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## Reuse and the Benefit to Community Murray Smelter Superfund Site

### Executive Summary

Thanks to innovative partnerships and community leadership efforts, the 142-acre Murray Smelter Superfund site in Murray City, Utah, is now a valuable community resource. Collaboration among EPA, state agencies, the community, the party responsible for cleanup and other stakeholders has led to the site's successful cleanup and redevelopment.

Once the location of the world's largest primary lead smelter, the site is now home to the state-of-the-art Intermountain Medical Center, a light rail station, a commercial retail warehouse, a police training center, a school, assorted small businesses and a cement company. Idle for nearly 50 years, the site's redevelopment has helped address Murray City's need for regional health care facilities, public transit access and diversified economic development. Today, the area has once again become a thriving part of the community. Its cleanup protects public health and the environment and its redevelopment provides long-term economic and community benefits. This case study explores the site's cleanup and reuse in greater detail, illustrating the opportunities, benefits and impacts of Superfund site redevelopment in action.

### Positive Impacts

- Land uses on site support approximately 5,612 jobs and contribute more than \$260 million in annual employment income to the local community.
- Retail warehouse Costco employs 350 people and provides over \$9 million in annual employment income to the community.
- The total market value of land and businesses on site was over \$515 million in 2011.
- In 2011, businesses on site generated approximately \$1.1 million in tax revenues for Murray City.
- Public transportation ridership at the Murray light rail station saves approximately 100,000 gallons of gasoline each year. The land value of the station in 2011 was \$4.5 million.

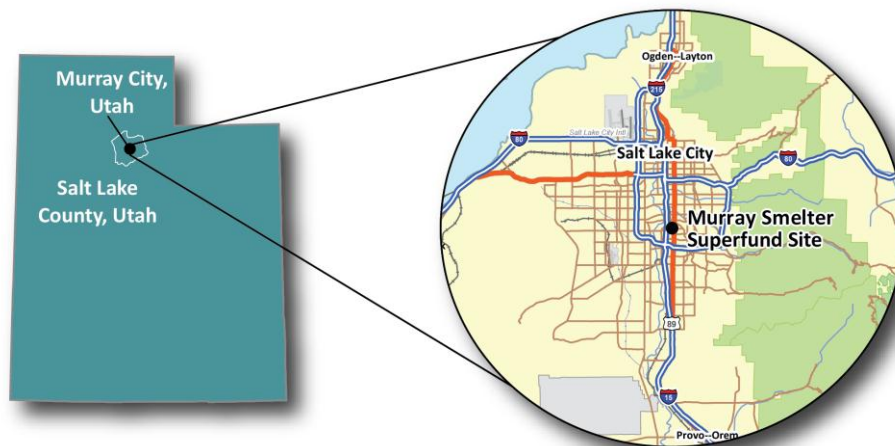


Figure 1: The site's location in Murray City, Salt Lake County, Utah

## Introduction

Superfund site remediation results in restored value to site properties and surrounding communities. Once a site property is ready for reuse, it can revitalize a local economy with jobs, new businesses, tax revenues and local spending. This case study captures the on-site and community impacts of new development at the Murray Smelter Superfund site.

The 142-acre site is located six miles south of Salt Lake City in Murray City, Salt Lake County, Utah (Figure 1). The site is centrally located in the community. Commercial and light industrial land uses border the site, with residential areas and Murray City's downtown district located nearby. According to 2010 Census data, Murray City's population is 46,746.



Figure 2: Aerial view of major site reuses

## Site History

Formerly owned by the American Smelting and Refining Company (ASARCO), the site included two smelters: the Germania Smelter and Refinery Works, which operated from 1872 to 1902, and the Murray Smelter, which operated from 1902 to 1949. Murray Smelter processed 1,500 tons of lead and silver ore in eight blast furnaces each day. In addition to lead, primary smelting byproducts included slag, arsenic and cadmium.



Figure 3: The site prior to cleanup

Site investigations found the area was extensively contaminated with lead, arsenic and other heavy metals. EPA proposed the site for listing on the Superfund program's National Priorities List (NPL) in 1994, but it was never finalized. Instead, EPA and ASARCO, the site's responsible party, entered into settlement agreements for performing site investigations and cleanup. EPA and Murray City also entered into an agreement, allowing the city a formal role in the Superfund process.

