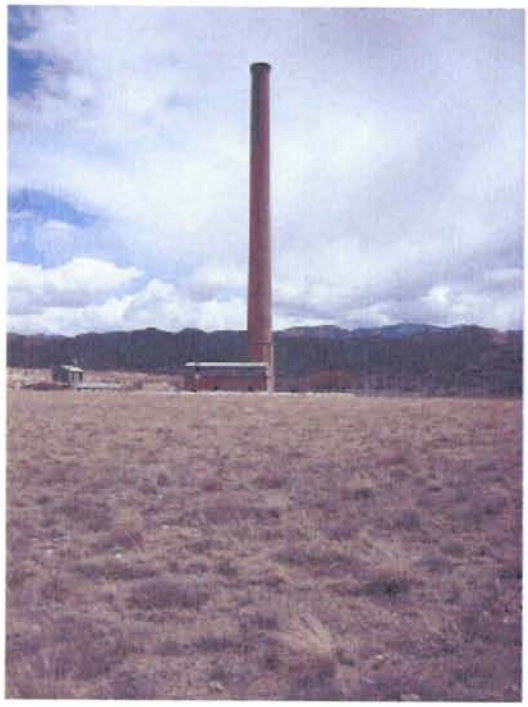
Second Five-Year Review Report

For

Smeltertown Superfund Site
Operable Units 1 and 2

Chaffee County,
Colorado

September 2010



Prepared by:

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Approved by: Date:

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Smeltertown Superfund Site Second Five-Year Review Report

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List of Acronyms

AOC	Administrative Order on Consent
ARAR	Applicable or Relevant and Appropriate Requirement
BRA	Baseline Risk Assessment
CBSGW	Colorado Basic Standard for Groundwater
CCR	Covenants, Conditions and Restrictions
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	Contaminant of Concern
CoZinCo	Colorado Zinc Company, Inc.
cy	cubic yards
DNAPL	Dense Non-Aqueous Phase Liquid
EE/CA	Engineering Evaluation/Cost Analysis
EPA	Environmental Protection Agency
ERA	Ecological Risk Assessment
IC	Institutional Control
MCL	Maximum Contaminant Level
mg/L	Milligrams per Liter
MRA	Mining Restricted Area
NCP	National Contingency Plan
NPL	National Priority List
O&M	Operation and Maintenance
OU	Operable Unit
PAH	Polycyclic Aromatic Hydrocarbon
POC	Point of Compliance
PRG	Preliminary Remediation Goal
PRP	Potentially Responsible Party
RAO	Remedial Action Objectives
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SDWA	Safe Drinking Water Act
µg/L	Micrograms per Liter
WCA	Waste Consolidation Area

Executive Summary

The Colorado Department of Public Health and Environment (CDPHE) and the United States Environmental Protection Agency (EPA) Region 8 have conducted the second five-year review of the Smeltertown Superfund Site. The results of this five-year review indicate that the site remains protective of human health and the environment.

EPA is the lead agency for the Smeltertown Superfund Site. The purpose of this review is to determine if the remedy implemented continues to be protective of human health and the environment.

As shown on the attached State Map (Attachment 1), the site is located about one mile northwest of the city of Salida, in south-central Colorado. As shown on the attached Site Map (Attachment 2), the site is located in an industrial area, comprises approximately 120 acres adjacent to the Arkansas River and is surrounded by a few residences. A lead/zinc ore smelter operated from 1902 to 1919 in the central portion of the site and is still evidenced by a historical 365-foot smelting stack. In the north and western portions of the site a wood treating facility operated from 1926 through 1953.

The remedy included consolidating and capping waste and contaminated soil on site, groundwater and mining restrictions, public access controls, and routine groundwater monitoring. The trigger for the first five-year review was the start of construction on September 21, 2000. The first five-year review was completed on September 28, 2005.

This report includes a review of decision documents, data collected since the first five-year review, a site inspection, and interviews with the property owner, potentially responsible parties and members of the local community.

The results of this second five-year review indicate that all immediate risks at the site have been addressed and the remedy is protective of human health and the environment. Long term protectiveness is to be verified by continuing routine groundwater monitoring to evaluate the potential migration of contaminants of concern (COCs), periodic inspection of the cap and the review of implemented institutional controls.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name: Smeltertown Superfund Site, Operable Units 1 and 2.		
EPA ID: COD983769738		
Region: 8	**State:** CO	**City/County:** near Salida in Chaffee County
SITE STATUS		
NPL status: Proposed 2/7/92		
Remediation status: Operating		
Multiple OUs: Yes	**Construction completion date:**	
Has site been put into reuse? OU1-Yes, OU2-Yes		
REVIEW STATUS		
Lead agency: EPA		
Author name: Craig R. Gander		
Author title: Environmental Protection Specialist	**Author affiliation:** CDPHE	
Review period: March 2010 to September 2010		
Date(s) of site inspection: 4/20/2010 through 4/21/2010		
Type of review: Statutory		
Review number: 2 (second)		
Triggering action: Previous five-year review		
Triggering action date: (from CERCLIS) 09/28/2005		
Due date: 09/28/2010		

* ["OU" refers to operable unit.]

Five-Year Review Summary Form cont'd.

Issues:

Item No.	Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
1	Reporting limits for four semi-volatile organics and one metal are above Action Memo limits at OU1.	N	Y
2	Benzo(b)fluoranthene detected above groundwater performance standard at an OU2 Point of Compliance (POC) Spring No. 7.	N	Y
3	Thickness or accumulation rate of dense non-aqueous phase liquid (DNAPL) is not reported at OU2.	N	Y
4	Discharge from Spring Nos. 3 through 6 is not monitored for volumes of water and/or DNAPL, or sampled for constituents of concern (COCs). Springs are usually dry.	N	Y
5	Reporting limits for polycyclic aromatic hydrocarbons (PAHs) are inconsistent with requirements of the Record of Decision (ROD) at OU2.	N	Y
6	Cadmium not listed as a groundwater COC at OU1.	N	Y
7	COCs from the ROD at OU2 are inconsistent with the COCs reported in the monitoring data.	N	Y
8	Groundwater performance standards for 2 metals and 2 PAHs are inconsistent between OU1 and OU2.	N	N
9	Colorado Basic Standards for Groundwater have changed for 7 PAHs.	N	Y

Five-Year Review Summary Form cont'd.

Recommendations and Follow-up Actions:

Item No.	Issues	Recommendations and Follow-up Actions	Party Responsible	Due Date
1	Reporting limits for four semi-volatile organics and one metal are above Action Memo limits at OU1.	Update the groundwater monitoring plan, if appropriate.	EPA/CDPHE/Freeport	December 2010
2	Benzo(b)fluoranthene detected above groundwater performance standard at an OU2 Point of Compliance (POC) Spring No. 7.	Based on additional data, perform a statistical analysis on the detection. Develop a response action, if appropriate.	Beazer Beazer	December 2014 December 2014
3	Thickness or accumulation rate of dense non-aqueous phase liquid (DNAPL) is not reported at OU2.	Revise the groundwater monitoring plan to add the requirement to monitor, sample and report the presence and/or thickness of DNAPL at all wells. Evaluate the need for an active remedy to address DNAPL within the groundwater (OU-2).	EPA/CDPHE/Beazer EPA/CDPHE	December 2010 December 2014
4	Discharge from Spring Nos. 3 through 6 is not monitored for volumes of water and/or DNAPL, or sampled for constituents of concern (COCs). Springs are usually dry.	Update the groundwater monitoring plan to add monitoring and sampling of Spring Nos. 3 through 6 for COCs, if sufficient flow. Revise the groundwater monitoring plan to add the requirement to monitor, sample and report the presence and/or flow rate of DNAPL at all springs. Evaluate the need for an active remedy to address DNAPL within the groundwater (OU-2).	EPA/CDPHE/Beazer EPA/CDPHE/Beazer EPA/CDPHE	December 2010 December 2010 December 2014
5	Reporting limits for polycyclic aromatic hydrocarbons (PAHs) are inconsistent with requirements of the Record of Decision (ROD) at OU2.	Update the groundwater monitoring plan, if appropriate.	EPA/CDPHE/Beazer	December 2010
6	Cadmium not listed as a groundwater COC at OU1.	Amend the decision documents as appropriate.	EPA/CDPHE	March 2011
7	COCs from the ROD at OU2 are inconsistent with the COCs reported in the monitoring data.	Update the groundwater monitoring plan. Amend decision documents if appropriate.	EPA/CDPHE/Beazer EPA/CDPHE	December 2010 March 2011

Item No.	Issues	Recommendations and Follow-up Actions	Party Responsible	Due Date
8	Groundwater performance standards for 2 metals and 2 PAHs are inconsistent between OU1 and OU2.	Update the groundwater monitoring plan. Determine whether the decision documents need to be updated.	EPA/CDPHE/Beazer EPA/CDPHE	December 2010 March 2011
9	Colorado Basic Standards for Groundwater have changed for 7 PAHs.	Update the groundwater monitoring plan. Determine whether the decision documents need to be updated.	EPA/CDPHE/Beazer EPA/CDPHE	December 2010 March 2011

Five-Year Review Summary Form cont'd.

Protectiveness Statements:

OU1 (Lead-Zinc Smelting):

The remedy at OU1 currently protects human health and the environment because soil and wastes containing contaminants above the remedial goals are isolated from humans through engineering and institutional controls (ICs). However, in order for the remedy to be protective in the long-term, the following actions need to be taken: determine how to correctly test for the contaminants, evaluate the need for an active remedy to address the groundwater, modify the monitoring plan and record these within a decision document.

OU2 (Wood Treating):

The remedy at OU2 currently protects human health and the environment because soil containing contaminants above the remedial goals are isolated from humans through engineering and institutional controls (ICs). However, in order for the remedy to be protective in the long-term, the following actions need to be taken: determine how to correctly test for the contaminants, evaluate the need for an active remedy to address the groundwater, modify the monitoring plan and record these within a decision document.

Smeltertown Superfund Site Five-Year Review Report

I. Introduction

Purpose of the Review

The purpose of this five-year review is to determine whether the remedy at the site is protective of human health and the environment. The methods, findings and conclusions of this review are documented in this five-year review report. In addition, this report identifies issues found during the review and recommendations to address them.

Authority for Conducting the Five-Year Review

The U.S. Environmental Protection Agency is preparing this five-year review pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) §121 and the National Contingency Plan (NCP). CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The EPA interpreted this requirement further in the NCP. 40 CFR §300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

This five-year review was conducted by EPA Region 8 and CDPHE. This report, which documents the results of the review, was prepared by CDPHE at the request of EPA Region 8.

This is the second statutory five-year review for the site. The triggering action for the first five-year review was the commencement of remedial construction for OU2 (fence construction) in September 2000. At this site, five-year reviews are required because hazardous substances, pollutants or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure. The first five-year review was completed on September 28, 2005. The second five-year review period began in March 2010 and concluded September 2010.

This review addresses only OU1 and OU2. Originally the site contained three operable units. The eastern portion of the site has been identified as OU3 and contained

contamination from the now defunct Colorado Zinc Company (CoZinCo) manufacturing facility. OU3 was cleaned up under the Colorado Resource Conservation and Recovery Act (RCRA) Corrective Action Order and was removed from the Superfund site.

