Soil Investigation Update: McFarland, California

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • REGION 9 JULY 2000

Phase 1 Soil Investigation Sampling Results

The U.S. Environmental Protection Agency (EPA) is evaluating the current environmental conditions in McFarland, California, in response to a request from some residents. As part of this environmental investigation, EPA is sampling drinking water, soil, and air. EPA completed the drinking water investigation and discussed the results at a open house in June 2000.

EPA began the first phase of the soil investigation in February 1999 by collecting soil samples at 21 locations throughout McFarland: four schools, two parks, six commercial/industrial facilities, eight residences, and the drainage basin in the northeast section of town near closed well #5. EPA expanded on prior investigations conducted by county and state agencies by investigating possible soil contamination associated with specific activities in McFarland. EPA sampled several areas of concern throughout town that were identified by community members. In addition, EPA reviewed historical aerial photographs and state and county files to identify facilities or areas for sampling that may have used hazardous substances. EPA also collected information about other physical features such as the drainage basin in the northeast section of town, and evaluated the agricultural practices and current historical land uses for areas surrounding McFarland.

Surface and subsurface soils were tested for more than 200 substances using the best testing methods available. Analyses were performed at six different laboratories where stringent EPA testing and review procedures were followed. After analysis, EPA performed a comprehensive quality assurance review of the results to ensure that lab procedures were followed correctly.

Phase 1 Findings

Most of the substances we tested for were not found in any of the more than 350 soil samples collected throughout McFarland. Many of the substances that were found in soil samples occur naturally (e.g., metals and minerals such as arsenic, iron, and manganese), and were therefore expected to be present in McFarland's soil. Our extensive testing also found some substances which are not naturally occurring. Most of these substances found are below EPA's Preliminary Remediation Goals (PRGs), which were used as health-based screening criteria. PRGs are health-based screening levels used by EPA to determine if substances in the environment may create a potential health risk. PRGs are set at levels that should not cause a health risk for even long-term exposures. Substances found in soil at levels greater than PRGs do not necessarily pose a health threat, but may be investigated further to determine if the substance at that location poses a significant health risk.

☛ FACTS AT A GLANCE

What EPA did in Phase 1 . . .

- Sampled soil from four schools, two parks, eight residences, six commercial/industrial areas, and a drainage basin in the northeast section of McFarland.
- Collected over 350 soil samples at depths ranging from the surface to 50 feet below ground.
- Tested soils for over 200 substances.
- Conducted a geophysical survey at two parks to determine presence of any large buried metal objects.
- Used special laboratory methods to detect substances at very low levels and performed a thorough quality assurance review of all laboratory data.
- Compared soil results to health-based screening levels (PRGs) to determine if additional sampling is needed.

Continued on Page 2

☛ EPA OPEN HOUSE

Please Come to Our Open House!

4:30 to 7:30 p.m.

WEDNESDAY, AUGUST 16, 2000
McFARLAND COMMUNITY CENTER
107 SHERWOOD AVENUE
McFARLAND, CA

EPA invites you to attend our open house to discuss sampling results from Phase 1 of EPA's soil investigation and sampling plans available for Phase 2 of the soil investigation in McFarland, California.

The following substances were detected at levels above their PRGs during Phase 1 of the Soil Investigation, and will be further investigated in Phase 2.

Arsenic

Arsenic is a metal which occurs naturally and it is also a component of agricultural chemicals which have been used in the McFarland area. Naturally occurring arsenic is commonly found in California soils at levels above its cancer risk-based PRG. Levels found in soil samples collected throughout McFarland are consistent with levels found in many other California communities, and are not unique to McFarland. When there are high background levels of arsenic, such as for McFarland, EPA also uses the non-cancer risk-based PRG to evaluate the potential public health significance of arsenic exposures from soil. Arsenic was detected above the non-cancer risk-based PRG at one location, the Sunshine service station. Additional surface soil sampling for arsenic is planned in Phase 2 of the soil investigation at this location to confirm the result and determine if arsenic poses a significant health risk.

Dieldrin

Dieldrin is an insecticide which was banned in 1974; however, because it is very persistent in soil, it is still being found in some environmental samples. Dieldrin was detected above its PRG at two locations in McFarland: the Elmo Highway Complex and McFarland Park. The dieldrin levels detected in the Phase 1 sampling do not appear to pose a significant health risk for anyone, including children using the park, because the levels detected are not high enough. Additional surface soil sampling for dieldrin is planned in Phase 2 of the soil investigation at these two locations to confirm the results, determine the extent of the dieldrin levels, and determine if dieldrin poses a significant health risk.

Benzo(a)pyrene

Benzo(a)pyrene is a semi-volatile organic compound that is formed during burning of organic material, such as fuel or agricultural materials. Benzo(a)pyrene was detected above the PRG in one soil sample from Browning Road School and in one sample from a private residence. The benzo(a)pyrene levels detected at the school and residence do not appear to pose a significant health risk for children at the school or occupants at the residence because the levels detected are not high enough. Additional surface soil sampling for benzo(a)pyrene is planned in Phase 2 of the soil investigation at these two locations to confirm the results and determine if benzo(a)pyrene poses a significant health risk.

