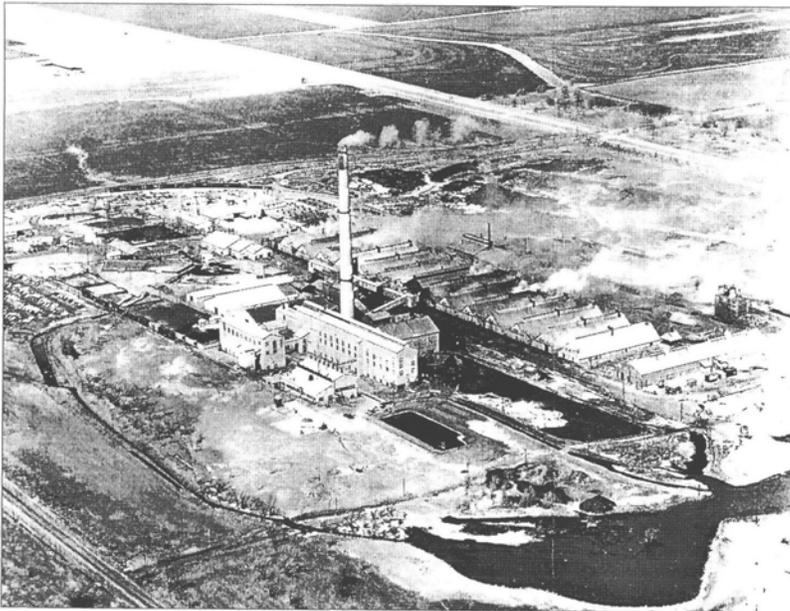


LAND

Fact Sheet | June 2007

Blackwell Zinc Smelter Site In Blackwell Oklahoma



Former Blackwell Zinc Facility (Currently Blackwell Industrial Park)
Source: Historic Photograph (Date Unknown) – Blackwell Journal Tribune

EMC² FIGURE 2

Smelter History

From 1916 to 1974, the Blackwell Zinc Company (BZC) operated a smelter facility on the northwest corner of Blackwell Avenue and north 13th Street. This smelter processed zinc and cadmium concentrates to produce refined metal. Environmental releases from smelting and refining processes caused some soils and groundwater near the historic facility to contain elevated levels of metals. In 1974, after closing and salvaging the facility, Blackwell Zinc Company donated the smelter site to the Blackwell Industrial Authority (BIA), a public trust of the City of Blackwell. Since that time, the BIA has been developing the former smelter site as an industrial park. Phelps Dodge Corporation (as the current owner of the Blackwell Zinc company), the Blackwell Industrial Authority (BIA), and the City of Blackwell have been working with DEQ to address these environmental releases.

This is one in a series of fact sheets the Department of Environmental Quality (DEQ) is providing with information on the historical zinc smelter in Blackwell, Oklahoma. This fact sheet will tell you about the history of the smelter and the status of cleanup efforts at the site.

Introduction

DEQ has been involved with the Blackwell smelter site since the early 90s, beginning with a 1992 site investigation performed by the United State Environmental Protection Agency. Shortly after the investigation, DEQ signed a Memorandum of Understanding (MOU) with EPA to conduct an investigation and remediation consistent with EPA's Superfund Program. The MOU established EPA in a support role, to review and provide input on site documents and decisions. This was followed by DEQ's oversight of Blackwell Zinc Company's (BZC) remedial investigation and remedial actions in Blackwell, which began in 1993. Currently, DEQ is still providing oversight of work being carried out by BZC under a consent order.

Investigation and Work Accomplished

In 1992, EPA investigated the site by sampling within a grid pattern to evaluate potential onsite and offsite impacts from the historical smelter and focusing on high access areas where children may live or play. The sampling consisted of 48 residential samples, 16 school and daycare samples, and seven park and public area samples. The results of the samples lead the EPA to perform two early removal actions. The first located at Washington School and the second at Beatty-Rogers Park.

In 1993, BZC began a comprehensive site investigation. This included obtaining access from property owners to allow sampling and identifying areas where smelter type waste was located. There were a total of 429 properties sampled during the investigation. The data obtained from the sampling was used to determine clean-up numbers for both human and ecological receptors in Blackwell. Today, these risk-based clean-up

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numbers remain protective of human and environmental health.

The metals contamination in Blackwell was addressed by breaking the clean-up into three different operable units. These operable units consist of a soil remediation unit, ecological remediation unit and ground water remediation unit. For each operable unit, a Feasibility Study was done to look at various remedies for clean-up. The major components of the remedies for the operable units are as follows.

Soil Remediation Unit (1996)

- removal of contaminated soil from residential yards and consolidation of that material with other contaminated soils on the former smelter location
- capping of the former smelter location
- institutional controls to assure the remedy will be maintained properly

Ecological Remediation Unit (1998)

- removal of contaminated sediments from impacted streams
- institutional controls to assure the remedy will be properly maintained

Groundwater Remediation Unit (2003)

- development of a pump and treat system
- groundwater will be treated and discharged to meet the DEQ surface water quality standards
- overtime toxicity and volume will be reduced
- institutional controls to assure the remedy will be maintained properly

The results of the samples lead to the following remedial actions: soil and waste removal at 47 properties, 18 blocks/alleys/right-of-ways, and Legion Park Tributary Areas. The remedial action consisted of removal of soil containing elevated levels of metals and replacement of contaminated soil with clean soil. The majority of the contaminated soil was removed and

consolidated with an 18-inch cap clean soil at the Blackwell Industrial Park (BIP). However, there are six locations where capping occurred on site. These areas include Blackwell Industrial Park, First Baptist Church Parking Lot, Blackwell High School Track, Milton Holman Property and Legion Park Sediment Areas.

Work Remaining

Supplemental Soil Sampling Program

Phelps Dodge, the current owner of BZC, is voluntarily offering additional soil sampling for individuals who did not get their yards sampled in the early 90s. Oversight of the supplemental soil sampling program is being performed by DEQ. Phelps Dodge will follow the same sampling plans as used in the early 90s. Additionally, soil sampling results will be made available to the property owner.

Groundwater Remedy

Phelps Dodge is moving forward with construction of the pump and treat system. The permits needed for the new facility and the location of the treatment plant are near finalization. Construction should start this fall.

Long-Term Protection

To maintain long-term protection of property owners, future owners and/or local citizens an information system must be developed. This information system will keep current and future property owners aware of the investigation and remediation that took place in Blackwell. Additionally, the information system will ensure that the remedies are properly maintained to ensure the health and safety of all individuals, future generations and the environment. There are several methods that can be used to accomplish this, and DEQ is exploring several alternatives.



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