## Property Cleanup and Transformation

To address the site's cleanup and redevelopment, EPA hosted a series of collaborative problem-solving meetings with ASARCO, the Utah Department of Environmental Quality (UDEQ), Murray City and community representatives. The Murray Smelter Working Group, formed in October 1996, provided a forum to discuss cleanup options and identify possible future land use scenarios. The Working Group met for two days each month for discussions and problem-solving sessions.

From the outset, Murray City emphasized the site's strong redevelopment potential – its size, location and visibility in the community, access to major roadways, future light rail access and existing utility infrastructure. The community's goal, according to former Murray City Mayor Lynn F. Pett, was to revitalize the area and avoid the potentially negative public perception that can result from EPA placing a site on the NPL. The community adopted a General Plan Amendment that identified commercial land use as the preferred future use of the site.

EPA and UDEQ worked closely with Murray City and ASARCO to identify opportunities to integrate the site's cleanup and redevelopment. The cleanup approach focused on excavating and disposing of the most hazardous waste off site, with consolidation and capping of less-contaminated materials on site. The parties placed the onsite repository under a new roadway at the site. Additional materials, considered low level contamination, were covered in place with barriers such as pavement, landscaping, soil caps, and sidewalks. ASARCO also accelerated cleanup activities to facilitate redevelopment, paying for the majority of site cleanup costs and compensating Murray City for operation and maintenance activities at the site for five years. For its part, Murray City created a Smelter Site Overlay District to implement institutional controls prohibiting the construction of new ground water wells, protecting the site's soil remedy and guiding appropriate development. EPA also provided Murray City with a \$176,000 brownfields grant to assess the reuse implications of different cleanup approaches at the site.

Two prospective purchasers interested in redevelopment opportunities negotiated prospective purchaser agreements (PPAs) with EPA. The agreements ensured that companies interested in locating on the site would be protected from any future liability related to site contamination. Both the Utah Transit Authority (UTA) and Ash Grove Cement Company obtained PPAs in the early stages of the site's redevelopment.

The ability to work and problem solve with so many different groups made the cleanup process exciting. It was the most fun I've had in my career."

– Former EPA Site Manager Bonita Lavelle

### Protecting Purchasers from Future Liability

PPAs played an important role in enabling the site's redevelopment. Nationally, EPA has since taken additional steps to make the acquisition and redevelopment of Superfund sites easier for prospective purchasers.

Under the Brownfields Revitalization Act, a prospective purchaser need no longer negotiate a PPA with EPA and the federal government. In lieu of a signed agreement, the purchaser can meet requirements to become a bona fide prospective purchaser (BFPP).

For more information about BFPP requirements, please see: <http://www.epa.gov/oecaerth/cleanup/revitalization/bfpp.html>.

## Local Impacts

### *Intermountain Medical Center*

The centerpiece of the site's redevelopment is the Intermountain Medical Center, the flagship hospital for Utah-based Intermountain Healthcare (IHC). IHC purchased 100 acres at the site in 2000 for the construction of the new hospital. Following groundbreaking in September 2003, the facility opened in October 2007. The 1.3-million-square-foot facility includes centers for outpatient, cancer, heart and lung, and women and newborn care as well as a trauma center and an education area. The medical center, referred to as the "Mayo Clinic of the West," has 486 beds.

In addition to providing health benefits, the hospital also supports a variety of jobs and generates tax revenues. Intermountain Medical Center employs 5,221 people, contributing \$251 million in annual employment income and \$940,000 in annual property taxes. The land value of the facility is now \$487 million.

"I'm proud of the fact that we took a polluted site and turned it into a healing site."

– David Grauer, Intermountain Medical Center Administrator

### *Costco*

The southeast corner of the site is now home to a 148,000-square-foot Costco store. Bricks from demolished smelter smokestacks became fill for construction of the store and parking areas. Costco leases the 16-acre property from IHC. The store is currently the top-performing Costco in Utah, and paid nearly \$149,000 in property taxes in 2011. The membership warehouse club provides 350 jobs on site and contributes more than \$9 million in income annually to the community. The property's value has also increased significantly, to \$13.3 million in 2011.

