U.S. Environmental Protection Agency • Region 9 • 75 Hawthorne Street • San Francisco, CA 94105

North East Church Rock Mine Site Sampling to Begin

This fact sheet will cover the essential who, what, how, where, when, and why.

The soil sampling goals for sampling:

1. Establish the background level
2. Determine contamination in directly impacted areas
3. Determine migration of contamination

WHO

- UNC - the Potentially Responsible Party, or PRP in Superfund language - will conduct sampling and analysis
- U.S. EPA - the Regulatory Agency - will supervise and oversee all planning and field work

WHAT

- Radium 226
- Uranium
- Arsenic
- Volatile and semi-volatile organic compounds

HOW

- Safely! People who will be directly handling contaminants will wear protective equipment
- Random sampling grids and transect lines
- Auger, auger drill rig and back hoe will be used to collect soil samples
- A gamma detector will detect some forms of radiation

WHERE

- Background - west of the site is believed to be undisturbed by mining activities.
- Disturbed areas - areas that have been identified from records, photos, and site visits.
- Migration - the prevailing winds blow sediments north/northeast from the site.

WHEN

- Background - to start in four to seven weeks.
- All sampling and analysis is expected to be completed by November 2006.

WHY

Sampling is important because it will determine:

- What contaminants are present.
- How much of the contaminants are present.
- Where the contaminants are located, including how deep.
- What cleanup activities will be required.

The United States Environmental Protection Agency (USEPA), Region 9, will supervise soil sampling at the Northeast Church Rock Mine Site (NECR or Site) and nearby areas potentially contaminated by uranium mining activities. This fact sheet will describe who will do the sampling, what they will be sampling for, how the sampling will be conducted, where and when they will be sampling and why it is important. Based on the results, USEPA, with input from Navajo EPA (NNEPA) and United Nuclear Corporation, will determine appropriate cleanup activities. Until EPA has evaluated the sample results and the legal requirements, we will not be able to say what is going to be cleaned up and when the cleanup will be completed.

Historical uranium mining activities included activities such as storage of ore samples and uneconomical materials, hauling the ore and other mining-related activities. Additionally, tailings from the United Nuclear Corporation (UNC) mill site located next to NECR, were stored on the surface at the mine site before being put back into the mine shafts and workings.

Some hazardous substances such as heavy metals and associated radiation occur naturally, and are referred to as the background. As a first step, sampling at this site will establish local heavy metal and radiation levels that are not impacted by mining activities, determine the extent of contamination at this site, and determine if there has been unacceptable migration of contaminants to adjacent lands.

The U.S. EPA suspects that hazardous substances generated at the mine may have been blown by the wind off the mine area in the form of dust and sediments carried by surface water into adjacent arroyos.

In order to produce results to accurately guide the cleanup process, a sampling strategy has been created. The strategy has three objectives:

1. Establish the Background Level
2. Determine Contamination in Directly Impacted Areas
3. Determine Migration of Contamination

WHO

The sampling will be conducted by MWH, consultants of UNC, the Potentially Responsible Party (PRP). The sampling strategy has been reviewed by NNEPA and is expected to be approved by USEPA shortly. All sampling activities will be supervised by the USEPA.

Because the USEPA is ultimately responsible for the health and safety of all people involved in this project, persons who supervise or are involved with the work must have current certification in hazardous substances handling and management safety from an OSHA accredited organization and will be required to provide their own protective equipment such as approved cover-alls, respirators, and appropriate foot ware. The workers are required by federal OSHA law to wear this protective gear whenever these substances are present.

NOTE This does not necessarily mean that just because they are wearing protective gear that hazardous levels of contaminants exist.

WHAT

The primary contaminants of concern that have been identified as having potential to exist within the soils at this site are:

- Radium 226
- Uranium
- Arsenic
- Volatile and semi-volatile organic compounds

These substances have been identified by the USEPA as threats to human health, either because they are known or suspected to cause cancer or other health effects.

