



U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF INSPECTOR GENERAL

Review of Hotline Complaint Regarding Residential Soil Contamination in Cherryvale, Kansas

Report No. 13-P-0207

March 28, 2013



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Abbreviations

ATSDR	Agency for Toxic Substances and Disease Registry
EPA	U.S. Environmental Protection Agency
KDHE	Kansas Department of Health and Environment
OIG	Office of Inspector General
OSC	On-Scene Coordinator
QAPP	Quality Assurance Project Plan

Cover photo: Heavy equipment removing contaminated residential soil in Cherryvale, Kansas.
(EPA photo)

Hotline

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At a Glance

Why We Did This Review

The U.S. Environmental Protection Agency (EPA) Office of Inspector General (OIG) received a hotline complaint alleging that residential properties near the former National Zinc Company smelter, Cherryvale, Kansas, were not addressed by previous cleanup activities. We sought to determine whether EPA's actions identified and addressed all residential properties contaminated with heavy metals that presented an imminent and substantial threat to the public health.

The National Zinc Company site was once the location of a lead and zinc smelter. In March 2001, a state evaluation determined that soils at residential properties adjacent to the site were contaminated with heavy metals, including lead. EPA classifies lead as a probable human carcinogen and a cumulative toxicant. Although the effects of lead exposure are a concern for all humans, young children are particularly at risk.

This report addresses the following EPA Goal or Cross-Cutting Strategy:

- *Cleaning up communities and advancing sustainable development.*

For further information, contact our Office of Congressional and Public Affairs at (202) 566-2391.

The full report is at:
www.epa.gov/oig/reports/2013/20130328-13-P-0207.pdf

Review of Hotline Complaint Regarding Residential Soil Contamination in Cherryvale, Kansas

What We Found

EPA Region 7 screened residential properties for soil contamination during its 2001–2002 removal activities near the former National Zinc Company smelter, but could not provide us with complete documentation for all properties. We found over 35 residential properties with lead contamination that, according to samples taken during the 2001–2002 removal action, exceeded the action level. However, it was unclear which of these properties were excavated because some EPA records were missing or incomplete. Over a 6-month period, we made over 10 separate inquiries for the missing information. After receiving our draft report, Region 7 provided some of the missing information. Despite the new information, there are still inconsistencies and gaps in the site records. For example, in contrast to positions stated earlier in our review, Region 7 now says that some properties with contamination at or above the action level were not excavated based on discussions with property owners and the State of Kansas. Without complete documentation, neither EPA nor the OIG can confirm EPA's assertion that all lead contamination presenting an imminent and substantial endangerment to public health at this site was fully identified and addressed. As a result, we cannot confirm or dismiss the allegations raised in the complaint.

Recommendations and Planned Agency Corrective Actions

We recommend that Region 7 review all site records and documents to determine whether there is an imminent and substantial endangerment to public health at the National Zinc Company site. To support this determination, Region 7 should revise or prepare an addendum to the Removal Action Summary Report that contains an accurate and complete account of EPA activities at the site as well as fully document and timely communicate any actions taken to the public. We further recommend that, as needed, Region 7 work with the State of Kansas to ensure appropriate action is taken to respond to any imminent and substantial endangerment to public health at the site. In addition, we recommend that Region 7 document the costs to develop and implement the work necessary to address our recommendations.

Region 7 disagreed with recommendation 1. It believes that it has addressed all imminent and substantial endangerment at residential properties that met removal action criteria. Because the region was unable to provide us with the information necessary to confirm its assertion, this recommendation is unresolved. After we provided additional clarification, Region 7 agreed with recommendation 2. It also agreed with recommendation 3. However, the region did not include planned completion dates along with its planned corrective actions for these recommendations. Therefore, all three recommendations are unresolved. Region 7 will have an additional opportunity to provide information in response to this report. The OIG and Region 7 should begin the resolution process immediately.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

THE INSPECTOR GENERAL

March 28, 2013

MEMORANDUM

SUBJECT: Review of Hotline Complaint Regarding Residential Soil Contamination in
Cherryvale, Kansas
Report No. 13-P-0207

FROM: Arthur A. Elkins Jr.

A handwritten signature in black ink, appearing to read "Arthur A. Elkins Jr.", is written over the printed name.

TO: Karl Brooks, Regional Administrator
Region 7

This is our report on the subject evaluation conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). This report contains findings that describe the problems the OIG has identified and corrective actions the OIG recommends. This report represents the opinion of the OIG and does not necessarily represent the EPA position. This report contains the intended corrective actions for two recommendations. These recommendations are considered unresolved, pending receipt of estimated completion dates. In addition, the report contains one recommendation that Region 7 and OIG are in disagreement with. This recommendation is also considered unresolved.

