



MATHER AFB CALIFORNIA

ADMINISTRATIVE RECORD COVER SHEET

AR File Number 467739

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY****REGION IX****75 Hawthorne Street
San Francisco, CA 94105-3901****OCT 06 2015**

**Mr. Robert Moriarty
AFCEC/CI
2261 Hughes Ave, Ste 155
JBSA Lackland TX 78236-9853**

SUBJECT: FOURTH FIVE-YEAR REVIEW REPORT FOR THE FORMER MATHER AIR FORCE BASE (AFB)

Dear Mr. Moriarty,

The U.S. Environmental Protection Agency (EPA) Region IX received the Final Fourth Five-Year Review Report for the Former Mather Air Force Base (AFB), dated August 31, 2015 (5YR Report). EPA reviewed the 5YR Report along with other supporting. EPA's protectiveness determinations for each Operable Unit (OU) in the 5YR Report are set forth below.

OU1 - The remedy at the AC&W Plume is protective of human health and the environment.

OU2 - OU2 is protective of human health and the environment in the short term, but is not protective in the long term. The remedies at the Main Base/SAC Area Plume, the Site 7 Plume and the Northeast Plume are protective in the short term. In order for these remedies to be protective in the long term, the Air Force must characterize the extent of perfluorinated compounds (PFCs) contamination in the groundwater. PFCs are an emerging contaminant and EPA has established a Provisional Health Advisory Level. The Air Force initiated a PFC investigation in 2014 but additional data must be collected to fully characterize the extent of PFC contamination.

OU3 - EPA's determination of short term and long term protectiveness for OU3 is deferred. The remedies at Site WP-07/FT-11, Site ST-37/ST-39/SS-54 and Site SD-57 are protective. EPA's protectiveness determination for the remedy at Site SD-59 is deferred until the following actions are taken:

Site SD-59 - This site was a former wash rack facility with an oil-water separator with significant petroleum and volatile organic contamination in the soil and groundwater. The original remedy in the OU3 ROD consisted of excavation and ex-situ treatment of soil by bioremediation. An Explanation of Significant Difference (ESD) was completed in 1998 which required additional characterization and installation of an

soil vapor extraction (SVE) system at the site. A second ESD was completed in 2010 to add Institutional Controls (ICs) to the remedy.

In 1996 approximately 750 cubic yards of contaminated soil were excavated from the site. A full scale SVE system was installed in 2000 and operated until 2013 when the system was evaluated for closure. Additional soil gas monitoring wells were installed in 2014 and two new wells were installed and sampled in May 2015. This recent data indicates that a new and previously unknown trichloroethylene (TCE) soil gas plume has been discovered and additional investigation is needed to determine the full extent of contamination. It is likely that the new TCE soil gas plume has migrated under the foundation of Building 4260, located adjacent to the site. Building 4260 includes occupied office workspaces and there is a potential risk from vapor intrusion into the workspaces.

The highest level of TCE detected in the soil gas samples collected from the two new wells in May 2015 was 160 parts per million by volume (ppmv). EPA's Regional Screening Level (RSL) for TCE in soil gas is 20 parts per billion by volume (ppbv). Therefore, the levels of TCE in soil gas adjacent to Building 4260 exceed the EPA RSL by a factor of 100 times. These high levels of TCE warrant immediate action by the Air Force to conduct indoor air sampling and evaluate the potential risk to building occupants. A State letter dated June 17, 2015 requested immediate action by the Air Force to conduct indoor air sampling at Building 4260 but the Air Force has not responded to the letter.

The 5YR Report cites an institutional controls issue at Site SD-59 and a potential for indoor air exposure but there is no commitment by the Air Force to collect indoor air samples as warranted by the high levels of TCE detected in soil gas adjacent to Building 4260. A determination of protectiveness at Site SD-59 is deferred until indoor air sampling is completed and an investigation is initiated to characterize the full extent of contamination.

OU4 - The remedies at Sites LF-03 and LF-04 are protective of human health and the environment.

