

**Chino Smelter Stacks Demolition  
Air Monitoring Plan**

**Chino Mine Company  
210 Cortez Avenue  
Hurley, New Mexico 88043**

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Site Plan identifying sample locations and favorable wind direction

## **1.0 INTRODUCTION**

The Chino Stacks Demolition Air Monitoring Plan (Plan) has been prepared by Guardian Consulting Company Inc. (Guardian). The Plan is designed to ensure an environmentally sound, safe, and efficient demolition of the two Chino Smelter Stacks located in Hurley, New Mexico. Sampling will involve perimeter sampling before, during, and after the demolition of the stacks. The purpose of the sampling is to document air quality during the demolition of the stacks and any subsequent impact to the residents of Hurley or the environment.

The Plan is designed to quantify the following analytes and constituents of concern (COCs).

Arsenic, Cadmium, Chromium, Copper, Lead, Molybdenum, Zinc and Asbestos

## **2.0 PROJECT DESCRIPTION**

The Plan outlines procedures used to sample and analyze various constituents during the demolition of the stacks. It will define the operating parameters wherein the actual demolition will be allowed to proceed.

## **3.0 DEFINITIONS**

PM<sub>10</sub> – EPA established procedure for measuring respirable particulates 10 micro meters in diameter or smaller during a 24 hour exposure.

Total Metals – Metals identified as potential constituents in the stack regulated by EPA and OSHA.

TSP – High volume sample method where air is drawn from a flow rate of approximately 1 cm per minute through a glass fiber filter. Sampling is continuous for a 24 hour period. Particles in the approximate size range 0.1 – 50 micro meters are collected.

COCs - Constituents of Concern: Arsenic, Cadmium, Chromium, Copper, Lead, Molybdenum, Zinc and Asbestos.

“XRF” means the x-ray fluorescence method of analyzing metals according to EPA Method 6200.

Area of Investigation (AOI) – defined operational area located within smelter closure

#### **4.0 SAMPLING OBJECTIVES**

Guardian understands that the State of New Mexico will be performing PM<sub>10</sub> and TSP particulate air sampling in the residential areas near the stack demolition. The State of New Mexico will set up sampling equipment at two locations adjacent to PD sample locations. These two locations will have a PM<sub>10</sub> and TSP sampler operated by the State and PD samplers for Metals and asbestos. All Chino air monitoring will be performed under the direction of Guardian’s Certified Industrial Hygienist, Mr. Assaf. NMED will supervise NMED monitoring equipment independently.

- Area samples will be conducted following established Occupational Safety and Health (OSHA) protocols for sampling and analysis.
- Samples will be collected prior to the demolition of the stacks to establish a Baseline. Samples will then be collected during and after the demolition to evaluate any environmental impact.
- Samples will be collected for a period of 6 to 8 hours and will vary based on the visible emissions, wind conditions and dust retention time.
- Demolition will only occur during favorable wind conditions. Winds shall be at least 1 to 3 mph and will be from the southwest, west, or northwest. Wind speed and direction is collected at NMED meteorological station at the ball field. This data will be utilized to verify favorable conditions prior to demolition.

##### **4.1 Asbestos Air Samples**

Due to safety concerns, thirty three feet (approximately 2,500 square feet) of Category I nonfriable asbestos-containing mastic could not be removed from the top section of the Kennecott stack. The stack support bands broke during the

asbestos abatement while the contractor was working 500 feet from the ground. Further accident investigation identified numerous other bands that were cracked, rusted, and deteriorated thereby making further abatement work too unsafe for employees.

Two air samples will be collected for analysis at the Chino Club and Security Gate to verify that asbestos levels, if any, from the stack demolition are below regulatory limits.

#### **4.2 Soil Sampling**

PD will collect soil samples at the following locations. These samples will be collected prior to the demolition of the stack and immediately following the demolition period. The samples will be analyzed for be Copper, Molybdenum, Lead and Zinc.

AOI – 6 numbers 3,8,11, and 12

AOI – 5 number 3

Post demolition soil sampling of residences will only be initiated if there is measurable difference in copper concentration between the baseline and the demolition air monitoring samples. Additionally, video or other photographic documentation will be reviewed in making the final determination of any action plan.

### **5.0 SAMPLING PROCEDURES**

Sampling will be conducted using the following:

- Temperature, wind direction and other climate conditions will be documented.
- Battery powered MSA and Gilian air sampling pumps will be employed for area sampling.
- All sampling pumps will be calibrated using a Gilian Primary Flow Calibrator (Gilibrator) before and after each sampling period.
- Air sampling shall be conducted prior to, during and following the demolition of the stacks.

- A report will be developed to include information pertaining to the field survey, field measurements, and sampling.

## **6.0 SAMPLE LOCATION**

The majority of the samples will be placed along the eastern side of the town site. Eleven portable air sampling pumps will be strategically placed around the project at the following locations:

1. Guard Gate
2. PD parking lot
3. Natural Gas Valve
4. Under Pass
5. Meteorological Station
6. South Security Gate
7. Acid Tanks
8. Golf Course
9. Big Muddy Area
10. General Office
11. Chino Club

## **7.0 SAMPLE ANALYSIS**

Sampling will be performed to determine the following:

- Perimeter samples will be analyzed for
  - Arsenic
  - Cadmium
  - Chromium
  - Copper
  - Lead
  - Molybdenum
  - Zinc

- Two samples will also be collected for Asbestos
- Soil samples in AOI-6 will be analyzed for copper

## **8.0 QUALITY CONTROL**

Sampling will performed in accordance with American Industrial Hygiene guidelines, Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) standards. All sample analysis will be conducted by an accredited laboratory.