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Reuse and the Benefit to Community A Beneficial Effects Economic Case Study for the Denver Radium Superfund Site



Introduction

The Denver Radium Superfund site (site) in Denver, Colorado, consists of over 65 properties along the South Platte River Valley. Several mining entities operated processing facilities in Denver beginning in the early 1900s, resulting in widespread contamination of area soil and groundwater. Cooperation between EPA, the Colorado Department of Public Health and Environment (CDPHE), on-site businesses, and the city and county of Denver enabled cleanup of 11 areas of site-related contamination, also known as operable units (OUs). Cleanup allowed businesses to continue operating, enabled new businesses to open on site and allowed some to be part of the cleanup. Continued uses and reuses include commercial, industrial, recreational, residential, public service and ecological use in downtown Denver. Waste remains in place at five of the 11 OUs. These five OUs are the primary focus of this case study because no waste remains in the other OUs.

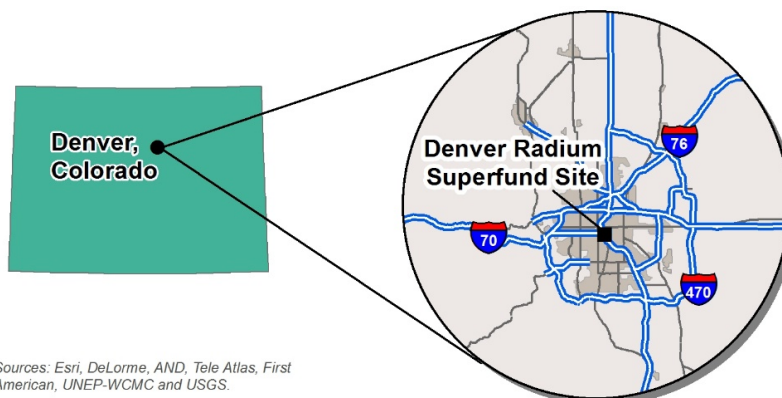
Site restoration and reuse can revitalize local economies with jobs, new businesses, tax revenues and local spending. Cleanup may also take place while active land uses remain on site. Today, the site supports commercial and residential reuses and continued uses. Institutional controls safeguard the health of the community and ensure that long-time site businesses can continue to operate safely. This case study explores the Denver Radium Superfund site's cleanup, continued use and reuse, illustrating the beneficial effects of Superfund redevelopment.

Beneficial Effects

Site businesses employ about 1,250 people, providing estimated annual employment income of over \$67 million and generating more than \$356 million in annual sales revenue.

Site properties are currently valued at over \$260 million and generate about \$3 million in annual property tax revenues.

Collaboration among site stakeholders enabled on-site businesses to remain open during cleanup and resulted in several businesses participating in cleanup and operation and maintenance activities.



Sources: Esri, DeLorme, AND, Tele Atlas, First American, UNEP-WCMC and USGS.

Figure 1. The site's location in Denver, Colorado.

Site History

The National Radium Institute (NRI) was established in Denver in 1913; it served as a leading national source of radium. Radium was in high demand due to its application in cancer therapy and research. Subsequently, the mining industry thrived in Denver. The NRI was one of several radium processing facilities in the city, another one being S.W. Shattuck Chemical Company. Contamination attributed to facilities and the transport of materials spread through the South Platte River as well as through the use of radium tailings as aggregate mix for road construction. The NRI's radium mining operations continued until its closure in the 1920s. In 1979, EPA became aware of the site through a reference to the NRI in a 1916 U.S. Bureau of Mines report. Subsequent field research found 31 sites with radium-related contamination. The Colorado Department of Public Health and Environment (CDPHE) entered into a cooperative agreement with EPA in 1981. CDPHE took the lead on site-related activities and started engineering assessments for the majority of the 31 sites. EPA listed the site on the NPL in 1983.