### *Murray City Police Training Center*

When Murray City's police chief looked at the site, he saw a way to provide new training opportunities for local police officers. A multi-function training facility could offer firearms training, classroom space and a fitness center. With the support of local officials and the community, his vision became a reality. The Murray City Police Department's state-of-the-art training center is now located on the northwest corner of the site. In addition to training the city's police force, it also generates revenue from its use by other police departments and area colleges. The property's value in 2011 was \$3.1 million.



Figure 4: Intermountain Medical Center



Figure 5: Costco anchors the southeast corner of the site



Figure 6: The Murray City Police Training Center

### **Utah Transit Authority (UTA) Light Rail Station**

In 2000, UTA built a light-rail station on 6.5 acres on the southern end of the site. The facility has improved commuter access to Salt Lake City and reduced traffic congestion. In cooperation with local officials, UTA routinely works to clean up and redevelop contaminated or potentially contaminated sites, turning them into vibrant transit centers, park-and-ride lots and operation facilities. UTA's efforts have rejuvenated more than 50 acres along its light rail and commuter rail lines, the TRAX and FrontRunner corridors.

The Murray UTA station includes covered platforms for waiting passengers, a bus loop for passenger pickups and drop-offs, and 750 parking spaces for commuter parking. Each weekday, approximately 1,300 rail passengers and 1,200 bus passengers rely on the Murray UTA station. It has been estimated that public transportation ridership at the station saves approximately 100,000 gallons of gasoline each year. The land value of the station in 2011 was \$4.5 million.

UTA has also purchased a building directly west of the station, which is also located on site. Plans are in the works to use the now-vacant building to provide UTA with transit police office space and a snack bar for commuter use. The land value of the UTA building and lot in 2011 was \$1 million.

New construction is also currently underway. UTA is expanding the Murray station to include a commuter rail line and a cross-platform transfer station. The commuter rail facility, which will be accompanied by additional parking for passengers, is scheduled for completion in late 2012. A new bus rapid transit service is also planned for the Murray station. The service is expected to begin in the next two years.

### **Ash Grove Cement Company**

Ash Grove Cement Company's transfer and supply facility occupies the southwest corner of the site – the company manufactures Portland cement and related construction products. The company has operated in its current location for the last 31 years. The site's cleanup approach enabled the business to continue operating throughout the cleanup process. The land value of the property in 2011 was \$2.9 million. This company's facility provides two jobs on site and contributes approximately \$90,000 in income annually to the community.



**Figure 7: The Murray UTA light rail station**

### **Environmental Benefits of the Murray UTA Station**

It is estimated that public transportation ridership at the Murray UTA station has significantly reduced pollution emissions in the community.

- Volatile organic compounds (VOCs): 4 tons
- Carbon monoxide: 38 tons
- Particulate matter: 61 pounds
- Nitrogen oxides: 3 tons

*Source: Dan Locke, UTA Environmental Compliance Administrator*



**Figure 8: Ash Grove Cement Company**

### ***Vine Street Office Building***

The Office Building located at 120 West Vine Street currently houses Coram Specialty Infusion Services and the Realms of Inquiry Experiential Learning School. The 17,840 square foot building is situated on a 2.6 acre lot; the property and has a current market value of \$2.6 million. Additional office space within the building is currently available for lease.

### ***Coram Specialty Infusion Services***

The northwest side of the site is now occupied by Coram Specialty Infusion Services. The facility opened its doors in 2011. Coram is a provider of specialty infusion and pharmacy distribution services. The company supplies and administers medicines and treatments to patients on site. Home deliveries of medications are also provided to patients unable to visit the company's offices. The business provides 20 jobs on site and contributes more than \$690,000 in income annually to the community.

### ***Realms of Inquiry Experiential Learning School***

This small private school recently located on the northwest side of the site. The school engages students through challenging academics combined with fieldwork and community service. After more than 25 years at their former location, the school moved to its new campus on site in January 2012. The new location provides better student access to transportation and outdoor recreation sites. The facility provides five jobs on site and contributes approximately \$138,000 in annual income to the local community.