Action Required

In accordance with EPA Manual 2750, resolution should begin immediately upon issuance of the report. We are requesting a meeting between the Regional Administrator for Region 7 and the Assistant Inspector General for Program Evaluation to start the resolution process and attempt to obtain resolution. If resolution is still not reached within 30 days, the Regional Administrator for Region 7 is required to complete and submit the dispute resolution request to the Chief Financial Officer to continue the resolution process. We have no objections to the further release of this report to the public.

If you or your staff has any questions regarding this report, please contact Carolyn Copper at (202) 566-0829 or copper.carolyn@epa.gov, or Tina Lovingood at (202) 566-2906 or lovingood.tina@epa.gov.

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Chapter 1

Introduction

Purpose

The U.S. Environmental Protection Agency (EPA) Office of Inspector General (OIG) received a hotline complaint about the National Zinc Company site in Cherryvale, Kansas. Based on our review of the complaint, we focused on EPA's 2002 Time-Critical Removal Action (performed from November 2001 to May 2002). We addressed the following question:

Did EPA's 2002 Removal Action and oversight activities at the National Zinc Company site in Cherryvale, Kansas, fully identify and address site-related and unsafe heavy metal contamination?

Background

The National Zinc Company site in Cherryvale was once the location of a lead and zinc smelter. The smelter was operational from 1898 to 1976. In the late 1970s, the owners performed some cleanup work to remove contamination. A restrictive covenant was established in 1983 and governs the site with land use restrictions.

Beginning in 1999, several investigations of the National Zinc Company site were performed by the Kansas Department of Health and Environment (KDHE) to determine the extent of the contamination. It was discovered that approximately 360 acres surrounding the former smelter plant were contaminated above the risk-based standards. The contamination consisted of heavy metals, particularly lead, cadmium, arsenic, and zinc. Based on a 2001 KDHE evaluation, EPA identified lead as the greatest concern for human health. At the residential properties adjacent to the smelter, EPA determined there was a potential for ingestion exposure to lead in the top layers of the soil.

According to EPA, lead is a naturally-occurring element that can be harmful to humans when ingested or inhaled, particularly children under the age of six. Lead poisoning can cause a number of adverse human health effects, but is particularly detrimental to the neurological development of children. EPA classifies lead as a probable human carcinogen and a cumulative toxicant. According to the Agency for Toxic Substances and Disease Registry (ATSDR), the effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in the body. A 2007 ATSDR lead fact sheet states that exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death.

In March 2001, KDHE began identifying residential properties¹ adjacent to the former National Zinc Company smelter with lead contamination at or above what is considered protective of human health and the environment.² In August 2001, KDHE requested EPA's assistance in addressing imminent and substantial threats to public health at the site.³ The EPA On-Scene Coordinator (OSC) for the site issued an Action Memorandum (Action Memo).

The Action Memo requested approval and funding from EPA for a Time-Critical Removal Action⁴ at the site. It stated that the actual release of a hazardous substance at this site, if not addressed by implementing the response actions, presented an imminent and substantial endangerment to the health of the public that came into contact with the site and to public welfare and the environment. The Action Memo also included a recommendation that immediate response actions be taken to reduce potential exposure. It stated the primary objectives of EPA's actions at the site were to eliminate or reduce potential ingestion exposure due to the presence of lead in the soils.

EPA Time-Critical Removal Activities

EPA's Time-Critical Removal Activities took place from November 2001 to May 2002. According to the Action Memo, EPA's removal activities were to address imminent and substantial endangerment to public health at residential properties where the soil contained lead concentrations equal to or greater than 400 mg/kg. For all properties where EPA intended to conduct sampling, Region 7 staff stated that they notified residents and land owners by letter and in door-to-door visits.

In accordance with EPA requirements, removal activities at the site were to follow a Quality Assurance Project Plan (QAPP). The QAPP documented the planning, implementation, and assessment procedures. Specific quality assurance and quality control activities were also included. EPA's QAPP for this removal included the following details:

- Sample collection will be in the upper 1 inch of soil and will be screened for lead.
- Samples will be collected 50 feet from each side of the home.
- Samplings will also include play areas and gardens, sand piles, unpaved driveways, and other areas appearing to have been used by children.

¹ In site documents, EPA and KDHE refer to residential properties as residential yards.

² The KDHE residential Risk-Based Standard for Kansas level for lead contamination is 400 mg/kg. The Risk-Based Standards for Kansas provide guidance on the process for establishing chemical-specific and site-specific cleanup goals for soil, groundwater, and indoor air that are protective of human health and the environment.