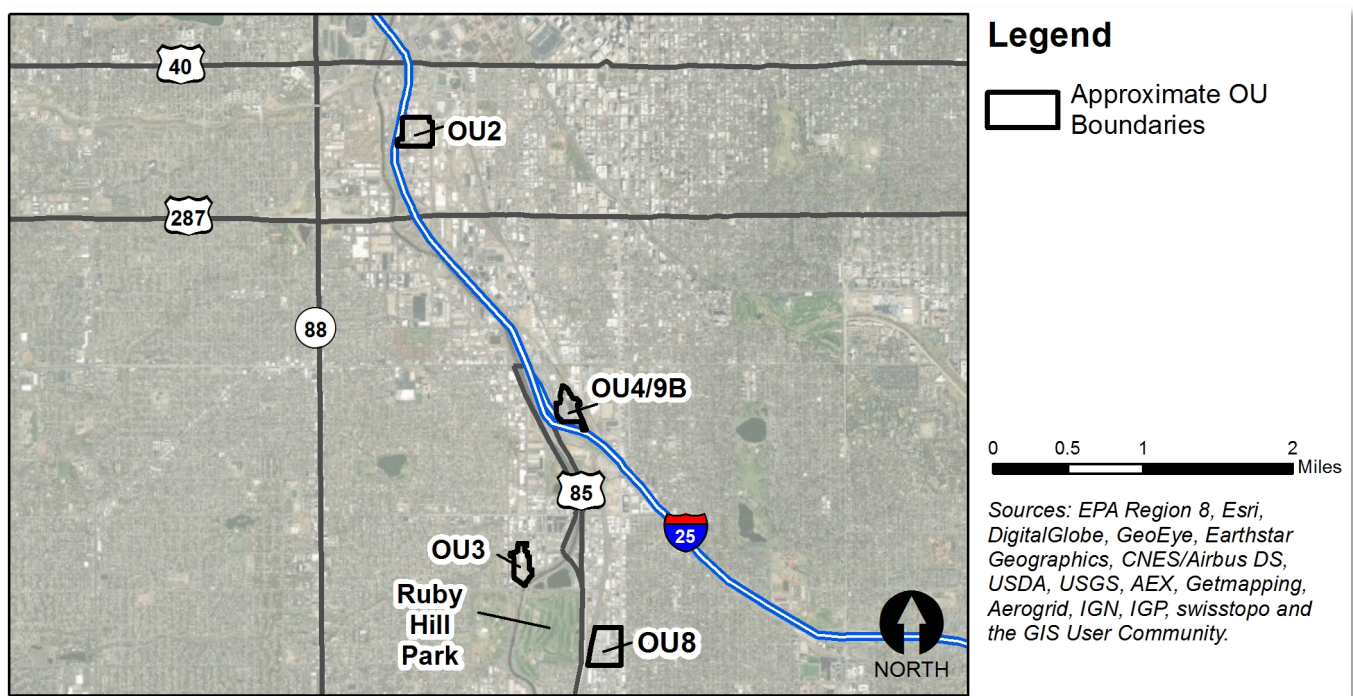


Figure 2. The locations of OUs 2, 3, 4/9B and 8 at the Denver Radium site.

Site Cleanup

In 1989, an emergency removal action by EPA addressed immediate threats to human health. The removal action included the installation of an active radon reduction system to reduce radon concentrations found at a commercial property. EPA and CDPHE later divided the site into 11 OUs to help manage the site's long-term cleanup. EPA and CDPHE involved community members during the remedy selection process, updating interested parties, hosting public meetings and establishing information centers at local libraries. To make sure area businesses could continue to operate safely during cleanup, remedy selection process also took their operations into account, allowing some businesses to continue operating during cleanup. Some of the businesses also worked on cleanup-related activities with EPA and CDPHE.

EPA and CDPHE selected long-term remedies for different site OUs in several Records of Decision (RODs). EPA and CDPHE later updated the remedies with a ROD Amendment and three Explanations of Significant Differences

(ESDs). The final remedies for site OUs include excavation and off-site disposal of radiologically contaminated soil, institutional controls for any residual waste, and monitoring the natural breakdown of groundwater contamination. The remedy for OU9B, where soil was contaminated with metals, included consolidation and capping, institutional controls, and groundwater monitoring. The institutional controls restrict groundwater use, limit land uses that could expose contamination and ensure the long-term integrity of capped areas.

Clean Harbors, a waste disposal company, managed all waste taken off site to a permanent disposal activity. Site waste is considered a Technologically Enhanced Naturally Occurring Radioactive Material (TENORM). TENORM waste is naturally occurring radioactive materials that have been concentrated or exposed to the accessible environment due to human activities. TENORM waste can cause complications in cleanup as it is often mixed with other types of waste raising uncertainties regarding its safe disposal. The city and county of Denver (City and County) worked with Clean Harbors to establish a designated disposal facility for the site's TENORM waste.

Cleanup took place between 1998 and 2006. Following cleanup of OUs 1, 5, 6, 7, 9A, 10 and 11, no waste was left in place; EPA and CDPHE determined that those areas are suitable for unrestricted use and exposure. Cleanup of the other five OUs – OUs 2, 3, 4, 8 and 9B – left waste in place; therefore, those OUs are not available for unlimited use and unrestricted exposure as institutional controls are in place. Operation and maintenance activities and five-year reviews are ongoing for those areas. In September 2010, EPA published a Federal Register notice partially deleting each of the 11 OUs, except for OU8, from the NPL.

Reuse Planning – 2001 Superfund Redevelopment Initiative Pilot Grant

OU8 is the former location of the S.W. Shattuck Chemical Company facility. The company processed mineral ores, including tungsten, molybdenum, carnotite and radium slimes as well as depleted uranium. Cleanup of OU8 included the demolition and off-site disposal of all structures and on-site stabilization and solidification of contaminated soil. Cleanup finished in September 1998. Institutional controls were put in place and on-site waste was contained in a roller-compacted cement-and-soil monolith. Groundwater contamination is being addressed by natural attenuation.

In 2001, EPA's Superfund Redevelopment Initiative awarded a \$100,000 pilot grant to the City and County to develop future land use options for OU8. Reuse planning and research found that the area could be an ideal location for redevelopment due to its proximity to a light-rail station, Denver's second-largest green space, and a major river.

Collaboration with On-site Businesses

EPA and CDPHE collaboration with on-site businesses played a large role in the success of the cleanup process. At OU2, Atlas Metal and Iron Corporation signed an administrative settlement agreement with EPA and CDPHE and agreed to prepare and implement an Operations and Management Plan. The business also signed and executed an environmental covenant in 2006 that restricted disturbance of the concrete cap and subsurface soil and prohibits use of groundwater at the property. At OU4, Home Depot expressed interest in developing the property and



Figure 3. Past development of the Encore Evans Station project underway at OU8.

assisting with remedial action in exchange for limits on the company’s liability. Pursuant to the terms of the Agreement and Covenant Not to Sue in 1995, Home Depot placed a notice and covenant on the property that restricts future use of areas where radiological contamination was left in place. Home Depot took on responsibility for cap construction and maintenance as well as making sure the property is not used for residential purposes and that the groundwater is not used for drinking purposes. Home Depot has since built a 130,000-square-foot store, parking lot, and outdoor garden and lawn center on the property. Each of these businesses are described in greater detail in the Beneficial Effects section below.