### ***Night Shift Coffee Company***

Night Shift Coffee Company operates a restaurant inside the Intermountain Medical Center, serving medical center employees, visitors and local residents. The coffee shop opened in October 2011 and leases its space from IHC. The business provides three on-site jobs and contributes over \$36,000 in annual employment income to the local community.

### ***Subway***

A Subway sandwich shop is now located in the Intermountain Medical Center. The restaurant opened in 2011 and leases its space from building owner IHC. The business provides five jobs on site and contributes approximately \$66,800 in annual employment income to the community.




**Figure 9: Offices of Coram Specialty Infusion Services**



**Figure 10: Night Shift Coffee Company**



**Figure 11: The Subway restaurant located on site**

  
***Zion's Bank***

Zion's Bank also operates a branch inside the Intermountain Medical Center. The bank opened its doors in 2009. In addition to offering financial services, bank staff also provide volunteer services in the surrounding area. The bank employs six people on site and provides over \$340,000 in annual employment income to the community.

**Conclusion**

In Murray City, Utah, the local government, community organizations and businesses, state agencies, the site's responsible party, and EPA came together to develop innovative agreements and a cleanup approach that protected public health and the environment and enabled mixed-use redevelopment at the Murray Smelter Superfund site. An area once known for its iconic smelter smokestacks is now home to new community assets that benefit the local economy, provide public health services and strengthen Murray City's regional connections. A once contaminated, underused industrial property is now an important center of medical services, commercial retail areas and public transit. Looking to the future, this collaborative effort by EPA and its partners will continue to provide long-term economic, environmental and public health benefits for Murray City and the surrounding region.



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## Reuse and the Benefit to Community

### Murray Smelter Site

#### Technical Appendix

##### **Positive Impacts: Employment Information for On-site Jobs**

The Dun & Bradstreet (D&B) database provided information on the number of employees and sales volume for on-site businesses. D&B provides information on businesses and corporations. It maintains a database of over 179 million companies globally and over 53 million professional contact names using a variety of sources, including public records, trade references, telecommunication providers, newspapers and publications, and telephone interviews. The Data Universal Numbering System (DUNS) number is a unique nine-digit identification number assigned by D&B to each business and its location within the D&B database for identifying each business.

##### **Positive Impacts: Wage and Income Information for On-site Jobs**

The U.S. Bureau of Labor Statistics (BLS) provided wage and income information. The BLS is a governmental statistical agency that collects, processes, analyzes and disseminates essential statistical data to the American public, the U.S. Congress, and other federal agencies in the broad field of labor economics and statistics. The data provided by the BLS has high standards of accuracy and consistently high statistical quality, and impartiality in both subject matter and presentation.

The BLS Quarterly Census of Employment and Wages database provided average weekly wage data for each of the businesses located at the Murray Smelter site. Average weekly wage data were identified by matching the North American Industry Classification System (NAICS) codes corresponding with each type of business with weekly wage data for corresponding businesses in Salt Lake County. If not available at the county level, wage data were sought by state or national level, respectively. In cases where wage data were not available for the six-digit NAICS code, higher level (less detailed) NAICS codes were used to obtain the wage data.

To determine the annual wages (mean annual) earned from jobs generated by each of the businesses located at the Murray Smelter site, the average weekly wage figure was multiplied by the number of weeks in a year (52) and by the number of jobs (employees) for each of the businesses.



Table 1: Murray Smelter Site Businesses: NAICS Code and Title, Average Weekly Wage, Employees, Annual Wages and Total Annual Wage per Employee