³ In this report, the term "site" includes the residential properties adjacent to the former National Zinc Company smelter buildings.

⁴ Time-critical removals are initiated when the lead agency determines on the basis of a site evaluation that an action is appropriate and must be initiated within 6 months.

- Results of sampling and analysis will be used to direct excavation activities for the removal of lead-contaminated soil above the Risk-Based Standard for Kansas level of 400 mg/kg.
- Excavation of lead-contaminated areas will be conducted up to a maximum depth of 12 inches below ground surface, except in high-use areas or areas frequented by children, where excavation will be conducted up to a maximum depth of 24 inches.

Once the removal began, EPA and KDHE conducted additional removal assessments at residential properties. As a result, the removal was expanded from the originally identified residences. A 35-acre residential area known as the “Rodeo Grounds” was also included. EPA reported that approximately 76,000 cubic yards of soil were removed from residential properties.⁵

Potentially Responsible Parties Have Been Identified

In April 2003, KDHE entered into a consent order with Citigroup Global Market Holdings, Inc.⁶, and United States Steel Corporation, which were both identified as potentially responsible parties. The consent order includes investigative, mitigation, and corrective measures at the site that are still being performed to date. Residential properties adjacent to the site were excavated by the potentially responsible parties in May and June 2012. In recent letters to property owners, KDHE stated that it “will continue to work with the [potentially responsible parties] for the National Zinc Site to conduct additional activities to address the actual and potential environmental issues associated at properties where waste is observed.”

In March 2009, EPA entered into a consent decree with the two potentially responsible parties. The consent decree required the two potentially responsible parties to pay a total of \$1 million, plus accrued interest, for EPA’s site-related response costs at the National Zinc site.

Scope and Methodology

We performed our review from August 2012 to January 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform our review to obtain sufficient, appropriate evidence to provide a reasonable basis for any findings and conclusions based on our objectives. We believe the evidence obtained provides a reasonable basis for the observations presented in this report.

⁵ As described in chapter 2 and the Scope and Methodology, the total number of residential properties where excavation took place cannot be confirmed.

⁶ When the 2003 consent order was signed, Citigroup Global Market Holdings, Inc., was known as Salomon Smith Barney Holdings, Inc.

We reviewed OIG hotline complaint information. We reviewed laws, regulations, policies, procedures, and guidance relevant to the EPA Time-Critical Removal Action. We interviewed EPA Region 7 staff and managers as well as a KDHE section manager previously involved with the EPA removal action. We reviewed Region 7 site records and files documenting EPA's actions during the removal. We also interviewed EPA officials and staff in the Office of Emergency Management, which is part of the Office of Solid Waste and Emergency Response, regarding the removal process for lead contaminated soil. In September 2012, we visited the site to gain an understanding of the location, characteristics, and present conditions. The primary focus of our review was the residential properties associated with the site. We did not conduct an in-depth review of the site documents for removal activities at the Rodeo Grounds.

We encountered limitations in the site documents we reviewed. We cannot provide a total number of properties EPA sampled or excavated. The total number of residential properties EPA sampled is not provided in any site document. Counting property addresses that appear in site documents resulted in a total of 67 properties sampled, but we could not confirm that number. Region 7 staff told us and stated in reports (Pollution Reports and the Removal Action Summary Report) that lead-contaminated soil was removed from 35 residential properties. Region 7 also stated this in a letter to a member of Congress. However, for the following reasons, neither count (35 properties excavated and 67 properties sampled) can be confirmed because:

- EPA Pollution Reports do not include:
 - Addresses of the properties for verification.
 - A total number of properties sampled.
- EPA's 2002 Removal Action Summary Report does not include:
 - A conclusive list of properties where sampling occurred and where contaminated soil was removed.
 - Hand-written field notes with supporting documentation for all properties.
 - Information on all properties that tested at or above the action level during the Removal Site Evaluations.⁷

⁷ Removal Site Evaluations for the Cherryvale Residential Yards Site from March 2001 evaluated and identified 11 residential properties with lead-contaminated soil at or above the risk-based action level. Removal Site Evaluations for the Cherryvale Residential Yards Site from March 2002 identified an additional 23 residential properties with lead-contaminated soil at or above the risk-based action level. The report states that a total of 37 additional properties were evaluated.