Beneficial Effects

Today, different parts of the site across Denver continue to host diverse businesses. Land uses on site include residential, commercial, industrial, recreational, public service and ecological areas. The recreational, public service and ecological uses occur in OUs not examined in this case study. Seventy-six on-site businesses and organizations provide about 1,250 jobs and contribute over \$67 million in annual employee income to the community. The total estimated sales of these businesses and organizations exceeded \$356 million in 2018. The section below examines some of the beneficial economic effects of reuse and continued use at the site. The location of each business below can be found in their respective OU in Figure 11.

OU2

OU2 is located near 11th Avenue and Umatilla Street. The facilities include a large metal and electronics recycling center and other businesses such as a ski and snowboard manufacturer and a painting contractor.

Atlas Metal & Iron Corporation

The Atlas Metal and Iron Corporation’s facility makes up a large portion of OU2 and the business played a key role in the remediation of the property. The business is one of the state’s oldest locally owned and operated scrap metal recycling yards. Services include supplying special alloys in a variety of shapes and forms required by bronze sculptors, fabricators, foundries, blacksmiths, artists and craftsmen. The company also rents out scrap metal containers in all sizes for industrial and commercial customers. Atlas Metal & Iron Corporation has a history of being a national leader in the metal and electronics recycling industry. The business generated over \$30 million in sales in 2018.

Vivax Pro Painting

This painting contractor has several locations across Colorado; it has doubled in size since 2015. In 2016, the business won the Better Business Bureau’s Torch Award for Ethics, an acknowledgment that it strives to go above and beyond in its dealings with customers, employees, vendors and the community. This business generated \$1.4 million in sales in 2018.



Figure 4. The entrance to Atlas Metal & Iron Corporation on site.



Figure 5. Vivax Pro Painting’s facility on site.

OU3

OU3 is in the area of South Platte River Drive, South Jason Street and West Louisiana Avenue. A rail line runs through the northwest part of OU3 and part of Sanderson Gulch runs through the southern part of OU3. OU3 is located next to residential communities and three outdoor recreation areas. Businesses in OU3 continued operating during the phased cleanup of the area.

3d Lacrosse, Inc.

Located in the center of OU3, this lacrosse services company provides training and equipment and supports area leagues. It also provides community benefits by donating services valued in excess of \$25,000 to school auctions and non-profit fundraisers, and by granting need-based scholarships in amounts of more than \$50,000 a year. The business generated around \$823,000 in sales in 2018.

Caraustar Industries (Greif)

This business is one of the nation's largest manufacturers of high-quality recycled materials and paper products. Parent company Greif is an international industrial packaging products and services company that produces steel, plastic and fiber drums, bulk containers and related materials. Greif also supports community-led initiatives focused on sustainability. In 2019, the company donated recycled drums to communities in Alabama to collect rainwater for irrigation purposes. The business recycles about 4 million tons of fiber annually. The business generates over \$7.5 million in annual sales.

OU4/9B

OU4/9B is located at 500 South Santa Fe Drive in south-central Denver. The combined OUs are located next to Interstate 25, U.S. Route 85, U.S. Route 87 and the South Platte River.

Home Depot

The global chain Home Depot operates a store on site after assisting with cleanup. The business has its own site maintenance crew and worked with CDPHE to implement and maintain institutional controls for the area. The store covers most of OU4/9B. It sells a wide array of home improvement items in addition to offering at-home services, in-store workshops, and rentals of tools and vehicles. It generated over \$95 million in annual sales in 2018.



Figure 6. 3d Lacrosse, Inc. offices on site.



Figure 7. A sign for Caraustar Industries on site.



Figure 8. The storefront of Home Depot on site.

Yellowdog Printing & Graphics

This business, located next to the Home Depot, offers design, print and marketing services for small businesses. Their print products include brochures, sell sheets and direct mailings. The business offsets 100% of its energy and vehicle use through renewable energy credits procured by wind farms. This business is also certified green by the Certifiably Green Denver program. This program, which is administered by the Denver Department of Public Health & Environment, includes industry-specific criteria, such as business management, energy efficiency and water conservation, that target environmental issues and concerns specific to printers. Companies must meet the criteria yearly to achieve the certification. The business generated about \$950,000 in sales in 2018.



Figure 9. Yellowdog Printing & Graphic's offices on site.

OU8

OU8 is located near south-central Denver and is the location of the former Shattuck Chemical Company facility. Today, following cleanup, the property is home to the Encore Evans Station apartment complex and several commercial businesses. OU8 is located next to U.S. Route 85, the Overland Park Golf Course and commercial businesses.