II. Site Chronology

Table 1 – Chronology of Site Events (OU1 and OU2)

Event	Date
Lead/Zinc smelter operations (OU1/OU2)	1902-1919
Smelter dismantled (OU1/OU2)	1920
Railroad tie treating on former smelter site (OU2)	1926-1953
OU2 property sold by Koppers to Lowdermilk Company	1962
OU2 property sold to Butala Construction Co.	1965
The area of former smelter operations (OU1) was purchased by E&R Trucking (Duane Zabka)	1985
Creosote contaminated soil discovered on OU2	1986
Smeltertown proposed for the National Priority List (NPL)	February 1992
Removal Action Nos. 1, 2, and 5 to provide bottled water to 5 rental units and install new drinking water wells and a permanent water treatment system at OU3. (Note: OU3 is not part of this five-year review.)	May 26, 1993 - February 8, 1996
Removal Action No. 3 to remove creosote waste and metal containing wastes/contaminated soils from residential areas and land proximal to the former smelter (OU1 and OU2)	Initiated on Sep. 27, 1993
Butala enters into an Administrative Order on Consent (AOC) (Removal Action No. 4) with EPA to provide personnel and equipment for excavation and stockpiling of onsite contaminated soils described under Removal Action No. 3	January 10, 1995
EPA conducts a Human Health Baseline Risk Assessment and an Ecological Risk Assessment.	April 1995
EPA completed OU1 Engineering Evaluation/Cost Analysis (EE/CA) Report	July 14, 1995
Beazer East, Inc. (Beazer) enters into an AOC to conduct a remedial investigation/focused feasibility study (RI/FFS) of OU2. Koppers Company, Inc. had changed its name to Beazer Materials and Services, Inc., and was subsequently changed again in 1990 to Beazer East, Inc.	January 16, 1996
OU1 Action Memorandum executed (Removal Action No. 6)	Sep. 27, 1996
Beazer completes RI/FS of OU2 under 1996 AOC	Early 1998
ROD is issued for OU2	June 4, 1998
Beazer and Butala enter into a Consent Decree to conduct remedial design and remedial action (RD/RA) for OU2.	June 1, 2000
OU2 Restrictive Covenant filed at Chaffee County to restrict the use of the property	June 29, 2000
Remedial construction for the OU2 remedy begins with fence construction.	Sep. 21, 2000
Phelps Dodge, Cyprus Amax Minerals (now Freeport McMoRan Copper & Gold, Inc.) and E&R Trucking enter into a Consent Decree to perform RD/RA for OU1	April 27, 2001
OU1 Restrictive Covenant filed at Chaffee County to restrict the use and development activities on the property in order to prevent exposure to hazardous substances.	Nov. 21, 2001
OU2 remedial construction completed (Remedial Action Report issued)	May, 2002

Event	Date
Remedial Design for OU1 completed	April 11, 2003
OU1 remedial construction completed (Final Closeout Report issued)	April 6, 2004
Addendum to OU1 Restrictive Covenant filed (Survey of "Affected Area")	Sep. 13, 2004
First five-year review signed by Asst. Regional Administrator Region 8 USEPA	Sep. 28, 2005
OU1 Property sold to Teck LLC by Duane D. Zabka, Inc.	July 30, 2007

III. Background

General Site Description and Physical Characteristics

Attachment 1 (State Map) shows the Smeltertown Superfund Site location, which is in Chaffee County, Colorado, about one mile northwest of the city of Salida. As shown in Attachment 2 (Site Map), the site comprises approximately 120 acres bounded on the north by County Road 150, the east by State Highway 291, and the south and west by the Arkansas River.

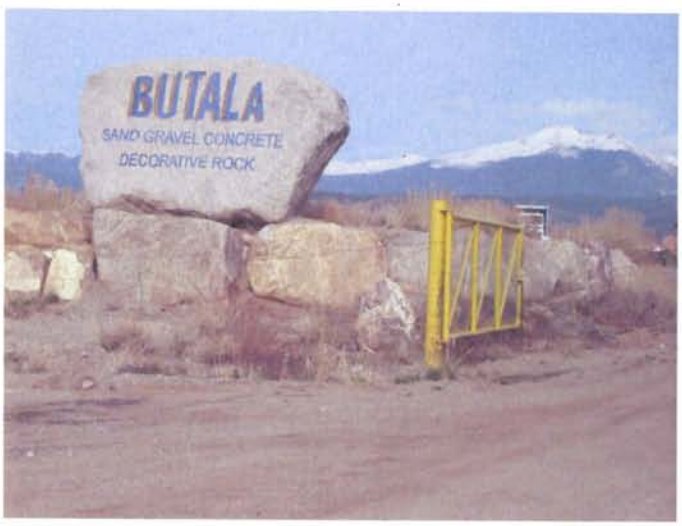
The site is situated in the Arkansas River Valley approximately two miles upstream of Salida, Colorado. The Arkansas River flows southeast along the west side of the site and then turns to the east along the south side of the site. Land surface elevation at the site ranges from 7,050 to 7,200 feet above sea level. The majority of the site lies on a series of river terraces. OU1 lies approximately 100 feet above the Arkansas River, and most of OU2 lies approximately 140 to 150 feet above the Arkansas River.

Between the terrace surface and the Arkansas River, there is a steep bluff vegetated with cottonwood trees and underbrush. An old slag deposit is located 45 vertical feet down the bluff face. The upper surface of the slag deposit is relatively flat, and extends about 10 feet horizontally outward towards the river from the bluff face. The old slag deposit runs approximately 1,600 feet along the east side of the Arkansas River bank.

Four distinct hydrologic units have been identified at the site within the valley-fill deposits: the Upper Terrace Aquifer, the Lower Terrace Aquifer, the Arkansas River Alluvial Aquifer, and underlying saturated glacial and basin-fill deposits. Groundwater in the Upper Terrace Aquifer occurs approximately 30 feet below the ground surface and flows towards the south. Groundwater in the remaining aquifers flows towards or parallel to the Arkansas River.

Some of the groundwater in the Upper Terrace Aquifer discharges to intermittent seeps and springs along the bluff of the Arkansas River approximately 40 feet below the site terrace.

Land and Resource Use



The site is zoned industrial, but the area surrounding the site is zoned industrial and residential. The site is currently surrounded by a few residences and several industries. Butala Construction Company (Butala) is currently quarrying sand and gravel from the valley fill in the west and northwest portion of OU2 and Teck LLC is currently storing gravel on portions of OU1 outside of the Waste Consolidation Area (WCA).

History of Contamination

The site was originally divided into three operable units (OUs) including:

- OU1 – historic lead/zinc smelting operation area and includes an area of waste consolidation.
- OU2 – former wood treating facility and the current location of a sand and gravel mine.
- OU3 – property owned by Colorado Zinc Company (CoZinCo), a zinc sulfate manufacturer (now defunct).

OU3 was cleaned up under a RCRA Corrective Action Order issued by CDPHE and was removed from the Superfund site. This five-year review addresses only OU1 and OU2.

Lead-Zinc Smelting (OU1)

Industrial activity at the site began in 1902 with the construction of a lead-zinc smelter by the Ohio and Colorado Smelting and Refining Company. The smelter operated from 1902 to 1919. During smelter operation, wastes with elevated concentrations of lead and arsenic were deposited in the smelter area and became mixed in site soils.

Contaminants of concern for the portion of the site impacted by smelter operations include lead and arsenic. Because soil contaminated with wood-treating chemicals was deposited along with the lead and arsenic-contaminated soil in the Waste Consolidation Area (WCA), contaminants of concern for OU1 also include dioxin isomers, pentachlorophenol and PAHs, which are constituents of creosote.

The 10-acre property, now containing the 4.7-acre (approximate) capped WCA, was purchased by E&R Trucking in 1985. Phelps Dodge, Cyprus Amax Minerals (now Freeport McMoRan Copper & Gold, Inc.) and E&R Trucking entered into a Consent Decree with EPA to perform RD/RA for OU1 on April 27, 2001. The 10-acre property is currently owned by Teck LLC, and the potentially responsible parties are Freeport-McMoRan Copper and Gold, Inc. (Freeport) and Teck LLC. The portion of the property outside the WCA is used for gravel storage.

Wood Treating (OU2)

In 1924 the Trinchera Timber Company leased part of the facility. Trinchera Timber Company later became National Lumber and Creosoting. A portion of the former smelter site, including the smelter office building, was used by a series of railroad tie-treating companies (Koppers and its predecessors) beginning in 1926.

The treating operations included a pressure treating retort, drip racks, storage tanks, pole plant and lagoons. In the retort building, railroad ties and other lumber products were pressure-treated with creosote in steel cylinders. The treated materials were then moved from the retort building onto drip racks were they were temporarily stored until subsequent storage became available elsewhere on the former Koppers property. Historical drawings indicate four storage tanks were located west of the retort building and an additional three working tanks were located adjacent to the north side of the building. Historical aerial photographs also suggest the presence of two lagoons northeast of the retort building on the north side of the old Chaffee County Road 150. Wood treating operations ceased in 1953 when the wood treating plant was closed. The property changed hands several times and was redeveloped as a sand and gravel mine by Butala in 1965.

The former Koppers property has been cleared of most remains of past activity. The only structures remaining are the plant office building and a water storage tank, both on the upper terrace, and a gutted pump house near the Arkansas River. Butala uses portions of the property for stockpiling of sand, gravel and other materials, and is mining outside the area where subsurface contamination from the wood-treating operations remains.

From source areas in the process area and lagoons, wood treating constituents moved downward through the vadose zone to the water table within the Upper Terrace Aquifer. Creosote, a DNAPL, continued to move downward to the bottom of the Upper Terrace Aquifer leaving a residual coating of DNAPL on the surface of the aquifer materials. The remaining DNAPL migrated to the east along the base of the aquifer. Dissolved wood treating constituents moved in the direction of groundwater flow to the south towards the Arkansas River bluff. DNAPL has been reported discharging from one spring along the bluff of the river, although no evidence of discharge of either water or DNAPL was observed during the April 2010 site inspection.

COCs for the portion of the site impacted by wood treating operations included dioxin isomers, pentachlorophenol and PAHs.

Butala and Beazer entered into a Consent Decree to conduct RD/RA for OU2 on June 1, 2000. The former wood-treating property continues to be owned by Butala, which operates a sand and gravel quarry outside the contaminated area.

Colorado Zinc Company Facility (Former OU3)

The former OU3 was located southeast of the site, and was formerly occupied by the now-defunct Colorado Zinc Company (CoZinCo) industrial facility. This facility manufactured zinc sulfate soil amendment/animal feed. The facility and a number of source areas at the facility have been closed under RCRA orders issued by CDPHE. This

five-year review does not include an evaluation of the CoZinCo facility (OU3).

Initial Response

A series of response actions were conducted beginning in 1993 to address contamination at the site. In many cases, contamination within more than one OU, including OU3, was addressed under a single removal action.

All response actions in OU1 were performed as removal actions under action memoranda. The final and comprehensive response action for OU2 was documented under a Record of Decision (ROD).

A summary of the initial response actions is provided below:

1. EPA first focused its attention on the site in 1986 as a result of delivery by Butala of creosote-impacted soil excavated from the Koppers property to the Chaffee County Landfill. In 1992, Beazer removed more than 5,000 tons of creosote-stained soil stockpiled by Butala and transported the soils to a RCRA Subtitle C landfill in Granville, Idaho.

