community members, regulatory agencies and Air Force personnel.

**Risk Assessment** – A study based on the results of the remedial investigation to determine the extent to which chemical contaminants found at a Superfund site pose a risk to public health and the environment.

**Semi-volatile Organic Compound (SVOC)** – A group of chemical compounds that evaporate in air at a slower rate than volatile organic compounds.

**Thermal Desorption** - Involves heating contaminated soil to temperatures high enough to cause contaminants to separate from the soil.

**Total Petroleum Hydrocarbons (TPH)** – The total concentration of hydrocarbons analyzed in a sample by an analytical chemistry laboratory. The hydrocarbons, which can be measured as parts per million or parts per billion, are

measured together and not separated into individual substances such as gasoline or diesel.

**Total Petroleum Hydrocarbons as Diesel (TPH-D)** – The concentration of the hydrocarbons chemicals found in diesel, analyzed in a sample by an analytical chemistry laboratory.

**Total Petroleum Hydrocarbons as Gas (TPH-G)** – The concentration of the hydrocarbons chemicals found in gasoline analyzed in a sample by an analytical chemistry laboratory.

**Unrestricted Land Use** - Risk is reduced to such a low level as to allow anything to be built, including homes and schools.

**Volatile Organic Compound (VOC)** – An organic compound containing carbon that evaporates (volatilizes) readily at room temperature.

**For further  
information on the sites,  
please contact:**

***Air Force Real Property Agency***  
*McClellan Community Relations*  
(916) 643-1742 extension 257 or 232

***Department of Toxic Substance Control***  
*Nathan Schumacher*  
*Public Participation Specialist*  
(916) 255-3650

*or*

*Kevin Depies*  
*Remedial Project Manager*  
(916) 255-3688

**United States Environmental  
Protection Agency**

*Viola Cooper*  
*Community Involvement Coordinator*  
(415) 972-3243 or (800) 231-3075

*or*

*Glenn Kistner*  
*Remedial Project Manager*  
(415) 972-3004