Bear Creek Distillery

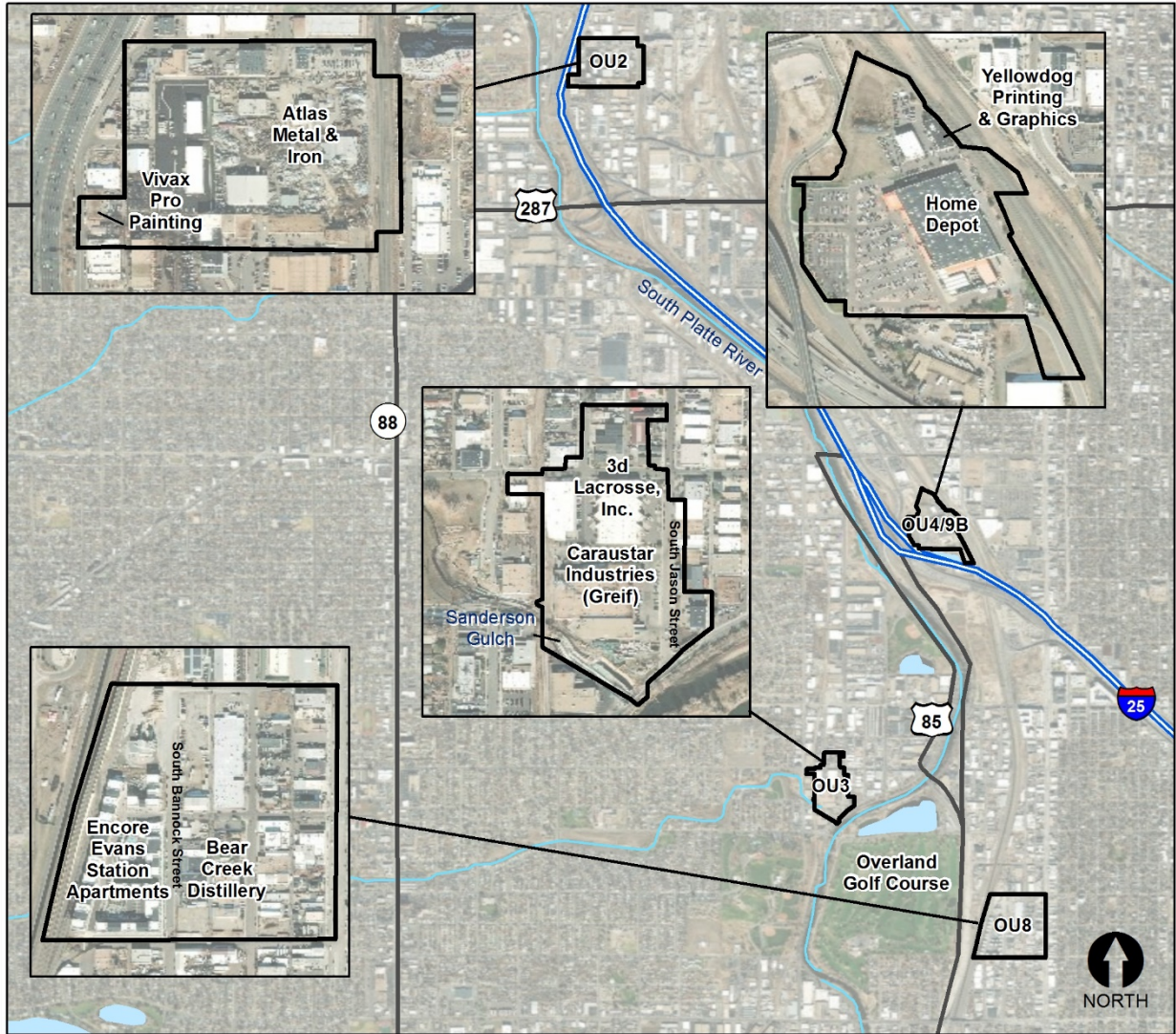
This American craft distillery makes a variety of spirits, including bourbon, whiskey and vodka. In addition to having a tasting room and offering tours of the distillery, the business also hosts music performances and other events. The business generated about \$890,000 in annual sales in 2018.

Encore Evans Station

This apartment complex is conveniently located near a light-rail station, green space and the South Platte River. The development offers one- and two-bedroom units, helping to meet high demand for housing in the Denver metropolitan area. The complex includes amenities such as an indoor dog wash, a bike repair shop and yoga classes.




Figure 10. The recently constructed Encore Evans Station on site.



0 0.5 1 2 Miles

Legend

 Approximate OU Boundaries

Sources: Esri, DeLorme, AND, Tele Atlas, First American, UNEP-WCMC, USGS, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, the GIS User Community and EPA Region 8.

Figure 11. OUs 2, 3, 4/9B and 8 and highlighted businesses at the Denver Radium site.

Property Values and Tax Revenues

On-site properties help generate property tax revenues that support local government and public services. In 2018, on-site businesses generated over \$3 million in estimated tax revenues. These business properties have a total property value of over \$260 million. On-site businesses also generate tax revenues through the collection of sales taxes, which support state and local governments.¹

Conclusion

The Denver Radium Superfund site is an example of how collaboration among EPA, local and state governments, and businesses can result in successful cleanup, continued use and reuse. EPA and CDPHE's consideration of stakeholder priorities resulted in a well-designed remedy that allowed businesses to remain open throughout cleanup. Today, long-time and new site businesses bolster the local economy and provide services to the community. In addition, property taxes generated by on-site properties help fund valuable public services. Collaborative relationships at the Denver Radium site continue to ensure the protectiveness of site remedies and the growth of community's economic vitality. These efforts and outcomes can help inform and guide the cleanup, continued use and reuse of other Superfund sites across the nation.



Figure 12. An aerial view of OU4/9B when Home Depot was under construction.