Chapter 2

Imminent and Substantial Endangerment May Not Be Fully Identified or Addressed

EPA Region 7 screened residential properties for soil contamination during its 2001–2002 removal activities, but could not locate or provide us with complete documentation identifying the specific locations of properties excavated or sampled. EPA site documents contain details about pre-excavation and post-excavation sampling results. However, these documents are incomplete. Region 7 also could not provide all field notes containing sampling information. Moreover, there are gaps in existing documentation related to properties with contamination at or above the risk level for lead. As a result, neither EPA nor the OIG can confirm that all contaminated properties at this site were properly identified and that imminent and substantial endangerment to the health of the public from lead contamination in residential soil was fully addressed.

EPA Unable to Provide Information Needed to Confirm Risk Reduction

Region 7 could not provide supporting documentation to demonstrate that all sampling and removal actions were properly completed for all properties. When we started our work in August 2012, Region 7 staff sent a request to the EPA records center to locate and pull the logbooks, original field sheets, and photos for this removal action. After several inquiries on when the information would be available, we asked Region 7 to provide us, by October 31, 2012, the supporting documentation to answer our questions about the number of properties excavated and the missing documentation. We also requested the final pollution report, which was not included in the site file. Region 7 was able to provide us with the final pollution report but did not provide the other information requested by our deadline.

After our deadline passed, we told Region 7 that if the documentation necessary to respond to our questions turned up before we finished our assignment we would review it. Region 7 had at least four additional opportunities to provide the documentation, including during a meeting with senior regional staff before we planned to issue our final report. Over 6 months, we made over 10 inquiries about the information. We were told by Region 7 staff that they could not locate the information we requested. EPA Region 7 staff said that the delays in the region's search for information occurred because of the length of time that had passed since the removal activities; the physical move of the regional records center from Kansas City, Kansas, to Lenexa, Kansas; and other competing regional priorities.

In response to a June 2012 congressional inquiry, the Region 7 Administrator stated that EPA excavated contaminated soil from 35 residences and backfilled

and reseeded these lots. However, we asked Region 7 for additional information to confirm this number in September 2012. Region 7 could not produce a document that clearly showed the addresses of the 35 residential properties that it said were excavated.

In Removal Site Evaluations⁸ conducted in 2001 and 2002, several properties were identified with lead contamination. Test results for samples taken from the surface soil on these properties were over the action level of 400 mg/kg and met EPA's criteria for a removal.⁹ Of these properties, nine had no documentation as to what action, if any, took place after the lead contamination was identified. Documentation was also unavailable for an additional property. Soil samples taken at that property showed lead contamination over the action level, but it was not identified as contaminated in EPA's report. We asked Region 7 at least 10 times over a 6-month time period for information or documentation to clarify the actions taken during the 2001–2002 Time-Critical Removal. We were told that the region was trying to locate documentation. Without that documentation, EPA Region 7 staff said they could not confirm what actions took place to address the lead contamination on these properties. According to the EPA OSC for the site, all lead contamination at or above the action level of 400 mg/kg in the surface layer of the soil was excavated.

Using the EPA Removal Action Summary Report,¹⁰ we compiled a list of the properties likely to have been excavated. The list was not conclusive and did not contain all properties listed in Removal Site Evaluations as exceeding the action level for lead contamination. We found that some of the properties initially identified as at or above the action level for lead contamination during EPA's Removal Site Evaluations were not noted as excavated in the Removal Action Summary Report. Given this discrepancy, we requested confirmation from Region 7 on the accuracy and completeness of our list as well as EPA's Removal Action Summary Report.

Region 7 stated that it needed all logbooks and original field sheets from the site to answer our questions, confirm the number of properties excavated, and provide property addresses. Many pages of field notes were already electronically scanned into the Removal Action Summary Report. However, not all of the properties listed had corresponding field notes. EPA Region 7 staff stated the field notes for these properties would be in the logbooks for the site. Region 7 informed OIG in December 2012 and again a few weeks prior to our planned issuance date that it had located the information it needed.

⁸ Removal site assessment activities focus on demonstrating whether the conditions at the site meet the National Contingency Plan criteria for a removal action. The removal assessment is designed to show if, and how, the site poses a threat to human health or the environment. For this site, the assessments were performed by the KDHE Bureau of Environmental Remediation as part of a cooperative agreement with EPA.

⁹ According to EPA's Action Memo for the site, residential property where the soil contains lead concentrations equal to or greater than 400 mg/kg will be included in the removal action.

¹⁰ The Removal Action Summary Report documents the removal activities that were performed by EPA and its contractors at the site. The report also describes the procedures used to complete removal activities.

In March 2013, subsequent to the draft report, OIG received a package from Region 7 containing 10 logbooks with EPA staff and contractor's hand-written notes. Region 7 also provided new information about the removal action as well as responses to OIG questions sent in October 2012 and February 2013. The new information included a list of 35 properties Region 7 said were excavated and a list of 31 properties sampled but not excavated. Region 7 pointed out that a drainage ditch was excavated during the removal action. According to the Removal Action Summary Report, the ditch was excavated 3 to 6 inches.