On-site Business	NAICS Code <sup>a</sup>	NAICS Title	Employees <sup>b</sup>	Average Weekly Wage (2010) <sup>c</sup>	Annual Wage (Mean Annual) per Employee	Total Annual Wages <sup>d</sup>
Intermountain Medical Center	622110	General Medical and Surgical Hospitals	5221 <sup>f</sup>	\$926	\$48,152	\$251,401,592
Costco	452910	Warehouse Clubs and Superstores	350	\$497	\$25,844	\$9,045,400
Utah Transit Authority	NA	NA	0	NA	NA	NA
Ash Grove Cement Company	3273	Cement Manufacturing	2 <sup>g</sup>	\$878	\$45,656	\$91,312
Murray City Police Training Center	922120 <sup>e</sup>	Police Protection	NA	NA	NA	NA
Subway Sandwiches	722211	Limited-Service Restaurants	5 <sup>h</sup>	\$257	\$13,364	\$66,820
Zion's Bank	522110 <sup>e</sup>	Commercial Banking	6 <sup>i</sup>	\$1,099	\$57,148	\$342,888
Coram Specialty Infusion Services	621610 <sup>e</sup>	Home Healthcare Services	20 <sup>j</sup>	\$667	\$34,684	\$693,680
Night Shift Coffee Company	722213 <sup>e</sup>	Snack and Nonalcoholic Beverage Bars	3 <sup>k</sup>	\$232	\$12,064	\$36,192
Realms of Inquiry Private School	611110 <sup>e</sup>	Elementary and Secondary Schools	5 <sup>l</sup>	\$534	\$27,768	\$138,840
<b>TOTAL</b>			<b>5,612</b>			<b>\$261,816,724</b>

<sup>a</sup> NAICS code provided in D&B unless otherwise noted.

<sup>b</sup> Employee data is from D&B, except where otherwise indicated.

<sup>c</sup> Average weekly wage per employee is based upon BLS Average Weekly Wage data.

<sup>d</sup> Total annual wage figures were derived by multiplying "Employees" by "Annual Wage (Mean Annual) per Employee."

<sup>e</sup> NAICS code assumed.

<sup>f</sup> Employee number obtained from Ken Moss of IHC during a 5/15/12 phone interview.

<sup>g</sup> Employee number obtained from Daniel Vest, Ash Grove Cement Terminal Manager during a 5/15/12 phone interview.

<sup>h</sup> Employee number obtained from Pablo Camancho, Subway Area Manager during a 5/23/12 phone interview.

<sup>i</sup> Employee number obtained from Kelley Jensen, Zion's Bank Account Relations Officer during a 5/23/12 phone interview.

<sup>j</sup> Employee number obtained from Candice Mettome, Coram Medical Records Clerk during a 5/23/12 phone interview.

<sup>k</sup> Employee number obtained from Curtis Drollingier, Night Shift Coffee Company Owner during a 5/23/12 phone interview.

<sup>l</sup> Employee number obtained from Judy Hicks, Realms of Inquiry School Administrator during a 5/24/12 phone interview.

NA: Not Available

**Positive Impacts: Property Values and Local Tax Revenue Generated from Property Taxes**

Property records accessible through Salt Lake County’s online property records database (<http://assessor.slco.org>) provided data on the most recently assessed values and taxes for property parcels at the Murray Smelter site in April and May 2012.

Table 2. Property Values and Annual Tax Amounts (2011)<sup>1</sup>

Parcel ID No.	Current Parcel Owner (2012)	Land Value (2011) (\$)	Improvement Value (2011) (\$)	Total Value (2011) (\$)	Annual Tax Amount (2011) (\$)
21-12-427-008-0000	IHC Health Services Inc.	29,976,800	457,208,100	487,184,900	940,911.32
22-07-301-023-0000	IHC Health Services Inc.	10,802,900	2,477,600	13,280,500	149,054.20
21-12-426-020-0000	Utah Transit Authority	4,403,200	100,000	4,503,200	EXEMPT
21-12-276-005-0000	Murray City Corporation	1,529,000	1,538,400	3,067,400	EXEMPT
21-12-277-005-0000	IHC Health Services Inc.	2,994,900	143,200	3,138,100	EXEMPT
21-12-279-009-0000	Utah Transit Authority	587,400	430,800	1,018,200	EXEMPT
21-12-426-019-0000	Ash Grove Cement Company	2,547,100	323,100	2,870,200	31,930.70
21-12-279-015-000	Hunt Family Holdings, LLC (50%), Summerwood Development, LLC (50%)	1,748,700	853,100	2,601,800	24,264
<b>TOTAL</b>				<b>\$517,664,300</b>	<b>\$1,146,160.22</b>

<sup>1</sup> Property values presented were estimated by and obtained from the Salt Lake County Auditor. The County Auditor separates the land value from the improvement value, which includes buildings and other structures built on the property. The sum of the land value and the improvement value equals the total estimated property value.