*For more information about EPA's Superfund Redevelopment Initiative, visit:
<https://www.epa.gov/superfund-redevelopment-initiative>.*

¹ The combined sales tax rate in the city of Denver is 8.31 percent. This includes sales tax rates for the state, county and city. For more information, see <http://www.sale-tax.com/DenverCO>.



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Technical Appendix

Employment Information for On-Site Jobs

EPA obtained the data included in this appendix directly from reputable sources and reported the data as presented by those sources. Information on the number of employees and sales volume for on-site businesses came from the Hoovers/Dun & Bradstreet database. D&B maintains a database of over 300 million businesses worldwide. When Hoovers/D&B database research was unable to identify employment and sales volume for on-site businesses, EPA used the ReferenceUSA database.² In cases where ReferenceUSA did not include employment and sales volume for on-site businesses, EPA used the Manta database.³ These databases include data reported by businesses. Accordingly, some reported values might be underestimates or overestimates. While sales values typically exceed estimated totals of annual income, sales can sometimes be lower than estimated income. This could be attributed to a number of business conditions and/or data reporting.

Wage and Income Information for On-Site Jobs

EPA obtained wage and income information from the U.S. Bureau of Labor Statistics (BLS). Part of the U.S. Department of Labor, the BLS is the principal federal agency responsible for measuring labor market activity, working conditions and price changes in the economy. All BLS data meet high standards of accuracy, statistical quality and impartiality.

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

To determine the annual wages (mean annual) earned from jobs generated by each of the selected businesses at the Denver Radium Superfund site, EPA multiplied the average weekly wage figure by the number of weeks in a year (52) and by the number of jobs (employees) for each business.

¹ <http://www.dnb.com>

² <http://resource.referenceusa.com>

³ <https://www.manta.com/>

Table 1. Denver Radium Superfund Site: Information for On-Site Organizations and Businesses

On-Site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2018) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Employee Income ^d	Annual Sales (2018) ^b
3d Lacrosse, Inc.	713990	All Other Amusement & Recreation Industries	25 ^e	\$437	\$22,724	\$568,100	\$823,000 ^e
A1transmission & Parts Co Inc	423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	6 ^e	\$1,814	\$94,328	\$565,968	\$70,000 ^f
Action Screen Printing, Inc.	323113	Commercial Screen Printing	2	\$869	\$45,188	\$90,376	\$258,000
Aggregate Industries-Wcr, Inc.	339999	All Other Miscellaneous Manufacturing	5 ^e	\$841	\$43,732	\$218,660	\$648,000 ^e
AlSCO, Inc	812331	Linen Supply	50	\$680	\$35,360	\$1,768,000	\$4,837,000 ^e
ARAE	448120 ^g	Women's Clothing Stores	NA	NA	NA	NA	NA
Atlas Metal & Iron Corporation	423930	Recyclable Material Merchant Wholesalers	90	\$1,123	\$58,396	\$5,255,640	\$31,714,286 ^h
Bear Creek Distillery	312140	Distilleries	8	\$826	\$42,952	\$343,616	\$889,000
Blank & Booth Distilling Co	312140 ^g	Distilleries	5 ^e	\$826	\$42,952	\$214,760	\$2,562,000 ^e
Blue Line Escape, Inc.	811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	4 ^e	\$1,280	\$66,560	\$266,240	\$335,000 ^e
Cady Plumbing Company Inc	238220	Plumbing, Heating, and Air-Conditioning Contractors	12	\$1,221	\$63,492	\$761,904	\$1,900,000
Caraustar Industries, Inc. (Greif, Inc.)	322212 ^e	Folding Paperboard Box Manufacturing	90 ^e	\$1,261	\$65,572	\$5,901,480	\$7,558,000 ^e

On-Site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2018) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Employee Income ^d	Annual Sales (2018) ^b
City and County of Denver Public Works Department	926120 ^g	Regulation and Administration of Transportation Programs	NA	NA	NA	NA	NA
Colorado Vape & Glass	453991 ^g	Tobacco Stores	5 ^e	\$601	\$31,252	\$156,260	\$753,000 ^e
Commons Park West	531110	Lessors of Residential Buildings and Dwellings	8	\$1,077	\$56,004	\$448,032	\$943,000
Crested Embroidery	314999 ^g	All Other Miscellaneous Textile Product Mills	NA	NA	NA	NA	NA
Cytoskeleton	541714	Research and Development in Biotechnology (except Nanotechnology)	7	\$2,736	\$142,272	\$995,904	\$1,500,000
Daily Wag	812910 ^e	Pet Care (Except Veterinary) Services	10 ^e	\$521	\$27,092	\$270,920	\$346,000 ^e
Darvin D Hendee (Erickson Monuments)	453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	4	\$679	\$35,308	\$141,232	\$400,000
Davis Manufacturing Company	332710	Machine Shops	45	\$1,011	\$52,572	\$2,365,740	\$7,300,000
Decorasian	442110	Furniture Stores	3	\$1,010	\$52,520	\$157,560	\$287,000
Demmon Design Studios	541420	Industrial Design Services	5	\$1,480	\$76,960	\$384,800	\$408,000
Denver Animal Shelter	813312	Environment, Conservation and Wildlife Organizations	3	\$1,035	\$53,820	\$161,460	\$137,000 ^f
Denver Balancing Inc	811219	Other Electronic and Precision Equipment Repair and Maintenance	1	\$1,269	\$65,988	\$65,988	\$89,000
Denver Bullets Inc	332992	Small Arms Ammunition Manufacturing	3	\$894	\$46,488	\$139,464	\$465,000
Denver Poke Company	722511 ^g	Full-Service Restaurants	NA	NA	NA	NA	NA