2. Removal Action #1 (at OU3) from May 26, 1993 to May 23, 1994, EPA provided bottled water to five rental units because of zinc-contaminated water. Under Removal Action #2, from May 24, 1994 to November 1, 1995, the PRP continued the first phase of Removal #1. Under Removal Action #5, from November 1, 1995 to February 8, 1996, EPA stepped in to complete Removal Action # 2. By February 1996, EPA and CoZinCo provided permanent alternate water supplies by installing new wells and permanent water treatment systems. Responsibility of this OU was transferred to the State RCRA program between 1996 and 1998.

3. Removal Action No. 3 (1993 Action Memorandum) included a time critical removal action to remove creosote-contaminated sludge from five residential driveways; lead-contaminated soil from five residential yards; a slag cinder and debris pile from one residential property, and metal-contaminated soil next to the smelter. Two homes were decontaminated to remove lead and arsenic dust. All wastes were stockpiled in an area immediately west of the smokestack in the area currently occupied by the Waste Consolidation Area repository. Additional work under this removal action included decontaminating rails stored near a residence, removing surface lead and creosote contamination on the upper terrace area and removing lead and creosote contaminated materials from the banks of the Arkansas River. The elements of this removal action were completed in November 1, 1995.

Summary of Basis for Taking Action

A Human Health Baseline Risk Assessment (BRA) dated April 1995, was conducted to identify the potential for current and future risks to receptors. The BRA's findings regarding human health risk at OU1 are summarized in the following table:

Table 2 - OU1 Risk Estimates

Exposure Scenario	Probability of Blood Lead concentration >10µg/dl[1]	Cancer Risk	Hazard Quotient
Current downwind resident child (0-6 years)	3%	4E-5	5E-1
Future on Site resident child (0-6 years)	86%	6E-4	3E+1
Current trespasser	NA[2]	5E-6	2E-1

1-deciliter 2-not available

For OU2 the BRA assessed carcinogenic risks and the potential for non-cancer health effects of 16 chemicals resulting from direct ingestion of contaminated surface and subsurface soils. Ingestion of surface soil and inhalation of subsurface soil particulates was considered for a current industrial worker (miner) and potential future residents. Ingestion of subsurface soil and inhalation of subsurface soil particulates was considered only for future construction workers.

Under the current and most likely future land use scenario (industrial) considered by the BRA, there would be no unacceptable risks from wood-treating constituents.

In addition, an Ecological Risk Assessment (ERA) dated April 1995, was conducted in order to evaluate whether remedial action was warranted at the site, based on actual or potential ecological risks. The ERA was conducted for the segment of the Arkansas River that spans the length of the site as well as for the immediately surrounding riparian, wetland and terrestrial environments. An evaluation of the smelter sub-site (OU1), and the historical wood treating sub-site (OU2) was also conducted as a future exposure area for terrestrial organisms.

The 1995 ERA reached the following conclusions regarding OU1 and OU2:

- PAHs in soil do not contribute risk.
- Surface water, sediment, and seeps/springs contribute little to no risk.
- Soil downwind from the smelter contributes risk to plants due to aluminum and zinc, and to birds due to zinc, and to small herbivores due to lead.
- Lead and zinc in soil was of potential concern for small mammals.

Based on these results, the 1996 Action Memorandum and the 1998 ROD describes actions to reduce and prevent exposure to the risks of future residents, industrial workers and trespassers from soils within the smelter sub-site (OU1) and the historic wood treating sub-site (OU2) through the use of institutional controls and engineering containment systems.

IV. Remedial Actions

Remedy Selection

OU1 (Lead-Zinc Smelting)

COCs in the smelter waste-contaminated soil are arsenic and lead. The clean up levels for COCs in soil identified in the 1996 Action Memorandum are:

- Arsenic – 387 mg/kg
- Lead – 2,235 mg/kg

The waste-contaminated soil was consolidated in approximately a 4.7 acre area and capped, hereafter referred to as the Waste Consolidation Area (WCA). The WCA includes approximately 5,000 to 10,000 cubic yards (cy) of creosote-contaminated soil and approximately 30,000 to 40,000 cy of soil contaminated with arsenic, lead, and copper. The cap of the WCA consists of an 18-inch thick infiltration reduction layer composed of soil containing a high percentage of clay/silt material, overlain by a 6-inch-thick topsoil layer capable of sustaining vegetation. The covered surface is sloped to promote surface water run-off and minimize erosion. The cover was fertilized and seeded.

To address the potential mobility of the contaminants within the WCA, groundwater wells were installed and are being monitored. Table 3 presents OU1 groundwater performance standards from the 1996 Action Memorandum.

Table 3 - OU1 Groundwater Monitoring Performance Standards

Chemical	Concentration	Basis
Arsenic	50 µg/L[1]	SDWA MCL[3]
Manganese	840 mg/L[2]	Risk-based
Antimony	6 µg/L	SDWA MCL
Pentachlorophenol	1 µg/L	SDWA MCL
Benzo(a)pyrene	0.2 µg/L	SDWA MCL
Benzo(b)fluoranthene	0.092 µg/L	Risk-based
Benzo(k)fluoranthene	0.92 µg/L	Risk-based
Chrysene	9.2 µg/L	Risk-based
Dibenz(a,h)anthracene	0.0092 µg/L	Risk-based
Indeno(1,2,3-cd)pyrene	0.092 µg/L	Risk-based
Benzo(a)anthracene	0.092 µg/L	Risk-based
Lead	15 µg/L	SDWA AC[4]

[1] – micrograms per liter [2] – milligrams per liter [3] – Safe Drinking Water Act Maximum Contaminant Level [4] – Safe Drinking Water Act Action Level

Engineering controls were erected to limit access to the WCA, including fencing and no trespassing signs. Institutional controls were established to restrict land use and require maintenance to ensure the integrity of the cap. Specifically, these institutional controls prohibit residential use, and restrict drilling, excavation or re-contouring of the cap.

OU2 (Wood Treating)

Approximately 5,000 tons of creosote impacted soil was removed from the site by Beazer in 1992 and disposed of at a permitted hazardous waste management facility. Butala Construction (current owner of OU2) scraped much of the creosote-stained surface soil and buried this material in the WCA at OU1. However, certain portions of the site may contain soils with COCs in excess of the Preliminary Remedial Goals (PRGs). Therefore, a Mining Restricted Area (MRA) was delineated at the site encompassing approximately 6.6 acres. In addition to the perimeter property fence, the corners of the MRA are delineated by concrete monuments.

COCs also remain in surface soil inside a small fenced area at Spring No. 5. Based on the location of Spring No. 5, continued long-term exposure at this location is not likely. Spring No. 5 is located approximately one-third of the way down a steep slope. The rocky slope and vegetative cover will provide protection against accidental contact with impacted material. As a protective measure, fencing was placed around the immediate area of the spring.

Table 4 presents OU2 remedial goals for soil from the 1998 ROD.

Table 4 - OU2 Remedial Goals for Soil

Chemical	Concentration	Basis
Benzo(a)anthracene	780 mg/kg[1]	Risk-based[2]
Benzo(a)pyrene	78 mg/kg	Risk-based
Benzo(b)fluoranthene	780 mg/kg	Risk-based
Dibenz(a,h)anthracene	78 mg/kg	Risk-based
Indeno(1,2,3-ed)pyrene	780 mg/kg	Risk-based
Pentachlorophenol	4,768 mg/kg	Risk-based
HpCDD	0.2 mg/kg	Risk-based
HxCDD	0.02 mg/kg	Risk-based
HxCDF	0.02 mg/kg	Risk-based
OCDD	2.0 mg/kg	Risk-based

[1] – milligrams per kilogram [2] – 1 in 10,000 target risk level for industrial worker scenario

Groundwater monitoring is conducted to monitor potential migration of COCs toward the Arkansas River. Table 5 presents OU2 groundwater remediation levels or the MCLs if higher, as specified in the 1998 ROD.

Table 5 - OU2 Groundwater Remediation Levels

Chemical	Concentration	Basis
Arsenic	10 µg/L[1]	MCL
Manganese	840 mg/L[2]	Risk-based
Antimony	15 µg/L	Risk-based
Pentachlorophenol	1 µg/L	MCL
Benzo(a)pyrene	0.2 µg/L	MCL

Benzo(b)fluoranthene	0.092 µg/L	Risk-based
Benzo(k)fluoranthene	0.92 µg/L	Risk-based
Chrysene	9.2 µg/L	Risk-based
Dibenz(a,h)anthracene	0.0092 µg/L	Risk-based
Indeno(1,2,3-cd)pyrene	0.092 µg/L	Risk-based
Benzo(a)anthracene	0.092 µg/L	Risk-based
Lead	15 µg/L	SDWA[3]

[1] – micrograms per liter [2] – milligrams per liter [3] – Safe Drinking Water Act

Based on the Human Health BRA and ERA conducted in April 1995, as long as the site is not used or developed for residential purposes and the subsurface soils within the MRA are left undisturbed, the risk to human health and the environment is acceptable. Therefore, the selected remedy includes institutional controls (deed restrictions) to ensure the area is not used for residential development and remains designated for industrial use only. Institutional controls were also established to prohibit mining or excavating the contaminated subsurface materials, wells or drilling in any groundwater aquifer and use of the groundwater as a drinking water supply.

Remedial Action Objectives

The Remedial Action Objectives (RAOs) in the 1998 ROD at OU2 are:

Spring No. 5: prevent human contact, prevent off-site migration of water, and prevent additional impact to soils.

Surface and Subsurface Soils: prevent public exposure to surface soils with concentrations of COCs in excess of risk levels, and protect human health and the environment from COCs in excess of the risk levels in the event that mining of DNAPL-impacted soils occurs.

Saturated Soils and Upper Terrace Aquifer Groundwater: protect human health and the environment from COCs in excess of the risk levels in the event that mining of DNAPL-impacted soils occurs, and prevents public use of the perched aquifer as a drinking water supply.

Remedy Implementation

Remedial action for OU1 is defined in Removal Action No. 6 (Action Memorandum dated September 27, 1996). Remedial construction for OU1 (smelter wastes and contaminated soil) was completed in April 2004. The OU1 remedy consisted of:

- consolidating demolition debris, wastes and associated contaminated soils within a 4.7-acre (approx) WCA, which was then capped with 24 inches of clay and growth medium and planted with a seed mix appropriate for the site.
- access controls - fencing and signage.
- institutional controls - prohibition of (1) residential use of the entire 10-acre parcel; (2) drilling, excavating or re-contouring the WCA cap, which may damage

or interfere with its integrity, create erosion or sliding problems or otherwise interfere with the flow of water through drainage channels.

- groundwater monitoring.

Remedial construction for OU2 (soil contaminated with wood-treating chemicals) was completed in May 2002. Work included:

- placing near-surface contaminated soil in the WCA at OU1 along with contaminated soil and other materials from OU1 and offsite locations.
- access controls - a 6-foot cyclone fence around one hillside spring with a locked access gate.
- institutional controls - prohibition of (1) residential development; (2) mining in the MRA; (3) mining deeper than 20 feet in the Mining Buffer Area; (4) wells or drilling to any groundwater or aquifer within the MRA or the Mining Buffer Area (except for monitoring or remedial wells); (5) wells or drilling within the Groundwater Buffer Area (except for monitoring or remedial wells); and, (6) use of groundwater within the Upper Terrace Aquifer or the Lower Terrace Aquifer as a drinking water supply.
- groundwater monitoring to determine the effectiveness of the remedy over the long-term and to ensure no further migration of dissolved PAHs or DNAPL.

Operations and Maintenance (O&M)

OU1 O&M includes (1) continuous maintenance of the WCA and the monitoring wells; (2) groundwater monitoring consisting of annual sampling and analysis of one upgradient and three downgradient monitoring wells for COCs.

