

## Lahontan Regional Water Quality Control Board

April 8, 2016

Phillip Mook  
Senior Air Force Representative  
Air Force Real Property  
AFRPA Western Region Execution Center  
3411 Olson Street  
McClellan, CA 95652-1003

### **Request for Soil Sampling at the School Properties, Non-CERCLA Site OT071, Former George Air Force Base, Victorville, San Bernardino County**

The California Regional Water Quality Control Board, Lahontan Region (Water Board) hereby requests the U.S. Air Force conduct soil sampling for pesticides to evaluate the present human health risk to occupants at the two school properties located at the former George Air Force Base (GAFB). Our understanding of the use of pesticides at GAFB and at other schools in the state has evolved significantly since the school properties were transferred by the Air Force to the Adelanto School District. Conclusive empirical data are needed to unequivocally confirm whether there is a threat to human health to the occupants of the schools.

#### **Background**

GAFB was operational from 1941 to 1992, supporting a training and readiness mission that required military housing and support facilities such as schools. Two schools were built at the GAFB, the former George Elementary School and the former Shepard Middle School. These schools were built across the street (Nevada Avenue) from and during the same time period as the GAFB housing area. The school properties were transferred to the U.S. Department of Education in 1994 and then to the Adelanto School District in 1995. Soil sampling conducted between 2002 and 2006 discovered the pesticide dieldrin in the housing area at concentrations that exceed human health-based criteria. Because the school properties were transferred in the mid-1990s before pesticide contamination was discovered in surface soil and groundwater at the former housing area, the properties were transferred with Environmental Condition Category (ECC) 2, which at the time meant areas where only storage of hazardous substances or petroleum products may have occurred, but no release or disposal had occurred, or migration from adjacent areas had occurred. Consequently, the federal deed contains no environmental restrictive covenants.

According to Air Force documents, pesticides including dieldrin were applied at the former housing area beneath and around the building foundations for termite control, with the additional applications of pesticide every three to five years. Dieldrin is a toxic chlorinated pesticide that is relatively persistent and immobile. Its use in the U.S. was restricted starting in 1974 and was banned entirely in 1987. Dieldrin can cause adverse health effects when

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present at high concentrations. Dieldrin has been linked to human health problems including Parkinson's disease and breast cancer, and damage to the immune, reproductive, and nervous systems. Dieldrin tends to bioaccumulate as it is passed along in the food chain.

In a letter from the Water Board to you dated December 19, 2014 (Enclosure 1), the Water Board requested a summary of whatever soil characterization data had been collected at the two schools and any associated evaluation of human health risk. The Air Force responded on January 30, 2015 in a letter signed by you (Enclosure 2). That Air Force response made the following points:

1. The Air Force could not find any records that identified the builder of the schools or the exact construction dates and concluded that the schools were not built by the Air Force or the U.S. Army Corps of Engineers.
2. Based on the review of a limited number of aerial photographs, the Air Force concluded that the elementary school was built prior to the oldest available GAFB aerial photograph acquired in January 23, 1958. The Air Force also concluded that the middle school was built between June 1959 and May 1968 based on aerial photographs. The Air Force stated that "Apparently, these school buildings and grounds were maintained by the Adelanto School District."
3. The Finding of Suitability to Transfer (FOST) for the schools parcel (E-1) was coordinated with regulatory agencies and finalized in August 1994.
4. "The Air Force concludes that issues with dieldrin or other termiticides in the soils associated with how the base family housing was constructed and maintained are not present with the school buildings and grounds."
5. "Moreover, if pesticides are or become an issue in the soils of Parcel E-1, then the Adelanto School District is primarily responsible since Parcel E-1 was 'uncontaminated' when transferred to them in 1995."

The inability of the Air Force to locate records that identify the builder of the schools or the exact construction dates does not prove that the Air Force was not involved in the construction of the schools. The two schools were built during the same general time period as the housing area, where pesticides were applied during and after construction. Similar application of pesticides may have occurred at the two school properties, which were owned by the Air Force from approximately 1941 until 1994. The period of Air Force ownership of the school properties includes the time period when dangerous chlorinated pesticides such as dieldrin were commonly used (up until 1987).