OIG reviewed all of the logbook references and new information provided. However, we still could not confirm that EPA identified and removed all contamination presenting an imminent and substantial endangerment to the public at this site during its removal action. While Region 7's logbook references and new information provided additional details on the status of 14 properties, we were unable to verify the actions taken at 11 of the 14 properties. Furthermore, there were inconsistencies in the new information provided. The excavated properties, as well as other sampled but not excavated properties were not fully supported by documentation in the site records. For example, 2 properties listed as excavated did not have post-excavation data. Region 7 also said that it included the excavation of one property with another property and listed both properties as a single property on its list of excavated properties. We reviewed the justification provided for these properties and could not reconcile it with site records. In addition, 5 properties on Region 7's list of properties sampled but not excavated do not appear in the Removal Action Summary Report or Removal Site Evaluations.

In contrast to Region 7 positions stated early in our review, in a document sent February 28, 2013, the region said that all properties with contamination at or above the action level were not excavated. According to Region 7, there were five residential properties where the OSC discussed sample results with the property owner and KDHE and determined no soil would be excavated. For these properties, a total of five to six samples were collected and, depending on the property, results for as many as three of the samples collected at each property showed lead contamination at or above the action level. Region 7 referred the OIG to logbook entries on certain dates for discussions with KDHE and the property owner regarding no further action at the location in question.

Using Region 7's logbook references, we could not confirm the activities at these properties. The logbook references for these properties are limited and include only a sentence or two about a discussion with an individual at the property address and a sentence or two on discussions with KDHE. Discussions with KDHE only provide street names rather than specific property addresses. In the site files and logbook references Region 7 provided, we did not find signed documentation or conclusive evidence to verify the property owner agreement to take no further action where contamination was found at or above the action level in some but not all samples. In addition, the Removal Action Summary Report,

Removal Site Evaluations, and pollution reports for the site contain no mention of these discussions with property owners or KDHE.

Region 7 also explained that some discrepancies between the Removal Action Summary Report and Removal Site Evaluations for six properties with contamination at or above the action level could be resolved by address clarifications or property boundary adjustments. We reviewed the logbook references, site records and Region 7's explanations for these six properties. We were unable to verify the excavation status for five of the six properties.

EPA Cannot Provide Assurance Its Sampling Followed Proper Procedures

We reviewed EPA's sampling documentation for the 2001–2002 Time-Critical Removal Action and found EPA's records were incomplete. Field notes necessary to verify that samples were properly collected were not available for all properties. Site records were not maintained in accordance with EPA policies and requirements for a removal action. EPA requirements included creating and following a site-specific QAPP. The QAPP for this site called for maintaining a field logbook to record all pertinent activities associated with sampling events. Information pertaining to all samples (i.e., sampling dates/times, locations, etc.) collected during this removal action was to be recorded on sample field sheets. An EPA record keeping policy¹¹ requires the sampling and analysis data to be retained permanently.

In our initial review, we found that nine residential properties lacked required field sheet documentation in the Removal Action Summary Report. We asked Region 7 at least 10 times over a 6-month period for the documents. The region was unable to provide documentation for all nine properties. In the new information and references Region 7 provided, it did not specifically identify where to find supporting documentation that was not present in the Removal Action Summary Report. Based on the new information and references that were provided, we were able to confirm supporting documentation for one of the nine properties. However, with the new information, we found seven additional properties without supporting documentation. Without complete documentation for these 15 properties, we cannot confirm that sample procedures were followed and that all properties with occurrences of lead contamination at or above the risk-based action level of 400 mg/kg were identified.

We also reviewed the process used by EPA to determine the sampling boundaries for the removal action at this site. We found a residential property that may not have been sampled. The OSC has discretion in determining how the site will be evaluated. However, the QAPP states that if the results of the screening characterization indicate that surface soil contamination exists (i.e., lead

¹¹ EPA Records Schedule 013.

concentrations greater than 400 mg/kg) beyond the specified limits of the site area, further sampling would be conducted using the same sampling design. The QAPP further states the OSC shall record deviations in the site logbook as necessary. The property we identified was located adjacent to another contaminated property. Subsequent to the issuance of the draft report, Region 7 stated that this property was not excavated. It said KDHE collected a sample during the Removal Site Evaluation. The corresponding site sketch for this property provided three sample locations. One of the three sample results was over the action level of 400 mg/kg. No logbook references or other explanations were provided by Region 7 on why no action was taken at this property to address the contamination identified.