OU2 O&M includes (1) installation and continuous maintenance of the MRA markers and the monitoring wells; (2) annual water level monitoring in 12 monitoring wells; (3) annual sampling and analysis of one upgradient and seven downgradient monitoring wells for COCs; (4) annual gauging of all monitoring wells for DNAPL thickness; (5) annual sampling and analysis of five downgradient springs for COCs; and (6) annual assessment of the flow rate of water and/or DNAPL from the five downgradient springs.

V. Progress since the Last Five-Year Review

Protectiveness Statement from Last Review

"The remedy as implemented is currently protective of human health and the environment. Contaminated groundwater associated with OU1 and OU2 is not currently used. Soils and smelter wastes containing contaminants above performance standards are isolated from humans through engineering and administrative controls. The protectiveness of the remedy will be further enhanced once institutional controls are implemented on OU1."

Status of Recommendations and Follow-up Actions from Last Review

Table 6 provides the status of recommendations and follow-up actions from the last review:

Table 6 - Status of Recommendations and Follow-up Actions from Last Review

Recommended Action from First Five-Year Review	Lead	Status of Recommended Action	Applicable to Second Five-Year Review
Institutional Controls on land use in OU1 have not been implemented.	PRP	Complete. Upon investigation, the following documents relating to OU1 were obtained from the Chaffee County Clerk: "Declaration of Covenants, Conditions and Restrictions," filed Nov. 21, 2001, "Addendum to Declaration of Covenants, Conditions and Restrictions," filed Sep. 13, 2004, and a Warranty Deed from Duane D. Zabka, Inc. to Teck, LLC that acknowledges the buyers responsibilities set out in the two afore-mentioned documents.	No
Perimeter fence surrounding OU1 consolidation requires minor repair.	PRP	Considered and not implemented. The Butala and Teck LLC perimeter fences limit access to the entire property, and therefore, protectiveness is not decreased by the poor condition of, or lack of, a fence immediately surrounding the OU1 Waste Consolidation Area.	No
Contaminants of concern detected above the groundwater performance standard at OU1.	PRP/EPA	Complete. PRP Freeport has been instructed to collect and analyze a sample from the well annually.	No
Detection limit for [di]benzo(a,h)anthracene is higher than groundwater monitoring performance standard at OU1.	PRP	Being evaluated in this five-year review, see Item No. 1 in Table 8 – Issues.	Yes
MCL for arsenic in OU1 to be revised downwards from 50 µg/L to 10 µg/L effective January 23, 2006.	EPA/CDPHE	Complete. The groundwater monitoring plan has been updated.	No
An apparent "extra" monument was noted in the northeast portion of the MRA in OU2.	PRP	Considered and not implemented. The monument increases the size of the MRA, and therefore protectiveness is not impaired by its presence.	No
Detection limits and analytical suite for groundwater monitoring at OU2 are inconsistent with requirements of the ROD and Remedial Work Plans.	PRP	Being evaluated in this five-year review, see Item Nos. 5 and 7 in Table 8 – Issues.	Yes
Application of ARARs in lieu of risk-based remedial goals for groundwater inconsistent between OU1 and OU2.	EPA/CDPHE	Being evaluated in this five-year review, see Item No. 8 in Table 8 – Issues.	Yes

Recommended Action from First Five-Year Review	Lead	Status of Recommended Action	Applicable to Second Five-Year Review
Many intake assumptions and toxicity values have been revised by US EPA since completion of the BRA.	EPA/CDPHE	Considered and not implemented. The revised values did not increase the associated risks to unacceptable values, and therefore protectiveness is not impaired.	No
The use of 1E-6 residential scenario for establishing groundwater performance standards is inconsistent with the use of 1E-4 as the acceptable risk level for industrial soils.	EPA/CDPHE	Considered and not implemented.	No

VI. Five-Year Review Process

Administrative Components

This is the second five-year review for the site. This five-year review was led by Kerri Fiedler, EPA Remedial Project Manager and Craig Gander, CDPHE Environmental Protection Specialist. The following team members participated in the review:

- John Dalton, EPA Community Involvement Coordinator
- John Goodrick, EPA staff
- Marilyn Null, CDPHE Community Involvement Coordinator
- Martin O'Grady, CDPHE Project Manager

During March 2010, the review team established the review schedule whose components included:

- community involvement
- review of relevant documents
- review of data collected since the first five-year review in 2005
- meeting with Thomas Eve, representing Butala and Teck LLC, Jane Patarcity, representing Beazer, Bryce Romig, representing Freeport, and their contractors
- site inspection
- local interviews
- risk assessment review
- five-year review report development and review.

Community Involvement

A notice that the five-year review was in progress was placed in the Mountain Mail

(Salida community newspaper) on March 3, 2010 (Attachment 3). The notice explained the nature of the site, the purpose and schedule of the review and invited the public to submit questions and comments regarding the site or the review to Kerri Fiedler at the EPA or Craig Gander at the CDPHE.

Following completion of this five-year review, a notice will be placed in the Mountain Mail announcing that the five-year review has been completed.

Document Review

In preparing this five-year review report, the documents in Attachment 4 were reviewed and evaluated.

Data Review

The remedy includes a groundwater monitoring program designed to track groundwater levels and quality both in OU1 and OU2.

A summary of these data and the protectiveness determination of the remedy are provided below. Attachment 5 is a map showing the locations of the site monitoring wells and springs.

OU1

Groundwater levels in the June 2007 and 2008 monitoring event were consistent with historical data recorded in the "Smelter Subsite Investigation" (CH2M HILL, November 1994) and in the Post-Construction Monitoring Plan. Assessment of the relative water elevations in the four monitored wells suggests a groundwater flow direction to the south-southwest.

Groundwater performance standards for OU1 are chemical-specific concentrations based upon either Applicable or Relevant and Appropriate Requirements (ARARs) or upon risk-based concentrations that assume a 1E-6 residential scenario. The OU1 performance standards, which are presented in Table 2, apply to three monitoring wells downgradient of the WCA.

Samples collected annually from September 2003 to June 2008 indicate that cadmium continues to be detected slightly above the MCL in one down-gradient well. The June 2008 results indicated cadmium was detected at 5.8 µg/L, slightly above the MCL of 5 µg/L. Cadmium is not among the COCs from the 1996 Action Memorandum and is therefore not listed in Table 2 - OU1 Groundwater Monitoring Performance Standards.

OU2

The groundwater contour map for the Upper Terrace Aquifer prepared by Beazer's consultant from data collected on July 17, 2009, indicates a groundwater flow direction to the southwest in the western portion of the area and to the south or the south-southeast in the eastern portion of the area. Previous maps generated using data collected in 2000 (presented in the Remedial Action Report), and a Beazer November 2003 map reportedly indicate a groundwater flow direction to the south-southwest. This change in the

direction of the groundwater flow could explain why, in August 2009, the performance standard was exceeded in POC Spring No. 7, which is located southeast of where contamination remains in the subsurface soil (see below).

Groundwater performance standards for OU2 are similar (but not identical) to those for OU1, and are chemical-specific concentrations based upon either ARARs or upon risk-based concentrations that assume a 1E-6 residential scenario. The OU2 groundwater performance standards, which are presented in Table 4, apply to one groundwater monitoring well and one spring downgradient of an area of soils and groundwater contaminated with PAHs.

The 2009 results indicate benzo(b)fluoranthene was detected in OU2 POC Spring No. 7 at an estimated concentration of 0.12 µg/L, exceeding the performance standard value of 0.092 µg/L. Benzo(b)fluoranthene was not detected at Spring No. 7 in previous monitoring events. Per the Groundwater Monitoring Plan (from the Remedial Design Work Plan dated February 2000), Spring No. 7 will be monitored again in 2010, and if one or more COCs are found above the performance standard, the well will be re-sampled within 60-days. If the re-sampling confirms the presence of one or more COCs above the standards, the Lower Terrace Aquifer may be adversely impacted by wood-treating activities. Therefore, one or a combination of the following activities may be needed:

- Additional investigation of the potential source, fate mechanisms, and transport pathways for the COCs found in the POC locations;
- An evaluation of the potential risk posed to the Arkansas River;
- An evaluation of alternative remedies that could be implemented to mitigate any risks identified in the revised risk assessment; and,
- If necessary, revise the ROD through submission of an Explanation of Significant Difference (ESD) or ROD Amendment to put in place the documentation to change the selected remedy for OU2.

In all of the monitoring reports, naphthalene is the most commonly detected analyte and with the highest concentrations. Naphthalene routinely exceeds the Colorado Basic Standards for Groundwater (CBSGW) in three non-POC wells.

Finally, no data was reported in the 2005 through 2008 annual monitoring reports on the presence and/or thickness of DNAPL in OU2 monitoring wells, or on the discharge rates of Spring Nos. 3 and 6 as required by the Groundwater Monitoring Plan. Spring Nos. 3 through 6 appear to be located downgradient of the DNAPL source zone. During future monitoring events, Beazer will be required to report the presence and thickness of DNAPL in OU2 monitoring wells, and will investigate the potential nature and extent of the DNAPL by removing any DNAPL present greater than 0.5 foot. In addition, Beazer will be required to gauge water and/or DNAPL flow from Spring Nos. 3 through 6 during future monitoring events. Spring Nos. 3 through 6 are hydraulically downgradient of areas where DNAPL is present, or where COCs are detected above site cleanup goals. If Spring Nos. 3 through 6 have sufficient flow to collect water samples, then water samples will be collected and analyzed for site COCs. Future monitoring reports will include

flow rates, presence or absence of DNAPL, and analytical data from Spring Nos. 3 through 6.

Site Inspection

Inspection of the site was performed on April 20-21, 2010 by Kerri Fiedler and John Goodrick of the EPA, and Craig Gander and Martin O'Grady of the CDPHE. The purpose of the site inspection was to observe the current site condition, remedy elements, and the groundwater monitoring network. A site inspection checklist was completed and is included as Attachment 5.

Personnel from Butala/Teck LLC, Freeport, Beazer and their consultants led a tour of the site. At the same time, John Dalton of the EPA and Marilyn Null of the CDPHE conducted community involvement interviews.

OU1

All physical remediation elements have been constructed. The perimeter Butala and Teck LLC property fences are in generally good condition and capable of restricting access to the entire property, including the WCA. The WCA is constructed and capped, and the vegetation density on the cap appeared similar to offsite non-irrigated properties. No erosion, rilling or exposure of contaminated materials was observed. Drainage swales around the WCA were in good condition. All required monitoring wells have been installed and appeared in satisfactory condition.

A declaration of covenants, conditions and restrictions was executed on November 16, 2001, and filed with the County on November 21, 2001. An addendum to the November 21, 2001, declaration of covenants, conditions and restrictions was executed on September 9, 2004, and filed with the County on September 13, 2004. A warranty deed was also filed on August 6, 2007. No violations were observed of the OU1 restrictive covenants that prohibit (1) residential use and (2) disturbing the cap by drilling, excavating or re-contouring. These institutional controls are in place and working.

OU2

All physical remediation elements have been constructed. The perimeter Butala property fences are in generally good condition and capable of restricting access to the property. All 17 of the monuments required to delineate the corners of the Mining Restricted Area (MRA) were observed and are in satisfactory condition. One additional monument was observed in the southeast corner of the MRA (see Attachment 2). The presence of this extra monument adds a small additional area to the MRA, and therefore protectiveness is not impaired. A typical monument consists of a steel fence post embedded in a small circular concrete pad surrounded by a protective three foot high joint of reinforced concrete pipe.