On-Site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2018) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Employee Income ^d	Annual Sales (2018) ^b
Dependable Cleaners Coats for Colorado Inc	812320	Drycleaner and Laundry Services (except Coin-Operated)	2	\$572	\$29,744	\$59,488	\$108,000
DGS Inc (The Kind Room)	453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	9	\$679	\$35,308	\$317,772	\$426,000
Emsl Analytical	541380	Testing Laboratories	2	\$1,339	\$69,628	\$139,256	\$146,000
Evans Encore Station Apartments	531110	Lessors of Residential Buildings and Dwellings	2	\$1,077	\$56,004	\$112,008	\$82,000 ^f
Friends of Levitt Pavilion Denver	711310 ^g	Promoters of Performing Arts, Sports, and Similar Events with Facilities	NA	NA	NA	NA	NA
Gilmar Investment Company Ltd	531190	Lessors of Other Real Estate Property	15	\$2,604	\$135,408	\$2,031,120	\$1,200,000 ^f
Go Green Electric	238210	Electrical Contractors and Other Wiring Installation Contractors	50	\$1,137	\$59,124	\$2,956,200	\$294,000 ^f
Harbert Casting Repair Service Co	811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	12	\$1,280	\$66,560	\$798,720	\$1,300,000
Herbs & Arts Intergalactic, Inc.	451211	Book Stores	9	\$399	\$20,748	\$186,732	\$825,000
Hercules Industries, Inc.	332996	Fabricated Pipe and Pipe Fitting Manufacturing	182	\$1,387	\$72,124	\$13,126,568	\$72,800,000 ^h
Hinton Steel Co.	423510	Metal Service Centers and Other Metal Merchant Wholesalers	12	\$1,573	\$81,796	\$981,552	\$3,800,000
Home Depot U.S.A., Inc.	444110	Home Centers	200	\$515	\$26,780	\$5,356,000	\$95,726,000 ^e

On-Site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2018) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Employee Income ^d	Annual Sales (2018) ^b
Illegal Pete's	722511 ^e	Full-Service Restaurants	10 ^e	\$548	\$28,496	\$284,960	\$575,000 ^e
J&S Audio Visual	512110 ^e	Motion Picture & Video Production	15 ^e	\$1,366	\$71,032	\$1,065,480	\$7,007,000 ^e
Kwan Sang Noodle Inc (Tung Hop Noodle)	311824	Dry Pasta, Dough, and Flour Mixes Manufacturing from Purchased Flour	10	\$1,231	\$64,012	\$640,120	\$959,000
Larry Krieger	315990	Apparel Accessories and Other Apparel Manufacturing	22	\$773	\$40,196	\$884,312	\$1,400,000
Martin Shea Millwork Co	337212	Custom Architectural Woodwork and Millwork Manufacturing	7	\$1,042	\$54,184	\$379,288	\$349,000 ^f
Maverick Suspension Center	336991 ^g	Motorcycle, Bicycle, and Parts Manufacturing	NA	NA	NA	NA	NA
Max Quality Glass	444190 ^e	Other Building Material Dealers	4 ^e	\$1,137	\$59,124	\$236,496	\$1,652,000 ^e
Meier Skis	339920 ^g	Sporting and Athletic Goods Manufacturing	NA	NA	NA	NA	NA
Mile High Car Helper	441110	New Car Dealers	6	\$1,190	\$61,880	\$371,280	\$692,000
Mile-Hi Sprinklers	444220 ^e	Nursery, Garden Center & Farm Supply Stores	12 ^e	\$525	\$27,300	\$327,600	\$1,721,000 ^e
Mountain Star Salon Services	812112	Beauty Salons	3	\$646	\$33,592	\$100,776	\$157,000
Movement Climbing and Fitness	713940	Fitness and Recreational Sports Centers	5	\$388	\$20,176	\$100,880	\$95,000 ^f
O'Fish, Inc. (Doors West Inc)	331222	Steel Wire Drawing	10	\$1,378	\$71,656	\$716,560	\$2,200,000
Prism Workspace	531120 ^g	Lessors of Nonresidential Buildings (except Miniwarehouses)	NA	NA	NA	NA	NA