Conclusion

EPA stated in its records for the National Zinc Company site that the actual release of a hazardous substance (lead), if not addressed, presented an imminent and substantial endangerment to the health of the public that came into contact with the site and to public welfare and the environment. Without necessary and required documentation, which despite repeated requests to Region 7 could not be produced, neither we nor EPA can confirm that EPA identified and removed all contamination presenting an imminent and substantial endangerment to the public at this site during its removal action. As a result, we cannot confirm or dismiss the allegations of the hotline complaint. Lead poisoning can cause a number of adverse human health effects, and is particularly detrimental to the neurological development of children. Without additional documentation to demonstrate that risks to human health have been addressed, EPA will need to take further actions. EPA and other parties will likely incur additional costs to provide assurance that imminent and substantial endangerment to public health has been addressed at the National Zinc Company site. When risks rise to the level of imminent and substantial endangerment to public health, welfare, and the environment, EPA's ability to quickly and clearly produce the records to show that those risks were addressed should be uncomplicated, regardless of the age of the records.

Recommendations

We recommend that the Regional Administrator, Region 7:

1. Review all site records, including logbooks, to determine whether all imminent and substantial endangerment to public health at the National Zinc Company site was identified and addressed. To support the region's determination:
 - a. Revise or prepare an addendum to the Removal Action Summary Report. Provide any logbook pages, field sheets, site sketches, corrections, and any other missing documentation needed to

provide a complete and accurate account of all properties identified, addressed and excavated during the removal action.

- b. Fully document and timely communicate any actions taken in response to issues identified in this report to the public.
2. As needed, work with KDHE to ensure appropriate action is taken to respond to any imminent and substantial endangerment to public health at the National Zinc Company site.
3. Document the costs to develop and implement the actions in recommendations 1 and 2.

Agency Response and OIG Evaluation

In response to our draft report, Region 7 stated that it addressed all imminent and substantial endangerment at residential properties that met the removal action criteria, as identified in EPA's Action Memo during the 2001–2002 Time-Critical Removal Action. It stated that under an existing consent order the State of Kansas has with the responsible parties, there is already a mechanism in place to address any future imminent and substantial endangerment at the site. The region agreed it was unable to meet our October 2012 deadline for providing additional documentation and resolving questions at the site. It said that because it was in the process of a major move to a new facility it did not have access to the documents needed to meet the OIG deadline.

In March 2013, we received 10 logbooks from Region 7. Region 7 acknowledged that copies of the logbooks provided to the OIG should have been included as appendices to the EPA Removal Action Summary Report. We reviewed the new information from Region 7 and checked the logbook references provided. We made changes to the final report where appropriate. Additional documentation is still needed to provide assurance and evidence of the scope of EPA's 2001–2002 removal actions. Based on the amount of documentation missing over the course of this evaluation and the inconsistencies we have identified between the Removal Action Summary Report, pollution reports, logbooks, and Removal Site Evaluations, we cannot determine whether there may be even more corrections needed to the site record. As a result, we clarified our first recommendation. Region 7 stated that it was still in disagreement with the recommendation, as clarified.

In its response to the second recommendation in our draft report, Region 7 said that it would rely on the existence of a consent order between the State of Kansas and the responsible parties to address imminent and substantial endangerment to public health at the National Zinc Company site. However, the existing consent order would not preclude Region 7 from taking action at the site, if needed. Moreover, Kansas would need additional information from Region 7 to determine

whether action is needed to prevent imminent and substantial endangerment on properties initially listed as sampled and/or addressed through EPA's 2001–2002 removal actions. Action needed could include the re-sampling of properties where documents in the site record do not fully confirm Region 7's removal activities and/or the excavation of properties with contamination at or above the action level. We clarified this recommendation to ask Region 7 to work with Kansas to ensure any appropriate action needed is taken. Region 7 stated that it was in agreement with the recommendation, as clarified, but did not provide a timeline for its corrective actions. The corrective actions would depend on the outcome of the region's response to recommendation 1.

Before our final report was issued, Region 7 changed its position on recommendation 3. The region said that it is in agreement with this recommendation. However, it did not provide a timeline for its corrective actions planned in response to the recommendation.

Region 7 noted that as a result of the information we found missing from EPA's electronic and hard copy files for the site, it is taking steps to make sure that future pollution reports contain addresses of properties excavated as well as a clear description of all work that was done at the site. The region will also check that files for future sites contain scanned versions of documents necessary to support the work performed.