All monitoring wells required under the OU2 ROD were observed. All but one appeared to be in satisfactory condition. Monitoring well No. 8 had a broken hinge on the outer protective casing. The Beazer representative committed to having it repaired.

The fence around Spring No. 5 had been constructed and the gate was locked and in satisfactory condition. No flow of water or DNAPL, and no creosote odor were observed within the fenced area during the field inspection.

A declaration of restrictive covenants and restrictions against the use of real property was executed and filed with the County on June 29, 2000. No violations were observed of the OU2 restrictive covenants that prohibit (1) residential development; (2) mining in the MRA; (3) mining deeper than 20 feet in the mining buffer area; (4) wells or drilling to any groundwater or aquifer within the MRA or the mining buffer area (except monitoring or remedial wells); (5) wells or drilling within the Groundwater Buffer Area (except monitoring or remedial wells); and (6) use of groundwater within the Upper Terrace Aquifer and the Lower Terrace Aquifer as a drinking water supply. These institutional controls are in place and working.

Community Involvement Interviews

EPA and CDPHE interviewed Smeltertown area stakeholders and citizens on April 20 and 21, 2010. Interviewees included city and county planning and health officials, two County commissioners, two owners of property adjacent to the site (including a business owner), a representative of the Chaffee County Historic Area Advisory Board, and the Colorado Division of Wildlife area manager. One interviewee had served on the Salida Museum Association Board, but is no longer on the board.

All interviewees expressed satisfaction with remedial actions to date, and current responsiveness of EPA and CDPHE officials. One interviewee made it a point to say that he trusts EPA and CDPHE to take care of public health and the environment. Another said she had not heard anything bad about the site in the ten years she has lived in the area. One individual said he doesn't "pay a whole lot of attention to the site because I was told there weren't any issues anymore."

Most interviewees indicated they have no concerns about the continued protectiveness of the remedy and that whatever water and air quality concerns they may have had in the past have been addressed. Salida's drinking water is not taken directly from the Arkansas River, but comes from nearby Pasquale Springs, where water quality is constantly monitored.

One interviewee said he has received no feedback from anyone concerning the site, saying his department's interest "is to make sure nothing affects the Arkansas [River]. We've received no negative input."

City and county planning officials said they are interested in the area for future development, particularly as an additional industrial zone. However, Smeltertown residents question the need for industrial development in the area, particularly close to the river. CDPHE provided the county development director courtesy copies of the environmental covenants previously filed with Chaffee County.

Residents adjacent to the site, who were instrumental in prompting agency response, remain concerned about the CoZincCo site, stating that the facility prompted them to take action in the first place. They believe that the owner is selling off lots, and wanted to

know if any deed restrictions have been placed on the property. These residents said that before CoZincCo shut down, contaminated spring water killed trees and other vegetation. Shortly after the facility closed, they said, the spring water appeared to clear up and watercress began growing in it again. However, they were not comfortable using spring water until two years after the facility closed. They brought in clean soil, and are now growing an organic garden they plan to irrigate with the spring water. Their drinking water comes from a new well drilled for them during the remedial work at the site. Since CoZincCo is part of OU3, comments regarding this site are not considered in this five-year review.

These residents believe that the history of the Smeltertown cleanup should be published and suggested a magazine where it could be published.

Interviewees indicated that the best way to communicate information about the site is through the Mountain Mail newspaper, email, phone calls and word-of-mouth.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

OU1 (Lead-Zinc Smelting): Yes. The components of the remedy minimizing the chance of exposure to contaminants in soil and groundwater are functioning as intended. The groundwater monitoring program continues to evaluate the effectiveness of the cap and/or migration of COCs in groundwater.

The performance of each remedy element is discussed below:

1. The cover system associated with the WCA remains in satisfactory condition and therefore prevents human exposure to consolidated wastes. Vegetative cover density is similar to nearby offsite non-irrigated properties. No erosion, animal burrows or differential settling were noted during the inspection.
2. The Butala and Teck LLC property perimeter fences are in satisfactory condition, and serve to control access to the WCA.
3. Institutional controls prohibiting residential use and restricting drilling, excavation, or re-contouring of the cap has been implemented, and compliance with the controls was confirmed during the site visit on April 20-21, 2010.
4. Groundwater monitoring has been conducted at the required frequency, for the required chemicals.

   Method reporting limits (MRLs) for benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, ideno(1,2,3-cd)pyrene, and antimony are higher than their respective Action Memorandum limits and listed in Table 2 - OU1 Groundwater Monitoring Performance Standards. Therefore, we are unable to determine whether these COCs are in the groundwater above the Action Memorandum limits. The EPA, CDPHE and the Potentially Responsible Party (PRP) (Freeport) may need to update the groundwater monitoring plan. (Issue No. 1).

OU2 (Wood Treating): Yes. The components of the remedy minimizing the chance of

exposure to contaminants in soil and groundwater are functioning as intended. The groundwater monitoring program continues to evaluate the migration of COCs in groundwater.

The performance of each remedy element is discussed below:

1. The fencing around Spring No. 5 is in place and in satisfactory condition.
2. Covenants, Conditions and Restrictions (CCRs) restricting future development, mining, drilling and groundwater use as a drinking water supply have been implemented, are on record with Chaffee County, and compliance with the CCRs was confirmed during the site visit on April 20-21, 2010.
3. Groundwater monitoring has been conducted at the required frequencies.

   Benzo(b)fluoranthene has been detected above its performance standard at POC Spring No. 7. After collecting additional data, the PRP (Beazer) should perform a statistical analysis on this one-time detection and develop a response action, if appropriate. (Issue No. 2)

   The thickness or accumulation rate of DNAPL is not reported at any well. The PRP (Beazer) should monitor, sample and report the presence and/or thickness of DNAPL at all wells annually, and remove any DNAPL detected exceeding 6" in thickness. The EPA, CDPHE and PRP (Beazer) should update the groundwater monitoring plan accordingly. Based on these results, EPA and CDPHE can evaluate the need for an active remedy to address DNAPL within the groundwater. (Issue No. 3)

   Discharge from Spring Nos. 3 through 6 is not monitored for volumes of water and/or DNAPL or sampled for COCs. The PRP (Beazer) should sample groundwater discharging from Spring Nos. 3 through 6 for COCs if sufficient flow is present. The PRP (Beazer) should monitor and report the flow rate of water and/or DNAPL at all springs annually. The EPA, CDPHE and PRP (Beazer) should update the groundwater monitoring plan accordingly. Based on these results, EPA and CDPHE can evaluate the need for an active remedy to address DNAPL within the groundwater. (Issue No. 4)

   One inconsistency that was identified in the first five-year review in 2005 and again in the current five-year review is with the method reporting limits. The method reporting limits for polycyclic aromatic hydrocarbons (PAHs) are higher than their respective limits from the ROD and listed in Table 4 - OU2 Groundwater Remediation Levels. Therefore, we are unable to determine whether these COCs are in the groundwater above the limits in the ROD. The EPA, CDPHE and PRP (Beazer) may need to update the groundwater monitoring plan. (Issue No. 5).

Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives used at the time of the remedy selection still valid?

EPA's dioxin reassessment has been developed and undergone review over many years with the participation of scientific experts in EPA and other federal agencies, as well as scientific experts in the private sector and academia. The Agency followed current cancer guidelines and incorporated the latest data and physiological/biochemical research

into the assessment. The results of the assessment have currently not been finalized and have not been adopted into state or federal standards. EPA anticipates that a final revision to the dioxin toxicity numbers may be released by the end of 2010. In addition, EPA/OSWER has proposed to revise the interim preliminary remediation goals (PRGs) for dioxin and dioxin-like compounds, based on technical assessment of scientific and environmental data. However, EPA has not made any final decisions on interim PRGs at this time. Therefore, the dioxin toxicity reassessment for this site will be updated during the next five-year review.

OU1: No. The exposure assumptions and toxicity data used at the time of the remedy selection in the 1996 Action Memorandum have been revised by EPA. These issues were identified in the first five-year review prepared in 2005.

Cadmium has been detected above the MCL at POC well PD-MW-1. The EPA and CDPHE will determine if cadmium belongs on the list of COCs for groundwater, and amend the decision documents if appropriate. (Issue No. 6).

OU2: No. The exposure assumptions and toxicity data used at the time of the remedy selection in the 1998 ROD have been revised by EPA and Colorado. These issues were identified in the first five-year review prepared in 2005.

Inconsistencies that were identified in the first five-year review in 2005, and again in the current five-year review include:

- COCs from the ROD (listed in Table 4) are not consistent with the actual monitoring data. The actual monitoring data does not include the metals from the ROD, but does include naphthalene which is not listed in the ROD. The EPA, CDPHE and PRP (Beazer) should update the groundwater monitoring plan accordingly. The EPA and CDPHE will determine whether the decision documents need to be amended. (Issue No. 7).

- The groundwater performance standards for antimony, arsenic, benzo(a)pyrene and pentachlorophenol are inconsistent between OU1 and OU2. The Action Memorandum at OU1 sets the groundwater performance standards as the ARAR or the risk-based concentration, whichever is greater. The ROD at OU2 sets the groundwater performance standards using only the risk-based concentration. The EPA, CDPHE and PRP (Beazer) should update the groundwater monitoring plan accordingly. The EPA and CDPHE need to determine whether the decision documents need to be updated. (Issue No. 8)

- The Colorado Basic Standards for Groundwater have been changed for benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, ideno(1,2,3-cd)pyrene, benzo(a)anthracene, and naphthalene. The EPA, CDPHE and PRP (Beazer) should update the groundwater monitoring plan accordingly. The EPA and CDPHE need to determine whether the decision documents need to be updated to reflect the revised standards. (Issue No. 9)

Question C: Has other information come to light that could call into question the

protectiveness of the remedy?

OU1: No. There is no other information that calls into question the protectiveness of the remedy.

OU2: No. There is no other information that calls into question the protectiveness of the remedy.

Technical Assessment Summary

OU1: Protectiveness is currently being achieved through access controls and institutional controls that are in place and functioning to minimize the chance of exposure to contaminants. The groundwater monitoring program will continue to evaluate the effectiveness of the cap, evaluate COCs, and ensure protectiveness in the long-term.

A discrepancy between the reporting limits and the Action Memorandum limits for four semi-volatile organics and one metal needs to be resolved.

OU2: Protectiveness is currently being achieved through access controls and institutional controls that are in place and functioning to minimize the chance of exposure to contaminants. The groundwater monitoring program will continue to evaluate COCs and ensure protectiveness in the long-term.

Thickness or accumulation rate of DNAPL needs to be monitored, sampled and reported at all wells. Groundwater and /or DNAPL discharging from Spring Nos. 3 through 6 needs to be monitored and sampled, if sufficient flow is present, to ensure impacted groundwater is not discharging from the terrace. A discrepancy between the reporting limits and the limits in the ROD for PAHs, the suite of COCs monitored, performance standards between OU1 and OU2, and the revised Colorado Basic Standards for Groundwater needs to be resolved.