On-Site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2018) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Employee Income ^d	Annual Sales (2018) ^b
Purple Haze	453991	Tobacco Stores	15	\$601	\$31,252	\$468,780	\$849,000 ^e
Rab USA LLC	451110 ^g	Sporting Goods Store	NA	NA	NA	NA	NA
Resolution Research & Marketing, Inc	541613	Marketing Consulting Services	40	\$1,464	\$76,128	\$3,045,120	\$3,900,000
Restaurant Depot, LLC	423440	Other Commercial Equipment Merchant Wholesalers	43	\$1,248	\$64,896	\$2,790,528	\$35,661,000 ^e
RMR Revolution Colorado LLC	812320	Drycleaning and Laundry Services (except Coin-Operated)	8	\$572	\$29,744	\$237,952	\$93,000 ^e
Sanyork Fair Trade	424990 ^e	Other Misc Nondurable Goods Merchant Wholesalers	1 ^e	\$934	\$48,568	\$48,568	\$1,603,000 ^e
Seeds Trust	424910 ^g	Farm Supplies Merchant Wholesalers	NA	NA	NA	NA	NA
Shape Plus	713940	Fitness and Recreational Sports Centers	8	\$388	\$20,176	\$161,408	\$740,000
Smart Spaces	442110	Furniture Stores	5	\$1,010	\$52,520	\$262,600	\$499,000
Sobo Interiors	561730	Landscaping Services	1	\$789	\$41,028	\$41,028	\$24,000 ^f
Star Tech Inc	811111	General Automotive Repair	4	\$1,092	\$56,784	\$227,136	\$480,000
Starbucks Corporation	722513	Limited-Service Restaurants	15	\$423	\$21,996	\$329,940	\$977,000 ^e
Stylax, LLC	448190	Other Closing Stores	3	\$516	\$26,832	\$80,496	\$252,000
The Electri-Serve Corporation	238210	Electrical Contr & Other Wiring Installation Contr	20	\$1,137	\$59,124	\$1,182,480	\$1,500,000
The Sachs-Lawlor Company (Artcraft Sign Company)	339950	Sign Manufacturing	28	\$1,039	\$54,028	\$1,512,784	\$3,600,000

On-Site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2018) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Employee Income ^d	Annual Sales (2018) ^b
The Scarf Studio	541490 ^g	Other Specialized Design Services	NA	NA	NA	NA	NA
Tool & Anchor Supply, Inc.	423710	Hardware Merchant Wholesalers	20	\$1,342	\$69,784	\$1,395,680	\$15,200,000 ^h
Transient, LLC	336991	Bicycle and parts manufacturing	7	\$949	\$49,348	\$345,436	\$94,000
Tvl Creative Ltd.	541990	All Other Professional, Scientific, and Technical Services	3	\$1,847	\$96,044	\$288,132	\$312,000
Vape & Play	453991	Tobacco Stores	1 ^e	\$601	\$31,252	\$31,252	\$425,000 ^e
Vivax Pro Painting	444120	Paint and Wallpaper Stores	4	\$787	\$40,924	\$163,696	\$1,400,000
Xcel Communications	811212 ^e	Computer & Office Machine Repair & Maintenance	25 ^e	\$1,514	\$78,728	\$1,968,200	\$30,000,000 ⁱ
Yellowdog Printing & Graphics	323111	Commercial Printing (except Screen and Books)	7	\$1,034	\$53,768	\$376,376	\$949,000
Yuma Way LLC (1136 Yuma)	111998	All Other Miscellaneous Crop Farming	2	\$743	\$38,636	\$77,272	\$92,000
			1,250			\$67,450,136	\$356,386,286

^a NAICS code provided in the D&B database, unless otherwise noted.

^b Data are from the D&B database, unless otherwise noted.

^c Average weekly wage per employee based on BLS 2018 Average Weekly Wage data.

^d Total annual employee income figures derived by multiplying “Number of Employees” by “Annual Wage (Mean Annual) per Employee.”

^e Data are from the ReferenceUSA database.

^f While sales values typically exceed estimated totals of annual employee income, annual reported sales can sometimes be lower than estimated annual income. This atypical condition of estimated income exceeding sales can be a result of business conditions, estimated business wages not accurately reflecting actual wages for the site-specific business, annual sales being under-reported, a business loss for the year or a combination of those factors.

^g NAICS code assumed based on business type.

^h Annual sales value calculated using the “Sales Per Employee” method. In cases where information sources do not provide annual sales data, an estimated annual sales value was calculated using the “Sales Per Employee Method”. This method involves dividing the company-wide sales value by the

number of employees that work at all branches of the business. That value equals an estimated business sales value per employee for the entire company. That value is then multiplied by the number of employees at the on-site business location to calculate an estimated annual sales value for the site-specific business location.

ⁱ Data are from the Manta database.

NA = Not available.

Property Values and Local Tax Revenue Generated from Property Taxes

EPA obtained data on the most recently assessed values for property parcels at the Denver Radium Superfund site in April 2019 through property records accessible through Adams County’s online property appraisal database (<http://gisapp.adcogov.org/quicksearch/>) and Denver County’s downloaded GIS data set. EPA also obtained 2018 property tax information through both Adams County (<https://www.adcotax.com/treasurer/treasurerweb/search.jsp>) and Denver County (<https://www.denvergov.org/property>) parcels.

Table 2. Property Value and Tax Summary for Taxes Payable in 2018

Parcel ID No.	Total Market Value of Land and Improvements (2018)	Total Property Tax (2018)
182508102002	\$264,500	\$10,731
182508103049	\$1,070,108	\$33,691
182508103052	\$431,362	\$13,580
182508103051	\$493,789	\$15,547
182508103040	\$197,715	\$5,454
182508103041	\$273,482	\$7,544
182508103047	\$714,150	\$22,484
182508100041	\$164,990	\$5,166
182508100038	\$738,450	NA
182508103037	\$100	\$3
182508103046	\$100	\$3
182508103048	\$100	\$3
182508103042	\$100	\$3
182508103043	\$100	\$3
182508103053	\$100	\$3
182508103050	\$100	\$3
182508103023	\$211,397	NA
161134323	\$659,700	\$14,757

