

## Environmental sampling goes one step further at Nike C-32 to ensure residents' safety



Katie Newton

Contractors Justin Beasley and Steve Deeter, CH2MHill, analyze soil borings taken near the Nike C-32 Missile Launch Area Sept. 10 as part of the ongoing environmental investigation at the site.

Katie Newton, public affairs

Residents in the Dune Meadows Subdivision near the former Nike C-32 missile launch area in Porter, Ind., have been watching crews take soil samples from their backyards and water samples from their faucets in an effort to find out if any contaminants have infiltrated their property from the neighboring defense site. Three different homeowners near the formerly used defense site (FUDS) have graciously allowed the Corps of Engineers access during their remedial investigation.

"We just want to make sure that there isn't anything additional outside the property boundary or anything else that needs to be addressed," said Brooks Evens, Geologist, Louisville District Army Corps of Engineers. "The safety of the surrounding community is our number one concern."

The Nike C-32 site operated from 1957-1974, along with numerous other Nike sites throughout the country, to protect major cities from invading attacks. Although the Nike C-32 site never launched a missile, it employed nearly 30 personnel who worked on-site cleaning and preparing parts in case of an attack. Ultimately, the types of degreasers that were used for cleaning the parts for the missile silos filtered into the ground on-site and have been identified by the Corps' investigation. Their additional findings will result in a Proposed Plan to address the future remedial action. As part of the ongoing

environmental investigation, the Corps wanted to expand their sampling perimeter and make sure that no contamination had moved off-site.

To get started the Corps installed 12 Membrane Interface Probe (MIP) locations as a screening tool. "That allowed us to place the monitoring wells and soil gas borings in the proper location to give us the information needed for risk assessment and to define the boundary of the contamination," said Evens.

In this phase of the investigation, crews spent nearly three weeks both on-site and off-site taking soil samples, installing groundwater monitoring wells and installing soil vapor monitors to test the air and water.

"Everything looks really good and clean so far," said Justin Beasley, with CH2MHILL who is the contractor for the environmental project. Twenty soil samples were taken and sent off for additional analysis.

The process of soil sampling starts with a sonic drill rig, powered by Major Drilling, a subcontractor out of Huntsville, Ala., who uses the machine to dig down 30 feet. In each location the drill rig provides six different soil borings—in five feet increments, that can be analyzed immediately by geologists in the field. Using a trowel to separate sediment pieces for submittal to the lab, geologists can gauge soil properties by color, texture and smell. Additionally, a handheld Photo ionization detector (PID) was used on-site to

detect any trichloroethylene (TCE) vapors. "That would signal right away if it peaked in an area then we would know that the particular sample needed to be analyzed further," said Evens.

Three 25-ft. shallow groundwater monitoring wells were placed off-site in the backyards of private residences, which will be left in place for one year and sampled quarterly. Twenty groundwater monitoring wells exist on site and will be monitored for another year. Shallow wells are 20-25-ft., while the deeper groundwater wells are at a depth of 45-55 ft. The deeper wells are used to determine if the shallow groundwater contamination is migrating deeper.

"These results will be instrumental in letting us know whether or not any contaminants have spread, and if so, how deep they have gone," said Evens.

The final part of the site work involves the installation of five soil vapor tests, which look like small, stainless steel gas grills. "The air tank releases the vacuum so all the air goes into the bowling ball shaped container at the top," said Evens. "That will give us an idea whether TCE is percolating up." With no margin for error, the capsules have to be monitored overnight for a full 24-hour period. "We'll have to babysit the air vessels to keep the chain of custody intact," said Evens. "We can't move them because we might get a leak—they have to be stationary for 24 hours." Brittney Hyde, Louisville District Environmental Engineer, pulled an all-nighter in late September to make sure the canisters were not disturbed. "It is extremely important that the integrity of the canisters remain intact for chain of custody purposes, this ensures the data is defensible and defensible," said Hyde.

Additionally, the Corps and CH2MHILL took this investigation one step further and tested the tap water in the homes of the three closest residents. Test results showed that no contaminants were present in their drinking water. "This is great news," said Evens. Residents were notified of the results in October.

The remedial investigation is ongoing and a proposed plan is expected in 2014.