VIII. Issues

Based on the information collected during the second five-year review, the following issues were identified:

Table 7 – Issues

Item No.	Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
1	Reporting limits for four semi-volatile organics and one metal are above Action Memo limits at OU1.	N	Y
2	Benzo(b)fluoranthene detected above groundwater performance standard at an OU2 Point of Compliance (POC) Spring No. 7.	N	Y
3	Thickness or accumulation rate of dense non-aqueous phase liquid (DNAPL) is not reported at OU2.	N	Y

Item No.	Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
4	Discharge from Spring Nos. 3 through 6 is not monitored for volumes of water and/or DNAPL, or sampled for constituents of concern (COCs). Springs are usually dry.	N	Y
5	Reporting limits for polycyclic aromatic hydrocarbons (PAHs) are inconsistent with requirements of the Record of Decision (ROD) at OU2.	N	Y
6	Cadmium not listed as a groundwater COC at OU1.	N	Y
7	COCs from the ROD at OU2 are inconsistent with the COCs reported in the monitoring data.	N	Y
8	Groundwater performance standards for 2 metals and 2 PAHs are inconsistent between OU1 and OU2.	N	N
9	Colorado Basic Standards for Groundwater have changed for 7 PAHs.	N	Y

IX. Recommendations and Follow-up Actions

Table 8 - Recommendations and Follow-up Actions

Item No.	Issues	Recommendations and Follow-up Actions	Party Responsible	Due Date
1	Reporting limits for four semi-volatile organics and one metal are above Action Memo limits at OU1.	Update the groundwater monitoring plan, if appropriate.	EPA/CDPHE/Freeport	December 2010
2	Benzo(b)fluoranthene detected above groundwater performance standard at an OU2 Point of Compliance (POC) Spring No. 7.	Based on additional data, perform a statistical analysis on the detection. Develop a response action, if appropriate.	Beazer Beazer	December 2014 December 2014
3	Thickness or accumulation rate of dense non-aqueous phase liquid (DNAPL) is not reported at OU2.	Revise the groundwater monitoring plan to add the requirement to monitor, sample and report the presence and/or thickness of DNAPL at all wells. Evaluate the need for an active remedy to address DNAPL within the groundwater (OU-2).	EPA/CDPHE/Beazer EPA/CDPHE	December 2010 December 2014

Item No.	Issues	Recommendations and Follow-up Actions	Party Responsible	Due Date
4	Discharge from Spring Nos. 3 through 6 is not monitored for volumes of water and/or DNAPL, or sampled for constituents of concern (COCs). Springs are usually dry.	Update the groundwater monitoring plan to add monitoring and sampling of Spring Nos. 3 through 6 for COCs, if sufficient flow. Revise the groundwater monitoring plan to add the requirement to monitor, sample and report the presence and/or flow rate of DNAPL at all springs. Evaluate the need for an active remedy to address DNAPL within the groundwater (OU-2).	EPA/CDPHE/Beazer EPA/CDPHE/Beazer EPA/CDPHE	December 2010 December 2010 December 2014
5	Reporting limits for polycyclic aromatic hydrocarbons (PAHs) are inconsistent with requirements of the Record of Decision (ROD) at OU2.	Update the groundwater monitoring plan, if appropriate.	EPA/CDPHE/Beazer	December 2010
6	Cadmium not listed as a groundwater COC at OU1.	Amend the decision documents as appropriate.	EPA/CDPHE	March 2011
7	COCs from the ROD at OU2 are inconsistent with the COCs reported in the monitoring data.	Update the groundwater monitoring plan. Amend decision documents if appropriate.	EPA/CDPHE/Beazer EPA/CDPHE	December 2010 March 2011
8	Groundwater performance standards for 2 metals and 2 PAHs are inconsistent between OU1 and OU2.	Update the groundwater monitoring plan. Determine whether the decision documents need to be updated.	EPA/CDPHE/Beazer EPA/CDPHE	December 2010 March 2011
9	Colorado Basic Standards for Groundwater have changed for 7 PAHs.	Update the groundwater monitoring plan. Determine whether the decision documents need to be updated.	EPA/CDPHE/Beazer EPA/CDPHE	December 2010 March 2011

X. Protectiveness Statements

OU1 (Lead-Zinc Smelting):

The remedy at OU1 currently protects human health and the environment because soil and wastes containing contaminants above the remedial goals are isolated from humans through engineering and institutional controls (ICs). However, in order for the remedy to be protective in the long-term, the following actions need to be taken: determine how to correctly test for the contaminants, evaluate the need for an active remedy to address the groundwater, modify the monitoring plan and record these within a decision document.

OU2 (Wood Treating):

The remedy at OU2 currently protects human health and the environment because soil containing contaminants above the remedial goals are isolated from humans through engineering and institutional controls (ICs). However, in order for the remedy to be protective in the long-term, the following actions need to be taken: determine how to correctly test for the contaminants, evaluate the need for an active remedy to address the groundwater, modify the monitoring plan and record these within a decision document.

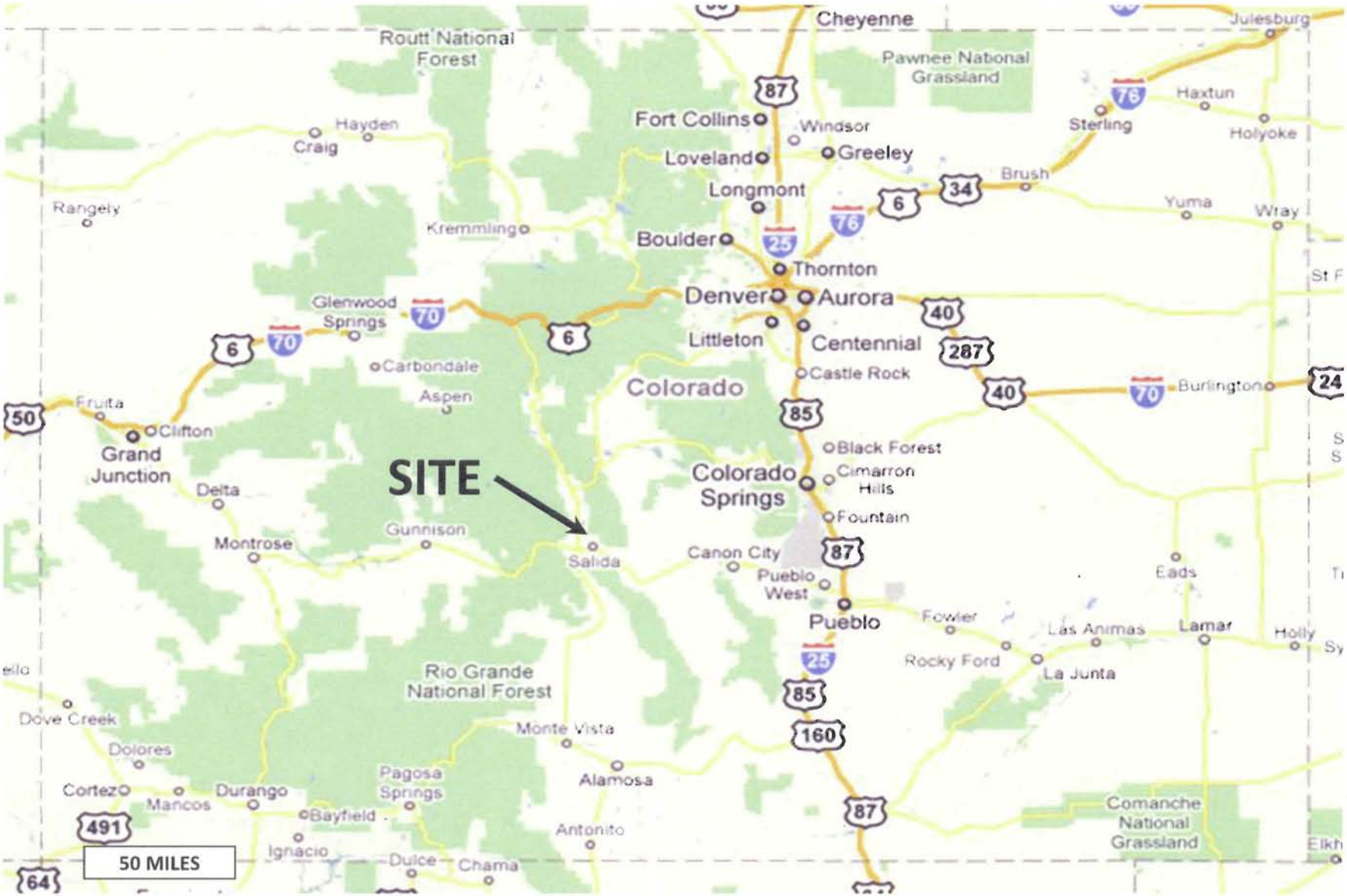
XI. Next Review

The site requires ongoing five-year reviews in accordance with CERCLA § 121 (c). The next five-year review for the Smeltertown Site will be performed by September 2015, five years from the date of this review.