Status of Recommendations and Potential Monetary Benefits

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in \$000s)	
Rec. No.	Page No.	Subject	Status ¹	Action Official	Planned Completion Date	Claimed Amount	Agreed-To Amount
1	9	Review all site records, including logbooks, to determine whether all imminent and substantial endangerment to public health at the National Zinc Company site was identified and addressed. To support the region's determination: <ul style="list-style-type: none"> a. Revise or prepare an addendum to the Removal Action Summary Report. Provide any logbook pages, field sheets, site sketches, corrections, and any other missing documentation needed to provide a complete and accurate account of all properties identified, addressed and excavated during the removal action. b. Fully document and timely communicate any actions taken in response to issues identified in this report to the public. 	U	Regional Administrator, Region 7			
2	10	As needed, work with KDHE to ensure appropriate action is taken to respond to any imminent and substantial endangerment to public health at the National Zinc Company site.	U	Regional Administrator, Region 7			
3	10	Document the costs to develop and implement the actions in recommendations 1 and 2.	U	Regional Administrator, Region 7			

¹ O = recommendation is open with agreed-to corrective actions pending
C = recommendation is closed with all agreed-to actions completed
U = recommendation is unresolved with resolution efforts in progress

EPA Region 7 Comments to Draft Report and OIG Evaluation

February 6, 2013

MEMORANDUM

SUBJECT: Response to Office of Inspector General Draft Project No. OPE-FY12-0021
“Review of Hotline Complaint Regarding Residential Soil Contamination in
Cherryvale, Kansas,” dated January 22, 2013

FROM: Karl Brooks
Regional Administrator

TO: Carolyn Copper
Assistant Inspector General for Program Evaluation

Thank you for the opportunity to review the subject report. Following is a summary of Region 7’s overall position, Region 7’s position on each report recommendations, and an attachment of factual inaccuracies and technical comments.

Region 7’s Overall Position

Region 7 addressed all imminent and substantial endangerment at residential properties that met the removal action criteria, as identified in EPA’s Action Memo during its 2001-2002 time critical removal action.

OIG Response 1: The OIG disagrees with Region 7’s unsupported assertion that all imminent and substantial endangerment at residential properties was addressed. The files needed to confirm all properties that should have been subject to the removal are not included in the electronic and hard copy files for the site. Region 7 told us in December 2012 and again in February 2013 that it had located the documents that would allow the region to respond to our questions and provide information on the removal action. On February 28, 2013, Region 7 provided a list of excavated residential sites and a list of sampled sites not excavated. It also provided references to additional information. On March 5, 2013, the OIG received 10 logbooks from Region 7 with hand-written site notes. While this information provides additional details on EPA actions at the site, it did not completely address the issues identified in our draft report and is not sufficient to confirm the removal activities identified and addressed all contamination at or above the action level. We cannot dismiss the possibility that contamination existing at the site during the 2001–2002 Time-Critical Removal Action may not have been fully identified and/or addressed.

Under an existing consent order the State of Kansas has with the responsible parties, there is already a mechanism in place to address any future imminent and or substantial endangerment at the site.

OIG Response 2: We clarified this recommendation to acknowledge that EPA will need to work with the State of Kansas to ensure that any needed action is taken. We could not find any provisions in the existing consent order that would prohibit EPA from taking action to address contamination at the site if necessary. Moreover, KDHE is operating under the premise that EPA's 2001–2002 removal action was properly completed. At this time, the documents Region 7 has provided to us for review are neither an accurate nor a complete account of the removal action activities. Therefore, KDHE would not have the information necessary to determine what additional actions to protect public health, if any, would be required at properties included in EPA's 2001–2002 removal action. Region 7 agreed with the recommendation, as clarified.

Region 7 provided OIG with documentation to support the excavation of residential properties in Cherryvale, Kansas. OIG compiled a list 35 excavated properties. Region 7 agrees it was unable to meet OIG's October 31, 2012, deadline for providing additional supporting documentation to resolve questions related to 9 additional residential addresses. Region 7 was in the process of a major move to a new facility in Lenexa, Kansas, and did not have access to the documents to meet the OIG's established deadline.

OIG Response 3: OIG was able to compile a list of properties likely to have been excavated from the Removal Action Summary Report. However, we acknowledged that our list did not include all properties that tested above the action level during the Removal Site Evaluations. We asked Region 7 to confirm that this list was correct. We also asked for an explanation of what actions, if any, were taken at the properties identified with contamination above the action level in the Removal Site Evaluations. These properties met the criteria for EPA's removal action and, if unaddressed, present an imminent and substantial endangerment to public health.