HOW

First, USEPA and NNEPA will ensure that the sampling will be done SAFELY! This is important to remember if you see people in required protective gear around the site or near your homes.

Samples will be taken in undisturbed areas to establish background levels. Contamination of directly impacted areas will be assessed by using a random grid pattern or transects at all areas of concern. Off-site migration of contaminants will be determined by transect lines that start at the boundary of an area of concern and extend outward in the direction of the prevailing winds, north, northeast, and in the unnamed arroyo that drains the site.

Soil sampling equipment will consist of two types:

1) Digging soil from the surface and various depths to the native soil using a specialized shovel (hand auger), an auger drill rig, or in several places using a back hoe to dig trenches. The soil collected will be placed in jars, labeled and sent to and independent lab for analysis of a wide variety of radioactive materials, heavy metals and from one area, volatile organic and semi volatile organic compounds. Some of the radioactive materials require several weeks of processing time at the lab before the results are calculated. Additional samples called split samples will be sent to EPA's labs for independent verification of UNC's results.

2) Scanning the surface soils with a gamma detector that detects some forms of radiation. We will use this information to compare to the naturally occurring background radiation levels.

EPA and its contractors will directly supervise the sampling activity.

WHERE

We do not fully know the boundaries of the contaminated areas associated with this Site. This is why sampling is a crucial step in the cleanup process.

The background level will be determined by taking samples in an area with similar geology that is believed to be untouched by uranium mining activities to the west of the Site. The background sample area selected is uphill and upwind from the mine Site. Aerial photos have been reviewed and indicate that there has been little to no mining related disturbances in this western sampling location, located on BLM land.

The areas that were directly impacted by NECR's mining activities will be sampled to determine the level of contamination. These are areas that have been identified from operational history, the permit boundary, the State and NRC license, and Site visits. The sampling will not evaluate the impacts of mining at the nearby Kerr McGee Quivira mine site, which was reclaimed under BLM supervision.

Off-site sampling in the Red Water Pond Road area

In order to determine potential migration of contamination, samples will need to be taken at several locations beyond the impacted areas, including to the north of the mine site in the residential area west of Red Water Pond Road. The prevailing winds in this region blow north/northeast, and contaminants from the mine may have been blown into the neighboring residential area. An arroyo on the mine site flows northward past some of the nearby homes. This arroyo was used for treated discharge of mine water during operation of the mine and contaminants may have been released to the soils under and around the arroyo. These two areas will be the primary focus of the off-site sampling. Samples will be taken along several lines extending at right angles from the boundaries of known areas of contamination.

Off-site sampling may occur in your yard

To be certain that contaminants have not migrated onto nearby residential properties from the NECR mine, the USEPA has requested permission from the NNEPA to sample the yards of the nine homes directly to the northeast of the mine site. Surface soil samples will be collected for analysis. Additionally, these areas will be scanned with a gamma radiation detector. If after reviewing the yard sample data, the USEPA determines the need to sample inside homes, we will contact the NNEPA and the families to discuss this.

WHEN

Background level sampling is expected start in the next four to seven weeks.

Sampling within the directly impacted areas and off site is expected to start approximately a month and a half after the initial results.

All sampling and analysis of samples is expected to be completed by November 2006.

WHY

Sampling is important because it will determine:

- what contaminants are present
- the levels of contaminants
- where the contaminants are located, including how deep

The USEPA will use this information to determine cleanup objectives prioritizing direct threats to human health. This means that if contaminants are found on residential properties or other place where people come into direct contact with them at unacceptable levels, those areas will receive special attention.

Once we have this sampling information, we will also be able to deliver a more accurate timeline for completion of the cleanup.

Site Security

The US EPA, after consultation with the Navajo Nation EPA, has determined that the Northeast Church Rock Site should be fenced for purposes of protecting the public from dangers associated with potential exposure to radioactive materials. It is very important that the public assist in every way possible to make sure that the fencing, once installed, remains intact for purposes of keeping people and animals out of the area.

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