ATTACHMENTS

ATTACHMENT 1

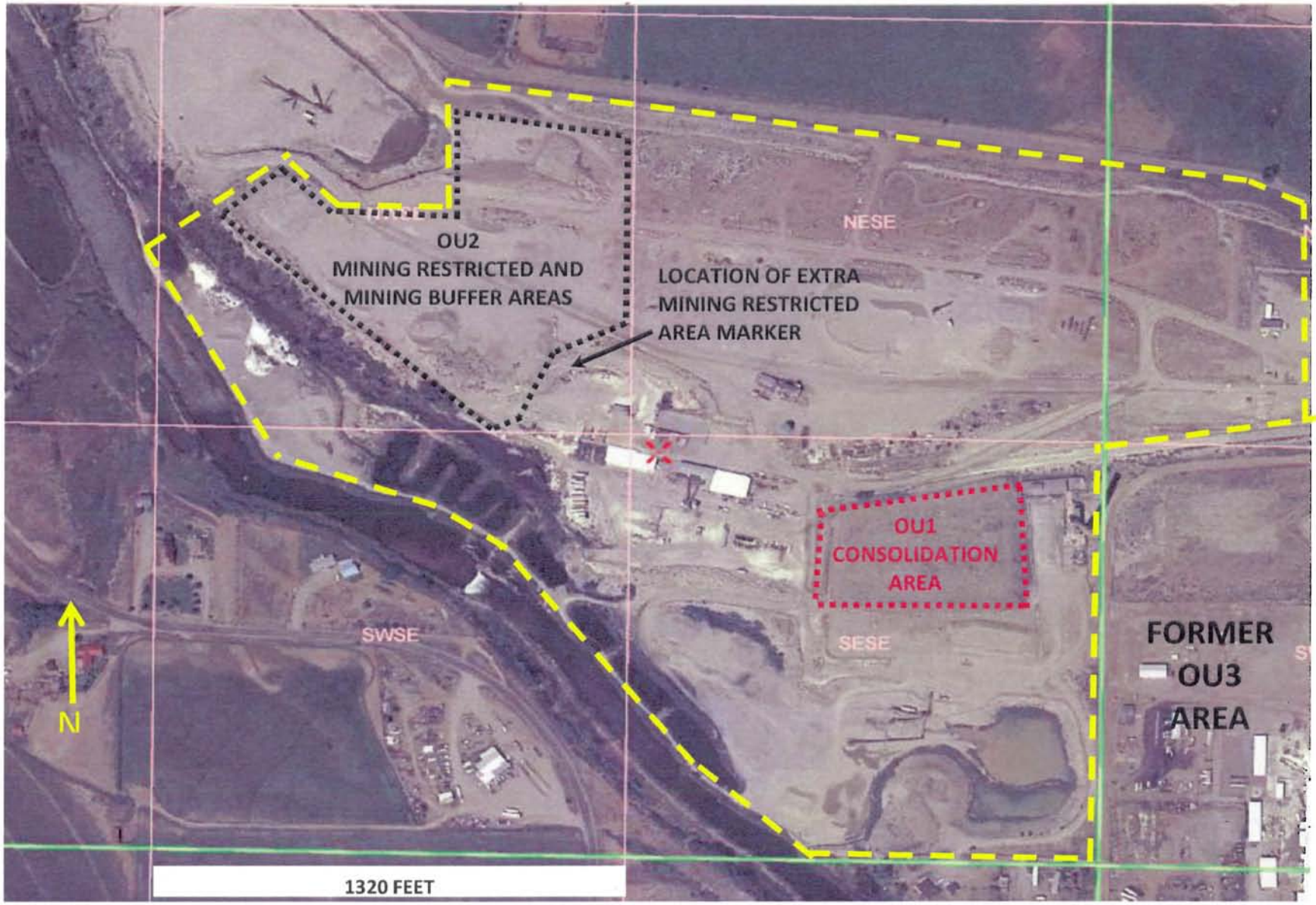
STATE MAP



SITE LOCATION MAP
SMELTERTOWN SUPERFUND SITE
CHAFFEE COUNTY, COLORADO

ATTACHMENT 2

SITE MAP



SMELTERTOWN SUPERFUND SITE

SE/4 SECTION 25 T50N R8E, NM MERIDIAN, CHAFFEE COUNTY, COLORADO

AREAS AND LOCATIONS SHOWN ARE APPROXIMATE

2009 AERIAL PHOTGRAPH COURTESY OF COLORADO DEPARTMENT OF NATURAL RESOURCES

ATTACHMENT 3

MOUNTAIN MAIL NEWSPAPER NOTICE

Fwd: Smeltertown ad proof

Craig Gander to: Kerri Fiedler 03/08/2010 11:27 AM

Cc: "BARBARA Nabors", "MARTIN O'Grady"

History: This message has been replied to and forwarded.

Kerri,

See below for confirmation of publication of the public notice regarding the Smeltertown 5-Year Review in the Salida newspaper.

Craig

Craig R. Gander
Environmental Protection Specialist
Superfund & Voluntary Cleanup Unit
Colorado Dept. Public Health & Environment
HMWMD-RP-B2
4300 Cherry Creek Dr. S.
Denver CO 80246-1530
303-692-3449
fax 303-759-5355
craig.gander@state.co.us

>>> Vickie <vickiesue@avpsalida.com> 3/5/2010 4:09 PM >>>

Deb,
This ad ran on Wed. March 3, 2010 on page 12 of the Mountain Mail. In Salida, Co

NOTICE OF SECOND FIVE YEAR REVIEW

Smeltertown/Koppers Superfund Site
9000 County Road 152
Salida, CO 81201

Colorado Department of Public Health and Environment

The **Colorado Department of Public Health and Environment (CDPHE)**, in consultation with the **U.S. Environmental Protection Agency (USEPA)**, is conducting the second five-year review of the remedy for the Smeltertown/ Koppers Superfund Site.

The Five-Year Review is:

- a regular checkup on a Superfund site where waste was left in place as part of the original remedy, to make sure the site is still safe;
- a way to make sure the remedy continues to protect people and the environment; and
- a chance for you to tell us about site conditions and any observations and/or concerns you may have about the current remedy.

Site Industrial Activities: Three different industrial activities occurred at the Smeltertown/Kopperssite: a lead and zinc smelter, a wood treating facility, and zinc-sulfate manufacturing.

Site contamination included: Arsenic, cadmium, copper, lead, manganese, zinc, pentachlorophenol, and creosote in soil and groundwater

The selected remedy consisted of:

- Removing most contaminated soil and capping any left in place
- Continued groundwater monitoring
- Prohibiting groundwater use in the area
- Restricting land use at the site

Current CDPHE and USEPA Site Activities: The CDPHE and USEPA are monitoring the site to ensure that the potentially responsible parties - Beazer East and Phelps Dodge - properly manage and maintain the remedies.

For information, or to offer comment, please contact:

Craig Gander
State Project Manager
Colorado Department of Public Health and Environment
1-888-569-1831, ex. 3449

Kerri Fiedler
EPA Project Manager
U.S. Environmental Protection Agency
1-800-227-8917, ex 6493

NOTE: This second Five-Year Review is scheduled to be completed in draft form by the end of May 2010. ***Please provide your comments no later than March 31, 2010.***

Additional information on the Smeltertown/Koppers Superfund Site can be found at:
http://www.epa.gov/region8/superfund/co/smeltertown/index.html

ATTACHMENT 4

LIST OF DOCUMENTS

List of Documents

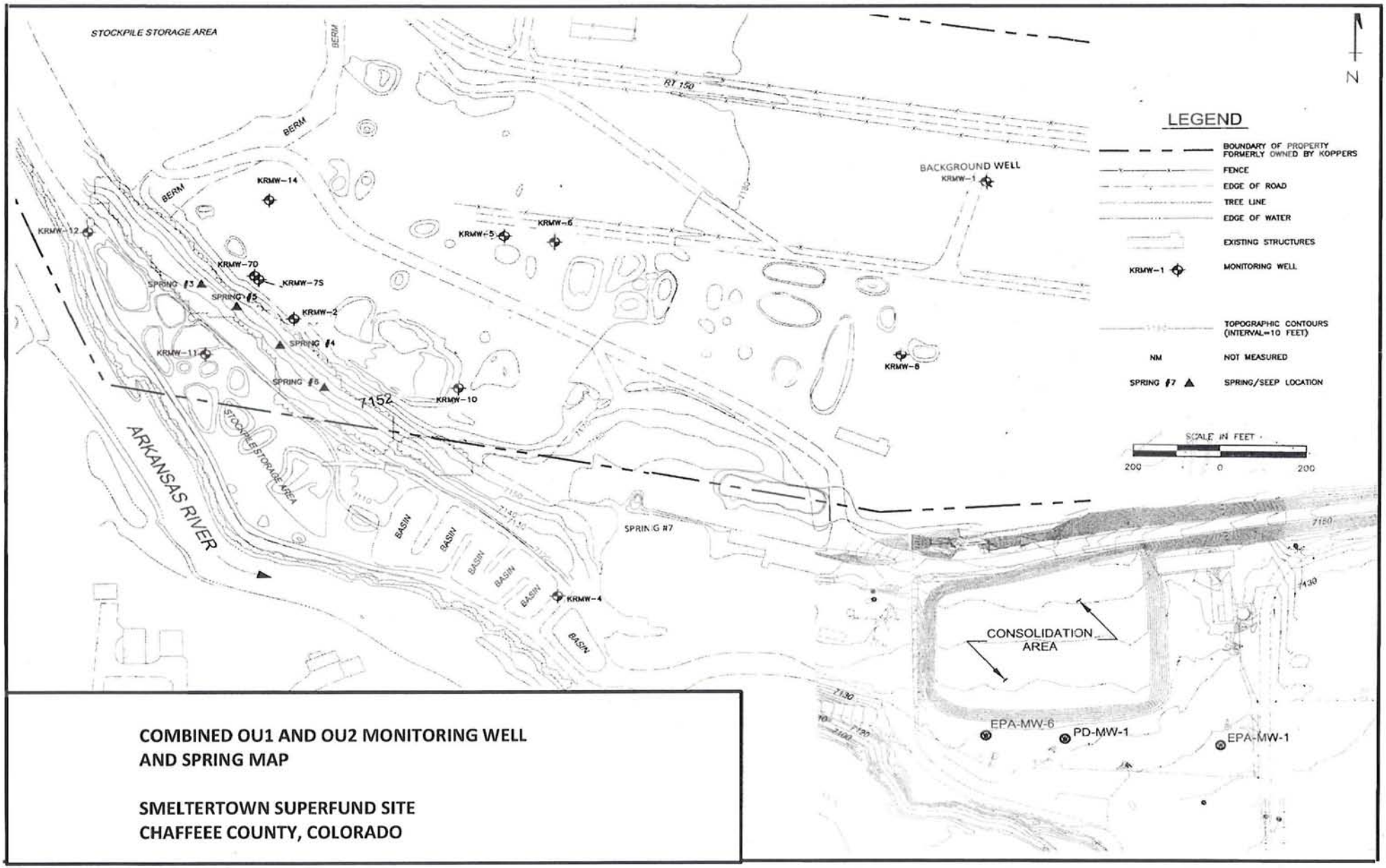
- Record of Decision for OU2, June 14, 1998
- Final Removal Design Report, Smeltertown Superfund Site, Operable Unit 1, April 11, 2003
- Remedial Action Report, Operable Unit No. 2, Smeltertown Superfund Site, September 24, 2002
- Remedial Action Report, Smeltertown Superfund Site, Operable Unit No. 2, undated report prepared by EPA, September 24, 2002
- Emergency Response Involvement at the Smeltertown Site, undated report prepared by EPA, March 11, 1996
- Action Memorandum for time-critical removal actions (OUs 1, 2 and 3), June 17, 1993
- Action Memorandum for non-time-critical removal actions (OU1), June 1, 1996
- Baseline Risk Assessment, April 1, 1995.

Groundwater Monitoring Reports

- Summary Report, June 2007 Monitoring Well Sampling Event, Smeltertown Superfund Site, Operable Unit No. 1, September 27, 2007
- Summary Report, June 2008 Monitoring Well Sampling Event, Smeltertown Superfund Site, Operable Unit No. 1, September 22, 2008
- Report of the 2005 Annual Monitoring Activities at Operable Unit #2, Smeltertown Superfund Site, Salida, Colorado, July 21, 2006
- Report of the 2006 Annual Monitoring Activities at Operable Unit #2, Smeltertown Superfund Site, Salida, Colorado, May 21, 2007
- Report of the 2007 Annual Monitoring Activities at Operable Unit #2, Smeltertown Superfund Site, Salida, Colorado, October 13, 2008
- Report of the 2008 Annual Monitoring Activities at Operable Unit #2, Smeltertown Superfund Site, Salida, Colorado, June 10, 2009
- Report of the 2009 Annual Monitoring Activities at Operable Unit #2, Smeltertown Superfund Site, Salida, Colorado, November 5, 2009.