OU5 - OU5 is protective of human health and the environment in the short-term, but is not protective in the long term. The remedies at Site FT-10C/ST-68, Site LF-18 and Site OT-23 are protective of human health and the environment. In order for the remedy at OT-87 to be protective in the long term, the Air Force must take the following actions:

Site OT-87 - EPA and the State do not agree with the Air Force regarding the protectiveness of the remedy at Site OT-87 which is a former Skeet-Trap Range with residual lead contamination in the soil. The remedy for OT-87 also includes ICs to restrict development of the property. The Air Force previously leased the property to Sacramento County and the planned reuse is a regional park with open space. Approximately 25,000 cubic yards of contaminated soil were excavated in 1998 and

restoration of the site consisted of backfilling with clean soil and hydroseeding.

The OU5 ROD remedy for OT-87 requires small mammal monitoring (SMM) to insure that the residual lead contamination in soil does not cause adverse effects to small mammals. The remedy calls for details of the SMM to be worked out cooperatively between the Air Force and the regulatory agencies. The SMM includes the trapping of small mammals and testing the animal's tissue and organs for lead. The remedy calls for conducting SMM on an annual basis for three years, with the results evaluated in annual reports. At least two years of SMM are required and the lead tissue levels of the trapped mammals must be compared to lead levels reported in the literature to cause adverse effects. If the SMM lead tissue levels do not exceed the literature levels then the third year of monitoring can be discontinued upon concurrence with the regulators. If SMM tissue levels are higher than those reported in the literature then further ecological investigation is needed and reevaluation of remedy may be required.

The first year of SMM was initiated in 2007 and it was unsuccessful because no small mammals were caught in the traps. In 2008 and 2009 the trappings were successful and the SMM results were summarized in two separate reports. After two years of successful trappings the Air Force concluded that a third year of SMM was not needed because there was no adverse effects on small mammals at Site OT-87. The regulators never agreed with the Air Force conclusion that the results of the ecological risk assessment and SMM indicate no adverse effect on small mammals. The California Fish and Wildlife (CFW) submitted extensive comments on the two SMM reports (2008 and 2009) and these comments were never properly addressed by the Air Force. In addition, CFW recently submitted comments on the draft and draft final versions of the 5YR Report that were not adequately addressed in the final 5YR Report. There is not agreement between the regulators and the Air Force regarding the results of the SMM and the ecological risk assessment and the Air Force must conduct a third year of SMM and revise the ecological risk assessment as required by the OU5 ROD.

OU6 - The remedy at Site OT-89 is protective of human health and the environment.

The five year review process is mandated by CERCLA section 121 and designed to ensure that remedies remain protective over the long term where hazardous substances are left on-site. EPA's policy for conducting Five-Year Reviews at Federal Facilities is explained in two guidance documents: 1) EPA's memorandum entitled *Program Priorities for Federal Facility Five-Year Review*, dated August 1, 2011; and 2) EPA's clarification memorandum entitled *Correction to the Memorandum "Program Priorities for Federal Facility Five-Year Reviews"*, dated February 22, 2012. According to EPA guidance, the next Five Year Review is due no later than September 30, 2020 and should evaluate the protectiveness of all remedial actions at the Former Mather AFB. To the maximum extent possible, the Five-Year Review Report should include a full five years of data, and include the most current date data possible.

Pursuant to Section 27.0 of the Federal Facilities Agreement (FFA), the Air Force and the regulators need to develop a timeline for completion of the action required at Site OT-87 as described above. The action at Site SD-59 requires an urgent response and should be initiated within 30 days and completed within 120 days of this letter. If you have questions regarding this letter, please contact John Lucey at (415) 972-3145 or you can reach me at (415) 972-3144.



Angeles Herrera

Assistant Director of Federal Facilities and
Site Cleanup Branch, Region 9

Cc: Mr. Charlie Ridenour, California DTSC
Ms. Marie McCrink, California RWQCB

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JC

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