UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105-3901

March 7, 2012

Ms. Nona Tuchawena, Superintendent
Fort Apache Agency
Bureau of Indian Affairs
P.O. Box 560
Whiteriver, AZ 85941

Subject: No Further Action (NFA) for the Former UST Facility at the BIA Greenhouse in McNary, AZ (EPA ID# WMAP-043)

Dear Ms. Tuchawena:

The U.S. Environmental Protection Agency (EPA) has reviewed the document entitled "Letter Report for the Investigative Sampling and Closure of One Former Underground Storage Tank Removal Site Located at the Former U.S. Forestry Greenhouse Site in McNary, AZ" (the "closure report"), dated September 16, 2011, that was prepared by Kary Environmental Services, Inc. (KES) for the Bureau of Indian Affairs (BIA). The closure report documents KES' soil sampling on August 3, 2011 in the area of the estimated 500 gallon underground storage tank (UST) that was formerly located at the BIA Greenhouse UST Site (the "Facility"). The sections below provide historical information about the Facility, a discussion of the closure sampling and analysis work, and the conclusions of the EPA and White Mountain Apache Tribe's (WMAT's) Environmental Protection Office (EPO) regarding the current status of the Facility.

Site Background

Based on the file documentation, which does not contain an original UST notification form for the Facility, the UST had an estimated volume of 500 gallons, contained gasoline and was probably not used after 1989. However, nothing is known about the installation date for the UST or the actual year when UST operations ceased. EPA believes that the UST was used for fueling BIA vehicles.

On March 3, 2000, The Verde Companies, Inc. sent a letter to EPA providing 30 days advance notice of the removal of the UST at the Facility, with a projected removal date of April 3, 2000. Although EPA never received closure documentation or a closure report from BIA for the Facility, the UST had been removed by April 2000 based on photographs obtained by EPA from the WMAT's EPO that are date-stamped April 2000.

In addition, the Arizona Corporation Commission's website indicates that The Verde Companies, Inc. was dissolved on February 14, 2001. Based on this date, it appears likely that The Verde Companies, Inc. went out of business prior to submitting any closure documentation for the Facility, or completing the closure report.

On February 1, 2011, EPA sent a letter to your attention requiring BIA to submit closure documentation for the Facility within 30 days of receipt, or submit a work plan for closure soil sampling within 60 days of receipt if closure documentation were not available.

Site Assessment Work and Hydrocarbon Release Confirmation

On August 3, 2011, KES collected subsurface soil samples from two locations at the Facility below the inferred former location of the UST, using the previously described site photographs as a guide. All soil samples were collected from a backhoe bucket and were obtained from a depth of approximately 3.5 feet, where weathered basalt bedrock was encountered. Soil samples to be analyzed for volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH) as gasoline were preserved in the field with methanol. During the excavation work, there were no obvious hydrocarbon vapors in the ambient air, and the grab soil samples that had been placed in sealed plastic bags showed no VOC readings with the photo-ionization detector (PID). However, the backhoe excavations appeared to show some hydrocarbon staining.

The analytical results for the two primary soil samples and the duplicate soil sample showed no detections for VOCs, or TPH as gasoline and diesel. However, two of the three soil samples had TPH (oil) concentrations of 110 parts per million (ppm) and 660 ppm (the third sample had no TPH detections). The analytical results also showed lower part per billion (ppb) concentrations for multiple polynuclear aromatic hydrocarbon (PAH) compounds in all three soil samples. The lead concentrations in the three soil samples were 24 ppm, 52 ppm and 110 ppm.

Current Use of the Facility, Potential Receptors and Hazard Considerations

The Facility is located in an undeveloped area between residential structures approximately 150 feet to the east, and the fence line for the former BIA Greenhouse approximately 65 feet to the west. On March 7, 2012, Mr. Terry Hill with the WMAT's EPO indicated that the WMAT has no current development plans for the former UST area. The nearest drinking water well is the Kinney Mountain Well, which is located approximately 2,800 feet west of the Facility. The Kinney Mountain Well is screened from approximately 340 feet below ground surface (bgs) to 400 feet bgs. Groundwater sampling at the Kinney Mountain Well in June, September and December 2011 showed no VOC detections. The Meadow Well, located approximately 4,800 feet northwest of the Facility, also provides drinking water and is screened from 566 bgs to 625 feet bgs. In September 2007, the Tribal Utility Authority sampled the Meadow Well and the laboratory results showed no detections for VOCs. Mr. Gerd von Glinski, the WMAT's Hydrologist, estimated the depth to groundwater in the area of the Facility to be

approximately 40 feet bgs. Mr. Hill indicated that the homes in the general area of the Facility are on a public water supply system.

As noted previously in this letter, the soil samples that showed hydrocarbon compound detections were collected from 3.5 feet bgs. As such, the potential for direct human contact and exposure to subsurface contamination is mitigated by the depth of residual contamination. In addition, the acceptable risk range in residential soils for the most potent carcinogenic constituent identified at the site, namely benzo(a)pyrene (B(a)P), spans from 15 ppb to 1500 ppb. These soil concentrations, in a residential exposure scenario and assuming direct or complete human exposure pathways, are equivalent to an excess cancer risk spanning from 1 additional case of cancer in a population of 1 million exposed individuals, to 1 excess case of cancer in a population of 10,000 exposed individuals. The PAH concentrations in soil samples from the Facility fall well within this range of acceptability, and the maximum B(a)P concentration detected in soil at the Facility (i.e., 22 ppb) is associated with an excess lifetime cancer risk of 1.5 cases of cancer for every 1 million exposed individuals over a 30-year window of exposure. Again, this risk-estimate assumes direct and continuous exposure to contaminated soils (which are currently at depth) in a residential exposure setting.

The current EPA Region 9 Regional Screening Level (RSL) designed to be protective of the toxic impacts from exposure to elemental lead in the most sensitive human receptors is 400 ppm. This soil concentration is protective from the toxic impacts of lead in children in a residential exposure scenario or setting. All of the total lead concentrations at the Facility are below this threshold.

Please note that there is no RSL for TPH (oil). However, the residual TPH (oil) concentrations at the Facility reflect the presence of high molecular weight compounds that possess low toxicity and low mobility in the environment.

Conclusion

As noted above, the analytical results from the closure report show that the residual hydrocarbon compounds in soil at the UST Site do not pose an unacceptable risk to human health and the environment, based on comparisons with EPA's RSLs, and the limited toxicity and mobility of these compounds.

On March 6, 2012, Chris Prokop, of my staff, discussed the field observations and analytical data in the closure report via telephone with Mr. Hill and Mr. von Glinski. During these discussions, Mr. Hill and Mr. von Glinski indicated that they did not believe further work was needed at the UST Site. Based on the documentation in the closure report, EPA and the WMAT's EPO are not requiring further action for the UST Site at this time. However, if additional information becomes available in the future regarding hydrocarbon contamination in soil and/or groundwater, EPA or the WMAT's EPO may require additional site work.

If you have any questions regarding this letter, please contact Mr. Prokop at (415) 972-3363.

Sincerely,

Carl Warren, Supervisor
Leaking Underground Storage Tanks Team

cc: Brenda Begay, Environmental Manager, EPO, WMAT
Terry Hill, Environmental Specialist, EPO, WMAT
Gerd von Glinski, Hydrologist, WMAT
Chris Prokop, EPA (copy to site file)