ATTACHMENT 5

MONITORING WELL AND SPRING MAP



COMBINED OU1 AND OU2 MONITORING WELL AND SPRING MAP

SMELTERTOWN SUPERFUND SITE
CHAFFEEE COUNTY, COLORADO

ATTACHMENT 6

SITE INSPECTION CHECKLIST

SMELTERTOWN SUPERFUND SITE INSPECTION CHECKLIST DATE OF INSPECTION: 4/20/2010 INSPECTOR SIGNATURE JRGardner

OU1

Consolidation Area Soil Cover System	Observed?	Condition	Needs Repair?	Comments
Vegetation	YES	ADEQUATE	NO	VEGETATION DENSITY APPEARS SIMILAR TO THAT ON OTHER NON-IRRIGATED PARCELS IN THE GENERAL AREA
Erosion	NO	N/A	NO	
Seeps	NO	N/A	NO	
Gullying/Rilling	NO	N/A	NO	
Indication of Trespass?	NO	N/A	N/A	
Depressions/Rutting	NO	N/A	NO	
Exposure of Contaminated Mtls.	NO	N/A	NO	
Surface Water Channel & Discharge Apron	Observed?	Condition	Needs Repair?	Comments
Vegetation	YES	ADEQUATE	NO	VEGETATION DENSITY APPEARS SIMILAR TO THAT ON OTHER NON-IRRIGATED PARCELS IN THE GENERAL AREA
Erosion	NO	N/A	NO	
Depressions/Rutting	NO	N/A	NO	
Blockage/Siltation	NO	N/A	NO	
Erosion Control Measures (BMPs)	Observed?	Condition	Needs Repair?	Comments
Damage	NO	N/A	NO	
Sediment Buildup	NO	N/A	NO	

SMELTERTOWN SUPERFUND SITE INSPECTION CHECKLIST DATE OF INSPECTION: 4/20/2010 INSPECTOR SIGNATURE CRGarder

OU1 CONTINUED

Access Controls	Observed?	Condition	Needs Repair?	Comments
Gates	YES	ADEQUATE	NO	PROPERTY OWNER BUTALA CONSTRUCTION COMPANY'S MAIN GATE SERVES AS ENTRANCE POINT TO PROPERTY.
Fences/Barriers	YES	ADEQUATE	NO	PROPERTY OWNERS BUTALA CONSTRUCTION COMPANY AND TECK LLC'S PROPERTY FENCES PREVENT UNAUTHORIZED VEHICLE ACCESS TO THE PROPERTY. ACCESS TO THE CONSOLIDATION AREA CAP IS RESTRICTED BY CHAIN-LINK FENCING ON THE NORTH SIDE AND A PORTION OF THE EAST SIDE, VERY LARGE BOULDERS ON THE SOUTH SIDE AND A PORTION OF THE EAST SIDE, AND A DRAINAGE DITCH ON THE WEST SIDE.
Locks	YES	ADEQUATE	NO	PROPERTY OWNER BUTALA CONSTRUCTION COMPANY'S MAIN GATE IS LOCKED WHEN THE PROPERTY IS UNOCCUPIED.
Signs	YES	ADEQUATE	NO	PROPERTY OWNER BUTALA CONSTRUCTION COMPANY MAINTAINS A SIGN REQUIRING VISITORS TO REPORT TO THE OFFICE.
Monitoring Wells	Observed?	Condition	Needs Repair?	Comments
KRMW-3	YES	SATISFACTORY	NO	
EPA-MW-6	YES	SATISFACTORY	NO	
PD-MW-1	YES	SATISFACTORY	NO	

Indications of conformance or non-conformance with Institutional Controls

Conformance was observed with the Institutional Controls that prohibit (1) residential use; (2) disturbing the Consolidation Area cap by drilling, excavating or re-contouring.

OU1 General Comments/Notes including any changes in land use, such as new construction, wells, structures, etc. Also list existing businesses.

Since the last 5-Year Review, the chain-link fencing immediately surrounding the Consolidation Area was removed on the west side, the south side, and a portion of the east side. Very large boulders have been placed on the south and east sides were the fence was removed. On the west side, access to the Consolidation Area is restricted by a drainage ditch.

TECK LLC IS THE ONLY PROPERTY OWNER AT OU1.

SMELTERTOWN SUPERFUND SITE INSPECTION CHECKLIST DATE OF INSPECTION: 4/20/2010 INSPECTOR SIGNATURE C R Gander

OU2

Monitoring Wells/Springs	Observed?	Condition	Needs Repair?	Comments
KRMW-1	YES	SATISFACTORY	NO	
KRMW-2	YES	SATISFACTORY	NO	
KRMW-4	YES	SATISFACTORY	NO	
KRMW-5	YES	SATISFACTORY	NO	
KRMW-6	YES	SATISFACTORY	NO	
KRMW-7D	YES	SATISFACTORY	NO	
KRMW-7S	YES	SATISFACTORY	NO	
KRMW-8	YES	POOR	YES	BROKEN HINGE ON PROTECTIVE CASING
KRMW-10	YES	SATISFACTORY	NO	
KRMW-11	YES	SATISFACTORY	NO	
KRMW-12	YES	SATISFACTORY	NO	
KRMW-14	YES	SATISFACTORY	NO	
Spring 1	NO	N/A	N/A	SPRING 1 WAS NOT SPECIFICALLY LOCATED. HOWEVER, NO DISCHARGE WAS OBSERVED FROM ANY SPRING ON THE BLUFF OVERLOOKING THE RIVER.
Spring 2	NO	N/A	N/A	SPRING 2 WAS NOT SPECIFICALLY LOCATED. HOWEVER, NO DISCHARGE WAS OBSERVED FROM ANY SPRING ON THE BLUFF OVERLOOKING THE RIVER.
Spring 3	NO	N/A	N/A	SPRING 3 WAS NOT SPECIFICALLY LOCATED. HOWEVER, NO DISCHARGE WAS OBSERVED FROM ANY SPRING ON THE BLUFF OVERLOOKING THE RIVER.
Spring 4	NO	N/A	N/A	SPRING 4 WAS NOT SPECIFICALLY LOCATED. HOWEVER, NO DISCHARGE WAS OBSERVED FROM ANY SPRING ON THE BLUFF OVERLOOKING THE RIVER.

OU2 CONTINUED

Spring 5	YES	N/A	N/A	THE SPRING 5 AREA IS SURROUNDED BY A FENCE. NO DISCHARGE WAS OBSERVED.
Spring 6	NO	N/A	N/A	SPRING 6 WAS NOT SPECIFICALLY LOCATED. HOWEVER, NO DISCHARGE WAS OBSERVED FROM ANY SPRING ON THE BLUFF OVERLOOKING THE RIVER.
Spring 7	NO	N/A	N/A	ACCORDING TO MR. THOMAS EVE, MANAGER OF BUTALA CONSTRUCTION COMPANY, DISCHARGE FROM SPRING 7 IS COLLECTED UNDERGROUND BY PERFORATED PIPE ALONG THE BASE OF A RETAINING WALL. JUST TO THE EAST, WATER WAS OBSERVED DISCHARGING FROM THE BASE OF AN ADJACENT RETAINING WALL.
Mining Restricted Area Markers				
1	YES	SATISFACTORY	NO	
2	YES	SATISFACTORY	NO	
3	YES	SATISFACTORY	NO	
4	YES	SATISFACTORY	NO	
5	YES	SATISFACTORY	NO	
6	YES	SATISFACTORY	NO	
7	YES	SATISFACTORY	NO	
8	YES	SATISFACTORY	NO	
9	YES	SATISFACTORY	NO	
10	YES	SATISFACTORY	NO	
11	YES	SATISFACTORY	NO	
12	YES	SATISFACTORY	NO	
13	YES	SATISFACTORY	NO	
14	YES	SATISFACTORY	NO	
15	YES	SATISFACTORY	NO	
16	YES	SATISFACTORY	NO	
17	YES	SATISFACTORY	NO	

OU2 CONTINUED

Indications of conformance or non-conformance with Institutional Controls?
Conformance was observed with the Institutional Controls that prohibit (1) residential development; (2)mining in the Mining Restricted Area; (3) mining deeper than 20 feet in the Buffer Area; (4) wells or drilling to any groundwater or aquifer within the Mining Restricted Area or the Buffer Area (except for monitoring or remedial wells); (5) wells or drilling within the Groundwater Buffer Area (except for monitoring or remedial wells); (6) use of groundwater within the Upper Terrace Aquifer and the Lower Terrace Aquifer as a drinking water supply.
OU2 General Comments/Notes including any changes in land use, such as new construction, wells, structures, etc. Also list existing businesses.
IN ADDITION TO THE REQUIRED 17 MINING RESTRICTION AREA MARKERS, AN 18TH MARKER WAS OBSERVED AT THE LOCATION SHOWN ON THE ATTACHED AERIAL PHOTO.
BUTALA CONSTRUCTION COMPANY IS THE ONLY PROPERTY OWNER AT OU2.

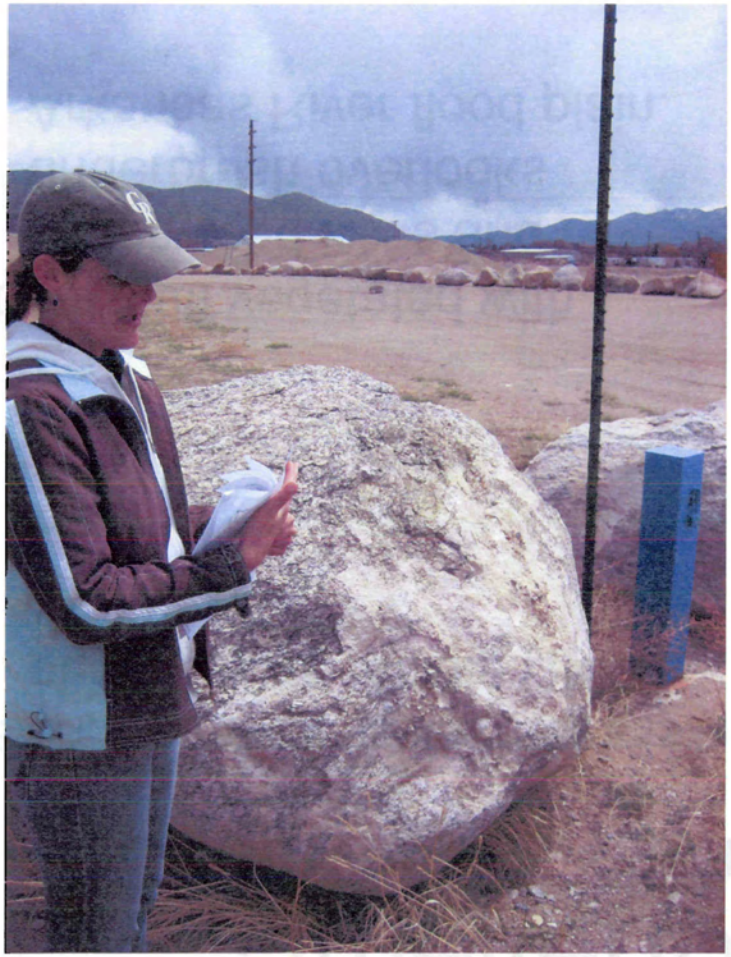

SMELTERTOWN SUPERFUND SITE OPERABLE UNIT 2, CHAFFEE COUNTY, COLORADO
N
KRMW-14
KRMW-5
KMRW-6
KRMW-7S
KRMW-2
KRMW-10
LOCATION OF EXTRA MARKER FOR MINING RESTRICTED AREA (GREEN LINE)
Legend
Well Locations
Approximate Mining Buffer Zone
Section Line
Approximate Mining Restriction Area
Monument Location
GPS Coordinates (FTS, Aug. 19, 2009)
BASE FIGURE COURTESY OF BEAZER EAST, INC.
0
90
180
360
540
Feet

ATTACHMENT 7

PHOTOS

Smeltertown Site Visit

April 2010



- Site visit coordinated with the inspection of the site's 17 monitoring wells.
- Monitoring wells are well marked and protected from damage by the heavy earth moving machinery.

Smeltertown Site Visit

April 2010

Fenced off seep area, restricts public from possible DNAPL exposure.

Steep bluff vegetated with cottonwood trees and underbrush overlooks Arkansas River flood plain.

Smeltertown Site Visit

April 2010

- Top left: Gravel operation near OU2
- Top right: Slag deposits along the Arkansas River
- Bottom right: Ponds adjacent to the Arkansas

Smeltertown Site Visit

April 2010

- The Consolidation Area at OU1 has been capped with clay and top soil and vegetated with native grasses.

- The Superfund site has restricted access and is gated and fenced.