Dioxins

Dioxins and furans are highly toxic chlorinated organic compounds formed during the manufacture of chemicals such as herbicides and wood preservatives and burning of organic materials (e.g., agricultural burning, barbequing). Dioxin and furan levels slightly above the PRG were found in surface soils at McFarland High School and one private residence. The dioxin and furan levels detected at the school and residence do not appear to pose a significant health risk for children at the school or occupants at the residence because the levels detected are not high enough. Additional dioxin and furan sampling is planned in Phase 2 of the soil investigation at these two locations to confirm the results and determine if dioxins pose a significant health risk.

FACTS AT A GLANCE

Continued from Page 1

What EPA Found in Phase 1 . . .

- Most of the 230 substances tested for were <u>not</u> found in any of the more than 350 soil samples collected throughout McFarland.
- Most of the substances that were found are below health-based screening levels (PRGs).
- Only four substances were found at levels above their PRGs (arsenic, dieldrin, benzo(a)pyrene, and dioxins). These substances were found at seven sites: McFarland Park, Elmo Highway Complex, McFarland High School, Browning Road School, two residences, and the former Sunshine Service Station. Further sampling is recommended at these sites to confirm the results.
- Anomalies observed during the geophysical survey may represent buried metal objects at McFarland Park.

What EPA Will Do Next . . .

- Additional sampling at the seven sites listed above is planned to confirm the soil results of the four substances detected above their PRGs and to determine if these levels found in soil pose a significant health risk.
- Further investigation is planned at McFarland Park to uncover and remove any large buried metal objects in McFarland Park detected in our geophysical survey.

Geophysical Survey

EPA conducted a geophysical survey at McFarland Park and Browning Road Park in November, 1998. Magnetic field data were collected in areas of the parks where excavation was visible from aerial photographs. No magnetic field data anomalies were observed at Browning Road Park. Several magnetic field data anomalies were observed at McFarland Park, which may indicate the burial of metal objects. EPA plans to further investigate the magnetic field data anomalies observed during the geophysical survey by uncovering and removing any large buried metal objects in McFarland Park.

Phase 2 Soil Sampling Plan

EPA proposes to collect additional soil samples to confirm the presence and determine the extent of the substances detected above their health-based screening levels. EPA has prepared a Field Sampling Plan for Phase 2 of the McFarland soil investigation. This is a technical document that describes the methods, procedures, and quality control measures that will be used during the sampling. In addition, excavation is planned at McFarland Park to further investigate the magnetic field data anomalies and to uncover and remove any large buried metal objects in McFarland Park.

The Field Sampling Plan for Phase 2 of the Soil Investigation will be available for review at the Kern County Public Library - McFarland Branch, the Beale Memorial Library in Bakersfield, and the EPA Superfund Records Center in San Francisco. EPA welcomes any comments or questions you may have on the proposed sampling plan. **To make sure that EPA considers your concerns before the sampling plan is finalized, please make any comments on the plan by Monday, September 11, 2000.** You may send your comments to Angeles Herrera or Alana Lee at the address on the back cover of this fact sheet. After September 11, 2000, EPA will consider all your comments and finalize the field sampling plan. EPA plans to complete the field activities for the Phase 2 soil investigation in the Fall.

Coming Soon

Outdoor Air Investigation Plan

To complete the current environmental study, EPA will collect air samples from various locations throughout McFarland. EPA is in the process of preparing a Sampling Plan for the outdoor air investigation. This is a technical document that describes the methods, procedures, and quality control measures that will be used during the air sampling activities. The Field Sampling Plan for the Outdoor Air Investigation will be available for public review in the Fall. An indoor air investigation will also be conducted. We will let you know when the plan will be available for review.

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Please return to:
Angeles Herrera
Community Involvement Coordinator
75 Hawthorne Street (SFD-3)
San Francisco, CA 94105-3901
You may also provide the above information via email to: herrera.angeles@epa.gov

CONTACTING EPA

If you would like more information, or if you have questions, please contact the following EPA staff members:

Angeles Herrera, Community Involvement Coordinator (415) 744-2185
Alana Lee, Project Manager - Drinking Water and Soil Investigation (415) 744-2217
Brunilda Dávila, Project Manager - Air Investigation (415) 744-2364

Or please call EPA's toll-free number (800) 231-3075 and leave a message for Angeles. She will return your call. If you wish to remain anonymous, please let us know, and all information will remain confidential.

INFORMATION CENTERS

Superfund Record Center
EPA Region 9
95 Hawthorne Street, Suite 403S
San Francisco, CA 94105
(415) 536-2000

Kern County Public Library
McFarland Branch
500 Kern Avenue
McFarland, CA 93250
(661) 792-2318

Beale Memorial Library
Local History Room
701 Truxten Avenue
Bakersfield, CA 93301
(661) 861-2136

New Documents Available At the Information Centers

McFarland Soil Investigation - Phase 1 Summary Report: A full report of all the test results from Phase 1 of the Soil Investigation.
McFarland Soil Investigation - Phase 2 Field Sampling Plan: EPA's plan describing sampling rationale, methods, and quality control measures that will be used for Phase 2 of the Soil Investigation.

U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street (SFD-3)
San Francisco, CA 94105
Attn: Angeles Herrera

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