Despite the regional office move, there were at least 10 opportunities over a 6-month period for Region 7 staff to locate the requested documentation. We have an email from regional staff which shows that the original request for the documents from the OSC to the records center was made in August 2012. After the region did not meet our October 31, 2012, deadline for providing the information, we informed regional staff that we would review the information if it turned up before the end of our assignment. In December 2012, we received an email from the audit liaison stating that Region 7 has begun "sifting" through the documents but it would take some time.

During our exit conference on February 13, 2013, regional staff clarified that messages sent to us in September regarding the accessibility of the documents were incorrect. The regional staff further clarified that the boxes containing the logbooks were found on December 18, 2012. On February 28, the region added to its clarifications that an additional 127 boxes of documents that cover the National Zinc Site were located on November 7. The region indicated it started its review of the documents on January 8, 2013.

On February 28, 2013, Region 7 sent OIG additional information on the removal action in an email. On March 5, 2013, OIG received photocopies of 10 hand-written logbooks from Region 7. The information contained a list of properties excavated and sampled. The region explained that some properties with one or more samples testing at or above the action level were not excavated. In these cases, the region provided hand-written notes that it said documented that property owners agreed to no action.

OIG reviewed the new information and supporting references provided by Region 7. While the region has provided additional details about the removal action, the additional information provided did not completely address the issues identified in our draft report. There are still inconsistencies and gaps in the site record and supporting documents provided by the region, particularly in the Removal Action Summary Report. As a result, we cannot confirm the removal action properly identified and addressed all contamination at or above the action level at the site. The region had several opportunities to provide this information in response to our January 22, 2013, draft report and will have another opportunity to provide the information in its response to this final report.

Region 7's Response to Report Recommendations
Disagreements

No.	Recommendation	Agency Explanation/Response	Proposed Alternative
1.	Develop and implement a plan to determine whether there is an imminent and substantial endangerment to the public health at the National Zinc Company site and fully document and timely communicate this plan to the public.	<p>Region 7 disagrees with this recommendation as a plan is already in place.</p> <p>Region 7 addressed all imminent and substantial endangerment at residential properties that met the removal action criteria, as identified in EPA's Action Memo during its 2001-2002 time critical removal action.</p> <p>The Kansas Department of Health and Environment addressed contamination at the smelter property pursuant to an April 2003 consent order with two responsible parties.</p> <p>Under this existing consent order, the Kansas Department of Health and Environment works with the responsible parties to address any future imminent and substantial endangerment to public health that may be identified.</p>	Not needed.
2.	As needed, take appropriate action to respond to imminent and substantial endangerment to public health at the National Zinc Company site.	<p>No Region 7 action is needed.</p> <p>Pursuant to an existing consent order, the Kansas Department of Health and Environment works with the responsible parties to address any imminent and substantial endangerment to public health that may be identified.</p>	Not needed.
3.	Document the costs to develop and implement the actions in recommendations 1 and 2.	<p>No action is needed.</p> <p>Any future response actions will be addressed under the Kansas Department of Health and Environment consent order by the responsible parties.</p>	Not needed.

OIG Response 4: OIG disagrees with Region 7's proposed actions in response to the recommendations. Neither OIG nor the region has, at this time, the information necessary to confirm whether all imminent and substantial endangerment to public health at the site was properly identified and addressed. Based on the amount of documentation missing over the course of this evaluation and the inconsistencies we have identified between the Removal Action Summary Report, pollution reports, logbooks, and Removal Site Evaluations, we cannot determine whether there may be even more corrections needed to the site record. There is an existing consent order between the State of Kansas and the potentially responsible parties at this site, but EPA should continue to be involved and ensure that any actions necessary to address imminent and substantial endangerment to public health at this site are taken.

As a result of Region 7's response and new information received in March 2013, we clarified recommendations 1 and 2 and held a second exit conference with Region 7 on March 22, 2013. In response to the revised recommendations, Region 7 disagreed with the clarification to recommendation 1. It said that it has retrieved and reviewed the site records, including log books, field sheets, and site sketches. Region 7 maintains that it addressed all imminent and substantial endangerment at residential properties that met the removal action criteria, as identified in EPA's Action Memo during its 2001–2002 removal action. However, Region 7 said that it would reformat the information to substantiate its position for inclusion in the site file.

Region 7 agreed with the clarification to recommendation 2. It said that the revised recommendation 2 is its standard practice and that, in accordance with the National Contingency Plan, Region 7 will continue to coordinate with state counterparts. Region 7 also said that it now agrees with recommendation 3. However, it did not provide an estimated completion date for these recommendations. Therefore, recommendations 1, 2, and 3 are unresolved with resolution efforts in progress.

Contact Information

If you have any questions regarding this response, please contact Kathy Finazzo, Region 7 Audit Follow-up Coordinator, 913-551-7833.

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