The history of the FOST does not relieve the Air Force of liability for activities conducted on property owned by the Air Force prior to the transfer to the school district. The use of pesticides at the school properties in Parcel E-1 have not been ruled out by historical documentation or sampling of the soils. The school properties were classified as ECC 2 prior to the realization that dieldrin is present in soils at the housing area across the street from the schools at GAFB and prior to dieldrin being documented at many school sites in California as described below.

### **Justification for Technical Reports**

The request for technical reports is necessary to determine the nature and extent of organochlorinated pesticide residuals in soils at the two schools, and to ensure public health

protection. Soil sampling by the Department of Toxic Substances Control (DTSC) across the state of California has revealed that dieldrin is generally present at schools in the state due to the historical application of pesticides. In fact, at the majority of schools constructed prior to 1990 in California where soil sampling has been conducted by DTSC for organochlorinated pesticides, dieldrin has been detected (Maria Gillette, DTSC Schools Unit, personal communication, 2016). Given the lack of clarity expressed by the Air Force as to school building ownership, and no evidence to support the Air Force conclusion that issues with dieldrin are not present at the schools, the Water Board is requesting the Air Force show empirical proof of their position.

The burden to the Air Force in compiling these required technical reports, including costs, is outweighed by the Water Board's need for the information to determine to what extent organochlorinated pesticides continue to remain in soils and the potential exposure of the public to these chemicals. The information is also necessary to determine what, if any, additional investigation and/or corrective actions may be required to address human health and water quality.

**Duty to Use Registered Professionals.** The Dischargers shall provide documentation that plans and reports are prepared under the direction of appropriately qualified professionals. California Business and Professions Code sections 6735, 7835 and 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of registered professionals. A statement of qualifications and registration numbers of the responsible lead professionals shall be included in all plans and reports submitted. The lead professional shall sign and affix their registration stamp to the report, plan or document.

### **Request to Submit Technical Reports**

The U.S. Air Force is hereby requested to submit the following technical reports according to the schedule, below.

#### **Required Technical Reports**

#### **Due Date**

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|--|----------------|
| 1. Organochlorinated Pesticide Soil Sampling Work Plan               | April 22, 2016 |
| 2. Soil Investigation Report, including results of all soil analyses | May 27, 2016   |

The work plan should specify sample locations and analytical methods for both school properties. We recommend the soil samples be analyzed by USEPA Method 8081A for organochlorinated pesticides (including dieldrin) and USEPA Method 6010A for metals (including arsenic and lead). The work plan should also include human health risk assessment methodologies that discusses how the collected data will be used to evaluate risks associated with exposures of students and staff in the schools. Please refer to the *Guidance for Assessing Exposures and Health Risks at Existing and Proposed School Sites, Final Report (CalEPA/OEHHA, 20014)*.

We look forward to working with the Air Force to review the results of the soil sampling and evaluate any risks associated with detected concentrations of organochlorinated pesticides and metals.

If you have any questions regarding this letter, please contact me at (760) 241-7325, [Mike.Plaziak@waterboards.ca.gov](mailto:Mike.Plaziak@waterboards.ca.gov) or Todd Battey at (760) 241-7340, [Todd.Battey@waterboards.ca.gov](mailto:Todd.Battey@waterboards.ca.gov).



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Division Manager  
South Lahontan Watersheds Division

Enclosures: 1. Letter from the Water Board to the Air Force dated December 19, 2014  
2. Letter from the Air Force to the Water Board dated January 30, 2015

cc with enclosures:

Donald Gronstal, Air Force  
Mary Aycock, USEPA, Region IX  
Eric Canteenwala, USEPA, Region IX  
Dan Ward, DTSC  
Maria Gillette, DTSC Schools Unit  
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Steve Ashton, City of Victorville, Public Works  
Logan Olds, VVWRA  
Tom Thornton, City of Adelanto, Operations  
Anna Garcia, Mojave Water Agency

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