Parcel ID No.	Total Market Value of Land and Improvements (2018)	Total Property Tax (2018)
164200983	\$25,011,600	NA
161505852	\$545,000	\$15,106
161482089	\$502,300	\$11,236
161483743	\$1,128,200	\$25,237
161482194	\$953,900	\$21,338
161134731	\$324,000	NA
161495504	\$862,800	NA
162325275	\$2,506,800	NA
162418150	\$5,662,200	\$126,657
161134901	\$289,500	\$6,476
162281294	\$1,744,400	\$39,021
162488301	\$159,700	\$3,572
163536941	\$3,812,400	\$85,279
161135117	\$2,363,600	\$52,872
161134978	\$283,900	\$6,351
161135559	\$1,668,600	\$37,325
162344741	\$8,110,200	\$181,415
162418141	\$4,160,100	\$93,057
163556950	\$416,500	\$9,317
160994219	\$1,044,400	\$26,140
161134749	\$100	NA
161134331	\$1,672,600	\$37,414
163078624	\$290,800	\$6,505
161135575	\$2,663,600	\$59,582
161134846	\$104,900	NA
160994201	\$787,900	\$19,180
163462564	\$77,600	\$1,736
161135567	\$780,800	\$17,466

Parcel ID No.	Total Market Value of Land and Improvements (2018)	Total Property Tax (2018)
161489911	\$1,787,300	\$2,399
161135044	\$401,000	\$8,970
163771630	\$327,200	NA
161134919	\$1,400	NA
162289236	\$11,700	NA
161134722	\$100	NA
161226775	\$24,398,400	NA
161134340	\$689,500	\$15,424
162238755	\$651,000	\$14,562
162418133	\$2,296,600	\$51,372
161482216	\$480,700	\$10,752
163219651	\$6,223,300	\$139,208
161134951	\$1,003,800	\$22,454
161134871	\$721,000	\$16,128
163078632	\$227,100	\$5,080
161134650	\$2,990,400	NA
161482186	\$120,000	\$2,684
161134897	\$469,500	\$10,503
161134358	\$434,500	\$9,720
161495521	\$5,098,200	NA
161135591	\$618,700	\$13,839
161134889	\$473,400	\$10,590
161495512	\$205,500	NA
163078616	\$287,100	\$6,422
161134366	\$5,871,800	\$131,346
161134960	\$905,900	\$20,265
161482178	\$498,800	\$11,158
161134838	\$895,800	\$20,039

Parcel ID No.	Total Market Value of Land and Improvements (2018)	Total Property Tax (2018)
161482682	\$759,100	\$16,980
161135052	\$577,900	\$12,928
163462572	\$272,300	\$6,091
162286172	\$100	NA
161134706	\$100	NA
161482143	\$317,200	\$7,096
161482631	\$1,097,500	\$24,550
162873779	\$1,103,200	\$15,876
162873736	\$230,200	\$1,278
161506051	\$1,626,500	\$36,383
161505470	\$1,334,000	\$29,840
161506221	\$985,800	\$22,051
161505992	\$445,800	\$9,972
161505691	\$273,100	\$1,517
161506280	\$1,433,000	\$32,055
161506191	\$460,500	\$10,301
161506158	\$302,500	\$6,767
161506018	\$369,200	\$8,259
161505674	\$262,100	\$5,863
161506034	\$87,500	\$1,958
162766182	\$954,000	\$21,340
161506077	\$293,300	\$6,561
161506166	\$235,300	\$5,264
161505682	\$510,100	\$11,410
162873728	\$1,121,000	\$11,188
161506085	\$548,700	\$12,274
161505747	\$281,200	\$6,290
161506271	\$1,425,200	\$31,880

Parcel ID No.	Total Market Value of Land and Improvements (2018)	Total Property Tax (2018)
163484169	\$851,400	\$19,045
161506174	\$639,100	\$14,296
161506263	\$531,400	\$11,886
162873761	\$276,900	\$1,538
162707151	\$952,200	\$21,300
161505828	\$2,326,500	\$52,042
161505780	\$474,900	\$10,624
161505712	\$970,700	\$21,713
161505976	\$158,000	\$3,534
161506239	\$706,400	\$15,802
163069218	\$519,900	\$11,630
161505836	\$750,700	\$16,792
161505798	\$188,500	\$4,217
162825090	\$635,100	\$14,207
161506204	\$230,700	\$1,281
161506026	\$211,400	\$1,174
161506069	\$675,200	\$15,103
161505968	\$381,200	\$8,527
163069196	\$1,351,800	\$30,239
161506255	\$654,700	\$16,645
161506212	\$238,200	\$1,323
161505844	\$498,800	\$11,157
161505984	\$444,400	\$9,940
161506247	\$552,500	\$12,359
161506042	\$484,500	\$10,838
161505666	\$313,400	\$7,011
161505950	\$260,600	\$5,830
162785276	\$9,824,000	\$219,752

Parcel ID No.	Total Market Value of Land and Improvements (2018)	Total Property Tax (2018)
161506000	\$230,100	\$5,147
161134862	\$7,500	\$168
161505704	\$252,700	\$848
161134820	\$46,800	\$1,047
161506182	\$191,600	\$4,286
161505011	\$3,351,600	NA
161505771	\$916,900	\$20,510
160857262	\$4,749,400	\$164,903
161134692	\$88,700	\$1,984
161134668	\$2,616,900	\$58,537
162926821	\$73,663,900	\$432,173
161134854	\$70,200	\$1,570
	\$260,834,243	\$3,151,123

NA = Not available.